POPLAR WOODS SUBDIVISION

FUNCTIONAL SERVICING REPORT

Prepared For

TOMAR REALTY CORPORATION

August 31, 2020

PLAN • SURVEY • ENGINEER

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1.0 INTRODUCTION

This report was prepared in support of the proposed draft plan of subdivision application for the property owned by Tomar Realty Corporation. The property is located in the Coldstream Hamlet area, on the southeast side of the Thirlwall Boulevard and Ilderton Road intersection.

A topographic survey was completed to define existing surface features such as existing streets, ditches, storm culverts, easements and utilities that service the surrounding area of the proposed subdivision. The information was utilized to establish internal servicing for the subdivision, including roads and stormwater features.

In December of 2018 a servicing concept was prepared by Bos Engineering & Environmental Services Inc. addressing wastewater, stormwater and water distribution for the proposed subdivision. Feedback was received by the Municipality in February of 2019. This report is an extension of the previous submission and will outline the proposed servicing strategy for the subdivision while addressing stormwater management comments provided by the Municipality as well as comments from the St. Clair Region Conservation Authority (dated July 9, 2018).

All design will be in accordance with the Municipality of Middlesex Centre design standards.

2.0 LOCATION AND DESCRIPTION

The 7.33 hectare parcel of land proposed for development is on the southeast side of Ilderton Road, across from the Thirlwall Boulevard Intersection. The development is adjacent to the existing Bowling Green Drive Development to the northeast, the East Sydenham River to the southeast and an existing residential property (Municipal No. 10075 Ilderton Road) to the southwest. There is a pipeline easement running east-west through the site from the Bowling Green Drive dead end to the Thirlwall Boulevard intersection which has been taken into consideration. The road pattern will extend Bowling Green Drive in a southwest direction around to meet Ilderton Road at the Thirlwall Boulevard intersection (Figure 1).

The 10 lot development will consist of 3.09ha of developable area for single family residential land use and 0.47ha for proposed right-of-way (Bowling Green Drive). The remaining lands will be utilized for open space to accommodate the existing woodlot buffer adjacent to the East Sydenham River.

3.0 SUBDIVISION ACCESS

The subdivision will have three Lots (1, 2 and 10) with driveway access off Ilderton Road. Lot 10 will have an individual driveway, with Lots 1 and 2 having a joint access easement for one shared driveway. The remaining lots will have driveway access from Bowling Green Drive. As

mentioned, Bowling Green Drive will be extended to provide access to the subdivision at two locations. The primary access will be at the Ilderton Road and Thirlwall Boulevard intersection and the secondary access will be through the existing portion of Bowling Green Drive.

Existing pavement markings are proposed to be removed at the Thirlwall Boulevard and Ilderton Road intersection and replaced with relevant markings to create left turn lanes for both the proposed and existing subdivisions. The asphalt shoulders will be utilized to widen the travel portion of the roadway to allow for the turn lanes (Figure 2).

The proposed entrance and driveways intersect Ilderton Road along a straight portion of the road. There is a low point in the road profile approximately 100m south of the boundary and a high point to the north of the boundary. Stopping sight distances have been analyzed for the proposed entrance.

The posted speed of this section of Ilderton Road is 60km/h, therefore a design speed of 70 km/h was utilized for analysis. With a design speed of 70km/h, the minimum stopping sight distance is 110m as per Figure E3-8 of the Geometric Design Guide for Ontario Highways.

For southbound vehicles, the distance provided to stop will be at least 110m to the Lot 1 and 2 driveway and at least 200m to the main subdivision entrance. For northbound vehicles the distance provided to stop will be at least 125m to the Lot 10 driveway and at least 205m to the main subdivision entrance.

The locations of the proposed entrance and driveways are suitable to meet and exceed minimum stopping sight distance requirements. See Appendix A for supporting calculations and figures.

4.0 SANITARY SERVICING

There are no existing sanitary sewers fronting the subdivision. Each lot will require its own private septic system, which is in line with existing properties in the area. A report titled “Updated Wastewater Impact Assessment for Phase II Poplar Woods Development – Using Enhanced Infiltration and Excluding Use of Level IV Pretreatment” has been prepared by BOS Engineering & Environmental Services Inc. in support of the proposed development. The report outlines that nitrate concentration requirements can be met by meeting at least one of the following options:

- Increase lot sizes to at least 0.52ha, reducing the number of lots
- Nitrate reduction at the source (not accepted by the Municipality)
- Infiltrate runoff from the site

The ideal option for the proposed development is to infiltrate as much runoff as possible. The stormwater drainage section will touch on the suitability of infiltration techniques and proposed implementations.

5.0 STORMWATER DRAINAGE

This section will detail the stormwater management strategy for the proposed development.

Hydrologic Modeling

Stormwater runoff was determined by hydrologic modeling using MIDUSS (Microcomputer Interactive Design of Urban Stormwater Systems). The program allows the user to test the impact on new and existing systems, utilizing accepted rainfall data to represent design storms of various durations and aid in the design of SWM facilities and other stormwater management features.

The Middlesex Centre IDF curve parameters were used for the rainfall data. The 3 hour, Chicago Storm Distribution model, with a time to peak ratio of 0.38, was used for determining peak flow rates and storage requirements for meeting the stormwater management targets. Additionally, the 250 year 24 hour SCS Type II storm event was analyzed.

Table 1 – Middlesex Centre Chicago Distribution Storm Parameters

Storm Event	A	B	C
2 Year	724.69	5.500	0.800
5 Year	1330.31	7.938	0.855
10 Year	1497.19	7.188	0.850
25 Year	1455.00	5.000	0.820
50 Year	1499.06	4.188	0.809
100 Year	1499.53	3.297	0.794
250 Year**	3048.22	10.030	0.888

**City of London 250 Year Storm Event

The modeling parameters and MIDUSS output can be seen in the Appendices.

5.1. Existing Drainage

The subject property is primarily utilized for agricultural purposes, with a woodlot occupying a large portion of the property at the rear of the lot. *The Soil Assessment – Proposed Low Impact Development (LID)* completed by EXP Services Inc. includes test pit logs that illustrate that the subsurface soils uncovered are predominantly ‘sand’ and ‘sand and gravel’ material at different depths. These soils are known to have low runoff potential and high infiltration potential. Parameters for pre development analyses were assigned accordingly.

The subject property has split drainage, the agricultural portion of the lot drains towards Ilderton Road and the woodlot portion drains toward the East Sydenham River. Runoff from

the subject lands draining toward the Ilderton Road right-of-way will travel southwest along the road side ditch, before ultimately entering the Sydenham River downstream (Figure 3).

The pre development flows to the Ilderton Road ditch were calculated including right-of-way and external tributary areas that impact ditch capacity and operation. This includes half of the Ilderton Road right-of-way and the existing Bowling Green Drive subdivision.

The pre development drainage area under consideration for the subject site is 5.32ha, which includes 3.27ha of agricultural lands on the property as well as 2.05ha of external lands (Figure 3). The pre development flows through the Ilderton Road ditch are shown in Table 2 below.

Table 2 – Pre Development Flows

Storm Event	Flow (m^3/s)
2 Year	0.098
5 Year	0.148
10 Year	0.187
25 Year	0.237
50 Year	0.277
100 Year	0.320
250 Year	0.466
250 Year-24hr	0.549

See Appendix B for a summary pre development modelling parameters and results.

5.2. Suitability of Low Impact Development (LID)

The *Soil Assessment – Proposed Low Impact Development (LID)* completed by EXP Services Inc. includes a discussion of subsurface soils, groundwater investigations and the infiltration properties of the native soils. Since the test pit information was consistent in most areas, it is expected that the soil and groundwater conditions would be similar throughout the property. As always, there is potential for differing soil properties in locations that were not excavated.

SUBSURFACE SOIL

As previously mentioned, the subsurface soils uncovered by EXP consisted of a “sand” layer beneath the topsoil which is expected to be found throughout most of the site. It was followed by a “sand and gravel” layer below it in all the test pits which is expected to be found below grade through the entirety of the site.

The hydraulic conductivity of the “sand” layer was found to be approximately $5.4x10^{-3}$ cm/s and the hydraulic conductivity of the “sand and gravel” was found to be between $8.8x10^{-2}$ and $3.8x10^{-1}$ cm/s.

GROUNDWATER

Groundwater was found at a minimum depth of 3.5m below the original ground surface. This is suitable to allow for the inclusion of LID(s), provided that finished grades do not end up significantly lower than the original ground. Groundwater information is crucial for LID design because the distance that water must travel through the native soil in order to reach the water table has a direct effect on the infiltrated discharge rate.

LID SUMMARY

The sufficient groundwater depth combined with the estimated hydraulic conductivity values suggest that LID features would be a suitable and achievable method to promote infiltration into the native soils and reduce post development discharge leaving the site. Furthermore, infiltration will mitigate any water balance deficiencies that could arise from introducing impervious areas and ensure that nitrate dilution requirements are met.

5.3. Proposed Drainage

The design of the proposed stormwater management measures follows criteria presented in the *Low Impact Development Stormwater Management Planning and Design Guide* (2010, referenced as LID SWM Guide).

The proposed subdivision (7.33ha) will consist of 10 residential lots, 1 open space block and Bowling Green Drive.

The grading/stormwater management strategy for the site is to let the lots fronting Ilderton Road drain the front lawns, driveways and a portion of the buildings uncontrolled to the Ilderton Road ditch, while overcontrolling the remaining developable area of the lots fronting Ilderton Road and the entirety of the lots on Bowling Green Drive. Runoff will be directed to LID features on each lot and within the Bowling Green Drive right-of-way. Sufficient storage and infiltration will be provided by the native soils such that the total peak post development runoff through the Ilderton Road ditch will be less than pre development levels.

LID features will be provided within the Bowling Green Drive right-of-way and on each individual lot. Exfiltration trenches are proposed because the depth will allow the trenches to make use of the “sand and gravel” layer which has superior infiltration properties while staying approximately 1m from the anticipated groundwater table. Other reasons for implementing exfiltration trenches are as follows:

- The narrow trench width will fit nicely in the side yards of individual lots,
- Trenches are convenient for implementation below hard surfaces such as roads,
- Roof water leaders can discharge to the pervious surface, enabling some quality benefit prior to entering exfiltration trench.

- Quality controls can be easily addressed and maintained through the use of an oil grit separator

For all trenches, the minimum hydraulic conductivity for the "sand and gravel" layer ($8.8x10^{-2}$ cm/s) will be used with a factor of safety being 2.5. This yields a design hydraulic conductivity of $3.52x10^{-2}$ cm/s or 1267.2 mm/hr. The target minimum separation distance between the bottom of exfiltration trench and the groundwater table is 1m to account for uncertainty. Groundwater elevations were interpolated from the test pit information in an effort to find a reasonable estimate.

5.3.1. Bowling Green Drive Right-of-way Drainage

The Bowling Green Drive right-of-way will consist of a sidewalk (on the north side of the road), asphalt roadway, curb (OPSD 600.060), driveways and grassed boulevards. Grassed swales will be constructed in the boulevards where possible. These gentle swales will follow the road profile and require landscape catchbasins in the location of low points and at select driveways, that would otherwise block drainage within the swales.

The road will have a see-saw profile with a sump at two locations. **Sump 1** is set at the higher elevation and will be located at the lot line between Lot 3 and 4. **Sump 2** is the lower sump and will be located at the lot line between Lot 2 and 4, closer to Ilderton Road. These roadway low points/sumps will be equipped with twin inlet catchbasins and leads to convey runoff to independent exfiltration trenches below the road. The landscape (boulevard) catchbasins will also be connected to the exfiltration trench with catchbasin leads.

EXFILTRATION TRENCH SERVING SUMP 1

The 0.30ha area tributary to the low point (Figure 4) between lot 3 and 4 will include front lawns and driveways in addition to the right-of-way features.

The exfiltration trench under the road will consist of 37.5m of perforated 375mm diameter pipe with a manhole at each end. The trench will be 1m wide at the bottom, 3m wide at the top (minimum), 1.05m high starting 0.35m below the invert of the pipe, complete with triple washed clear stone 50mm in diameter and a void ratio of at least 0.30 (Figure 5). The trench will start at elevation 245.72m and rise to elevation 246.77m, providing a total storage volume of approximately $26m^3$. Table 3 shows the exfiltration trench performance based on the groundwater being at an estimated elevation of 244.2m.

Table 3 – ROW Exfiltration Trench 1 Performance

STORM EVENT	TRENCH BOTTOM ELEV. (m)	MAXIMUM STORAGE (m^3)	WATER ELEVATION (m)	DEPTH OF WATER (m)	EXFILT. DISCHARGE (m^3/s)
2 Year	245.72 CONSTANT	2.2	245.89	0.17	0.021
5 Year		5.3	246.07	0.35	0.029
10 Year		7.6	246.16	0.44	0.034
25 Year		10.8	246.26	0.54	0.039
50 Year		13.3	246.34	0.62	0.043
100 Year		15.9	246.42	0.70	0.048
250 Year		21.1	246.59	0.87	0.058
250 Year-24hr		19.5	246.54	0.82	0.055

Modeling results are available in Appendix C.

The trench is sufficiently sized to contain and exfiltrate the major system flows to the groundwater table.

Consideration was given to the inlet capacity of the twin inlet catchbasins to receive major system flows. It is assumed that all inflow will need to enter the twin inlet catchbasins and each structure would receive 50% of the runoff. The flow to the twin inlet catchbasins is $0.081m^3/s$ for the 250 year storm event. With a head water of 0.089m the two twin inlet catchbasins will have a combined inlet capacity of $0.082m^3/s$ ($0.041m^3/s \times 2$). The maximum ponding depth of 0.14m, will provide sufficient head to convey major system flows through the twin inlet catchbasins. An overland flow route toward Ilderton Road will ensure safe conveyance of any flows exceeding the capacity of the exfiltration trench and the catchbasin grates.

See Appendix D for catchbasin inlet capacity calculations.

EXFILTRATION TRENCH SERVING SUMP 2

The 0.39ha area tributary to the low point (Figure 4) between lot 2 and 4 will include front lawns and driveways in addition to the right-of-way features.

The exfiltration trench under the road will consist of 54m of perforated 375mm diameter pipe provided in two runs of sewer. The pipes will be accessible by two manholes. The trench will be 1m wide at the bottom, 3m wide at the top (minimum), 1.05m high starting 0.35m below the invert of the pipe, complete with triple washed clear stone 50mm in diameter and a void ratio of at least 0.30 (Figure 6). The trench will start at elevation 244.93m and rise to elevation 245.98m, providing a total storage volume of approximately $37m^3$. Table 3 shows the exfiltration trench performance based on the groundwater being at an estimated elevation of 243.7m.

Table 4 – ROW Exfiltration Trench 2 Performance

STORM EVENT	TRENCH BOTTOM ELEV. (m)	MAXIMUM STORAGE (m^3)	WATER ELEVATION (m)	DEPTH OF WATER (m)	EXFILT. DISCHARGE (m^3/s)
2 Year	244.93 CONSTANT	3.3	245.11	0.18	0.030
5 Year		7.5	245.28	0.35	0.043
10 Year		10.7	245.36	0.43	0.049
25 Year		14.9	245.46	0.53	0.057
50 Year		18.3	245.53	0.60	0.063
100 Year		21.7	245.60	0.67	0.069
250 Year		28.2	245.75	0.82	0.084
250 Year-24hr		24.8	245.67	0.74	0.076

Modeling results are available in Appendix C.

The trench is sufficiently sized to contain and exfiltrate the major system flows to the groundwater table.

Consideration was given to the inlet capacity of the twin inlet catchbasins to receive major system flows. It is assumed that all inflow will need to enter the twin inlet catchbasins and each structure would receive 50% of the runoff. The flow to the twin inlet catchbasins is $0.116m^3/s$ for the 250 year storm event. With a head water of 0.112m the two twin inlet catchbasins will have a combined inlet capacity of $0.116m^3/s$ ($0.058m^3/s$ x 2). The maximum ponding depth of 0.12m, will provide sufficient head to convey major system flows through the twin inlet catchbasins. A 5m wide overland flow route channel toward Ilderton Road will ensure safe conveyance of any flows exceeding the capacity of the exfiltration trench and the catchbasin grates.

See Appendix D for catchbasin inlet capacity calculations.

5.3.2. Lot Level Controls

Each lot will be required to control runoff, with the exception of the driveways and front lawns as identified on Figure 7. Lots 1 to 4 will have one exfiltration trench in the rear of the lots, located outside of the pipeline easement. The remaining lots will drain from the back to front and will be equipped with two exfiltration trenches along each side yard.

Each exfiltration trench will have a catchbasin inlet, with varying lengths of perforated 300mm diameter pipe to distribute flow to the trench. The trenches will be 1.0m wide at the bottom, 3m wide at the top (minimum), 1.0m high starting 0.4m below the invert of the pipe, complete with triple washed clear stone 50mm in diameter and a void ratio of at least 0.30 (Figure 8). Table 5

identifies the exfiltration trench sizing by lot number, and should be read in conjunction with Figure 7.

Table 5 – Private Exfiltration Trench Sizing

TRENCH ID	LOT SERVED	Area Served (ha)	FINISHED GROUND ELEV. (m)	TRENCH BOTTOM ELEV. (m)	PIPE INVERT ELEV. (m)	TRENCH LENGTH (m)	ESTIMATED G.W. TABLE (m)	STORAGE VOLUME IN TRENCH(m^3)
1	1	0.25	247.30	245.25	245.65	20	243.7	13.0
2	2	0.32	246.75	244.70	245.10	25	243.7	16.2
3	3	0.18	247.00	244.95	245.35	16	243.9	10.4
4	4	0.19	246.65	244.60	245.00	16	243.7	10.4
5A	5	0.13	248.00	245.95	246.35	10	244.2	6.5
5B	5	0.11	247.80	245.75	246.15	10	244.2	6.5
6A	6	0.12	247.70	245.65	246.05	10	244.2	6.5
6B	6	0.12	247.80	245.75	246.15	10	244.2	6.5
7A	7	0.14	247.75	245.70	246.10	8	244.14	5.2
7B	7	0.24	247.70	245.65	246.05	16	244.0	10.4
8A	8	0.06	247.70	245.65	246.05	8	244.0	5.2
8B	8	0.17	247.05	245.00	245.40	10	243.7	6.5
9A	9	0.04	247.05	245.00	245.40	8	243.7	5.2
9B	9	0.30	246.30	244.25	244.65	16	243.3	10.4
10A	10	0.19	246.25	244.20	244.60	8	243.3	5.2
10B	10	0.18	246.45	244.40	244.80	8	243.3	5.2

*storage volume does not account for available surface storage

Given the size of the proposed lots, ranging from 0.213ha to 0.391ha, typical urban impervious values of 55-60% are unrealistic. Instead, the percent impervious was assigned based on each lot having 550 m^2 (5920 ft^2) of hard surface in addition to the driveways (see appendix for modeling inputs). The 250 year performance of each private exfiltration trench can be seen in Table 6. Please see Appendix E for individual trench performance tables for the 2 year storm event through to the 250 year storm event.

Table 6 – 250 Year Performance for Private Exfiltration Trenches

TRENCH ID	LOT SERVED	Area Served (ha)	TRENCH BOTTOM ELEV. (m)	MAXIMUM STORAGE (m^3)	WATER ELEVATION (m)	DEPTH OF WATER (m)	EXFILT. DISCHARGE (m^3/s)
1	1	0.25	245.25	8.4	245.97	0.72	0.026
2	2	0.32	244.70	11.1	245.45	0.75	0.038
3	3	0.18	244.95	7.9	245.76	0.81	0.026
4	4	0.19	244.60	6.5	245.30	0.70	0.023
5A	5	0.13	245.95	5.3	246.81	0.86	0.015
5B	5	0.11	245.75	4.5	246.51	0.76	0.014
6A	6	0.12	245.65	4.8	246.44	0.79	0.015
6B	6	0.12	245.75	4.8	246.55	0.80	0.014
7A	7	0.14	245.70	4.4	246.59	0.89	0.013
7B	7	0.24	245.65	8.0	246.47	0.82	0.023
8A	8	0.06	245.65	3.7	246.43	0.78	0.011
8B	8	0.17	245.00	5.4	245.87	0.87	0.016
9A	9	0.04	245.00	3.4	245.72	0.72	0.011
9B	9	0.30	244.25	7.3	245.01	0.76	0.025
10A	10	0.19	244.20	3.8	244.99	0.79	0.013
10B	10	0.18	244.40	4.0	245.22	0.82	0.013

The exfiltration trenches are sufficiently sized to contain and exfiltrate the major system flows to the groundwater table. The exfiltration trench sizing will need to be reassessed if the impervious area on the lot exceeds 550 m^2.

An overland flow route to the Bowling Green right-of-way will be provided for storm events exceeding the capacity of the trench.

5.3.3. Ilderton Road Drainage

Lots fronting Ilderton Road (Lot 1, 2 and 10) will direct post development drainage to the roadside ditch. Lots 1 and 2 will contribute runoff from front lawns, driveways and portion of roofs. Lot 10 will contribute runoff from the driveway and front lawn.

Culverts will be required at each driveway to maintain drainage through the roadside ditch (Figure 9). Upstream tributary areas were considered in order to analyze post development flows and the overall performance of the culverts and ditches. This includes 1.56ha of the existing Bowling Green Drive subdivision as well as half of the Ilderton Road right-of-way (Figure 10). Culverts have been oversized where possible to limit backup and ponding upstream of the Lot 1 culvert.

The culverts sizes are shown in Table 7.

Table 7 – Ilderton Road Culvert Installations

Location	Culvert Diam (mm)	Storm Event Through Culvert
Lot 1/2 - Driveway	600	250 Year
Lot 10 - Driveway	375	2 Year
Road Crossing	600	250 Year

Stage-storage-discharge tables were established using CulvertMaster and Civil 3D in order to analyze the culvert performance as part of the post development model. With consideration for all tributary areas and culverts, the post development peak flows through the Ilderton Road ditch, draining southwest, are as follows:

Table 8 – Post Development Flows

Storm Event	Pre Flow (m^3/s)	Post Flow (m^3/s)
2 Year	0.098	0.082
5 Year	0.148	0.125
10 Year	0.187	0.154
25 Year	0.237	0.184
50 Year	0.277	0.212
100 Year	0.320	0.238
250 Year	0.466	0.301
250 Year-24hr	0.549	0.288

See Appendix F for modeling results.

The reduction in tributary area being conveyed from the subject lands to the Ilderton Road ditch will effectively reduce the post development peak flows through the existing ditch to **less** than pre development levels.

5.3.4. Quality Controls

The LID SWM Guide recommends that exfiltration trenches servicing a roadway or parking lot receive pretreatment prior to allowing flows the exfiltrate. Thus, quality controls will be addressed for runoff generated by the road and driveways that are tributary to the right-of-way exfiltration trenches. Runoff entering the right-of-way exfiltration trenches through the twin inlet catchbasins will pass through an oil grit separator.

Stormwater quality will address the MOE "enhanced" level of protection, which is the long-term average removal of 80% of suspended solids. The treatment unit will be the entry manhole receiving flows from the twin inlet catchbasins at both roadway sumps.

OIL GRIT SEPARATOR SERVING SUMP 1

The drainage area tributary to the oil grit separator is 0.12ha (Figure 11). With an overall imperviousness of 100%, the impervious area served by the stormceptor is 0.12ha. The Stormceptor model STC-300 or approved equal, will achieve an 83% annual removal of suspended solids. The Stormceptor report can be found in Appendix G.

OIL GRIT SEPARATOR SERVING SUMP 2

The drainage area tributary to the oil grit separator is 0.26ha (Figure 11). With an overall imperviousness of 75%, the impervious area served by the stormceptor is 0.19ha. The Stormceptor model STC-750 or approved equal, will achieve an 86% annual removal of suspended solids. The Stormceptor report can be found in Appendix G.

5.3.5. Nitrate Dilution and Water Balance

As specified in the the report titled 'Updated Wastewater Impact Assessment for Phase II Poplar Woods Development – Using Enhanced Infiltration and Excluding Use of Level IV Pretreatment" prepared by BOS Engineering & Environmental Services Inc., the subdivision should achieve 100% infiltration of annual precipitation in order to meet nitrate requirements.

The grading and stormwater management strategy yields that by area **95.4% of the rainfall on the lots will infiltrate.** Approximately 0.14ha, making up 4.6% of the lot area, will be tributary to the Ilderton Road ditch as discussed in section 5.3.3. which is not tributary to an exfiltration system and will travel overland. The **Bowling Green Drive right-of-way will infiltrate 95.1% of rainfall** (on a by area calculation) which includes all right-of-way features with the exception of the daylight triangles that will drain to the Ilderton Road ditch. It is understood that the high infiltration potential of the subsurface soils will provide some additional infiltration for the runoff traveling over pervious areas to the Ilderton Road ditch, however this was ignored for the calculation. Supporting nitrate concentrations can be seen in the report prepared by Bos Engineering and Environmental Services Inc.

The 'Hydrogeological Assessment' completed by JFM Environmental Limited indicates that water balance deficits can be mitigated by ensuring that 90% of proposed rooftops drain to pervious areas. The intent of the grading and stormwater strategy is to have 100% of rooftop runoff travel over pervious areas and **90.1% of rooftops will be tributary to an exfiltration trench** in order to ensure that runoff can exfiltrate and contribute to the groundwater table.

The exfiltration trenches and proposed grading will meet the requirements stipulated for nitrate dilution and water balance.

5.4. Summary

The proposed development will utilize exfiltration trenches to meet nitrate dilution requirements, mitigate water balance deficits, reduce the amount of runoff discharging to Ilderton Road and to subsequently attenuate post development peak flows through the Ilderton Road ditch to less than pre development levels. Two oil grit separators, an STC-300 (or approved equal) oil grit separator at sump 1 and an STC-750 (or approved equal) oil grit separator at sump 2 will provide the 'Enhanced' level of water quality treatment.

It should be noted that all trench lengths established are based on the true length of pipe. Center to Center lengths established on the subdivision plans will reflect the size of structures.

6.0 Water Distribution

Each lot will be serviced by a private well. The report titled 'Updated Wastewater Impact Assessment for Phase II Poplar Woods Development – Using Enhanced Infiltration and Excluding Use of Level IV Pretreatment" has been prepared by BOS Engineering & Environmental Services Inc. This report discusses the availability of potable groundwater in a confined aquifer. The potable wells on each lot will be located such that they meet the 15m setback requirement from septic beds under the Ontario Building Code.

7.0 Conclusion

The proposed Poplar Woods Plan of Subdivision can be serviced by exfiltration trenches as well as private septic systems and potable wells on each lot. All detailed engineering design will be completed in accordance with Middlesex Centre Infrastructure Design Standards.

We trust that this satisfies your requirements for Draft Condition approval. If you have any questions or require additional information please contact our office.

Prepared By:

Archibald Gray & McKay Engineering Ltd.

Lukas Grabowski, EIT

Steve Brown, P.Eng.
Engineering Design Manager

FIGURES

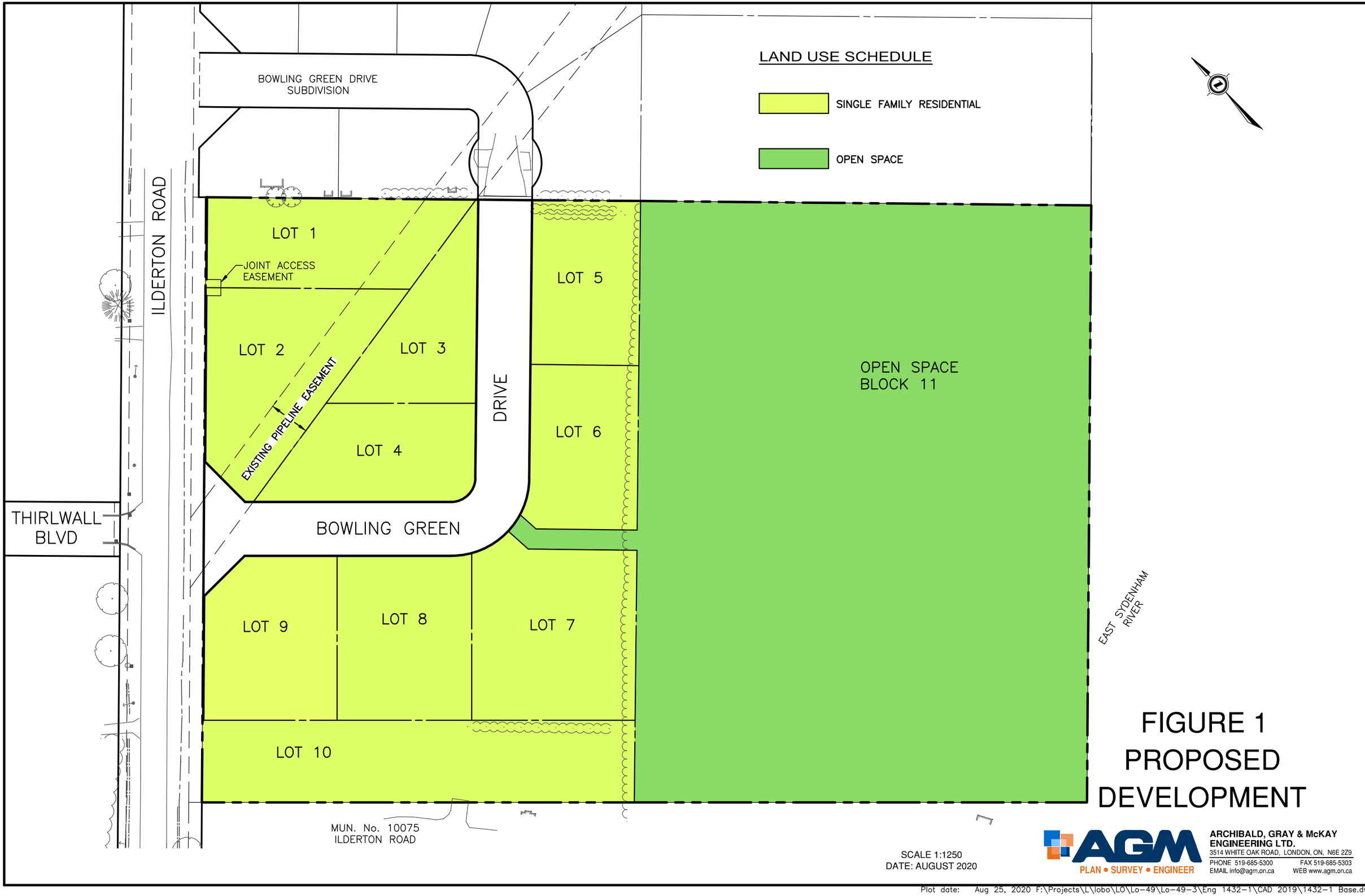

FIGURE 1
PROPOSED DEVELOPMENT

SCALE 1:1250
DATE: AUGUST 2020

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Plot date: Aug 25, 2020 F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\Eng 1432-1\CAD 2019\1432-1 Base.dwg

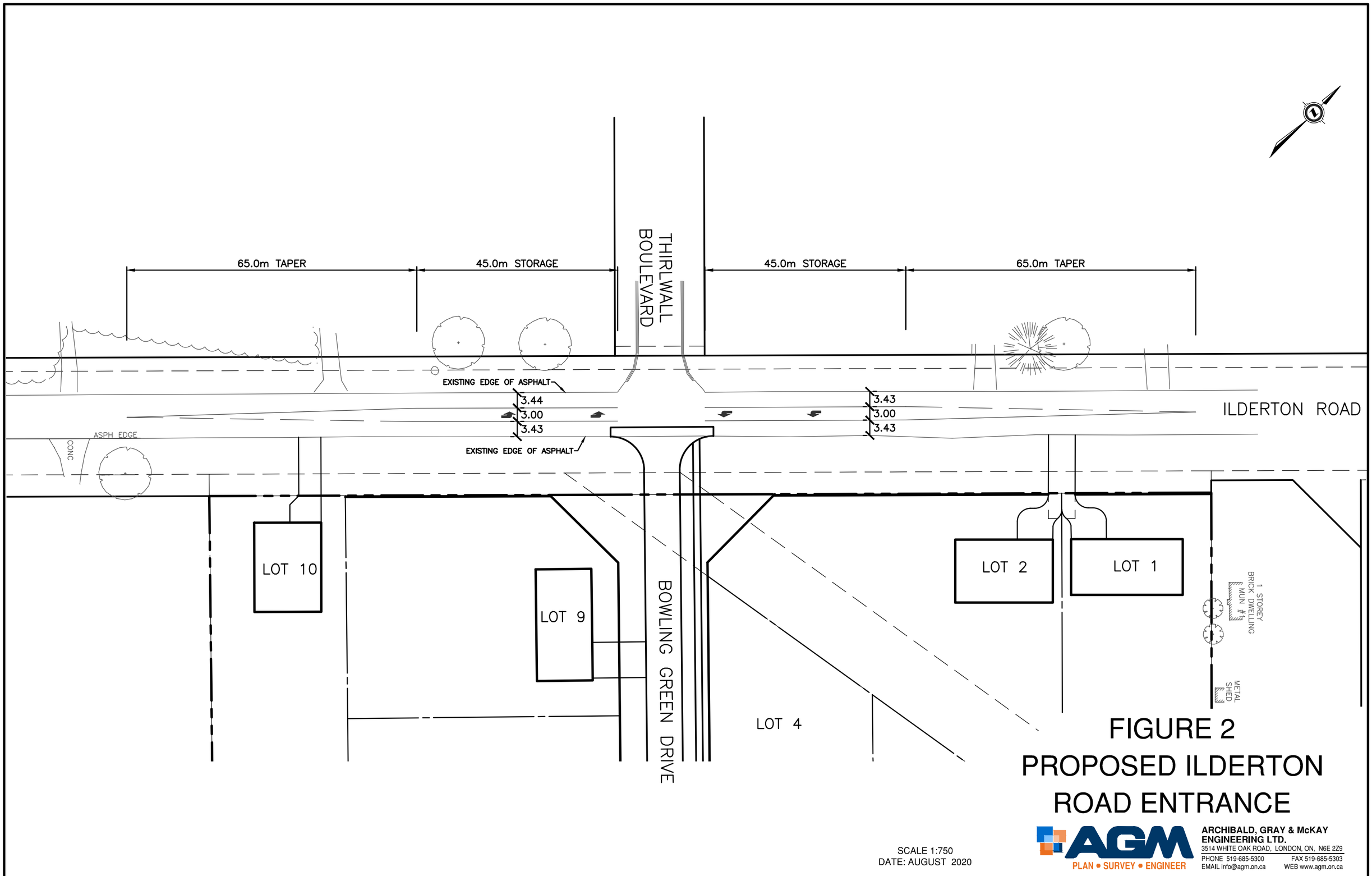

FIGURE 2
PROPOSED ILDERTON ROAD ENTRANCE

SCALE 1:750
DATE: AUGUST 2020

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ILDERTON ROAD

103
0.13

102
0.36

101
1.56

1
3.27

245.00
247.50
247.50
245.50
246.00
246.50
247.00
247.50
248.00
248.50
249.00
249.50
249.50

ASSESSMENT POINT FOR PEAK PRE DEVELOPMENT DISCHARGE

300 CSP CULVERT

APPROXIMATE DRAINAGE BOUNDARY FROM LOT DERIVED FROM GOOGLE STREETVIEW

BOWLING GREEN DRIVE

100
00.00

CATCHMENT ID

AREA SERVED IN HECTARES

DIRECTION OF SURFACE FLOW

UPSTREAM/EXTERNAL AREA CONTRIBUTION

FIGURE 3
EXISTING DRAINAGE

SCALE 1:1000
DATE: AUGUST 2020

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ILDERTON ROAD

DITCH

DITCH

DITCH

LOT 10

LOT 9

LOT 8

LOT 7

LOT 6

LOT 5

LOT 4

LOT 3

LOT 2

LOT 1

SUMP 2

ROW EXFILTRATION TRENCH 2

SUMP 1

ROW EXFILTRATION TRENCH 1

EXISTING PIPELINE EASEMENT

12
0.39

11
0.30

1 STOREY BRICK DWELLING MUN # 1

METAL SHED

METAL SHED

WOOD SHED

TREE ROW 300 DIA

ASPH

TREE ROW 400 DIA

TREE ROW 100 DIA

TREE ROW 100 DIA

BOWLING GREEN DRIVE

100
00.00

CATCHMENT ID

AREA SERVED IN HECTARES

DIRECTION OF SURFACE FLOW

IMPERVIOUS SURFACES

FIGURE 4
POST DEVELOPMENT RIGHT-OF-WAY EXFILTRATION

SCALE 1:750

DATE: AUGUST 2020

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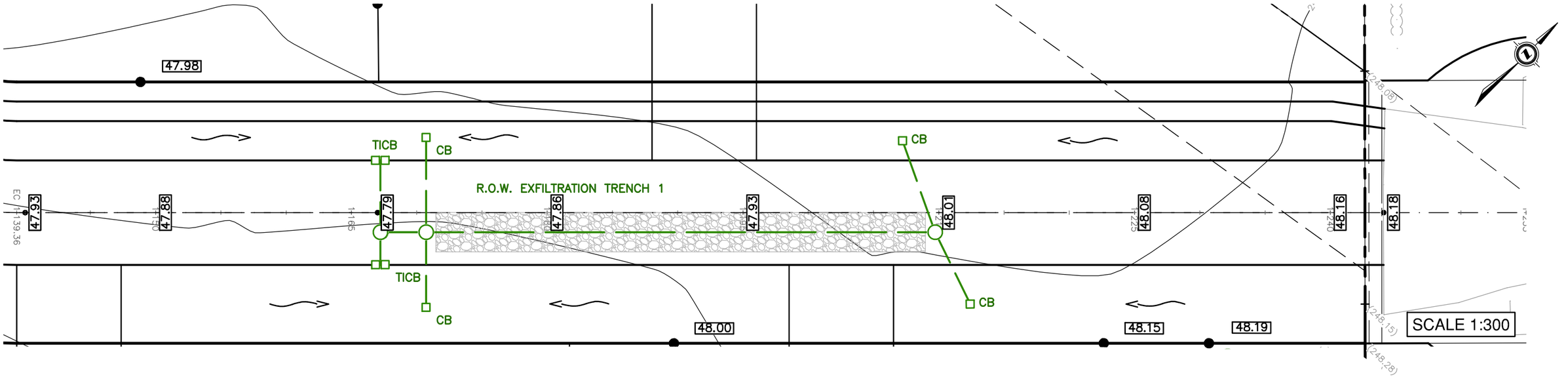

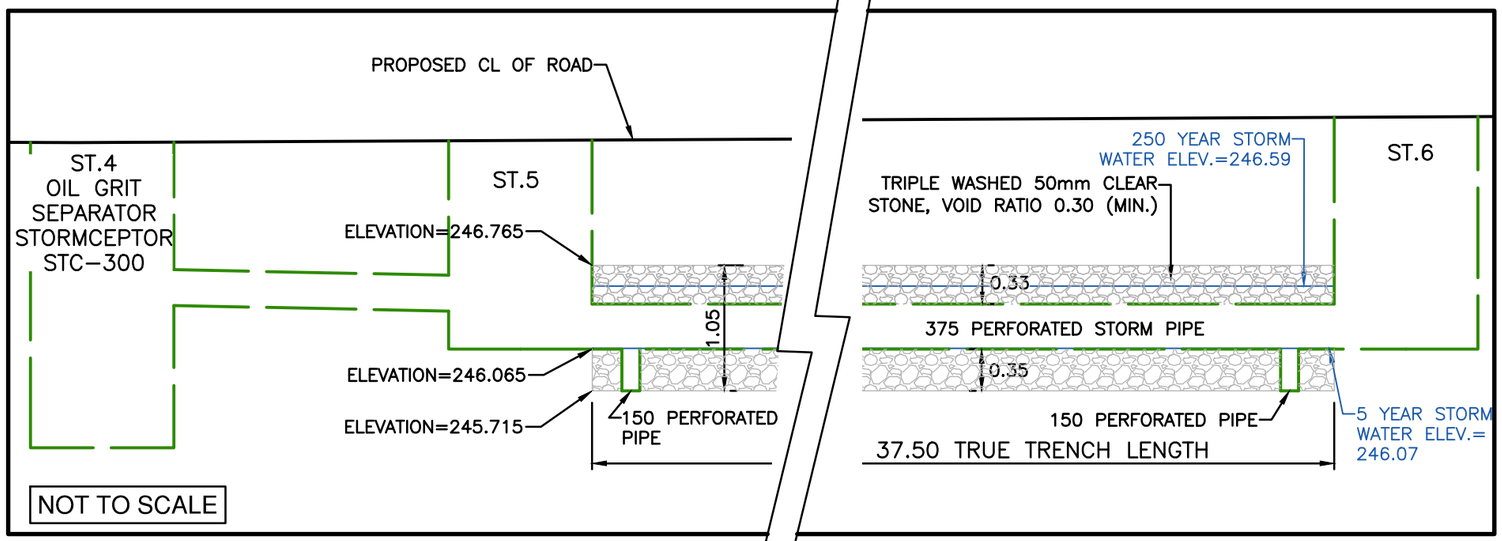

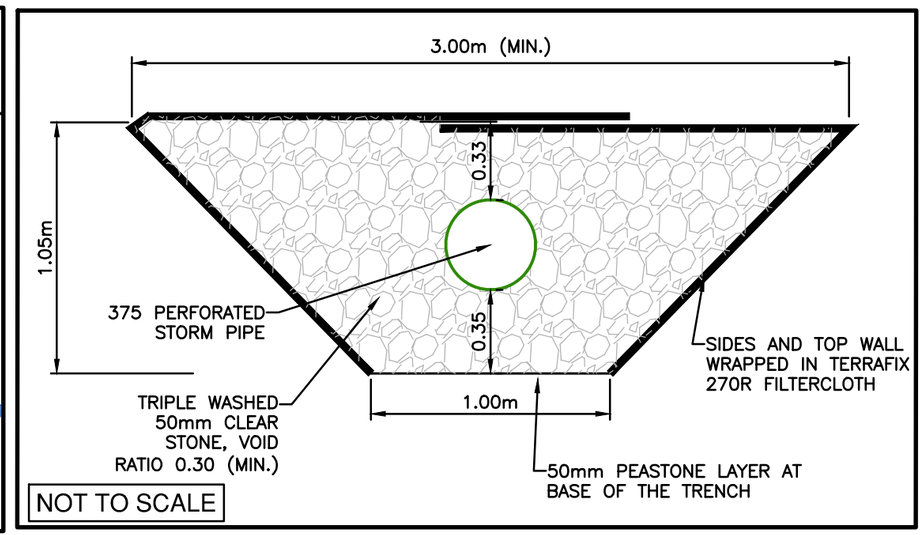

FIGURE 5
SUMP 1
EXFILTRATION TRENCH

DATE: AUGUST 2020

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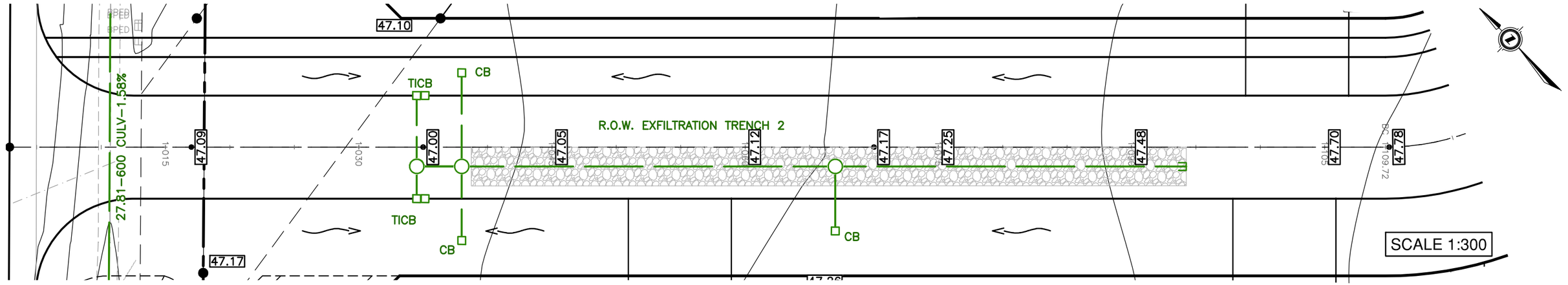

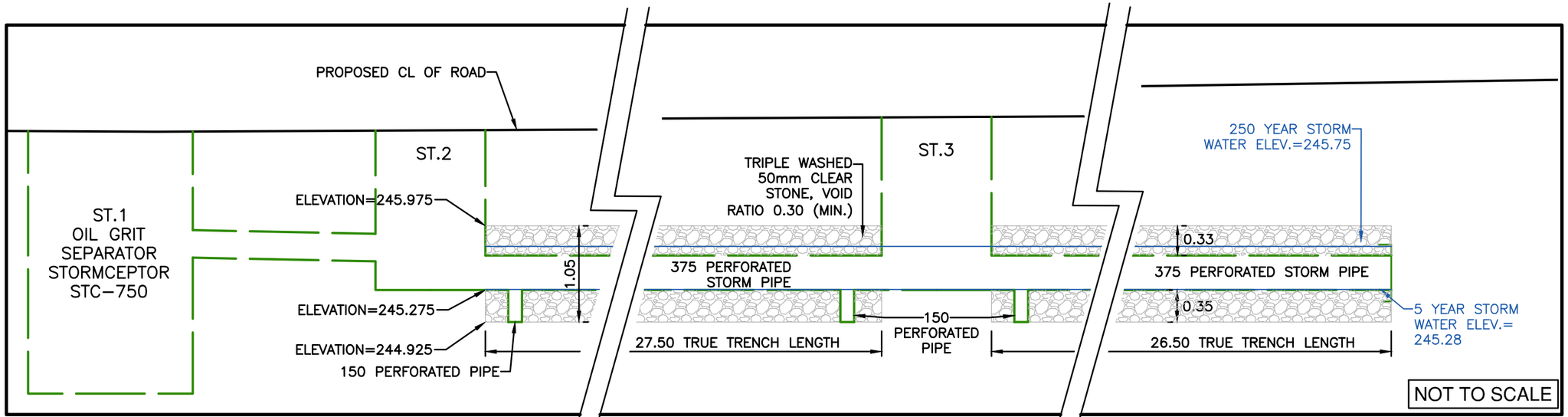

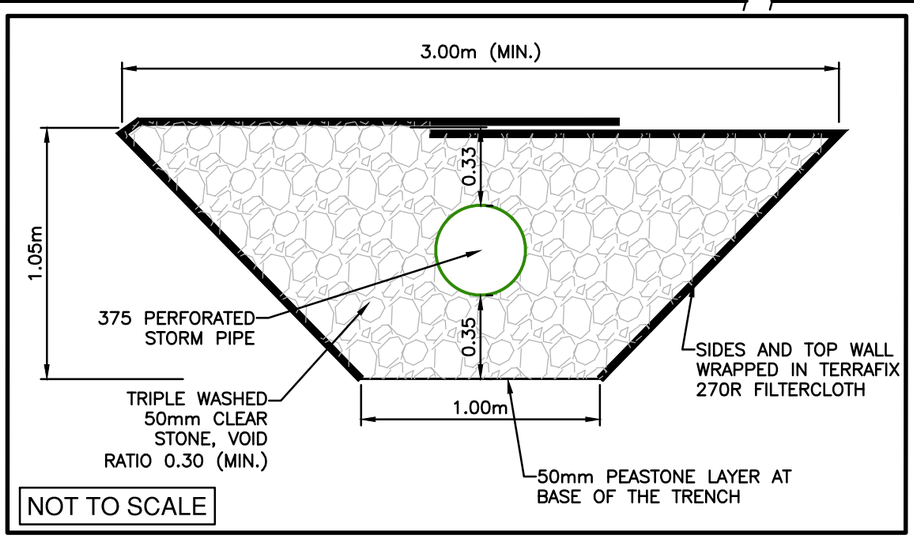

FIGURE 6
SUMP 2
EXFILTRATION TRENCH

DATE: AUGUST 2020

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ILDERTON ROAD

BOWLING GREEN DRIVE

EXFILTRATION TRENCH 10B

EXFILTRATION TRENCH 10A

EXFILTRATION TRENCH 9B

EXFILTRATION TRENCH 9A

EXFILTRATION TRENCH 8B

EXFILTRATION TRENCH 8A

EXFILTRATION TRENCH 7B

EXFILTRATION TRENCH 7A

EXFILTRATION TRENCH 6B

EXFILTRATION TRENCH 6A

EXFILTRATION TRENCH 5B

EXFILTRATION TRENCH 5A

EXFILTRATION TRENCH 4

EXFILTRATION TRENCH 3

EXFILTRATION TRENCH 2

EXFILTRATION TRENCH 1

EXISTING PIPELINE EASEMENT

LOT 10

LOT 9

LOT 8

LOT 7

LOT 6

LOT 5

LOT 4

LOT 3

LOT 2

LOT 1

100 / 0.18

99 / 0.30

9 / 0.04

10 / 0.19

88 / 0.17

8 / 0.06

77 / 0.24

7 / 0.14

66 / 0.12

6 / 0.12

55 / 0.11

5 / 0.13

4 / 0.19

3 / 0.18

2 / 0.32

1 / 0.25

1 STOREY BRICK DWELLING MUN # 1

METAL SHED

METAL SHED

TREE ROW

TREE ROW 300 DIA

TREE ROW 400 DIA

TREE ROW 100 DIA

CATCHMENT ID

100 / 00.00

AREA SERVED IN HECTARES

IMPERVIOUS SURFACES

FIGURE 7
POST DEVELOPMENT LOT LEVEL EXFILTRATION

SCALE 1:750

DATE: AUGUST 2020

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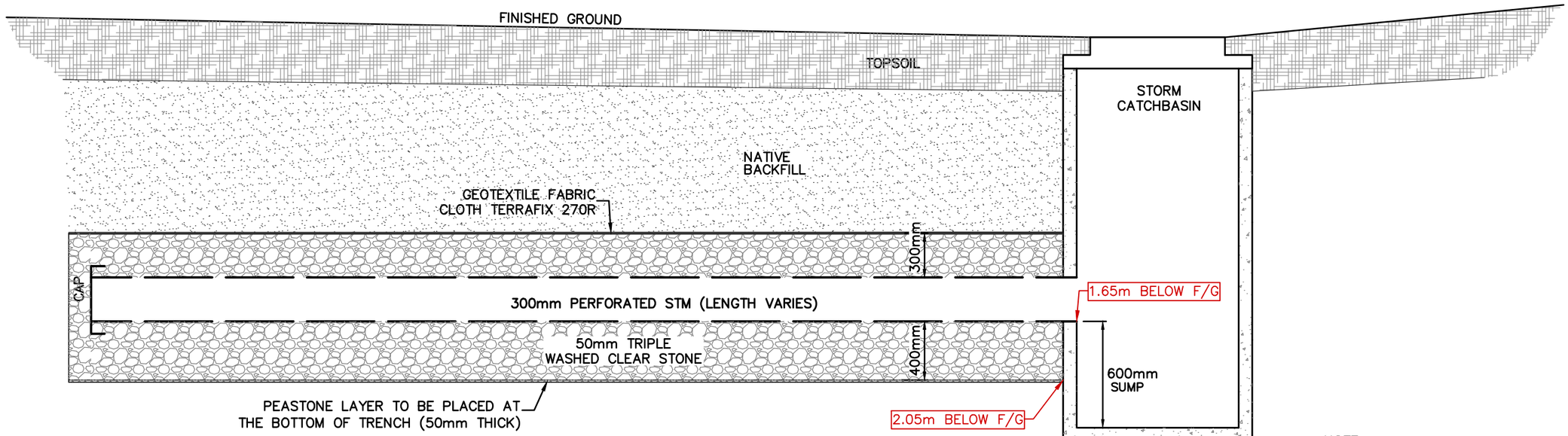
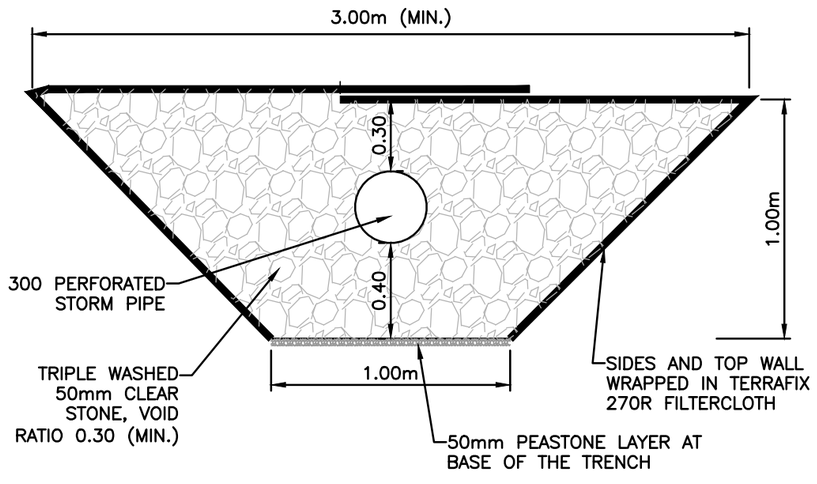


SIDE VIEW

NOTE:
CLEAR STONE BEDDING TO BE LINED ON VERTICAL SIDES AND TOP WITH GEOTEXTILE FILTER CLOTH TERRAFIX 270R OR EQUIVALENT



SECTION VIEW

FIGURE 8
TYPICAL PRIVATE EXFILTRATION TRENCH

NOT TO SCALE
DATE: AUGUST 2020

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ILDERTON ROAD

REMOVE 300 CULVERT AND REGRADE DITCH

LIMITS OF GRADING

TOP OF SLOPE

45.31

45.38

11.00–375 CULV–0.64%

45.86

46.30

27.81–600 CULV–1.58%

46.60

46.75

46.60

47.07

47.18

LOT 10 DRIVEWAY

5.00m OVERFLOW

BOWLING GREEN DRIVE

MATCH LINE

MATCH LINE

ILDERTON ROAD

LIMITS OF GRADING

TOP OF SLOPE

46.85

14.25–600 CULV–0.85%

46.97

47.15

LOT 1&2 DRIVEWAY

48.20

47.30

PROPOSED OVERLAND FLOW ROUTE

PROPOSED SWALE

PROPOSED CULVERT

× (270.00) EXISTING ELEVATION (MATCH)

• 00.00 FINISHED GROUND ELEVATION

FIGURE 9
ILDERTON ROAD
PROPOSED ALTERATIONS

SCALE 1:300
DATE: AUGUST 2020

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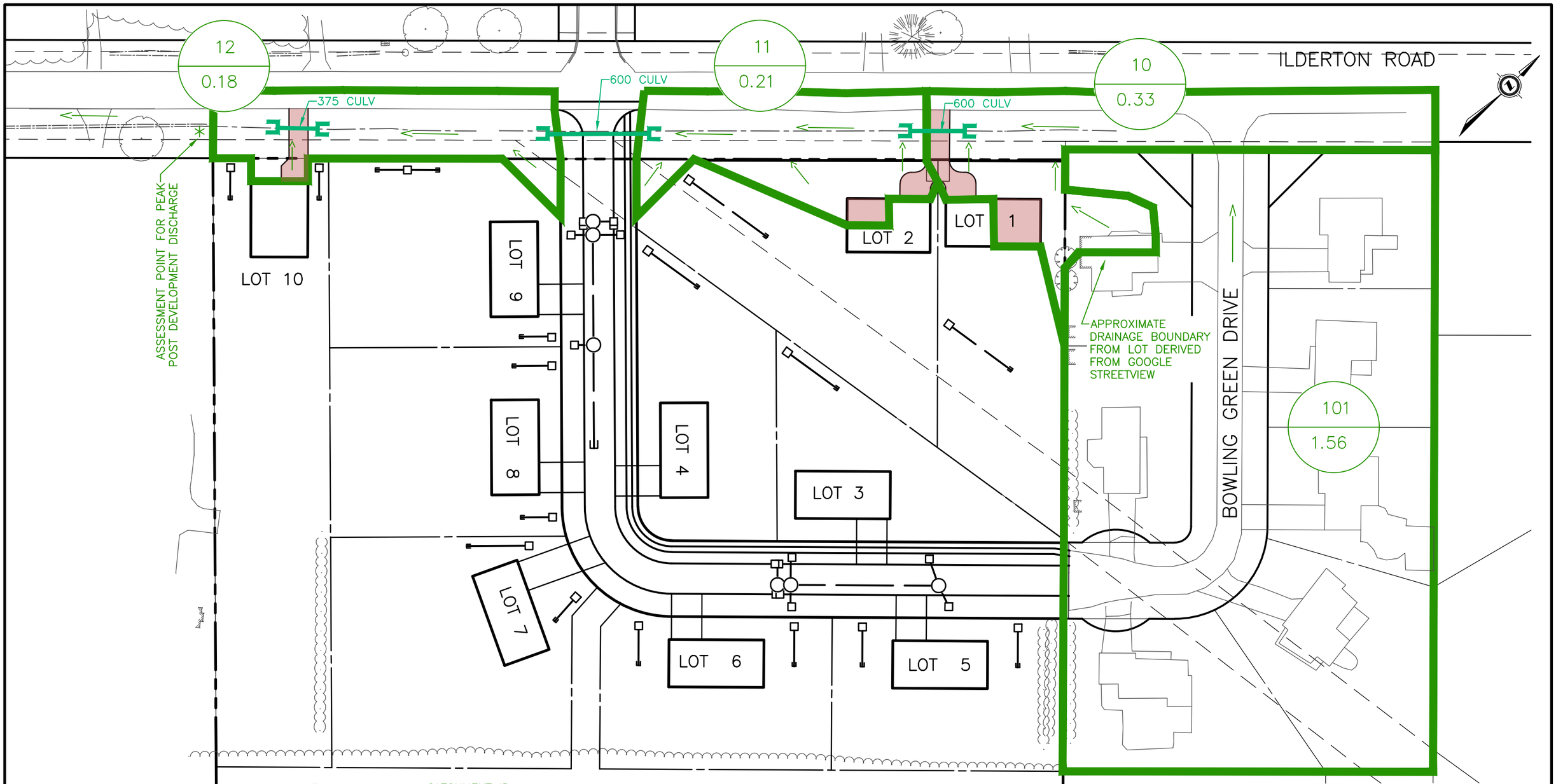

FIGURE 10
POST DEVELOPMENT
ILDERTON ROAD

SCALE 1:1000
DATE: AUGUST 2020

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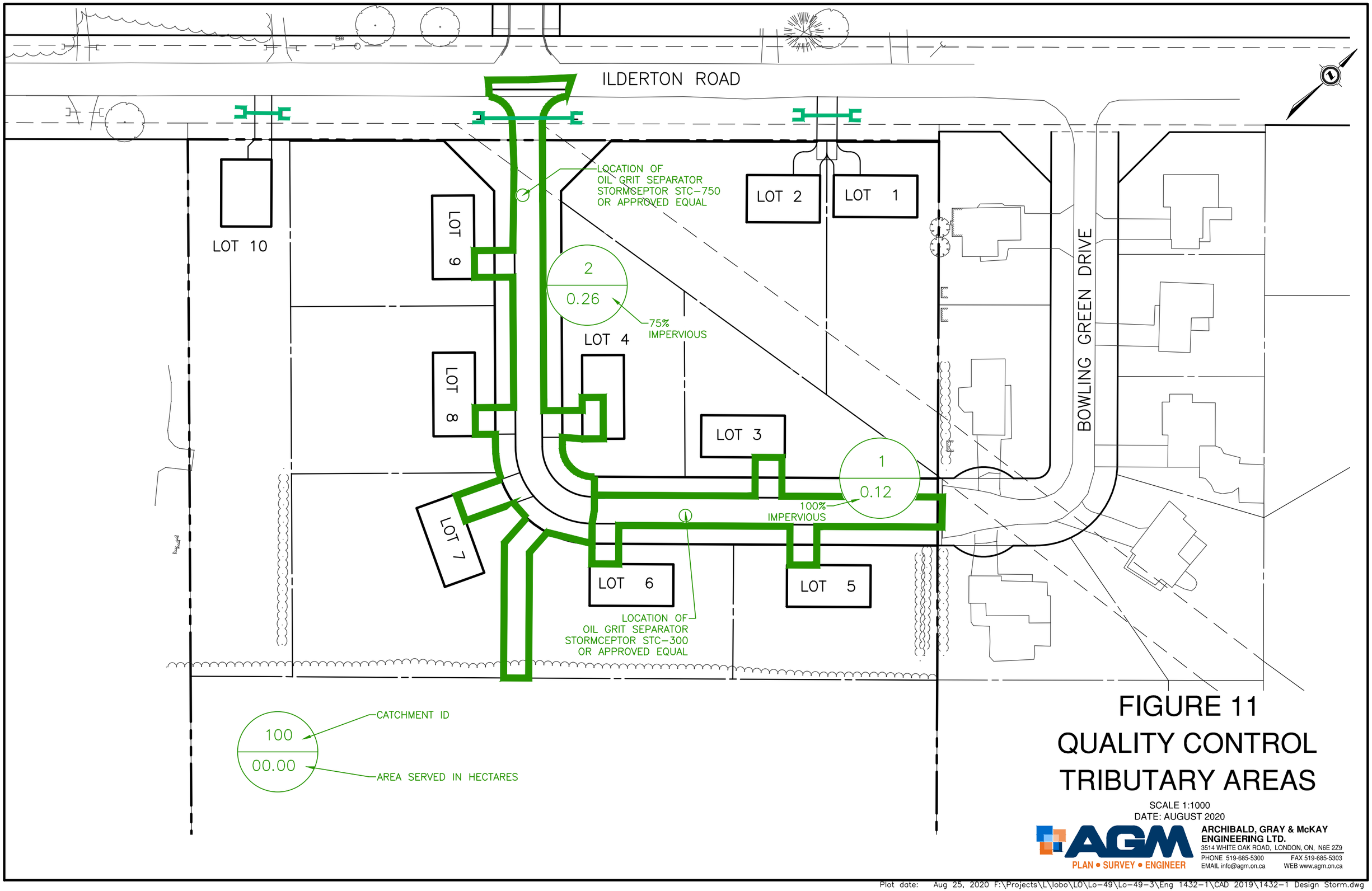

FIGURE 11
QUALITY CONTROL
TRIBUTARY AREAS

SCALE 1:1000
DATE: AUGUST 2020

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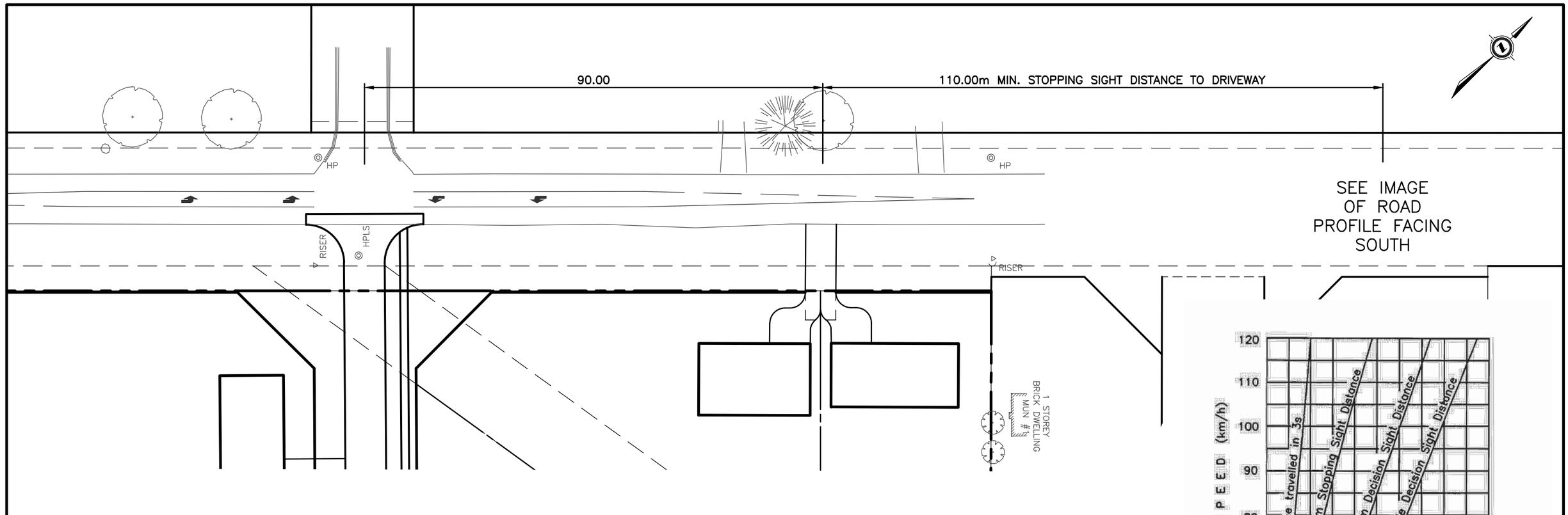
APPENDIX A

Stopping Sight Distance



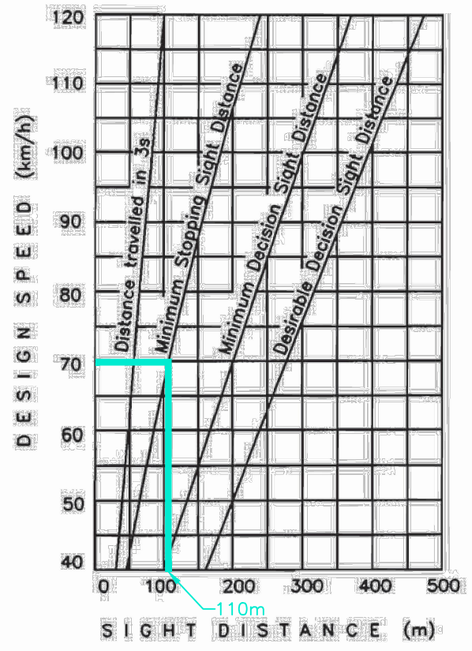
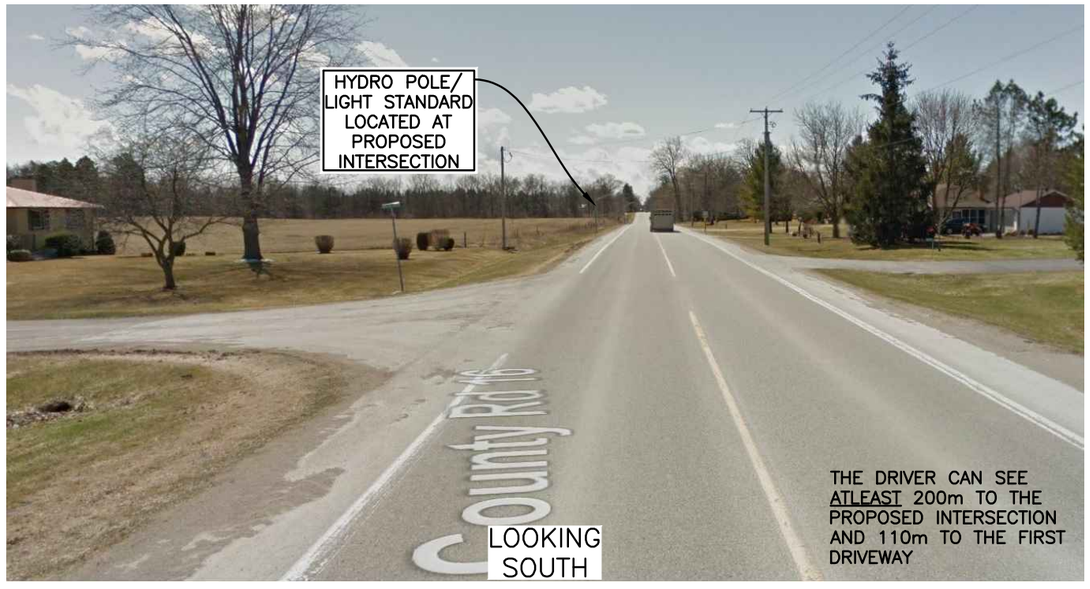


Figure E3-8

DESIGN SPEED FOR ILDERTON ROAD = 70 Km/h
AS PER SECTION 1.1.1 OF THE MIDDLESEX CENTRE
DESIGN MANUAL



SOUTHBOUND STOPPING SIGHT DISTANCE

SCALE 1:750
DATE: MAY 2020

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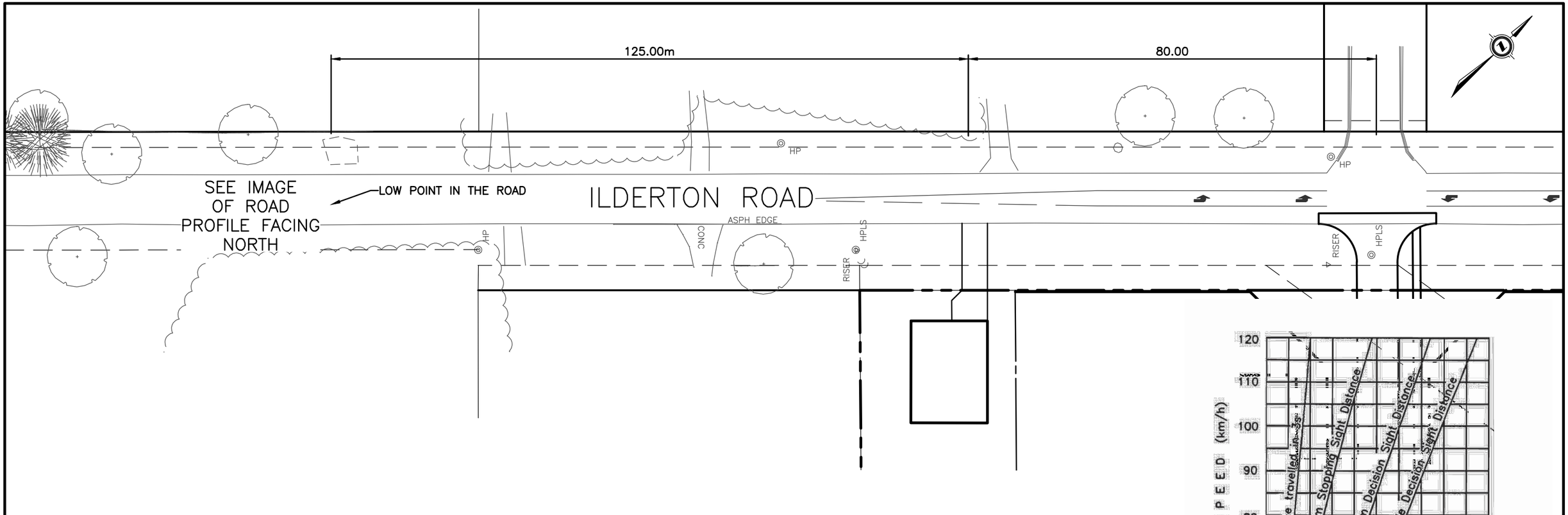

DESIGN SPEED FOR ILDERTON ROAD = 70 Km/h
AS PER SECTION 1.1.1 OF THE MIDDLESEX CENTRE DESIGN MANUAL

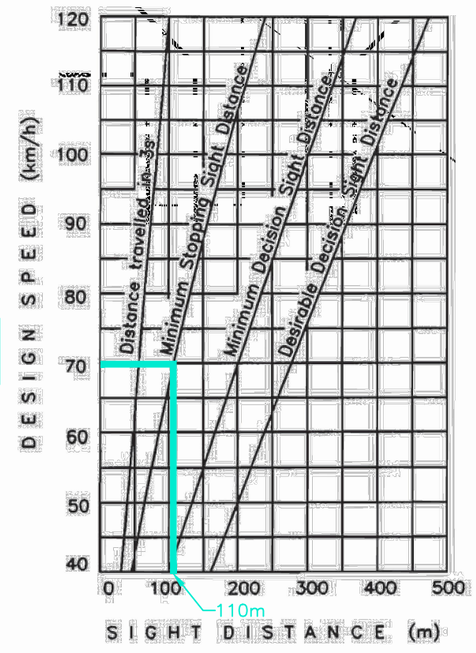

Figure E3-8

SOUTHBOUND STOPPING SIGHT DISTANCE

SCALE 1:750
DATE: AUGUST 2020

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APPENDIX B

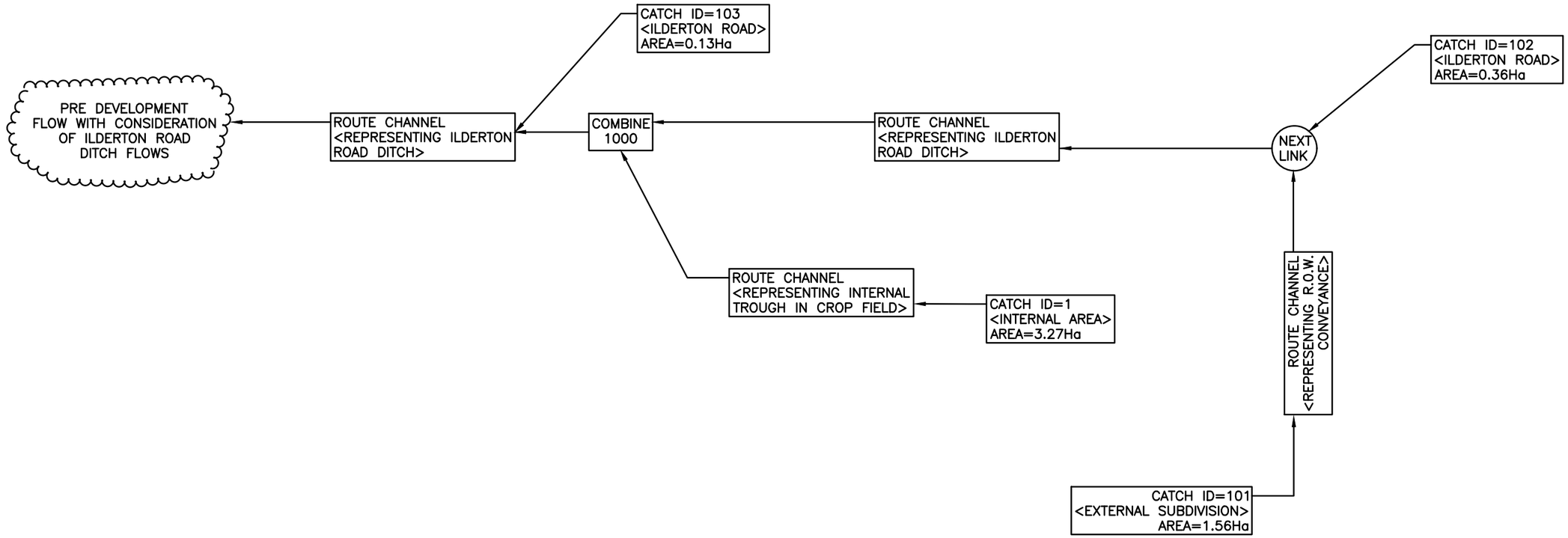
Stormwater Management
Pre Development Model

PRE DEVELOPMENT MODELING DATA

CATCHMENT NO.	AREA (ha)	IMPERVIOUS (%)	IMPERVIOUS AREA (ha)	PERVIOUS LENGTH (m)	IMP. LENGTH (m)	CATCHMENT AVG. SLOPE (%)	SCS CURVE #	PERVIOUS MANNINGS (n)	CHANNEL LENGTH (m)	CHANNEL SLOPE AVG (%)
101	1.56	30	0.468	38	4	2	60	0.25	150	0.3
102	0.36	40	0.144	5	5	2	60	0.25	180	1.1
1	3.27	0.26	0.009	125	125	3	66	0.25	157	1.3
103	0.13	30	0.039	5	5	2	60	0.25	70	0.25

PRE DEVELOPMENT MODEL FLOW SUMMARY

	TOTAL FLOW
2	0.098
5	0.148
10	0.187
25	0.237
50	0.277
100	0.320
250	0.466
250-24hr	0.549



POPLAR WOODS SUBDIVISION

PRE DEVELOPMENT MODEL SCHEMATIC

DATE: AUGUST 2020

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Model
Output Files

```
"                MIDUSS Output ----------------------------------------------->"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                 February 7, 2010"
"           10   Units used:                                            ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                    Eng 1432-1\SWM\MIDUSS\Pre with Ilderton Road"
"                Output filename:                                  2 year pre-1.out"
"                Licensee name:                                            owner"
"                Company                                                 HP Inc."
"                Date & Time last used:              2020-04-23 at 11:25:51 AM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1500.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"      724.690   Coefficient A"
"        5.500   Constant B"
"        0.800   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"              Maximum intensity           101.773    mm/hr"
"              Total depth                  33.312    mm"
"            4   2hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 101"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"          101   Bowling Green Drive Subdivision"
"       30.000   % Impervious"
"        1.560   Total Area"
"       38.000   Flow length"
"        2.000   Overland Slope"
"        1.092   Pervious Area"
"       38.000   Pervious length"
"        2.000   Pervious slope"
"        0.468   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.121   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.754   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.099     0.000     0.000     0.000 c.m/sec"
"             Catchment 101          Pervious   Impervious Total Area "
"             Surface Area           1.092      0.468      1.560      hectare"
"             Time of concentration  36.889     0.694      10.555     minutes"
"             Time to Centroid       143.137    88.944     103.709    minutes"
"             Rainfall depth         33.312     33.312     33.312     mm"
"             Rainfall volume        363.77     155.90     519.66     c.m"
"             Rainfall losses        29.279     8.183      22.950     mm"
"             Runoff depth           4.033      25.129     10.362     mm"
"             Runoff volume          44.04      117.60     161.64     c.m"
"             Runoff coefficient     0.121      0.754      0.311      "
"             Maximum flow           0.009      0.099      0.099      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                     0.099     0.099     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.099   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        0.500   Channel depth    metre"
"        0.300   Gradient   %"
"             Depth of flow                 0.071    metre"
"             Velocity                      0.394    m/sec"
"             Channel capacity             18.111    c.m/sec"
"             Critical depth                0.060    metre"
" 53          ROUTE    Channel Route 150"
"      150.00      Channel Route 150 Reach length   ( metre)"
"        0.470   X-factor <= 0.5"
"      285.557   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      300.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.097    c.m/sec"
"                    0.099     0.099     0.097     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.099     0.097     0.097     0.000"
" 33          CATCHMENT 102"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"          102   Ilderton Road ROW tributary to southeast ditch"
"       40.000   % Impervious"
"        0.360   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.216   Pervious Area"
"        5.000   Pervious length"
"       10.000   Pervious slope"
"        0.144   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.120   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.764   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.031     0.097     0.097     0.000 c.m/sec"
"             Catchment 102          Pervious   Impervious Total Area "
"             Surface Area           0.216      0.144      0.360      hectare"
"             Time of concentration  6.741      0.793      1.925      minutes"
"             Time to Centroid       107.270    88.795     92.309     minutes"
"             Rainfall depth         33.312     33.312     33.312     mm"
"             Rainfall volume        71.95      47.97      119.92     c.m"
"             Rainfall losses        29.326     7.859      20.739     mm"
"             Runoff depth           3.986      25.453     12.573     mm"
"             Runoff volume          8.61       36.65      45.26      c.m"
"             Runoff coefficient     0.120      0.764      0.377      "
"             Maximum flow           0.005      0.030      0.031      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                     0.031     0.121     0.097     0.000"
" 52          CHANNEL DESIGN"
"        0.121   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
```

```
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                0.199    metre"
"             Velocity                     0.556    m/sec"
"             Channel capacity             8.979    c.m/sec"
"             Critical depth               0.158    metre"
" 53          ROUTE    Channel Route 180"
"       180.00      Channel Route 180 Reach length   ( metre)"
"        0.481   X-factor <= 0.5"
"      242.698   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                 0.108    c.m/sec"
"                    0.031     0.121     0.108     0.000 c.m/sec"
" 40          HYDROGRAPH   Combine    1000"
"             6   Combine "
"          1000   Node #"
"                 Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.108    c.m/sec"
"             Hydrograph volume          206.902    c.m"
"                    0.031     0.121     0.108     0.108"
" 40          HYDROGRAPH Start - New Tributary"
"             2   Start - New Tributary"
"                    0.031     0.000     0.108     0.108"
" 33          CATCHMENT 1"
"             1   Triangular SCS"
"             1   Equal length"
"             1   SCS method"
"             1   farmland"
"        0.260   % Impervious"
"        3.270   Total Area"
"      125.000   Flow length"
"        3.000   Overland Slope"
"        3.261   Pervious Area"
"      125.000   Pervious length"
"        3.000   Pervious slope"
"        0.009   Impervious Area"
"      125.000   Impervious length"
"        3.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       66.000   Pervious SCS Curve No."
"        0.132   Pervious Runoff coefficient"
"        0.054   Pervious Ia/S coefficient"
"        7.066   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.803   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.019     0.000     0.108     0.108 c.m/sec"
"             Catchment 1            Pervious   Impervious Total Area "
"             Surface Area           3.261      0.009      3.270      hectare"
"             Time of concentration  64.401     4.845      63.469     minutes"
"             Time to Centroid       177.646    94.244     176.340    minutes"
"             Rainfall depth         33.312     33.312     33.312     mm"
"             Rainfall volume        1086.46    2.83       1089.30    c.m"
"             Rainfall losses        28.927     6.555      28.869     mm"
"             Runoff depth           4.385      26.757     4.443      mm"
"             Runoff volume          143.00     2.27       145.28     c.m"
"             Runoff coefficient     0.132      0.803      0.133      "
"             Maximum flow           0.019      0.002      0.019      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
```

```
"                    0.019     0.019     0.108     0.108"
" 52          CHANNEL DESIGN"
"        0.019   Current peak flow    c.m/sec"
"        0.030   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       33.000   Left bank slope"
"       33.000   Right bank slope"
"        0.400   Channel depth    metre"
"        1.300   Gradient   %"
"             Depth of flow                0.044    metre"
"             Velocity                     0.298    m/sec"
"             Channel capacity             6.861    c.m/sec"
"             Critical depth               0.037    metre"
" 53          ROUTE    Channel Route 157"
"       157.00      Channel Route 157 Reach length   ( metre)"
"        0.492   X-factor <= 0.5"
"      197.514   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      300.000   Routing time step   ( seconds)"
"            2   No. of sub-reaches"
"             Peak outflow                 0.019    c.m/sec"
"                    0.019     0.019     0.019     0.108 c.m/sec"
" 40          HYDROGRAPH   Combine    1000"
"             6   Combine "
"          1000   Node #"
"                 Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.111    c.m/sec"
"             Hydrograph volume          352.177    c.m"
"                    0.019     0.019     0.019     0.111"
" 40          HYDROGRAPH   Confluence    1000"
"             7   Confluence "
"          1000   Node #"
"                 Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.111    c.m/sec"
"             Hydrograph volume          352.177    c.m"
"                    0.019     0.111     0.019     0.000"
" 33          CATCHMENT 103"
"             1   Triangular SCS"
"             1   Equal length"
"             1   SCS method"
"           103   Ilderton road ROW downstream"
"       30.000   % Impervious"
"        0.130   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.091   Pervious Area"
"        5.000   Pervious length"
"        2.000   Pervious slope"
"        0.039   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.110   Pervious Runoff coefficient"
"        0.038   Pervious Ia/S coefficient"
"        6.469   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.764   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.008     0.111     0.019     0.000 c.m/sec"
"             Catchment 103          Pervious   Impervious Total Area "
"             Surface Area           0.091      0.039      0.130      hectare"
"             Time of concentration  11.351     0.793      3.448      minutes"
```

```
"             Time to Centroid       113.900    88.795     95.108     minutes"
"             Rainfall depth         33.312     33.312     33.312     mm"
"             Rainfall volume        30.31      12.99      43.31      c.m"
"             Rainfall losses        29.647     7.859      23.111     mm"
"             Runoff depth           3.664      25.453     10.201     mm"
"             Runoff volume          3.33       9.93       13.26      c.m"
"             Runoff coefficient     0.110      0.764      0.306      "
"             Maximum flow           0.001      0.008      0.008      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                     0.008     0.115     0.019     0.000"
" 52          CHANNEL DESIGN"
"        0.115   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.250   Gradient   %"
"             Depth of flow                 0.258    metre"
"             Velocity                      0.315    m/sec"
"             Channel capacity              4.281    c.m/sec"
"             Critical depth                0.155    metre"
" 53          ROUTE    Channel Route 70"
"       70.00      Channel Route 70 Reach length   ( metre)"
"        0.224   X-factor <= 0.5"
"      166.578   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.098    c.m/sec"
"                    0.008     0.115     0.098     0.000 c.m/sec"
```

```
"                MIDUSS Output ----------------------------------------------->"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                  Eng 1432-1\SWM\MIDUSS\Pre with Ilderton Road"
"                Output filename:                                  5 year pre.out"
"                Licensee name:                                            owner"
"                Company                                                HP Inc."
"                Date & Time last used:             2020-04-23 at 11:59:06 AM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1500.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     1330.310   Coefficient A"
"        7.938   Constant B"
"        0.855   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"              Maximum intensity          137.641    mm/hr"
"              Total depth                 45.372    mm"
"            4   5hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 101"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"          101   Bowling Green Drive Subdivision"
"       30.000   % Impervious"
"        1.560   Total Area"
"       38.000   Flow length"
"        2.000   Overland Slope"
"        1.092   Pervious Area"
"       38.000   Pervious length"
"        2.000   Pervious slope"
"        0.468   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.171   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.782   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.143     0.000     0.000     0.000 c.m/sec"
"              Catchment 101          Pervious   Impervious Total Area "
"              Surface Area           1.092      0.468      1.560      hectare"
"              Time of concentration  27.534     0.602      9.683      minutes"
"              Time to Centroid       128.612    86.403     100.635    minutes"
"              Rainfall depth         45.372     45.372     45.372     mm"
"              Rainfall volume        495.47     212.34     707.81     c.m"
"              Rainfall losses        37.634     9.878      29.307     mm"
"              Runoff depth           7.738      35.495     16.065     mm"
"              Runoff volume          84.50      166.12     250.62     c.m"
"              Runoff coefficient     0.171      0.782      0.354      "
"              Maximum flow           0.023      0.142      0.143      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.143     0.143     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.143   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        0.500   Channel depth    metre"
"        0.300   Gradient   %"
"              Depth of flow                 0.081    metre"
"              Velocity                      0.432    m/sec"
"              Channel capacity             18.111    c.m/sec"
"              Critical depth                0.070    metre"
" 53          ROUTE    Channel Route 150"
"      150.00      Channel Route 150 Reach length   ( metre)"
"        0.466   X-factor <= 0.5"
"      260.476   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"              Peak outflow                  0.126    c.m/sec"
"                     0.143     0.143     0.126     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"             5   Next link "
"                     0.143     0.126     0.126     0.000"
" 33          CATCHMENT 102"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"          102   Ilderton Road ROW tributary to southeast ditch"
"       40.000   % Impervious"
"        0.360   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.216   Pervious Area"
"        5.000   Pervious length"
"       10.000   Pervious slope"
"        0.144   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.170   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.795   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.047     0.126     0.126     0.000 c.m/sec"
"              Catchment 102          Pervious   Impervious Total Area "
"              Surface Area           0.216      0.144      0.360      hectare"
"              Time of concentration  5.031      0.688      1.742      minutes"
"              Time to Centroid       101.306    86.324     89.959     minutes"
"              Rainfall depth         45.372     45.372     45.372     mm"
"              Rainfall volume        98.00      65.34      163.34     c.m"
"              Rainfall losses        37.667     9.296      26.319     mm"
"              Runoff depth           7.705      36.076     19.054     mm"
"              Runoff volume          16.64      51.95      68.59      c.m"
"              Runoff coefficient     0.170      0.795      0.420      "
"              Maximum flow           0.009      0.044      0.047      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.047     0.165     0.126     0.000"
" 52          CHANNEL DESIGN"
"        0.165   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
```

```
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                0.223    metre"
"             Velocity                     0.601    m/sec"
"             Channel capacity             8.979    c.m/sec"
"             Critical depth               0.179    metre"
" 53          ROUTE    Channel Route 180"
"       180.00      Channel Route 180 Reach length   ( metre)"
"        0.479   X-factor <= 0.5"
"      224.590   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                 0.149    c.m/sec"
"                    0.047     0.165     0.149     0.000 c.m/sec"
" 40          HYDROGRAPH   Combine    1000"
"             6   Combine "
"          1000   Node #"
"                 Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.149    c.m/sec"
"             Hydrograph volume          319.210    c.m"
"                    0.047     0.165     0.149     0.149"
" 40          HYDROGRAPH Start - New Tributary"
"             2   Start - New Tributary"
"                    0.047     0.000     0.149     0.149"
" 33          CATCHMENT 1"
"             1   Triangular SCS"
"             1   Equal length"
"             1   SCS method"
"             1   farmland"
"        0.260   % Impervious"
"        3.270   Total Area"
"      125.000   Flow length"
"        3.000   Overland Slope"
"        3.261   Pervious Area"
"      125.000   Pervious length"
"        3.000   Pervious slope"
"        0.009   Impervious Area"
"      125.000   Impervious length"
"        3.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       66.000   Pervious SCS Curve No."
"        0.191   Pervious Runoff coefficient"
"        0.054   Pervious Ia/S coefficient"
"        7.066   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.843   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.052     0.000     0.149     0.149 c.m/sec"
"             Catchment 1            Pervious   Impervious Total Area "
"             Surface Area           3.261      0.009      3.270      hectare"
"             Time of concentration  47.304     4.204      46.814     minutes"
"             Time to Centroid       153.360    90.902     152.650    minutes"
"             Rainfall depth         45.372     45.372     45.372     mm"
"             Rainfall volume        1479.82    3.86       1483.68    c.m"
"             Rainfall losses        36.702     7.104      36.625     mm"
"             Runoff depth           8.671      38.268     8.747      mm"
"             Runoff volume          282.79     3.25       286.04     c.m"
"             Runoff coefficient     0.191      0.843      0.193      "
"             Maximum flow           0.052      0.002      0.052      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
```

```
"                    0.052     0.052     0.149     0.149"
" 52          CHANNEL DESIGN"
"        0.052   Current peak flow    c.m/sec"
"        0.030   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       33.000   Left bank slope"
"       33.000   Right bank slope"
"        0.400   Channel depth    metre"
"        1.300   Gradient   %"
"             Depth of flow                0.064    metre"
"             Velocity                     0.383    m/sec"
"             Channel capacity             6.861    c.m/sec"
"             Critical depth               0.055    metre"
" 53          ROUTE    Channel Route 157"
"       157.00      Channel Route 157 Reach length   ( metre)"
"        0.488   X-factor <= 0.5"
"      153.563   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      300.000   Routing time step   ( seconds)"
"            2   No. of sub-reaches"
"             Peak outflow                 0.052    c.m/sec"
"                    0.052     0.052     0.052     0.149 c.m/sec"
" 40          HYDROGRAPH   Combine    1000"
"             6   Combine "
"          1000   Node #"
"                 Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.157    c.m/sec"
"             Hydrograph volume          605.252    c.m"
"                    0.052     0.052     0.052     0.157"
" 40          HYDROGRAPH   Confluence    1000"
"             7   Confluence "
"          1000   Node #"
"                 Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.157    c.m/sec"
"             Hydrograph volume          605.252    c.m"
"                    0.052     0.157     0.052     0.000"
" 33          CATCHMENT 103"
"             1   Triangular SCS"
"             1   Equal length"
"             1   SCS method"
"           103   Ilderton road ROW downstream"
"        30.000   % Impervious"
"         0.130   Total Area"
"         5.000   Flow length"
"         2.000   Overland Slope"
"         0.091   Pervious Area"
"         5.000   Pervious length"
"         2.000   Pervious slope"
"         0.039   Impervious Area"
"         5.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
"         0.160   Pervious Runoff coefficient"
"         0.038   Pervious Ia/S coefficient"
"         6.435   Pervious Initial abstraction"
"         0.015   Impervious Manning 'n'"
"        98.000   Impervious SCS Curve No."
"         0.795   Impervious Runoff coefficient"
"         0.386   Impervious Ia/S coefficient"
"         2.001   Impervious Initial abstraction"
"                    0.012     0.157     0.052     0.000 c.m/sec"
"             Catchment 103          Pervious   Impervious Total Area "
"             Surface Area           0.091      0.039      0.130      hectare"
"             Time of concentration  8.345      0.688      3.134      minutes"
```

```
"             Time to Centroid       106.114    86.324     92.646     minutes"
"             Rainfall depth         45.372     45.372     45.372     mm"
"             Rainfall volume        41.29      17.70      58.98      c.m"
"             Rainfall losses        38.114     9.296      29.469     mm"
"             Runoff depth           7.258      36.076     15.903     mm"
"             Runoff volume          6.60       14.07      20.67      c.m"
"             Runoff coefficient     0.160      0.795      0.351      "
"             Maximum flow           0.003      0.012      0.012      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                     0.012     0.165     0.052     0.000"
" 52          CHANNEL DESIGN"
"        0.165   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.250   Gradient   %"
"             Depth of flow                 0.295    metre"
"             Velocity                      0.345    m/sec"
"             Channel capacity              4.281    c.m/sec"
"             Critical depth                0.179    metre"
" 53          ROUTE    Channel Route 70"
"       70.00      Channel Route 70 Reach length   ( metre)"
"        0.184   X-factor <= 0.5"
"      152.234   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.148    c.m/sec"
"                    0.012     0.165     0.148     0.000 c.m/sec"
```

```
"                MIDUSS Output ----------------------------------------------->"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                    Eng 1432-1\SWM\MIDUSS\Pre with Ilderton Road"
"                Output filename:                                  10 year pre.out"
"                Licensee name:                                            owner"
"                Company                                                 HP Inc."
"                Date & Time last used:              2020-04-23 at 12:00:01 PM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1500.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     1497.190   Coefficient A"
"        7.188   Constant B"
"        0.850   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"              Maximum intensity           164.792    mm/hr"
"              Total depth                  52.597    mm"
"            5   10hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 101"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"          101   Bowling Green Drive Subdivision"
"       30.000   % Impervious"
"        1.560   Total Area"
"       38.000   Flow length"
"        2.000   Overland Slope"
"        1.092   Pervious Area"
"       38.000   Pervious length"
"        2.000   Pervious slope"
"        0.468   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.198   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.792   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.175     0.000     0.000     0.000 c.m/sec"
"             Catchment 101          Pervious   Impervious Total Area "
"             Surface Area           1.092      0.468      1.560      hectare"
"             Time of concentration  24.325     0.556      9.311      minutes"
"             Time to Centroid       124.065    85.843     99.922     minutes"
"             Rainfall depth         52.597     52.597     52.597     mm"
"             Rainfall volume        574.36     246.15     820.51     c.m"
"             Rainfall losses        42.190     10.952     32.819     mm"
"             Runoff depth           10.407     41.645     19.778     mm"
"             Runoff volume          113.64     194.90     308.54     c.m"
"             Runoff coefficient     0.198      0.792      0.376      "
"             Maximum flow           0.035      0.173      0.175      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                     0.175     0.175     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.175   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        0.500   Channel depth    metre"
"        0.300   Gradient   %"
"             Depth of flow                 0.088    metre"
"             Velocity                      0.454    m/sec"
"             Channel capacity             18.111    c.m/sec"
"             Critical depth                0.076    metre"
" 53          ROUTE    Channel Route 150"
"      150.00      Channel Route 150 Reach length   ( metre)"
"        0.463   X-factor <= 0.5"
"      247.652   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.153    c.m/sec"
"                   0.175     0.175     0.153     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                   0.175     0.153     0.153     0.000"
" 33          CATCHMENT 102"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"          102   Ilderton Road ROW tributary to southeast ditch"
"       40.000   % Impervious"
"        0.360   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.216   Pervious Area"
"        5.000   Pervious length"
"       10.000   Pervious slope"
"        0.144   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.196   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.806   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.059     0.153     0.153     0.000 c.m/sec"
"             Catchment 102          Pervious   Impervious Total Area "
"             Surface Area           0.216      0.144      0.360      hectare"
"             Time of concentration  4.445      0.636      1.655      minutes"
"             Time to Centroid       99.870     85.797     89.562     minutes"
"             Rainfall depth         52.597     52.597     52.597     mm"
"             Rainfall volume        113.61     75.74      189.35     c.m"
"             Rainfall losses        42.280     10.228     29.459     mm"
"             Runoff depth           10.317     42.369     23.138     mm"
"             Runoff volume          22.29      61.01      83.30      c.m"
"             Runoff coefficient     0.196      0.806      0.440      "
"             Maximum flow           0.013      0.053      0.059      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                   0.059     0.201     0.153     0.000"
" 52          CHANNEL DESIGN"
"        0.201   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
```

```
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                0.241    metre"
"             Velocity                     0.631    m/sec"
"             Channel capacity             8.979    c.m/sec"
"             Critical depth               0.194    metre"
" 53          ROUTE    Channel Route 180"
"       180.00      Channel Route 180 Reach length   ( metre)"
"        0.477   X-factor <= 0.5"
"      213.778   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                 0.179    c.m/sec"
"                    0.059     0.201     0.179     0.000 c.m/sec"
" 40          HYDROGRAPH   Combine    1000"
"            6   Combine "
"         1000   Node #"
"                Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.179    c.m/sec"
"             Hydrograph volume          391.837    c.m"
"                    0.059     0.201     0.179     0.179"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.059     0.000     0.179     0.179"
" 33          CATCHMENT 1"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"            1   farmland"
"        0.260   % Impervious"
"        3.270   Total Area"
"      125.000   Flow length"
"        3.000   Overland Slope"
"        3.261   Pervious Area"
"      125.000   Pervious length"
"        3.000   Pervious slope"
"        0.009   Impervious Area"
"      125.000   Impervious length"
"        3.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       66.000   Pervious SCS Curve No."
"        0.223   Pervious Runoff coefficient"
"        0.054   Pervious Ia/S coefficient"
"        7.066   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.856   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.081     0.000     0.179     0.179 c.m/sec"
"             Catchment 1            Pervious   Impervious Total Area "
"             Surface Area           3.261      0.009      3.270      hectare"
"             Time of concentration  41.627     3.884      41.253     minutes"
"             Time to Centroid       145.671    90.032     145.120    minutes"
"             Rainfall depth         52.597     52.597     52.597     mm"
"             Rainfall volume        1715.45    4.47       1719.92    c.m"
"             Rainfall losses        40.847     7.564      40.760     mm"
"             Runoff depth           11.750     45.033     11.837     mm"
"             Runoff volume          383.24     3.83       387.07     c.m"
"             Runoff coefficient     0.223      0.856      0.225      "
"             Maximum flow           0.081      0.003      0.081      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
```

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"                    0.081     0.081     0.179     0.179"
" 52          CHANNEL DESIGN"
"        0.081   Current peak flow    c.m/sec"
"        0.030   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       33.000   Left bank slope"
"       33.000   Right bank slope"
"        0.400   Channel depth    metre"
"        1.300   Gradient   %"
"             Depth of flow                0.076    metre"
"             Velocity                     0.428    m/sec"
"             Channel capacity             6.861    c.m/sec"
"             Critical depth               0.066    metre"
" 53          ROUTE    Channel Route 157"
"       157.00      Channel Route 157 Reach length   ( metre)"
"        0.493   X-factor <= 0.5"
"      274.913   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                 0.080    c.m/sec"
"                    0.081     0.081     0.080     0.179 c.m/sec"
" 40          HYDROGRAPH   Combine    1000"
"            6   Combine "
"         1000   Node #"
"                Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.195    c.m/sec"
"             Hydrograph volume          778.903    c.m"
"                    0.081     0.081     0.080     0.195"
" 40          HYDROGRAPH   Confluence    1000"
"            7   Confluence "
"         1000   Node #"
"                Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.195    c.m/sec"
"             Hydrograph volume          778.903    c.m"
"                    0.081     0.195     0.080     0.000"
" 33          CATCHMENT 103"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"          103   Ilderton road ROW downstream"
"       30.000   % Impervious"
"        0.130   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.091   Pervious Area"
"        5.000   Pervious length"
"        2.000   Pervious slope"
"        0.039   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.187   Pervious Runoff coefficient"
"        0.038   Pervious Ia/S coefficient"
"        6.435   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.806   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.015     0.195     0.080     0.000 c.m/sec"
"             Catchment 103          Pervious   Impervious Total Area "
"             Surface Area           0.091      0.039      0.130      hectare"
"             Time of concentration  7.337      0.636      2.989      minutes"
```

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"             Time to Centroid       104.152    85.797     92.243     minutes"
"             Rainfall depth         52.597     52.597     52.597     mm"
"             Rainfall volume        47.86      20.51      68.38      c.m"
"             Rainfall losses        42.768     10.228     33.006     mm"
"             Runoff depth           9.829      42.369     19.591     mm"
"             Runoff volume          8.94       16.52      25.47      c.m"
"             Runoff coefficient     0.187      0.806      0.372      "
"             Maximum flow           0.005      0.014      0.015      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                     0.015     0.205     0.080     0.000"
" 52          CHANNEL DESIGN"
"        0.205   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.250   Gradient   %"
"             Depth of flow                 0.320    metre"
"             Velocity                      0.364    m/sec"
"             Channel capacity              4.281    c.m/sec"
"             Critical depth                0.195    metre"
" 53          ROUTE    Channel Route 70"
"       70.00      Channel Route 70 Reach length   ( metre)"
"        0.157   X-factor <= 0.5"
"      144.193   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.187    c.m/sec"
"                    0.015     0.205     0.187     0.000 c.m/sec"
```

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"                MIDUSS Output ----------------------------------------------->"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                    Eng 1432-1\SWM\MIDUSS\Pre with Ilderton Road"
"                Output filename:                                 25 year pre.out"
"                Licensee name:                                           owner"
"                Company                                                HP Inc."
"                Date & Time last used:             2020-04-23 at 12:01:02 PM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1500.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     1455.000   Coefficient A"
"        5.000   Constant B"
"        0.820   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"              Maximum intensity           202.437    mm/hr"
"              Total depth                  60.381    mm"
"            5   25hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 101"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"          101   Bowling Green Drive Subdivision"
"       30.000   % Impervious"
"        1.560   Total Area"
"       38.000   Flow length"
"        2.000   Overland Slope"
"        1.092   Pervious Area"
"       38.000   Pervious length"
"        2.000   Pervious slope"
"        0.468   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.225   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.800   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.220     0.000     0.000     0.000 c.m/sec"
"             Catchment 101          Pervious   Impervious Total Area "
"             Surface Area           1.092      0.468      1.560      hectare"
"             Time of concentration  21.153     0.509      8.691      minutes"
"             Time to Centroid       121.168    85.754     99.789     minutes"
"             Rainfall depth         60.381     60.381     60.381     mm"
"             Rainfall volume        659.37     282.59     941.95     c.m"
"             Rainfall losses        46.783     12.049     36.363     mm"
"             Runoff depth           13.598     48.332     24.018     mm"
"             Runoff volume          148.49     226.19     374.69     c.m"
"             Runoff coefficient     0.225      0.800      0.398      "
"             Maximum flow           0.049      0.215      0.220      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.220     0.220     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.220   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        0.500   Channel depth    metre"
"        0.300   Gradient   %"
"             Depth of flow                 0.096    metre"
"             Velocity                      0.481    m/sec"
"             Channel capacity             18.111    c.m/sec"
"             Critical depth                0.083    metre"
" 53          ROUTE    Channel Route 150"
"      150.00      Channel Route 150 Reach length   ( metre)"
"        0.460   X-factor <= 0.5"
"      233.881   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.188    c.m/sec"
"                   0.220     0.220     0.188     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"             5   Next link "
"                   0.220     0.188     0.188     0.000"
" 33          CATCHMENT 102"
"             1   Triangular SCS"
"             1   Equal length"
"             1   SCS method"
"           102   Ilderton Road ROW tributary to southeast ditch"
"        40.000   % Impervious"
"         0.360   Total Area"
"         5.000   Flow length"
"         2.000   Overland Slope"
"         0.216   Pervious Area"
"         5.000   Pervious length"
"        10.000   Pervious slope"
"         0.144   Impervious Area"
"         5.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
"         0.221   Pervious Runoff coefficient"
"         0.030   Pervious Ia/S coefficient"
"         5.080   Pervious Initial abstraction"
"         0.015   Impervious Manning 'n'"
"        98.000   Impervious SCS Curve No."
"         0.813   Impervious Runoff coefficient"
"         0.386   Impervious Ia/S coefficient"
"         2.001   Impervious Initial abstraction"
"                   0.075     0.188     0.188     0.000 c.m/sec"
"             Catchment 102          Pervious   Impervious Total Area "
"             Surface Area           0.216      0.144      0.360      hectare"
"             Time of concentration  3.865      0.582      1.532      minutes"
"             Time to Centroid       99.525     85.754     89.739     minutes"
"             Rainfall depth         60.381     60.381     60.381     mm"
"             Rainfall volume        130.42     86.95      217.37     c.m"
"             Rainfall losses        47.047     11.262     32.733     mm"
"             Runoff depth           13.335     49.119     27.649     mm"
"             Runoff volume          28.80      70.73      99.54      c.m"
"             Runoff coefficient     0.221      0.813      0.458      "
"             Maximum flow           0.019      0.066      0.075      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                   0.075     0.244     0.188     0.000"
" 52          CHANNEL DESIGN"
"        0.244   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
```

```
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                0.259    metre"
"             Velocity                     0.663    m/sec"
"             Channel capacity             8.979    c.m/sec"
"             Critical depth               0.209    metre"
" 53          ROUTE    Channel Route 180"
"       180.00      Channel Route 180 Reach length   ( metre)"
"        0.476   X-factor <= 0.5"
"      203.664   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                 0.213    c.m/sec"
"                    0.075     0.244     0.213     0.000 c.m/sec"
" 40          HYDROGRAPH   Combine    1000"
"            6   Combine "
"         1000   Node #"
"                Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.213    c.m/sec"
"             Hydrograph volume          474.221    c.m"
"                    0.075     0.244     0.213     0.213"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.075     0.000     0.213     0.213"
" 33          CATCHMENT 1"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"            1   farmland"
"        0.260   % Impervious"
"        3.270   Total Area"
"      125.000   Flow length"
"        3.000   Overland Slope"
"        3.261   Pervious Area"
"      125.000   Pervious length"
"        3.000   Pervious slope"
"        0.009   Impervious Area"
"      125.000   Impervious length"
"        3.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       66.000   Pervious SCS Curve No."
"        0.256   Pervious Runoff coefficient"
"        0.054   Pervious Ia/S coefficient"
"        7.066   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.866   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.114     0.000     0.213     0.213 c.m/sec"
"             Catchment 1            Pervious   Impervious Total Area "
"             Surface Area           3.261      0.009      3.270      hectare"
"             Time of concentration  36.631     3.558      36.342     minutes"
"             Time to Centroid       140.384    89.653     139.939    minutes"
"             Rainfall depth         60.381     60.381     60.381     mm"
"             Rainfall volume        1969.34    5.13       1974.47    c.m"
"             Rainfall losses        44.952     8.062      44.856     mm"
"             Runoff depth           15.430     52.320     15.526     mm"
"             Runoff volume          503.25     4.45       507.69     c.m"
"             Runoff coefficient     0.256      0.866      0.257      "
"             Maximum flow           0.114      0.004      0.114      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
```

```
"                    0.114     0.114     0.213     0.213"
" 52          CHANNEL DESIGN"
"        0.114   Current peak flow    c.m/sec"
"        0.030   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       33.000   Left bank slope"
"       33.000   Right bank slope"
"        0.400   Channel depth    metre"
"        1.300   Gradient   %"
"             Depth of flow                0.086    metre"
"             Velocity                     0.467    m/sec"
"             Channel capacity             6.861    c.m/sec"
"             Critical depth               0.075    metre"
" 53          ROUTE    Channel Route 157"
"       157.00      Channel Route 157 Reach length   ( metre)"
"        0.492   X-factor <= 0.5"
"      252.400   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                 0.113    c.m/sec"
"                    0.114     0.114     0.113     0.213 c.m/sec"
" 40          HYDROGRAPH   Combine    1000"
"            6   Combine "
"         1000   Node #"
"                Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.242    c.m/sec"
"             Hydrograph volume          981.909    c.m"
"                    0.114     0.114     0.113     0.242"
" 40          HYDROGRAPH   Confluence    1000"
"            7   Confluence "
"         1000   Node #"
"                Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.242    c.m/sec"
"             Hydrograph volume          981.909    c.m"
"                    0.114     0.242     0.113     0.000"
" 33          CATCHMENT 103"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"          103   Ilderton road ROW downstream"
"       30.000   % Impervious"
"        0.130   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.091   Pervious Area"
"        5.000   Pervious length"
"        2.000   Pervious slope"
"        0.039   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.213   Pervious Runoff coefficient"
"        0.038   Pervious Ia/S coefficient"
"        6.435   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.813   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.020     0.242     0.113     0.000 c.m/sec"
"             Catchment 103          Pervious   Impervious Total Area "
"             Surface Area           0.091      0.039      0.130      hectare"
"             Time of concentration  6.453      0.582      2.810      minutes"
```

```
"             Time to Centroid       103.231    85.754     92.386     minutes"
"             Rainfall depth         60.381     60.381     60.381     mm"
"             Rainfall volume        54.95      23.55      78.50      c.m"
"             Rainfall losses        47.507     11.262     36.634     mm"
"             Runoff depth           12.874     49.119     23.748     mm"
"             Runoff volume          11.72      19.16      30.87      c.m"
"             Runoff coefficient     0.213      0.813      0.393      "
"             Maximum flow           0.007      0.018      0.020      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                     0.020     0.254     0.113     0.000"
" 52          CHANNEL DESIGN"
"        0.254   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.250   Gradient   %"
"             Depth of flow                 0.347    metre"
"             Velocity                      0.384    m/sec"
"             Channel capacity              4.281    c.m/sec"
"             Critical depth                0.213    metre"
" 53          ROUTE    Channel Route 70"
"       70.00      Channel Route 70 Reach length   ( metre)"
"        0.129   X-factor <= 0.5"
"      136.670   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.237    c.m/sec"
"                    0.020     0.254     0.237     0.000 c.m/sec"
```

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"                MIDUSS Output ----------------------------------------------->"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                  Eng 1432-1\SWM\MIDUSS\Pre with Ilderton Road"
"                Output filename:                                 50 year pre.out"
"                Licensee name:                                           owner"
"                Company                                                HP Inc."
"                Date & Time last used:             2020-04-23 at 12:02:00 PM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1500.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     1499.060   Coefficient A"
"        4.188   Constant B"
"        0.809   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"              Maximum intensity           229.029    mm/hr"
"              Total depth                  66.122    mm"
"            5   50hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 101"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"          101   Bowling Green Drive Subdivision"
"       30.000   % Impervious"
"        1.560   Total Area"
"       38.000   Flow length"
"        2.000   Overland Slope"
"        1.092   Pervious Area"
"       38.000   Pervious length"
"        2.000   Pervious slope"
"        0.468   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.244   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.808   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.252     0.000     0.000     0.000 c.m/sec"
"             Catchment 101          Pervious   Impervious Total Area "
"             Surface Area           1.092      0.468      1.560      hectare"
"             Time of concentration  19.303     0.483      8.268      minutes"
"             Time to Centroid       119.252    85.540     99.484     minutes"
"             Rainfall depth         66.122     66.122     66.122     mm"
"             Rainfall volume        722.05     309.45     1031.50    c.m"
"             Rainfall losses        49.979     12.727     38.804     mm"
"             Runoff depth           16.142     53.394     27.318     mm"
"             Runoff volume          176.27     249.88     426.16     c.m"
"             Runoff coefficient     0.244      0.808      0.413      "
"             Maximum flow           0.060      0.245      0.252      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.252     0.252     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.252   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        0.500   Channel depth    metre"
"        0.300   Gradient   %"
"             Depth of flow                 0.101    metre"
"             Velocity                      0.498    m/sec"
"             Channel capacity             18.111    c.m/sec"
"             Critical depth                0.088    metre"
" 53          ROUTE    Channel Route 150"
"      150.00      Channel Route 150 Reach length   ( metre)"
"        0.458   X-factor <= 0.5"
"      226.074   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.214    c.m/sec"
"                   0.252     0.252     0.214     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"             5   Next link "
"                   0.252     0.214     0.214     0.000"
" 33          CATCHMENT 102"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"          102   Ilderton Road ROW tributary to southeast ditch"
"       40.000   % Impervious"
"        0.360   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.216   Pervious Area"
"        5.000   Pervious length"
"       10.000   Pervious slope"
"        0.144   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.238   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.818   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.088     0.214     0.214     0.000 c.m/sec"
"             Catchment 102          Pervious   Impervious Total Area "
"             Surface Area           0.216      0.144      0.360      hectare"
"             Time of concentration  3.527      0.553      1.457      minutes"
"             Time to Centroid       99.099     85.597     89.701     minutes"
"             Rainfall depth         66.122     66.122     66.122     mm"
"             Rainfall volume        142.82     95.22      238.04     c.m"
"             Rainfall losses        50.381     12.055     35.051     mm"
"             Runoff depth           15.741     54.066     31.071     mm"
"             Runoff volume          34.00      77.86      111.86     c.m"
"             Runoff coefficient     0.238      0.818      0.470      "
"             Maximum flow           0.023      0.075      0.088      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                   0.088     0.276     0.214     0.000"
" 52          CHANNEL DESIGN"
"        0.276   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
```

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"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                0.271    metre"
"             Velocity                     0.684    m/sec"
"             Channel capacity             8.979    c.m/sec"
"             Critical depth               0.220    metre"
" 53          ROUTE    Channel Route 180"
"       180.00      Channel Route 180 Reach length   ( metre)"
"        0.474   X-factor <= 0.5"
"      197.485   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                 0.239    c.m/sec"
"                    0.088     0.276     0.239     0.000 c.m/sec"
" 40          HYDROGRAPH   Combine    1000"
"            6   Combine "
"         1000   Node #"
"                Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.239    c.m/sec"
"             Hydrograph volume          538.014    c.m"
"                    0.088     0.276     0.239     0.239"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.088     0.000     0.239     0.239"
" 33          CATCHMENT 1"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"            1   farmland"
"        0.260   % Impervious"
"        3.270   Total Area"
"      125.000   Flow length"
"        3.000   Overland Slope"
"        3.261   Pervious Area"
"      125.000   Pervious length"
"        3.000   Pervious slope"
"        0.009   Impervious Area"
"      125.000   Impervious length"
"        3.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       66.000   Pervious SCS Curve No."
"        0.278   Pervious Runoff coefficient"
"        0.054   Pervious Ia/S coefficient"
"        7.066   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.878   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.145     0.000     0.239     0.239 c.m/sec"
"             Catchment 1            Pervious   Impervious Total Area "
"             Surface Area           3.261      0.009      3.270      hectare"
"             Time of concentration  33.286     3.376      33.042     minutes"
"             Time to Centroid       137.097    89.270     136.706    minutes"
"             Rainfall depth         66.122     66.122     66.122     mm"
"             Rainfall volume        2156.56    5.62       2162.18    c.m"
"             Rainfall losses        47.765     8.078      47.661     mm"
"             Runoff depth           18.357     58.043     18.460     mm"
"             Runoff volume          598.71     4.93       603.65     c.m"
"             Runoff coefficient     0.278      0.878      0.279      "
"             Maximum flow           0.144      0.004      0.145      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
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"                    0.145     0.145     0.239     0.239"
" 52          CHANNEL DESIGN"
"        0.145   Current peak flow    c.m/sec"
"        0.030   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       33.000   Left bank slope"
"       33.000   Right bank slope"
"        0.400   Channel depth    metre"
"        1.300   Gradient   %"
"             Depth of flow                0.094    metre"
"             Velocity                     0.495    m/sec"
"             Channel capacity             6.861    c.m/sec"
"             Critical depth               0.083    metre"
" 53          ROUTE    Channel Route 157"
"       157.00      Channel Route 157 Reach length   ( metre)"
"        0.491   X-factor <= 0.5"
"      237.670   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                 0.143    c.m/sec"
"                    0.145     0.145     0.143     0.239 c.m/sec"
" 40          HYDROGRAPH   Combine    1000"
"            6   Combine "
"         1000   Node #"
"                Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.281    c.m/sec"
"             Hydrograph volume          1141.662   c.m"
"                    0.145     0.145     0.143     0.281"
" 40          HYDROGRAPH   Confluence    1000"
"            7   Confluence "
"         1000   Node #"
"                Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.281    c.m/sec"
"             Hydrograph volume          1141.662   c.m"
"                    0.145     0.281     0.143     0.000"
" 33          CATCHMENT 103"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"          103   Ilderton road ROW downstream"
"       30.000   % Impervious"
"        0.130   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.091   Pervious Area"
"        5.000   Pervious length"
"        2.000   Pervious slope"
"        0.039   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.234   Pervious Runoff coefficient"
"        0.038   Pervious Ia/S coefficient"
"        6.435   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.818   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.023     0.281     0.143     0.000 c.m/sec"
"             Catchment 103          Pervious   Impervious Total Area "
"             Surface Area           0.091      0.039      0.130      hectare"
"             Time of concentration  5.866      0.553      2.678      minutes"
```

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"             Time to Centroid       102.373    85.597     92.309     minutes"
"             Rainfall depth         66.122     66.122     66.122     mm"
"             Rainfall volume        60.17      25.79      85.96      c.m"
"             Rainfall losses        50.670     12.055     39.085     mm"
"             Runoff depth           15.452     54.066     27.036     mm"
"             Runoff volume          14.06      21.09      35.15      c.m"
"             Runoff coefficient     0.234      0.818      0.409      "
"             Maximum flow           0.008      0.020      0.023      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                     0.023     0.294     0.143     0.000"
" 52          CHANNEL DESIGN"
"        0.294   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.250   Gradient   %"
"             Depth of flow                 0.366    metre"
"             Velocity                      0.398    m/sec"
"             Channel capacity              4.281    c.m/sec"
"             Critical depth                0.225    metre"
" 53          ROUTE    Channel Route 70"
"       70.00      Channel Route 70 Reach length   ( metre)"
"        0.108   X-factor <= 0.5"
"      131.763   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.277    c.m/sec"
"                    0.023     0.294     0.277     0.000 c.m/sec"
```

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"                MIDUSS Output ----------------------------------------------->"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                 February 7, 2010"
"           10   Units used:                                            ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                    Eng 1432-1\SWM\MIDUSS\Pre with Ilderton Road"
"                Output filename:                                 100 year pre.out"
"                Licensee name:                                           owner"
"                Company                                                HP Inc."
"                Date & Time last used:              2020-04-23 at 12:03:35 PM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1500.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     1499.530   Coefficient A"
"        3.297   Constant B"
"        0.794   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"              Maximum intensity           257.108    mm/hr"
"              Total depth                  71.801    mm"
"            6   100hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 101"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"          101   Bowling Green Drive Subdivision"
"       30.000   % Impervious"
"        1.560   Total Area"
"       38.000   Flow length"
"        2.000   Overland Slope"
"        1.092   Pervious Area"
"       38.000   Pervious length"
"        2.000   Pervious slope"
"        0.468   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.262   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.814   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.286     0.000     0.000     0.000 c.m/sec"
"             Catchment 101          Pervious   Impervious Total Area "
"             Surface Area           1.092      0.468      1.560      hectare"
"             Time of concentration  17.747     0.460      7.880      minutes"
"             Time to Centroid       117.877    85.455     99.371     minutes"
"             Rainfall depth         71.801     71.801     71.801     mm"
"             Rainfall volume        784.07     336.03     1120.10    c.m"
"             Rainfall losses        52.962     13.348     41.078     mm"
"             Runoff depth           18.839     58.454     30.723     mm"
"             Runoff volume          205.72     273.56     479.28     c.m"
"             Runoff coefficient     0.262      0.814      0.428      "
"             Maximum flow           0.074      0.277      0.286      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                     0.286     0.286     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.286   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        0.500   Channel depth    metre"
"        0.300   Gradient   %"
"             Depth of flow                 0.106    metre"
"             Velocity                      0.514    m/sec"
"             Channel capacity             18.111    c.m/sec"
"             Critical depth                0.092    metre"
" 53          ROUTE    Channel Route 150"
"      150.00      Channel Route 150 Reach length   ( metre)"
"        0.456   X-factor <= 0.5"
"      219.033   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.241    c.m/sec"
"                    0.286     0.286     0.241     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.286     0.241     0.241     0.000"
" 33          CATCHMENT 102"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"          102   Ilderton Road ROW tributary to southeast ditch"
"       40.000   % Impervious"
"        0.360   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.216   Pervious Area"
"        5.000   Pervious length"
"       10.000   Pervious slope"
"        0.144   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.256   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.821   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.102     0.241     0.241     0.000 c.m/sec"
"             Catchment 102          Pervious   Impervious Total Area "
"             Surface Area           0.216      0.144      0.360      hectare"
"             Time of concentration  3.243      0.526      1.392      minutes"
"             Time to Centroid       98.785     85.576     89.785     minutes"
"             Rainfall depth         71.801     71.801     71.801     mm"
"             Rainfall volume        155.09     103.39     258.48     c.m"
"             Rainfall losses        53.417     12.838     37.185     mm"
"             Runoff depth           18.384     58.963     34.616     mm"
"             Runoff volume          39.71      84.91      124.62     c.m"
"             Runoff coefficient     0.256      0.821      0.482      "
"             Maximum flow           0.028      0.085      0.102      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.102     0.309     0.241     0.000"
" 52          CHANNEL DESIGN"
"        0.309   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
```

```
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                0.283    metre"
"             Velocity                     0.703    m/sec"
"             Channel capacity             8.979    c.m/sec"
"             Critical depth               0.230    metre"
" 53          ROUTE    Channel Route 180"
"       180.00      Channel Route 180 Reach length   ( metre)"
"        0.473   X-factor <= 0.5"
"      191.987   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                 0.264    c.m/sec"
"                    0.102     0.309     0.264     0.000 c.m/sec"
" 40          HYDROGRAPH   Combine    1000"
"            6   Combine "
"         1000   Node #"
"                Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.264    c.m/sec"
"             Hydrograph volume          603.897    c.m"
"                    0.102     0.309     0.264     0.264"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.102     0.000     0.264     0.264"
" 33          CATCHMENT 1"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"            1   farmland"
"        0.260   % Impervious"
"        3.270   Total Area"
"      125.000   Flow length"
"        3.000   Overland Slope"
"        3.261   Pervious Area"
"      125.000   Pervious length"
"        3.000   Pervious slope"
"        0.009   Impervious Area"
"      125.000   Impervious length"
"        3.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       66.000   Pervious SCS Curve No."
"        0.298   Pervious Runoff coefficient"
"        0.054   Pervious Ia/S coefficient"
"        7.066   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.887   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.177     0.000     0.264     0.264 c.m/sec"
"             Catchment 1            Pervious   Impervious Total Area "
"             Surface Area           3.261      0.009      3.270      hectare"
"             Time of concentration  30.511     3.216      30.301     minutes"
"             Time to Centroid       134.617    89.046     134.267    minutes"
"             Rainfall depth         71.801     71.801     71.801     mm"
"             Rainfall volume        2341.79    6.10       2347.90    c.m"
"             Rainfall losses        50.379     8.096      50.269     mm"
"             Runoff depth           21.422     63.706     21.532     mm"
"             Runoff volume          698.67     5.42       704.09     c.m"
"             Runoff coefficient     0.298      0.887      0.300      "
"             Maximum flow           0.176      0.004      0.177      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
```

```
"                    0.177     0.177     0.264     0.264"
" 52          CHANNEL DESIGN"
"        0.177   Current peak flow    c.m/sec"
"        0.030   Manning 'n'"
"          0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       33.000   Left bank slope"
"       33.000   Right bank slope"
"        0.400   Channel depth    metre"
"        1.300   Gradient   %"
"             Depth of flow                0.101    metre"
"             Velocity                     0.521    m/sec"
"             Channel capacity             6.861    c.m/sec"
"             Critical depth               0.090    metre"
" 53          ROUTE    Channel Route 157"
"       157.00      Channel Route 157 Reach length   ( metre)"
"        0.491   X-factor <= 0.5"
"      226.112   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                 0.174    c.m/sec"
"                    0.177     0.177     0.174     0.264 c.m/sec"
" 40          HYDROGRAPH   Combine    1000"
"            6   Combine "
"         1000   Node #"
"                Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.323    c.m/sec"
"             Hydrograph volume         1307.986    c.m"
"                    0.177     0.177     0.174     0.323"
" 40          HYDROGRAPH   Confluence    1000"
"            7   Confluence "
"         1000   Node #"
"                Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.323    c.m/sec"
"             Hydrograph volume         1307.986    c.m"
"                    0.177     0.323     0.174     0.000"
" 33          CATCHMENT 103"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"          103   Ilderton road ROW downstream"
"       30.000   % Impervious"
"        0.130   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.091   Pervious Area"
"        5.000   Pervious length"
"        2.000   Pervious slope"
"        0.039   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.253   Pervious Runoff coefficient"
"        0.038   Pervious Ia/S coefficient"
"        6.435   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.821   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.027     0.323     0.174     0.000 c.m/sec"
"             Catchment 103          Pervious   Impervious Total Area "
"             Surface Area           0.091      0.039      0.130      hectare"
"             Time of concentration  5.376      0.526      2.552      minutes"
```

```
"             Time to Centroid       101.892    85.576     92.393     minutes"
"             Rainfall depth         71.801     71.801     71.801     mm"
"             Rainfall volume        65.34      28.00      93.34      c.m"
"             Rainfall losses        53.668     12.838     41.419     mm"
"             Runoff depth           18.133     58.963     30.382     mm"
"             Runoff volume          16.50      23.00      39.50      c.m"
"             Runoff coefficient     0.253      0.821      0.423      "
"             Maximum flow           0.010      0.023      0.027      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                     0.027     0.337     0.174     0.000"
" 52          CHANNEL DESIGN"
"        0.337   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.250   Gradient   %"
"             Depth of flow                 0.386    metre"
"             Velocity                      0.412    m/sec"
"             Channel capacity              4.281    c.m/sec"
"             Critical depth                0.238    metre"
" 53          ROUTE    Channel Route 70"
"       70.00      Channel Route 70 Reach length   ( metre)"
"        0.087   X-factor <= 0.5"
"      127.343   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.320    c.m/sec"
"                    0.027     0.337     0.320     0.000 c.m/sec"
```

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"                MIDUSS Output ----------------------------------------------->"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                    Eng 1432-1\SWM\MIDUSS\Pre with Ilderton Road"
"                Output filename:                                  250 year pre.out"
"                Licensee name:                                            owner"
"                Company                                                 HP Inc."
"                Date & Time last used:              2020-04-23 at 11:57:26 AM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1500.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     3048.220   Coefficient A"
"       10.030   Constant B"
"        0.888   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"             Maximum intensity           254.614    mm/hr"
"             Total depth                  86.611    mm"
"            6   250hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 101"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"          101   Bowling Green Drive Subdivision"
"       30.000   % Impervious"
"        1.560   Total Area"
"       38.000   Flow length"
"        2.000   Overland Slope"
"        1.092   Pervious Area"
"       38.000   Pervious length"
"        2.000   Pervious slope"
"        0.468   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.305   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.817   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.290     0.000     0.000     0.000 c.m/sec"
"             Catchment 101          Pervious   Impervious Total Area "
"             Surface Area           1.092      0.468      1.560      hectare"
"             Time of concentration  16.694     0.460      8.021      minutes"
"             Time to Centroid       112.126    83.833     97.010     minutes"
"             Rainfall depth         86.611     86.611     86.611     mm"
"             Rainfall volume        945.79     405.34     1351.13    c.m"
"             Rainfall losses        60.159     15.812     46.855     mm"
"             Runoff depth           26.452     70.799     39.756     mm"
"             Runoff volume          288.86     331.34     620.20     c.m"
"             Runoff coefficient     0.305      0.817      0.459      "
"             Maximum flow           0.117      0.277      0.290      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                     0.290     0.290     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.290   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        0.500   Channel depth    metre"
"        0.300   Gradient   %"
"             Depth of flow                 0.106    metre"
"             Velocity                      0.515    m/sec"
"             Channel capacity             18.111    c.m/sec"
"             Critical depth                0.093    metre"
" 53          ROUTE    Channel Route 150"
"      150.00      Channel Route 150 Reach length   ( metre)"
"        0.456   X-factor <= 0.5"
"      218.274   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.264    c.m/sec"
"                   0.290     0.290     0.264     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                   0.290     0.264     0.264     0.000"
" 33          CATCHMENT 102"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"          102   Ilderton Road ROW tributary to southeast ditch"
"       40.000   % Impervious"
"        0.360   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.216   Pervious Area"
"        5.000   Pervious length"
"       10.000   Pervious slope"
"        0.144   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.299   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.827   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.108     0.264     0.264     0.000 c.m/sec"
"             Catchment 102          Pervious   Impervious Total Area "
"             Surface Area           0.216      0.144      0.360      hectare"
"             Time of concentration  3.051      0.526      1.414      minutes"
"             Time to Centroid       95.504     83.947     88.012     minutes"
"             Rainfall depth         86.611     86.611     86.611     mm"
"             Rainfall volume        187.08     124.72     311.80     c.m"
"             Rainfall losses        60.690     14.954     42.396     mm"
"             Runoff depth           25.921     71.657     44.215     mm"
"             Runoff volume          55.99      103.19     159.18     c.m"
"             Runoff coefficient     0.299      0.827      0.511      "
"             Maximum flow           0.038      0.085      0.108      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                     0.108     0.357     0.264     0.000"
" 52          CHANNEL DESIGN"
"        0.357   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
```

```
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                0.298    metre"
"             Velocity                     0.729    m/sec"
"             Channel capacity             8.979    c.m/sec"
"             Critical depth               0.244    metre"
" 53          ROUTE    Channel Route 180"
"       180.00      Channel Route 180 Reach length   ( metre)"
"        0.472   X-factor <= 0.5"
"      185.180   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                 0.323    c.m/sec"
"                    0.108     0.357     0.323     0.000 c.m/sec"
" 40          HYDROGRAPH   Combine    1000"
"            6   Combine "
"         1000   Node #"
"                Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.323    c.m/sec"
"             Hydrograph volume          779.374    c.m"
"                    0.108     0.357     0.323     0.323"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.108     0.000     0.323     0.323"
" 33          CATCHMENT 1"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"            1   farmland"
"        0.260   % Impervious"
"        3.270   Total Area"
"      125.000   Flow length"
"        3.000   Overland Slope"
"        3.261   Pervious Area"
"      125.000   Pervious length"
"        3.000   Pervious slope"
"        0.009   Impervious Area"
"      125.000   Impervious length"
"        3.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       66.000   Pervious SCS Curve No."
"        0.347   Pervious Runoff coefficient"
"        0.054   Pervious Ia/S coefficient"
"        7.066   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.899   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.283     0.000     0.323     0.323 c.m/sec"
"             Catchment 1            Pervious   Impervious Total Area "
"             Surface Area           3.261      0.009      3.270      hectare"
"             Time of concentration  28.518     3.215      28.348     minutes"
"             Time to Centroid       126.468    87.222     126.205    minutes"
"             Rainfall depth         86.611     86.611     86.611     mm"
"             Rainfall volume        2824.82    7.36       2832.18    c.m"
"             Rainfall losses        56.586     8.737      56.462     mm"
"             Runoff depth           30.025     77.874     30.149     mm"
"             Runoff volume          979.26     6.62       985.88     c.m"
"             Runoff coefficient     0.347      0.899      0.348      "
"             Maximum flow           0.282      0.005      0.283      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
```

```
"                    0.283     0.283     0.323     0.323"
" 52          CHANNEL DESIGN"
"        0.283   Current peak flow    c.m/sec"
"        0.030   Manning 'n'"
"          0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       33.000   Left bank slope"
"       33.000   Right bank slope"
"        0.400   Channel depth    metre"
"        1.300   Gradient   %"
"             Depth of flow                0.121    metre"
"             Velocity                     0.586    m/sec"
"             Channel capacity             6.861    c.m/sec"
"             Critical depth               0.108    metre"
" 53          ROUTE    Channel Route 157"
"       157.00      Channel Route 157 Reach length   ( metre)"
"        0.489   X-factor <= 0.5"
"      201.081   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                 0.279    c.m/sec"
"                    0.283     0.283     0.279     0.323 c.m/sec"
" 40          HYDROGRAPH   Combine    1000"
"            6   Combine "
"         1000   Node #"
"                Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.464    c.m/sec"
"             Hydrograph volume         1765.256    c.m"
"                    0.283     0.283     0.279     0.464"
" 40          HYDROGRAPH   Confluence    1000"
"            7   Confluence "
"         1000   Node #"
"                Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.464    c.m/sec"
"             Hydrograph volume         1765.256    c.m"
"                    0.283     0.464     0.279     0.000"
" 33          CATCHMENT 103"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"          103   Ilderton road ROW downstream"
"       30.000   % Impervious"
"        0.130   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.091   Pervious Area"
"        5.000   Pervious length"
"        2.000   Pervious slope"
"        0.039   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.296   Pervious Runoff coefficient"
"        0.038   Pervious Ia/S coefficient"
"        6.435   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.827   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.029     0.464     0.279     0.000 c.m/sec"
"             Catchment 103          Pervious   Impervious Total Area "
"             Surface Area           0.091      0.039      0.130      hectare"
"             Time of concentration  4.989      0.526      2.557      minutes"
```

```
"             Time to Centroid       98.231     83.947     90.446     minutes"
"             Rainfall depth         86.611     86.611     86.611     mm"
"             Rainfall volume        78.82      33.78      112.59     c.m"
"             Rainfall losses        60.976     14.954     47.170     mm"
"             Runoff depth           25.635     71.657     39.441     mm"
"             Runoff volume          23.33      27.95      51.27      c.m"
"             Runoff coefficient     0.296      0.827      0.455      "
"             Maximum flow           0.014      0.023      0.029      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                     0.029     0.471     0.279     0.000"
" 52          CHANNEL DESIGN"
"        0.471   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.250   Gradient   %"
"             Depth of flow                 0.437    metre"
"             Velocity                      0.448    m/sec"
"             Channel capacity              4.281    c.m/sec"
"             Critical depth                0.272    metre"
" 53          ROUTE    Channel Route 70"
"       70.00      Channel Route 70 Reach length   ( metre)"
"        0.032   X-factor <= 0.5"
"      117.119   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.466    c.m/sec"
"                    0.029     0.471     0.466     0.000 c.m/sec"
```

```
"                MIDUSS Output ------------------------------------------------>"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                        ie METRIC"
"                Job folder:                F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                       Eng 1432-1\SWM\MIDUSS\Pre with Ilderton Road"
"                Output filename:                          250 year scs pre.out"
"                Licensee name:                                        owner"
"                Company                                            HP Inc."
"                Date & Time last used:              2020-04-23 at 11:55:28 AM"
" 31          TIME PARAMETERS"
"         5.000   Time Step"
"      1440.000   Max. Storm length"
"      3000.000   Max. Hydrograph"
" 32          STORM Mass Curve"
"             3   Mass Curve"
"       119.000   Rainfall depth"
"      1440.000   Duration"
"            48   C:\Program Files (x86)\MIDUSS\SCS_Type2_24hr.mrd   SCS 24 hour Type II storm"
"              Maximum intensity           145.657    mm/hr"
"              Total depth                 119.000    mm"
"             7   0250hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 101"
"             1   Triangular SCS"
"             3   Specify values"
"             1   SCS method"
"           101   Bowling Green Drive Subdivision"
"        30.000   % Impervious"
"         1.560   Total Area"
"        38.000   Flow length"
"         2.000   Overland Slope"
"         1.092   Pervious Area"
"        38.000   Pervious length"
"         2.000   Pervious slope"
"         0.468   Impervious Area"
"         4.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
"         0.384   Pervious Runoff coefficient"
"         0.030   Pervious Ia/S coefficient"
"         5.080   Pervious Initial abstraction"
"         0.015   Impervious Manning 'n'"
"        98.000   Impervious SCS Curve No."
"         0.875   Impervious Runoff coefficient"
"         0.386   Impervious Ia/S coefficient"
"         2.001   Impervious Initial abstraction"
"                     0.264     0.000     0.000     0.000 c.m/sec"
"              Catchment 101          Pervious   Impervious Total Area "
"              Surface Area           1.092      0.468      1.560      hectare"
"              Time of concentration  15.831     0.571      8.294      minutes"
"              Time to Centroid       860.127    750.107    805.786    minutes"
"              Rainfall depth         119.000    119.000    119.000    mm"
"              Rainfall volume        1299.48    556.92     1856.40    c.m"
"              Rainfall losses        73.251     14.820     55.722     mm"
"              Runoff depth           45.749     104.180    63.278     mm"
"              Runoff volume          499.58     487.56     987.14     c.m"
"              Runoff coefficient     0.384      0.875      0.532      "
"              Maximum flow           0.155      0.161      0.264      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.264     0.264     0.000     0.000"
" 52          CHANNEL DESIGN"
"         0.264   Current peak flow    c.m/sec"
"         0.015   Manning 'n'"
"            0.   Cross-section type: 0=trapezoidal; 1=general"
"         0.000   Basewidth    metre"
"        50.000   Left bank slope"
"        50.000   Right bank slope"
"         0.500   Channel depth    metre"
"         0.300   Gradient   %"
"              Depth of flow                0.102    metre"
"              Velocity                     0.503    m/sec"
"              Channel capacity            18.111    c.m/sec"
"              Critical depth               0.089    metre"
" 53          ROUTE    Channel Route 150"
"       150.00      Channel Route 150 Reach length   ( metre)"
"         0.457   X-factor <= 0.5"
"       223.460   K-lag   ( seconds)"
"         0.000   Default(0) or user spec.(1) values used"
"         0.500   X-factor <= 0.5"
"        30.000   K-lag   ( seconds)"
"         0.500   Beta weighting factor"
"       150.000   Routing time step   ( seconds)"
"             1   No. of sub-reaches"
"              Peak outflow                 0.235    c.m/sec"
"                     0.264     0.264     0.235     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"             5   Next link "
"                     0.264     0.235     0.235     0.000"
" 33          CATCHMENT 102"
"             1   Triangular SCS"
"             1   Equal length"
"             1   SCS method"
"           102   Ilderton Road ROW tributary to southeast ditch"
"        40.000   % Impervious"
"         0.360   Total Area"
"         5.000   Flow length"
"         2.000   Overland Slope"
"         0.216   Pervious Area"
"         5.000   Pervious length"
"        10.000   Pervious slope"
"         0.144   Impervious Area"
"         5.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
"         0.379   Pervious Runoff coefficient"
"         0.030   Pervious Ia/S coefficient"
"         5.080   Pervious Initial abstraction"
"         0.015   Impervious Manning 'n'"
"        98.000   Impervious SCS Curve No."
"         0.883   Impervious Runoff coefficient"
"         0.386   Impervious Ia/S coefficient"
"         2.001   Impervious Initial abstraction"
"                     0.090     0.235     0.235     0.000 c.m/sec"
"              Catchment 102          Pervious   Impervious Total Area "
"              Surface Area           0.216      0.144      0.360      hectare"
"              Time of concentration  2.893      0.653      1.530      minutes"
"              Time to Centroid       832.334    750.338    782.460    minutes"
"              Rainfall depth         119.000    119.000    119.000    mm"
"              Rainfall volume        257.04     171.36     428.40     c.m"
"              Rainfall losses        73.869     13.892     49.878     mm"
"              Runoff depth           45.131     105.108    69.122     mm"
"              Runoff volume          97.48      151.36     248.84     c.m"
"              Runoff coefficient     0.379      0.883      0.581      "
"              Maximum flow           0.040      0.050      0.090      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.090     0.317     0.235     0.000"
" 52          CHANNEL DESIGN"
"         0.317   Current peak flow    c.m/sec"
"         0.040   Manning 'n'"
"            0.   Cross-section type: 0=trapezoidal; 1=general"
"         0.000   Basewidth    metre"
"         7.000   Left bank slope"
"         4.000   Right bank slope"
"         1.000   Channel depth    metre"
```

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"        1.100   Gradient   %"
"             Depth of flow                0.285    metre"
"             Velocity                     0.708    m/sec"
"             Channel capacity             8.979    c.m/sec"
"             Critical depth               0.232    metre"
" 53          ROUTE    Channel Route 180"
"       180.00      Channel Route 180 Reach length   ( metre)"
"        0.473   X-factor <= 0.5"
"      190.765   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                 0.297    c.m/sec"
"                    0.090     0.317     0.297     0.000 c.m/sec"
" 40          HYDROGRAPH   Combine    1000"
"             6   Combine "
"          1000   Node #"
"                 Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.297    c.m/sec"
"             Hydrograph volume         1235.982    c.m"
"                    0.090     0.317     0.297     0.297"
" 40          HYDROGRAPH Start - New Tributary"
"             2   Start - New Tributary"
"                    0.090     0.000     0.297     0.297"
" 33          CATCHMENT 1"
"             1   Triangular SCS"
"             1   Equal length"
"             1   SCS method"
"             1   farmland"
"        0.260   % Impervious"
"        3.270   Total Area"
"      125.000   Flow length"
"        3.000   Overland Slope"
"        3.261   Pervious Area"
"      125.000   Pervious length"
"        3.000   Pervious slope"
"        0.009   Impervious Area"
"      125.000   Impervious length"
"        3.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       66.000   Pervious SCS Curve No."
"        0.433   Pervious Runoff coefficient"
"        0.054   Pervious Ia/S coefficient"
"        7.066   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.927   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.385     0.000     0.297     0.297 c.m/sec"
"             Catchment 1            Pervious   Impervious Total Area "
"             Surface Area           3.261      0.009      3.270      hectare"
"             Time of concentration  27.203     3.986      27.075     minutes"
"             Time to Centroid       884.201    757.909    883.501    minutes"
"             Rainfall depth         119.000    119.000    119.000    mm"
"             Rainfall volume        3881.18    10.12      3891.30    c.m"
"             Rainfall losses        67.415     8.644      67.262     mm"
"             Runoff depth           51.585     110.356    51.738     mm"
"             Runoff volume          1682.43    9.38       1691.82    c.m"
"             Runoff coefficient     0.433      0.927      0.435      "
"             Maximum flow           0.385      0.003      0.385      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.385     0.385     0.297     0.297"
" 52          CHANNEL DESIGN"
"        0.385   Current peak flow    c.m/sec"
```

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"        0.030   Manning 'n'"
"          0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       33.000   Left bank slope"
"       33.000   Right bank slope"
"        0.400   Channel depth    metre"
"        1.300   Gradient   %"
"             Depth of flow                0.136    metre"
"             Velocity                     0.632    m/sec"
"             Channel capacity             6.861    c.m/sec"
"             Critical depth               0.123    metre"
" 53          ROUTE    Channel Route 157"
"       157.00      Channel Route 157 Reach length   ( metre)"
"        0.488   X-factor <= 0.5"
"      186.188   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                 0.371    c.m/sec"
"                    0.385     0.385     0.371     0.297 c.m/sec"
" 40          HYDROGRAPH   Combine    1000"
"             6   Combine "
"          1000   Node #"
"                 Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.550    c.m/sec"
"             Hydrograph volume         2927.797    c.m"
"                    0.385     0.385     0.371     0.550"
" 40          HYDROGRAPH   Confluence    1000"
"             7   Confluence "
"          1000   Node #"
"                 Combined flows meeting in Ilderton Road Ditch"
"             Maximum flow                 0.550    c.m/sec"
"             Hydrograph volume         2927.797    c.m"
"                    0.385     0.550     0.371     0.000"
" 33          CATCHMENT 103"
"             1   Triangular SCS"
"             1   Equal length"
"             1   SCS method"
"           103   Ilderton road ROW downstream"
"       30.000   % Impervious"
"        0.130   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.091   Pervious Area"
"        5.000   Pervious length"
"        2.000   Pervious slope"
"        0.039   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.377   Pervious Runoff coefficient"
"        0.038   Pervious Ia/S coefficient"
"        6.435   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.883   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.031     0.550     0.371     0.000 c.m/sec"
"             Catchment 103          Pervious   Impervious Total Area "
"             Surface Area           0.091      0.039      0.130      hectare"
"             Time of concentration  4.711      0.653      2.676      minutes"
"             Time to Centroid       838.134    750.338    794.118    minutes"
"             Rainfall depth         119.000    119.000    119.000    mm"
"             Rainfall volume        108.29     46.41      154.70     c.m"
```

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"             Rainfall losses        74.195     13.892     56.104     mm"
"             Runoff depth           44.805     105.108    62.896     mm"
"             Runoff volume          40.77      40.99      81.76      c.m"
"             Runoff coefficient     0.377      0.883      0.529      "
"             Maximum flow           0.017      0.013      0.031      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.031     0.554     0.371     0.000"
" 52          CHANNEL DESIGN"
"        0.554   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.250   Gradient   %"
"             Depth of flow                 0.465    metre"
"             Velocity                      0.467    m/sec"
"             Channel capacity              4.281    c.m/sec"
"             Critical depth                0.290    metre"
" 53          ROUTE    Channel Route 70"
"        70.00      Channel Route 70 Reach length   ( metre)"
"        0.002   X-factor <= 0.5"
"      112.462   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.549    c.m/sec"
"                    0.031     0.554     0.549     0.000 c.m/sec"
```

APPENDIX C

Stormwater Management
Post Development – Right-of-Way Model

POST DEVELOPMENT MODELING DATA - RIGHT-OF-WAY EXFILTRATION ANALYSIS

CATCHMENT NO.	LOT NO.	AREA (ha)	IMPERVIOUS (%)	IMPERVIOUS AREA (ha)	PERVIOUS LENGTH (m)	IMP. LENGTH (m)	CATCHMENT AVG. SLOPE (%)	SCS CURVE #	PERVIOUS MANNINGS (n)	CHANNEL LENGTH (m)	CHANNEL SLOPE AVG (%)	Perv. Initial Abstraction (mm)	Imp. Initial Abstraction (mm)
11	R.O.W.	0.30	46.0	0.138	8	4	2.0	60	0.25	76	0.5	5	2
12	R.O.W.	0.39	52.2	0.204	8	4	2.0	60	0.25	105	0.5	5	2

EXFILTRATION TRENCH DATA

EXFILTRATION TRENCH ID	LOT NO.	AREA SERVED (ha)	TRENCH PARAMETERS										
			FG OVER TRENCH	TRENCH INV. (D.S.)	BOTTOM WIDTH	TRENCH HEIGHT	TOP WIDTH	PIPE INV. (D.S.)	PIPE SIZE (mm)	VOID RATIO	SLOPE (%)	LENGTH (m)	TOTAL VOL (m3)
ROW1	R.O.W.	0.30	*247.81*	245.72	1.00	1.03	3.00	246.07	375	0.3	0	37.5	26.074
ROW2	R.O.W.	0.39	*247.02*	244.93	1.00	1.03	3.00	245.28	375	0.3	0	54	37.547

*Volume discluding native material above**

NATIVE SOIL PROPERTIES		
APPROX G.W. ELEV	APPROX. TOP OF SAND AND GRAV.	HYD. CONDUCT. (K, mm/hr)
244.2	247	1267.2
243.7	246.4	1267.2

EXFILTRATION TRENCH AT SUMP 1
STAGE-STORAGE-DISCHARGE DATA

Elevation (m)	Storage				Discharge (m^3/s)	Exfiltration Rate (m^3/s)	Description
	Stone (m^3)	Distribution Pipe (m^3)	Backfill (m^3)	Total Storage (m^3)			
245.720	0	0	0	0	0.0000	0.0132	Bottom of Trench
245.771	0.6	0	0	0.6	0.0000	0.0155	
245.822	1.3	0	0	1.3	0.0000	0.0178	
245.873	2.0	0	0	2.0	0.0000	0.0201	2 Year Water Level = 245.89
245.924	2.7	0	0	2.7	0.0000	0.0224	
245.975	3.6	0	0	3.6	0.0000	0.0247	
246.026	4.5	0	0	4.5	0.0000	0.0270	Distribution Pipe Invert = 246.065
246.077	5.4	0.04	0	5.4	0.0000	0.0306	5 Year Water Level = 246.07
246.128	6.3	0.46	0	6.7	0.0000	0.0331	
246.179	7.1	1.06	0	8.2	0.0000	0.0355	10 Year Water Level = 246.16
246.230	8.0	1.76	0	9.8	0.0000	0.0380	
246.281	9.0	2.47	0	11.5	0.0000	0.0405	25 Year Water Level = 246.26
246.332	10.0	3.15	0	13.2	0.0000	0.0430	50 Year Water Level = 246.34
246.383	11.1	3.74	0	14.9	0.0000	0.0455	
246.434	12.4	4.13	0	16.5	0.0000	0.0480	100 Year Water Level = 246.42
246.485	13.7	4.14	0	17.9	0.0000	0.0532	
246.536	15.2	4.14	0	19.3	0.0000	0.0559	250 Year-24 hr Water Level = 246.54
246.587	16.7	4.14	0	20.8	0.0000	0.0586	250 Year Water Level = 246.59
246.638	18.3	4.14	0	22.4	0.0000	0.0612	
246.689	19.9	4.14	0	24.0	0.0000	0.0639	
246.740	21.6	4.14	0	25.7	0.0000	0.0666	
246.790	21.9	4.14	*0.0*	26.1	0.0000	0.0675	Top of Trench Elev. = 246.75
246.841	21.9	4.14	*0.1*	26.2	0.0000	0.0679	
246.892	21.9	4.14	*0.2*	26.2	0.0000	0.0684	
246.943	21.9	4.14	*0.2*	26.3	0.0000	0.0688	
246.994	21.9	4.14	*0.3*	26.4	0.0000	0.0692	
247.045	21.9	4.14	*0.3*	26.4	0.0000	0.0734	
247.096	21.9	4.14	*0.4*	26.5	0.0000	0.0739	
247.147	21.9	4.14	*0.4*	26.5	0.0000	0.0743	
247.198	21.9	4.14	*0.5*	26.6	0.0000	0.0748	
247.249	21.9	4.14	*0.5*	26.6	0.0000	0.0752	
247.300	21.9	4.14	*0.6*	26.7	0.0000	0.0757	
247.351	21.9	4.14	*0.7*	26.8	0.0000	0.0761	
247.402	21.9	4.14	*0.7*	26.8	0.0000	0.0765	
247.453	21.9	4.14	*0.8*	26.9	0.0000	0.0770	
247.504	21.9	4.14	*0.8*	26.9	0.0000	0.0774	
247.555	21.9	4.14	*0.9*	27.0	0.0000	0.0779	
247.606	21.9	4.14	*0.9*	27.0	0.0000	0.0783	
247.657	21.9	4.14	*1.0*	27.1	0.0000	0.0788	
247.708	21.9	4.14	*1.1*	27.2	0.0000	0.0792	
247.759	21.9	4.14	*1.1*	27.2	0.0000	0.0834	
247.810	21.9	4.14	*1.2*	27.3	0.0000	0.0838	Finished Ground

Italics denotes backfill volumes computed by MIDUSS

Poplar Woods Subdivision

EXFILTRATION CALCULATIONS

Elevation (m)	Depth (m)	Through Bottom of Trench		Through Sidewalls of Trench		
		Hydraulic Gradient (m/m)	Exfiltration Rate (m^3/s)	Average Hyraulic Gradient, (side slope)	Side Wall Surface Area (m^2)	Exfiltration Rate (m^3/s)
245.72	0.00	1.000	0.0132	1.000	0.000	0.0000
245.77	0.05	1.034	0.0136	1.016	5.3	0.0019
245.82	0.10	1.067	0.0141	1.032	10.5	0.0037
245.87	0.15	1.101	0.0145	1.048	15.8	0.0056
245.92	0.20	1.134	0.0150	1.063	21.1	0.0074
245.97	0.25	1.168	0.0154	1.077	26.4	0.0093
246.03	0.31	1.201	0.0159	1.091	31.6	0.0111
246.08	0.36	1.235	0.0163	1.105	36.9	0.0143
246.13	0.41	1.268	0.0167	1.118	42.2	0.0163
246.18	0.46	1.302	0.0172	1.131	47.4	0.0184
246.23	0.51	1.335	0.0176	1.144	52.7	0.0204
246.28	0.56	1.369	0.0181	1.156	58.0	0.0224
246.33	0.61	1.402	0.0185	1.168	63.2	0.0245
246.38	0.66	1.436	0.0190	1.179	68.5	0.0265
246.43	0.71	1.470	0.0194	1.190	73.8	0.0286
246.48	0.76	1.503	0.0198	1.201	79.1	0.0334
246.54	0.82	1.537	0.0203	1.212	84.3	0.0356
246.59	0.87	1.570	0.0207	1.222	89.6	0.0378
246.64	0.92	1.604	0.0212	1.232	94.9	0.0401
246.69	0.97	1.637	0.0216	1.242	100.1	0.0423
246.74	1.02	1.671	0.0221	1.251	105.4	0.0445
246.79	1.07	1.704	0.0225	1.260	106.5	0.0450
246.84	1.12	1.738	0.0229	1.269	106.5	0.0450
246.89	1.17	1.771	0.0234	1.278	106.5	0.0450
246.94	1.22	1.805	0.0238	1.287	106.5	0.0450
246.99	1.27	1.838	0.0243	1.295	106.5	0.0450
247.05	1.33	1.872	0.0247	1.304	106.5	0.0487
247.10	1.38	1.905	0.0252	1.312	106.5	0.0487
247.15	1.43	1.939	0.0256	1.320	106.5	0.0487
247.20	1.48	1.973	0.0260	1.327	106.5	0.0487
247.25	1.53	2.006	0.0265	1.335	106.5	0.0487
247.30	1.58	2.040	0.0269	1.342	106.5	0.0487
247.35	1.63	2.073	0.0274	1.349	106.5	0.0487
247.40	1.68	2.107	0.0278	1.356	106.5	0.0487
247.45	1.73	2.140	0.0283	1.363	106.5	0.0487
247.50	1.78	2.174	0.0287	1.370	106.5	0.0487
247.56	1.84	2.207	0.0291	1.376	106.5	0.0487
247.61	1.89	2.241	0.0296	1.383	106.5	0.0487
247.66	1.94	2.274	0.0300	1.389	106.5	0.0487
247.71	1.99	2.308	0.0305	1.395	106.5	0.0487
247.76	2.04	2.341	0.0309	1.401	106.5	0.0525
247.81	2.09	2.375	0.0314	1.407	106.5	0.0525

Groundwater Elevation =	244.200	m
Bottom of Trench Elevation =	245.720	m
Bottom of Trench Area =	37.5	sq.m.
Design hydraulic conductivity =	1267.2	mm/hr
Length of Trench	37.50	m
Bottom Width	1.00	m
Height of stone	1.03	m
Top of stone width	3.00	m
minimum void ratio	0.30	
side slope	0.97087	
Distribution Pipe Invert	246.06500	
Distribution Pipe Diameter	0.37500	

Hydraulic Gradient Principals (I)

$$I = \frac{Head\ Differential\ across\ the\ soil\ media}{thickness\ of\ media}$$

$$I = \frac{Trench\ Water\ Elev\ - Groundwater\ Elev}{Trench\ Bottom\ Elev - Groundwater\ Elev}$$

Dracy's Law for Flow through Soil Media

$$Q = \mathrm{kIA}$$

k, hydraulic conductivity
I, hydraulic gradient
A, area to travel through

EXFILTRATION TRENCH AT SUMP 2

STAGE-STORAGE-DISCHARGE DATA

Elevation (m)	Storage				Discharge (m^3/s)	Exfiltration Rate (m^3/s)	Description
	Stone (m^3)	Distribution Pipe (m^3)	Backfill (m^3)	Total Storage (m^3)			
244.930	0	0	0	0	0.0000	0.0190	Bottom of Trench
244.981	0.9	0	0	0.9	0.0000	0.0225	
245.032	1.8	0	0	1.8	0.0000	0.0259	
245.083	2.8	0	0	2.8	0.0000	0.0294	
245.134	4.0	0	0	4.0	0.0000	0.0328	2 Year Water Level = 245.11
245.185	5.2	0	0	5.2	0.0000	0.0363	
245.236	6.4	0	0	6.4	0.0000	0.0414	Distribution Pipe Invert = 245.275
245.287	7.8	0.01	0	7.8	0.0000	0.0451	5 Year Water Level = 245.28
245.338	9.0	0.66	0	9.7	0.0000	0.0488	
245.389	10.3	1.53	0	11.8	0.0000	0.0525	10 Year Water Level = 245.36
245.440	11.6	2.53	0	14.1	0.0000	0.0563	
245.491	13.0	3.56	0	16.5	0.0000	0.0600	25 Year Water Level = 245.46
245.542	14.4	4.54	0	19.0	0.0000	0.0637	50 Year Water Level = 245.53
245.593	16.0	5.39	0	21.4	0.0000	0.0709	100 Year Water Level = 245.60
245.644	17.8	5.94	0	23.7	0.0000	0.0749	
245.695	19.8	5.96	0	25.8	0.0000	0.0789	250 Year-24 hr Water Level = 245.67
245.746	21.9	5.96	0	27.8	0.0000	0.0829	250 Year Water Level = 245.75
245.797	24.1	5.96	0	30.0	0.0000	0.0868	
245.848	26.3	5.96	0	32.3	0.0000	0.0909	
245.899	28.7	5.96	0	34.6	0.0000	0.0949	
245.950	31.1	5.96	0	37.0	0.0000	0.0989	Top of Trench Elev. = 245.96
246.000	31.6	5.96	*0.1*	37.6	0.0000	0.1057	
246.051	31.6	5.96	*0.2*	37.7	0.0000	0.1065	
246.102	31.6	5.96	*0.2*	37.7	0.0000	0.1073	
246.153	31.6	5.96	*0.3*	37.8	0.0000	0.1081	
246.204	31.6	5.96	*0.3*	37.8	0.0000	0.1089	
246.255	31.6	5.96	*0.4*	37.9	0.0000	0.1097	
246.306	31.6	5.96	*0.4*	37.9	0.0000	0.1104	
246.357	31.6	5.96	*0.5*	38.0	0.0000	0.1112	
246.408	31.6	5.96	*0.6*	38.1	0.0000	0.1120	
246.459	31.6	5.96	*0.6*	38.1	0.0000	0.1128	
246.510	31.6	5.96	*0.7*	38.2	0.0000	0.1136	
246.561	31.6	5.96	*0.7*	38.2	0.0000	0.1144	
246.612	31.6	5.96	*0.8*	38.3	0.0000	0.1206	
246.663	31.6	5.96	*0.8*	38.3	0.0000	0.1214	
246.714	31.6	5.96	*0.9*	38.4	0.0000	0.1221	
246.765	31.6	5.96	*1.0*	38.5	0.0000	0.1229	
246.816	31.6	5.96	*1.0*	38.5	0.0000	0.1237	
246.867	31.6	5.96	*1.1*	38.6	0.0000	0.1245	
246.918	31.6	5.96	*1.1*	38.6	0.0000	0.1253	
246.969	31.6	5.96	*1.2*	38.7	0.0000	0.1261	
247.020	31.6	5.96	*1.2*	38.7	0.0000	0.1269	Finished Ground

Italics denotes backfill volumes computed by MIDUSS

Poplar Woods Subdivision

EXFILTRATION CALCULATIONS

Elevation (m)	Depth (m)	Through Bottom of Trench		Through Sidewalls of Trench		
		Hydraulic Gradient (m/m)	Exfiltration Rate (m^3/s)	Average Hyraulic Gradient, (side slope)	Side Wall Surface Area (m^2)	Exfiltration Rate (m^3/s)
244.93	0.00	1.000	0.0190	1.000	0.000	0.0000
244.98	0.05	1.041	0.0198	1.020	7.6	0.0027
245.03	0.10	1.083	0.0206	1.040	15.2	0.0053
245.08	0.15	1.124	0.0214	1.059	22.8	0.0080
245.13	0.20	1.166	0.0222	1.077	30.4	0.0107
245.18	0.25	1.207	0.0229	1.094	37.9	0.0134
245.24	0.31	1.249	0.0237	1.111	45.5	0.0176
245.29	0.36	1.290	0.0245	1.127	53.1	0.0206
245.34	0.41	1.332	0.0253	1.142	60.7	0.0235
245.39	0.46	1.373	0.0261	1.157	68.3	0.0264
245.44	0.51	1.414	0.0269	1.172	75.9	0.0294
245.49	0.56	1.456	0.0277	1.186	83.5	0.0323
245.54	0.61	1.497	0.0285	1.199	91.1	0.0353
245.59	0.66	1.539	0.0292	1.212	98.7	0.0417
245.64	0.71	1.580	0.0300	1.225	106.2	0.0449
245.69	0.76	1.622	0.0308	1.237	113.8	0.0481
245.75	0.82	1.663	0.0316	1.249	121.4	0.0513
245.80	0.87	1.705	0.0324	1.261	129.0	0.0545
245.85	0.92	1.746	0.0332	1.272	136.6	0.0577
245.90	0.97	1.787	0.0340	1.282	144.2	0.0609
245.95	1.02	1.829	0.0348	1.293	151.8	0.0641
246.00	1.07	1.870	0.0356	1.303	153.3	0.0702
246.05	1.12	1.912	0.0363	1.313	153.3	0.0702
246.10	1.17	1.953	0.0371	1.323	153.3	0.0702
246.15	1.22	1.995	0.0379	1.332	153.3	0.0702
246.20	1.27	2.036	0.0387	1.341	153.3	0.0702
246.26	1.33	2.078	0.0395	1.350	153.3	0.0702
246.31	1.38	2.119	0.0403	1.359	153.3	0.0702
246.36	1.43	2.160	0.0411	1.367	153.3	0.0702
246.41	1.48	2.202	0.0419	1.375	153.3	0.0702
246.46	1.53	2.243	0.0426	1.383	153.3	0.0702
246.51	1.58	2.285	0.0434	1.391	153.3	0.0702
246.56	1.63	2.326	0.0442	1.399	153.3	0.0702
246.61	1.68	2.368	0.0450	1.406	153.3	0.0756
246.66	1.73	2.409	0.0458	1.413	153.3	0.0756
246.71	1.78	2.451	0.0466	1.420	153.3	0.0756
246.77	1.84	2.492	0.0474	1.427	153.3	0.0756
246.82	1.89	2.533	0.0482	1.434	153.3	0.0756
246.87	1.94	2.575	0.0489	1.441	153.3	0.0756
246.92	1.99	2.616	0.0497	1.447	153.3	0.0756
246.97	2.04	2.658	0.0505	1.453	153.3	0.0756
247.02	2.09	2.699	0.0513	1.459	153.3	0.0756

Groundwater Elevation =	243.700	m
Bottom of Trench Elevation =	244.930	m
Bottom of Trench Area =	54.0	sq.m.
Design hydraulic conductivity =	1267.2	mm/hr
Length of Trench	54.00	m
Bottom Width	1.00	m
Height of stone	1.03	m
Top of stone width	3.00	m
minimum void ratio	0.30	
side slope	0.97087	
Distribution Pipe Invert	245.27500	
Distribution Pipe Diameter	0.37500	

Hydraulic Gradient Principals (I)

$$I = \frac{Head\ Differential\ across\ the\ soil\ media}{thickness\ of\ media}$$

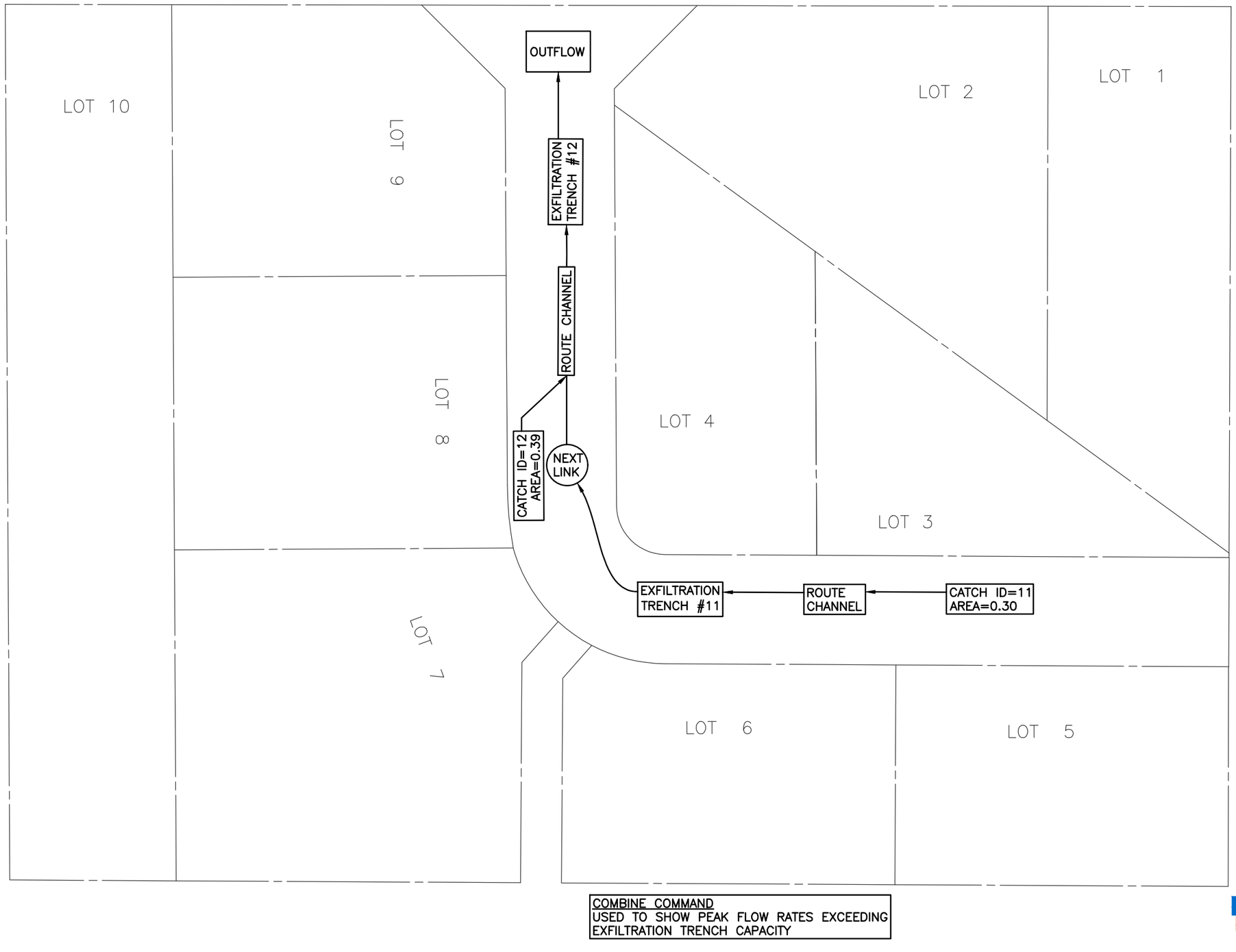
$$I = \frac{Trench\ Water\ Elev\ - Groundwater\ Elev}{Trench\ Bottom\ Elev - Groundwater\ Elev}$$

Dracy's Law for Flow through Soil Media

$$Q = kIA$$

k, hydraulic conductivity
I, hydraulic gradient
A, area to travel through

ILDERTON ROAD



COMBINE COMMAND
USED TO SHOW PEAK FLOW RATES EXCEEDING EXFILTRATION TRENCH CAPACITY

POPLAR WOODS SUBDIVISION

POST DEVELOPMENT EXFILTRATION TRENCH RIGHT-OF-WAY MODEL SCHEMATIC

DATE: AUGUST 2020

ARCHIBALD, GRAY & McKAY ENGINEERING LTD.
3514 WHITE OAK ROAD, LONDON, ON, N6E 2Z9
PHONE 519-685-5300 FAX 519-685-5303
EMAIL info@agm.on.ca WEB www.agm.on.ca
PLAN • SURVEY • ENGINEER

Plot date: Aug 25, 2020 F:\Projects\L\Iobo\L0\Lo-49\Lo-49-3\Eng 1432-1\CAD 2019\1432-1 Design Storm.dwg

Model
Output Files

```
"                MIDUSS Output ------------------------------------------------>"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:               F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                                 Eng 1432-1\SWM\MIDUSS\Post ROW"
"                Output filename:                              2 Yr Pst Exfilt.out"
"                Licensee name:                                            owner"
"                Company                                                HP Inc."
"                Date & Time last used:               2020-04-28 at 12:46:08 PM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1440.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"      724.690   Coefficient A"
"        5.500   Constant B"
"        0.800   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"              Maximum intensity           101.773    mm/hr"
"              Total depth                  33.312    mm"
"            4   2hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 11"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           11   ROW upper sump - Sump 1"
"       46.000   % Impervious"
"        0.300   Total Area"
"        8.000   Flow length"
"        2.000   Overland Slope"
"        0.162   Pervious Area"
"        8.000   Pervious length"
"        2.000   Pervious slope"
"        0.138   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.121   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.754   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.029     0.000     0.000     0.000 c.m/sec"
"              Catchment 11           Pervious   Impervious Total Area "
"              Surface Area           0.162      0.138      0.300      hectare"
"              Time of concentration  14.484     0.694      2.879      minutes"
"              Time to Centroid       116.334    88.944     93.285     minutes"
"              Rainfall depth         33.312     33.312     33.312     mm"
"              Rainfall volume        53.97      45.97      99.94      c.m"
"              Rainfall losses        29.280     8.183      19.576     mm"
"              Runoff depth           4.032      25.129     13.736     mm"
"              Runoff volume          6.53       34.68      41.21      c.m"
"              Runoff coefficient     0.121      0.754      0.412      "
"              Maximum flow           0.002      0.029      0.029      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                     0.029     0.029     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.029   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.500   Gradient   %"
"              Depth of flow                 0.041    metre"
"              Velocity                      0.351    m/sec"
"              Channel capacity            148.463    c.m/sec"
"              Critical depth                0.037    metre"
" 53          ROUTE    Channel Route 76"
"       76.00      Channel Route 76 Reach length   ( metre)"
"        0.480   X-factor <= 0.5"
"      162.379   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"              Peak outflow                  0.025    c.m/sec"
"                     0.029     0.029     0.025     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                     0.029     0.025     0.025     0.000"
" 57          TRENCH Design d/s of 11"
"        0.025   Peak inflow"
"       41.208   Hydrograph volume"
"      247.810   Ground elevation"
"      245.720   Downstream trench invert"
"        1.030   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       37.500   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.720     0.000       0.0"
"                245.771     0.000       0.6"
"                245.822     0.000       1.3"
"                245.873     0.000       2.0"
"                245.924     0.000       2.7"
"                245.975     0.000       3.6"
"                246.026     0.000       4.5"
"                246.077     0.000       5.4"
"                246.128     0.000       6.7"
"                246.179     0.000       8.2"
"                246.230     0.000       9.8"
"                246.281     0.000      11.5"
"                246.332     0.000      13.2"
"                246.383     0.000      14.9"
"                246.434     0.000      16.5"
"                246.485     0.000      17.9"
"                246.536     0.000      19.3"
"                246.587     0.000      20.9"
"                246.638     0.000      22.4"
"                246.689     0.000      24.0"
"                246.740     0.000      25.7"
"                246.790     0.000      26.1"
"                246.841     0.000      26.2"
"                246.892     0.000      26.2"
"                246.943     0.000      26.3"
"                246.994     0.000      26.4"
"                247.045     0.000      26.4"
"                247.096     0.000      26.5"
"                247.147     0.000      26.5"
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"               247.198     0.000      26.6"
"               247.249     0.000      26.6"
"               247.300     0.000      26.7"
"               247.351     0.000      26.8"
"               247.402     0.000      26.8"
"               247.453     0.000      26.9"
"               247.504     0.000      26.9"
"               247.555     0.000      27.0"
"               247.606     0.000      27.0"
"               247.657     0.000      27.1"
"               247.708     0.000      27.2"
"               247.759     0.000      27.2"
"               247.810     0.000      27.3"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.065    37.500     0.375     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.021    c.m/sec"
"            Exfiltration volume          41.644    c.m"
"            Maximum level               245.891    metre"
"            Maximum storage               2.245    c.m"
"            Centroidal lag                1.635   hours"
"            Infiltration area 2 sides    17.852   sq.metre"
"            Infiltration Base area       37.500   sq.metre"
"                 0.029     0.025     0.000     0.021 c.m/sec"
" 40         HYDROGRAPH Next link "
"           5   Next link "
"                  0.029     0.000     0.000     0.021"
" 33         CATCHMENT 12"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          12   ROW lower sump - Sump 2"
"       52.200   % Impervious"
"        0.390   Total Area"
"        8.000   Flow length"
"        2.000   Overland Slope"
"        0.186   Pervious Area"
"        8.000   Pervious length"
"        2.000   Pervious slope"
"        0.204   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.121   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.754   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.043     0.000     0.000     0.021 c.m/sec"
"            Catchment 12           Pervious   Impervious Total Area "
"            Surface Area           0.186      0.204      0.390      hectare"
"            Time of concentration  14.484     0.694      2.460      minutes"
"            Time to Centroid       116.334    88.944     92.453     minutes"
"            Rainfall depth         33.312     33.312     33.312     mm"
"            Rainfall volume        62.10      67.82      129.92     c.m"
"            Rainfall losses        29.280     8.183      18.268     mm"
"            Runoff depth           4.032      25.129     15.044     mm"
"            Runoff volume          7.52       51.16      58.67      c.m"
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"            Runoff coefficient     0.121      0.754      0.452      "
"            Maximum flow           0.003      0.043      0.043      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.043     0.043     0.000     0.021"
" 52         CHANNEL DESIGN"
"        0.043   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.500   Gradient   %"
"            Depth of flow                 0.047    metre"
"            Velocity                      0.387    m/sec"
"            Channel capacity            148.463    c.m/sec"
"            Critical depth                0.043    metre"
" 53         ROUTE    Channel Route 105"
"      105.00      Channel Route 105 Reach length   ( metre)"
"        0.483   X-factor <= 0.5"
"      203.301   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"           1   No. of sub-reaches"
"            Peak outflow                  0.038    c.m/sec"
"                  0.043     0.043     0.038     0.021 c.m/sec"
" 40         HYDROGRAPH Next link "
"           5   Next link "
"                  0.043     0.038     0.038     0.021"
" 57         TRENCH Design d/s of 12"
"        0.038   Peak inflow"
"       58.673   Hydrograph volume"
"      247.020   Ground elevation"
"      244.930   Downstream trench invert"
"        1.030   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       54.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.930     0.000       0.0"
"                244.981     0.000       0.9"
"                245.032     0.000       1.8"
"                245.083     0.000       2.8"
"                245.134     0.000       4.0"
"                245.185     0.000       5.2"
"                245.236     0.000       6.4"
"                245.287     0.000       7.8"
"                245.338     0.000       9.7"
"                245.389     0.000      11.8"
"                245.440     0.000      14.1"
"                245.491     0.000      16.5"
"                245.542     0.000      19.0"
"                245.593     0.000      21.4"
"                245.644     0.000      23.7"
"                245.695     0.000      25.8"
"                245.746     0.000      27.9"
"                245.797     0.000      30.0"
"                245.848     0.000      32.3"
"                245.899     0.000      34.6"
```

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"               245.950     0.000      37.0"
"               246.000     0.000      37.6"
"               246.051     0.000      37.7"
"               246.102     0.000      37.7"
"               246.153     0.000      37.8"
"               246.204     0.000      37.8"
"               246.255     0.000      37.9"
"               246.306     0.000      37.9"
"               246.357     0.000      38.0"
"               246.408     0.000      38.1"
"               246.459     0.000      38.1"
"               246.510     0.000      38.2"
"               246.561     0.000      38.2"
"               246.612     0.000      38.3"
"               246.663     0.000      38.3"
"               246.714     0.000      38.4"
"               246.765     0.000      38.5"
"               246.816     0.000      38.5"
"               246.867     0.000      38.6"
"               246.918     0.000      38.6"
"               246.969     0.000      38.7"
"               247.020     0.000      38.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               245.275    54.000     0.375     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.030    c.m/sec"
"            Exfiltration volume          58.828    c.m"
"            Maximum level               245.106    metre"
"            Maximum storage               3.349    c.m"
"            Centroidal lag                1.638   hours"
"            Infiltration area 2 sides    26.510   sq.metre"
"            Infiltration Base area       54.000   sq.metre"
"               0.043     0.038     0.000     0.030 c.m/sec"
```

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"                MIDUSS Output ------------------------------------------------>"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:               F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                                    Eng 1432-1\SWM\MIDUSS\Post ROW"
"                Output filename:                              5 Yr Pst Exfilt.out"
"                Licensee name:                                            owner"
"                Company                                                HP Inc."
"                Date & Time last used:                2020-04-28 at 12:45:12 PM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1440.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     1330.310   Coefficient A"
"        7.938   Constant B"
"        0.855   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"              Maximum intensity           137.641    mm/hr"
"              Total depth                  45.372    mm"
"            4   5hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 11"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           11   ROW upper sump - Sump 1"
"       46.000   % Impervious"
"        0.300   Total Area"
"        8.000   Flow length"
"        2.000   Overland Slope"
"        0.162   Pervious Area"
"        8.000   Pervious length"
"        2.000   Pervious slope"
"        0.138   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.170   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.782   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.043     0.000     0.000     0.000 c.m/sec"
"              Catchment 11           Pervious   Impervious Total Area "
"              Surface Area           0.162      0.138      0.300      hectare"
"              Time of concentration  10.811     0.602      2.679      minutes"
"              Time to Centroid       108.291    86.403     90.857     minutes"
"              Rainfall depth         45.372     45.372     45.372     mm"
"              Rainfall volume        73.50      62.61      136.12     c.m"
"              Rainfall losses        37.647     9.878      24.873     mm"
"              Runoff depth           7.725      35.495     20.499     mm"
"              Runoff volume          12.51      48.98      61.50      c.m"
"              Runoff coefficient     0.170      0.782      0.452      "
"              Maximum flow           0.006      0.042      0.043      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                     0.043     0.043     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.043   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.500   Gradient   %"
"              Depth of flow                 0.047    metre"
"              Velocity                      0.387    m/sec"
"              Channel capacity            148.463    c.m/sec"
"              Critical depth                0.043    metre"
" 53          ROUTE    Channel Route 76"
"       76.00      Channel Route 76 Reach length   ( metre)"
"        0.477   X-factor <= 0.5"
"      147.151   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"              Peak outflow                  0.037    c.m/sec"
"                     0.043     0.043     0.037     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                     0.043     0.037     0.037     0.000"
" 57          TRENCH Design d/s of 11"
"        0.037   Peak inflow"
"       61.497   Hydrograph volume"
"      247.810   Ground elevation"
"      245.720   Downstream trench invert"
"        1.030   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       37.500   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.720     0.000       0.0"
"                245.771     0.000       0.6"
"                245.822     0.000       1.3"
"                245.873     0.000       2.0"
"                245.924     0.000       2.7"
"                245.975     0.000       3.6"
"                246.026     0.000       4.5"
"                246.077     0.000       5.4"
"                246.128     0.000       6.7"
"                246.179     0.000       8.2"
"                246.230     0.000       9.8"
"                246.281     0.000      11.5"
"                246.332     0.000      13.2"
"                246.383     0.000      14.9"
"                246.434     0.000      16.5"
"                246.485     0.000      17.9"
"                246.536     0.000      19.3"
"                246.587     0.000      20.9"
"                246.638     0.000      22.4"
"                246.689     0.000      24.0"
"                246.740     0.000      25.7"
"                246.790     0.000      26.1"
"                246.841     0.000      26.2"
"                246.892     0.000      26.2"
"                246.943     0.000      26.3"
"                246.994     0.000      26.4"
"                247.045     0.000      26.4"
"                247.096     0.000      26.5"
"                247.147     0.000      26.5"
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"               247.198     0.000      26.6"
"               247.249     0.000      26.6"
"               247.300     0.000      26.7"
"               247.351     0.000      26.8"
"               247.402     0.000      26.8"
"               247.453     0.000      26.9"
"               247.504     0.000      26.9"
"               247.555     0.000      27.0"
"               247.606     0.000      27.0"
"               247.657     0.000      27.1"
"               247.708     0.000      27.2"
"               247.759     0.000      27.2"
"               247.810     0.000      27.3"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.065    37.500     0.375     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.029    c.m/sec"
"            Exfiltration volume          60.783    c.m"
"            Maximum level               246.069    metre"
"            Maximum storage               5.275    c.m"
"            Centroidal lag                1.647   hours"
"            Infiltration area 2 sides    36.456   sq.metre"
"            Infiltration Base area       37.500   sq.metre"
"                 0.043     0.037     0.000     0.029 c.m/sec"
" 40         HYDROGRAPH Next link "
"           5   Next link "
"                   0.043     0.000     0.000     0.029"
" 33         CATCHMENT 12"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          12   ROW lower sump - Sump 2"
"       52.200   % Impervious"
"        0.390   Total Area"
"        8.000   Flow length"
"        2.000   Overland Slope"
"        0.186   Pervious Area"
"        8.000   Pervious length"
"        2.000   Pervious slope"
"        0.204   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.170   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.782   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.063     0.000     0.000     0.029 c.m/sec"
"            Catchment 12           Pervious   Impervious Total Area "
"            Surface Area           0.186      0.204      0.390      hectare"
"            Time of concentration  10.811     0.602      2.298      minutes"
"            Time to Centroid       108.291    86.403     90.040     minutes"
"            Rainfall depth         45.372     45.372     45.372     mm"
"            Rainfall volume        84.58      92.37      176.95     c.m"
"            Rainfall losses        37.647     9.878      23.152     mm"
"            Runoff depth           7.725      35.495     22.221     mm"
"            Runoff volume          14.40      72.26      86.66      c.m"
"            Runoff coefficient     0.170      0.782      0.490      "
"            Maximum flow           0.006      0.062      0.063      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                   0.063     0.063     0.000     0.029"
" 52         CHANNEL DESIGN"
"        0.063   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.500   Gradient   %"
"            Depth of flow                 0.054    metre"
"            Velocity                      0.426    m/sec"
"            Channel capacity            148.463    c.m/sec"
"            Critical depth                0.050    metre"
" 53         ROUTE    Channel Route 105"
"      105.00      Channel Route 105 Reach length   ( metre)"
"        0.481   X-factor <= 0.5"
"      184.787   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"           1   No. of sub-reaches"
"            Peak outflow                  0.055    c.m/sec"
"                   0.063     0.063     0.055     0.029 c.m/sec"
" 40         HYDROGRAPH Next link "
"           5   Next link "
"                   0.063     0.055     0.055     0.029"
" 57         TRENCH Design d/s of 12"
"        0.055   Peak inflow"
"       86.662   Hydrograph volume"
"      247.020   Ground elevation"
"      244.930   Downstream trench invert"
"        1.030   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       54.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.930     0.000       0.0"
"                244.981     0.000       0.9"
"                245.032     0.000       1.8"
"                245.083     0.000       2.8"
"                245.134     0.000       4.0"
"                245.185     0.000       5.2"
"                245.236     0.000       6.4"
"                245.287     0.000       7.8"
"                245.338     0.000       9.7"
"                245.389     0.000      11.8"
"                245.440     0.000      14.1"
"                245.491     0.000      16.5"
"                245.542     0.000      19.0"
"                245.593     0.000      21.4"
"                245.644     0.000      23.7"
"                245.695     0.000      25.8"
"                245.746     0.000      27.9"
"                245.797     0.000      30.0"
"                245.848     0.000      32.3"
"                245.899     0.000      34.6"
```

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"               245.950     0.000      37.0"
"               246.000     0.000      37.6"
"               246.051     0.000      37.7"
"               246.102     0.000      37.7"
"               246.153     0.000      37.8"
"               246.204     0.000      37.8"
"               246.255     0.000      37.9"
"               246.306     0.000      37.9"
"               246.357     0.000      38.0"
"               246.408     0.000      38.1"
"               246.459     0.000      38.1"
"               246.510     0.000      38.2"
"               246.561     0.000      38.2"
"               246.612     0.000      38.3"
"               246.663     0.000      38.3"
"               246.714     0.000      38.4"
"               246.765     0.000      38.5"
"               246.816     0.000      38.5"
"               246.867     0.000      38.6"
"               246.918     0.000      38.6"
"               246.969     0.000      38.7"
"               247.020     0.000      38.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               245.275    54.000     0.375     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.043    c.m/sec"
"            Exfiltration volume          85.758    c.m"
"            Maximum level               245.276    metre"
"            Maximum storage               7.521    c.m"
"            Centroidal lag                1.641   hours"
"            Infiltration area 2 sides    52.086   sq.metre"
"            Infiltration Base area       54.000   sq.metre"
"               0.063     0.055     0.000     0.043 c.m/sec"
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"                MIDUSS Output ----------------------------------------------->"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                               February 7, 2010"
"           10   Units used:                                        ie METRIC"
"                Job folder:               F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                                 Eng 1432-1\SWM\MIDUSS\Post ROW"
"                Output filename:                          10 Yr Pst Exfilt.out"
"                Licensee name:                                        owner"
"                Company                                             HP Inc."
"                Date & Time last used:              2020-04-28 at 12:44:20 PM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1440.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"           1   Chicago storm"
"     1497.190   Coefficient A"
"        7.188   Constant B"
"        0.850   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"             Maximum intensity           164.792    mm/hr"
"             Total depth                  52.597    mm"
"           5   10hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 11"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          11   ROW upper sump - Sump 1"
"       46.000   % Impervious"
"        0.300   Total Area"
"        8.000   Flow length"
"        2.000   Overland Slope"
"        0.162   Pervious Area"
"        8.000   Pervious length"
"        2.000   Pervious slope"
"        0.138   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.197   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.792   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.053     0.000     0.000     0.000 c.m/sec"
"             Catchment 11           Pervious   Impervious Total Area "
"             Surface Area           0.162      0.138      0.300      hectare"
"             Time of concentration  9.551      0.556      2.587      minutes"
"             Time to Centroid       106.081    85.843     90.413     minutes"
"             Rainfall depth         52.597     52.597     52.597     mm"
"             Rainfall volume        85.21      72.58      157.79     c.m"
"             Rainfall losses        42.252     10.952     27.854     mm"
"             Runoff depth           10.345     41.645     24.743     mm"
"             Runoff volume          16.76      57.47      74.23      c.m"
"             Runoff coefficient     0.197      0.792      0.470      "
"             Maximum flow           0.008      0.051      0.053      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                     0.053     0.053     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.053   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"          0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.500   Gradient   %"
"             Depth of flow                 0.051    metre"
"             Velocity                      0.408    m/sec"
"             Channel capacity            148.463    c.m/sec"
"             Critical depth                0.047    metre"
" 53          ROUTE    Channel Route 76"
"       76.00      Channel Route 76 Reach length   ( metre)"
"        0.475   X-factor <= 0.5"
"      139.657   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      100.000   Routing time step   ( seconds)"
"             1   No. of sub-reaches"
"             Peak outflow                  0.044    c.m/sec"
"                   0.053     0.053     0.044     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"           5   Next link "
"                   0.053     0.044     0.044     0.000"
" 57          TRENCH Design d/s of 11"
"        0.044   Peak inflow"
"       74.229   Hydrograph volume"
"      247.810   Ground elevation"
"      245.720   Downstream trench invert"
"        1.030   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       37.500   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.720     0.000       0.0"
"                245.771     0.000       0.6"
"                245.822     0.000       1.3"
"                245.873     0.000       2.0"
"                245.924     0.000       2.7"
"                245.975     0.000       3.6"
"                246.026     0.000       4.5"
"                246.077     0.000       5.4"
"                246.128     0.000       6.7"
"                246.179     0.000       8.2"
"                246.230     0.000       9.8"
"                246.281     0.000      11.5"
"                246.332     0.000      13.2"
"                246.383     0.000      14.9"
"                246.434     0.000      16.5"
"                246.485     0.000      17.9"
"                246.536     0.000      19.3"
"                246.587     0.000      20.9"
"                246.638     0.000      22.4"
"                246.689     0.000      24.0"
"                246.740     0.000      25.7"
"                246.790     0.000      26.1"
"                246.841     0.000      26.2"
"                246.892     0.000      26.2"
"                246.943     0.000      26.3"
"                246.994     0.000      26.4"
"                247.045     0.000      26.4"
"                247.096     0.000      26.5"
"                247.147     0.000      26.5"
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"               247.198     0.000      26.6"
"               247.249     0.000      26.6"
"               247.300     0.000      26.7"
"               247.351     0.000      26.8"
"               247.402     0.000      26.8"
"               247.453     0.000      26.9"
"               247.504     0.000      26.9"
"               247.555     0.000      27.0"
"               247.606     0.000      27.0"
"               247.657     0.000      27.1"
"               247.708     0.000      27.2"
"               247.759     0.000      27.2"
"               247.810     0.000      27.3"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.065    37.500     0.375     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.034    c.m/sec"
"            Exfiltration volume          73.902    c.m"
"            Maximum level               246.160    metre"
"            Maximum storage               7.638    c.m"
"            Centroidal lag                1.664   hours"
"            Infiltration area 2 sides    45.944   sq.metre"
"            Infiltration Base area       37.500   sq.metre"
"                 0.053     0.044     0.000     0.034 c.m/sec"
" 40         HYDROGRAPH Next link "
"           5   Next link "
"                   0.053     0.000     0.000     0.034"
" 33         CATCHMENT 12"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          12   ROW lower sump - Sump 2"
"       52.200   % Impervious"
"        0.390   Total Area"
"        8.000   Flow length"
"        2.000   Overland Slope"
"        0.186   Pervious Area"
"        8.000   Pervious length"
"        2.000   Pervious slope"
"        0.204   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.197   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.792   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.077     0.000     0.000     0.034 c.m/sec"
"            Catchment 12           Pervious   Impervious Total Area "
"            Surface Area           0.186      0.204      0.390      hectare"
"            Time of concentration  9.551      0.556      2.223      minutes"
"            Time to Centroid       106.081    85.843     89.594     minutes"
"            Rainfall depth         52.597     52.597     52.597     mm"
"            Rainfall volume        98.05      107.08     205.13     c.m"
"            Rainfall losses        42.252     10.952     25.914     mm"
"            Runoff depth           10.345     41.645     26.683     mm"
"            Runoff volume          19.29      84.78      104.07     c.m"
"            Runoff coefficient     0.197      0.792      0.507      "
"            Maximum flow           0.010      0.075      0.077      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                   0.077     0.077     0.000     0.034"
" 52         CHANNEL DESIGN"
"        0.077   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.500   Gradient   %"
"            Depth of flow                 0.059    metre"
"            Velocity                      0.448    m/sec"
"            Channel capacity            148.463    c.m/sec"
"            Critical depth                0.055    metre"
" 53         ROUTE    Channel Route 105"
"       105.00      Channel Route 105 Reach length   ( metre)"
"        0.479   X-factor <= 0.5"
"      175.745   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"           1   No. of sub-reaches"
"            Peak outflow                  0.067    c.m/sec"
"                   0.077     0.077     0.067     0.034 c.m/sec"
" 40         HYDROGRAPH Next link "
"           5   Next link "
"                   0.077     0.067     0.067     0.034"
" 57         TRENCH Design d/s of 12"
"        0.067   Peak inflow"
"      104.066   Hydrograph volume"
"      247.020   Ground elevation"
"      244.930   Downstream trench invert"
"        1.030   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       54.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"               244.930     0.000       0.0"
"               244.981     0.000       0.9"
"               245.032     0.000       1.8"
"               245.083     0.000       2.8"
"               245.134     0.000       4.0"
"               245.185     0.000       5.2"
"               245.236     0.000       6.4"
"               245.287     0.000       7.8"
"               245.338     0.000       9.7"
"               245.389     0.000      11.8"
"               245.440     0.000      14.1"
"               245.491     0.000      16.5"
"               245.542     0.000      19.0"
"               245.593     0.000      21.4"
"               245.644     0.000      23.7"
"               245.695     0.000      25.8"
"               245.746     0.000      27.9"
"               245.797     0.000      30.0"
"               245.848     0.000      32.3"
"               245.899     0.000      34.6"
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"               245.950     0.000      37.0"
"               246.000     0.000      37.6"
"               246.051     0.000      37.7"
"               246.102     0.000      37.7"
"               246.153     0.000      37.8"
"               246.204     0.000      37.8"
"               246.255     0.000      37.9"
"               246.306     0.000      37.9"
"               246.357     0.000      38.0"
"               246.408     0.000      38.1"
"               246.459     0.000      38.1"
"               246.510     0.000      38.2"
"               246.561     0.000      38.2"
"               246.612     0.000      38.3"
"               246.663     0.000      38.3"
"               246.714     0.000      38.4"
"               246.765     0.000      38.5"
"               246.816     0.000      38.5"
"               246.867     0.000      38.6"
"               246.918     0.000      38.6"
"               246.969     0.000      38.7"
"               247.020     0.000      38.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               245.275    54.000     0.375     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.049    c.m/sec"
"            Exfiltration volume         103.897    c.m"
"            Maximum level               245.363    metre"
"            Maximum storage              10.745    c.m"
"            Centroidal lag                1.656   hours"
"            Infiltration area 2 sides    65.245   sq.metre"
"            Infiltration Base area       54.000   sq.metre"
"                 0.077     0.067     0.000     0.049 c.m/sec"
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"                MIDUSS Output ----------------------------------------------->"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                               February 7, 2010"
"           10   Units used:                                        ie METRIC"
"                Job folder:               F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                                Eng 1432-1\SWM\MIDUSS\Post ROW"
"                Output filename:                          25 Yr Pst Exfilt.out"
"                Licensee name:                                          owner"
"                Company                                               HP Inc."
"                Date & Time last used:              2020-04-28 at 12:43:19 PM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1440.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"           1   Chicago storm"
"     1455.000   Coefficient A"
"        5.000   Constant B"
"        0.820   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"              Maximum intensity           202.437    mm/hr"
"              Total depth                  60.381    mm"
"           5   25hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 11"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          11   ROW upper sump - Sump 1"
"       46.000   % Impervious"
"        0.300   Total Area"
"        8.000   Flow length"
"        2.000   Overland Slope"
"        0.162   Pervious Area"
"        8.000   Pervious length"
"        2.000   Pervious slope"
"        0.138   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.225   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.800   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.065     0.000     0.000     0.000 c.m/sec"
"              Catchment 11           Pervious   Impervious Total Area "
"              Surface Area           0.162      0.138      0.300      hectare"
"              Time of concentration  8.305      0.509      2.444      minutes"
"              Time to Centroid       104.946    85.754     90.516     minutes"
"              Rainfall depth         60.381     60.381     60.381     mm"
"              Rainfall volume        97.82      83.33      181.14     c.m"
"              Rainfall losses        46.792     12.049     30.811     mm"
"              Runoff depth           13.589     48.332     29.571     mm"
"              Runoff volume          22.01      66.70      88.71      c.m"
"              Runoff coefficient     0.225      0.800      0.490      "
"              Maximum flow           0.012      0.063      0.065      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                     0.065     0.065     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.065   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"          0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.500   Gradient   %"
"              Depth of flow                 0.055    metre"
"              Velocity                      0.430    m/sec"
"              Channel capacity            148.463    c.m/sec"
"              Critical depth                0.051    metre"
" 53          ROUTE    Channel Route 76"
"       76.00      Channel Route 76 Reach length   ( metre)"
"        0.473   X-factor <= 0.5"
"      132.710   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      100.000   Routing time step   ( seconds)"
"              1   No. of sub-reaches"
"               Peak outflow                 0.054    c.m/sec"
"                     0.065     0.065     0.054     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"           5   Next link "
"                     0.065     0.054     0.054     0.000"
" 57          TRENCH Design d/s of 11"
"        0.054   Peak inflow"
"       88.713   Hydrograph volume"
"      247.810   Ground elevation"
"      245.720   Downstream trench invert"
"        1.030   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       37.500   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.720     0.000       0.0"
"                245.771     0.000       0.6"
"                245.822     0.000       1.3"
"                245.873     0.000       2.0"
"                245.924     0.000       2.7"
"                245.975     0.000       3.6"
"                246.026     0.000       4.5"
"                246.077     0.000       5.4"
"                246.128     0.000       6.7"
"                246.179     0.000       8.2"
"                246.230     0.000       9.8"
"                246.281     0.000      11.5"
"                246.332     0.000      13.2"
"                246.383     0.000      14.9"
"                246.434     0.000      16.5"
"                246.485     0.000      17.9"
"                246.536     0.000      19.3"
"                246.587     0.000      20.9"
"                246.638     0.000      22.4"
"                246.689     0.000      24.0"
"                246.740     0.000      25.7"
"                246.790     0.000      26.1"
"                246.841     0.000      26.2"
"                246.892     0.000      26.2"
"                246.943     0.000      26.3"
"                246.994     0.000      26.4"
"                247.045     0.000      26.4"
"                247.096     0.000      26.5"
"                247.147     0.000      26.5"
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"               247.198     0.000      26.6"
"               247.249     0.000      26.6"
"               247.300     0.000      26.7"
"               247.351     0.000      26.8"
"               247.402     0.000      26.8"
"               247.453     0.000      26.9"
"               247.504     0.000      26.9"
"               247.555     0.000      27.0"
"               247.606     0.000      27.0"
"               247.657     0.000      27.1"
"               247.708     0.000      27.2"
"               247.759     0.000      27.2"
"               247.810     0.000      27.3"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.065    37.500     0.375     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.039    c.m/sec"
"            Exfiltration volume          88.089    c.m"
"            Maximum level               246.260    metre"
"            Maximum storage              10.796    c.m"
"            Centroidal lag                1.691   hours"
"            Infiltration area 2 sides    56.495   sq.metre"
"            Infiltration Base area       37.500   sq.metre"
"                 0.065     0.054     0.000     0.039 c.m/sec"
" 40         HYDROGRAPH Next link "
"           5   Next link "
"                   0.065     0.000     0.000     0.039"
" 33         CATCHMENT 12"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          12   ROW lower sump - Sump 2"
"       52.200   % Impervious"
"        0.390   Total Area"
"        8.000   Flow length"
"        2.000   Overland Slope"
"        0.186   Pervious Area"
"        8.000   Pervious length"
"        2.000   Pervious slope"
"        0.204   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.225   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.800   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.096     0.000     0.000     0.039 c.m/sec"
"            Catchment 12           Pervious   Impervious Total Area "
"            Surface Area           0.186      0.204      0.390      hectare"
"            Time of concentration  8.305      0.509      2.106      minutes"
"            Time to Centroid       104.946    85.754     89.683     minutes"
"            Rainfall depth         60.381     60.381     60.381     mm"
"            Rainfall volume        112.56     122.92     235.49     c.m"
"            Rainfall losses        46.792     12.049     28.656     mm"
"            Runoff depth           13.589     48.332     31.725     mm"
"            Runoff volume          25.33      98.39      123.73     c.m"
"            Runoff coefficient     0.225      0.800      0.525      "
"            Maximum flow           0.014      0.094      0.096      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                   0.096     0.096     0.000     0.039"
" 52         CHANNEL DESIGN"
"        0.096   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.500   Gradient   %"
"            Depth of flow                 0.064    metre"
"            Velocity                      0.473    m/sec"
"            Channel capacity            148.463    c.m/sec"
"            Critical depth                0.060    metre"
" 53         ROUTE    Channel Route 105"
"       105.00      Channel Route 105 Reach length   ( metre)"
"        0.477   X-factor <= 0.5"
"      166.318   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"           1   No. of sub-reaches"
"            Peak outflow                  0.081    c.m/sec"
"                   0.096     0.096     0.081     0.039 c.m/sec"
" 40         HYDROGRAPH Next link "
"           5   Next link "
"                   0.096     0.081     0.081     0.039"
" 57         TRENCH Design d/s of 12"
"        0.081   Peak inflow"
"      123.728   Hydrograph volume"
"      247.020   Ground elevation"
"      244.930   Downstream trench invert"
"        1.030   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       54.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.930     0.000       0.0"
"                244.981     0.000       0.9"
"                245.032     0.000       1.8"
"                245.083     0.000       2.8"
"                245.134     0.000       4.0"
"                245.185     0.000       5.2"
"                245.236     0.000       6.4"
"                245.287     0.000       7.8"
"                245.338     0.000       9.7"
"                245.389     0.000      11.8"
"                245.440     0.000      14.1"
"                245.491     0.000      16.5"
"                245.542     0.000      19.0"
"                245.593     0.000      21.4"
"                245.644     0.000      23.7"
"                245.695     0.000      25.8"
"                245.746     0.000      27.9"
"                245.797     0.000      30.0"
"                245.848     0.000      32.3"
"                245.899     0.000      34.6"
```

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"               245.950     0.000      37.0"
"               246.000     0.000      37.6"
"               246.051     0.000      37.7"
"               246.102     0.000      37.7"
"               246.153     0.000      37.8"
"               246.204     0.000      37.8"
"               246.255     0.000      37.9"
"               246.306     0.000      37.9"
"               246.357     0.000      38.0"
"               246.408     0.000      38.1"
"               246.459     0.000      38.1"
"               246.510     0.000      38.2"
"               246.561     0.000      38.2"
"               246.612     0.000      38.3"
"               246.663     0.000      38.3"
"               246.714     0.000      38.4"
"               246.765     0.000      38.5"
"               246.816     0.000      38.5"
"               246.867     0.000      38.6"
"               246.918     0.000      38.6"
"               246.969     0.000      38.7"
"               247.020     0.000      38.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               245.275    54.000     0.375     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.057    c.m/sec"
"            Exfiltration volume         122.704    c.m"
"            Maximum level               245.458    metre"
"            Maximum storage              14.946    c.m"
"            Centroidal lag                1.680   hours"
"            Infiltration area 2 sides    79.435   sq.metre"
"            Infiltration Base area       54.000   sq.metre"
"               0.096     0.081     0.000     0.057 c.m/sec"
```

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"                MIDUSS Output ----------------------------------------------->"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:               F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                                 Eng 1432-1\SWM\MIDUSS\Post ROW"
"                Output filename:                          50 Yr Pst Exfilt.out"
"                Licensee name:                                        owner"
"                Company                                             HP Inc."
"                Date & Time last used:               2020-04-28 at 12:42:24 PM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1440.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     1499.060   Coefficient A"
"        4.188   Constant B"
"        0.809   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"                Maximum intensity           229.029    mm/hr"
"                Total depth                  66.122    mm"
"            5   50hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 11"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           11   ROW upper sump - Sump 1"
"       46.000   % Impervious"
"        0.300   Total Area"
"        8.000   Flow length"
"        2.000   Overland Slope"
"        0.162   Pervious Area"
"        8.000   Pervious length"
"        2.000   Pervious slope"
"        0.138   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.244   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.808   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.075     0.000     0.000     0.000 c.m/sec"
"             Catchment 11           Pervious   Impervious Total Area "
"             Surface Area           0.162      0.138      0.300      hectare"
"             Time of concentration  7.579      0.483      2.340      minutes"
"             Time to Centroid       104.156    85.540     90.410     minutes"
"             Rainfall depth         66.122     66.122     66.122     mm"
"             Rainfall volume        107.12     91.25      198.37     c.m"
"             Rainfall losses        50.005     12.727     32.857     mm"
"             Runoff depth           16.117     53.394     33.264     mm"
"             Runoff volume          26.11      73.68      99.79      c.m"
"             Runoff coefficient     0.244      0.808      0.503      "
"             Maximum flow           0.015      0.072      0.075      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                     0.075     0.075     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.075   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.500   Gradient   %"
"             Depth of flow                 0.058    metre"
"             Velocity                      0.445    m/sec"
"             Channel capacity            148.463    c.m/sec"
"             Critical depth                0.054    metre"
" 53          ROUTE    Channel Route 76"
"       76.00      Channel Route 76 Reach length   ( metre)"
"        0.471   X-factor <= 0.5"
"      128.046   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      100.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.060    c.m/sec"
"                   0.075     0.075     0.060     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                   0.075     0.060     0.060     0.000"
" 57          TRENCH Design d/s of 11"
"        0.060   Peak inflow"
"       99.793   Hydrograph volume"
"      247.810   Ground elevation"
"      245.720   Downstream trench invert"
"        1.030   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       37.500   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.720     0.000       0.0"
"                245.771     0.000       0.6"
"                245.822     0.000       1.3"
"                245.873     0.000       2.0"
"                245.924     0.000       2.7"
"                245.975     0.000       3.6"
"                246.026     0.000       4.5"
"                246.077     0.000       5.4"
"                246.128     0.000       6.7"
"                246.179     0.000       8.2"
"                246.230     0.000       9.8"
"                246.281     0.000      11.5"
"                246.332     0.000      13.2"
"                246.383     0.000      14.9"
"                246.434     0.000      16.5"
"                246.485     0.000      17.9"
"                246.536     0.000      19.3"
"                246.587     0.000      20.9"
"                246.638     0.000      22.4"
"                246.689     0.000      24.0"
"                246.740     0.000      25.7"
"                246.790     0.000      26.1"
"                246.841     0.000      26.2"
"                246.892     0.000      26.2"
"                246.943     0.000      26.3"
"                246.994     0.000      26.4"
"                247.045     0.000      26.4"
"                247.096     0.000      26.5"
"                247.147     0.000      26.5"
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"               247.198     0.000      26.6"
"               247.249     0.000      26.6"
"               247.300     0.000      26.7"
"               247.351     0.000      26.8"
"               247.402     0.000      26.8"
"               247.453     0.000      26.9"
"               247.504     0.000      26.9"
"               247.555     0.000      27.0"
"               247.606     0.000      27.0"
"               247.657     0.000      27.1"
"               247.708     0.000      27.2"
"               247.759     0.000      27.2"
"               247.810     0.000      27.3"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.065    37.500     0.375     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                  1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.043    c.m/sec"
"            Exfiltration volume          99.703    c.m"
"            Maximum level               246.336    metre"
"            Maximum storage              13.291    c.m"
"            Centroidal lag                1.704   hours"
"            Infiltration area 2 sides    64.341   sq.metre"
"            Infiltration Base area       37.500   sq.metre"
"                 0.075     0.060     0.000     0.043 c.m/sec"
" 40         HYDROGRAPH Next link "
"           5   Next link "
"                    0.075     0.000     0.000     0.043"
" 33         CATCHMENT 12"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          12   ROW lower sump - Sump 2"
"       52.200   % Impervious"
"        0.390   Total Area"
"        8.000   Flow length"
"        2.000   Overland Slope"
"        0.186   Pervious Area"
"        8.000   Pervious length"
"        2.000   Pervious slope"
"        0.204   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.244   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.808   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.110     0.000     0.000     0.043 c.m/sec"
"            Catchment 12           Pervious   Impervious Total Area "
"            Surface Area           0.186      0.204      0.390      hectare"
"            Time of concentration  7.579      0.483      2.020      minutes"
"            Time to Centroid       104.156    85.540     89.571     minutes"
"            Rainfall depth         66.122     66.122     66.122     mm"
"            Rainfall volume        123.26     134.61     257.87     c.m"
"            Rainfall losses        50.005     12.727     30.546     mm"
"            Runoff depth           16.117     53.394     35.576     mm"
"            Runoff volume          30.04      108.70     138.74     c.m"
"            Runoff coefficient     0.244      0.808      0.538      "
"            Maximum flow           0.018      0.107      0.110      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                    0.110     0.110     0.000     0.043"
" 52         CHANNEL DESIGN"
"        0.110   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.500   Gradient   %"
"            Depth of flow                 0.067    metre"
"            Velocity                      0.490    m/sec"
"            Channel capacity            148.463    c.m/sec"
"            Critical depth                0.063    metre"
" 53         ROUTE    Channel Route 105"
"      105.00      Channel Route 105 Reach length   ( metre)"
"        0.476   X-factor <= 0.5"
"      160.753   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"           1   No. of sub-reaches"
"            Peak outflow                  0.091    c.m/sec"
"                    0.110     0.110     0.091     0.043 c.m/sec"
" 40         HYDROGRAPH Next link "
"           5   Next link "
"                    0.110     0.091     0.091     0.043"
" 57         TRENCH Design d/s of 12"
"        0.091   Peak inflow"
"      138.745   Hydrograph volume"
"      247.020   Ground elevation"
"      244.930   Downstream trench invert"
"        1.030   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       54.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.930     0.000       0.0"
"                244.981     0.000       0.9"
"                245.032     0.000       1.8"
"                245.083     0.000       2.8"
"                245.134     0.000       4.0"
"                245.185     0.000       5.2"
"                245.236     0.000       6.4"
"                245.287     0.000       7.8"
"                245.338     0.000       9.7"
"                245.389     0.000      11.8"
"                245.440     0.000      14.1"
"                245.491     0.000      16.5"
"                245.542     0.000      19.0"
"                245.593     0.000      21.4"
"                245.644     0.000      23.7"
"                245.695     0.000      25.8"
"                245.746     0.000      27.9"
"                245.797     0.000      30.0"
"                245.848     0.000      32.3"
"                245.899     0.000      34.6"
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"               245.950     0.000      37.0"
"               246.000     0.000      37.6"
"               246.051     0.000      37.7"
"               246.102     0.000      37.7"
"               246.153     0.000      37.8"
"               246.204     0.000      37.8"
"               246.255     0.000      37.9"
"               246.306     0.000      37.9"
"               246.357     0.000      38.0"
"               246.408     0.000      38.1"
"               246.459     0.000      38.1"
"               246.510     0.000      38.2"
"               246.561     0.000      38.2"
"               246.612     0.000      38.3"
"               246.663     0.000      38.3"
"               246.714     0.000      38.4"
"               246.765     0.000      38.5"
"               246.816     0.000      38.5"
"               246.867     0.000      38.6"
"               246.918     0.000      38.6"
"               246.969     0.000      38.7"
"               247.020     0.000      38.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               245.275    54.000     0.375     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.063    c.m/sec"
"            Exfiltration volume         138.711    c.m"
"            Maximum level               245.528    metre"
"            Maximum storage              18.273    c.m"
"            Centroidal lag                1.693   hours"
"            Infiltration area 2 sides    89.943   sq.metre"
"            Infiltration Base area       54.000   sq.metre"
"               0.110     0.091     0.000     0.063 c.m/sec"
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"                MIDUSS Output ------------------------------------------------>"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:               F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                                    Eng 1432-1\SWM\MIDUSS\Post ROW"
"                Output filename:                        100 Yr Pst Exfilt.out"
"                Licensee name:                                          owner"
"                Company                                               HP Inc."
"                Date & Time last used:               2020-04-28 at 12:41:25 PM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1440.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     1499.530   Coefficient A"
"        3.297   Constant B"
"        0.794   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"                Maximum intensity           257.108    mm/hr"
"                Total depth                  71.801    mm"
"            6   100hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 11"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           11   ROW upper sump - Sump 1"
"       46.000   % Impervious"
"        0.300   Total Area"
"        8.000   Flow length"
"        2.000   Overland Slope"
"        0.162   Pervious Area"
"        8.000   Pervious length"
"        2.000   Pervious slope"
"        0.138   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.260   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.814   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.086     0.000     0.000     0.000 c.m/sec"
"                Catchment 11           Pervious   Impervious Total Area "
"                Surface Area           0.162      0.138      0.300      hectare"
"                Time of concentration  6.968      0.460      2.237      minutes"
"                Time to Centroid       103.705    85.455     90.436     minutes"
"                Rainfall depth         71.801     71.801     71.801     mm"
"                Rainfall volume        116.32     99.09      215.40     c.m"
"                Rainfall losses        53.110     13.348     34.820     mm"
"                Runoff depth           18.691     58.454     36.982     mm"
"                Runoff volume          30.28      80.67      110.94     c.m"
"                Runoff coefficient     0.260      0.814      0.515      "
"                Maximum flow           0.018      0.082      0.086      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                     0.086     0.086     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.086   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
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"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.500   Gradient   %"
"                Depth of flow                 0.061    metre"
"                Velocity                      0.461    m/sec"
"                Channel capacity            148.463    c.m/sec"
"                Critical depth                0.057    metre"
" 53          ROUTE    Channel Route 76"
"       76.00      Channel Route 76 Reach length   ( metre)"
"        0.470   X-factor <= 0.5"
"      123.739   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      100.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"                Peak outflow                  0.068    c.m/sec"
"                      0.086     0.086     0.068     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                      0.086     0.068     0.068     0.000"
" 57          TRENCH Design d/s of 11"
"        0.068   Peak inflow"
"      110.945   Hydrograph volume"
"      247.810   Ground elevation"
"      245.720   Downstream trench invert"
"        1.030   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       37.500   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.720     0.000       0.0"
"                245.771     0.000       0.6"
"                245.822     0.000       1.3"
"                245.873     0.000       2.0"
"                245.924     0.000       2.7"
"                245.975     0.000       3.6"
"                246.026     0.000       4.5"
"                246.077     0.000       5.4"
"                246.128     0.000       6.7"
"                246.179     0.000       8.2"
"                246.230     0.000       9.8"
"                246.281     0.000      11.5"
"                246.332     0.000      13.2"
"                246.383     0.000      14.9"
"                246.434     0.000      16.5"
"                246.485     0.000      17.9"
"                246.536     0.000      19.3"
"                246.587     0.000      20.9"
"                246.638     0.000      22.4"
"                246.689     0.000      24.0"
"                246.740     0.000      25.7"
"                246.790     0.000      26.1"
"                246.841     0.000      26.2"
"                246.892     0.000      26.2"
"                246.943     0.000      26.3"
"                246.994     0.000      26.4"
"                247.045     0.000      26.4"
"                247.096     0.000      26.5"
"                247.147     0.000      26.5"
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"               247.198     0.000      26.6"
"               247.249     0.000      26.6"
"               247.300     0.000      26.7"
"               247.351     0.000      26.8"
"               247.402     0.000      26.8"
"               247.453     0.000      26.9"
"               247.504     0.000      26.9"
"               247.555     0.000      27.0"
"               247.606     0.000      27.0"
"               247.657     0.000      27.1"
"               247.708     0.000      27.2"
"               247.759     0.000      27.2"
"               247.810     0.000      27.3"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.065    37.500     0.375     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.048    c.m/sec"
"            Exfiltration volume         110.620    c.m"
"            Maximum level               246.416    metre"
"            Maximum storage              15.918    c.m"
"            Centroidal lag                1.718   hours"
"            Infiltration area 2 sides    72.772   sq.metre"
"            Infiltration Base area       37.500   sq.metre"
"                 0.086     0.068     0.000     0.048 c.m/sec"
" 40         HYDROGRAPH Next link "
"           5   Next link "
"                  0.086     0.000     0.000     0.048"
" 33         CATCHMENT 12"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          12   ROW lower sump - Sump 2"
"       52.200   % Impervious"
"        0.390   Total Area"
"        8.000   Flow length"
"        2.000   Overland Slope"
"        0.186   Pervious Area"
"        8.000   Pervious length"
"        2.000   Pervious slope"
"        0.204   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.260   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.814   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.126     0.000     0.000     0.048 c.m/sec"
"            Catchment 12           Pervious   Impervious Total Area "
"            Surface Area           0.186      0.204      0.390      hectare"
"            Time of concentration  6.968      0.460      1.934      minutes"
"            Time to Centroid       103.705    85.455     89.588     minutes"
"            Rainfall depth         71.801     71.801     71.801     mm"
"            Rainfall volume        133.85     146.17     280.02     c.m"
"            Rainfall losses        53.110     13.348     32.354     mm"
"            Runoff depth           18.691     58.454     39.447     mm"
"            Runoff volume          34.84      119.00     153.84     c.m"
"            Runoff coefficient     0.260      0.814      0.549      "
"            Maximum flow           0.021      0.121      0.126      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.126     0.126     0.000     0.048"
" 52         CHANNEL DESIGN"
"        0.126   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.500   Gradient   %"
"            Depth of flow                 0.071    metre"
"            Velocity                      0.507    m/sec"
"            Channel capacity            148.463    c.m/sec"
"            Critical depth                0.066    metre"
" 53         ROUTE    Channel Route 105"
"       105.00      Channel Route 105 Reach length   ( metre)"
"        0.475   X-factor <= 0.5"
"      155.387   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"            Peak outflow                  0.101    c.m/sec"
"                  0.126     0.126     0.101     0.048 c.m/sec"
" 40         HYDROGRAPH Next link "
"           5   Next link "
"                  0.126     0.101     0.101     0.048"
" 57         TRENCH Design d/s of 12"
"        0.101   Peak inflow"
"      153.843   Hydrograph volume"
"      247.020   Ground elevation"
"      244.930   Downstream trench invert"
"        1.030   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       54.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"               244.930     0.000       0.0"
"               244.981     0.000       0.9"
"               245.032     0.000       1.8"
"               245.083     0.000       2.8"
"               245.134     0.000       4.0"
"               245.185     0.000       5.2"
"               245.236     0.000       6.4"
"               245.287     0.000       7.8"
"               245.338     0.000       9.7"
"               245.389     0.000      11.8"
"               245.440     0.000      14.1"
"               245.491     0.000      16.5"
"               245.542     0.000      19.0"
"               245.593     0.000      21.4"
"               245.644     0.000      23.7"
"               245.695     0.000      25.8"
"               245.746     0.000      27.9"
"               245.797     0.000      30.0"
"               245.848     0.000      32.3"
"               245.899     0.000      34.6"
```

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"               245.950     0.000      37.0"
"               246.000     0.000      37.6"
"               246.051     0.000      37.7"
"               246.102     0.000      37.7"
"               246.153     0.000      37.8"
"               246.204     0.000      37.8"
"               246.255     0.000      37.9"
"               246.306     0.000      37.9"
"               246.357     0.000      38.0"
"               246.408     0.000      38.1"
"               246.459     0.000      38.1"
"               246.510     0.000      38.2"
"               246.561     0.000      38.2"
"               246.612     0.000      38.3"
"               246.663     0.000      38.3"
"               246.714     0.000      38.4"
"               246.765     0.000      38.5"
"               246.816     0.000      38.5"
"               246.867     0.000      38.6"
"               246.918     0.000      38.6"
"               246.969     0.000      38.7"
"               247.020     0.000      38.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               245.275    54.000     0.375     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.069    c.m/sec"
"            Exfiltration volume         153.660    c.m"
"            Maximum level               245.600    metre"
"            Maximum storage              21.740    c.m"
"            Centroidal lag                1.705   hours"
"            Infiltration area 2 sides   100.878   sq.metre"
"            Infiltration Base area       54.000   sq.metre"
"               0.126     0.101     0.000     0.069 c.m/sec"
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"                MIDUSS Output ----------------------------------------------->"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:               F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                                    Eng 1432-1\SWM\MIDUSS\Post ROW"
"                Output filename:                        250 Yr Pst Exfilt.out"
"                Licensee name:                                          owner"
"                Company                                               HP Inc."
"                Date & Time last used:               2020-04-28 at 12:36:42 PM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1440.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     3048.220   Coefficient A"
"       10.030   Constant B"
"        0.888   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"              Maximum intensity           254.614    mm/hr"
"              Total depth                  86.611    mm"
"            6   250hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 11"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           11   ROW upper sump - Sump 1"
"       46.000   % Impervious"
"        0.300   Total Area"
"        8.000   Flow length"
"        2.000   Overland Slope"
"        0.162   Pervious Area"
"        8.000   Pervious length"
"        2.000   Pervious slope"
"        0.138   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.302   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.817   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.089     0.000     0.000     0.000 c.m/sec"
"              Catchment 11           Pervious   Impervious Total Area "
"              Surface Area           0.162      0.138      0.300      hectare"
"              Time of concentration  6.555      0.460      2.304      minutes"
"              Time to Centroid       99.896     83.833     88.694     minutes"
"              Rainfall depth         86.611     86.611     86.611     mm"
"              Rainfall volume        140.31     119.52     259.83     c.m"
"              Rainfall losses        60.444     15.812     39.913     mm"
"              Runoff depth           26.167     70.799     46.698     mm"
"              Runoff volume          42.39      97.70      140.09     c.m"
"              Runoff coefficient     0.302      0.817      0.539      "
"              Maximum flow           0.025      0.082      0.089      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.089     0.089     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.089   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.500   Gradient   %"
"              Depth of flow                 0.062    metre"
"              Velocity                      0.465    m/sec"
"              Channel capacity            148.463    c.m/sec"
"              Critical depth                0.058    metre"
" 53          ROUTE    Channel Route 76"
"       76.00      Channel Route 76 Reach length   ( metre)"
"        0.469   X-factor <= 0.5"
"      122.683   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      100.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"              Peak outflow                  0.081    c.m/sec"
"                    0.089     0.089     0.081     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"             5   Next link "
"                    0.089     0.081     0.081     0.000"
" 57          TRENCH Design d/s of 11"
"        0.081   Peak inflow"
"      140.093   Hydrograph volume"
"      247.810   Ground elevation"
"      245.720   Downstream trench invert"
"        1.030   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       37.500   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.720     0.000       0.0"
"                245.771     0.000       0.6"
"                245.822     0.000       1.3"
"                245.873     0.000       2.0"
"                245.924     0.000       2.7"
"                245.975     0.000       3.6"
"                246.026     0.000       4.5"
"                246.077     0.000       5.4"
"                246.128     0.000       6.7"
"                246.179     0.000       8.2"
"                246.230     0.000       9.8"
"                246.281     0.000      11.5"
"                246.332     0.000      13.2"
"                246.383     0.000      14.9"
"                246.434     0.000      16.5"
"                246.485     0.000      17.9"
"                246.536     0.000      19.3"
"                246.587     0.000      20.9"
"                246.638     0.000      22.4"
"                246.689     0.000      24.0"
"                246.740     0.000      25.7"
"                246.790     0.000      26.1"
"                246.841     0.000      26.2"
"                246.892     0.000      26.2"
"                246.943     0.000      26.3"
"                246.994     0.000      26.4"
"                247.045     0.000      26.4"
"                247.096     0.000      26.5"
"                247.147     0.000      26.5"
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"               247.198     0.000      26.6"
"               247.249     0.000      26.6"
"               247.300     0.000      26.7"
"               247.351     0.000      26.8"
"               247.402     0.000      26.8"
"               247.453     0.000      26.9"
"               247.504     0.000      26.9"
"               247.555     0.000      27.0"
"               247.606     0.000      27.0"
"               247.657     0.000      27.1"
"               247.708     0.000      27.2"
"               247.759     0.000      27.2"
"               247.810     0.000      27.3"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.065    37.500     0.375     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.001    c.m"
"            Peak exfiltration             0.058    c.m/sec"
"            Exfiltration volume         140.239    c.m"
"            Maximum level               246.594    metre"
"            Maximum storage              21.078    c.m"
"            Centroidal lag                1.705   hours"
"            Infiltration area 2 sides    91.407   sq.metre"
"            Infiltration Base area       37.500   sq.metre"
"                 0.089     0.081     0.000     0.058 c.m/sec"
" 40         HYDROGRAPH Next link "
"           5   Next link "
"                   0.089     0.000     0.000     0.058"
" 33         CATCHMENT 12"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          12   ROW lower sump - Sump 2"
"       52.200   % Impervious"
"        0.390   Total Area"
"        8.000   Flow length"
"        2.000   Overland Slope"
"        0.186   Pervious Area"
"        8.000   Pervious length"
"        2.000   Pervious slope"
"        0.204   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.302   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.817   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.129     0.000     0.000     0.058 c.m/sec"
"            Catchment 12           Pervious   Impervious Total Area "
"            Surface Area           0.186      0.204      0.390      hectare"
"            Time of concentration  6.555      0.460      2.001      minutes"
"            Time to Centroid       99.896     83.833     87.895     minutes"
"            Rainfall depth         86.611     86.611     86.611     mm"
"            Rainfall volume        161.46     176.32     337.78     c.m"
"            Rainfall losses        60.444     15.812     37.146     mm"
"            Runoff depth           26.167     70.799     49.465     mm"
"            Runoff volume          48.78      144.13     192.91     c.m"
"            Runoff coefficient     0.302      0.817      0.571      "
"            Maximum flow           0.029      0.121      0.129      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                   0.129     0.129     0.000     0.058"
" 52         CHANNEL DESIGN"
"        0.129   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.500   Gradient   %"
"            Depth of flow                 0.071    metre"
"            Velocity                      0.510    m/sec"
"            Channel capacity            148.463    c.m/sec"
"            Critical depth                0.067    metre"
" 53         ROUTE    Channel Route 105"
"      105.00      Channel Route 105 Reach length   ( metre)"
"        0.475   X-factor <= 0.5"
"      154.475   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"           1   No. of sub-reaches"
"            Peak outflow                  0.116    c.m/sec"
"                   0.129     0.129     0.116     0.058 c.m/sec"
" 40         HYDROGRAPH Next link "
"           5   Next link "
"                   0.129     0.116     0.116     0.058"
" 57         TRENCH Design d/s of 12"
"        0.116   Peak inflow"
"      192.914   Hydrograph volume"
"      247.020   Ground elevation"
"      244.930   Downstream trench invert"
"        1.030   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       54.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.930     0.000       0.0"
"                244.981     0.000       0.9"
"                245.032     0.000       1.8"
"                245.083     0.000       2.8"
"                245.134     0.000       4.0"
"                245.185     0.000       5.2"
"                245.236     0.000       6.4"
"                245.287     0.000       7.8"
"                245.338     0.000       9.7"
"                245.389     0.000      11.8"
"                245.440     0.000      14.1"
"                245.491     0.000      16.5"
"                245.542     0.000      19.0"
"                245.593     0.000      21.4"
"                245.644     0.000      23.7"
"                245.695     0.000      25.8"
"                245.746     0.000      27.9"
"                245.797     0.000      30.0"
"                245.848     0.000      32.3"
"                245.899     0.000      34.6"
```

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"               245.950     0.000      37.0"
"               246.000     0.000      37.6"
"               246.051     0.000      37.7"
"               246.102     0.000      37.7"
"               246.153     0.000      37.8"
"               246.204     0.000      37.8"
"               246.255     0.000      37.9"
"               246.306     0.000      37.9"
"               246.357     0.000      38.0"
"               246.408     0.000      38.1"
"               246.459     0.000      38.1"
"               246.510     0.000      38.2"
"               246.561     0.000      38.2"
"               246.612     0.000      38.3"
"               246.663     0.000      38.3"
"               246.714     0.000      38.4"
"               246.765     0.000      38.5"
"               246.816     0.000      38.5"
"               246.867     0.000      38.6"
"               246.918     0.000      38.6"
"               246.969     0.000      38.7"
"               247.020     0.000      38.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               245.275    54.000     0.375     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.084    c.m/sec"
"            Exfiltration volume         192.293    c.m"
"            Maximum level               245.753    metre"
"            Maximum storage              28.148    c.m"
"            Centroidal lag                1.689   hours"
"            Infiltration area 2 sides   123.879   sq.metre"
"            Infiltration Base area      54.000   sq.metre"
"               0.129     0.116     0.000     0.084 c.m/sec"
```

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"                MIDUSS Output ------------------------------------------------>"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                                    Eng 1432-1\SWM\MIDUSS\Post ROW"
"                Output filename:                    250 Yr SCS Pst Exfilt.out"
"                Licensee name:                                         owner"
"                Company                                              HP Inc."
"                Date & Time last used:              2020-04-28 at 12:40:10 PM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"     1440.000   Max. Storm length"
"     3000.000   Max. Hydrograph"
" 32          STORM Mass Curve"
"            3   Mass Curve"
"      119.000   Rainfall depth"
"     1440.000   Duration"
"           48   C:\Program Files (x86)\MIDUSS\SCS_Type2_24hr.mrd   SCS 24 hour Type II storm"
"             Maximum intensity           145.657    mm/hr"
"             Total depth                 119.000    mm"
"            7   0250hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 11"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           11   ROW upper sump - Sump 1"
"       46.000   % Impervious"
"        0.300   Total Area"
"        8.000   Flow length"
"        2.000   Overland Slope"
"        0.162   Pervious Area"
"        8.000   Pervious length"
"        2.000   Pervious slope"
"        0.138   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.382   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.875   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.077     0.000     0.000     0.000 c.m/sec"
"             Catchment 11           Pervious   Impervious Total Area "
"             Surface Area           0.162      0.138      0.300      hectare"
"             Time of concentration  6.216      0.571      2.482      minutes"
"             Time to Centroid       839.350    750.107    780.324    minutes"
"             Rainfall depth         119.000    119.000    119.000    mm"
"             Rainfall volume        192.78     164.22     357.00     c.m"
"             Rainfall losses        73.569     14.820     46.545     mm"
"             Runoff depth           45.431     104.180    72.455     mm"
"             Runoff volume          73.60      143.77     217.37     c.m"
"             Runoff coefficient     0.382      0.875      0.609      "
"             Maximum flow           0.030      0.047      0.077      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.077     0.077     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.077   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.500   Gradient   %"
"             Depth of flow                 0.059    metre"
"             Velocity                      0.448    m/sec"
"             Channel capacity            148.463    c.m/sec"
"             Critical depth                0.055    metre"
" 53          ROUTE    Channel Route 76"
"        76.00      Channel Route 76 Reach length   ( metre)"
"        0.471   X-factor <= 0.5"
"      127.206   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      100.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.073    c.m/sec"
"                    0.077     0.077     0.073     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.077     0.073     0.073     0.000"
" 57          TRENCH Design d/s of 11"
"        0.073   Peak inflow"
"      217.366   Hydrograph volume"
"      247.810   Ground elevation"
"      245.720   Downstream trench invert"
"        1.030   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       37.500   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.720     0.000       0.0"
"                245.771     0.000       0.6"
"                245.822     0.000       1.3"
"                245.873     0.000       2.0"
"                245.924     0.000       2.7"
"                245.975     0.000       3.6"
"                246.026     0.000       4.5"
"                246.077     0.000       5.4"
"                246.128     0.000       6.7"
"                246.179     0.000       8.2"
"                246.230     0.000       9.8"
"                246.281     0.000      11.5"
"                246.332     0.000      13.2"
"                246.383     0.000      14.9"
"                246.434     0.000      16.5"
"                246.485     0.000      17.9"
"                246.536     0.000      19.3"
"                246.587     0.000      20.9"
"                246.638     0.000      22.4"
"                246.689     0.000      24.0"
"                246.740     0.000      25.7"
"                246.790     0.000      26.1"
"                246.841     0.000      26.2"
"                246.892     0.000      26.2"
"                246.943     0.000      26.3"
"                246.994     0.000      26.4"
"                247.045     0.000      26.4"
"                247.096     0.000      26.5"
"                247.147     0.000      26.5"
"                247.198     0.000      26.6"
"                247.249     0.000      26.6"
"                247.300     0.000      26.7"
```

```
"               247.351     0.000      26.8"
"               247.402     0.000      26.8"
"               247.453     0.000      26.9"
"               247.504     0.000      26.9"
"               247.555     0.000      27.0"
"               247.606     0.000      27.0"
"               247.657     0.000      27.1"
"               247.708     0.000      27.2"
"               247.759     0.000      27.2"
"               247.810     0.000      27.3"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.065    37.500     0.375     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.001    c.m"
"            Peak exfiltration             0.055    c.m/sec"
"            Exfiltration volume         216.773    c.m"
"            Maximum level               246.541    metre"
"            Maximum storage              19.492    c.m"
"            Centroidal lag               13.363   hours"
"            Infiltration area 2 sides   85.832   sq.metre"
"            Infiltration Base area      37.500   sq.metre"
"               0.077     0.073     0.000     0.055 c.m/sec"
" 40         HYDROGRAPH Next link "
"           5   Next link "
"                  0.077     0.000     0.000     0.055"
" 33         CATCHMENT 12"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          12   ROW lower sump - Sump 2"
"       52.200   % Impervious"
"        0.390   Total Area"
"        8.000   Flow length"
"        2.000   Overland Slope"
"        0.186   Pervious Area"
"        8.000   Pervious length"
"        2.000   Pervious slope"
"        0.204   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.382   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.875   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"               0.103     0.000     0.000     0.055 c.m/sec"
"            Catchment 12           Pervious   Impervious Total Area "
"            Surface Area           0.186      0.204      0.390      hectare"
"            Time of concentration  6.216      0.571      2.182      minutes"
"            Time to Centroid       839.351    750.107    775.575    minutes"
"            Rainfall depth         119.000    119.000    119.000    mm"
"            Rainfall volume        221.84     242.26     464.10     c.m"
"            Rainfall losses        73.569     14.820     42.902     mm"
"            Runoff depth           45.431     104.180    76.098     mm"
"            Runoff volume          84.69      212.09     296.78     c.m"
"            Runoff coefficient     0.382      0.875      0.639      "
"            Maximum flow           0.035      0.070      0.103      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
```

```
"           4   Add Runoff "
"                  0.103     0.103     0.000     0.055"
" 52          CHANNEL DESIGN"
"       0.103   Current peak flow    c.m/sec"
"       0.015   Manning 'n'"
"          0.   Cross-section type: 0=trapezoidal; 1=general"
"       0.000   Basewidth    metre"
"      50.000   Left bank slope"
"      50.000   Right bank slope"
"       1.000   Channel depth    metre"
"       0.500   Gradient   %"
"            Depth of flow                 0.065    metre"
"            Velocity                      0.482    m/sec"
"            Channel capacity            148.463    c.m/sec"
"            Critical depth                0.061    metre"
" 53         ROUTE    Channel Route 105"
"     105.00      Channel Route 105 Reach length   ( metre)"
"       0.477   X-factor <= 0.5"
"     163.417   K-lag   ( seconds)"
"       0.000   Default(0) or user spec.(1) values used"
"       0.500   X-factor <= 0.5"
"      30.000   K-lag   ( seconds)"
"       0.500   Beta weighting factor"
"     150.000   Routing time step   ( seconds)"
"           1   No. of sub-reaches"
"            Peak outflow                  0.098    c.m/sec"
"                  0.103     0.103     0.098     0.055 c.m/sec"
" 40         HYDROGRAPH Next link "
"           5   Next link "
"                  0.103     0.098     0.098     0.055"
" 57          TRENCH Design d/s of 12"
"       0.098   Peak inflow"
"     296.783   Hydrograph volume"
"     247.020   Ground elevation"
"     244.930   Downstream trench invert"
"       1.030   Trench height"
"     243.700   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"      54.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"               Level Discharge    Volume"
"               244.930     0.000       0.0"
"               244.981     0.000       0.9"
"               245.032     0.000       1.8"
"               245.083     0.000       2.8"
"               245.134     0.000       4.0"
"               245.185     0.000       5.2"
"               245.236     0.000       6.4"
"               245.287     0.000       7.8"
"               245.338     0.000       9.7"
"               245.389     0.000      11.8"
"               245.440     0.000      14.1"
"               245.491     0.000      16.5"
"               245.542     0.000      19.0"
"               245.593     0.000      21.4"
"               245.644     0.000      23.7"
"               245.695     0.000      25.8"
"               245.746     0.000      27.9"
"               245.797     0.000      30.0"
"               245.848     0.000      32.3"
"               245.899     0.000      34.6"
"               245.950     0.000      37.0"
"               246.000     0.000      37.6"
"               246.051     0.000      37.7"
```

```
"               246.102     0.000      37.7"
"               246.153     0.000      37.8"
"               246.204     0.000      37.8"
"               246.255     0.000      37.9"
"               246.306     0.000      37.9"
"               246.357     0.000      38.0"
"               246.408     0.000      38.1"
"               246.459     0.000      38.1"
"               246.510     0.000      38.2"
"               246.561     0.000      38.2"
"               246.612     0.000      38.3"
"               246.663     0.000      38.3"
"               246.714     0.000      38.4"
"               246.765     0.000      38.5"
"               246.816     0.000      38.5"
"               246.867     0.000      38.6"
"               246.918     0.000      38.6"
"               246.969     0.000      38.7"
"               247.020     0.000      38.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               245.275    54.000     0.375     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.001    c.m"
"            Peak exfiltration             0.076    c.m/sec"
"            Exfiltration volume         296.634    c.m"
"            Maximum level               245.672    metre"
"            Maximum storage              24.828    c.m"
"            Centroidal lag               13.256   hours"
"            Infiltration area 2 sides   111.632   sq.metre"
"            Infiltration Base area       54.000   sq.metre"
"                 0.103     0.098     0.000     0.076 c.m/sec"
```

APPENDIX D

Catchbasin Inlet Capacity Calculations

CATCHBASIN INLET CAPACITY CALCULATIONS

Structure ID	Head Calculation				Weir Inlet Flow (m^3/s)	Orifice inlet Flow (m^3/s)	250 Year Peak Flow (m^3/s)	Description
	Grate Elev. (m)	Spillover Elev. (m)	Max. Head (m)	Calculated Head (m)				
TICB.1	246.92	247.04	0.12	0.112	0.058	0.217	0.116/2=0.058	Sump 2 Exfiltration Trench Inlet
TICB.2	246.92	247.04	0.12	0.112	0.058	0.210	0.116/2=0.058	Sump 2 Exfiltration Trench Inlet
TICB.3	247.71	247.85	0.14	0.089	0.041	0.187	0.081/2=0.0405	Sump 1 Exfiltration Trench Inlet
TICB.4	247.71	247.85	0.14	0.089	0.041	0.187	0.081/2=0.0405	Sump 1 Exfiltration Trench Inlet

F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\Eng 1432-1\SWM\1432-1 grate inlet calculation.xlsx

Orifice Flow Inlet Calculations

1 Fish Grate CB Lid has an inlet area =	0.236	sq.m.
Orifice Coefficient	0.6	
Coefficient of Gravity =	9.81	m/sq.s.
Weir coefficient=	1.66	
length of perimeter openings	0.93	m

Inlet Capacity Approximated By the lesser of:

orifice flow $Q = CA(2gh)^{0.5}$

weir flow $Q = C_w P h^{1.5}$

APPENDIX E

Stormwater Management
Post Development – Lot Level Control Model

POST DEVELOPMENT MODELING DATA - LOT LEVEL EXFILTRATION ANALYSIS

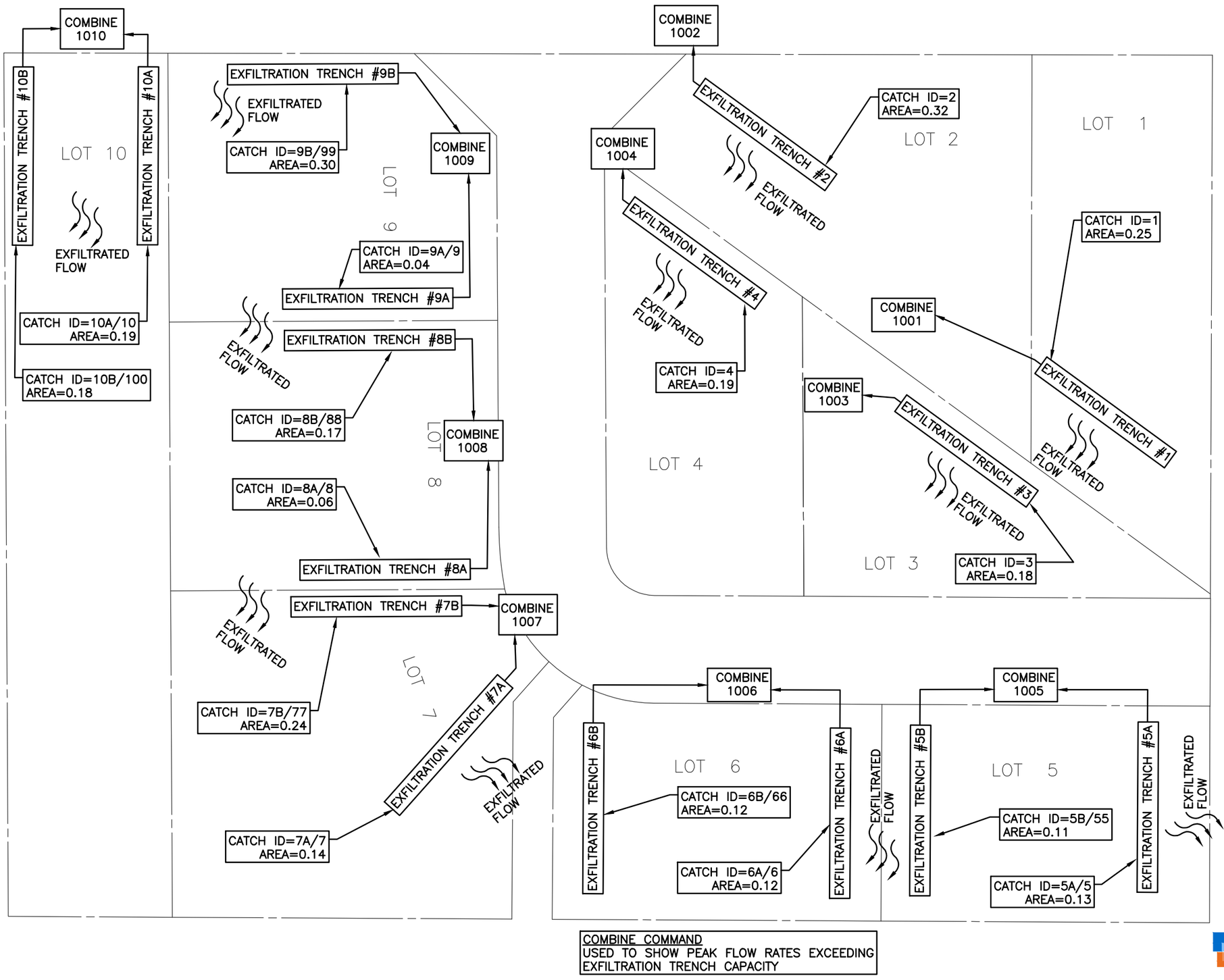
CATCHMENT NO.	LOT NO.	AREA (ha)	IMPERVIOUS (%)	IMPERVIOUS AREA (ha)	PERVIOUS LENGTH (m)	IMP. LENGTH (m)	CATCHMENT AVG. SLOPE (%)	SCS CURVE #	PERVIOUS MANNINGS (n)	Perv. Initial Abstraction (mm)	Imp. Initial Abstraction (mm)
1	1	0.25	10.0	0.025	32	40	2.0	60	0.25	5	2
2	2	0.32	12.5	0.040	25	25	2.0	60	0.25	5	2
3	3	0.18	28.0	0.050	40	35	2.0	60	0.25	5	2
4	4	0.19	21.0	0.040	40	40	2.0	60	0.25	5	2
5	5	0.13	19.0	0.025	37	26	2.0	60	0.25	5	2
55	5	0.11	23.0	0.025	37	26	2.0	60	0.25	5	2
6	6	0.12	21.0	0.025	37	26	2.0	60	0.25	5	2
66	6	0.12	21.0	0.025	37	26	2.0	60	0.25	5	2
7	7	0.14	10.0	0.014	50	24	2.0	60	0.25	5	2
77	7	0.24	16.5	0.040	54	24	2.0	60	0.25	5	2
8	8	0.06	42.0	0.025	36	24	2.0	60	0.25	5	2
88	8	0.17	15.0	0.026	55	24	2.0	60	0.25	5	2
9	9	0.04	63.0	0.025	24	24	2.0	60	0.25	5	2
99	9	0.30	10.0	0.030	70	38	2.0	60	0.25	5	2
10	10	0.19	14.0	0.027	120	24	2.0	60	0.25	5	2
100	10	0.18	14.0	0.025	110	24	2.0	60	0.25	5	2

EXFILTRATION TRENCH DATA

EXFILTRATION TRENCH ID	LOT NO.	AREA SERVED (ha)	TRENCH PARAMETERS										NATIVE SOIL PROPERTIES		
			FG OVER TRENCH	TRENCH INV. (D.S.)	BOTTOM WIDTH	TRENCH HEIGHT	TOP WIDTH	PIPE INV. (D.S.)	PIPE SIZE (mm)	VOID RATIO	SLOPE (%)	LENGTH (m)	TOTAL VOL (m3)	APPROX G.W. ELEV	APPROX. TOP OF SAND AND GRAV.	HYD. CONDUCT. (K, mm/hr)
1	1	0.25	247.30	245.25	1.00	1.00	3.00	245.65	300	0.3	0	20	12.990	243.7	246.5	1267.2
2	2	0.32	246.75	244.70	1.00	1.00	3.00	245.10	300	0.3	0	25	16.237	243.7	246.4	1267.2
3	3	0.18	247.00	244.95	1.00	1.00	3.00	245.35	300	0.3	0	16	10.392	243.9	246.4	1267.2
4	4	0.19	246.65	244.60	1.00	1.00	3.00	245.00	300	0.3	0	16	10.392	243.7	246.3	1267.2
5A	5	0.13	248.00	245.95	1.00	1.00	3.00	246.35	300	0.3	0	10	6.495	244.2	247	1267.2
5B	5	0.11	247.80	245.75	1.00	1.00	3.00	246.15	300	0.3	0	10	6.495	244.2	247.1	1267.2
6A	6	0.12	247.70	245.65	1.00	1.00	3.00	246.05	300	0.3	0	10	6.495	244.2	247.2	1267.2
6B	6	0.12	247.80	245.75	1.00	1.00	3.00	246.15	300	0.3	0	10	6.495	244.2	247.3	1267.2
7A	7	0.14	247.75	245.70	1.00	1.00	3.00	246.10	300	0.3	0	8	5.196	244.14	247.3	1267.2
7B	7	0.24	247.70	245.65	1.00	1.00	3.00	246.05	300	0.3	0	16	10.392	244.0	247.2	1267.2
8A	8	0.06	247.70	245.65	1.00	1.00	3.00	246.05	300	0.3	0	8	5.196	244.0	247.0	1267.2
8B	8	0.17	247.05	245.00	1.00	1.00	3.00	245.40	300	0.3	0	10	6.495	243.7	246.45	1267.2
9A	9	0.04	247.05	245.00	1.00	1.00	3.00	245.40	300	0.3	0	8	5.196	243.7	246.35	1267.2
9B	9	0.30	246.30	244.25	1.00	1.00	3.00	244.65	300	0.3	0	16	10.392	243.3	246	1267.2
10A	10	0.19	246.25	244.20	1.00	1.00	3.00	244.60	300	0.3	0	8	5.196	243.3	245.7	1267.2
10B	10	0.18	246.45	244.40	1.00	1.00	3.00	244.80	300	0.3	0	8	5.196	243.3	245.7	1267.2

*Volume discluding native material above**

ILDERTON ROAD



COMBINE COMMAND
USED TO SHOW PEAK FLOW RATES EXCEEDING EXFILTRATION TRENCH CAPACITY

POPLAR WOODS SUBDIVISION

POST DEVELOPMENT LOT LEVEL EXFILTRATION TRENCH MODEL SCHEMATIC

DATE: AUGUST 2020

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Lot Level Exfiltration
Trench Performance Tables

Lot 1 - Exfiltration Trench 1 Performance

STORM EVENT	TRENCH BOTTOM ELEV. (m)	MAXIMUM STORAGE (m^3)	WATER ELEVATION (m)	DEPTH OF WATER (m)	EXFILT. DISCHARGE (m^3/s)
2 Year	245.25 CONSTANT	0.2	245.28	0.03	0.005
5 Year		0.3	245.30	0.05	0.008
10 Year		0.7	245.36	0.11	0.010
25 Year		1.8	245.50	0.25	0.013
50 Year		2.9	245.60	0.35	0.016
100 Year		4.1	245.70	0.45	0.018
250 Year		8.4	245.97	0.72	0.026
250 Year-24hr		11.0	246.14	0.89	0.032

Lot 2 - Exfiltration Trench 2 Performance

STORM EVENT	TRENCH BOTTOM ELEV. (m)	MAXIMUM STORAGE (m^3)	WATER ELEVATION (m)	DEPTH OF WATER (m)	EXFILT. DISCHARGE (m^3/s)
2 Year	244.70 CONSTANT	0.3	244.74	0.04	0.008
5 Year		0.8	244.80	0.10	0.012
10 Year		1.7	244.89	0.19	0.015
25 Year		3.2	245.02	0.32	0.019
50 Year		4.4	245.11	0.41	0.023
100 Year		6.0	245.20	0.50	0.027
250 Year		11.1	245.45	0.75	0.038
250 Year-24hr		14.0	245.60	0.90	0.045

Lot 3 - Exfiltration Trench 3 Performance

STORM EVENT	TRENCH BOTTOM ELEV. (m)	MAXIMUM STORAGE (m^3)	WATER ELEVATION (m)	DEPTH OF WATER (m)	EXFILT. DISCHARGE (m^3/s)
2 Year	244.95 CONSTANT	0.9	245.11	0.16	0.009
5 Year		2.0	245.27	0.32	0.012
10 Year		2.8	245.36	0.41	0.015
25 Year		3.9	245.46	0.51	0.017
50 Year		4.8	245.53	0.58	0.019
100 Year		5.8	245.60	0.65	0.021
250 Year		7.9	245.76	0.81	0.026
250 Year-24hr		8.1	245.78	0.83	0.026

Lot 4 - Exfiltration Trench 4 Performance

STORM EVENT	TRENCH BOTTOM ELEV. (m)	MAXIMUM STORAGE (m^3)	WATER ELEVATION (m)	DEPTH OF WATER (m)	EXFILT. DISCHARGE (m^3/s)
2 Year	244.60 CONSTANT	0.4	244.68	0.08	0.007
5 Year		1.3	244.82	0.22	0.010
10 Year		1.9	244.91	0.31	0.012
25 Year		2.7	245.00	0.40	0.015
50 Year		3.5	245.07	0.47	0.017
100 Year		4.3	245.13	0.53	0.018
250 Year		6.5	245.30	0.70	0.023
250 Year-24hr		7.3	245.37	0.77	0.026

Lot 5 - Exfiltration Trench 5A Performance

STORM EVENT	TRENCH BOTTOM ELEV. (m)	MAXIMUM STORAGE (m^3)	WATER ELEVATION (m)	DEPTH OF WATER (m)	EXFILT. DISCHARGE (m^3/s)
2 Year	245.95 CONSTANT	0.3	246.03	0.08	0.004
5 Year		0.9	246.18	0.23	0.006
10 Year		1.3	246.28	0.33	0.007
25 Year		1.9	246.39	0.44	0.009
50 Year		2.5	246.46	0.51	0.010
100 Year		3.2	246.55	0.60	0.011
250 Year		5.3	246.81	0.86	0.015
250 Year-24hr		6.1	246.91	0.96	0.017

Lot 5 - Exfiltration Trench 5B Performance

STORM EVENT	TRENCH BOTTOM ELEV. (m)	MAXIMUM STORAGE (m^3)	WATER ELEVATION (m)	DEPTH OF WATER (m)	EXFILT. DISCHARGE (m^3/s)
2 Year	245.75 CONSTANT	0.3	245.84	0.09	0.005
5 Year		0.9	245.99	0.24	0.006
10 Year		1.3	246.08	0.33	0.007
25 Year		1.9	246.18	0.43	0.009
50 Year		2.4	246.25	0.50	0.010
100 Year		2.9	246.32	0.57	0.011
250 Year		4.5	246.51	0.76	0.014
250 Year-24hr		5.0	246.57	0.82	0.015

Lot 6 - Exfiltration Trench 6A Performance

STORM EVENT	TRENCH BOTTOM ELEV. (m)	MAXIMUM STORAGE (m^3)	WATER ELEVATION (m)	DEPTH OF WATER (m)	EXFILT. DISCHARGE (m^3/s)
2 Year	245.65 CONSTANT	0.3	245.74	0.09	0.005
5 Year		0.9	245.88	0.23	0.006
10 Year		1.3	245.98	0.33	0.008
25 Year		1.9	246.08	0.43	0.009
50 Year		2.4	246.15	0.50	0.010
100 Year		3.0	246.22	0.57	0.011
250 Year		4.8	246.44	0.79	0.015
250 Year-24hr		5.4	246.52	0.87	0.016

Lot 6 - Exfiltration Trench 6B Performance

STORM EVENT	TRENCH BOTTOM ELEV. (m)	MAXIMUM STORAGE (m^3)	WATER ELEVATION (m)	DEPTH OF WATER (m)	EXFILT. DISCHARGE (m^3/s)
2 Year	245.75 CONSTANT	0.3	245.84	0.09	0.005
5 Year		0.9	245.99	0.24	0.006
10 Year		1.3	246.08	0.33	0.008
25 Year		1.9	246.19	0.44	0.009
50 Year		2.4	246.26	0.51	0.010
100 Year		3.0	246.33	0.58	0.011
250 Year		4.8	246.55	0.80	0.014
250 Year-24hr		5.5	246.63	0.88	0.016

Lot 7 - Exfiltration Trench 7A Performance

STORM EVENT	TRENCH BOTTOM ELEV. (m)	MAXIMUM STORAGE (m^3)	WATER ELEVATION (m)	DEPTH OF WATER (m)	EXFILT. DISCHARGE (m^3/s)
2 Year	245.70 CONSTANT	0.1	245.74	0.04	0.003
5 Year		0.3	245.81	0.11	0.004
10 Year		0.6	245.90	0.20	0.005
25 Year		1.0	246.02	0.32	0.006
50 Year		1.6	246.14	0.44	0.007
100 Year		2.2	246.25	0.55	0.008
250 Year		4.4	246.59	0.89	0.013
250 Year-24hr		5.7	247.11	1.41*	0.016

*Storage will remain below Finished Ground however, exceed the 1m depth of stone

Lot 7 - Exfiltration Trench 7B Performance

STORM EVENT	TRENCH BOTTOM ELEV. (m)	MAXIMUM STORAGE (m^3)	WATER ELEVATION (m)	DEPTH OF WATER (m)	EXFILT. DISCHARGE (m^3/s)
2 Year	245.65 CONSTANT	0.4	245.73	0.08	0.007
5 Year		1.3	245.88	0.23	0.010
10 Year		2.0	245.97	0.32	0.012
25 Year		2.9	246.07	0.42	0.014
50 Year		3.7	246.14	0.49	0.015
100 Year		4.6	246.21	0.56	0.017
250 Year		8.0	246.47	0.82	0.023
250 Year-24hr		9.5	246.58	0.93	0.026

Lot 8 - Exfiltration Trench 8A Performance

STORM EVENT	TRENCH BOTTOM ELEV. (m)	MAXIMUM STORAGE (m^3)	WATER ELEVATION (m)	DEPTH OF WATER (m)	EXFILT. DISCHARGE (m^3/s)
2 Year	245.65 CONSTANT	0.4	245.81	0.16	0.004
5 Year		1.0	245.97	0.32	0.006
10 Year		1.4	246.07	0.42	0.007
25 Year		2.0	246.16	0.51	0.008
50 Year		2.4	246.22	0.57	0.009
100 Year		2.8	246.29	0.64	0.009
250 Year		3.7	246.43	0.78	0.011
250 Year-24hr		3.4	246.38	0.73	0.010

Lot 8 - Exfiltration Trench 8B Performance

STORM EVENT	TRENCH BOTTOM ELEV. (m)	MAXIMUM STORAGE (m^3)	WATER ELEVATION (m)	DEPTH OF WATER (m)	EXFILT. DISCHARGE (m^3/s)
2 Year	245.00 CONSTANT	0.3	245.09	0.09	0.005
5 Year		0.9	245.24	0.24	0.006
10 Year		1.3	245.33	0.33	0.008
25 Year		1.9	245.43	0.43	0.009
50 Year		2.4	245.50	0.50	0.010
100 Year		3.0	245.58	0.58	0.011
250 Year		5.4	245.87	0.87	0.016
250 Year-24hr		6.5	246.00	1.00	0.019

Lot 9 - Exfiltration Trench 9A Performance

STORM EVENT	TRENCH BOTTOM ELEV. (m)	MAXIMUM STORAGE (m^3)	WATER ELEVATION (m)	DEPTH OF WATER (m)	EXFILT. DISCHARGE (m^3/s)
2 Year	245.00 CONSTANT	0.4	245.15	0.15	0.004
5 Year		1.0	245.31	0.31	0.006
10 Year		1.4	245.40	0.40	0.007
25 Year		1.8	245.49	0.49	0.008
50 Year		2.2	245.55	0.55	0.009
100 Year		2.6	245.60	0.60	0.009
250 Year		3.4	245.72	0.72	0.011
250 Year-24hr		2.7	245.62	0.62	0.010

Lot 9 - Exfiltration Trench 9B Performance

STORM EVENT	TRENCH BOTTOM ELEV. (m)	MAXIMUM STORAGE (m^3)	WATER ELEVATION (m)	DEPTH OF WATER (m)	EXFILT. DISCHARGE (m^3/s)
2 Year	244.25 CONSTANT	0.2	244.30	0.05	0.006
5 Year		0.7	244.37	0.12	0.008
10 Year		1.1	244.45	0.20	0.010
25 Year		1.8	244.54	0.29	0.012
50 Year		2.4	244.61	0.36	0.014
100 Year		3.3	244.71	0.46	0.016
250 Year		7.3	245.01	0.76	0.025
250 Year-24hr		9.4	245.18	0.93	0.030

Lot 10 - Exfiltration Trench 10A Performance

STORM EVENT	TRENCH BOTTOM ELEV. (m)	MAXIMUM STORAGE (m^3)	WATER ELEVATION (m)	DEPTH OF WATER (m)	EXFILT. DISCHARGE (m^3/s)
2 Year	244.20 CONSTANT	0.5	244.37	0.17	0.005
5 Year		1.0	244.53	0.33	0.006
10 Year		1.4	244.62	0.42	0.008
25 Year		2.0	244.71	0.51	0.009
50 Year		2.4	244.77	0.57	0.010
100 Year		2.8	244.84	0.64	0.011
250 Year		3.8	244.99	0.79	0.013
250 Year-24hr		4.6	245.12	0.92	0.015

Lot 10 - Exfiltration Trench 10B Performance

STORM EVENT	TRENCH BOTTOM ELEV. (m)	MAXIMUM STORAGE (m^3)	WATER ELEVATION (m)	DEPTH OF WATER (m)	EXFILT. DISCHARGE (m^3/s)
2 Year	244.40 CONSTANT	0.4	244.55	0.15	0.004
5 Year		1.0	244.71	0.31	0.006
10 Year		1.4	244.81	0.41	0.007
25 Year		1.9	244.90	0.50	0.008
50 Year		2.3	244.96	0.56	0.009
100 Year		2.8	245.03	0.63	0.010
250 Year		4.0	245.22	0.82	0.013
250 Year-24hr		4.9	245.35	0.95	0.015

Model
Output Files

```
"                MIDUSS Output ------------------------------------------------>"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                          Eng 1432-1\SWM\MIDUSS\Post for Lots"
"                Output filename:               2 year post - private lots.out"
"                Licensee name:                                          owner"
"                Company                                              HP Inc."
"                Date & Time last used:               2020-05-05 at 8:23:00 AM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1440.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"      724.690   Coefficient A"
"        5.500   Constant B"
"        0.800   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"             Maximum intensity           101.773    mm/hr"
"             Total depth                  33.312    mm"
"            4   2hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 1"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"            1   Lot 1 - Tributary to Exfiltration Trench 1"
"       10.000   % Impervious"
"        0.250   Total Area"
"       32.000   Flow length"
"        2.000   Overland Slope"
"        0.225   Pervious Area"
"       32.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       40.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.121   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.793   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.005     0.000     0.000     0.000 c.m/sec"
"             Catchment 1            Pervious   Impervious Total Area "
"             Surface Area           0.225      0.025      0.250      hectare"
"             Time of concentration  33.275     2.762      20.418     minutes"
"             Time to Centroid       138.816    91.303     118.796    minutes"
"             Rainfall depth         33.312     33.312     33.312     mm"
"             Rainfall volume        74.95      8.33       83.28      c.m"
"             Rainfall losses        29.280     6.887      27.040     mm"
"             Runoff depth           4.032      26.425     6.271      mm"
"             Runoff volume          9.07       6.61       15.68      c.m"
"             Runoff coefficient     0.121      0.793      0.188      "
"             Maximum flow           0.002      0.005      0.005      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                     0.005     0.005     0.000     0.000"
" 57          TRENCH Design d/s of 1"
"        0.005   Peak inflow"
"       15.678   Hydrograph volume"
"      247.300   Ground elevation"
"      245.250   Downstream trench invert"
"        1.000   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       20.000   Trench length"
"        1.000   Include base width"
"           42.   Number of stages"
"                   Level Discharge    Volume"
"                 245.250     0.000       0.0"
"                 245.300     0.000       0.3"
"                 245.350     0.000       0.7"
"                 245.400     0.000       1.0"
"                 245.450     0.000       1.4"
"                 245.500     0.000       1.9"
"                 245.550     0.000       2.3"
"                 245.600     0.000       2.8"
"                 245.650     0.000       3.4"
"                 245.700     0.000       4.0"
"                 245.750     0.000       4.8"
"                 245.800     0.000       5.6"
"                 245.850     0.000       6.5"
"                 245.900     0.000       7.3"
"                 245.950     0.000       8.1"
"                 246.000     0.000       8.9"
"                 246.050     0.000       9.6"
"                 246.100     0.000      10.4"
"                 246.150     0.000      11.2"
"                 246.200     0.000      12.1"
"                 246.250     0.000      13.0"
"                 246.300     0.000      13.0"
"                 246.350     0.000      13.1"
"                 246.400     0.000      13.2"
"                 246.450     0.000      13.2"
"                 246.500     0.000      13.3"
"                 246.550     0.000      13.3"
"                 246.600     0.000      13.4"
"                 246.650     0.000      13.4"
"                 246.700     0.000      13.5"
"                 246.750     0.000      13.6"
"                 246.800     0.000      13.6"
"                 246.850     0.000      13.7"
"                 246.900     0.000      13.7"
"                 246.950     0.000      13.8"
"                 247.000     0.000      13.8"
"                 247.050     0.000      13.9"
"                 247.100     0.000      14.0"
"                 247.150     0.000      14.0"
"                 247.200     0.000      14.1"
"                 247.250     0.000      14.1"
"                 247.300     0.000      14.2"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                245.650    20.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.005    c.m/sec"
"             Exfiltration volume          15.678    c.m"
"             Maximum level               245.281    metre"
"             Maximum storage               0.198    c.m"
"             Centroidal lag                1.991   hours"
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"             Infiltration area 2 sides   1.782   sq.metre"
"             Infiltration Base area      20.000   sq.metre"
"                 0.005     0.005     0.000     0.005 c.m/sec"
" 40          HYDROGRAPH   Combine    1001"
"           6   Combine "
"        1001   Node #"
"               overflow from lot 1"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                   0.005     0.005     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.005     0.000     0.000     0.000"
" 33          CATCHMENT 2"
"           1   Triangular SCS"
"           1   Equal length"
"           1   SCS method"
"           2   Lot 2 - Tributary to Exfiltration Trench 2"
"      12.500   % Impervious"
"       0.320   Total Area"
"      25.000   Flow length"
"       2.000   Overland Slope"
"       0.280   Pervious Area"
"      25.000   Pervious length"
"       2.000   Pervious slope"
"       0.040   Impervious Area"
"      25.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.121   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.796   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                 0.008     0.000     0.000     0.000 c.m/sec"
"             Catchment 2            Pervious   Impervious Total Area "
"             Surface Area           0.280      0.040      0.320      hectare"
"             Time of concentration  28.694     2.083      15.801     minutes"
"             Time to Centroid       133.332    90.270     112.469    minutes"
"             Rainfall depth         33.312     33.312     33.312     mm"
"             Rainfall volume        93.27      13.32      106.60     c.m"
"             Rainfall losses        29.281     6.795      26.470     mm"
"             Runoff depth           4.031      26.517     6.841      mm"
"             Runoff volume          11.29      10.61      21.89      c.m"
"             Runoff coefficient     0.121      0.796      0.205      "
"             Maximum flow           0.003      0.007      0.008      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                 0.008     0.008     0.000     0.000"
" 57          TRENCH Design d/s of 2"
"       0.008   Peak inflow"
"      21.892   Hydrograph volume"
"     246.750   Ground elevation"
"     244.700   Downstream trench invert"
"       1.000   Trench height"
"     243.700   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"      25.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               244.700     0.000       0.0"
"               244.750     0.000       0.4"
"               244.800     0.000       0.8"
"               244.850     0.000       1.3"
"               244.900     0.000       1.8"
"               244.950     0.000       2.3"
"               245.000     0.000       2.9"
"               245.050     0.000       3.5"
"               245.100     0.000       4.2"
"               245.150     0.000       5.0"
"               245.200     0.000       6.0"
"               245.250     0.000       7.0"
"               245.300     0.000       8.1"
"               245.350     0.000       9.1"
"               245.400     0.000      10.2"
"               245.450     0.000      11.1"
"               245.500     0.000      12.0"
"               245.550     0.000      13.0"
"               245.600     0.000      14.1"
"               245.650     0.000      15.1"
"               245.700     0.000      16.2"
"               245.750     0.000      16.3"
"               245.800     0.000      16.4"
"               245.850     0.000      16.4"
"               245.900     0.000      16.5"
"               245.950     0.000      16.5"
"               246.000     0.000      16.6"
"               246.050     0.000      16.6"
"               246.100     0.000      16.7"
"               246.150     0.000      16.7"
"               246.200     0.000      16.8"
"               246.250     0.000      16.9"
"               246.300     0.000      16.9"
"               246.350     0.000      17.0"
"               246.400     0.000      17.0"
"               246.450     0.000      17.1"
"               246.500     0.000      17.1"
"               246.550     0.000      17.2"
"               246.600     0.000      17.3"
"               246.650     0.000      17.3"
"               246.700     0.000      17.4"
"               246.750     0.000      17.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"               245.100     25.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.008    c.m/sec"
"             Exfiltration volume          21.892    c.m"
"             Maximum level               244.739    metre"
"             Maximum storage               0.304    c.m"
"             Centroidal lag                1.885   hours"
"             Infiltration area 2 sides   2.729   sq.metre"
"             Infiltration Base area      25.000   sq.metre"
"                  0.008     0.008     0.000     0.008 c.m/sec"
" 40          HYDROGRAPH   Combine    1002"
"           6   Combine "
"        1002   Node #"
"               overflow from lot 2"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                   0.008     0.008     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
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"                    0.008     0.000     0.000     0.000"
" 33          CATCHMENT 3"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"            3   Lot 3 - Tributary to Exfiltration Trench 3"
"       28.000   % Impervious"
"        0.180   Total Area"
"       40.000   Flow length"
"        2.000   Overland Slope"
"        0.130   Pervious Area"
"       40.000   Pervious length"
"        2.000   Pervious slope"
"        0.050   Impervious Area"
"       35.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.121   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.795   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.010     0.000     0.000     0.000 c.m/sec"
"             Catchment 3           Pervious   Impervious Total Area "
"             Surface Area          0.130      0.050      0.180      hectare"
"             Time of concentration  38.042     2.549      12.531     minutes"
"             Time to Centroid       144.514    90.932     106.001    minutes"
"             Rainfall depth         33.312     33.312     33.312     mm"
"             Rainfall volume        43.17      16.79      59.96      c.m"
"             Rainfall losses        29.280     6.815      22.990     mm"
"             Runoff depth           4.032      26.497     10.322     mm"
"             Runoff volume          5.23       13.35      18.58      c.m"
"             Runoff coefficient     0.121      0.795      0.310      "
"             Maximum flow           0.001      0.010      0.010      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.010     0.010     0.000     0.000"
" 57          TRENCH Design d/s of 3"
"        0.010   Peak inflow"
"       18.580   Hydrograph volume"
"      247.000   Ground elevation"
"      244.950   Downstream trench invert"
"        1.000   Trench height"
"      243.900   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       16.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.950     0.000      0.0"
"                245.000     0.000      0.3"
"                245.050     0.000      0.5"
"                245.100     0.000      0.8"
"                245.150     0.000      1.2"
"                245.200     0.000      1.5"
"                245.250     0.000      1.9"
"                245.300     0.000      2.3"
"                245.350     0.000      2.7"
"                245.400     0.000      3.2"
"                245.450     0.000      3.8"
"                245.500     0.000      4.5"
"                245.550     0.000      5.2"
"                245.600     0.000      5.9"
"                245.650     0.000      6.5"
"                245.700     0.000      7.1"
"                245.750     0.000      7.7"
"                245.800     0.000      8.3"
"                245.850     0.000      9.0"
"                245.900     0.000      9.7"
"                245.950     0.000     10.4"
"                246.000     0.000     10.4"
"                246.050     0.000     10.5"
"                246.100     0.000     10.6"
"                246.150     0.000     10.6"
"                246.200     0.000     10.7"
"                246.250     0.000     10.7"
"                246.300     0.000     10.8"
"                246.350     0.000     10.8"
"                246.400     0.000     10.9"
"                246.450     0.000     11.0"
"                246.500     0.000     11.0"
"                246.550     0.000     11.1"
"                246.600     0.000     11.1"
"                246.650     0.000     11.2"
"                246.700     0.000     11.2"
"                246.750     0.000     11.3"
"                246.800     0.000     11.4"
"                246.850     0.000     11.4"
"                246.900     0.000     11.5"
"                246.950     0.000     11.5"
"                247.000     0.000     11.6"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                245.350    16.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.009    c.m/sec"
"             Exfiltration volume          18.415    c.m"
"             Maximum level               245.105    metre"
"             Maximum storage               0.858    c.m"
"             Centroidal lag                1.816   hours"
"             Infiltration area 2 sides   6.995   sq.metre"
"             Infiltration Base area       16.000   sq.metre"
"                  0.010     0.010     0.000     0.009 c.m/sec"
" 40          HYDROGRAPH   Combine    1003"
"            6   Combine "
"         1003   Node #"
"                overflow from lot 2"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                    0.010     0.010     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.010     0.000     0.000     0.000"
" 33          CATCHMENT 4"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"            4   Lot 4 - Tributary to Exfiltration Trench 4"
"       21.000   % Impervious"
"        0.190   Total Area"
"       40.000   Flow length"
"        2.000   Overland Slope"
"        0.150   Pervious Area"
"       40.000   Pervious length"
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"        2.000   Pervious slope"
"        0.040   Impervious Area"
"       40.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.121   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.793   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.008     0.000     0.000     0.000 c.m/sec"
"             Catchment 4            Pervious   Impervious Total Area "
"             Surface Area           0.150      0.040      0.190      hectare"
"             Time of concentration  38.042     2.762      15.627     minutes"
"             Time to Centroid       144.514    91.303     110.707    minutes"
"             Rainfall depth         33.312     33.312     33.312     mm"
"             Rainfall volume        50.00      13.29      63.29      c.m"
"             Rainfall losses        29.280     6.887      24.577     mm"
"             Runoff depth           4.032      26.425     8.734      mm"
"             Runoff volume          6.05       10.54      16.60      c.m"
"             Runoff coefficient     0.121      0.793      0.262      "
"             Maximum flow           0.001      0.008      0.008      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"              4   Add Runoff "
"                    0.008     0.008     0.000     0.000"
" 57          TRENCH Design d/s of 4"
"        0.008   Peak inflow"
"       16.595   Hydrograph volume"
"      246.650   Ground elevation"
"      244.600   Downstream trench invert"
"        1.000   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       16.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.600     0.000      0.0"
"                244.650     0.000      0.3"
"                244.700     0.000      0.5"
"                244.750     0.000      0.8"
"                244.800     0.000      1.2"
"                244.850     0.000      1.5"
"                244.900     0.000      1.9"
"                244.950     0.000      2.3"
"                245.000     0.000      2.7"
"                245.050     0.000      3.2"
"                245.100     0.000      3.8"
"                245.150     0.000      4.5"
"                245.200     0.000      5.2"
"                245.250     0.000      5.9"
"                245.300     0.000      6.5"
"                245.350     0.000      7.1"
"                245.400     0.000      7.7"
"                245.450     0.000      8.3"
"                245.500     0.000      9.0"
"                245.550     0.000      9.7"
"                245.600     0.000     10.4"
"                245.650     0.000     10.4"
"                245.700     0.000     10.5"
"                245.750     0.000     10.6"
"                245.800     0.000     10.6"
"                245.850     0.000     10.7"
"                245.900     0.000     10.7"
"                245.950     0.000     10.8"
"                246.000     0.000     10.8"
"                246.050     0.000     10.9"
"                246.100     0.000     11.0"
"                246.150     0.000     11.0"
"                246.200     0.000     11.1"
"                246.250     0.000     11.1"
"                246.300     0.000     11.2"
"                246.350     0.000     11.2"
"                246.400     0.000     11.3"
"                246.450     0.000     11.4"
"                246.500     0.000     11.4"
"                246.550     0.000     11.5"
"                246.600     0.000     11.5"
"                246.650     0.000     11.6"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                245.000    16.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.007    c.m/sec"
"             Exfiltration volume          16.580    c.m"
"             Maximum level               244.683    metre"
"             Maximum storage               0.435    c.m"
"             Centroidal lag                1.864   hours"
"             Infiltration area 2 sides   3.764   sq.metre"
"             Infiltration Base area       16.000   sq.metre"
"                    0.008     0.008     0.000     0.007 c.m/sec"
" 40          HYDROGRAPH   Combine    1004"
"              6   Combine "
"           1004   Node #"
"                  overflow from lot 4"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                    0.008     0.008     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"             2   Start - New Tributary"
"                    0.008     0.000     0.000     0.000"
" 33          CATCHMENT 5"
"             1   Triangular SCS"
"             3   Specify values"
"             1   SCS method"
"             5   Lot 5 - Tributary to Exfiltration Trench 5A"
"        19.000   % Impervious"
"         0.130   Total Area"
"        37.000   Flow length"
"         2.000   Overland Slope"
"         0.105   Pervious Area"
"        37.000   Pervious length"
"         2.000   Pervious slope"
"         0.025   Impervious Area"
"        26.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
"         0.121   Pervious Runoff coefficient"
"         0.030   Pervious Ia/S coefficient"
"         5.080   Pervious Initial abstraction"
"         0.015   Impervious Manning 'n'"
"        98.000   Impervious SCS Curve No."
"         0.796   Impervious Runoff coefficient"
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"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.005     0.000     0.000     0.000 c.m/sec"
"             Catchment 5            Pervious   Impervious Total Area "
"             Surface Area           0.105      0.025      0.130      hectare"
"             Time of concentration  36.304     2.133      15.572     minutes"
"             Time to Centroid       142.433    90.344     110.829    minutes"
"             Rainfall depth         33.312     33.312     33.312     mm"
"             Rainfall volume        35.08      8.23       43.31      c.m"
"             Rainfall losses        29.279     6.788      25.006     mm"
"             Runoff depth           4.033      26.523     8.306      mm"
"             Runoff volume          4.25       6.55       10.80      c.m"
"             Runoff coefficient     0.121      0.796      0.249      "
"             Maximum flow           0.001      0.005      0.005      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.005     0.005     0.000     0.000"
" 57          TRENCH Design d/s of 5"
"        0.005   Peak inflow"
"       10.798   Hydrograph volume"
"      248.000   Ground elevation"
"      245.950   Downstream trench invert"
"        1.000   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                247.950     0.000      0.0"
"                246.000     0.000      0.2"
"                246.050     0.000      0.3"
"                246.100     0.000      0.5"
"                246.150     0.000      0.7"
"                246.200     0.000      0.9"
"                246.250     0.000      1.2"
"                246.300     0.000      1.4"
"                246.350     0.000      1.7"
"                246.400     0.000      2.0"
"                246.450     0.000      2.4"
"                246.500     0.000      2.8"
"                246.550     0.000      3.2"
"                246.600     0.000      3.7"
"                246.650     0.000      4.1"
"                246.700     0.000      4.4"
"                246.750     0.000      4.8"
"                246.800     0.000      5.2"
"                246.850     0.000      5.6"
"                246.900     0.000      6.1"
"                246.950     0.000      6.5"
"                247.000     0.000      6.6"
"                247.050     0.000      6.6"
"                247.100     0.000      6.7"
"                247.150     0.000      6.7"
"                247.200     0.000      6.8"
"                247.250     0.000      6.8"
"                247.300     0.000      6.9"
"                247.350     0.000      6.9"
"                247.400     0.000      7.0"
"                247.450     0.000      7.1"
"                247.500     0.000      7.1"
"                247.550     0.000      7.2"
"                247.600     0.000      7.2"
"                247.650     0.000      7.3"
"                247.700     0.000      7.3"
"                247.750     0.000      7.4"
"                247.800     0.000      7.5"
"                247.850     0.000      7.5"
"                247.900     0.000      7.6"
"                247.950     0.000      7.6"
"                248.000     0.000      7.7"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                246.350    10.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.004    c.m/sec"
"             Exfiltration volume          10.822    c.m"
"             Maximum level               246.034    metre"
"             Maximum storage               0.275    c.m"
"             Centroidal lag                1.864   hours"
"             Infiltration area 2 sides   2.376   sq.metre"
"             Infiltration Base area      10.000   sq.metre"
"                  0.005     0.005     0.000     0.004 c.m/sec"
" 40          HYDROGRAPH   Combine    1005"
"           6   Combine "
"        1005   Node #"
"               overflow from lot 5"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                  0.005     0.005     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.005     0.000     0.000     0.000"
" 33          CATCHMENT 55"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          55   Lot 5 - Tributary to Exfiltration Trench 5B"
"       23.000   % Impervious"
"        0.110   Total Area"
"       37.000   Flow length"
"        2.000   Overland Slope"
"        0.085   Pervious Area"
"       37.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       26.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.121   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.796   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.005     0.000     0.000     0.000 c.m/sec"
"             Catchment 55           Pervious   Impervious Total Area "
"             Surface Area           0.085      0.025      0.110      hectare"
"             Time of concentration  36.304     2.133      13.659     minutes"
"             Time to Centroid       142.433    90.344     107.915    minutes"
"             Rainfall depth         33.312     33.312     33.312     mm"
"             Rainfall volume        28.22      8.43       36.64      c.m"
"             Rainfall losses        29.279     6.788      24.106     mm"
"             Runoff depth           4.033      26.523     9.206      mm"
"             Runoff volume          3.42       6.71       10.13      c.m"
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"             Runoff coefficient     0.121      0.796      0.276      "
"             Maximum flow           0.001      0.005      0.005      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"              4   Add Runoff "
"                      0.005     0.005     0.000     0.000"
" 57          TRENCH Design d/s of 55"
"        0.005   Peak inflow"
"       10.126   Hydrograph volume"
"      247.800   Ground elevation"
"      245.750   Downstream trench invert"
"        1.000   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.750     0.000       0.0"
"                245.800     0.000       0.2"
"                245.850     0.000       0.3"
"                245.900     0.000       0.5"
"                245.950     0.000       0.7"
"                246.000     0.000       0.9"
"                246.050     0.000       1.2"
"                246.100     0.000       1.4"
"                246.150     0.000       1.7"
"                246.200     0.000       2.0"
"                246.250     0.000       2.4"
"                246.300     0.000       2.8"
"                246.350     0.000       3.2"
"                246.400     0.000       3.7"
"                246.450     0.000       4.1"
"                246.500     0.000       4.4"
"                246.550     0.000       4.8"
"                246.600     0.000       5.2"
"                246.650     0.000       5.6"
"                246.700     0.000       6.1"
"                246.750     0.000       6.5"
"                246.800     0.000       6.6"
"                246.850     0.000       6.6"
"                246.900     0.000       6.7"
"                246.950     0.000       6.7"
"                247.000     0.000       6.8"
"                247.050     0.000       6.8"
"                247.100     0.000       6.9"
"                247.150     0.000       6.9"
"                247.200     0.000       7.0"
"                247.250     0.000       7.1"
"                247.300     0.000       7.1"
"                247.350     0.000       7.2"
"                247.400     0.000       7.2"
"                247.450     0.000       7.3"
"                247.500     0.000       7.3"
"                247.550     0.000       7.4"
"                247.600     0.000       7.5"
"                247.650     0.000       7.5"
"                247.700     0.000       7.6"
"                247.750     0.000       7.6"
"                247.800     0.000       7.7"
"            1.   TRENCH PIPES"
"              Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                  Invert    length     diam.    grade%     0=Yes  distance"
"                 246.150    10.000     0.300     0.000     0.000     0.000"
"            1.   MANHOLE"
"                  Access"
"                  diameter"
"                    1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.005    c.m/sec"
"             Exfiltration volume          10.185    c.m"
"             Maximum level               245.839    metre"
"             Maximum storage               0.292    c.m"
"             Centroidal lag                1.815   hours"
"             Infiltration area 2 sides   2.514   sq.metre"
"             Infiltration Base area      10.000   sq.metre"
"                  0.005     0.005     0.000     0.005 c.m/sec"
" 40          HYDROGRAPH   Combine    1005"
"              6   Combine "
"           1005   Node #"
"                  overflow from lot 5"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                  0.005     0.005     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"              2   Start - New Tributary"
"                     0.005     0.000     0.000     0.000"
" 33          CATCHMENT 6"
"              1   Triangular SCS"
"              3   Specify values"
"              1   SCS method"
"              6   Lot 6 - Tributary to Exfiltration Trench 6A"
"         21.000   % Impervious"
"          0.120   Total Area"
"         37.000   Flow length"
"          2.000   Overland Slope"
"          0.095   Pervious Area"
"         37.000   Pervious length"
"          2.000   Pervious slope"
"          0.025   Impervious Area"
"         26.000   Impervious length"
"          2.000   Impervious slope"
"          0.250   Pervious Manning 'n'"
"         60.000   Pervious SCS Curve No."
"          0.121   Pervious Runoff coefficient"
"          0.030   Pervious Ia/S coefficient"
"          5.080   Pervious Initial abstraction"
"          0.015   Impervious Manning 'n'"
"         98.000   Impervious SCS Curve No."
"          0.796   Impervious Runoff coefficient"
"          0.386   Impervious Ia/S coefficient"
"          2.001   Impervious Initial abstraction"
"                     0.005     0.000     0.000     0.000 c.m/sec"
"               Catchment 6            Pervious   Impervious Total Area "
"               Surface Area           0.095      0.025      0.120      hectare"
"               Time of concentration  36.304     2.133      14.566     minutes"
"               Time to Centroid       142.433    90.344     109.297    minutes"
"               Rainfall depth         33.312     33.312     33.312     mm"
"               Rainfall volume        31.58      8.39       39.97      c.m"
"               Rainfall losses        29.279     6.788      24.556     mm"
"               Runoff depth           4.033      26.523     8.756      mm"
"               Runoff volume          3.82       6.68       10.51      c.m"
"               Runoff coefficient     0.121      0.796      0.263      "
"               Maximum flow           0.001      0.005      0.005      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"              4   Add Runoff "
"                     0.005     0.005     0.000     0.000"
" 57          TRENCH Design d/s of 6"
"          0.005   Peak inflow"
"         10.507   Hydrograph volume"
"        247.700   Ground elevation"
"        245.650   Downstream trench invert"
"          1.000   Trench height"
"        244.200   Water table elevation"
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"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.650     0.000       0.0"
"                245.700     0.000       0.2"
"                245.750     0.000       0.3"
"                245.800     0.000       0.5"
"                245.850     0.000       0.7"
"                245.900     0.000       0.9"
"                245.950     0.000       1.2"
"                246.000     0.000       1.4"
"                246.050     0.000       1.7"
"                246.100     0.000       2.0"
"                246.150     0.000       2.4"
"                246.200     0.000       2.8"
"                246.250     0.000       3.2"
"                246.300     0.000       3.7"
"                246.350     0.000       4.1"
"                246.400     0.000       4.4"
"                246.450     0.000       4.8"
"                246.500     0.000       5.2"
"                246.550     0.000       5.6"
"                246.600     0.000       6.1"
"                246.650     0.000       6.5"
"                246.700     0.000       6.6"
"                246.750     0.000       6.6"
"                246.800     0.000       6.7"
"                246.850     0.000       6.7"
"                246.900     0.000       6.8"
"                246.950     0.000       6.8"
"                247.000     0.000       6.9"
"                247.050     0.000       6.9"
"                247.100     0.000       7.0"
"                247.150     0.000       7.1"
"                247.200     0.000       7.1"
"                247.250     0.000       7.2"
"                247.300     0.000       7.2"
"                247.350     0.000       7.3"
"                247.400     0.000       7.3"
"                247.450     0.000       7.4"
"                247.500     0.000       7.5"
"                247.550     0.000       7.5"
"                247.600     0.000       7.6"
"                247.650     0.000       7.6"
"                247.700     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"                246.050    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.000    c.m"
"            Peak exfiltration            0.005    c.m/sec"
"            Exfiltration volume         10.564    c.m"
"            Maximum level              245.738    metre"
"            Maximum storage              0.288    c.m"
"            Centroidal lag               1.837   hours"
"            Infiltration area 2 sides    2.486   sq.metre"
"            Infiltration Base area      10.000   sq.metre"
"                 0.005     0.005     0.000     0.005 c.m/sec"
" 40          HYDROGRAPH   Combine    1006"
"            6   Combine "
"         1006   Node #"
"                overflow from lot 6"
"                Maximum flow                 0.000    c.m/sec"
"                Hydrograph volume            0.000    c.m"
"                       0.005     0.005     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                       0.005     0.000     0.000     0.000"
" 33          CATCHMENT 66"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           66   Lot 6 - Tributary to Exfiltration Trench 6B"
"       21.000   % Impervious"
"        0.120   Total Area"
"       37.000   Flow length"
"        2.000   Overland Slope"
"        0.095   Pervious Area"
"       37.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       26.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.121   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.796   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                       0.005     0.000     0.000     0.000 c.m/sec"
"                Catchment 66           Pervious   Impervious Total Area "
"                Surface Area           0.095      0.025      0.120      hectare"
"                Time of concentration  36.304     2.133      14.566     minutes"
"                Time to Centroid       142.433    90.344     109.297    minutes"
"                Rainfall depth         33.312     33.312     33.312     mm"
"                Rainfall volume        31.58      8.39       39.97      c.m"
"                Rainfall losses        29.279     6.788      24.556     mm"
"                Runoff depth           4.033      26.523     8.756      mm"
"                Runoff volume          3.82       6.68       10.51      c.m"
"                Runoff coefficient     0.121      0.796      0.263      "
"                Maximum flow           0.001      0.005      0.005      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                       0.005     0.005     0.000     0.000"
" 57          TRENCH Design d/s of 66"
"        0.005   Peak inflow"
"       10.507   Hydrograph volume"
"      247.800   Ground elevation"
"      245.750   Downstream trench invert"
"        1.000   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.750     0.000       0.0"
"                245.800     0.000       0.2"
"                245.850     0.000       0.3"
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"               245.900     0.000       0.5"
"               245.950     0.000       0.7"
"               246.000     0.000       0.9"
"               246.050     0.000       1.2"
"               246.100     0.000       1.4"
"               246.150     0.000       1.7"
"               246.200     0.000       2.0"
"               246.250     0.000       2.4"
"               246.300     0.000       2.8"
"               246.350     0.000       3.2"
"               246.400     0.000       3.7"
"               246.450     0.000       4.1"
"               246.500     0.000       4.4"
"               246.550     0.000       4.8"
"               246.600     0.000       5.2"
"               246.650     0.000       5.6"
"               246.700     0.000       6.1"
"               246.750     0.000       6.5"
"               246.800     0.000       6.6"
"               246.850     0.000       6.6"
"               246.900     0.000       6.7"
"               246.950     0.000       6.7"
"               247.000     0.000       6.8"
"               247.050     0.000       6.8"
"               247.100     0.000       6.9"
"               247.150     0.000       6.9"
"               247.200     0.000       7.0"
"               247.250     0.000       7.1"
"               247.300     0.000       7.1"
"               247.350     0.000       7.2"
"               247.400     0.000       7.2"
"               247.450     0.000       7.3"
"               247.500     0.000       7.3"
"               247.550     0.000       7.4"
"               247.600     0.000       7.5"
"               247.650     0.000       7.5"
"               247.700     0.000       7.6"
"               247.750     0.000       7.6"
"               247.800     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.150    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.000    c.m"
"            Peak exfiltration            0.005    c.m/sec"
"            Exfiltration volume         10.569    c.m"
"            Maximum level              245.838    metre"
"            Maximum storage              0.290    c.m"
"            Centroidal lag               1.837   hours"
"            Infiltration area 2 sides    2.499   sq.metre"
"            Infiltration Base area      10.000   sq.metre"
"                 0.005     0.005     0.000     0.005 c.m/sec"
" 40         HYDROGRAPH   Combine    1006"
"           6   Combine "
"        1006   Node #"
"               overflow from lot 6"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.001    c.m"
"                    0.005     0.005     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                    0.005     0.000     0.000     0.000"
" 33         CATCHMENT 7"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"           7   Lot 7 - Tributary to Exfiltration Trench 7A"
"      10.000   % Impervious"
"       0.140   Total Area"
"      50.000   Flow length"
"       2.000   Overland Slope"
"       0.126   Pervious Area"
"      50.000   Pervious length"
"       2.000   Pervious slope"
"       0.014   Impervious Area"
"      24.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.121   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.796   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                    0.003     0.000     0.000     0.000 c.m/sec"
"           Catchment 7            Pervious   Impervious Total Area "
"           Surface Area           0.126      0.014      0.140      hectare"
"           Time of concentration  43.492     2.033      25.994     minutes"
"           Time to Centroid       151.032    90.193     125.355    minutes"
"           Rainfall depth         33.312     33.312     33.312     mm"
"           Rainfall volume        41.97      4.66       46.64      c.m"
"           Rainfall losses        29.279     6.805      27.031     mm"
"           Runoff depth           4.033      26.507     6.280      mm"
"           Runoff volume          5.08       3.71       8.79       c.m"
"           Runoff coefficient     0.121      0.796      0.189      "
"           Maximum flow           0.001      0.003      0.003      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                    0.003     0.003     0.000     0.000"
" 57         TRENCH Design d/s of 7"
"       0.003   Peak inflow"
"       8.793   Hydrograph volume"
"     247.750   Ground elevation"
"     245.700   Downstream trench invert"
"       1.000   Trench height"
"     244.140   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"       8.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"               Level Discharge    Volume"
"               245.700     0.000       0.0"
"               245.750     0.000       0.1"
"               245.800     0.000       0.3"
"               245.850     0.000       0.4"
"               245.900     0.000       0.6"
"               245.950     0.000       0.8"
"               246.000     0.000       0.9"
"               246.050     0.000       1.1"
"               246.100     0.000       1.3"
"               246.150     0.000       1.6"
"               246.200     0.000       1.9"
"               246.250     0.000       2.2"
"               246.300     0.000       2.6"
"               246.350     0.000       2.9"
"               246.400     0.000       3.3"
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"               246.450     0.000       3.5"
"               246.500     0.000       3.9"
"               246.550     0.000       4.2"
"               246.600     0.000       4.5"
"               246.650     0.000       4.8"
"               246.700     0.000       5.2"
"               246.750     0.000       5.3"
"               246.800     0.000       5.3"
"               246.850     0.000       5.4"
"               246.900     0.000       5.4"
"               246.950     0.000       5.5"
"               247.000     0.000       5.5"
"               247.050     0.000       5.6"
"               247.100     0.000       5.6"
"               247.150     0.000       5.7"
"               247.200     0.000       5.8"
"               247.250     0.000       5.8"
"               247.300     0.000       5.9"
"               247.350     0.000       5.9"
"               247.400     0.000       6.0"
"               247.450     0.000       6.0"
"               247.500     0.000       6.1"
"               247.550     0.000       6.2"
"               247.600     0.000       6.2"
"               247.650     0.000       6.3"
"               247.700     0.000       6.3"
"               247.750     0.000       6.4"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.100     8.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                  1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.003    c.m/sec"
"            Exfiltration volume           8.792    c.m"
"            Maximum level               245.741    metre"
"            Maximum storage               0.104    c.m"
"            Centroidal lag                2.100   hours"
"            Infiltration area 2 sides   .934   sq.metre"
"            Infiltration Base area      8.000   sq.metre"
"                0.003     0.003     0.000     0.003 c.m/sec"
" 40         HYDROGRAPH   Combine    1007"
"             6   Combine "
"          1007   Node #"
"                 overflow from lot 7"
"            Maximum flow                  0.000    c.m/sec"
"            Hydrograph volume             0.000    c.m"
"                    0.003     0.003     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"             2   Start - New Tributary"
"                   0.003     0.000     0.000     0.000"
" 33         CATCHMENT 77"
"             1   Triangular SCS"
"             3   Specify values"
"             1   SCS method"
"            77   Lot 7 - Tributary to Exfiltration Trench 7B"
"        16.500   % Impervious"
"         0.240   Total Area"
"        54.000   Flow length"
"         2.000   Overland Slope"
"         0.200   Pervious Area"
"        54.000   Pervious length"
"         2.000   Pervious slope"
"         0.040   Impervious Area"
"        24.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
"         0.121   Pervious Runoff coefficient"
"         0.030   Pervious Ia/S coefficient"
"         5.080   Pervious Initial abstraction"
"         0.015   Impervious Manning 'n'"
"        98.000   Impervious SCS Curve No."
"         0.796   Impervious Runoff coefficient"
"         0.386   Impervious Ia/S coefficient"
"         2.001   Impervious Initial abstraction"
"                   0.008     0.000     0.000     0.000 c.m/sec"
"              Catchment 77           Pervious   Impervious Total Area "
"              Surface Area           0.200      0.040      0.240      hectare"
"              Time of concentration  45.547     2.033      20.962     minutes"
"              Time to Centroid       153.494    90.193     117.729    minutes"
"              Rainfall depth         33.312     33.312     33.312     mm"
"              Rainfall volume        66.76      13.19      79.95      c.m"
"              Rainfall losses        29.279     6.805      25.571     mm"
"              Runoff depth           4.033      26.507     7.741      mm"
"              Runoff volume          8.08       10.50      18.58      c.m"
"              Runoff coefficient     0.121      0.796      0.232      "
"              Maximum flow           0.001      0.007      0.008      c.m/sec"
" 40           HYDROGRAPH Add Runoff "
"               4   Add Runoff "
"                     0.008     0.008     0.000     0.000"
" 57           TRENCH Design d/s of 77"
"         0.008   Peak inflow"
"        18.578   Hydrograph volume"
"       247.700   Ground elevation"
"       245.650   Downstream trench invert"
"         1.000   Trench height"
"       244.000   Water table elevation"
"         3.000   Trench top width"
"         1.000   Trench bottom width"
"        30.000   Voids ratio (%)"
"      1267.200   Hydraulic conductivity"
"         0.000   Trench gradient (%)"
"        16.000   Trench length"
"         1.000   Include base width"
"           42.   Number of stages"
"                   Level Discharge    Volume"
"                 245.650     0.000       0.0"
"                 245.700     0.000       0.3"
"                 245.750     0.000       0.5"
"                 245.800     0.000       0.8"
"                 245.850     0.000       1.2"
"                 245.900     0.000       1.5"
"                 245.950     0.000       1.9"
"                 246.000     0.000       2.3"
"                 246.050     0.000       2.7"
"                 246.100     0.000       3.2"
"                 246.150     0.000       3.8"
"                 246.200     0.000       4.5"
"                 246.250     0.000       5.2"
"                 246.300     0.000       5.9"
"                 246.350     0.000       6.5"
"                 246.400     0.000       7.1"
"                 246.450     0.000       7.7"
"                 246.500     0.000       8.3"
"                 246.550     0.000       9.0"
"                 246.600     0.000       9.7"
"                 246.650     0.000      10.4"
"                 246.700     0.000      10.4"
"                 246.750     0.000      10.5"
"                 246.800     0.000      10.6"
"                 246.850     0.000      10.6"
"                 246.900     0.000      10.7"
"                 246.950     0.000      10.7"
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"               247.000     0.000      10.8"
"               247.050     0.000      10.8"
"               247.100     0.000      10.9"
"               247.150     0.000      11.0"
"               247.200     0.000      11.0"
"               247.250     0.000      11.1"
"               247.300     0.000      11.1"
"               247.350     0.000      11.2"
"               247.400     0.000      11.2"
"               247.450     0.000      11.3"
"               247.500     0.000      11.4"
"               247.550     0.000      11.4"
"               247.600     0.000      11.5"
"               247.650     0.000      11.5"
"               247.700     0.000      11.6"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.050    16.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.000    c.m"
"            Peak exfiltration            0.007    c.m/sec"
"            Exfiltration volume         18.543    c.m"
"            Maximum level              245.731    metre"
"            Maximum storage              0.425    c.m"
"            Centroidal lag               1.981   hours"
"            Infiltration area 2 sides    3.684   sq.metre"
"            Infiltration Base area      16.000   sq.metre"
"                 0.008     0.008     0.000     0.007 c.m/sec"
" 40         HYDROGRAPH   Combine    1007"
"           6   Combine "
"        1007   Node #"
"               overflow from lot 7"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.001    c.m"
"                  0.008     0.008     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.008     0.000     0.000     0.000"
" 33         CATCHMENT 8"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"           8   Lot 8 - Tributary to Exfiltration Trench 8A"
"       42.000  % Impervious"
"        0.060  Total Area"
"       36.000  Flow length"
"        2.000  Overland Slope"
"        0.035  Pervious Area"
"       36.000  Pervious length"
"        2.000  Pervious slope"
"        0.025  Impervious Area"
"       24.000  Impervious length"
"        2.000  Impervious slope"
"        0.250  Pervious Manning 'n'"
"       60.000  Pervious SCS Curve No."
"        0.121  Pervious Runoff coefficient"
"        0.030  Pervious Ia/S coefficient"
"        5.080  Pervious Initial abstraction"
"        0.015  Impervious Manning 'n'"
"       98.000  Impervious SCS Curve No."
"        0.796  Impervious Runoff coefficient"
"        0.386  Impervious Ia/S coefficient"
"        2.001  Impervious Initial abstraction"
"                  0.005     0.000     0.000     0.000 c.m/sec"
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"            Catchment 8            Pervious   Impervious Total Area "
"            Surface Area           0.035      0.025      0.060      hectare"
"            Time of concentration  35.712     2.033      7.880      minutes"
"            Time to Centroid       141.723    90.193     99.139     minutes"
"            Rainfall depth         33.312     33.312     33.312     mm"
"            Rainfall volume        11.59      8.39       19.99      c.m"
"            Rainfall losses        29.279     6.805      19.840     mm"
"            Runoff depth           4.033      26.507     13.472     mm"
"            Runoff volume          1.40       6.68       8.08       c.m"
"            Runoff coefficient     0.121      0.796      0.404      "
"            Maximum flow           0.000      0.005      0.005      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.005     0.005     0.000     0.000"
" 57         TRENCH Design d/s of 8"
"        0.005   Peak inflow"
"        8.083   Hydrograph volume"
"      247.700   Ground elevation"
"      245.650   Downstream trench invert"
"        1.000   Trench height"
"      244.000   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"               245.650     0.000       0.0"
"               245.700     0.000       0.1"
"               245.750     0.000       0.3"
"               245.800     0.000       0.4"
"               245.850     0.000       0.6"
"               245.900     0.000       0.8"
"               245.950     0.000       0.9"
"               246.000     0.000       1.1"
"               246.050     0.000       1.3"
"               246.100     0.000       1.6"
"               246.150     0.000       1.9"
"               246.200     0.000       2.2"
"               246.250     0.000       2.6"
"               246.300     0.000       2.9"
"               246.350     0.000       3.3"
"               246.400     0.000       3.5"
"               246.450     0.000       3.9"
"               246.500     0.000       4.2"
"               246.550     0.000       4.5"
"               246.600     0.000       4.8"
"               246.650     0.000       5.2"
"               246.700     0.000       5.3"
"               246.750     0.000       5.3"
"               246.800     0.000       5.4"
"               246.850     0.000       5.4"
"               246.900     0.000       5.5"
"               246.950     0.000       5.5"
"               247.000     0.000       5.6"
"               247.050     0.000       5.6"
"               247.100     0.000       5.7"
"               247.150     0.000       5.8"
"               247.200     0.000       5.8"
"               247.250     0.000       5.9"
"               247.300     0.000       5.9"
"               247.350     0.000       6.0"
"               247.400     0.000       6.0"
"               247.450     0.000       6.1"
"               247.500     0.000       6.2"
"               247.550     0.000       6.2"
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"               247.600     0.000       6.3"
"               247.650     0.000       6.3"
"               247.700     0.000       6.4"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.050     8.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.004    c.m/sec"
"            Exfiltration volume           7.990    c.m"
"            Maximum level               245.806    metre"
"            Maximum storage               0.435    c.m"
"            Centroidal lag                1.700   hours"
"            Infiltration area 2 sides     3.540   sq.metre"
"            Infiltration Base area        8.000   sq.metre"
"                 0.005     0.005     0.000     0.004 c.m/sec"
" 40         HYDROGRAPH   Combine    1008"
"           6   Combine "
"        1008   Node #"
"               overflow from lot 8"
"            Maximum flow                  0.000    c.m/sec"
"            Hydrograph volume             0.000    c.m"
"                 0.005     0.005     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                    0.005     0.000     0.000     0.000"
" 33         CATCHMENT 88"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          88   Lot 8 - Tributary to Exfiltration Trench 8B"
"      15.000   % Impervious"
"       0.170   Total Area"
"      55.000   Flow length"
"       2.000   Overland Slope"
"       0.145   Pervious Area"
"      55.000   Pervious length"
"       2.000   Pervious slope"
"       0.025   Impervious Area"
"      24.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.121   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.796   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                    0.005     0.000     0.000     0.000 c.m/sec"
"            Catchment 88           Pervious   Impervious Total Area "
"            Surface Area           0.145      0.025      0.170      hectare"
"            Time of concentration  46.052     2.033      22.414     minutes"
"            Time to Centroid       154.100    90.193     119.782    minutes"
"            Rainfall depth         33.312     33.312     33.312     mm"
"            Rainfall volume        48.14      8.49       56.63      c.m"
"            Rainfall losses        29.279     6.805      25.908     mm"
"            Runoff depth           4.033      26.507     7.404      mm"
"            Runoff volume          5.83       6.76       12.59      c.m"
"            Runoff coefficient     0.121      0.796      0.222      "
"            Maximum flow           0.001      0.005      0.005      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
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"           4   Add Runoff "
"                    0.005     0.005     0.000     0.000"
" 57          TRENCH Design d/s of 88"
"        0.005   Peak inflow"
"       12.587   Hydrograph volume"
"      247.050   Ground elevation"
"      245.000   Downstream trench invert"
"        1.000   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"               245.000     0.000       0.0"
"               245.050     0.000       0.2"
"               245.100     0.000       0.3"
"               245.150     0.000       0.5"
"               245.200     0.000       0.7"
"               245.250     0.000       0.9"
"               245.300     0.000       1.2"
"               245.350     0.000       1.4"
"               245.400     0.000       1.7"
"               245.450     0.000       2.0"
"               245.500     0.000       2.4"
"               245.550     0.000       2.8"
"               245.600     0.000       3.2"
"               245.650     0.000       3.7"
"               245.700     0.000       4.1"
"               245.750     0.000       4.4"
"               245.800     0.000       4.8"
"               245.850     0.000       5.2"
"               245.900     0.000       5.6"
"               245.950     0.000       6.1"
"               246.000     0.000       6.5"
"               246.050     0.000       6.6"
"               246.100     0.000       6.6"
"               246.150     0.000       6.7"
"               246.200     0.000       6.7"
"               246.250     0.000       6.8"
"               246.300     0.000       6.8"
"               246.350     0.000       6.9"
"               246.400     0.000       6.9"
"               246.450     0.000       7.0"
"               246.500     0.000       7.1"
"               246.550     0.000       7.1"
"               246.600     0.000       7.2"
"               246.650     0.000       7.2"
"               246.700     0.000       7.3"
"               246.750     0.000       7.3"
"               246.800     0.000       7.4"
"               246.850     0.000       7.5"
"               246.900     0.000       7.5"
"               246.950     0.000       7.6"
"               247.000     0.000       7.6"
"               247.050     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               245.400    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
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"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.005    c.m/sec"
"             Exfiltration volume          12.638    c.m"
"             Maximum level               245.089    metre"
"             Maximum storage               0.293    c.m"
"             Centroidal lag                2.014   hours"
"             Infiltration area 2 sides   2.527   sq.metre"
"             Infiltration Base area      10.000   sq.metre"
"                  0.005     0.005     0.000     0.005 c.m/sec"
" 40          HYDROGRAPH   Combine    1008"
"           6   Combine "
"        1008   Node #"
"               overflow from lot 8"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.005     0.005     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.005     0.000     0.000     0.000"
" 33          CATCHMENT 9"
"           1   Triangular SCS"
"           1   Equal length"
"           1   SCS method"
"           9   Lot 9 - Tributary to Exfiltration Trench 9A"
"      63.000   % Impervious"
"       0.040   Total Area"
"      24.000   Flow length"
"       2.000   Overland Slope"
"       0.015   Pervious Area"
"      24.000   Pervious length"
"       2.000   Pervious slope"
"       0.025   Impervious Area"
"      24.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.121   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.796   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                 0.005     0.000     0.000     0.000 c.m/sec"
"             Catchment 9            Pervious   Impervious Total Area "
"             Surface Area           0.015      0.025      0.040      hectare"
"             Time of concentration  28.000     2.033      4.162      minutes"
"             Time to Centroid       132.495    90.193     93.660     minutes"
"             Rainfall depth         33.312     33.312     33.312     mm"
"             Rainfall volume        4.93       8.39       13.32      c.m"
"             Rainfall losses        29.282     6.805      15.121     mm"
"             Runoff depth           4.030      26.507     18.190     mm"
"             Runoff volume          0.60       6.68       7.28       c.m"
"             Runoff coefficient     0.121      0.796      0.546      "
"             Maximum flow           0.000      0.005      0.005      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                 0.005     0.005     0.000     0.000"
" 57          TRENCH Design d/s of 9"
"       0.005   Peak inflow"
"       7.276   Hydrograph volume"
"     247.050   Ground elevation"
"     245.000   Downstream trench invert"
"       1.000   Trench height"
"     243.700   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"       8.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"               Level Discharge    Volume"
"             245.000     0.000       0.0"
"             245.050     0.000       0.1"
"             245.100     0.000       0.3"
"             245.150     0.000       0.4"
"             245.200     0.000       0.6"
"             245.250     0.000       0.8"
"             245.300     0.000       0.9"
"             245.350     0.000       1.1"
"             245.400     0.000       1.3"
"             245.450     0.000       1.6"
"             245.500     0.000       1.9"
"             245.550     0.000       2.2"
"             245.600     0.000       2.6"
"             245.650     0.000       2.9"
"             245.700     0.000       3.3"
"             245.750     0.000       3.5"
"             245.800     0.000       3.9"
"             245.850     0.000       4.2"
"             245.900     0.000       4.5"
"             245.950     0.000       4.8"
"             246.000     0.000       5.2"
"             246.050     0.000       5.3"
"             246.100     0.000       5.3"
"             246.150     0.000       5.4"
"             246.200     0.000       5.4"
"             246.250     0.000       5.5"
"             246.300     0.000       5.5"
"             246.350     0.000       5.6"
"             246.400     0.000       5.6"
"             246.450     0.000       5.7"
"             246.500     0.000       5.8"
"             246.550     0.000       5.8"
"             246.600     0.000       5.9"
"             246.650     0.000       5.9"
"             246.700     0.000       6.0"
"             246.750     0.000       6.0"
"             246.800     0.000       6.1"
"             246.850     0.000       6.2"
"             246.900     0.000       6.2"
"             246.950     0.000       6.3"
"             247.000     0.000       6.3"
"             247.050     0.000       6.4"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"             245.400     8.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.004    c.m/sec"
"             Exfiltration volume           7.199    c.m"
"             Maximum level               245.153    metre"
"             Maximum storage               0.422    c.m"
"             Centroidal lag                1.604   hours"
"             Infiltration area 2 sides   3.453   sq.metre"
"             Infiltration Base area      8.000   sq.metre"
"                  0.005     0.005     0.000     0.004 c.m/sec"
" 40          HYDROGRAPH   Combine    1009"
"           6   Combine "
"        1009   Node #"
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"                overflow from lot 9"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                    0.005     0.005     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.005     0.000     0.000     0.000"
" 33          CATCHMENT 99"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           99   Lot 9 - Tributary to Exfiltration Trench 9B (portion of Lot 8 included)"
"       10.000   % Impervious"
"        0.300   Total Area"
"       70.000   Flow length"
"        2.000   Overland Slope"
"        0.270   Pervious Area"
"       70.000   Pervious length"
"        2.000   Pervious slope"
"        0.030   Impervious Area"
"       38.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.121   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.794   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.006     0.000     0.000     0.000 c.m/sec"
"             Catchment 99           Pervious   Impervious Total Area "
"             Surface Area           0.270      0.030      0.300      hectare"
"             Time of concentration  53.221     2.678      31.914     minutes"
"             Time to Centroid       162.674    91.153     132.523    minutes"
"             Rainfall depth         33.312     33.312     33.312     mm"
"             Rainfall volume        89.94      9.99       99.94      c.m"
"             Rainfall losses        29.279     6.856      27.036     mm"
"             Runoff depth           4.033      26.456     6.275      mm"
"             Runoff volume          10.89      7.94       18.83      c.m"
"             Runoff coefficient     0.121      0.794      0.188      "
"             Maximum flow           0.002      0.006      0.006      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.006     0.006     0.000     0.000"
" 57          TRENCH Design d/s of 99"
"        0.006   Peak inflow"
"       18.826   Hydrograph volume"
"      246.300   Ground elevation"
"      244.250   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       16.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.250     0.000      0.0"
"                244.300     0.000      0.3"
"                244.350     0.000      0.5"
"                244.400     0.000      0.8"
"                244.450     0.000      1.2"
"                244.500     0.000      1.5"
"                244.550     0.000      1.9"
"                244.600     0.000      2.3"
"                244.650     0.000      2.7"
"                244.700     0.000      3.2"
"                244.750     0.000      3.8"
"                244.800     0.000      4.5"
"                244.850     0.000      5.2"
"                244.900     0.000      5.9"
"                244.950     0.000      6.5"
"                245.000     0.000      7.1"
"                245.050     0.000      7.7"
"                245.100     0.000      8.3"
"                245.150     0.000      9.0"
"                245.200     0.000      9.7"
"                245.250     0.000     10.4"
"                245.300     0.000     10.4"
"                245.350     0.000     10.5"
"                245.400     0.000     10.6"
"                245.450     0.000     10.6"
"                245.500     0.000     10.7"
"                245.550     0.000     10.7"
"                245.600     0.000     10.8"
"                245.650     0.000     10.8"
"                245.700     0.000     10.9"
"                245.750     0.000     11.0"
"                245.800     0.000     11.0"
"                245.850     0.000     11.1"
"                245.900     0.000     11.1"
"                245.950     0.000     11.2"
"                246.000     0.000     11.2"
"                246.050     0.000     11.3"
"                246.100     0.000     11.4"
"                246.150     0.000     11.4"
"                246.200     0.000     11.5"
"                246.250     0.000     11.5"
"                246.300     0.000     11.6"
"            1.   TRENCH PIPES"
"              Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                  Invert    length     diam.    grade%     0=Yes  distance"
"                 244.650    16.000     0.300     0.000     0.000     0.000"
"            1.   MANHOLE"
"                  Access"
"                diameter"
"                   1.200"
"              Peak outflow                  0.000    c.m/sec"
"              Outflow volume                0.000    c.m"
"              Peak exfiltration             0.006    c.m/sec"
"              Exfiltration volume          18.826    c.m"
"              Maximum level               244.295    metre"
"              Maximum storage               0.227    c.m"
"              Centroidal lag                2.219   hours"
"              Infiltration area 2 sides   2.034   sq.metre"
"              Infiltration Base area      16.000   sq.metre"
"                    0.006     0.006     0.000     0.006 c.m/sec"
" 40          HYDROGRAPH    Combine    1009"
"            6   Combine "
"         1009   Node #"
"                overflow from lot 9"
"              Maximum flow                  0.000    c.m/sec"
"              Hydrograph volume             0.000    c.m"
"                    0.006     0.006     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.006     0.000     0.000     0.000"
" 33          CATCHMENT 10"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           10   Lot 10 - Tributary to Exfiltration Trench 10A"
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"       14.000   % Impervious"
"        0.190   Total Area"
"      120.000   Flow length"
"        2.000   Overland Slope"
"        0.163   Pervious Area"
"      120.000   Pervious length"
"        2.000   Pervious slope"
"        0.027   Impervious Area"
"       24.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.121   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.796   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.005     0.000     0.000     0.000 c.m/sec"
"             Catchment 10           Pervious   Impervious Total Area "
"             Surface Area           0.163      0.027      0.190      hectare"
"             Time of concentration  73.542     2.033      36.584     minutes"
"             Time to Centroid       186.987    90.193     136.960    minutes"
"             Rainfall depth         33.312     33.312     33.312     mm"
"             Rainfall volume        54.43      8.86       63.29      c.m"
"             Rainfall losses        29.278     6.805      26.132     mm"
"             Runoff depth           4.034      26.507     7.180      mm"
"             Runoff volume          6.59       7.05       13.64      c.m"
"             Runoff coefficient     0.121      0.796      0.216      "
"             Maximum flow           0.001      0.005      0.005      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.005     0.005     0.000     0.000"
" 57          TRENCH Design d/s of 10"
"        0.005   Peak inflow"
"       13.642   Hydrograph volume"
"      246.250   Ground elevation"
"      244.200   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.200     0.000      0.0"
"                244.250     0.000      0.1"
"                244.300     0.000      0.3"
"                244.350     0.000      0.4"
"                244.400     0.000      0.6"
"                244.450     0.000      0.8"
"                244.500     0.000      0.9"
"                244.550     0.000      1.1"
"                244.600     0.000      1.3"
"                244.650     0.000      1.6"
"                244.700     0.000      1.9"
"                244.750     0.000      2.2"
"                244.800     0.000      2.6"
"                244.850     0.000      2.9"
"                244.900     0.000      3.3"
"                244.950     0.000      3.5"
"                245.000     0.000      3.9"
"                245.050     0.000      4.2"
"                245.100     0.000      4.5"
"                245.150     0.000      4.8"
"                245.200     0.000      5.2"
"                245.250     0.000      5.3"
"                245.300     0.000      5.3"
"                245.350     0.000      5.4"
"                245.400     0.000      5.4"
"                245.450     0.000      5.5"
"                245.500     0.000      5.5"
"                245.550     0.000      5.6"
"                245.600     0.000      5.6"
"                245.650     0.000      5.7"
"                245.700     0.000      5.8"
"                245.750     0.000      5.8"
"                245.800     0.000      5.9"
"                245.850     0.000      5.9"
"                245.900     0.000      6.0"
"                245.950     0.000      6.0"
"                246.000     0.000      6.1"
"                246.050     0.000      6.2"
"                246.100     0.000      6.2"
"                246.150     0.000      6.3"
"                246.200     0.000      6.3"
"                246.250     0.000      6.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                244.600     8.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.005    c.m/sec"
"             Exfiltration volume          13.520    c.m"
"             Maximum level               244.366    metre"
"             Maximum storage               0.467    c.m"
"             Centroidal lag                2.358   hours"
"             Infiltration area 2 sides   3.765   sq.metre"
"             Infiltration Base area      8.000   sq.metre"
"                  0.005     0.005     0.000     0.005 c.m/sec"
" 40          HYDROGRAPH   Combine    1010"
"            6   Combine "
"         1010   Node #"
"                overflow from lot 10"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                    0.005     0.005     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                  0.005     0.000     0.000     0.000"
" 33          CATCHMENT 100"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"          100   Lot 10 - Tributary to Exfiltration Trench 10B"
"       14.000   % Impervious"
"        0.180   Total Area"
"      110.000   Flow length"
"        2.000   Overland Slope"
"        0.155   Pervious Area"
"      110.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       24.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
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"        0.121   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.796   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.005     0.000     0.000     0.000 c.m/sec"
"             Catchment 100          Pervious   Impervious Total Area "
"             Surface Area           0.155      0.025      0.180      hectare"
"             Time of concentration  69.801     2.033      34.774     minutes"
"             Time to Centroid       182.513    90.193     134.796    minutes"
"             Rainfall depth         33.312     33.312     33.312     mm"
"             Rainfall volume        51.57      8.39       59.96      c.m"
"             Rainfall losses        29.278     6.805      26.132     mm"
"             Runoff depth           4.033      26.507     7.180      mm"
"             Runoff volume          6.24       6.68       12.92      c.m"
"             Runoff coefficient     0.121      0.796      0.216      "
"             Maximum flow           0.001      0.005      0.005      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                  0.005     0.005     0.000     0.000"
" 57          TRENCH Design d/s of 100"
"        0.005   Peak inflow"
"       12.924   Hydrograph volume"
"      246.450   Ground elevation"
"      244.400   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.400     0.000      0.0"
"                244.450     0.000      0.1"
"                244.500     0.000      0.3"
"                244.550     0.000      0.4"
"                244.600     0.000      0.6"
"                244.650     0.000      0.8"
"                244.700     0.000      0.9"
"                244.750     0.000      1.1"
"                244.800     0.000      1.3"
"                244.850     0.000      1.6"
"                244.900     0.000      1.9"
"                244.950     0.000      2.2"
"                245.000     0.000      2.6"
"                245.050     0.000      2.9"
"                245.100     0.000      3.3"
"                245.150     0.000      3.5"
"                245.200     0.000      3.9"
"                245.250     0.000      4.2"
"                245.300     0.000      4.5"
"                245.350     0.000      4.8"
"                245.400     0.000      5.2"
"                245.450     0.000      5.3"
"                245.500     0.000      5.3"
"                245.550     0.000      5.4"
"                245.600     0.000      5.4"
"                245.650     0.000      5.5"
"                245.700     0.000      5.5"
"                245.750     0.000      5.6"
"                245.800     0.000      5.6"
"                245.850     0.000      5.7"
"                245.900     0.000      5.8"
"                245.950     0.000      5.8"
"                246.000     0.000      5.9"
"                246.050     0.000      5.9"
"                246.100     0.000      6.0"
"                246.150     0.000      6.0"
"                246.200     0.000      6.1"
"                246.250     0.000      6.2"
"                246.300     0.000      6.2"
"                246.350     0.000      6.3"
"                246.400     0.000      6.3"
"                246.450     0.000      6.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                244.800     8.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.004    c.m/sec"
"             Exfiltration volume          12.842    c.m"
"             Maximum level               244.552    metre"
"             Maximum storage               0.420    c.m"
"             Centroidal lag                2.308   hours"
"             Infiltration area 2 sides   3.437   sq.metre"
"             Infiltration Base area      8.000   sq.metre"
"                  0.005     0.005     0.000     0.004 c.m/sec"
" 40          HYDROGRAPH   Combine    1010"
"            6   Combine "
"         1010   Node #"
"                overflow from lot 10"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                  0.005     0.005     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                  0.005     0.000     0.000     0.000"
```

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"                MIDUSS Output ------------------------------------------------>"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                          Eng 1432-1\SWM\MIDUSS\Post for Lots"
"                Output filename:               5 year post - private lots.out"
"                Licensee name:                                          owner"
"                Company                                               HP Inc."
"                Date & Time last used:               2020-05-05 at 8:19:05 AM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1440.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     1330.310   Coefficient A"
"        7.938   Constant B"
"        0.855   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"             Maximum intensity           137.641    mm/hr"
"             Total depth                  45.372    mm"
"            4   Shyd   Hydrograph extension used in this file"
" 33          CATCHMENT 1"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"            1   Lot 1 - Tributary to Exfiltration Trench 1"
"       10.000   % Impervious"
"        0.250   Total Area"
"       32.000   Flow length"
"        2.000   Overland Slope"
"        0.225   Pervious Area"
"       32.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       40.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.170   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.842   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.008     0.000     0.000     0.000 c.m/sec"
"             Catchment 1            Pervious   Impervious Total Area "
"             Surface Area           0.225      0.025      0.250      hectare"
"             Time of concentration  24.836     2.397      16.887     minutes"
"             Time to Centroid       125.344    88.225     112.195    minutes"
"             Rainfall depth         45.372     45.372     45.372     mm"
"             Rainfall volume        102.09     11.34      113.43     c.m"
"             Rainfall losses        37.637     7.184      34.592     mm"
"             Runoff depth           7.735      38.188     10.781     mm"
"             Runoff volume          17.40      9.55       26.95      c.m"
"             Runoff coefficient     0.170      0.842      0.238      "
"             Maximum flow           0.005      0.007      0.008      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                     0.008     0.008     0.000     0.000"
" 57          TRENCH Design d/s of 1"
"        0.008   Peak inflow"
"       26.951   Hydrograph volume"
"      247.300   Ground elevation"
"      245.250   Downstream trench invert"
"        1.000   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       20.000   Trench length"
"        1.000   Include base width"
"           42.   Number of stages"
"                   Level Discharge    Volume"
"                 245.250     0.000       0.0"
"                 245.300     0.000       0.3"
"                 245.350     0.000       0.7"
"                 245.400     0.000       1.0"
"                 245.450     0.000       1.4"
"                 245.500     0.000       1.9"
"                 245.550     0.000       2.3"
"                 245.600     0.000       2.8"
"                 245.650     0.000       3.4"
"                 245.700     0.000       4.0"
"                 245.750     0.000       4.8"
"                 245.800     0.000       5.6"
"                 245.850     0.000       6.5"
"                 245.900     0.000       7.3"
"                 245.950     0.000       8.1"
"                 246.000     0.000       8.9"
"                 246.050     0.000       9.6"
"                 246.100     0.000      10.4"
"                 246.150     0.000      11.2"
"                 246.200     0.000      12.1"
"                 246.250     0.000      13.0"
"                 246.300     0.000      13.0"
"                 246.350     0.000      13.1"
"                 246.400     0.000      13.2"
"                 246.450     0.000      13.2"
"                 246.500     0.000      13.3"
"                 246.550     0.000      13.3"
"                 246.600     0.000      13.4"
"                 246.650     0.000      13.4"
"                 246.700     0.000      13.5"
"                 246.750     0.000      13.6"
"                 246.800     0.000      13.6"
"                 246.850     0.000      13.7"
"                 246.900     0.000      13.7"
"                 246.950     0.000      13.8"
"                 247.000     0.000      13.8"
"                 247.050     0.000      13.9"
"                 247.100     0.000      14.0"
"                 247.150     0.000      14.0"
"                 247.200     0.000      14.1"
"                 247.250     0.000      14.1"
"                 247.300     0.000      14.2"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                245.650    20.000    0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.008    c.m/sec"
"             Exfiltration volume          26.951    c.m"
"             Maximum level               245.300    metre"
"             Maximum storage               0.313    c.m"
"             Centroidal lag                1.881   hours"
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"             Infiltration area 2 sides   2.807   sq.metre"
"             Infiltration Base area      20.000   sq.metre"
"                 0.008     0.008     0.000     0.008 c.m/sec"
" 40          HYDROGRAPH   Combine    1001"
"           6   Combine "
"        1001   Node #"
"               overflow from lot 1"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                 0.008     0.008     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.008     0.000     0.000     0.000"
" 33          CATCHMENT 2"
"           1   Triangular SCS"
"           1   Equal length"
"           1   SCS method"
"           2   Lot 2 - Tributary to Exfiltration Trench 2"
"      12.500   % Impervious"
"       0.320   Total Area"
"      25.000   Flow length"
"       2.000   Overland Slope"
"       0.280   Pervious Area"
"      25.000   Pervious length"
"       2.000   Pervious slope"
"       0.040   Impervious Area"
"      25.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.170   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.843   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                 0.013     0.000     0.000     0.000 c.m/sec"
"             Catchment 2            Pervious   Impervious Total Area "
"             Surface Area           0.280      0.040      0.320      hectare"
"             Time of concentration  21.417     1.808      13.296     minutes"
"             Time to Centroid       121.182    87.361     107.176    minutes"
"             Rainfall depth         45.372     45.372     45.372     mm"
"             Rainfall volume        127.04     18.15      145.19     c.m"
"             Rainfall losses        37.638     7.105      33.822     mm"
"             Runoff depth           7.734      38.267     11.551     mm"
"             Runoff volume          21.65      15.31      36.96      c.m"
"             Runoff coefficient     0.170      0.843      0.255      "
"             Maximum flow           0.007      0.011      0.013      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                 0.013     0.013     0.000     0.000"
" 57          TRENCH Design d/s of 2"
"       0.013   Peak inflow"
"      36.962   Hydrograph volume"
"     246.750   Ground elevation"
"     244.700   Downstream trench invert"
"       1.000   Trench height"
"     243.700   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"      25.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               244.700     0.000       0.0"
"               244.750     0.000       0.4"
"               244.800     0.000       0.8"
"               244.850     0.000       1.3"
"               244.900     0.000       1.8"
"               244.950     0.000       2.3"
"               245.000     0.000       2.9"
"               245.050     0.000       3.5"
"               245.100     0.000       4.2"
"               245.150     0.000       5.0"
"               245.200     0.000       6.0"
"               245.250     0.000       7.0"
"               245.300     0.000       8.1"
"               245.350     0.000       9.1"
"               245.400     0.000      10.2"
"               245.450     0.000      11.1"
"               245.500     0.000      12.0"
"               245.550     0.000      13.0"
"               245.600     0.000      14.1"
"               245.650     0.000      15.1"
"               245.700     0.000      16.2"
"               245.750     0.000      16.3"
"               245.800     0.000      16.4"
"               245.850     0.000      16.4"
"               245.900     0.000      16.5"
"               245.950     0.000      16.5"
"               246.000     0.000      16.6"
"               246.050     0.000      16.6"
"               246.100     0.000      16.7"
"               246.150     0.000      16.7"
"               246.200     0.000      16.8"
"               246.250     0.000      16.9"
"               246.300     0.000      16.9"
"               246.350     0.000      17.0"
"               246.400     0.000      17.0"
"               246.450     0.000      17.1"
"               246.500     0.000      17.1"
"               246.550     0.000      17.2"
"               246.600     0.000      17.3"
"               246.650     0.000      17.3"
"               246.700     0.000      17.4"
"               246.750     0.000      17.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"               245.100     25.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.012    c.m/sec"
"             Exfiltration volume          37.041    c.m"
"             Maximum level               244.798    metre"
"             Maximum storage               0.808    c.m"
"             Centroidal lag                1.808   hours"
"             Infiltration area 2 sides   6.933   sq.metre"
"             Infiltration Base area      25.000   sq.metre"
"                 0.013     0.013     0.000     0.012 c.m/sec"
" 40          HYDROGRAPH   Combine    1002"
"           6   Combine "
"        1002   Node #"
"               overflow from lot 2"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                 0.013     0.013     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
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"                    0.013     0.000     0.000     0.000"
" 33          CATCHMENT 3"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"            3   Lot 3 - Tributary to Exfiltration Trench 3"
"       28.000   % Impervious"
"        0.180   Total Area"
"       40.000   Flow length"
"        2.000   Overland Slope"
"        0.130   Pervious Area"
"       40.000   Pervious length"
"        2.000   Pervious slope"
"        0.050   Impervious Area"
"       35.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.171   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.841   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.014     0.000     0.000     0.000 c.m/sec"
"             Catchment 3            Pervious   Impervious Total Area "
"             Surface Area           0.130      0.050      0.180      hectare"
"             Time of concentration  28.394     2.212      11.181     minutes"
"             Time to Centroid       129.655    87.957     102.241    minutes"
"             Rainfall depth         45.372     45.372     45.372     mm"
"             Rainfall volume        58.80      22.87      81.67      c.m"
"             Rainfall losses        37.636     7.192      29.112     mm"
"             Runoff depth           7.736      38.181     16.261     mm"
"             Runoff volume          10.03      19.24      29.27      c.m"
"             Runoff coefficient     0.171      0.841      0.358      "
"             Maximum flow           0.003      0.014      0.014      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.014     0.014     0.000     0.000"
" 57          TRENCH Design d/s of 3"
"        0.014   Peak inflow"
"       29.269   Hydrograph volume"
"      247.000   Ground elevation"
"      244.950   Downstream trench invert"
"        1.000   Trench height"
"      243.900   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       16.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.950     0.000      0.0"
"                245.000     0.000      0.3"
"                245.050     0.000      0.5"
"                245.100     0.000      0.8"
"                245.150     0.000      1.2"
"                245.200     0.000      1.5"
"                245.250     0.000      1.9"
"                245.300     0.000      2.3"
"                245.350     0.000      2.7"
"                245.400     0.000      3.2"
"                245.450     0.000      3.8"
"                245.500     0.000      4.5"
"                245.550     0.000      5.2"
"                245.600     0.000      5.9"
"                245.650     0.000      6.5"
"                245.700     0.000      7.1"
"                245.750     0.000      7.7"
"                245.800     0.000      8.3"
"                245.850     0.000      9.0"
"                245.900     0.000      9.7"
"                245.950     0.000     10.4"
"                246.000     0.000     10.4"
"                246.050     0.000     10.5"
"                246.100     0.000     10.6"
"                246.150     0.000     10.6"
"                246.200     0.000     10.7"
"                246.250     0.000     10.7"
"                246.300     0.000     10.8"
"                246.350     0.000     10.8"
"                246.400     0.000     10.9"
"                246.450     0.000     11.0"
"                246.500     0.000     11.0"
"                246.550     0.000     11.1"
"                246.600     0.000     11.1"
"                246.650     0.000     11.2"
"                246.700     0.000     11.2"
"                246.750     0.000     11.3"
"                246.800     0.000     11.4"
"                246.850     0.000     11.4"
"                246.900     0.000     11.5"
"                246.950     0.000     11.5"
"                247.000     0.000     11.6"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                245.350    16.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.012    c.m/sec"
"             Exfiltration volume          29.143    c.m"
"             Maximum level               245.266    metre"
"             Maximum storage               1.996    c.m"
"             Centroidal lag                1.807   hours"
"             Infiltration area 2 sides    14.284   sq.metre"
"             Infiltration Base area       16.000   sq.metre"
"                  0.014     0.014     0.000     0.012 c.m/sec"
" 40          HYDROGRAPH   Combine    1003"
"            6   Combine "
"         1003   Node #"
"                overflow from lot 2"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                    0.014     0.014     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.014     0.000     0.000     0.000"
" 33          CATCHMENT 4"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"            4   Lot 4 - Tributary to Exfiltration Trench 4"
"       21.000   % Impervious"
"        0.190   Total Area"
"       40.000   Flow length"
"        2.000   Overland Slope"
"        0.150   Pervious Area"
"       40.000   Pervious length"
```

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"        2.000   Pervious slope"
"        0.040   Impervious Area"
"       40.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.171   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.842   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.012     0.000     0.000     0.000 c.m/sec"
"             Catchment 4            Pervious   Impervious Total Area "
"             Surface Area           0.150      0.040      0.190      hectare"
"             Time of concentration  28.394     2.397      13.640     minutes"
"             Time to Centroid       129.655    88.225     106.143    minutes"
"             Rainfall depth         45.372     45.372     45.372     mm"
"             Rainfall volume        68.10      18.10      86.21      c.m"
"             Rainfall losses        37.636     7.184      31.241     mm"
"             Runoff depth           7.736      38.188     14.131     mm"
"             Runoff volume          11.61      15.24      26.85      c.m"
"             Runoff coefficient     0.171      0.842      0.311      "
"             Maximum flow           0.003      0.011      0.012      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"              4   Add Runoff "
"                    0.012     0.012     0.000     0.000"
" 57          TRENCH Design d/s of 4"
"        0.012   Peak inflow"
"       26.849   Hydrograph volume"
"      246.650   Ground elevation"
"      244.600   Downstream trench invert"
"        1.000   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       16.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.600     0.000      0.0"
"                244.650     0.000      0.3"
"                244.700     0.000      0.5"
"                244.750     0.000      0.8"
"                244.800     0.000      1.2"
"                244.850     0.000      1.5"
"                244.900     0.000      1.9"
"                244.950     0.000      2.3"
"                245.000     0.000      2.7"
"                245.050     0.000      3.2"
"                245.100     0.000      3.8"
"                245.150     0.000      4.5"
"                245.200     0.000      5.2"
"                245.250     0.000      5.9"
"                245.300     0.000      6.5"
"                245.350     0.000      7.1"
"                245.400     0.000      7.7"
"                245.450     0.000      8.3"
"                245.500     0.000      9.0"
"                245.550     0.000      9.7"
"                245.600     0.000     10.4"
"                245.650     0.000     10.4"
"                245.700     0.000     10.5"
"                245.750     0.000     10.6"
"                245.800     0.000     10.6"
"                245.850     0.000     10.7"
"                245.900     0.000     10.7"
"                245.950     0.000     10.8"
"                246.000     0.000     10.8"
"                246.050     0.000     10.9"
"                246.100     0.000     11.0"
"                246.150     0.000     11.0"
"                246.200     0.000     11.1"
"                246.250     0.000     11.1"
"                246.300     0.000     11.2"
"                246.350     0.000     11.2"
"                246.400     0.000     11.3"
"                246.450     0.000     11.4"
"                246.500     0.000     11.4"
"                246.550     0.000     11.5"
"                246.600     0.000     11.5"
"                246.650     0.000     11.6"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                245.000    16.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.010    c.m/sec"
"             Exfiltration volume          26.650    c.m"
"             Maximum level               244.819    metre"
"             Maximum storage               1.286    c.m"
"             Centroidal lag                1.840   hours"
"             Infiltration area 2 sides   9.923   sq.metre"
"             Infiltration Base area       16.000   sq.metre"
"                    0.012     0.012     0.000     0.010 c.m/sec"
" 40          HYDROGRAPH   Combine    1004"
"              6   Combine "
"           1004   Node #"
"                  overflow from lot 4"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                    0.012     0.012     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"             2   Start - New Tributary"
"                    0.012     0.000     0.000     0.000"
" 33          CATCHMENT 5"
"             1   Triangular SCS"
"             3   Specify values"
"             1   SCS method"
"             5   Lot 5 - Tributary to Exfiltration Trench 5A"
"        19.000   % Impervious"
"         0.130   Total Area"
"        37.000   Flow length"
"         2.000   Overland Slope"
"         0.105   Pervious Area"
"        37.000   Pervious length"
"         2.000   Pervious slope"
"         0.025   Impervious Area"
"        26.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
"         0.171   Pervious Runoff coefficient"
"         0.030   Pervious Ia/S coefficient"
"         5.080   Pervious Initial abstraction"
"         0.015   Impervious Manning 'n'"
"        98.000   Impervious SCS Curve No."
"         0.843   Impervious Runoff coefficient"
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"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.007     0.000     0.000     0.000 c.m/sec"
"             Catchment 5            Pervious   Impervious Total Area "
"             Surface Area           0.105      0.025      0.130      hectare"
"             Time of concentration  27.097     1.851      13.542     minutes"
"             Time to Centroid       128.081    87.429     106.254    minutes"
"             Rainfall depth         45.372     45.372     45.372     mm"
"             Rainfall volume        47.78      11.21      58.98      c.m"
"             Rainfall losses        37.631     7.106      31.831     mm"
"             Runoff depth           7.742      38.266     13.541     mm"
"             Runoff volume          8.15       9.45       17.60      c.m"
"             Runoff coefficient     0.171      0.843      0.298      "
"             Maximum flow           0.002      0.007      0.007      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.007     0.007     0.000     0.000"
" 57          TRENCH Design d/s of 5"
"        0.007   Peak inflow"
"       17.604   Hydrograph volume"
"      248.000   Ground elevation"
"      245.950   Downstream trench invert"
"        1.000   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                247.950     0.000      0.0"
"                246.000     0.000      0.2"
"                246.050     0.000      0.3"
"                246.100     0.000      0.5"
"                246.150     0.000      0.7"
"                246.200     0.000      0.9"
"                246.250     0.000      1.2"
"                246.300     0.000      1.4"
"                246.350     0.000      1.7"
"                246.400     0.000      2.0"
"                246.450     0.000      2.4"
"                246.500     0.000      2.8"
"                246.550     0.000      3.2"
"                246.600     0.000      3.7"
"                246.650     0.000      4.1"
"                246.700     0.000      4.4"
"                246.750     0.000      4.8"
"                246.800     0.000      5.2"
"                246.850     0.000      5.6"
"                246.900     0.000      6.1"
"                246.950     0.000      6.5"
"                247.000     0.000      6.6"
"                247.050     0.000      6.6"
"                247.100     0.000      6.7"
"                247.150     0.000      6.7"
"                247.200     0.000      6.8"
"                247.250     0.000      6.8"
"                247.300     0.000      6.9"
"                247.350     0.000      6.9"
"                247.400     0.000      7.0"
"                247.450     0.000      7.1"
"                247.500     0.000      7.1"
"                247.550     0.000      7.2"
"                247.600     0.000      7.2"
"                247.650     0.000      7.3"
"                247.700     0.000      7.3"
"                247.750     0.000      7.4"
"                247.800     0.000      7.5"
"                247.850     0.000      7.5"
"                247.900     0.000      7.6"
"                247.950     0.000      7.6"
"                248.000     0.000      7.7"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                246.350    10.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.006    c.m/sec"
"             Exfiltration volume          17.521    c.m"
"             Maximum level               246.182    metre"
"             Maximum storage               0.861    c.m"
"             Centroidal lag                1.843   hours"
"             Infiltration area 2 sides   6.574   sq.metre"
"             Infiltration Base area      10.000   sq.metre"
"                  0.007     0.007     0.000     0.006 c.m/sec"
" 40          HYDROGRAPH   Combine    1005"
"           6   Combine "
"        1005   Node #"
"               overflow from lot 5"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                  0.007     0.007     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.007     0.000     0.000     0.000"
" 33          CATCHMENT 55"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          55   Lot 5 - Tributary to Exfiltration Trench 5B"
"       23.000   % Impervious"
"        0.110   Total Area"
"       37.000   Flow length"
"        2.000   Overland Slope"
"        0.085   Pervious Area"
"       37.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       26.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.171   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.843   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.007     0.000     0.000     0.000 c.m/sec"
"             Catchment 55           Pervious   Impervious Total Area "
"             Surface Area           0.085      0.025      0.110      hectare"
"             Time of concentration  27.097     1.851      12.045     minutes"
"             Time to Centroid       128.080    87.429     103.844    minutes"
"             Rainfall depth         45.372     45.372     45.372     mm"
"             Rainfall volume        38.43      11.48      49.91      c.m"
"             Rainfall losses        37.631     7.106      30.610     mm"
"             Runoff depth           7.742      38.266     14.762     mm"
"             Runoff volume          6.56       9.68       16.24      c.m"
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"             Runoff coefficient     0.171      0.843      0.325      "
"             Maximum flow           0.002      0.007      0.007      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"              4   Add Runoff "
"                      0.007     0.007     0.000     0.000"
" 57          TRENCH Design d/s of 55"
"        0.007   Peak inflow"
"       16.238   Hydrograph volume"
"      247.800   Ground elevation"
"      245.750   Downstream trench invert"
"        1.000   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                247.750     0.000       0.0"
"                245.800     0.000       0.2"
"                245.850     0.000       0.3"
"                245.900     0.000       0.5"
"                245.950     0.000       0.7"
"                246.000     0.000       0.9"
"                246.050     0.000       1.2"
"                246.100     0.000       1.4"
"                246.150     0.000       1.7"
"                246.200     0.000       2.0"
"                246.250     0.000       2.4"
"                246.300     0.000       2.8"
"                246.350     0.000       3.2"
"                246.400     0.000       3.7"
"                246.450     0.000       4.1"
"                246.500     0.000       4.4"
"                246.550     0.000       4.8"
"                246.600     0.000       5.2"
"                246.650     0.000       5.6"
"                246.700     0.000       6.1"
"                246.750     0.000       6.5"
"                246.800     0.000       6.6"
"                246.850     0.000       6.6"
"                246.900     0.000       6.7"
"                246.950     0.000       6.7"
"                247.000     0.000       6.8"
"                247.050     0.000       6.8"
"                247.100     0.000       6.9"
"                247.150     0.000       6.9"
"                247.200     0.000       7.0"
"                247.250     0.000       7.1"
"                247.300     0.000       7.1"
"                247.350     0.000       7.2"
"                247.400     0.000       7.2"
"                247.450     0.000       7.3"
"                247.500     0.000       7.3"
"                247.550     0.000       7.4"
"                247.600     0.000       7.5"
"                247.650     0.000       7.5"
"                247.700     0.000       7.6"
"                247.750     0.000       7.6"
"                247.800     0.000       7.7"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                246.150    10.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                Access"
"                diameter"
"                  1.200"
"             Peak outflow                 0.000    c.m/sec"
"             Outflow volume               0.000    c.m"
"             Peak exfiltration            0.006    c.m/sec"
"             Exfiltration volume         16.070    c.m"
"             Maximum level              245.985    metre"
"             Maximum storage              0.871    c.m"
"             Centroidal lag               1.805   hours"
"             Infiltration area 2 sides    6.637   sq.metre"
"             Infiltration Base area      10.000   sq.metre"
"                  0.007     0.007     0.000     0.006 c.m/sec"
" 40          HYDROGRAPH   Combine    1005"
"              6   Combine "
"           1005   Node #"
"                  overflow from lot 5"
"             Maximum flow                 0.000    c.m/sec"
"             Hydrograph volume            0.001    c.m"
"                  0.007     0.007     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"              2   Start - New Tributary"
"                  0.007     0.000     0.000     0.000"
" 33          CATCHMENT 6"
"              1   Triangular SCS"
"              3   Specify values"
"              1   SCS method"
"              6   Lot 6 - Tributary to Exfiltration Trench 6A"
"         21.000   % Impervious"
"          0.120   Total Area"
"         37.000   Flow length"
"          2.000   Overland Slope"
"          0.095   Pervious Area"
"         37.000   Pervious length"
"          2.000   Pervious slope"
"          0.025   Impervious Area"
"         26.000   Impervious length"
"          2.000   Impervious slope"
"          0.250   Pervious Manning 'n'"
"         60.000   Pervious SCS Curve No."
"          0.171   Pervious Runoff coefficient"
"          0.030   Pervious Ia/S coefficient"
"          5.080   Pervious Initial abstraction"
"          0.015   Impervious Manning 'n'"
"         98.000   Impervious SCS Curve No."
"          0.843   Impervious Runoff coefficient"
"          0.386   Impervious Ia/S coefficient"
"          2.001   Impervious Initial abstraction"
"                  0.007     0.000     0.000     0.000 c.m/sec"
"              Catchment 6            Pervious   Impervious Total Area "
"              Surface Area           0.095      0.025      0.120      hectare"
"              Time of concentration  27.097     1.851      12.761     minutes"
"              Time to Centroid       128.081    87.429     104.997    minutes"
"              Rainfall depth         45.372     45.372     45.372     mm"
"              Rainfall volume        43.01      11.43      54.45      c.m"
"              Rainfall losses        37.631     7.106      31.221     mm"
"              Runoff depth           7.742      38.266     14.152     mm"
"              Runoff volume          7.34       9.64       16.98      c.m"
"              Runoff coefficient     0.171      0.843      0.312      "
"              Maximum flow           0.002      0.007      0.007      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"              4   Add Runoff "
"                  0.007     0.007     0.000     0.000"
" 57          TRENCH Design d/s of 6"
"          0.007   Peak inflow"
"         16.982   Hydrograph volume"
"        247.700   Ground elevation"
"        245.650   Downstream trench invert"
"          1.000   Trench height"
"        244.200   Water table elevation"
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"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.650     0.000       0.0"
"                245.700     0.000       0.2"
"                245.750     0.000       0.3"
"                245.800     0.000       0.5"
"                245.850     0.000       0.7"
"                245.900     0.000       0.9"
"                245.950     0.000       1.2"
"                246.000     0.000       1.4"
"                246.050     0.000       1.7"
"                246.100     0.000       2.0"
"                246.150     0.000       2.4"
"                246.200     0.000       2.8"
"                246.250     0.000       3.2"
"                246.300     0.000       3.7"
"                246.350     0.000       4.1"
"                246.400     0.000       4.4"
"                246.450     0.000       4.8"
"                246.500     0.000       5.2"
"                246.550     0.000       5.6"
"                246.600     0.000       6.1"
"                246.650     0.000       6.5"
"                246.700     0.000       6.6"
"                246.750     0.000       6.6"
"                246.800     0.000       6.7"
"                246.850     0.000       6.7"
"                246.900     0.000       6.8"
"                246.950     0.000       6.8"
"                247.000     0.000       6.9"
"                247.050     0.000       6.9"
"                247.100     0.000       7.0"
"                247.150     0.000       7.1"
"                247.200     0.000       7.1"
"                247.250     0.000       7.2"
"                247.300     0.000       7.2"
"                247.350     0.000       7.3"
"                247.400     0.000       7.3"
"                247.450     0.000       7.4"
"                247.500     0.000       7.5"
"                247.550     0.000       7.5"
"                247.600     0.000       7.6"
"                247.650     0.000       7.6"
"                247.700     0.000       7.7"
"            1.   TRENCH PIPES"
"              Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                  Invert    length     diam.    grade%     0=Yes  distance"
"                246.050    10.000     0.300     0.000     0.000     0.000"
"            1.   MANHOLE"
"                  Access"
"                 diameter"
"                    1.200"
"              Peak outflow                 0.000    c.m/sec"
"              Outflow volume               0.000    c.m"
"              Peak exfiltration            0.006    c.m/sec"
"              Exfiltration volume         16.901    c.m"
"              Maximum level              245.884    metre"
"              Maximum storage              0.868    c.m"
"              Centroidal lag               1.823   hours"
"              Infiltration area 2 sides    6.622   sq.metre"
"              Infiltration Base area      10.000   sq.metre"
"                   0.007     0.007     0.000     0.006 c.m/sec"
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" 40          HYDROGRAPH   Combine    1006"
"               6   Combine "
"            1006   Node #"
"                   overflow from lot 6"
"                  Maximum flow                  0.000    c.m/sec"
"                  Hydrograph volume             0.000    c.m"
"                         0.007     0.007     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"               2   Start - New Tributary"
"                         0.007     0.000     0.000     0.000"
" 33          CATCHMENT 66"
"               1   Triangular SCS"
"               3   Specify values"
"               1   SCS method"
"              66   Lot 6 - Tributary to Exfiltration Trench 6B"
"          21.000   % Impervious"
"           0.120   Total Area"
"          37.000   Flow length"
"           2.000   Overland Slope"
"           0.095   Pervious Area"
"          37.000   Pervious length"
"           2.000   Pervious slope"
"           0.025   Impervious Area"
"          26.000   Impervious length"
"           2.000   Impervious slope"
"           0.250   Pervious Manning 'n'"
"          60.000   Pervious SCS Curve No."
"           0.171   Pervious Runoff coefficient"
"           0.030   Pervious Ia/S coefficient"
"           5.080   Pervious Initial abstraction"
"           0.015   Impervious Manning 'n'"
"          98.000   Impervious SCS Curve No."
"           0.843   Impervious Runoff coefficient"
"           0.386   Impervious Ia/S coefficient"
"           2.001   Impervious Initial abstraction"
"                         0.007     0.000     0.000     0.000 c.m/sec"
"                  Catchment 66           Pervious   Impervious Total Area "
"                  Surface Area           0.095      0.025      0.120      hectare"
"                  Time of concentration  27.097     1.851      12.761     minutes"
"                  Time to Centroid       128.081    87.429     104.997    minutes"
"                  Rainfall depth         45.372     45.372     45.372     mm"
"                  Rainfall volume        43.01      11.43      54.45      c.m"
"                  Rainfall losses        37.631     7.106      31.221     mm"
"                  Runoff depth           7.742      38.266     14.152     mm"
"                  Runoff volume          7.34       9.64       16.98      c.m"
"                  Runoff coefficient     0.171      0.843      0.312      "
"                  Maximum flow           0.002      0.007      0.007      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"               4   Add Runoff "
"                         0.007     0.007     0.000     0.000"
" 57          TRENCH Design d/s of 66"
"           0.007   Peak inflow"
"          16.982   Hydrograph volume"
"         247.800   Ground elevation"
"         245.750   Downstream trench invert"
"           1.000   Trench height"
"         244.200   Water table elevation"
"           3.000   Trench top width"
"           1.000   Trench bottom width"
"          30.000   Voids ratio (%)"
"        1267.200   Hydraulic conductivity"
"           0.000   Trench gradient (%)"
"          10.000   Trench length"
"           1.000   Include base width"
"             42.   Number of stages"
"                     Level Discharge    Volume"
"                   245.750     0.000       0.0"
"                   245.800     0.000       0.2"
"                   245.850     0.000       0.3"
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"               245.900     0.000       0.5"
"               245.950     0.000       0.7"
"               246.000     0.000       0.9"
"               246.050     0.000       1.2"
"               246.100     0.000       1.4"
"               246.150     0.000       1.7"
"               246.200     0.000       2.0"
"               246.250     0.000       2.4"
"               246.300     0.000       2.8"
"               246.350     0.000       3.2"
"               246.400     0.000       3.7"
"               246.450     0.000       4.1"
"               246.500     0.000       4.4"
"               246.550     0.000       4.8"
"               246.600     0.000       5.2"
"               246.650     0.000       5.6"
"               246.700     0.000       6.1"
"               246.750     0.000       6.5"
"               246.800     0.000       6.6"
"               246.850     0.000       6.6"
"               246.900     0.000       6.7"
"               246.950     0.000       6.7"
"               247.000     0.000       6.8"
"               247.050     0.000       6.8"
"               247.100     0.000       6.9"
"               247.150     0.000       6.9"
"               247.200     0.000       7.0"
"               247.250     0.000       7.1"
"               247.300     0.000       7.1"
"               247.350     0.000       7.2"
"               247.400     0.000       7.2"
"               247.450     0.000       7.3"
"               247.500     0.000       7.3"
"               247.550     0.000       7.4"
"               247.600     0.000       7.5"
"               247.650     0.000       7.5"
"               247.700     0.000       7.6"
"               247.750     0.000       7.6"
"               247.800     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.150    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.000    c.m"
"            Peak exfiltration            0.006    c.m/sec"
"            Exfiltration volume         16.913    c.m"
"            Maximum level              245.986    metre"
"            Maximum storage              0.875    c.m"
"            Centroidal lag               1.823   hours"
"            Infiltration area 2 sides    6.663   sq.metre"
"            Infiltration Base area      10.000   sq.metre"
"                 0.007     0.007     0.000     0.006 c.m/sec"
" 40         HYDROGRAPH   Combine    1006"
"           6   Combine "
"        1006   Node #"
"               overflow from lot 6"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.001    c.m"
"                    0.007     0.007     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                    0.007     0.000     0.000     0.000"
" 33         CATCHMENT 7"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"           7   Lot 7 - Tributary to Exfiltration Trench 7A"
"      10.000   % Impervious"
"       0.140   Total Area"
"      50.000   Flow length"
"       2.000   Overland Slope"
"       0.126   Pervious Area"
"      50.000   Pervious length"
"       2.000   Pervious slope"
"       0.014   Impervious Area"
"      24.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.171   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.843   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                    0.004     0.000     0.000     0.000 c.m/sec"
"            Catchment 7            Pervious   Impervious Total Area "
"            Surface Area           0.126      0.014      0.140      hectare"
"            Time of concentration  32.462     1.764      21.581     minutes"
"            Time to Centroid       134.602    87.290     117.832    minutes"
"            Rainfall depth         45.372     45.372     45.372     mm"
"            Rainfall volume        57.17      6.35       63.52      c.m"
"            Rainfall losses        37.631     7.114      34.579     mm"
"            Runoff depth           7.742      38.259     10.793     mm"
"            Runoff volume          9.75       5.36       15.11      c.m"
"            Runoff coefficient     0.171      0.843      0.238      "
"            Maximum flow           0.002      0.004      0.004      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                    0.004     0.004     0.000     0.000"
" 57         TRENCH Design d/s of 7"
"       0.004   Peak inflow"
"      15.111   Hydrograph volume"
"     247.750   Ground elevation"
"     245.700   Downstream trench invert"
"       1.000   Trench height"
"     244.140   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"       8.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"               Level Discharge    Volume"
"               245.700     0.000       0.0"
"               245.750     0.000       0.1"
"               245.800     0.000       0.3"
"               245.850     0.000       0.4"
"               245.900     0.000       0.6"
"               245.950     0.000       0.8"
"               246.000     0.000       0.9"
"               246.050     0.000       1.1"
"               246.100     0.000       1.3"
"               246.150     0.000       1.6"
"               246.200     0.000       1.9"
"               246.250     0.000       2.2"
"               246.300     0.000       2.6"
"               246.350     0.000       2.9"
"               246.400     0.000       3.3"
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"               246.450     0.000       3.5"
"               246.500     0.000       3.9"
"               246.550     0.000       4.2"
"               246.600     0.000       4.5"
"               246.650     0.000       4.8"
"               246.700     0.000       5.2"
"               246.750     0.000       5.3"
"               246.800     0.000       5.3"
"               246.850     0.000       5.4"
"               246.900     0.000       5.4"
"               246.950     0.000       5.5"
"               247.000     0.000       5.5"
"               247.050     0.000       5.6"
"               247.100     0.000       5.6"
"               247.150     0.000       5.7"
"               247.200     0.000       5.8"
"               247.250     0.000       5.8"
"               247.300     0.000       5.9"
"               247.350     0.000       5.9"
"               247.400     0.000       6.0"
"               247.450     0.000       6.0"
"               247.500     0.000       6.1"
"               247.550     0.000       6.2"
"               247.600     0.000       6.2"
"               247.650     0.000       6.3"
"               247.700     0.000       6.3"
"               247.750     0.000       6.4"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.100     8.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.004    c.m/sec"
"            Exfiltration volume          15.072    c.m"
"            Maximum level               245.812    metre"
"            Maximum storage               0.301    c.m"
"            Centroidal lag                1.991   hours"
"            Infiltration area 2 sides     2.541   sq.metre"
"            Infiltration Base area        8.000   sq.metre"
"                0.004     0.004     0.000     0.004 c.m/sec"
" 40         HYDROGRAPH   Combine    1007"
"           6   Combine "
"        1007   Node #"
"               overflow from lot 7"
"            Maximum flow                  0.000    c.m/sec"
"            Hydrograph volume             0.000    c.m"
"                    0.004     0.004     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                   0.004     0.000     0.000     0.000"
" 33         CATCHMENT 77"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          77   Lot 7 - Tributary to Exfiltration Trench 7B"
"      16.500   % Impervious"
"       0.240   Total Area"
"      54.000   Flow length"
"       2.000   Overland Slope"
"       0.200   Pervious Area"
"      54.000   Pervious length"
"       2.000   Pervious slope"
"       0.040   Impervious Area"
"      24.000   Impervious length"
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"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.171   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.843   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                   0.011     0.000     0.000     0.000 c.m/sec"
"            Catchment 77           Pervious   Impervious Total Area "
"            Surface Area           0.200      0.040      0.240      hectare"
"            Time of concentration  33.996     1.764      18.071     minutes"
"            Time to Centroid       136.464    87.290     112.168    minutes"
"            Rainfall depth         45.372     45.372     45.372     mm"
"            Rainfall volume        90.93      17.97      108.89     c.m"
"            Rainfall losses        37.631     7.114      32.596     mm"
"            Runoff depth           7.741      38.259     12.776     mm"
"            Runoff volume          15.51      15.15      30.66      c.m"
"            Runoff coefficient     0.171      0.843      0.282      "
"            Maximum flow           0.004      0.011      0.011      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                   0.011     0.011     0.000     0.000"
" 57         TRENCH Design d/s of 77"
"       0.011   Peak inflow"
"      30.663   Hydrograph volume"
"     247.700   Ground elevation"
"     245.650   Downstream trench invert"
"       1.000   Trench height"
"     244.000   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"      16.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               245.650     0.000       0.0"
"               245.700     0.000       0.3"
"               245.750     0.000       0.5"
"               245.800     0.000       0.8"
"               245.850     0.000       1.2"
"               245.900     0.000       1.5"
"               245.950     0.000       1.9"
"               246.000     0.000       2.3"
"               246.050     0.000       2.7"
"               246.100     0.000       3.2"
"               246.150     0.000       3.8"
"               246.200     0.000       4.5"
"               246.250     0.000       5.2"
"               246.300     0.000       5.9"
"               246.350     0.000       6.5"
"               246.400     0.000       7.1"
"               246.450     0.000       7.7"
"               246.500     0.000       8.3"
"               246.550     0.000       9.0"
"               246.600     0.000       9.7"
"               246.650     0.000      10.4"
"               246.700     0.000      10.4"
"               246.750     0.000      10.5"
"               246.800     0.000      10.6"
"               246.850     0.000      10.6"
"               246.900     0.000      10.7"
"               246.950     0.000      10.7"
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"               247.000     0.000      10.8"
"               247.050     0.000      10.8"
"               247.100     0.000      10.9"
"               247.150     0.000      11.0"
"               247.200     0.000      11.0"
"               247.250     0.000      11.1"
"               247.300     0.000      11.1"
"               247.350     0.000      11.2"
"               247.400     0.000      11.2"
"               247.450     0.000      11.3"
"               247.500     0.000      11.4"
"               247.550     0.000      11.4"
"               247.600     0.000      11.5"
"               247.650     0.000      11.5"
"               247.700     0.000      11.6"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.050    16.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.000    c.m"
"            Peak exfiltration            0.010    c.m/sec"
"            Exfiltration volume         30.420    c.m"
"            Maximum level              245.876    metre"
"            Maximum storage              1.333    c.m"
"            Centroidal lag               1.942   hours"
"            Infiltration area 2 sides   10.230   sq.metre"
"            Infiltration Base area      16.000   sq.metre"
"                 0.011     0.011     0.000     0.010 c.m/sec"
" 40         HYDROGRAPH   Combine    1007"
"           6   Combine "
"        1007   Node #"
"               overflow from lot 7"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.001    c.m"
"                  0.011     0.011     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.011     0.000     0.000     0.000"
" 33         CATCHMENT 8"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"           8   Lot 8 - Tributary to Exfiltration Trench 8A"
"       42.000  % Impervious"
"        0.060  Total Area"
"       36.000  Flow length"
"        2.000  Overland Slope"
"        0.035  Pervious Area"
"       36.000  Pervious length"
"        2.000  Pervious slope"
"        0.025  Impervious Area"
"       24.000  Impervious length"
"        2.000  Impervious slope"
"        0.250  Pervious Manning 'n'"
"       60.000  Pervious SCS Curve No."
"        0.171  Pervious Runoff coefficient"
"        0.030  Pervious Ia/S coefficient"
"        5.080  Pervious Initial abstraction"
"        0.015  Impervious Manning 'n'"
"       98.000  Impervious SCS Curve No."
"        0.843  Impervious Runoff coefficient"
"        0.386  Impervious Ia/S coefficient"
"        2.001  Impervious Initial abstraction"
"                  0.007     0.000     0.000     0.000 c.m/sec"
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"            Catchment 8            Pervious   Impervious Total Area "
"            Surface Area           0.035      0.025      0.060      hectare"
"            Time of concentration  26.655     1.764      7.200      minutes"
"            Time to Centroid       127.541    87.290     96.081     minutes"
"            Rainfall depth         45.372     45.372     45.372     mm"
"            Rainfall volume        15.79      11.43      27.22      c.m"
"            Rainfall losses        37.631     7.114      24.814     mm"
"            Runoff depth           7.742      38.259     20.559     mm"
"            Runoff volume          2.69       9.64       12.34      c.m"
"            Runoff coefficient     0.171      0.843      0.453      "
"            Maximum flow           0.001      0.007      0.007      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.007     0.007     0.000     0.000"
" 57         TRENCH Design d/s of 8"
"        0.007   Peak inflow"
"       12.335   Hydrograph volume"
"      247.700   Ground elevation"
"      245.650   Downstream trench invert"
"        1.000   Trench height"
"      244.000   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"               245.650     0.000       0.0"
"               245.700     0.000       0.1"
"               245.750     0.000       0.3"
"               245.800     0.000       0.4"
"               245.850     0.000       0.6"
"               245.900     0.000       0.8"
"               245.950     0.000       0.9"
"               246.000     0.000       1.1"
"               246.050     0.000       1.3"
"               246.100     0.000       1.6"
"               246.150     0.000       1.9"
"               246.200     0.000       2.2"
"               246.250     0.000       2.6"
"               246.300     0.000       2.9"
"               246.350     0.000       3.3"
"               246.400     0.000       3.5"
"               246.450     0.000       3.9"
"               246.500     0.000       4.2"
"               246.550     0.000       4.5"
"               246.600     0.000       4.8"
"               246.650     0.000       5.2"
"               246.700     0.000       5.3"
"               246.750     0.000       5.3"
"               246.800     0.000       5.4"
"               246.850     0.000       5.4"
"               246.900     0.000       5.5"
"               246.950     0.000       5.5"
"               247.000     0.000       5.6"
"               247.050     0.000       5.6"
"               247.100     0.000       5.7"
"               247.150     0.000       5.8"
"               247.200     0.000       5.8"
"               247.250     0.000       5.9"
"               247.300     0.000       5.9"
"               247.350     0.000       6.0"
"               247.400     0.000       6.0"
"               247.450     0.000       6.1"
"               247.500     0.000       6.2"
"               247.550     0.000       6.2"
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"               247.600     0.000       6.3"
"               247.650     0.000       6.3"
"               247.700     0.000       6.4"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.050     8.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.006    c.m/sec"
"            Exfiltration volume          12.210    c.m"
"            Maximum level               245.973    metre"
"            Maximum storage               1.027    c.m"
"            Centroidal lag                1.698   hours"
"            Infiltration area 2 sides   7.307   sq.metre"
"            Infiltration Base area      8.000   sq.metre"
"                 0.007     0.007     0.000     0.006 c.m/sec"
" 40         HYDROGRAPH   Combine    1008"
"           6   Combine "
"        1008   Node #"
"               overflow from lot 8"
"            Maximum flow                  0.000    c.m/sec"
"            Hydrograph volume             0.000    c.m"
"                 0.007     0.007     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                    0.007     0.000     0.000     0.000"
" 33         CATCHMENT 88"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          88   Lot 8 - Tributary to Exfiltration Trench 8B"
"      15.000   % Impervious"
"       0.170   Total Area"
"      55.000   Flow length"
"       2.000   Overland Slope"
"       0.145   Pervious Area"
"      55.000   Pervious length"
"       2.000   Pervious slope"
"       0.025   Impervious Area"
"      24.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.171   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.843   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                    0.007     0.000     0.000     0.000 c.m/sec"
"            Catchment 88           Pervious   Impervious Total Area "
"            Surface Area           0.145      0.025      0.170      hectare"
"            Time of concentration  34.373     1.764      19.182     minutes"
"            Time to Centroid       136.920    87.290     113.800    minutes"
"            Rainfall depth         45.372     45.372     45.372     mm"
"            Rainfall volume        65.56      11.57      77.13      c.m"
"            Rainfall losses        37.631     7.114      33.054     mm"
"            Runoff depth           7.741      38.259     12.319     mm"
"            Runoff volume          11.19      9.76       20.94      c.m"
"            Runoff coefficient     0.171      0.843      0.272      "
"            Maximum flow           0.003      0.007      0.007      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
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"           4   Add Runoff "
"                    0.007     0.007     0.000     0.000"
" 57          TRENCH Design d/s of 88"
"        0.007   Peak inflow"
"       20.942   Hydrograph volume"
"      247.050   Ground elevation"
"      245.000   Downstream trench invert"
"        1.000   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.000     0.000       0.0"
"                245.050     0.000       0.2"
"                245.100     0.000       0.3"
"                245.150     0.000       0.5"
"                245.200     0.000       0.7"
"                245.250     0.000       0.9"
"                245.300     0.000       1.2"
"                245.350     0.000       1.4"
"                245.400     0.000       1.7"
"                245.450     0.000       2.0"
"                245.500     0.000       2.4"
"                245.550     0.000       2.8"
"                245.600     0.000       3.2"
"                245.650     0.000       3.7"
"                245.700     0.000       4.1"
"                245.750     0.000       4.4"
"                245.800     0.000       4.8"
"                245.850     0.000       5.2"
"                245.900     0.000       5.6"
"                245.950     0.000       6.1"
"                246.000     0.000       6.5"
"                246.050     0.000       6.6"
"                246.100     0.000       6.6"
"                246.150     0.000       6.7"
"                246.200     0.000       6.7"
"                246.250     0.000       6.8"
"                246.300     0.000       6.8"
"                246.350     0.000       6.9"
"                246.400     0.000       6.9"
"                246.450     0.000       7.0"
"                246.500     0.000       7.1"
"                246.550     0.000       7.1"
"                246.600     0.000       7.2"
"                246.650     0.000       7.2"
"                246.700     0.000       7.3"
"                246.750     0.000       7.3"
"                246.800     0.000       7.4"
"                246.850     0.000       7.5"
"                246.900     0.000       7.5"
"                246.950     0.000       7.6"
"                247.000     0.000       7.6"
"                247.050     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               245.400    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
```

```
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.006    c.m/sec"
"             Exfiltration volume          20.865    c.m"
"             Maximum level               245.236    metre"
"             Maximum storage               0.876    c.m"
"             Centroidal lag                1.972   hours"
"             Infiltration area 2 sides   6.668   sq.metre"
"             Infiltration Base area      10.000   sq.metre"
"                  0.007     0.007     0.000     0.006 c.m/sec"
" 40          HYDROGRAPH   Combine    1008"
"           6   Combine "
"        1008   Node #"
"               overflow from lot 8"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.007     0.007     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.007     0.000     0.000     0.000"
" 33          CATCHMENT 9"
"           1   Triangular SCS"
"           1   Equal length"
"           1   SCS method"
"           9   Lot 9 - Tributary to Exfiltration Trench 9A"
"      63.000   % Impervious"
"       0.040   Total Area"
"      24.000   Flow length"
"       2.000   Overland Slope"
"       0.015   Pervious Area"
"      24.000   Pervious length"
"       2.000   Pervious slope"
"       0.025   Impervious Area"
"      24.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.171   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.843   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                  0.007     0.000     0.000     0.000 c.m/sec"
"             Catchment 9            Pervious   Impervious Total Area "
"             Surface Area           0.015      0.025      0.040      hectare"
"             Time of concentration  20.899     1.764      3.796      minutes"
"             Time to Centroid       120.553    87.290     90.822     minutes"
"             Rainfall depth         45.372     45.372     45.372     mm"
"             Rainfall volume        6.72       11.43      18.15      c.m"
"             Rainfall losses        37.633     7.114      18.406     mm"
"             Runoff depth           7.739      38.259     26.967     mm"
"             Runoff volume          1.15       9.64       10.79      c.m"
"             Runoff coefficient     0.171      0.843      0.594      "
"             Maximum flow           0.000      0.007      0.007      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.007     0.007     0.000     0.000"
" 57          TRENCH Design d/s of 9"
"       0.007   Peak inflow"
"      10.787   Hydrograph volume"
"     247.050   Ground elevation"
"     245.000   Downstream trench invert"
"       1.000   Trench height"
"     243.700   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"       8.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               245.000     0.000       0.0"
"               245.050     0.000       0.1"
"               245.100     0.000       0.3"
"               245.150     0.000       0.4"
"               245.200     0.000       0.6"
"               245.250     0.000       0.8"
"               245.300     0.000       0.9"
"               245.350     0.000       1.1"
"               245.400     0.000       1.3"
"               245.450     0.000       1.6"
"               245.500     0.000       1.9"
"               245.550     0.000       2.2"
"               245.600     0.000       2.6"
"               245.650     0.000       2.9"
"               245.700     0.000       3.3"
"               245.750     0.000       3.5"
"               245.800     0.000       3.9"
"               245.850     0.000       4.2"
"               245.900     0.000       4.5"
"               245.950     0.000       4.8"
"               246.000     0.000       5.2"
"               246.050     0.000       5.3"
"               246.100     0.000       5.3"
"               246.150     0.000       5.4"
"               246.200     0.000       5.4"
"               246.250     0.000       5.5"
"               246.300     0.000       5.5"
"               246.350     0.000       5.6"
"               246.400     0.000       5.6"
"               246.450     0.000       5.7"
"               246.500     0.000       5.8"
"               246.550     0.000       5.8"
"               246.600     0.000       5.9"
"               246.650     0.000       5.9"
"               246.700     0.000       6.0"
"               246.750     0.000       6.0"
"               246.800     0.000       6.1"
"               246.850     0.000       6.2"
"               246.900     0.000       6.2"
"               246.950     0.000       6.3"
"               247.000     0.000       6.3"
"               247.050     0.000       6.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"               245.400     8.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.006    c.m/sec"
"             Exfiltration volume          10.623    c.m"
"             Maximum level               245.312    metre"
"             Maximum storage               0.982    c.m"
"             Centroidal lag                1.601   hours"
"             Infiltration area 2 sides   7.052   sq.metre"
"             Infiltration Base area      8.000   sq.metre"
"                  0.007     0.007     0.000     0.006 c.m/sec"
" 40          HYDROGRAPH   Combine    1009"
"           6   Combine "
"        1009   Node #"
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"                overflow from lot 9"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                    0.007     0.007     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.007     0.000     0.000     0.000"
" 33          CATCHMENT 99"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           99   Lot 9 - Tributary to Exfiltration Trench 9B (portion of Lot 8 included)"
"       10.000   % Impervious"
"        0.300   Total Area"
"       70.000   Flow length"
"        2.000   Overland Slope"
"        0.270   Pervious Area"
"       70.000   Pervious length"
"        2.000   Pervious slope"
"        0.030   Impervious Area"
"       38.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.171   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.841   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.009     0.000     0.000     0.000 c.m/sec"
"             Catchment 99           Pervious   Impervious Total Area "
"             Surface Area           0.270      0.030      0.300      hectare"
"             Time of concentration  39.724     2.324      26.489     minutes"
"             Time to Centroid       143.423    88.114     123.850    minutes"
"             Rainfall depth         45.372     45.372     45.372     mm"
"             Rainfall volume        122.51     13.61      136.12     c.m"
"             Rainfall losses        37.631     7.211      34.589     mm"
"             Runoff depth           7.741      38.162     10.783     mm"
"             Runoff volume          20.90      11.45      32.35      c.m"
"             Runoff coefficient     0.171      0.841      0.238      "
"             Maximum flow           0.004      0.008      0.009      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.009     0.009     0.000     0.000"
" 57          TRENCH Design d/s of 99"
"        0.009   Peak inflow"
"       32.350   Hydrograph volume"
"      246.300   Ground elevation"
"      244.250   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       16.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.250     0.000      0.0"
"                244.300     0.000      0.3"
"                244.350     0.000      0.5"
"                244.400     0.000      0.8"
"                244.450     0.000      1.2"
"                244.500     0.000      1.5"
"                244.550     0.000      1.9"
"                244.600     0.000      2.3"
"                244.650     0.000      2.7"
"                244.700     0.000      3.2"
"                244.750     0.000      3.8"
"                244.800     0.000      4.5"
"                244.850     0.000      5.2"
"                244.900     0.000      5.9"
"                244.950     0.000      6.5"
"                245.000     0.000      7.1"
"                245.050     0.000      7.7"
"                245.100     0.000      8.3"
"                245.150     0.000      9.0"
"                245.200     0.000      9.7"
"                245.250     0.000     10.4"
"                245.300     0.000     10.4"
"                245.350     0.000     10.5"
"                245.400     0.000     10.6"
"                245.450     0.000     10.6"
"                245.500     0.000     10.7"
"                245.550     0.000     10.7"
"                245.600     0.000     10.8"
"                245.650     0.000     10.8"
"                245.700     0.000     10.9"
"                245.750     0.000     11.0"
"                245.800     0.000     11.0"
"                245.850     0.000     11.1"
"                245.900     0.000     11.1"
"                245.950     0.000     11.2"
"                246.000     0.000     11.2"
"                246.050     0.000     11.3"
"                246.100     0.000     11.4"
"                246.150     0.000     11.4"
"                246.200     0.000     11.5"
"                246.250     0.000     11.5"
"                246.300     0.000     11.6"
"            1.   TRENCH PIPES"
"              Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                  Invert    length     diam.    grade%     0=Yes  distance"
"                 244.650    16.000     0.300     0.000     0.000     0.000"
"            1.   MANHOLE"
"                  Access"
"                diameter"
"                   1.200"
"              Peak outflow                  0.000    c.m/sec"
"              Outflow volume                0.000    c.m"
"              Peak exfiltration             0.008    c.m/sec"
"              Exfiltration volume          32.263    c.m"
"              Maximum level               244.373    metre"
"              Maximum storage               0.666    c.m"
"              Centroidal lag                2.096   hours"
"              Infiltration area 2 sides   5.565   sq.metre"
"              Infiltration Base area       16.000   sq.metre"
"                    0.009     0.009     0.000     0.008 c.m/sec"
" 40          HYDROGRAPH    Combine    1009"
"            6   Combine "
"         1009   Node #"
"                overflow from lot 9"
"              Maximum flow                  0.000    c.m/sec"
"              Hydrograph volume             0.001    c.m"
"                    0.009     0.009     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.009     0.000     0.000     0.000"
" 33          CATCHMENT 10"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           10   Lot 10 - Tributary to Exfiltration Trench 10A"
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"       14.000   % Impervious"
"        0.190   Total Area"
"      120.000   Flow length"
"        2.000   Overland Slope"
"        0.163   Pervious Area"
"      120.000   Pervious length"
"        2.000   Pervious slope"
"        0.027   Impervious Area"
"       24.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.171   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.843   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.007     0.000     0.000     0.000 c.m/sec"
"             Catchment 10           Pervious   Impervious Total Area "
"             Surface Area           0.163      0.027      0.190      hectare"
"             Time of concentration  54.892     1.764      31.208     minutes"
"             Time to Centroid       161.821    87.290     128.596    minutes"
"             Rainfall depth         45.372     45.372     45.372     mm"
"             Rainfall volume        74.14      12.07      86.21      c.m"
"             Rainfall losses        37.630     7.114      33.357     mm"
"             Runoff depth           7.743      38.259     12.015     mm"
"             Runoff volume          12.65      10.18      22.83      c.m"
"             Runoff coefficient     0.171      0.843      0.265      "
"             Maximum flow           0.002      0.007      0.007      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                    0.007     0.007     0.000     0.000"
" 57          TRENCH Design d/s of 10"
"        0.007   Peak inflow"
"       22.828   Hydrograph volume"
"      246.250   Ground elevation"
"      244.200   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.200     0.000      0.0"
"                244.250     0.000      0.1"
"                244.300     0.000      0.3"
"                244.350     0.000      0.4"
"                244.400     0.000      0.6"
"                244.450     0.000      0.8"
"                244.500     0.000      0.9"
"                244.550     0.000      1.1"
"                244.600     0.000      1.3"
"                244.650     0.000      1.6"
"                244.700     0.000      1.9"
"                244.750     0.000      2.2"
"                244.800     0.000      2.6"
"                244.850     0.000      2.9"
"                244.900     0.000      3.3"
"                244.950     0.000      3.5"
"                245.000     0.000      3.9"
"                245.050     0.000      4.2"
"                245.100     0.000      4.5"
"                245.150     0.000      4.8"
"                245.200     0.000      5.2"
"                245.250     0.000      5.3"
"                245.300     0.000      5.3"
"                245.350     0.000      5.4"
"                245.400     0.000      5.4"
"                245.450     0.000      5.5"
"                245.500     0.000      5.5"
"                245.550     0.000      5.6"
"                245.600     0.000      5.6"
"                245.650     0.000      5.7"
"                245.700     0.000      5.8"
"                245.750     0.000      5.8"
"                245.800     0.000      5.9"
"                245.850     0.000      5.9"
"                245.900     0.000      6.0"
"                245.950     0.000      6.0"
"                246.000     0.000      6.1"
"                246.050     0.000      6.2"
"                246.100     0.000      6.2"
"                246.150     0.000      6.3"
"                246.200     0.000      6.3"
"                246.250     0.000      6.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                244.600     8.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.006    c.m/sec"
"             Exfiltration volume          22.787    c.m"
"             Maximum level               244.527    metre"
"             Maximum storage               1.043    c.m"
"             Centroidal lag                2.268   hours"
"             Infiltration area 2 sides   7.403   sq.metre"
"             Infiltration Base area      8.000   sq.metre"
"                  0.007     0.007     0.000     0.006 c.m/sec"
" 40          HYDROGRAPH   Combine    1010"
"           6   Combine "
"        1010   Node #"
"               overflow from lot 10"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.007     0.007     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.007     0.000     0.000     0.000"
" 33          CATCHMENT 100"
"             1   Triangular SCS"
"             3   Specify values"
"             1   SCS method"
"           100   Lot 10 - Tributary to Exfiltration Trench 10B"
"        14.000   % Impervious"
"         0.180   Total Area"
"       110.000   Flow length"
"         2.000   Overland Slope"
"         0.155   Pervious Area"
"       110.000   Pervious length"
"         2.000   Pervious slope"
"         0.025   Impervious Area"
"        24.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
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"        0.171   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.843   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.007     0.000     0.000     0.000 c.m/sec"
"             Catchment 100          Pervious   Impervious Total Area "
"             Surface Area           0.155      0.025      0.180      hectare"
"             Time of concentration  52.099     1.764      29.660     minutes"
"             Time to Centroid       158.432    87.290     126.717    minutes"
"             Rainfall depth         45.372     45.372     45.372     mm"
"             Rainfall volume        70.24      11.43      81.67      c.m"
"             Rainfall losses        37.629     7.114      33.357     mm"
"             Runoff depth           7.743      38.259     12.015     mm"
"             Runoff volume          11.99      9.64       21.63      c.m"
"             Runoff coefficient     0.171      0.843      0.265      "
"             Maximum flow           0.002      0.007      0.007      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                  0.007     0.007     0.000     0.000"
" 57          TRENCH Design d/s of 100"
"        0.007   Peak inflow"
"       21.627   Hydrograph volume"
"      246.450   Ground elevation"
"      244.400   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.400     0.000      0.0"
"                244.450     0.000      0.1"
"                244.500     0.000      0.3"
"                244.550     0.000      0.4"
"                244.600     0.000      0.6"
"                244.650     0.000      0.8"
"                244.700     0.000      0.9"
"                244.750     0.000      1.1"
"                244.800     0.000      1.3"
"                244.850     0.000      1.6"
"                244.900     0.000      1.9"
"                244.950     0.000      2.2"
"                245.000     0.000      2.6"
"                245.050     0.000      2.9"
"                245.100     0.000      3.3"
"                245.150     0.000      3.5"
"                245.200     0.000      3.9"
"                245.250     0.000      4.2"
"                245.300     0.000      4.5"
"                245.350     0.000      4.8"
"                245.400     0.000      5.2"
"                245.450     0.000      5.3"
"                245.500     0.000      5.3"
"                245.550     0.000      5.4"
"                245.600     0.000      5.4"
"                245.650     0.000      5.5"
"                245.700     0.000      5.5"
"                245.750     0.000      5.6"
"                245.800     0.000      5.6"
"                245.850     0.000      5.7"
"                245.900     0.000      5.8"
"                245.950     0.000      5.8"
"                246.000     0.000      5.9"
"                246.050     0.000      5.9"
"                246.100     0.000      6.0"
"                246.150     0.000      6.0"
"                246.200     0.000      6.1"
"                246.250     0.000      6.2"
"                246.300     0.000      6.2"
"                246.350     0.000      6.3"
"                246.400     0.000      6.3"
"                246.450     0.000      6.4"
"           1.   TRENCH PIPES"
"              Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                  Invert    length     diam.    grade%     0=Yes  distance"
"                244.800     8.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                Access"
"               diameter"
"                  1.200"
"              Peak outflow                  0.000    c.m/sec"
"              Outflow volume                0.001    c.m"
"              Peak exfiltration             0.006    c.m/sec"
"              Exfiltration volume          21.595    c.m"
"              Maximum level               244.712    metre"
"              Maximum storage               0.985    c.m"
"              Centroidal lag                2.225   hours"
"              Infiltration area 2 sides     7.067   sq.metre"
"              Infiltration Base area        8.000   sq.metre"
"                   0.007     0.007     0.000     0.006 c.m/sec"
" 40          HYDROGRAPH   Combine    1010"
"            6   Combine "
"         1010   Node #"
"                overflow from lot 10"
"              Maximum flow                  0.000    c.m/sec"
"              Hydrograph volume             0.001    c.m"
"                   0.007     0.007     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                  0.007     0.000     0.000     0.000"
```

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"                MIDUSS Output ------------------------------------------------>"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used                                          ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                          Eng 1432-1\SWM\MIDUSS\Post for Lots"
"                Output filename:              10 year post - private lots.out"
"                Licensee name:                                          owner"
"                Company                                              HP Inc."
"                Date & Time last used:               2020-05-05 at 8:17:00 AM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1440.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     1497.190   Coefficient A"
"        7.188   Constant B"
"        0.850   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"             Maximum intensity           164.792    mm/hr"
"             Total depth                  52.597    mm"
"            5   10hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 1"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"            1   Lot 1 - Tributary to Exfiltration Trench 1"
"       10.000   % Impervious"
"        0.250   Total Area"
"       32.000   Flow length"
"        2.000   Overland Slope"
"        0.225   Pervious Area"
"       32.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       40.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.198   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.860   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.011     0.000     0.000     0.000 c.m/sec"
"             Catchment 1            Pervious   Impervious Total Area "
"             Surface Area           0.225      0.025      0.250      hectare"
"             Time of concentration  21.942     2.214      15.513     minutes"
"             Time to Centroid       121.161    87.450     110.175    minutes"
"             Rainfall depth         52.597     52.597     52.597     mm"
"             Rainfall volume        118.34     13.15      131.49     c.m"
"             Rainfall losses        42.202     7.370      38.719     mm"
"             Runoff depth           10.395     45.227     13.878     mm"
"             Runoff volume          23.39      11.31      34.70      c.m"
"             Runoff coefficient     0.198      0.860      0.264      "
"             Maximum flow           0.008      0.008      0.011      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                     0.011     0.011     0.000     0.000"
" 57          TRENCH Design d/s of 1"
"        0.011   Peak inflow"
"       34.696   Hydrograph volume"
"      247.300   Ground elevation"
"      245.250   Downstream trench invert"
"        1.000   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       20.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.250     0.000       0.0"
"                245.300     0.000       0.3"
"                245.350     0.000       0.7"
"                245.400     0.000       1.0"
"                245.450     0.000       1.4"
"                245.500     0.000       1.9"
"                245.550     0.000       2.3"
"                245.600     0.000       2.8"
"                245.650     0.000       3.4"
"                245.700     0.000       4.0"
"                245.750     0.000       4.8"
"                245.800     0.000       5.6"
"                245.850     0.000       6.5"
"                245.900     0.000       7.3"
"                245.950     0.000       8.1"
"                246.000     0.000       8.9"
"                246.050     0.000       9.6"
"                246.100     0.000      10.4"
"                246.150     0.000      11.2"
"                246.200     0.000      12.1"
"                246.250     0.000      13.0"
"                246.300     0.000      13.0"
"                246.350     0.000      13.1"
"                246.400     0.000      13.2"
"                246.450     0.000      13.2"
"                246.500     0.000      13.3"
"                246.550     0.000      13.3"
"                246.600     0.000      13.4"
"                246.650     0.000      13.4"
"                246.700     0.000      13.5"
"                246.750     0.000      13.6"
"                246.800     0.000      13.6"
"                246.850     0.000      13.7"
"                246.900     0.000      13.7"
"                246.950     0.000      13.8"
"                247.000     0.000      13.8"
"                247.050     0.000      13.9"
"                247.100     0.000      14.0"
"                247.150     0.000      14.0"
"                247.200     0.000      14.1"
"                247.250     0.000      14.1"
"                247.300     0.000      14.2"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                245.650    20.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.010    c.m/sec"
"             Exfiltration volume          34.794    c.m"
"             Maximum level               245.362    metre"
"             Maximum storage               0.748    c.m"
"             Centroidal lag                1.873   hours"
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"             Infiltration area 2 sides   6.318   sq.metre"
"             Infiltration Base area      20.000   sq.metre"
"                 0.011     0.011     0.000     0.010 c.m/sec"
" 40          HYDROGRAPH   Combine    1001"
"           6   Combine "
"        1001   Node #"
"               overflow from lot 1"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                   0.011     0.011     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.011     0.000     0.000     0.000"
" 33          CATCHMENT 2"
"           1   Triangular SCS"
"           1   Equal length"
"           1   SCS method"
"           2   Lot 2 - Tributary to Exfiltration Trench 2"
"      12.500   % Impervious"
"       0.320   Total Area"
"      25.000   Flow length"
"       2.000   Overland Slope"
"       0.280   Pervious Area"
"      25.000   Pervious length"
"       2.000   Pervious slope"
"       0.040   Impervious Area"
"      25.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.197   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.861   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                 0.016     0.000     0.000     0.000 c.m/sec"
"             Catchment 2            Pervious   Impervious Total Area "
"             Surface Area           0.280      0.040      0.320      hectare"
"             Time of concentration  18.921     1.670      12.300     minutes"
"             Time to Centroid       117.475    86.629     105.637    minutes"
"             Rainfall depth         52.597     52.597     52.597     mm"
"             Rainfall volume        147.27     21.04      168.31     c.m"
"             Rainfall losses        42.210     7.311      37.847     mm"
"             Runoff depth           10.388     45.286     14.750     mm"
"             Runoff volume          29.09      18.11      47.20      c.m"
"             Runoff coefficient     0.197      0.861      0.280      "
"             Maximum flow           0.010      0.013      0.016      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                 0.016     0.016     0.000     0.000"
" 57          TRENCH Design d/s of 2"
"       0.016   Peak inflow"
"      47.199   Hydrograph volume"
"     246.750   Ground elevation"
"     244.700   Downstream trench invert"
"       1.000   Trench height"
"     243.700   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"      25.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               244.700     0.000       0.0"
"               244.750     0.000       0.4"
"               244.800     0.000       0.8"
"               244.850     0.000       1.3"
"               244.900     0.000       1.8"
"               244.950     0.000       2.3"
"               245.000     0.000       2.9"
"               245.050     0.000       3.5"
"               245.100     0.000       4.2"
"               245.150     0.000       5.0"
"               245.200     0.000       6.0"
"               245.250     0.000       7.0"
"               245.300     0.000       8.1"
"               245.350     0.000       9.1"
"               245.400     0.000      10.2"
"               245.450     0.000      11.1"
"               245.500     0.000      12.0"
"               245.550     0.000      13.0"
"               245.600     0.000      14.1"
"               245.650     0.000      15.1"
"               245.700     0.000      16.2"
"               245.750     0.000      16.3"
"               245.800     0.000      16.4"
"               245.850     0.000      16.4"
"               245.900     0.000      16.5"
"               245.950     0.000      16.5"
"               246.000     0.000      16.6"
"               246.050     0.000      16.6"
"               246.100     0.000      16.7"
"               246.150     0.000      16.7"
"               246.200     0.000      16.8"
"               246.250     0.000      16.9"
"               246.300     0.000      16.9"
"               246.350     0.000      17.0"
"               246.400     0.000      17.0"
"               246.450     0.000      17.1"
"               246.500     0.000      17.1"
"               246.550     0.000      17.2"
"               246.600     0.000      17.3"
"               246.650     0.000      17.3"
"               246.700     0.000      17.4"
"               246.750     0.000      17.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"               245.100     25.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.015    c.m/sec"
"             Exfiltration volume          47.121    c.m"
"             Maximum level               244.889    metre"
"             Maximum storage               1.692    c.m"
"             Centroidal lag                1.834   hours"
"             Infiltration area 2 sides   13.384   sq.metre"
"             Infiltration Base area      25.000   sq.metre"
"                  0.016     0.016     0.000     0.015 c.m/sec"
" 40          HYDROGRAPH   Combine    1002"
"           6   Combine "
"        1002   Node #"
"               overflow from lot 2"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                   0.016     0.016     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
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"                    0.016     0.000     0.000     0.000"
" 33          CATCHMENT 3"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"            3   Lot 3 - Tributary to Exfiltration Trench 3"
"       28.000   % Impervious"
"        0.180   Total Area"
"       40.000   Flow length"
"        2.000   Overland Slope"
"        0.130   Pervious Area"
"       40.000   Pervious length"
"        2.000   Pervious slope"
"        0.050   Impervious Area"
"       35.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.198   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.861   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.017     0.000     0.000     0.000 c.m/sec"
"             Catchment 3            Pervious   Impervious Total Area "
"             Surface Area           0.130      0.050      0.180      hectare"
"             Time of concentration  25.085     2.044      10.595     minutes"
"             Time to Centroid       124.989    87.219     101.237    minutes"
"             Rainfall depth         52.597     52.597     52.597     mm"
"             Rainfall volume        68.17      26.51      94.67      c.m"
"             Rainfall losses        42.201     7.303      32.430     mm"
"             Runoff depth           10.396     45.294     20.167     mm"
"             Runoff volume          13.47      22.83      36.30      c.m"
"             Runoff coefficient     0.198      0.861      0.383      "
"             Maximum flow           0.004      0.016      0.017      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.017     0.017     0.000     0.000"
" 57          TRENCH Design d/s of 3"
"         0.017   Peak inflow"
"        36.301   Hydrograph volume"
"       247.000   Ground elevation"
"       244.950   Downstream trench invert"
"         1.000   Trench height"
"       243.900   Water table elevation"
"         3.000   Trench top width"
"         1.000   Trench bottom width"
"        30.000   Voids ratio (%)"
"      1267.200   Hydraulic conductivity"
"         0.000   Trench gradient (%)"
"        16.000   Trench length"
"         1.000   Include base width"
"           42.   Number of stages"
"                   Level Discharge    Volume"
"                 244.950     0.000       0.0"
"                 245.000     0.000       0.3"
"                 245.050     0.000       0.5"
"                 245.100     0.000       0.8"
"                 245.150     0.000       1.2"
"                 245.200     0.000       1.5"
"                 245.250     0.000       1.9"
"                 245.300     0.000       2.3"
"                 245.350     0.000       2.7"
"                 245.400     0.000       3.2"
"                 245.450     0.000       3.8"
"                 245.500     0.000       4.5"
"                 245.550     0.000       5.2"
"                 245.600     0.000       5.9"
"                 245.650     0.000       6.5"
"                 245.700     0.000       7.1"
"                 245.750     0.000       7.7"
"                 245.800     0.000       8.3"
"                 245.850     0.000       9.0"
"                 245.900     0.000       9.7"
"                 245.950     0.000      10.4"
"                 246.000     0.000      10.4"
"                 246.050     0.000      10.5"
"                 246.100     0.000      10.6"
"                 246.150     0.000      10.6"
"                 246.200     0.000      10.7"
"                 246.250     0.000      10.7"
"                 246.300     0.000      10.8"
"                 246.350     0.000      10.8"
"                 246.400     0.000      10.9"
"                 246.450     0.000      11.0"
"                 246.500     0.000      11.0"
"                 246.550     0.000      11.1"
"                 246.600     0.000      11.1"
"                 246.650     0.000      11.2"
"                 246.700     0.000      11.2"
"                 246.750     0.000      11.3"
"                 246.800     0.000      11.4"
"                 246.850     0.000      11.4"
"                 246.900     0.000      11.5"
"                 246.950     0.000      11.5"
"                 247.000     0.000      11.6"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                 245.350    16.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"               diameter"
"                   1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.015    c.m/sec"
"             Exfiltration volume          36.149    c.m"
"             Maximum level               245.362    metre"
"             Maximum storage               2.811    c.m"
"             Centroidal lag                1.825   hours"
"             Infiltration area 2 sides    18.625   sq.metre"
"             Infiltration Base area       16.000   sq.metre"
"                  0.017     0.017     0.000     0.015 c.m/sec"
" 40          HYDROGRAPH   Combine    1003"
"            6   Combine "
"         1003   Node #"
"                overflow from lot 2"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                    0.017     0.017     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.017     0.000     0.000     0.000"
" 33          CATCHMENT 4"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"            4   Lot 4 - Tributary to Exfiltration Trench 4"
"       21.000   % Impervious"
"        0.190   Total Area"
"       40.000   Flow length"
"        2.000   Overland Slope"
"        0.150   Pervious Area"
"       40.000   Pervious length"
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"        2.000   Pervious slope"
"        0.040   Impervious Area"
"       40.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.198   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.860   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.014     0.000     0.000     0.000 c.m/sec"
"             Catchment 4            Pervious   Impervious Total Area "
"             Surface Area           0.150      0.040      0.190      hectare"
"             Time of concentration  25.085     2.214      12.820     minutes"
"             Time to Centroid       124.989    87.450     104.858    minutes"
"             Rainfall depth         52.597     52.597     52.597     mm"
"             Rainfall volume        78.95      20.99      99.93      c.m"
"             Rainfall losses        42.201     7.370      34.887     mm"
"             Runoff depth           10.396     45.227     17.710     mm"
"             Runoff volume          15.60      18.05      33.65      c.m"
"             Runoff coefficient     0.198      0.860      0.337      "
"             Maximum flow           0.005      0.013      0.014      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"              4   Add Runoff "
"                    0.014     0.014     0.000     0.000"
" 57          TRENCH Design d/s of 4"
"        0.014   Peak inflow"
"       33.650   Hydrograph volume"
"      246.650   Ground elevation"
"      244.600   Downstream trench invert"
"        1.000   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       16.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.600     0.000      0.0"
"                244.650     0.000      0.3"
"                244.700     0.000      0.5"
"                244.750     0.000      0.8"
"                244.800     0.000      1.2"
"                244.850     0.000      1.5"
"                244.900     0.000      1.9"
"                244.950     0.000      2.3"
"                245.000     0.000      2.7"
"                245.050     0.000      3.2"
"                245.100     0.000      3.8"
"                245.150     0.000      4.5"
"                245.200     0.000      5.2"
"                245.250     0.000      5.9"
"                245.300     0.000      6.5"
"                245.350     0.000      7.1"
"                245.400     0.000      7.7"
"                245.450     0.000      8.3"
"                245.500     0.000      9.0"
"                245.550     0.000      9.7"
"                245.600     0.000     10.4"
"                245.650     0.000     10.4"
"                245.700     0.000     10.5"
"                245.750     0.000     10.6"
"                245.800     0.000     10.6"
"                245.850     0.000     10.7"
"                245.900     0.000     10.7"
"                245.950     0.000     10.8"
"                246.000     0.000     10.8"
"                246.050     0.000     10.9"
"                246.100     0.000     11.0"
"                246.150     0.000     11.0"
"                246.200     0.000     11.1"
"                246.250     0.000     11.1"
"                246.300     0.000     11.2"
"                246.350     0.000     11.2"
"                246.400     0.000     11.3"
"                246.450     0.000     11.4"
"                246.500     0.000     11.4"
"                246.550     0.000     11.5"
"                246.600     0.000     11.5"
"                246.650     0.000     11.6"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                245.000    16.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.012    c.m/sec"
"             Exfiltration volume          33.455    c.m"
"             Maximum level               244.905    metre"
"             Maximum storage               1.914    c.m"
"             Centroidal lag                1.855   hours"
"             Infiltration area 2 sides    13.817   sq.metre"
"             Infiltration Base area       16.000   sq.metre"
"                    0.014     0.014     0.000     0.012 c.m/sec"
" 40          HYDROGRAPH   Combine    1004"
"              6   Combine "
"           1004   Node #"
"                  overflow from lot 4"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                    0.014     0.014     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"             2   Start - New Tributary"
"                   0.014     0.000     0.000     0.000"
" 33          CATCHMENT 5"
"             1   Triangular SCS"
"             3   Specify values"
"             1   SCS method"
"             5   Lot 5 - Tributary to Exfiltration Trench 5A"
"        19.000   % Impervious"
"         0.130   Total Area"
"        37.000   Flow length"
"         2.000   Overland Slope"
"         0.105   Pervious Area"
"        37.000   Pervious length"
"         2.000   Pervious slope"
"         0.025   Impervious Area"
"        26.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
"         0.198   Pervious Runoff coefficient"
"         0.030   Pervious Ia/S coefficient"
"         5.080   Pervious Initial abstraction"
"         0.015   Impervious Manning 'n'"
"        98.000   Impervious SCS Curve No."
"         0.861   Impervious Runoff coefficient"
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"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.009     0.000     0.000     0.000 c.m/sec"
"             Catchment 5            Pervious   Impervious Total Area "
"             Surface Area           0.105      0.025      0.130      hectare"
"             Time of concentration  23.939     1.710      12.709     minutes"
"             Time to Centroid       123.595    86.697     104.954    minutes"
"             Rainfall depth         52.597     52.597     52.597     mm"
"             Rainfall volume        55.38      12.99      68.38      c.m"
"             Rainfall losses        42.188     7.287      35.556     mm"
"             Runoff depth           10.410     45.310     17.041     mm"
"             Runoff volume          10.96      11.19      22.15      c.m"
"             Runoff coefficient     0.198      0.861      0.324      "
"             Maximum flow           0.003      0.008      0.009      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                    0.009     0.009     0.000     0.000"
" 57          TRENCH Design d/s of 5"
"         0.009   Peak inflow"
"        22.153   Hydrograph volume"
"       248.000   Ground elevation"
"       245.950   Downstream trench invert"
"         1.000   Trench height"
"       244.200   Water table elevation"
"         3.000   Trench top width"
"         1.000   Trench bottom width"
"        30.000   Voids ratio (%)"
"      1267.200   Hydraulic conductivity"
"         0.000   Trench gradient (%)"
"        10.000   Trench length"
"         1.000   Include base width"
"           42.   Number of stages"
"                   Level Discharge    Volume"
"                 245.950     0.000      0.0"
"                 246.000     0.000      0.2"
"                 246.050     0.000      0.3"
"                 246.100     0.000      0.5"
"                 246.150     0.000      0.7"
"                 246.200     0.000      0.9"
"                 246.250     0.000      1.2"
"                 246.300     0.000      1.4"
"                 246.350     0.000      1.7"
"                 246.400     0.000      2.0"
"                 246.450     0.000      2.4"
"                 246.500     0.000      2.8"
"                 246.550     0.000      3.2"
"                 246.600     0.000      3.7"
"                 246.650     0.000      4.1"
"                 246.700     0.000      4.4"
"                 246.750     0.000      4.8"
"                 246.800     0.000      5.2"
"                 246.850     0.000      5.6"
"                 246.900     0.000      6.1"
"                 246.950     0.000      6.5"
"                 247.000     0.000      6.6"
"                 247.050     0.000      6.6"
"                 247.100     0.000      6.7"
"                 247.150     0.000      6.7"
"                 247.200     0.000      6.8"
"                 247.250     0.000      6.8"
"                 247.300     0.000      6.9"
"                 247.350     0.000      6.9"
"                 247.400     0.000      7.0"
"                 247.450     0.000      7.1"
"                 247.500     0.000      7.1"
"                 247.550     0.000      7.2"
"                 247.600     0.000      7.2"
"                 247.650     0.000      7.3"
"                 247.700     0.000      7.3"
"                 247.750     0.000      7.4"
"                 247.800     0.000      7.5"
"                 247.850     0.000      7.5"
"                 247.900     0.000      7.6"
"                 247.950     0.000      7.6"
"                 248.000     0.000      7.7"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                 246.350    10.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"               diameter"
"                   1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.007    c.m/sec"
"             Exfiltration volume          21.989    c.m"
"             Maximum level               246.279    metre"
"             Maximum storage               1.315    c.m"
"             Centroidal lag                1.865   hours"
"             Infiltration area 2 sides   9.314   sq.metre"
"             Infiltration Base area      10.000   sq.metre"
"                  0.009     0.009     0.000     0.007 c.m/sec"
" 40          HYDROGRAPH   Combine    1005"
"           6   Combine "
"        1005   Node #"
"               overflow from lot 5"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                    0.009     0.009     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.009     0.000     0.000     0.000"
" 33          CATCHMENT 55"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          55   Lot 5 - Tributary to Exfiltration Trench 5B"
"       23.000   % Impervious"
"        0.110   Total Area"
"       37.000   Flow length"
"        2.000   Overland Slope"
"        0.085   Pervious Area"
"       37.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       26.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.198   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.861   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.009     0.000     0.000     0.000 c.m/sec"
"             Catchment 55           Pervious   Impervious Total Area "
"             Surface Area           0.085      0.025      0.110      hectare"
"             Time of concentration  23.939     1.710      11.374     minutes"
"             Time to Centroid       123.595    86.697     102.738    minutes"
"             Rainfall depth         52.597     52.597     52.597     mm"
"             Rainfall volume        44.55      13.31      57.86      c.m"
"             Rainfall losses        42.188     7.287      34.160     mm"
"             Runoff depth           10.410     45.310     18.437     mm"
"             Runoff volume          8.82       11.46      20.28      c.m"
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"             Runoff coefficient     0.198      0.861      0.351      "
"             Maximum flow           0.003      0.008      0.009      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"              4   Add Runoff "
"                      0.009     0.009     0.000     0.000"
" 57          TRENCH Design d/s of 55"
"        0.009   Peak inflow"
"       20.280   Hydrograph volume"
"      247.800   Ground elevation"
"      245.750   Downstream trench invert"
"        1.000   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.750     0.000       0.0"
"                245.800     0.000       0.2"
"                245.850     0.000       0.3"
"                245.900     0.000       0.5"
"                245.950     0.000       0.7"
"                246.000     0.000       0.9"
"                246.050     0.000       1.2"
"                246.100     0.000       1.4"
"                246.150     0.000       1.7"
"                246.200     0.000       2.0"
"                246.250     0.000       2.4"
"                246.300     0.000       2.8"
"                246.350     0.000       3.2"
"                246.400     0.000       3.7"
"                246.450     0.000       4.1"
"                246.500     0.000       4.4"
"                246.550     0.000       4.8"
"                246.600     0.000       5.2"
"                246.650     0.000       5.6"
"                246.700     0.000       6.1"
"                246.750     0.000       6.5"
"                246.800     0.000       6.6"
"                246.850     0.000       6.6"
"                246.900     0.000       6.7"
"                246.950     0.000       6.7"
"                247.000     0.000       6.8"
"                247.050     0.000       6.8"
"                247.100     0.000       6.9"
"                247.150     0.000       6.9"
"                247.200     0.000       7.0"
"                247.250     0.000       7.1"
"                247.300     0.000       7.1"
"                247.350     0.000       7.2"
"                247.400     0.000       7.2"
"                247.450     0.000       7.3"
"                247.500     0.000       7.3"
"                247.550     0.000       7.4"
"                247.600     0.000       7.5"
"                247.650     0.000       7.5"
"                247.700     0.000       7.6"
"                247.750     0.000       7.6"
"                247.800     0.000       7.7"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                246.150    10.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                Access"
"                diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.007    c.m/sec"
"             Exfiltration volume          20.121    c.m"
"             Maximum level               246.077    metre"
"             Maximum storage               1.306    c.m"
"             Centroidal lag                1.821   hours"
"             Infiltration area 2 sides     9.262   sq.metre"
"             Infiltration Base area       10.000   sq.metre"
"                  0.009     0.009     0.000     0.007 c.m/sec"
" 40          HYDROGRAPH   Combine    1005"
"              6   Combine "
"           1005   Node #"
"                  overflow from lot 5"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                  0.009     0.009     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"              2   Start - New Tributary"
"                  0.009     0.000     0.000     0.000"
" 33          CATCHMENT 6"
"              1   Triangular SCS"
"              3   Specify values"
"              1   SCS method"
"              6   Lot 6 - Tributary to Exfiltration Trench 6A"
"         21.000   % Impervious"
"          0.120   Total Area"
"         37.000   Flow length"
"          2.000   Overland Slope"
"          0.095   Pervious Area"
"         37.000   Pervious length"
"          2.000   Pervious slope"
"          0.025   Impervious Area"
"         26.000   Impervious length"
"          2.000   Impervious slope"
"          0.250   Pervious Manning 'n'"
"         60.000   Pervious SCS Curve No."
"          0.198   Pervious Runoff coefficient"
"          0.030   Pervious Ia/S coefficient"
"          5.080   Pervious Initial abstraction"
"          0.015   Impervious Manning 'n'"
"         98.000   Impervious SCS Curve No."
"          0.861   Impervious Runoff coefficient"
"          0.386   Impervious Ia/S coefficient"
"          2.001   Impervious Initial abstraction"
"                  0.009     0.000     0.000     0.000 c.m/sec"
"              Catchment 6             Pervious   Impervious Total Area "
"              Surface Area            0.095      0.025      0.120      hectare"
"              Time of concentration   23.939     1.710      12.015     minutes"
"              Time to Centroid        123.595    86.697     103.802    minutes"
"              Rainfall depth          52.597     52.597     52.597     mm"
"              Rainfall volume         49.86      13.25      63.12      c.m"
"              Rainfall losses         42.188     7.287      34.858     mm"
"              Runoff depth            10.410     45.310     17.739     mm"
"              Runoff volume           9.87       11.42      21.29      c.m"
"              Runoff coefficient      0.198      0.861      0.337      "
"              Maximum flow            0.003      0.008      0.009      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"              4   Add Runoff "
"                  0.009     0.009     0.000     0.000"
" 57          TRENCH Design d/s of 6"
"          0.009   Peak inflow"
"         21.286   Hydrograph volume"
"        247.700   Ground elevation"
"        245.650   Downstream trench invert"
"          1.000   Trench height"
"        244.200   Water table elevation"
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"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.650     0.000       0.0"
"                245.700     0.000       0.2"
"                245.750     0.000       0.3"
"                245.800     0.000       0.5"
"                245.850     0.000       0.7"
"                245.900     0.000       0.9"
"                245.950     0.000       1.2"
"                246.000     0.000       1.4"
"                246.050     0.000       1.7"
"                246.100     0.000       2.0"
"                246.150     0.000       2.4"
"                246.200     0.000       2.8"
"                246.250     0.000       3.2"
"                246.300     0.000       3.7"
"                246.350     0.000       4.1"
"                246.400     0.000       4.4"
"                246.450     0.000       4.8"
"                246.500     0.000       5.2"
"                246.550     0.000       5.6"
"                246.600     0.000       6.1"
"                246.650     0.000       6.5"
"                246.700     0.000       6.6"
"                246.750     0.000       6.6"
"                246.800     0.000       6.7"
"                246.850     0.000       6.7"
"                246.900     0.000       6.8"
"                246.950     0.000       6.8"
"                247.000     0.000       6.9"
"                247.050     0.000       6.9"
"                247.100     0.000       7.0"
"                247.150     0.000       7.1"
"                247.200     0.000       7.1"
"                247.250     0.000       7.2"
"                247.300     0.000       7.2"
"                247.350     0.000       7.3"
"                247.400     0.000       7.3"
"                247.450     0.000       7.4"
"                247.500     0.000       7.5"
"                247.550     0.000       7.5"
"                247.600     0.000       7.6"
"                247.650     0.000       7.6"
"                247.700     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"                246.050    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.000    c.m"
"            Peak exfiltration            0.008    c.m/sec"
"            Exfiltration volume         21.193    c.m"
"            Maximum level              245.978    metre"
"            Maximum storage              1.308    c.m"
"            Centroidal lag               1.842   hours"
"            Infiltration area 2 sides    9.270   sq.metre"
"            Infiltration Base area      10.000   sq.metre"
"                 0.009     0.009     0.000     0.008 c.m/sec"
" 40         HYDROGRAPH   Combine    1006"
"           6   Combine "
"        1006   Node #"
"               overflow from lot 6"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.000    c.m"
"                  0.009     0.009     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.009     0.000     0.000     0.000"
" 33         CATCHMENT 66"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          66   Lot 6 - Tributary to Exfiltration Trench 6B"
"       21.000   % Impervious"
"        0.120   Total Area"
"       37.000   Flow length"
"        2.000   Overland Slope"
"        0.095   Pervious Area"
"       37.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       26.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.198   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.861   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.009     0.000     0.000     0.000 c.m/sec"
"            Catchment 66           Pervious   Impervious Total Area "
"            Surface Area           0.095      0.025      0.120      hectare"
"            Time of concentration  23.939     1.710      12.015     minutes"
"            Time to Centroid       123.595    86.697     103.802    minutes"
"            Rainfall depth         52.597     52.597     52.597     mm"
"            Rainfall volume        49.86      13.25      63.12      c.m"
"            Rainfall losses        42.188     7.287      34.858     mm"
"            Runoff depth           10.410     45.310     17.739     mm"
"            Runoff volume          9.87       11.42      21.29      c.m"
"            Runoff coefficient     0.198      0.861      0.337      "
"            Maximum flow           0.003      0.008      0.009      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.009     0.009     0.000     0.000"
" 57         TRENCH Design d/s of 66"
"        0.009   Peak inflow"
"       21.286   Hydrograph volume"
"      247.800   Ground elevation"
"      245.750   Downstream trench invert"
"        1.000   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.750     0.000       0.0"
"                245.800     0.000       0.2"
"                245.850     0.000       0.3"
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"               245.900     0.000       0.5"
"               245.950     0.000       0.7"
"               246.000     0.000       0.9"
"               246.050     0.000       1.2"
"               246.100     0.000       1.4"
"               246.150     0.000       1.7"
"               246.200     0.000       2.0"
"               246.250     0.000       2.4"
"               246.300     0.000       2.8"
"               246.350     0.000       3.2"
"               246.400     0.000       3.7"
"               246.450     0.000       4.1"
"               246.500     0.000       4.4"
"               246.550     0.000       4.8"
"               246.600     0.000       5.2"
"               246.650     0.000       5.6"
"               246.700     0.000       6.1"
"               246.750     0.000       6.5"
"               246.800     0.000       6.6"
"               246.850     0.000       6.6"
"               246.900     0.000       6.7"
"               246.950     0.000       6.7"
"               247.000     0.000       6.8"
"               247.050     0.000       6.8"
"               247.100     0.000       6.9"
"               247.150     0.000       6.9"
"               247.200     0.000       7.0"
"               247.250     0.000       7.1"
"               247.300     0.000       7.1"
"               247.350     0.000       7.2"
"               247.400     0.000       7.2"
"               247.450     0.000       7.3"
"               247.500     0.000       7.3"
"               247.550     0.000       7.4"
"               247.600     0.000       7.5"
"               247.650     0.000       7.5"
"               247.700     0.000       7.6"
"               247.750     0.000       7.6"
"               247.800     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.150    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.000    c.m"
"            Peak exfiltration            0.008    c.m/sec"
"            Exfiltration volume         21.190    c.m"
"            Maximum level              246.080    metre"
"            Maximum storage              1.318    c.m"
"            Centroidal lag               1.843   hours"
"            Infiltration area 2 sides    9.330   sq.metre"
"            Infiltration Base area      10.000   sq.metre"
"                 0.009     0.009     0.000     0.008 c.m/sec"
" 40         HYDROGRAPH   Combine    1006"
"           6   Combine "
"        1006   Node #"
"               overflow from lot 6"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.001    c.m"
"                    0.009     0.009     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                    0.009     0.000     0.000     0.000"
" 33         CATCHMENT 7"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"           7   Lot 7 - Tributary to Exfiltration Trench 7A"
"      10.000   % Impervious"
"       0.140   Total Area"
"      50.000   Flow length"
"       2.000   Overland Slope"
"       0.126   Pervious Area"
"      50.000   Pervious length"
"       2.000   Pervious slope"
"       0.014   Impervious Area"
"      24.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.198   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.860   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                    0.005     0.000     0.000     0.000 c.m/sec"
"           Catchment 7            Pervious   Impervious Total Area "
"           Surface Area           0.126      0.014      0.140      hectare"
"           Time of concentration  28.679     1.630      19.862     minutes"
"           Time to Centroid       129.364    86.564     115.413    minutes"
"           Rainfall depth         52.597     52.597     52.597     mm"
"           Rainfall volume        66.27      7.36       73.64      c.m"
"           Rainfall losses        42.198     7.341      38.713     mm"
"           Runoff depth           10.399     45.256     13.884     mm"
"           Runoff volume          13.10      6.34       19.44      c.m"
"           Runoff coefficient     0.198      0.860      0.264      "
"           Maximum flow           0.004      0.005      0.005      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                    0.005     0.005     0.000     0.000"
" 57         TRENCH Design d/s of 7"
"       0.005   Peak inflow"
"      19.438   Hydrograph volume"
"     247.750   Ground elevation"
"     245.700   Downstream trench invert"
"       1.000   Trench height"
"     244.140   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"       8.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"               Level Discharge    Volume"
"               245.700     0.000       0.0"
"               245.750     0.000       0.1"
"               245.800     0.000       0.3"
"               245.850     0.000       0.4"
"               245.900     0.000       0.6"
"               245.950     0.000       0.8"
"               246.000     0.000       0.9"
"               246.050     0.000       1.1"
"               246.100     0.000       1.3"
"               246.150     0.000       1.6"
"               246.200     0.000       1.9"
"               246.250     0.000       2.2"
"               246.300     0.000       2.6"
"               246.350     0.000       2.9"
"               246.400     0.000       3.3"
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"               246.450     0.000       3.5"
"               246.500     0.000       3.9"
"               246.550     0.000       4.2"
"               246.600     0.000       4.5"
"               246.650     0.000       4.8"
"               246.700     0.000       5.2"
"               246.750     0.000       5.3"
"               246.800     0.000       5.3"
"               246.850     0.000       5.4"
"               246.900     0.000       5.4"
"               246.950     0.000       5.5"
"               247.000     0.000       5.5"
"               247.050     0.000       5.6"
"               247.100     0.000       5.6"
"               247.150     0.000       5.7"
"               247.200     0.000       5.8"
"               247.250     0.000       5.8"
"               247.300     0.000       5.9"
"               247.350     0.000       5.9"
"               247.400     0.000       6.0"
"               247.450     0.000       6.0"
"               247.500     0.000       6.1"
"               247.550     0.000       6.2"
"               247.600     0.000       6.2"
"               247.650     0.000       6.3"
"               247.700     0.000       6.3"
"               247.750     0.000       6.4"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.100     8.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.001    c.m"
"            Peak exfiltration             0.005    c.m/sec"
"            Exfiltration volume          19.345    c.m"
"            Maximum level               245.895    metre"
"            Maximum storage               0.560    c.m"
"            Centroidal lag                2.010   hours"
"            Infiltration area 2 sides     4.411   sq.metre"
"            Infiltration Base area        8.000   sq.metre"
"                0.005     0.005     0.000     0.005 c.m/sec"
" 40         HYDROGRAPH   Combine    1007"
"           6   Combine "
"        1007   Node #"
"               overflow from lot 7"
"            Maximum flow                  0.000    c.m/sec"
"            Hydrograph volume             0.001    c.m"
"                    0.005     0.005     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                   0.005     0.000     0.000     0.000"
" 33         CATCHMENT 77"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          77   Lot 7 - Tributary to Exfiltration Trench 7B"
"      16.500   % Impervious"
"       0.240   Total Area"
"      54.000   Flow length"
"       2.000   Overland Slope"
"       0.200   Pervious Area"
"      54.000   Pervious length"
"       2.000   Pervious slope"
"       0.040   Impervious Area"
"      24.000   Impervious length"
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"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.198   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.860   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                   0.014     0.000     0.000     0.000 c.m/sec"
"            Catchment 77           Pervious   Impervious Total Area "
"            Surface Area           0.200      0.040      0.240      hectare"
"            Time of concentration  30.034     1.630      16.907     minutes"
"            Time to Centroid       131.010    86.564     110.469    minutes"
"            Rainfall depth         52.597     52.597     52.597     mm"
"            Rainfall volume        105.40     20.83      126.23     c.m"
"            Rainfall losses        42.190     7.341      36.440     mm"
"            Runoff depth           10.407     45.256     16.158     mm"
"            Runoff volume          20.86      17.92      38.78      c.m"
"            Runoff coefficient     0.198      0.860      0.307      "
"            Maximum flow           0.006      0.013      0.014      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                   0.014     0.014     0.000     0.000"
" 57         TRENCH Design d/s of 77"
"       0.014   Peak inflow"
"      38.778   Hydrograph volume"
"     247.700   Ground elevation"
"     245.650   Downstream trench invert"
"       1.000   Trench height"
"     244.000   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"      16.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               245.650     0.000       0.0"
"               245.700     0.000       0.3"
"               245.750     0.000       0.5"
"               245.800     0.000       0.8"
"               245.850     0.000       1.2"
"               245.900     0.000       1.5"
"               245.950     0.000       1.9"
"               246.000     0.000       2.3"
"               246.050     0.000       2.7"
"               246.100     0.000       3.2"
"               246.150     0.000       3.8"
"               246.200     0.000       4.5"
"               246.250     0.000       5.2"
"               246.300     0.000       5.9"
"               246.350     0.000       6.5"
"               246.400     0.000       7.1"
"               246.450     0.000       7.7"
"               246.500     0.000       8.3"
"               246.550     0.000       9.0"
"               246.600     0.000       9.7"
"               246.650     0.000      10.4"
"               246.700     0.000      10.4"
"               246.750     0.000      10.5"
"               246.800     0.000      10.6"
"               246.850     0.000      10.6"
"               246.900     0.000      10.7"
"               246.950     0.000      10.7"
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"               247.000     0.000      10.8"
"               247.050     0.000      10.8"
"               247.100     0.000      10.9"
"               247.150     0.000      11.0"
"               247.200     0.000      11.0"
"               247.250     0.000      11.1"
"               247.300     0.000      11.1"
"               247.350     0.000      11.2"
"               247.400     0.000      11.2"
"               247.450     0.000      11.3"
"               247.500     0.000      11.4"
"               247.550     0.000      11.4"
"               247.600     0.000      11.5"
"               247.650     0.000      11.5"
"               247.700     0.000      11.6"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.050    16.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.001    c.m"
"            Peak exfiltration            0.012    c.m/sec"
"            Exfiltration volume         38.571    c.m"
"            Maximum level              245.968    metre"
"            Maximum storage              2.017    c.m"
"            Centroidal lag               1.956   hours"
"            Infiltration area 2 sides   14.405   sq.metre"
"            Infiltration Base area      16.000   sq.metre"
"                 0.014     0.014     0.000     0.012 c.m/sec"
" 40         HYDROGRAPH   Combine    1007"
"           6   Combine "
"        1007   Node #"
"               overflow from lot 7"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.001    c.m"
"                  0.014     0.014     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.014     0.000     0.000     0.000"
" 33         CATCHMENT 8"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"           8   Lot 8 - Tributary to Exfiltration Trench 8A"
"       42.000  % Impervious"
"        0.060  Total Area"
"       36.000  Flow length"
"        2.000  Overland Slope"
"        0.035  Pervious Area"
"       36.000  Pervious length"
"        2.000  Pervious slope"
"        0.025  Impervious Area"
"       24.000  Impervious length"
"        2.000  Impervious slope"
"        0.250  Pervious Manning 'n'"
"       60.000  Pervious SCS Curve No."
"        0.198  Pervious Runoff coefficient"
"        0.030  Pervious Ia/S coefficient"
"        5.080  Pervious Initial abstraction"
"        0.015  Impervious Manning 'n'"
"       98.000  Impervious SCS Curve No."
"        0.860  Impervious Runoff coefficient"
"        0.386  Impervious Ia/S coefficient"
"        2.001  Impervious Initial abstraction"
"                  0.009     0.000     0.000     0.000 c.m/sec"
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"            Catchment 8            Pervious   Impervious Total Area "
"            Surface Area           0.035      0.025      0.060      hectare"
"            Time of concentration  23.548     1.630      6.913      minutes"
"            Time to Centroid       123.117    86.564     95.375     minutes"
"            Rainfall depth         52.597     52.597     52.597     mm"
"            Rainfall volume        18.30      13.25      31.56      c.m"
"            Rainfall losses        42.189     7.341      27.553     mm"
"            Runoff depth           10.408     45.256     25.044     mm"
"            Runoff volume          3.62       11.40      15.03      c.m"
"            Runoff coefficient     0.198      0.860      0.476      "
"            Maximum flow           0.001      0.008      0.009      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.009     0.009     0.000     0.000"
" 57         TRENCH Design d/s of 8"
"        0.009   Peak inflow"
"       15.027   Hydrograph volume"
"      247.700   Ground elevation"
"      245.650   Downstream trench invert"
"        1.000   Trench height"
"      244.000   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"               245.650     0.000       0.0"
"               245.700     0.000       0.1"
"               245.750     0.000       0.3"
"               245.800     0.000       0.4"
"               245.850     0.000       0.6"
"               245.900     0.000       0.8"
"               245.950     0.000       0.9"
"               246.000     0.000       1.1"
"               246.050     0.000       1.3"
"               246.100     0.000       1.6"
"               246.150     0.000       1.9"
"               246.200     0.000       2.2"
"               246.250     0.000       2.6"
"               246.300     0.000       2.9"
"               246.350     0.000       3.3"
"               246.400     0.000       3.5"
"               246.450     0.000       3.9"
"               246.500     0.000       4.2"
"               246.550     0.000       4.5"
"               246.600     0.000       4.8"
"               246.650     0.000       5.2"
"               246.700     0.000       5.3"
"               246.750     0.000       5.3"
"               246.800     0.000       5.4"
"               246.850     0.000       5.4"
"               246.900     0.000       5.5"
"               246.950     0.000       5.5"
"               247.000     0.000       5.6"
"               247.050     0.000       5.6"
"               247.100     0.000       5.7"
"               247.150     0.000       5.8"
"               247.200     0.000       5.8"
"               247.250     0.000       5.9"
"               247.300     0.000       5.9"
"               247.350     0.000       6.0"
"               247.400     0.000       6.0"
"               247.450     0.000       6.1"
"               247.500     0.000       6.2"
"               247.550     0.000       6.2"
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"               247.600     0.000       6.3"
"               247.650     0.000       6.3"
"               247.700     0.000       6.4"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.050     8.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.007    c.m/sec"
"            Exfiltration volume          14.884    c.m"
"            Maximum level               246.068    metre"
"            Maximum storage               1.441    c.m"
"            Centroidal lag                1.712   hours"
"            Infiltration area 2 sides     9.466   sq.metre"
"            Infiltration Base area        8.000   sq.metre"
"                 0.009     0.009     0.000     0.007 c.m/sec"
" 40         HYDROGRAPH   Combine    1008"
"           6   Combine "
"        1008   Node #"
"               overflow from lot 8"
"            Maximum flow                  0.000    c.m/sec"
"            Hydrograph volume             0.000    c.m"
"                 0.009     0.009     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.009     0.000     0.000     0.000"
" 33         CATCHMENT 88"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          88   Lot 8 - Tributary to Exfiltration Trench 8B"
"       15.000   % Impervious"
"        0.170   Total Area"
"       55.000   Flow length"
"        2.000   Overland Slope"
"        0.145   Pervious Area"
"       55.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       24.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.198   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.860   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                 0.009     0.000     0.000     0.000 c.m/sec"
"             Catchment 88           Pervious   Impervious Total Area "
"             Surface Area           0.145      0.025      0.170      hectare"
"             Time of concentration  30.366     1.630      17.889     minutes"
"             Time to Centroid       131.419    86.564     111.944    minutes"
"             Rainfall depth         52.597     52.597     52.597     mm"
"             Rainfall volume        76.00      13.41      89.42      c.m"
"             Rainfall losses        42.189     7.341      36.962     mm"
"             Runoff depth           10.408     45.256     15.635     mm"
"             Runoff volume          15.04      11.54      26.58      c.m"
"             Runoff coefficient     0.198      0.860      0.297      "
"             Maximum flow           0.004      0.009      0.009      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                  0.009     0.009     0.000     0.000"
" 57          TRENCH Design d/s of 88"
"         0.009   Peak inflow"
"        26.579   Hydrograph volume"
"       247.050   Ground elevation"
"       245.000   Downstream trench invert"
"         1.000   Trench height"
"       243.700   Water table elevation"
"         3.000   Trench top width"
"         1.000   Trench bottom width"
"        30.000   Voids ratio (%)"
"      1267.200   Hydraulic conductivity"
"         0.000   Trench gradient (%)"
"        10.000   Trench length"
"         1.000   Include base width"
"           42.   Number of stages"
"                   Level Discharge    Volume"
"                 245.000     0.000       0.0"
"                 245.050     0.000       0.2"
"                 245.100     0.000       0.3"
"                 245.150     0.000       0.5"
"                 245.200     0.000       0.7"
"                 245.250     0.000       0.9"
"                 245.300     0.000       1.2"
"                 245.350     0.000       1.4"
"                 245.400     0.000       1.7"
"                 245.450     0.000       2.0"
"                 245.500     0.000       2.4"
"                 245.550     0.000       2.8"
"                 245.600     0.000       3.2"
"                 245.650     0.000       3.7"
"                 245.700     0.000       4.1"
"                 245.750     0.000       4.4"
"                 245.800     0.000       4.8"
"                 245.850     0.000       5.2"
"                 245.900     0.000       5.6"
"                 245.950     0.000       6.1"
"                 246.000     0.000       6.5"
"                 246.050     0.000       6.6"
"                 246.100     0.000       6.6"
"                 246.150     0.000       6.7"
"                 246.200     0.000       6.7"
"                 246.250     0.000       6.8"
"                 246.300     0.000       6.8"
"                 246.350     0.000       6.9"
"                 246.400     0.000       6.9"
"                 246.450     0.000       7.0"
"                 246.500     0.000       7.1"
"                 246.550     0.000       7.1"
"                 246.600     0.000       7.2"
"                 246.650     0.000       7.2"
"                 246.700     0.000       7.3"
"                 246.750     0.000       7.3"
"                 246.800     0.000       7.4"
"                 246.850     0.000       7.5"
"                 246.900     0.000       7.5"
"                 246.950     0.000       7.6"
"                 247.000     0.000       7.6"
"                 247.050     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               245.400    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
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"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.008    c.m/sec"
"             Exfiltration volume          26.437    c.m"
"             Maximum level               245.329    metre"
"             Maximum storage               1.312    c.m"
"             Centroidal lag                1.995   hours"
"             Infiltration area 2 sides   9.294   sq.metre"
"             Infiltration Base area      10.000   sq.metre"
"                  0.009     0.009     0.000     0.008 c.m/sec"
" 40          HYDROGRAPH   Combine    1008"
"           6   Combine "
"        1008   Node #"
"               overflow from lot 8"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.009     0.009     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.009     0.000     0.000     0.000"
" 33          CATCHMENT 9"
"           1   Triangular SCS"
"           1   Equal length"
"           1   SCS method"
"           9   Lot 9 - Tributary to Exfiltration Trench 9A"
"      63.000   % Impervious"
"       0.040   Total Area"
"      24.000   Flow length"
"       2.000   Overland Slope"
"       0.015   Pervious Area"
"      24.000   Pervious length"
"       2.000   Pervious slope"
"       0.025   Impervious Area"
"      24.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.198   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.860   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                 0.009     0.000     0.000     0.000 c.m/sec"
"             Catchment 9            Pervious   Impervious Total Area "
"             Surface Area           0.015      0.025      0.040      hectare"
"             Time of concentration  18.463     1.630      3.631      minutes"
"             Time to Centroid       116.907    86.564     90.172     minutes"
"             Rainfall depth         52.597     52.597     52.597     mm"
"             Rainfall volume        7.78       13.25      21.04      c.m"
"             Rainfall losses        42.197     7.341      20.238     mm"
"             Runoff depth           10.400     45.256     32.359     mm"
"             Runoff volume          1.54       11.40      12.94      c.m"
"             Runoff coefficient     0.198      0.860      0.615      "
"             Maximum flow           0.001      0.008      0.009      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                 0.009     0.009     0.000     0.000"
" 57          TRENCH Design d/s of 9"
"       0.009   Peak inflow"
"      12.944   Hydrograph volume"
"     247.050   Ground elevation"
"     245.000   Downstream trench invert"
"       1.000   Trench height"
"     243.700   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"       8.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"               Level Discharge    Volume"
"             245.000     0.000       0.0"
"             245.050     0.000       0.1"
"             245.100     0.000       0.3"
"             245.150     0.000       0.4"
"             245.200     0.000       0.6"
"             245.250     0.000       0.8"
"             245.300     0.000       0.9"
"             245.350     0.000       1.1"
"             245.400     0.000       1.3"
"             245.450     0.000       1.6"
"             245.500     0.000       1.9"
"             245.550     0.000       2.2"
"             245.600     0.000       2.6"
"             245.650     0.000       2.9"
"             245.700     0.000       3.3"
"             245.750     0.000       3.5"
"             245.800     0.000       3.9"
"             245.850     0.000       4.2"
"             245.900     0.000       4.5"
"             245.950     0.000       4.8"
"             246.000     0.000       5.2"
"             246.050     0.000       5.3"
"             246.100     0.000       5.3"
"             246.150     0.000       5.4"
"             246.200     0.000       5.4"
"             246.250     0.000       5.5"
"             246.300     0.000       5.5"
"             246.350     0.000       5.6"
"             246.400     0.000       5.6"
"             246.450     0.000       5.7"
"             246.500     0.000       5.8"
"             246.550     0.000       5.8"
"             246.600     0.000       5.9"
"             246.650     0.000       5.9"
"             246.700     0.000       6.0"
"             246.750     0.000       6.0"
"             246.800     0.000       6.1"
"             246.850     0.000       6.2"
"             246.900     0.000       6.2"
"             246.950     0.000       6.3"
"             247.000     0.000       6.3"
"             247.050     0.000       6.4"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"             245.400     8.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.007    c.m/sec"
"             Exfiltration volume          12.931    c.m"
"             Maximum level               245.404    metre"
"             Maximum storage               1.365    c.m"
"             Centroidal lag                1.610   hours"
"             Infiltration area 2 sides   9.141   sq.metre"
"             Infiltration Base area      8.000   sq.metre"
"                  0.009     0.009     0.000     0.007 c.m/sec"
" 40          HYDROGRAPH   Combine    1009"
"           6   Combine "
"        1009   Node #"
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"                overflow from lot 9"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                    0.009     0.009     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.009     0.000     0.000     0.000"
" 33          CATCHMENT 99"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           99   Lot 9 - Tributary to Exfiltration Trench 9B (portion of Lot 8 included)"
"       10.000   % Impervious"
"        0.300   Total Area"
"       70.000   Flow length"
"        2.000   Overland Slope"
"        0.270   Pervious Area"
"       70.000   Pervious length"
"        2.000   Pervious slope"
"        0.030   Impervious Area"
"       38.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.198   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.860   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.011     0.000     0.000     0.000 c.m/sec"
"             Catchment 99           Pervious   Impervious Total Area "
"             Surface Area           0.270      0.030      0.300      hectare"
"             Time of concentration  35.094     2.147      24.361     minutes"
"             Time to Centroid       137.189    87.359     120.955    minutes"
"             Rainfall depth         52.597     52.597     52.597     mm"
"             Rainfall volume        142.01     15.78      157.79     c.m"
"             Rainfall losses        42.193     7.353      38.709     mm"
"             Runoff depth           10.404     45.244     13.888     mm"
"             Runoff volume          28.09      13.57      41.66      c.m"
"             Runoff coefficient     0.198      0.860      0.264      "
"             Maximum flow           0.007      0.010      0.011      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.011     0.011     0.000     0.000"
" 57          TRENCH Design d/s of 99"
"        0.011   Peak inflow"
"       41.664   Hydrograph volume"
"      246.300   Ground elevation"
"      244.250   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       16.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.250     0.000      0.0"
"                244.300     0.000      0.3"
"                244.350     0.000      0.5"
"                244.400     0.000      0.8"
"                244.450     0.000      1.2"
"                244.500     0.000      1.5"
"                244.550     0.000      1.9"
"                244.600     0.000      2.3"
"                244.650     0.000      2.7"
"                244.700     0.000      3.2"
"                244.750     0.000      3.8"
"                244.800     0.000      4.5"
"                244.850     0.000      5.2"
"                244.900     0.000      5.9"
"                244.950     0.000      6.5"
"                245.000     0.000      7.1"
"                245.050     0.000      7.7"
"                245.100     0.000      8.3"
"                245.150     0.000      9.0"
"                245.200     0.000      9.7"
"                245.250     0.000     10.4"
"                245.300     0.000     10.4"
"                245.350     0.000     10.5"
"                245.400     0.000     10.6"
"                245.450     0.000     10.6"
"                245.500     0.000     10.7"
"                245.550     0.000     10.7"
"                245.600     0.000     10.8"
"                245.650     0.000     10.8"
"                245.700     0.000     10.9"
"                245.750     0.000     11.0"
"                245.800     0.000     11.0"
"                245.850     0.000     11.1"
"                245.900     0.000     11.1"
"                245.950     0.000     11.2"
"                246.000     0.000     11.2"
"                246.050     0.000     11.3"
"                246.100     0.000     11.4"
"                246.150     0.000     11.4"
"                246.200     0.000     11.5"
"                246.250     0.000     11.5"
"                246.300     0.000     11.6"
"            1.   TRENCH PIPES"
"              Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                  Invert    length     diam.    grade%     0=Yes  distance"
"                 244.650    16.000     0.300     0.000     0.000     0.000"
"            1.   MANHOLE"
"                  Access"
"                diameter"
"                   1.200"
"              Peak outflow                  0.000    c.m/sec"
"              Outflow volume                0.001    c.m"
"              Peak exfiltration             0.010    c.m/sec"
"              Exfiltration volume          41.557    c.m"
"              Maximum level               244.448    metre"
"              Maximum storage               1.138    c.m"
"              Centroidal lag                2.095   hours"
"              Infiltration area 2 sides   8.956   sq.metre"
"              Infiltration Base area       16.000   sq.metre"
"                    0.011     0.011     0.000     0.010 c.m/sec"
" 40          HYDROGRAPH   Combine    1009"
"            6   Combine "
"         1009   Node #"
"                overflow from lot 9"
"              Maximum flow                  0.000    c.m/sec"
"              Hydrograph volume             0.001    c.m"
"                    0.011     0.011     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.011     0.000     0.000     0.000"
" 33          CATCHMENT 10"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           10   Lot 10 - Tributary to Exfiltration Trench 10A"
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"       14.000   % Impervious"
"        0.190   Total Area"
"      120.000   Flow length"
"        2.000   Overland Slope"
"        0.163   Pervious Area"
"      120.000   Pervious length"
"        2.000   Pervious slope"
"        0.027   Impervious Area"
"       24.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.198   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.860   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.009     0.000     0.000     0.000 c.m/sec"
"             Catchment 10           Pervious   Impervious Total Area "
"             Surface Area           0.163      0.027      0.190      hectare"
"             Time of concentration  48.494     1.630      29.074     minutes"
"             Time to Centroid       153.539    86.564     125.785    minutes"
"             Rainfall depth         52.597     52.597     52.597     mm"
"             Rainfall volume        85.94      13.99      99.93      c.m"
"             Rainfall losses        42.186     7.341      37.308     mm"
"             Runoff depth           10.411     45.256     15.290     mm"
"             Runoff volume          17.01      12.04      29.05      c.m"
"             Runoff coefficient     0.198      0.860      0.291      "
"             Maximum flow           0.003      0.009      0.009      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                    0.009     0.009     0.000     0.000"
" 57          TRENCH Design d/s of 10"
"        0.009   Peak inflow"
"       29.050   Hydrograph volume"
"      246.250   Ground elevation"
"      244.200   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.200     0.000      0.0"
"                244.250     0.000      0.1"
"                244.300     0.000      0.3"
"                244.350     0.000      0.4"
"                244.400     0.000      0.6"
"                244.450     0.000      0.8"
"                244.500     0.000      0.9"
"                244.550     0.000      1.1"
"                244.600     0.000      1.3"
"                244.650     0.000      1.6"
"                244.700     0.000      1.9"
"                244.750     0.000      2.2"
"                244.800     0.000      2.6"
"                244.850     0.000      2.9"
"                244.900     0.000      3.3"
"                244.950     0.000      3.5"
"                245.000     0.000      3.9"
"                245.050     0.000      4.2"
"                245.100     0.000      4.5"
"                245.150     0.000      4.8"
"                245.200     0.000      5.2"
"                245.250     0.000      5.3"
"                245.300     0.000      5.3"
"                245.350     0.000      5.4"
"                245.400     0.000      5.4"
"                245.450     0.000      5.5"
"                245.500     0.000      5.5"
"                245.550     0.000      5.6"
"                245.600     0.000      5.6"
"                245.650     0.000      5.7"
"                245.700     0.000      5.8"
"                245.750     0.000      5.8"
"                245.800     0.000      5.9"
"                245.850     0.000      5.9"
"                245.900     0.000      6.0"
"                245.950     0.000      6.0"
"                246.000     0.000      6.1"
"                246.050     0.000      6.2"
"                246.100     0.000      6.2"
"                246.150     0.000      6.3"
"                246.200     0.000      6.3"
"                246.250     0.000      6.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                244.600     8.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.008    c.m/sec"
"             Exfiltration volume          28.958    c.m"
"             Maximum level               244.619    metre"
"             Maximum storage               1.445    c.m"
"             Centroidal lag                2.272   hours"
"             Infiltration area 2 sides   9.482   sq.metre"
"             Infiltration Base area      8.000   sq.metre"
"                  0.009     0.009     0.000     0.008 c.m/sec"
" 40          HYDROGRAPH   Combine    1010"
"           6   Combine "
"        1010   Node #"
"               overflow from lot 10"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.009     0.009     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.009     0.000     0.000     0.000"
" 33          CATCHMENT 100"
"             1   Triangular SCS"
"             3   Specify values"
"             1   SCS method"
"           100   Lot 10 - Tributary to Exfiltration Trench 10B"
"        14.000   % Impervious"
"         0.180   Total Area"
"       110.000   Flow length"
"         2.000   Overland Slope"
"         0.155   Pervious Area"
"       110.000   Pervious length"
"         2.000   Pervious slope"
"         0.025   Impervious Area"
"        24.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
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"        0.198   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.860   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.009     0.000     0.000     0.000 c.m/sec"
"             Catchment 100          Pervious   Impervious Total Area "
"             Surface Area           0.155      0.025      0.180      hectare"
"             Time of concentration  46.027     1.630      27.629     minutes"
"             Time to Centroid       150.529    86.564     124.022    minutes"
"             Rainfall depth         52.597     52.597     52.597     mm"
"             Rainfall volume        81.42      13.25      94.67      c.m"
"             Rainfall losses        42.186     7.341      37.308     mm"
"             Runoff depth           10.411     45.256     15.289     mm"
"             Runoff volume          16.12      11.40      27.52      c.m"
"             Runoff coefficient     0.198      0.860      0.291      "
"             Maximum flow           0.003      0.008      0.009      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.009     0.009     0.000     0.000"
" 57          TRENCH Design d/s of 100"
"        0.009   Peak inflow"
"       27.521   Hydrograph volume"
"      246.450   Ground elevation"
"      244.400   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.400     0.000      0.0"
"                244.450     0.000      0.1"
"                244.500     0.000      0.3"
"                244.550     0.000      0.4"
"                244.600     0.000      0.6"
"                244.650     0.000      0.8"
"                244.700     0.000      0.9"
"                244.750     0.000      1.1"
"                244.800     0.000      1.3"
"                244.850     0.000      1.6"
"                244.900     0.000      1.9"
"                244.950     0.000      2.2"
"                245.000     0.000      2.6"
"                245.050     0.000      2.9"
"                245.100     0.000      3.3"
"                245.150     0.000      3.5"
"                245.200     0.000      3.9"
"                245.250     0.000      4.2"
"                245.300     0.000      4.5"
"                245.350     0.000      4.8"
"                245.400     0.000      5.2"
"                245.450     0.000      5.3"
"                245.500     0.000      5.3"
"                245.550     0.000      5.4"
"                245.600     0.000      5.4"
"                245.650     0.000      5.5"
"                245.700     0.000      5.5"
"                245.750     0.000      5.6"
"                245.800     0.000      5.6"
"                245.850     0.000      5.7"
"                245.900     0.000      5.8"
"                245.950     0.000      5.8"
"                246.000     0.000      5.9"
"                246.050     0.000      5.9"
"                246.100     0.000      6.0"
"                246.150     0.000      6.0"
"                246.200     0.000      6.1"
"                246.250     0.000      6.2"
"                246.300     0.000      6.2"
"                246.350     0.000      6.3"
"                246.400     0.000      6.3"
"                246.450     0.000      6.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                244.800     8.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.007    c.m/sec"
"             Exfiltration volume          27.446    c.m"
"             Maximum level               244.807    metre"
"             Maximum storage               1.381    c.m"
"             Centroidal lag                2.231   hours"
"             Infiltration area 2 sides   9.208   sq.metre"
"             Infiltration Base area      8.000   sq.metre"
"                  0.009     0.009     0.000     0.007 c.m/sec"
" 40          HYDROGRAPH   Combine    1010"
"           6   Combine "
"        1010   Node #"
"               overflow from lot 10"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                  0.009     0.009     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.009     0.000     0.000     0.000"
```

```
"                MIDUSS Output ------------------------------------------------>"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used                                            ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                          Eng 1432-1\SWM\MIDUSS\Post for Lots"
"                Output filename:              25 year post - private lots.out"
"                Licensee name:                                           owner"
"                Company                                                HP Inc."
"                Date & Time last used:               2020-05-05 at 8:15:15 AM"
" 31          TIME PARAMETERS"
"         5.000   Time Step"
"       180.000   Max. Storm length"
"      1440.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"             1   Chicago storm"
"      1455.000   Coefficient A"
"         5.000   Constant B"
"         0.820   Exponent C"
"         0.380   Fraction R"
"       180.000   Duration"
"         1.000   Time step multiplier"
"              Maximum intensity           202.437    mm/hr"
"              Total depth                  60.381    mm"
"             5   25hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 1"
"             1   Triangular SCS"
"             3   Specify values"
"             1   SCS method"
"             1   Lot 1 - Tributary to Exfiltration Trench 1"
"        10.000   % Impervious"
"         0.250   Total Area"
"        32.000   Flow length"
"         2.000   Overland Slope"
"         0.225   Pervious Area"
"        32.000   Pervious length"
"         2.000   Pervious slope"
"         0.025   Impervious Area"
"        40.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
"         0.225   Pervious Runoff coefficient"
"         0.030   Pervious Ia/S coefficient"
"         5.080   Pervious Initial abstraction"
"         0.015   Impervious Manning 'n'"
"        98.000   Impervious SCS Curve No."
"         0.876   Impervious Runoff coefficient"
"         0.386   Impervious Ia/S coefficient"
"         2.001   Impervious Initial abstraction"
"                      0.014     0.000     0.000     0.000 c.m/sec"
"              Catchment 1            Pervious   Impervious Total Area "
"              Surface Area           0.225      0.025      0.250      hectare"
"              Time of concentration  19.080     2.028      13.929     minutes"
"              Time to Centroid       118.558    87.202     109.086    minutes"
"              Rainfall depth         60.381     60.381     60.381     mm"
"              Rainfall volume        135.86     15.10      150.95     c.m"
"              Rainfall losses        46.797     7.466      42.864     mm"
"              Runoff depth           13.584     52.915     17.518     mm"
"              Runoff volume          30.56      13.23      43.79      c.m"
"              Runoff coefficient     0.225      0.876      0.290      "
"              Maximum flow           0.011      0.010      0.014      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                      0.014     0.014     0.000     0.000"
" 57          TRENCH Design d/s of 1"
"         0.014   Peak inflow"
"        43.794   Hydrograph volume"
"       247.300   Ground elevation"
"       245.250   Downstream trench invert"
"         1.000   Trench height"
"       243.700   Water table elevation"
"         3.000   Trench top width"
"         1.000   Trench bottom width"
"        30.000   Voids ratio (%)"
"      1267.200   Hydraulic conductivity"
"         0.000   Trench gradient (%)"
"        20.000   Trench length"
"         1.000   Include base width"
"           42.   Number of stages"
"                   Level Discharge     Volume"
"                 245.250     0.000        0.0"
"                 245.300     0.000        0.3"
"                 245.350     0.000        0.7"
"                 245.400     0.000        1.0"
"                 245.450     0.000        1.4"
"                 245.500     0.000        1.9"
"                 245.550     0.000        2.3"
"                 245.600     0.000        2.8"
"                 245.650     0.000        3.4"
"                 245.700     0.000        4.0"
"                 245.750     0.000        4.8"
"                 245.800     0.000        5.6"
"                 245.850     0.000        6.5"
"                 245.900     0.000        7.3"
"                 245.950     0.000        8.1"
"                 246.000     0.000        8.9"
"                 246.050     0.000        9.6"
"                 246.100     0.000       10.4"
"                 246.150     0.000       11.2"
"                 246.200     0.000       12.1"
"                 246.250     0.000       13.0"
"                 246.300     0.000       13.0"
"                 246.350     0.000       13.1"
"                 246.400     0.000       13.2"
"                 246.450     0.000       13.2"
"                 246.500     0.000       13.3"
"                 246.550     0.000       13.3"
"                 246.600     0.000       13.4"
"                 246.650     0.000       13.4"
"                 246.700     0.000       13.5"
"                 246.750     0.000       13.6"
"                 246.800     0.000       13.6"
"                 246.850     0.000       13.7"
"                 246.900     0.000       13.7"
"                 246.950     0.000       13.8"
"                 247.000     0.000       13.8"
"                 247.050     0.000       13.9"
"                 247.100     0.000       14.0"
"                 247.150     0.000       14.0"
"                 247.200     0.000       14.1"
"                 247.250     0.000       14.1"
"                 247.300     0.000       14.2"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                245.650    20.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.013    c.m/sec"
"             Exfiltration volume          43.829    c.m"
"             Maximum level               245.495    metre"
"             Maximum storage               1.834    c.m"
"             Centroidal lag                1.915   hours"
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"             Infiltration area 2 sides   13.877   sq.metre"
"             Infiltration Base area      20.000   sq.metre"
"                 0.014     0.014     0.000     0.013 c.m/sec"
" 40          HYDROGRAPH   Combine    1001"
"           6   Combine "
"        1001   Node #"
"               overflow from lot 1"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                   0.014     0.014     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.014     0.000     0.000     0.000"
" 33          CATCHMENT 2"
"           1   Triangular SCS"
"           1   Equal length"
"           1   SCS method"
"           2   Lot 2 - Tributary to Exfiltration Trench 2"
"      12.500   % Impervious"
"       0.320   Total Area"
"      25.000   Flow length"
"       2.000   Overland Slope"
"       0.280   Pervious Area"
"      25.000   Pervious length"
"       2.000   Pervious slope"
"       0.040   Impervious Area"
"      25.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.225   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.874   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                 0.021     0.000     0.000     0.000 c.m/sec"
"           Catchment 2            Pervious   Impervious Total Area "
"           Surface Area           0.280      0.040      0.320      hectare"
"           Time of concentration  16.453     1.530      11.126     minutes"
"           Time to Centroid       115.250    86.392     104.948    minutes"
"           Rainfall depth         60.381     60.381     60.381     mm"
"           Rainfall volume        169.07     24.15      193.22     c.m"
"           Rainfall losses        46.801     7.605      41.901     mm"
"           Runoff depth           13.580     52.776     18.480     mm"
"           Runoff volume          38.03      21.11      59.14      c.m"
"           Runoff coefficient     0.225      0.874      0.306      "
"           Maximum flow           0.015      0.017      0.021      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                 0.021     0.021     0.000     0.000"
" 57          TRENCH Design d/s of 2"
"       0.021   Peak inflow"
"      59.136   Hydrograph volume"
"     246.750   Ground elevation"
"     244.700   Downstream trench invert"
"       1.000   Trench height"
"     243.700   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"      25.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               244.700     0.000       0.0"
"               244.750     0.000       0.4"
"               244.800     0.000       0.8"
"               244.850     0.000       1.3"
"               244.900     0.000       1.8"
"               244.950     0.000       2.3"
"               245.000     0.000       2.9"
"               245.050     0.000       3.5"
"               245.100     0.000       4.2"
"               245.150     0.000       5.0"
"               245.200     0.000       6.0"
"               245.250     0.000       7.0"
"               245.300     0.000       8.1"
"               245.350     0.000       9.1"
"               245.400     0.000      10.2"
"               245.450     0.000      11.1"
"               245.500     0.000      12.0"
"               245.550     0.000      13.0"
"               245.600     0.000      14.1"
"               245.650     0.000      15.1"
"               245.700     0.000      16.2"
"               245.750     0.000      16.3"
"               245.800     0.000      16.4"
"               245.850     0.000      16.4"
"               245.900     0.000      16.5"
"               245.950     0.000      16.5"
"               246.000     0.000      16.6"
"               246.050     0.000      16.6"
"               246.100     0.000      16.7"
"               246.150     0.000      16.7"
"               246.200     0.000      16.8"
"               246.250     0.000      16.9"
"               246.300     0.000      16.9"
"               246.350     0.000      17.0"
"               246.400     0.000      17.0"
"               246.450     0.000      17.1"
"               246.500     0.000      17.1"
"               246.550     0.000      17.2"
"               246.600     0.000      17.3"
"               246.650     0.000      17.3"
"               246.700     0.000      17.4"
"               246.750     0.000      17.4"
"         1.   TRENCH PIPES"
"           Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"               Invert    length     diam.    grade%     0=Yes  distance"
"               245.100    25.000     0.300     0.000     0.000     0.000"
"         1.   MANHOLE"
"               Access"
"             diameter"
"                1.200"
"           Peak outflow                  0.000    c.m/sec"
"           Outflow volume                0.000    c.m"
"           Peak exfiltration             0.019    c.m/sec"
"           Exfiltration volume          58.617    c.m"
"           Maximum level               245.020    metre"
"           Maximum storage               3.175    c.m"
"           Centroidal lag                1.879   hours"
"           Infiltration area 2 sides    22.639   sq.metre"
"           Infiltration Base area       25.000   sq.metre"
"                0.021     0.021     0.000     0.019 c.m/sec"
" 40          HYDROGRAPH   Combine    1002"
"           6   Combine "
"        1002   Node #"
"               overflow from lot 2"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                   0.021     0.021     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
```

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"                    0.021     0.000     0.000     0.000"
" 33          CATCHMENT 3"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"            3   Lot 3 - Tributary to Exfiltration Trench 3"
"       28.000   % Impervious"
"        0.180   Total Area"
"       40.000   Flow length"
"        2.000   Overland Slope"
"        0.130   Pervious Area"
"       40.000   Pervious length"
"        2.000   Pervious slope"
"        0.050   Impervious Area"
"       35.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.225   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.877   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.021     0.000     0.000     0.000 c.m/sec"
"             Catchment 3            Pervious   Impervious Total Area "
"             Surface Area           0.130      0.050      0.180      hectare"
"             Time of concentration  21.814     1.872      9.801      minutes"
"             Time to Centroid       122.016    86.963     100.901    minutes"
"             Rainfall depth         60.381     60.381     60.381     mm"
"             Rainfall volume        78.25      30.43      108.69     c.m"
"             Rainfall losses        46.788     7.427      35.767     mm"
"             Runoff depth           13.593     52.954     24.615     mm"
"             Runoff volume          17.62      26.69      44.31      c.m"
"             Runoff coefficient     0.225      0.877      0.408      "
"             Maximum flow           0.006      0.020      0.021      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.021     0.021     0.000     0.000"
" 57          TRENCH Design d/s of 3"
"         0.021   Peak inflow"
"        44.306   Hydrograph volume"
"       247.000   Ground elevation"
"       244.950   Downstream trench invert"
"         1.000   Trench height"
"       243.900   Water table elevation"
"         3.000   Trench top width"
"         1.000   Trench bottom width"
"        30.000   Voids ratio (%)"
"      1267.200   Hydraulic conductivity"
"         0.000   Trench gradient (%)"
"        16.000   Trench length"
"         1.000   Include base width"
"           42.   Number of stages"
"                   Level Discharge    Volume"
"                 244.950     0.000      0.0"
"                 245.000     0.000      0.3"
"                 245.050     0.000      0.5"
"                 245.100     0.000      0.8"
"                 245.150     0.000      1.2"
"                 245.200     0.000      1.5"
"                 245.250     0.000      1.9"
"                 245.300     0.000      2.3"
"                 245.350     0.000      2.7"
"                 245.400     0.000      3.2"
"                 245.450     0.000      3.8"
"                 245.500     0.000      4.5"
"                 245.550     0.000      5.2"
"                 245.600     0.000      5.9"
"                 245.650     0.000      6.5"
"                 245.700     0.000      7.1"
"                 245.750     0.000      7.7"
"                 245.800     0.000      8.3"
"                 245.850     0.000      9.0"
"                 245.900     0.000      9.7"
"                 245.950     0.000     10.4"
"                 246.000     0.000     10.4"
"                 246.050     0.000     10.5"
"                 246.100     0.000     10.6"
"                 246.150     0.000     10.6"
"                 246.200     0.000     10.7"
"                 246.250     0.000     10.7"
"                 246.300     0.000     10.8"
"                 246.350     0.000     10.8"
"                 246.400     0.000     10.9"
"                 246.450     0.000     11.0"
"                 246.500     0.000     11.0"
"                 246.550     0.000     11.1"
"                 246.600     0.000     11.1"
"                 246.650     0.000     11.2"
"                 246.700     0.000     11.2"
"                 246.750     0.000     11.3"
"                 246.800     0.000     11.4"
"                 246.850     0.000     11.4"
"                 246.900     0.000     11.5"
"                 246.950     0.000     11.5"
"                 247.000     0.000     11.6"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                245.350    16.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"               diameter"
"                  1.200"
"              Peak outflow                  0.000    c.m/sec"
"              Outflow volume                0.000    c.m"
"              Peak exfiltration             0.017    c.m/sec"
"              Exfiltration volume          44.204    c.m"
"              Maximum level               245.457    metre"
"              Maximum storage               3.922    c.m"
"              Centroidal lag                1.858   hours"
"              Infiltration area 2 sides    22.942   sq.metre"
"              Infiltration Base area       16.000   sq.metre"
"                   0.021     0.021     0.000     0.017 c.m/sec"
" 40          HYDROGRAPH   Combine    1003"
"            6   Combine "
"         1003   Node #"
"                overflow from lot 2"
"              Maximum flow                  0.000    c.m/sec"
"              Hydrograph volume             0.000    c.m"
"                   0.021     0.021     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                   0.021     0.000     0.000     0.000"
" 33          CATCHMENT 4"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"            4   Lot 4 - Tributary to Exfiltration Trench 4"
"       21.000   % Impervious"
"        0.190   Total Area"
"       40.000   Flow length"
"        2.000   Overland Slope"
"        0.150   Pervious Area"
"       40.000   Pervious length"
```

```
"        2.000   Pervious slope"
"        0.040   Impervious Area"
"       40.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.225   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.876   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.017     0.000     0.000     0.000 c.m/sec"
"             Catchment 4            Pervious   Impervious Total Area "
"             Surface Area           0.150      0.040      0.190      hectare"
"             Time of concentration  21.814     2.028      11.752     minutes"
"             Time to Centroid       122.016    87.202     104.311    minutes"
"             Rainfall depth         60.381     60.381     60.381     mm"
"             Rainfall volume        90.63      24.09      114.72     c.m"
"             Rainfall losses        46.788     7.466      38.530     mm"
"             Runoff depth           13.593     52.915     21.851     mm"
"             Runoff volume          20.40      21.11      41.52      c.m"
"             Runoff coefficient     0.225      0.876      0.362      "
"             Maximum flow           0.007      0.016      0.017      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"               4   Add Runoff "
"                    0.017     0.017     0.000     0.000"
" 57          TRENCH Design d/s of 4"
"        0.017   Peak inflow"
"       41.517   Hydrograph volume"
"      246.650   Ground elevation"
"      244.600   Downstream trench invert"
"        1.000   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       16.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.600     0.000      0.0"
"                244.650     0.000      0.3"
"                244.700     0.000      0.5"
"                244.750     0.000      0.8"
"                244.800     0.000      1.2"
"                244.850     0.000      1.5"
"                244.900     0.000      1.9"
"                244.950     0.000      2.3"
"                245.000     0.000      2.7"
"                245.050     0.000      3.2"
"                245.100     0.000      3.8"
"                245.150     0.000      4.5"
"                245.200     0.000      5.2"
"                245.250     0.000      5.9"
"                245.300     0.000      6.5"
"                245.350     0.000      7.1"
"                245.400     0.000      7.7"
"                245.450     0.000      8.3"
"                245.500     0.000      9.0"
"                245.550     0.000      9.7"
"                245.600     0.000     10.4"
"                245.650     0.000     10.4"
"                245.700     0.000     10.5"
"                245.750     0.000     10.6"
"                245.800     0.000     10.6"
"                245.850     0.000     10.7"
"                245.900     0.000     10.7"
"                245.950     0.000     10.8"
"                246.000     0.000     10.8"
"                246.050     0.000     10.9"
"                246.100     0.000     11.0"
"                246.150     0.000     11.0"
"                246.200     0.000     11.1"
"                246.250     0.000     11.1"
"                246.300     0.000     11.2"
"                246.350     0.000     11.2"
"                246.400     0.000     11.3"
"                246.450     0.000     11.4"
"                246.500     0.000     11.4"
"                246.550     0.000     11.5"
"                246.600     0.000     11.5"
"                246.650     0.000     11.6"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                245.000    16.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.015    c.m/sec"
"             Exfiltration volume          41.341    c.m"
"             Maximum level               245.004    metre"
"             Maximum storage               2.727    c.m"
"             Centroidal lag                1.892   hours"
"             Infiltration area 2 sides    18.269   sq.metre"
"             Infiltration Base area       16.000   sq.metre"
"                    0.017     0.017     0.000     0.015 c.m/sec"
" 40          HYDROGRAPH   Combine    1004"
"               6   Combine "
"            1004   Node #"
"                   overflow from lot 4"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                    0.017     0.017     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"             2   Start - New Tributary"
"                    0.017     0.000     0.000     0.000"
" 33          CATCHMENT 5"
"             1   Triangular SCS"
"             3   Specify values"
"             1   SCS method"
"             5   Lot 5 - Tributary to Exfiltration Trench 5A"
"        19.000   % Impervious"
"         0.130   Total Area"
"        37.000   Flow length"
"         2.000   Overland Slope"
"         0.105   Pervious Area"
"        37.000   Pervious length"
"         2.000   Pervious slope"
"         0.025   Impervious Area"
"        26.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
"         0.225   Pervious Runoff coefficient"
"         0.030   Pervious Ia/S coefficient"
"         5.080   Pervious Initial abstraction"
"         0.015   Impervious Manning 'n'"
"        98.000   Impervious SCS Curve No."
"         0.875   Impervious Runoff coefficient"
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"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.011     0.000     0.000     0.000 c.m/sec"
"             Catchment 5            Pervious   Impervious Total Area "
"             Surface Area           0.105      0.025      0.130      hectare"
"             Time of concentration  20.817     1.566      11.643     minutes"
"             Time to Centroid       120.745    86.441     104.397    minutes"
"             Rainfall depth         60.381     60.381     60.381     mm"
"             Rainfall volume        63.58      14.91      78.50      c.m"
"             Rainfall losses        46.775     7.571      39.326     mm"
"             Runoff depth           13.606     52.811     21.055     mm"
"             Runoff volume          14.33      13.04      27.37      c.m"
"             Runoff coefficient     0.225      0.875      0.349      "
"             Maximum flow           0.005      0.010      0.011      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                    0.011     0.011     0.000     0.000"
" 57          TRENCH Design d/s of 5"
"        0.011   Peak inflow"
"       27.372   Hydrograph volume"
"      248.000   Ground elevation"
"      245.950   Downstream trench invert"
"        1.000   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                247.950     0.000      0.0"
"                246.000     0.000      0.2"
"                246.050     0.000      0.3"
"                246.100     0.000      0.5"
"                246.150     0.000      0.7"
"                246.200     0.000      0.9"
"                246.250     0.000      1.2"
"                246.300     0.000      1.4"
"                246.350     0.000      1.7"
"                246.400     0.000      2.0"
"                246.450     0.000      2.4"
"                246.500     0.000      2.8"
"                246.550     0.000      3.2"
"                246.600     0.000      3.7"
"                246.650     0.000      4.1"
"                246.700     0.000      4.4"
"                246.750     0.000      4.8"
"                246.800     0.000      5.2"
"                246.850     0.000      5.6"
"                246.900     0.000      6.1"
"                246.950     0.000      6.5"
"                247.000     0.000      6.6"
"                247.050     0.000      6.6"
"                247.100     0.000      6.7"
"                247.150     0.000      6.7"
"                247.200     0.000      6.8"
"                247.250     0.000      6.8"
"                247.300     0.000      6.9"
"                247.350     0.000      6.9"
"                247.400     0.000      7.0"
"                247.450     0.000      7.1"
"                247.500     0.000      7.1"
"                247.550     0.000      7.2"
"                247.600     0.000      7.2"
"                247.650     0.000      7.3"
"                247.700     0.000      7.3"
"                247.750     0.000      7.4"
"                247.800     0.000      7.5"
"                247.850     0.000      7.5"
"                247.900     0.000      7.6"
"                247.950     0.000      7.6"
"                248.000     0.000      7.7"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                246.350    10.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.009    c.m/sec"
"             Exfiltration volume          27.183    c.m"
"             Maximum level               246.389    metre"
"             Maximum storage               1.936    c.m"
"             Centroidal lag                1.904   hours"
"             Infiltration area 2 sides    12.405   sq.metre"
"             Infiltration Base area       10.000   sq.metre"
"                  0.011     0.011     0.000     0.009 c.m/sec"
" 40          HYDROGRAPH   Combine    1005"
"           6   Combine "
"        1005   Node #"
"               overflow from lot 5"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                    0.011     0.011     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.011     0.000     0.000     0.000"
" 33          CATCHMENT 55"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          55   Lot 5 - Tributary to Exfiltration Trench 5B"
"       23.000   % Impervious"
"        0.110   Total Area"
"       37.000   Flow length"
"        2.000   Overland Slope"
"        0.085   Pervious Area"
"       37.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       26.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.225   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.875   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.011     0.000     0.000     0.000 c.m/sec"
"             Catchment 55           Pervious   Impervious Total Area "
"             Surface Area           0.085      0.025      0.110      hectare"
"             Time of concentration  20.817     1.566      10.481     minutes"
"             Time to Centroid       120.745    86.441     102.327    minutes"
"             Rainfall depth         60.381     60.381     60.381     mm"
"             Rainfall volume        51.14      15.28      66.42      c.m"
"             Rainfall losses        46.775     7.571      37.758     mm"
"             Runoff depth           13.606     52.811     22.623     mm"
"             Runoff volume          11.52      13.36      24.89      c.m"
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"             Runoff coefficient     0.225      0.875      0.375      "
"             Maximum flow           0.004      0.011      0.011      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.011     0.011     0.000     0.000"
" 57          TRENCH Design d/s of 55"
"        0.011   Peak inflow"
"       24.886   Hydrograph volume"
"      247.800   Ground elevation"
"      245.750   Downstream trench invert"
"        1.000   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.750     0.000       0.0"
"                245.800     0.000       0.2"
"                245.850     0.000       0.3"
"                245.900     0.000       0.5"
"                245.950     0.000       0.7"
"                246.000     0.000       0.9"
"                246.050     0.000       1.2"
"                246.100     0.000       1.4"
"                246.150     0.000       1.7"
"                246.200     0.000       2.0"
"                246.250     0.000       2.4"
"                246.300     0.000       2.8"
"                246.350     0.000       3.2"
"                246.400     0.000       3.7"
"                246.450     0.000       4.1"
"                246.500     0.000       4.4"
"                246.550     0.000       4.8"
"                246.600     0.000       5.2"
"                246.650     0.000       5.6"
"                246.700     0.000       6.1"
"                246.750     0.000       6.5"
"                246.800     0.000       6.6"
"                246.850     0.000       6.6"
"                246.900     0.000       6.7"
"                246.950     0.000       6.7"
"                247.000     0.000       6.8"
"                247.050     0.000       6.8"
"                247.100     0.000       6.9"
"                247.150     0.000       6.9"
"                247.200     0.000       7.0"
"                247.250     0.000       7.1"
"                247.300     0.000       7.1"
"                247.350     0.000       7.2"
"                247.400     0.000       7.2"
"                247.450     0.000       7.3"
"                247.500     0.000       7.3"
"                247.550     0.000       7.4"
"                247.600     0.000       7.5"
"                247.650     0.000       7.5"
"                247.700     0.000       7.6"
"                247.750     0.000       7.6"
"                247.800     0.000       7.7"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                246.150    10.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                Access"
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"              diameter"
"                1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.009    c.m/sec"
"             Exfiltration volume          24.758    c.m"
"             Maximum level               246.179    metre"
"             Maximum storage               1.874    c.m"
"             Centroidal lag                1.856   hours"
"             Infiltration area 2 sides    12.141   sq.metre"
"             Infiltration Base area       10.000   sq.metre"
"                  0.011     0.011     0.000     0.009 c.m/sec"
" 40          HYDROGRAPH   Combine    1005"
"            6   Combine "
"         1005   Node #"
"                overflow from lot 5"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                  0.011     0.011     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                  0.011     0.000     0.000     0.000"
" 33          CATCHMENT 6"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"            6   Lot 6 - Tributary to Exfiltration Trench 6A"
"       21.000   % Impervious"
"        0.120   Total Area"
"       37.000   Flow length"
"        2.000   Overland Slope"
"        0.095   Pervious Area"
"       37.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       26.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.225   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.875   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.011     0.000     0.000     0.000 c.m/sec"
"             Catchment 6            Pervious   Impervious Total Area "
"             Surface Area           0.095      0.025      0.120      hectare"
"             Time of concentration  20.817     1.566      11.041     minutes"
"             Time to Centroid       120.745    86.441     103.325    minutes"
"             Rainfall depth         60.381     60.381     60.381     mm"
"             Rainfall volume        57.24      15.22      72.46      c.m"
"             Rainfall losses        46.775     7.571      38.542     mm"
"             Runoff depth           13.606     52.811     21.839     mm"
"             Runoff volume          12.90      13.31      26.21      c.m"
"             Runoff coefficient     0.225      0.875      0.362      "
"             Maximum flow           0.004      0.010      0.011      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                  0.011     0.011     0.000     0.000"
" 57          TRENCH Design d/s of 6"
"        0.011   Peak inflow"
"       26.207   Hydrograph volume"
"      247.700   Ground elevation"
"      245.650   Downstream trench invert"
"        1.000   Trench height"
"      244.200   Water table elevation"
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"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.650     0.000       0.0"
"                245.700     0.000       0.2"
"                245.750     0.000       0.3"
"                245.800     0.000       0.5"
"                245.850     0.000       0.7"
"                245.900     0.000       0.9"
"                245.950     0.000       1.2"
"                246.000     0.000       1.4"
"                246.050     0.000       1.7"
"                246.100     0.000       2.0"
"                246.150     0.000       2.4"
"                246.200     0.000       2.8"
"                246.250     0.000       3.2"
"                246.300     0.000       3.7"
"                246.350     0.000       4.1"
"                246.400     0.000       4.4"
"                246.450     0.000       4.8"
"                246.500     0.000       5.2"
"                246.550     0.000       5.6"
"                246.600     0.000       6.1"
"                246.650     0.000       6.5"
"                246.700     0.000       6.6"
"                246.750     0.000       6.6"
"                246.800     0.000       6.7"
"                246.850     0.000       6.7"
"                246.900     0.000       6.8"
"                246.950     0.000       6.8"
"                247.000     0.000       6.9"
"                247.050     0.000       6.9"
"                247.100     0.000       7.0"
"                247.150     0.000       7.1"
"                247.200     0.000       7.1"
"                247.250     0.000       7.2"
"                247.300     0.000       7.2"
"                247.350     0.000       7.3"
"                247.400     0.000       7.3"
"                247.450     0.000       7.4"
"                247.500     0.000       7.5"
"                247.550     0.000       7.5"
"                247.600     0.000       7.6"
"                247.650     0.000       7.6"
"                247.700     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"                246.050    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.000    c.m"
"            Peak exfiltration            0.009    c.m/sec"
"            Exfiltration volume         26.102    c.m"
"            Maximum level              246.082    metre"
"            Maximum storage              1.892    c.m"
"            Centroidal lag               1.880   hours"
"            Infiltration area 2 sides   12.217   sq.metre"
"            Infiltration Base area      10.000   sq.metre"
"                 0.011     0.011     0.000     0.009 c.m/sec"
" 40          HYDROGRAPH   Combine    1006"
"               6   Combine "
"            1006   Node #"
"                   overflow from lot 6"
"                Maximum flow                 0.000    c.m/sec"
"                Hydrograph volume            0.000    c.m"
"                       0.011     0.011     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"               2   Start - New Tributary"
"                       0.011     0.000     0.000     0.000"
" 33          CATCHMENT 66"
"               1   Triangular SCS"
"               3   Specify values"
"               1   SCS method"
"              66   Lot 6 - Tributary to Exfiltration Trench 6B"
"          21.000   % Impervious"
"           0.120   Total Area"
"          37.000   Flow length"
"           2.000   Overland Slope"
"           0.095   Pervious Area"
"          37.000   Pervious length"
"           2.000   Pervious slope"
"           0.025   Impervious Area"
"          26.000   Impervious length"
"           2.000   Impervious slope"
"           0.250   Pervious Manning 'n'"
"          60.000   Pervious SCS Curve No."
"           0.225   Pervious Runoff coefficient"
"           0.030   Pervious Ia/S coefficient"
"           5.080   Pervious Initial abstraction"
"           0.015   Impervious Manning 'n'"
"          98.000   Impervious SCS Curve No."
"           0.875   Impervious Runoff coefficient"
"           0.386   Impervious Ia/S coefficient"
"           2.001   Impervious Initial abstraction"
"                       0.011     0.000     0.000     0.000 c.m/sec"
"                Catchment 66           Pervious   Impervious Total Area "
"                Surface Area           0.095      0.025      0.120      hectare"
"                Time of concentration  20.817     1.566      11.041     minutes"
"                Time to Centroid       120.745    86.441     103.325    minutes"
"                Rainfall depth         60.381     60.381     60.381     mm"
"                Rainfall volume        57.24      15.22      72.46      c.m"
"                Rainfall losses        46.775     7.571      38.542     mm"
"                Runoff depth           13.606     52.811     21.839     mm"
"                Runoff volume          12.90      13.31      26.21      c.m"
"                Runoff coefficient     0.225      0.875      0.362      "
"                Maximum flow           0.004      0.010      0.011      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"               4   Add Runoff "
"                       0.011     0.011     0.000     0.000"
" 57          TRENCH Design d/s of 66"
"           0.011   Peak inflow"
"          26.207   Hydrograph volume"
"         247.800   Ground elevation"
"         245.750   Downstream trench invert"
"           1.000   Trench height"
"         244.200   Water table elevation"
"           3.000   Trench top width"
"           1.000   Trench bottom width"
"          30.000   Voids ratio (%)"
"        1267.200   Hydraulic conductivity"
"           0.000   Trench gradient (%)"
"          10.000   Trench length"
"           1.000   Include base width"
"             42.   Number of stages"
"                     Level Discharge    Volume"
"                   245.750     0.000       0.0"
"                   245.800     0.000       0.2"
"                   245.850     0.000       0.3"
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"               245.900     0.000       0.5"
"               245.950     0.000       0.7"
"               246.000     0.000       0.9"
"               246.050     0.000       1.2"
"               246.100     0.000       1.4"
"               246.150     0.000       1.7"
"               246.200     0.000       2.0"
"               246.250     0.000       2.4"
"               246.300     0.000       2.8"
"               246.350     0.000       3.2"
"               246.400     0.000       3.7"
"               246.450     0.000       4.1"
"               246.500     0.000       4.4"
"               246.550     0.000       4.8"
"               246.600     0.000       5.2"
"               246.650     0.000       5.6"
"               246.700     0.000       6.1"
"               246.750     0.000       6.5"
"               246.800     0.000       6.6"
"               246.850     0.000       6.6"
"               246.900     0.000       6.7"
"               246.950     0.000       6.7"
"               247.000     0.000       6.8"
"               247.050     0.000       6.8"
"               247.100     0.000       6.9"
"               247.150     0.000       6.9"
"               247.200     0.000       7.0"
"               247.250     0.000       7.1"
"               247.300     0.000       7.1"
"               247.350     0.000       7.2"
"               247.400     0.000       7.2"
"               247.450     0.000       7.3"
"               247.500     0.000       7.3"
"               247.550     0.000       7.4"
"               247.600     0.000       7.5"
"               247.650     0.000       7.5"
"               247.700     0.000       7.6"
"               247.750     0.000       7.6"
"               247.800     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.150    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                  1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.000    c.m"
"            Peak exfiltration            0.009    c.m/sec"
"            Exfiltration volume         26.097    c.m"
"            Maximum level              246.185    metre"
"            Maximum storage              1.912    c.m"
"            Centroidal lag               1.880   hours"
"            Infiltration area 2 sides   12.300   sq.metre"
"            Infiltration Base area      10.000   sq.metre"
"                 0.011     0.011     0.000     0.009 c.m/sec"
" 40         HYDROGRAPH   Combine    1006"
"           6   Combine "
"        1006   Node #"
"               overflow from lot 6"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.001    c.m"
"                    0.011     0.011     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                    0.011     0.000     0.000     0.000"
" 33         CATCHMENT 7"
"           1   Triangular SCS"
"               3   Specify values"
"               1   SCS method"
"               7   Lot 7 - Tributary to Exfiltration Trench 7A"
"          10.000   % Impervious"
"           0.140   Total Area"
"          50.000   Flow length"
"           2.000   Overland Slope"
"           0.126   Pervious Area"
"          50.000   Pervious length"
"           2.000   Pervious slope"
"           0.014   Impervious Area"
"          24.000   Impervious length"
"           2.000   Impervious slope"
"           0.250   Pervious Manning 'n'"
"          60.000   Pervious SCS Curve No."
"           0.225   Pervious Runoff coefficient"
"           0.030   Pervious Ia/S coefficient"
"           5.080   Pervious Initial abstraction"
"           0.015   Impervious Manning 'n'"
"          98.000   Impervious SCS Curve No."
"           0.873   Impervious Runoff coefficient"
"           0.386   Impervious Ia/S coefficient"
"           2.001   Impervious Initial abstraction"
"                        0.006     0.000     0.000     0.000 c.m/sec"
"                Catchment 7            Pervious   Impervious Total Area "
"                Surface Area           0.126      0.014      0.140      hectare"
"                Time of concentration  24.939     1.493      17.878     minutes"
"                Time to Centroid       125.979    86.351     114.045    minutes"
"                Rainfall depth         60.381     60.381     60.381     mm"
"                Rainfall volume        76.08      8.45       84.53      c.m"
"                Rainfall losses        46.781     7.639      42.867     mm"
"                Runoff depth           13.600     52.743     17.515     mm"
"                Runoff volume          17.14      7.38       24.52      c.m"
"                Runoff coefficient     0.225      0.873      0.290      "
"                Maximum flow           0.005      0.006      0.006      c.m/sec"
" 40             HYDROGRAPH Add Runoff "
"               4   Add Runoff "
"                        0.006     0.006     0.000     0.000"
" 57             TRENCH Design d/s of 7"
"           0.006   Peak inflow"
"          24.520   Hydrograph volume"
"         247.750   Ground elevation"
"         245.700   Downstream trench invert"
"           1.000   Trench height"
"         244.140   Water table elevation"
"           3.000   Trench top width"
"           1.000   Trench bottom width"
"          30.000   Voids ratio (%)"
"        1267.200   Hydraulic conductivity"
"           0.000   Trench gradient (%)"
"           8.000   Trench length"
"           1.000   Include base width"
"             42.   Number of stages"
"                     Level Discharge    Volume"
"                   245.700     0.000       0.0"
"                   245.750     0.000       0.1"
"                   245.800     0.000       0.3"
"                   245.850     0.000       0.4"
"                   245.900     0.000       0.6"
"                   245.950     0.000       0.8"
"                   246.000     0.000       0.9"
"                   246.050     0.000       1.1"
"                   246.100     0.000       1.3"
"                   246.150     0.000       1.6"
"                   246.200     0.000       1.9"
"                   246.250     0.000       2.2"
"                   246.300     0.000       2.6"
"                   246.350     0.000       2.9"
"                   246.400     0.000       3.3"
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"               246.450     0.000       3.5"
"               246.500     0.000       3.9"
"               246.550     0.000       4.2"
"               246.600     0.000       4.5"
"               246.650     0.000       4.8"
"               246.700     0.000       5.2"
"               246.750     0.000       5.3"
"               246.800     0.000       5.3"
"               246.850     0.000       5.4"
"               246.900     0.000       5.4"
"               246.950     0.000       5.5"
"               247.000     0.000       5.5"
"               247.050     0.000       5.6"
"               247.100     0.000       5.6"
"               247.150     0.000       5.7"
"               247.200     0.000       5.8"
"               247.250     0.000       5.8"
"               247.300     0.000       5.9"
"               247.350     0.000       5.9"
"               247.400     0.000       6.0"
"               247.450     0.000       6.0"
"               247.500     0.000       6.1"
"               247.550     0.000       6.2"
"               247.600     0.000       6.2"
"               247.650     0.000       6.3"
"               247.700     0.000       6.3"
"               247.750     0.000       6.4"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.100     8.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.001    c.m"
"            Peak exfiltration            0.006    c.m/sec"
"            Exfiltration volume         24.418    c.m"
"            Maximum level              246.021    metre"
"            Maximum storage              1.021    c.m"
"            Centroidal lag               2.056   hours"
"            Infiltration area 2 sides    7.272   sq.metre"
"            Infiltration Base area       8.000   sq.metre"
"                0.006     0.006     0.000     0.006 c.m/sec"
" 40         HYDROGRAPH   Combine    1007"
"           6   Combine "
"        1007   Node #"
"               overflow from lot 7"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.001    c.m"
"                  0.006     0.006     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.006     0.000     0.000     0.000"
" 33         CATCHMENT 77"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          77   Lot 7 - Tributary to Exfiltration Trench 7B"
"      16.500   % Impervious"
"       0.240   Total Area"
"      54.000   Flow length"
"       2.000   Overland Slope"
"       0.200   Pervious Area"
"      54.000   Pervious length"
"       2.000   Pervious slope"
"       0.040   Impervious Area"
"      24.000   Impervious length"
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"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.225   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.873   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"               0.017     0.000     0.000     0.000 c.m/sec"
"           Catchment 77            Pervious   Impervious Total Area "
"           Surface Area            0.200      0.040      0.240      hectare"
"           Time of concentration   26.117     1.493      15.436     minutes"
"           Time to Centroid        127.451    86.351     109.622    minutes"
"           Rainfall depth          60.381     60.381     60.381     mm"
"           Rainfall volume         121.00     23.91      144.92     c.m"
"           Rainfall losses         46.777     7.639      40.320     mm"
"           Runoff depth            13.604     52.743     20.062     mm"
"           Runoff volume           27.26      20.89      48.15      c.m"
"           Runoff coefficient      0.225      0.873      0.332      "
"           Maximum flow            0.008      0.017      0.017      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"          4   Add Runoff "
"                0.017     0.017     0.000     0.000"
" 57         TRENCH Design d/s of 77"
"       0.017   Peak inflow"
"      48.149   Hydrograph volume"
"     247.700   Ground elevation"
"     245.650   Downstream trench invert"
"       1.000   Trench height"
"     244.000   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"      16.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               245.650     0.000       0.0"
"               245.700     0.000       0.3"
"               245.750     0.000       0.5"
"               245.800     0.000       0.8"
"               245.850     0.000       1.2"
"               245.900     0.000       1.5"
"               245.950     0.000       1.9"
"               246.000     0.000       2.3"
"               246.050     0.000       2.7"
"               246.100     0.000       3.2"
"               246.150     0.000       3.8"
"               246.200     0.000       4.5"
"               246.250     0.000       5.2"
"               246.300     0.000       5.9"
"               246.350     0.000       6.5"
"               246.400     0.000       7.1"
"               246.450     0.000       7.7"
"               246.500     0.000       8.3"
"               246.550     0.000       9.0"
"               246.600     0.000       9.7"
"               246.650     0.000      10.4"
"               246.700     0.000      10.4"
"               246.750     0.000      10.5"
"               246.800     0.000      10.6"
"               246.850     0.000      10.6"
"               246.900     0.000      10.7"
"               246.950     0.000      10.7"
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"               247.000     0.000      10.8"
"               247.050     0.000      10.8"
"               247.100     0.000      10.9"
"               247.150     0.000      11.0"
"               247.200     0.000      11.0"
"               247.250     0.000      11.1"
"               247.300     0.000      11.1"
"               247.350     0.000      11.2"
"               247.400     0.000      11.2"
"               247.450     0.000      11.3"
"               247.500     0.000      11.4"
"               247.550     0.000      11.4"
"               247.600     0.000      11.5"
"               247.650     0.000      11.5"
"               247.700     0.000      11.6"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.050    16.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.001    c.m"
"            Peak exfiltration            0.014    c.m/sec"
"            Exfiltration volume         47.934    c.m"
"            Maximum level              246.070    metre"
"            Maximum storage              2.902    c.m"
"            Centroidal lag               1.997   hours"
"            Infiltration area 2 sides   19.012   sq.metre"
"            Infiltration Base area      16.000   sq.metre"
"                 0.017     0.017     0.000     0.014 c.m/sec"
" 40         HYDROGRAPH   Combine    1007"
"           6   Combine "
"        1007   Node #"
"               overflow from lot 7"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.001    c.m"
"                  0.017     0.017     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.017     0.000     0.000     0.000"
" 33         CATCHMENT 8"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"           8   Lot 8 - Tributary to Exfiltration Trench 8A"
"       42.000  % Impervious"
"        0.060  Total Area"
"       36.000  Flow length"
"        2.000  Overland Slope"
"        0.035  Pervious Area"
"       36.000  Pervious length"
"        2.000  Pervious slope"
"        0.025  Impervious Area"
"       24.000  Impervious length"
"        2.000  Impervious slope"
"        0.250  Pervious Manning 'n'"
"       60.000  Pervious SCS Curve No."
"        0.225  Pervious Runoff coefficient"
"        0.030  Pervious Ia/S coefficient"
"        5.080  Pervious Initial abstraction"
"        0.015  Impervious Manning 'n'"
"       98.000  Impervious SCS Curve No."
"        0.873  Impervious Runoff coefficient"
"        0.386  Impervious Ia/S coefficient"
"        2.001  Impervious Initial abstraction"
"                  0.011     0.000     0.000     0.000 c.m/sec"
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"            Catchment 8            Pervious   Impervious Total Area "
"            Surface Area           0.035      0.025      0.060      hectare"
"            Time of concentration  20.477     1.493      6.480      minutes"
"            Time to Centroid       120.314    86.351     95.273     minutes"
"            Rainfall depth         60.381     60.381     60.381     mm"
"            Rainfall volume        21.01      15.22      36.23      c.m"
"            Rainfall losses        46.773     7.638      30.336     mm"
"            Runoff depth           13.609     52.743     30.045     mm"
"            Runoff volume          4.74       13.29      18.03      c.m"
"            Runoff coefficient     0.225      0.873      0.498      "
"            Maximum flow           0.002      0.011      0.011      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.011     0.011     0.000     0.000"
" 57         TRENCH Design d/s of 8"
"        0.011   Peak inflow"
"       18.027   Hydrograph volume"
"      247.700   Ground elevation"
"      245.650   Downstream trench invert"
"        1.000   Trench height"
"      244.000   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"               245.650     0.000       0.0"
"               245.700     0.000       0.1"
"               245.750     0.000       0.3"
"               245.800     0.000       0.4"
"               245.850     0.000       0.6"
"               245.900     0.000       0.8"
"               245.950     0.000       0.9"
"               246.000     0.000       1.1"
"               246.050     0.000       1.3"
"               246.100     0.000       1.6"
"               246.150     0.000       1.9"
"               246.200     0.000       2.2"
"               246.250     0.000       2.6"
"               246.300     0.000       2.9"
"               246.350     0.000       3.3"
"               246.400     0.000       3.5"
"               246.450     0.000       3.9"
"               246.500     0.000       4.2"
"               246.550     0.000       4.5"
"               246.600     0.000       4.8"
"               246.650     0.000       5.2"
"               246.700     0.000       5.3"
"               246.750     0.000       5.3"
"               246.800     0.000       5.4"
"               246.850     0.000       5.4"
"               246.900     0.000       5.5"
"               246.950     0.000       5.5"
"               247.000     0.000       5.6"
"               247.050     0.000       5.6"
"               247.100     0.000       5.7"
"               247.150     0.000       5.8"
"               247.200     0.000       5.8"
"               247.250     0.000       5.9"
"               247.300     0.000       5.9"
"               247.350     0.000       6.0"
"               247.400     0.000       6.0"
"               247.450     0.000       6.1"
"               247.500     0.000       6.2"
"               247.550     0.000       6.2"
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"               247.600     0.000       6.3"
"               247.650     0.000       6.3"
"               247.700     0.000       6.4"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.050     8.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.008    c.m/sec"
"            Exfiltration volume          17.912    c.m"
"            Maximum level               246.159    metre"
"            Maximum storage               1.974    c.m"
"            Centroidal lag                1.738   hours"
"            Infiltration area 2 sides    11.515   sq.metre"
"            Infiltration Base area        8.000   sq.metre"
"                 0.011     0.011     0.000     0.008 c.m/sec"
" 40         HYDROGRAPH   Combine    1008"
"           6   Combine "
"        1008   Node #"
"               overflow from lot 8"
"            Maximum flow                  0.000    c.m/sec"
"            Hydrograph volume             0.000    c.m"
"                 0.011     0.011     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.011     0.000     0.000     0.000"
" 33         CATCHMENT 88"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          88   Lot 8 - Tributary to Exfiltration Trench 8B"
"      15.000   % Impervious"
"       0.170   Total Area"
"      55.000   Flow length"
"       2.000   Overland Slope"
"       0.145   Pervious Area"
"      55.000   Pervious length"
"       2.000   Pervious slope"
"       0.025   Impervious Area"
"      24.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.225   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.873   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                  0.011     0.000     0.000     0.000 c.m/sec"
"            Catchment 88           Pervious   Impervious Total Area "
"            Surface Area           0.145      0.025      0.170      hectare"
"            Time of concentration  26.407     1.493      16.287     minutes"
"            Time to Centroid       127.818    86.351     110.976    minutes"
"            Rainfall depth         60.381     60.381     60.381     mm"
"            Rainfall volume        87.25      15.40      102.65     c.m"
"            Rainfall losses        46.773     7.639      40.903     mm"
"            Runoff depth           13.608     52.743     19.478     mm"
"            Runoff volume          19.66      13.45      33.11      c.m"
"            Runoff coefficient     0.225      0.873      0.323      "
"            Maximum flow           0.006      0.011      0.011      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                  0.011     0.011     0.000     0.000"
" 57          TRENCH Design d/s of 88"
"         0.011   Peak inflow"
"        33.113   Hydrograph volume"
"       247.050   Ground elevation"
"       245.000   Downstream trench invert"
"         1.000   Trench height"
"       243.700   Water table elevation"
"         3.000   Trench top width"
"         1.000   Trench bottom width"
"        30.000   Voids ratio (%)"
"      1267.200   Hydraulic conductivity"
"         0.000   Trench gradient (%)"
"        10.000   Trench length"
"         1.000   Include base width"
"           42.   Number of stages"
"                   Level Discharge    Volume"
"                 245.000     0.000       0.0"
"                 245.050     0.000       0.2"
"                 245.100     0.000       0.3"
"                 245.150     0.000       0.5"
"                 245.200     0.000       0.7"
"                 245.250     0.000       0.9"
"                 245.300     0.000       1.2"
"                 245.350     0.000       1.4"
"                 245.400     0.000       1.7"
"                 245.450     0.000       2.0"
"                 245.500     0.000       2.4"
"                 245.550     0.000       2.8"
"                 245.600     0.000       3.2"
"                 245.650     0.000       3.7"
"                 245.700     0.000       4.1"
"                 245.750     0.000       4.4"
"                 245.800     0.000       4.8"
"                 245.850     0.000       5.2"
"                 245.900     0.000       5.6"
"                 245.950     0.000       6.1"
"                 246.000     0.000       6.5"
"                 246.050     0.000       6.6"
"                 246.100     0.000       6.6"
"                 246.150     0.000       6.7"
"                 246.200     0.000       6.7"
"                 246.250     0.000       6.8"
"                 246.300     0.000       6.8"
"                 246.350     0.000       6.9"
"                 246.400     0.000       6.9"
"                 246.450     0.000       7.0"
"                 246.500     0.000       7.1"
"                 246.550     0.000       7.1"
"                 246.600     0.000       7.2"
"                 246.650     0.000       7.2"
"                 246.700     0.000       7.3"
"                 246.750     0.000       7.3"
"                 246.800     0.000       7.4"
"                 246.850     0.000       7.5"
"                 246.900     0.000       7.5"
"                 246.950     0.000       7.6"
"                 247.000     0.000       7.6"
"                 247.050     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               245.400    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
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"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.009    c.m/sec"
"             Exfiltration volume          32.968    c.m"
"             Maximum level               245.431    metre"
"             Maximum storage               1.885    c.m"
"             Centroidal lag                2.037   hours"
"             Infiltration area 2 sides   12.187   sq.metre"
"             Infiltration Base area      10.000   sq.metre"
"                  0.011     0.011     0.000     0.009 c.m/sec"
" 40          HYDROGRAPH   Combine    1008"
"           6   Combine "
"        1008   Node #"
"               overflow from lot 8"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.011     0.011     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.011     0.000     0.000     0.000"
" 33          CATCHMENT 9"
"           1   Triangular SCS"
"           1   Equal length"
"           1   SCS method"
"           9   Lot 9 - Tributary to Exfiltration Trench 9A"
"      63.000   % Impervious"
"       0.040   Total Area"
"      24.000   Flow length"
"       2.000   Overland Slope"
"       0.015   Pervious Area"
"      24.000   Pervious length"
"       2.000   Pervious slope"
"       0.025   Impervious Area"
"      24.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.225   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.873   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                 0.011     0.000     0.000     0.000 c.m/sec"
"             Catchment 9            Pervious   Impervious Total Area "
"             Surface Area           0.015      0.025      0.040      hectare"
"             Time of concentration  16.055     1.493      3.404      minutes"
"             Time to Centroid       114.758    86.351     90.079     minutes"
"             Rainfall depth         60.381     60.381     60.381     mm"
"             Rainfall volume        8.94       15.22      24.15      c.m"
"             Rainfall losses        46.812     7.638      22.133     mm"
"             Runoff depth           13.569     52.743     38.249     mm"
"             Runoff volume          2.01       13.29      15.30      c.m"
"             Runoff coefficient     0.225      0.873      0.633      "
"             Maximum flow           0.001      0.011      0.011      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                 0.011     0.011     0.000     0.000"
" 57          TRENCH Design d/s of 9"
"       0.011   Peak inflow"
"      15.299   Hydrograph volume"
"     247.050   Ground elevation"
"     245.000   Downstream trench invert"
"       1.000   Trench height"
"     243.700   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
```

```
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"       8.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               245.000     0.000       0.0"
"               245.050     0.000       0.1"
"               245.100     0.000       0.3"
"               245.150     0.000       0.4"
"               245.200     0.000       0.6"
"               245.250     0.000       0.8"
"               245.300     0.000       0.9"
"               245.350     0.000       1.1"
"               245.400     0.000       1.3"
"               245.450     0.000       1.6"
"               245.500     0.000       1.9"
"               245.550     0.000       2.2"
"               245.600     0.000       2.6"
"               245.650     0.000       2.9"
"               245.700     0.000       3.3"
"               245.750     0.000       3.5"
"               245.800     0.000       3.9"
"               245.850     0.000       4.2"
"               245.900     0.000       4.5"
"               245.950     0.000       4.8"
"               246.000     0.000       5.2"
"               246.050     0.000       5.3"
"               246.100     0.000       5.3"
"               246.150     0.000       5.4"
"               246.200     0.000       5.4"
"               246.250     0.000       5.5"
"               246.300     0.000       5.5"
"               246.350     0.000       5.6"
"               246.400     0.000       5.6"
"               246.450     0.000       5.7"
"               246.500     0.000       5.8"
"               246.550     0.000       5.8"
"               246.600     0.000       5.9"
"               246.650     0.000       5.9"
"               246.700     0.000       6.0"
"               246.750     0.000       6.0"
"               246.800     0.000       6.1"
"               246.850     0.000       6.2"
"               246.900     0.000       6.2"
"               246.950     0.000       6.3"
"               247.000     0.000       6.3"
"               247.050     0.000       6.4"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"               245.400     8.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.008    c.m/sec"
"             Exfiltration volume          15.165    c.m"
"             Maximum level               245.488    metre"
"             Maximum storage               1.842    c.m"
"             Centroidal lag                1.632   hours"
"             Infiltration area 2 sides    11.040   sq.metre"
"             Infiltration Base area        8.000   sq.metre"
"                  0.011     0.011     0.000     0.008 c.m/sec"
" 40          HYDROGRAPH   Combine    1009"
"           6   Combine "
"        1009   Node #"
```

```
"                overflow from lot 9"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                    0.011     0.011     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.011     0.000     0.000     0.000"
" 33          CATCHMENT 99"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           99   Lot 9 - Tributary to Exfiltration Trench 9B (portion of Lot 8 included)"
"       10.000   % Impervious"
"        0.300   Total Area"
"       70.000   Flow length"
"        2.000   Overland Slope"
"        0.270   Pervious Area"
"       70.000   Pervious length"
"        2.000   Pervious slope"
"        0.030   Impervious Area"
"       38.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.225   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.877   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.014     0.000     0.000     0.000 c.m/sec"
"             Catchment 99           Pervious   Impervious Total Area "
"             Surface Area           0.270      0.030      0.300      hectare"
"             Time of concentration  30.518     1.967      21.900     minutes"
"             Time to Centroid       133.031    87.118     119.172    minutes"
"             Rainfall depth         60.381     60.381     60.381     mm"
"             Rainfall volume        163.03     18.11      181.14     c.m"
"             Rainfall losses        46.779     7.453      42.847     mm"
"             Runoff depth           13.602     52.929     17.535     mm"
"             Runoff volume          36.73      15.88      52.60      c.m"
"             Runoff coefficient     0.225      0.877      0.290      "
"             Maximum flow           0.010      0.012      0.014      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.014     0.014     0.000     0.000"
" 57          TRENCH Design d/s of 99"
"         0.014   Peak inflow"
"        52.605   Hydrograph volume"
"       246.300   Ground elevation"
"       244.250   Downstream trench invert"
"         1.000   Trench height"
"       243.300   Water table elevation"
"         3.000   Trench top width"
"         1.000   Trench bottom width"
"        30.000   Voids ratio (%)"
"      1267.200   Hydraulic conductivity"
"         0.000   Trench gradient (%)"
"        16.000   Trench length"
"         1.000   Include base width"
"           42.   Number of stages"
"                   Level Discharge    Volume"
"                 244.250     0.000      0.0"
"                 244.300     0.000      0.3"
"                 244.350     0.000      0.5"
"                 244.400     0.000      0.8"
"                 244.450     0.000      1.2"
"                 244.500     0.000      1.5"
"                 244.550     0.000      1.9"
"                 244.600     0.000      2.3"
"                 244.650     0.000      2.7"
"                 244.700     0.000      3.2"
"                 244.750     0.000      3.8"
"                 244.800     0.000      4.5"
"                 244.850     0.000      5.2"
"                 244.900     0.000      5.9"
"                 244.950     0.000      6.5"
"                 245.000     0.000      7.1"
"                 245.050     0.000      7.7"
"                 245.100     0.000      8.3"
"                 245.150     0.000      9.0"
"                 245.200     0.000      9.7"
"                 245.250     0.000     10.4"
"                 245.300     0.000     10.4"
"                 245.350     0.000     10.5"
"                 245.400     0.000     10.6"
"                 245.450     0.000     10.6"
"                 245.500     0.000     10.7"
"                 245.550     0.000     10.7"
"                 245.600     0.000     10.8"
"                 245.650     0.000     10.8"
"                 245.700     0.000     10.9"
"                 245.750     0.000     11.0"
"                 245.800     0.000     11.0"
"                 245.850     0.000     11.1"
"                 245.900     0.000     11.1"
"                 245.950     0.000     11.2"
"                 246.000     0.000     11.2"
"                 246.050     0.000     11.3"
"                 246.100     0.000     11.4"
"                 246.150     0.000     11.4"
"                 246.200     0.000     11.5"
"                 246.250     0.000     11.5"
"                 246.300     0.000     11.6"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                244.650    16.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                   1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.012    c.m/sec"
"             Exfiltration volume          52.388    c.m"
"             Maximum level               244.539    metre"
"             Maximum storage               1.791    c.m"
"             Centroidal lag                2.142   hours"
"             Infiltration area 2 sides    13.084   sq.metre"
"             Infiltration Base area       16.000   sq.metre"
"                    0.014     0.014     0.000     0.012 c.m/sec"
" 40          HYDROGRAPH    Combine    1009"
"            6   Combine "
"         1009   Node #"
"                overflow from lot 9"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.014     0.014     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.014     0.000     0.000     0.000"
" 33          CATCHMENT 10"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           10   Lot 10 - Tributary to Exfiltration Trench 10A"
```

```
"       14.000   % Impervious"
"        0.190   Total Area"
"      120.000   Flow length"
"        2.000   Overland Slope"
"        0.163   Pervious Area"
"      120.000   Pervious length"
"        2.000   Pervious slope"
"        0.027   Impervious Area"
"       24.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.225   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.873   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.011     0.000     0.000     0.000 c.m/sec"
"             Catchment 10           Pervious   Impervious Total Area "
"             Surface Area           0.163      0.027      0.190      hectare"
"             Time of concentration  42.170     1.493      26.434     minutes"
"             Time to Centroid       147.780    86.351     124.016    minutes"
"             Rainfall depth         60.381     60.381     60.381     mm"
"             Rainfall volume        98.66      16.06      114.72     c.m"
"             Rainfall losses        46.772     7.639      41.293     mm"
"             Runoff depth           13.609     52.743     19.088     mm"
"             Runoff volume          22.24      14.03      36.27      c.m"
"             Runoff coefficient     0.225      0.873      0.316      "
"             Maximum flow           0.004      0.011      0.011      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                    0.011     0.011     0.000     0.000"
" 57          TRENCH Design d/s of 10"
"        0.011   Peak inflow"
"       36.267   Hydrograph volume"
"      246.250   Ground elevation"
"      244.200   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.200     0.000      0.0"
"                244.250     0.000      0.1"
"                244.300     0.000      0.3"
"                244.350     0.000      0.4"
"                244.400     0.000      0.6"
"                244.450     0.000      0.8"
"                244.500     0.000      0.9"
"                244.550     0.000      1.1"
"                244.600     0.000      1.3"
"                244.650     0.000      1.6"
"                244.700     0.000      1.9"
"                244.750     0.000      2.2"
"                244.800     0.000      2.6"
"                244.850     0.000      2.9"
"                244.900     0.000      3.3"
"                244.950     0.000      3.5"
"                245.000     0.000      3.9"
"                245.050     0.000      4.2"
"                245.100     0.000      4.5"
"                245.150     0.000      4.8"
"                245.200     0.000      5.2"
"                245.250     0.000      5.3"
"                245.300     0.000      5.3"
"                245.350     0.000      5.4"
"                245.400     0.000      5.4"
"                245.450     0.000      5.5"
"                245.500     0.000      5.5"
"                245.550     0.000      5.6"
"                245.600     0.000      5.6"
"                245.650     0.000      5.7"
"                245.700     0.000      5.8"
"                245.750     0.000      5.8"
"                245.800     0.000      5.9"
"                245.850     0.000      5.9"
"                245.900     0.000      6.0"
"                245.950     0.000      6.0"
"                246.000     0.000      6.1"
"                246.050     0.000      6.2"
"                246.100     0.000      6.2"
"                246.150     0.000      6.3"
"                246.200     0.000      6.3"
"                246.250     0.000      6.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                244.600     8.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.009    c.m/sec"
"             Exfiltration volume          36.165    c.m"
"             Maximum level               244.708    metre"
"             Maximum storage               1.967    c.m"
"             Centroidal lag                2.314   hours"
"             Infiltration area 2 sides    11.492   sq.metre"
"             Infiltration Base area        8.000   sq.metre"
"                  0.011     0.011     0.000     0.009 c.m/sec"
" 40          HYDROGRAPH   Combine    1010"
"           6   Combine "
"        1010   Node #"
"               overflow from lot 10"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.011     0.011     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.011     0.000     0.000     0.000"
" 33          CATCHMENT 100"
"             1   Triangular SCS"
"             3   Specify values"
"             1   SCS method"
"           100   Lot 10 - Tributary to Exfiltration Trench 10B"
"        14.000   % Impervious"
"         0.180   Total Area"
"       110.000   Flow length"
"         2.000   Overland Slope"
"         0.155   Pervious Area"
"       110.000   Pervious length"
"         2.000   Pervious slope"
"         0.025   Impervious Area"
"        24.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
```

```
"        0.225   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.873   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.011     0.000     0.000     0.000 c.m/sec"
"             Catchment 100          Pervious   Impervious Total Area "
"             Surface Area           0.155      0.025      0.180      hectare"
"             Time of concentration  40.025     1.493      25.119     minutes"
"             Time to Centroid       145.070    86.351     122.355    minutes"
"             Rainfall depth         60.381     60.381     60.381     mm"
"             Rainfall volume        93.47      15.22      108.69     c.m"
"             Rainfall losses        46.772     7.638      41.293     mm"
"             Runoff depth           13.609     52.743     19.088     mm"
"             Runoff volume          21.07      13.29      34.36      c.m"
"             Runoff coefficient     0.225      0.873      0.316      "
"             Maximum flow           0.005      0.011      0.011      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                  0.011     0.011     0.000     0.000"
" 57          TRENCH Design d/s of 100"
"        0.011   Peak inflow"
"       34.359   Hydrograph volume"
"      246.450   Ground elevation"
"      244.400   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.400     0.000      0.0"
"                244.450     0.000      0.1"
"                244.500     0.000      0.3"
"                244.550     0.000      0.4"
"                244.600     0.000      0.6"
"                244.650     0.000      0.8"
"                244.700     0.000      0.9"
"                244.750     0.000      1.1"
"                244.800     0.000      1.3"
"                244.850     0.000      1.6"
"                244.900     0.000      1.9"
"                244.950     0.000      2.2"
"                245.000     0.000      2.6"
"                245.050     0.000      2.9"
"                245.100     0.000      3.3"
"                245.150     0.000      3.5"
"                245.200     0.000      3.9"
"                245.250     0.000      4.2"
"                245.300     0.000      4.5"
"                245.350     0.000      4.8"
"                245.400     0.000      5.2"
"                245.450     0.000      5.3"
"                245.500     0.000      5.3"
"                245.550     0.000      5.4"
"                245.600     0.000      5.4"
"                245.650     0.000      5.5"
"                245.700     0.000      5.5"
"                245.750     0.000      5.6"
"                245.800     0.000      5.6"
"                245.850     0.000      5.7"
"                245.900     0.000      5.8"
"                245.950     0.000      5.8"
"                246.000     0.000      5.9"
"                246.050     0.000      5.9"
"                246.100     0.000      6.0"
"                246.150     0.000      6.0"
"                246.200     0.000      6.1"
"                246.250     0.000      6.2"
"                246.300     0.000      6.2"
"                246.350     0.000      6.3"
"                246.400     0.000      6.3"
"                246.450     0.000      6.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                244.800     8.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.008    c.m/sec"
"             Exfiltration volume          34.304    c.m"
"             Maximum level               244.897    metre"
"             Maximum storage               1.897    c.m"
"             Centroidal lag                2.274   hours"
"             Infiltration area 2 sides    11.246   sq.metre"
"             Infiltration Base area        8.000   sq.metre"
"                  0.011     0.011     0.000     0.008 c.m/sec"
" 40          HYDROGRAPH   Combine    1010"
"            6   Combine "
"         1010   Node #"
"                overflow from lot 10"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.002    c.m"
"                  0.011     0.011     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                  0.011     0.000     0.000     0.000"
```

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"                MIDUSS Output ------------------------------------------------>"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                          Eng 1432-1\SWM\MIDUSS\Post for Lots"
"                Output filename:              50 year post - private lots.out"
"                Licensee name:                                          owner"
"                Company                                               HP Inc."
"                Date & Time last used:               2020-05-05 at 8:13:05 AM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1440.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     1499.060   Coefficient A"
"        4.188   Constant B"
"        0.809   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"             Maximum intensity           229.029    mm/hr"
"             Total depth                  66.122    mm"
"            5   50hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 1"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"            1   Lot 1 - Tributary to Exfiltration Trench 1"
"       10.000   % Impervious"
"        0.250   Total Area"
"       32.000   Flow length"
"        2.000   Overland Slope"
"        0.225   Pervious Area"
"       32.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       40.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.244   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.886   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.017     0.000     0.000     0.000 c.m/sec"
"             Catchment 1           Pervious   Impervious Total Area "
"             Surface Area          0.225      0.025      0.250      hectare"
"             Time of concentration 17.412     1.925      12.965     minutes"
"             Time to Centroid      116.779    86.933     108.209    minutes"
"             Rainfall depth        66.122     66.122     66.122     mm"
"             Rainfall volume       148.77     16.53      165.30     c.m"
"             Rainfall losses       49.967     7.559      45.726     mm"
"             Runoff depth          16.155     58.562     20.395     mm"
"             Runoff volume         36.35      14.64      50.99      c.m"
"             Runoff coefficient    0.244      0.886      0.308      "
"             Maximum flow          0.013      0.011      0.017      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                     0.017     0.017     0.000     0.000"
" 57          TRENCH Design d/s of 1"
"        0.017   Peak inflow"
"       50.988   Hydrograph volume"
"      247.300   Ground elevation"
"      245.250   Downstream trench invert"
"        1.000   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       20.000   Trench length"
"        1.000   Include base width"
"           42.   Number of stages"
"                   Level Discharge    Volume"
"                 245.250     0.000       0.0"
"                 245.300     0.000       0.3"
"                 245.350     0.000       0.7"
"                 245.400     0.000       1.0"
"                 245.450     0.000       1.4"
"                 245.500     0.000       1.9"
"                 245.550     0.000       2.3"
"                 245.600     0.000       2.8"
"                 245.650     0.000       3.4"
"                 245.700     0.000       4.0"
"                 245.750     0.000       4.8"
"                 245.800     0.000       5.6"
"                 245.850     0.000       6.5"
"                 245.900     0.000       7.3"
"                 245.950     0.000       8.1"
"                 246.000     0.000       8.9"
"                 246.050     0.000       9.6"
"                 246.100     0.000      10.4"
"                 246.150     0.000      11.2"
"                 246.200     0.000      12.1"
"                 246.250     0.000      13.0"
"                 246.300     0.000      13.0"
"                 246.350     0.000      13.1"
"                 246.400     0.000      13.2"
"                 246.450     0.000      13.2"
"                 246.500     0.000      13.3"
"                 246.550     0.000      13.3"
"                 246.600     0.000      13.4"
"                 246.650     0.000      13.4"
"                 246.700     0.000      13.5"
"                 246.750     0.000      13.6"
"                 246.800     0.000      13.6"
"                 246.850     0.000      13.7"
"                 246.900     0.000      13.7"
"                 246.950     0.000      13.8"
"                 247.000     0.000      13.8"
"                 247.050     0.000      13.9"
"                 247.100     0.000      14.0"
"                 247.150     0.000      14.0"
"                 247.200     0.000      14.1"
"                 247.250     0.000      14.1"
"                 247.300     0.000      14.2"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               245.650    20.000    0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"              diameter"
"                 1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.016    c.m/sec"
"             Exfiltration volume          50.710    c.m"
"             Maximum level               245.602    metre"
"             Maximum storage               2.854    c.m"
"             Centroidal lag                1.942   hours"
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"             Infiltration area 2 sides   19.904   sq.metre"
"             Infiltration Base area      20.000   sq.metre"
"                 0.017     0.017     0.000     0.016 c.m/sec"
" 40          HYDROGRAPH   Combine    1001"
"           6   Combine "
"        1001   Node #"
"               overflow from lot 1"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                   0.017     0.017     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.017     0.000     0.000     0.000"
" 33          CATCHMENT 2"
"           1   Triangular SCS"
"           1   Equal length"
"           1   SCS method"
"           2   Lot 2 - Tributary to Exfiltration Trench 2"
"      12.500   % Impervious"
"       0.320   Total Area"
"      25.000   Flow length"
"       2.000   Overland Slope"
"       0.280   Pervious Area"
"      25.000   Pervious length"
"       2.000   Pervious slope"
"       0.040   Impervious Area"
"      25.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.244   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.882   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                 0.024     0.000     0.000     0.000 c.m/sec"
"           Catchment 2            Pervious   Impervious Total Area "
"           Surface Area           0.280      0.040      0.320      hectare"
"           Time of concentration  15.015     1.452      10.398     minutes"
"           Time to Centroid       113.719    86.180     104.346    minutes"
"           Rainfall depth         66.122     66.122     66.122     mm"
"           Rainfall volume        185.14     26.45      211.59     c.m"
"           Rainfall losses        49.982     7.828      44.713     mm"
"           Runoff depth           16.139     58.294     21.409     mm"
"           Runoff volume          45.19      23.32      68.51      c.m"
"           Runoff coefficient     0.244      0.882      0.324      "
"           Maximum flow           0.019      0.019      0.024      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                 0.024     0.024     0.000     0.000"
" 57          TRENCH Design d/s of 2"
"       0.024   Peak inflow"
"      68.508   Hydrograph volume"
"     246.750   Ground elevation"
"     244.700   Downstream trench invert"
"       1.000   Trench height"
"     243.700   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"      25.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               244.700     0.000       0.0"
"               244.750     0.000       0.4"
"               244.800     0.000       0.8"
"               244.850     0.000       1.3"
"               244.900     0.000       1.8"
"               244.950     0.000       2.3"
"               245.000     0.000       2.9"
"               245.050     0.000       3.5"
"               245.100     0.000       4.2"
"               245.150     0.000       5.0"
"               245.200     0.000       6.0"
"               245.250     0.000       7.0"
"               245.300     0.000       8.1"
"               245.350     0.000       9.1"
"               245.400     0.000      10.2"
"               245.450     0.000      11.1"
"               245.500     0.000      12.0"
"               245.550     0.000      13.0"
"               245.600     0.000      14.1"
"               245.650     0.000      15.1"
"               245.700     0.000      16.2"
"               245.750     0.000      16.3"
"               245.800     0.000      16.4"
"               245.850     0.000      16.4"
"               245.900     0.000      16.5"
"               245.950     0.000      16.5"
"               246.000     0.000      16.6"
"               246.050     0.000      16.6"
"               246.100     0.000      16.7"
"               246.150     0.000      16.7"
"               246.200     0.000      16.8"
"               246.250     0.000      16.9"
"               246.300     0.000      16.9"
"               246.350     0.000      17.0"
"               246.400     0.000      17.0"
"               246.450     0.000      17.1"
"               246.500     0.000      17.1"
"               246.550     0.000      17.2"
"               246.600     0.000      17.3"
"               246.650     0.000      17.3"
"               246.700     0.000      17.4"
"               246.750     0.000      17.4"
"         1.   TRENCH PIPES"
"           Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"              Invert     length     diam.    grade%     0=Yes  distance"
"              245.100    25.000     0.300     0.000     0.000     0.000"
"         1.   MANHOLE"
"               Access"
"            diameter"
"               1.200"
"           Peak outflow                  0.000    c.m/sec"
"           Outflow volume                0.000    c.m"
"           Peak exfiltration             0.023    c.m/sec"
"           Exfiltration volume          68.305    c.m"
"           Maximum level               245.114    metre"
"           Maximum storage               4.439    c.m"
"           Centroidal lag                1.903   hours"
"           Infiltration area 2 sides   29.306   sq.metre"
"           Infiltration Base area      25.000   sq.metre"
"                0.024     0.024     0.000     0.023 c.m/sec"
" 40          HYDROGRAPH   Combine    1002"
"           6   Combine "
"        1002   Node #"
"               overflow from lot 2"
"           Maximum flow                  0.000    c.m/sec"
"           Hydrograph volume             0.000    c.m"
"                 0.024     0.024     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
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"                    0.024     0.000     0.000     0.000"
" 33          CATCHMENT 3"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"            3   Lot 3 - Tributary to Exfiltration Trench 3"
"       28.000   % Impervious"
"        0.180   Total Area"
"       40.000   Flow length"
"        2.000   Overland Slope"
"        0.130   Pervious Area"
"       40.000   Pervious length"
"        2.000   Pervious slope"
"        0.050   Impervious Area"
"       35.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.244   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.886   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.024     0.000     0.000     0.000 c.m/sec"
"             Catchment 3            Pervious   Impervious Total Area "
"             Surface Area           0.130      0.050      0.180      hectare"
"             Time of concentration  19.906     1.776      9.301      minutes"
"             Time to Centroid       120.028    86.678     100.519    minutes"
"             Rainfall depth         66.122     66.122     66.122     mm"
"             Rainfall volume        85.69      33.33      119.02     c.m"
"             Rainfall losses        49.962     7.553      38.088     mm"
"             Runoff depth           16.159     58.569     28.034     mm"
"             Runoff volume          20.94      29.52      50.46      c.m"
"             Runoff coefficient     0.244      0.886      0.424      "
"             Maximum flow           0.007      0.023      0.024      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.024     0.024     0.000     0.000"
" 57          TRENCH Design d/s of 3"
"        0.024   Peak inflow"
"       50.461   Hydrograph volume"
"      247.000   Ground elevation"
"      244.950   Downstream trench invert"
"        1.000   Trench height"
"      243.900   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       16.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.950     0.000      0.0"
"                245.000     0.000      0.3"
"                245.050     0.000      0.5"
"                245.100     0.000      0.8"
"                245.150     0.000      1.2"
"                245.200     0.000      1.5"
"                245.250     0.000      1.9"
"                245.300     0.000      2.3"
"                245.350     0.000      2.7"
"                245.400     0.000      3.2"
"                245.450     0.000      3.8"
"                245.500     0.000      4.5"
"                245.550     0.000      5.2"
"                245.600     0.000      5.9"
"                245.650     0.000      6.5"
"                245.700     0.000      7.1"
"                245.750     0.000      7.7"
"                245.800     0.000      8.3"
"                245.850     0.000      9.0"
"                245.900     0.000      9.7"
"                245.950     0.000     10.4"
"                246.000     0.000     10.4"
"                246.050     0.000     10.5"
"                246.100     0.000     10.6"
"                246.150     0.000     10.6"
"                246.200     0.000     10.7"
"                246.250     0.000     10.7"
"                246.300     0.000     10.8"
"                246.350     0.000     10.8"
"                246.400     0.000     10.9"
"                246.450     0.000     11.0"
"                246.500     0.000     11.0"
"                246.550     0.000     11.1"
"                246.600     0.000     11.1"
"                246.650     0.000     11.2"
"                246.700     0.000     11.2"
"                246.750     0.000     11.3"
"                246.800     0.000     11.4"
"                246.850     0.000     11.4"
"                246.900     0.000     11.5"
"                246.950     0.000     11.5"
"                247.000     0.000     11.6"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                245.350    16.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.019    c.m/sec"
"             Exfiltration volume          50.228    c.m"
"             Maximum level               245.526    metre"
"             Maximum storage               4.847    c.m"
"             Centroidal lag                1.877   hours"
"             Infiltration area 2 sides    26.082   sq.metre"
"             Infiltration Base area       16.000   sq.metre"
"                  0.024     0.024     0.000     0.019 c.m/sec"
" 40          HYDROGRAPH   Combine    1003"
"            6   Combine "
"         1003   Node #"
"                overflow from lot 2"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.024     0.024     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.024     0.000     0.000     0.000"
" 33          CATCHMENT 4"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"            4   Lot 4 - Tributary to Exfiltration Trench 4"
"       21.000   % Impervious"
"        0.190   Total Area"
"       40.000   Flow length"
"        2.000   Overland Slope"
"        0.150   Pervious Area"
"       40.000   Pervious length"
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"        2.000   Pervious slope"
"        0.040   Impervious Area"
"       40.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.244   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.886   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.020     0.000     0.000     0.000 c.m/sec"
"             Catchment 4            Pervious   Impervious Total Area "
"             Surface Area           0.150      0.040      0.190      hectare"
"             Time of concentration  19.906     1.925      11.083     minutes"
"             Time to Centroid       120.028    86.933     103.790    minutes"
"             Rainfall depth         66.122     66.122     66.122     mm"
"             Rainfall volume        99.25      26.38      125.63     c.m"
"             Rainfall losses        49.962     7.559      41.058     mm"
"             Runoff depth           16.159     58.562     25.064     mm"
"             Runoff volume          24.26      23.37      47.62      c.m"
"             Runoff coefficient     0.244      0.886      0.379      "
"             Maximum flow           0.008      0.018      0.020      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"              4   Add Runoff "
"                    0.020     0.020     0.000     0.000"
" 57          TRENCH Design d/s of 4"
"        0.020   Peak inflow"
"       47.622   Hydrograph volume"
"      246.650   Ground elevation"
"      244.600   Downstream trench invert"
"        1.000   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       16.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.600     0.000      0.0"
"                244.650     0.000      0.3"
"                244.700     0.000      0.5"
"                244.750     0.000      0.8"
"                244.800     0.000      1.2"
"                244.850     0.000      1.5"
"                244.900     0.000      1.9"
"                244.950     0.000      2.3"
"                245.000     0.000      2.7"
"                245.050     0.000      3.2"
"                245.100     0.000      3.8"
"                245.150     0.000      4.5"
"                245.200     0.000      5.2"
"                245.250     0.000      5.9"
"                245.300     0.000      6.5"
"                245.350     0.000      7.1"
"                245.400     0.000      7.7"
"                245.450     0.000      8.3"
"                245.500     0.000      9.0"
"                245.550     0.000      9.7"
"                245.600     0.000     10.4"
"                245.650     0.000     10.4"
"                245.700     0.000     10.5"
"                245.750     0.000     10.6"
"                245.800     0.000     10.6"
"                245.850     0.000     10.7"
"                245.900     0.000     10.7"
"                245.950     0.000     10.8"
"                246.000     0.000     10.8"
"                246.050     0.000     10.9"
"                246.100     0.000     11.0"
"                246.150     0.000     11.0"
"                246.200     0.000     11.1"
"                246.250     0.000     11.1"
"                246.300     0.000     11.2"
"                246.350     0.000     11.2"
"                246.400     0.000     11.3"
"                246.450     0.000     11.4"
"                246.500     0.000     11.4"
"                246.550     0.000     11.5"
"                246.600     0.000     11.5"
"                246.650     0.000     11.6"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                245.000    16.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.017    c.m/sec"
"             Exfiltration volume          47.330    c.m"
"             Maximum level               245.069    metre"
"             Maximum storage               3.454    c.m"
"             Centroidal lag                1.914   hours"
"             Infiltration area 2 sides    21.232   sq.metre"
"             Infiltration Base area       16.000   sq.metre"
"                    0.020     0.020     0.000     0.017 c.m/sec"
" 40          HYDROGRAPH   Combine    1004"
"              6   Combine "
"           1004   Node #"
"                  overflow from lot 4"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.020     0.020     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"             2   Start - New Tributary"
"                    0.020     0.000     0.000     0.000"
" 33          CATCHMENT 5"
"             1   Triangular SCS"
"             3   Specify values"
"             1   SCS method"
"             5   Lot 5 - Tributary to Exfiltration Trench 5A"
"        19.000   % Impervious"
"         0.130   Total Area"
"        37.000   Flow length"
"         2.000   Overland Slope"
"         0.105   Pervious Area"
"        37.000   Pervious length"
"         2.000   Pervious slope"
"         0.025   Impervious Area"
"        26.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
"         0.244   Pervious Runoff coefficient"
"         0.030   Pervious Ia/S coefficient"
"         5.080   Pervious Initial abstraction"
"         0.015   Impervious Manning 'n'"
"        98.000   Impervious SCS Curve No."
"         0.882   Impervious Runoff coefficient"
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"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.012     0.000     0.000     0.000 c.m/sec"
"             Catchment 5            Pervious   Impervious Total Area "
"             Surface Area           0.105      0.025      0.130      hectare"
"             Time of concentration  18.997     1.486      10.964     minutes"
"             Time to Centroid       118.846    86.207     103.874    minutes"
"             Rainfall depth         66.122     66.122     66.122     mm"
"             Rainfall volume        69.63      16.33      85.96      c.m"
"             Rainfall losses        49.975     7.785      41.959     mm"
"             Runoff depth           16.146     58.337     24.163     mm"
"             Runoff volume          17.00      14.41      31.41      c.m"
"             Runoff coefficient     0.244      0.882      0.365      "
"             Maximum flow           0.006      0.012      0.012      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.012     0.012     0.000     0.000"
" 57          TRENCH Design d/s of 5"
"        0.012   Peak inflow"
"       31.411   Hydrograph volume"
"      248.000   Ground elevation"
"      245.950   Downstream trench invert"
"        1.000   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.950     0.000      0.0"
"                246.000     0.000      0.2"
"                246.050     0.000      0.3"
"                246.100     0.000      0.5"
"                246.150     0.000      0.7"
"                246.200     0.000      0.9"
"                246.250     0.000      1.2"
"                246.300     0.000      1.4"
"                246.350     0.000      1.7"
"                246.400     0.000      2.0"
"                246.450     0.000      2.4"
"                246.500     0.000      2.8"
"                246.550     0.000      3.2"
"                246.600     0.000      3.7"
"                246.650     0.000      4.1"
"                246.700     0.000      4.4"
"                246.750     0.000      4.8"
"                246.800     0.000      5.2"
"                246.850     0.000      5.6"
"                246.900     0.000      6.1"
"                246.950     0.000      6.5"
"                247.000     0.000      6.6"
"                247.050     0.000      6.6"
"                247.100     0.000      6.7"
"                247.150     0.000      6.7"
"                247.200     0.000      6.8"
"                247.250     0.000      6.8"
"                247.300     0.000      6.9"
"                247.350     0.000      6.9"
"                247.400     0.000      7.0"
"                247.450     0.000      7.1"
"                247.500     0.000      7.1"
"                247.550     0.000      7.2"
"                247.600     0.000      7.2"
"                247.650     0.000      7.3"
"                247.700     0.000      7.3"
"                247.750     0.000      7.4"
"                247.800     0.000      7.5"
"                247.850     0.000      7.5"
"                247.900     0.000      7.6"
"                247.950     0.000      7.6"
"                248.000     0.000      7.7"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                246.350    10.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.010    c.m/sec"
"             Exfiltration volume          31.350    c.m"
"             Maximum level               246.464    metre"
"             Maximum storage               2.512    c.m"
"             Centroidal lag                1.926   hours"
"             Infiltration area 2 sides    14.548   sq.metre"
"             Infiltration Base area       10.000   sq.metre"
"                  0.012     0.012     0.000     0.010 c.m/sec"
" 40          HYDROGRAPH   Combine    1005"
"           6   Combine "
"        1005   Node #"
"               overflow from lot 5"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                  0.012     0.012     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.012     0.000     0.000     0.000"
" 33          CATCHMENT 55"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          55   Lot 5 - Tributary to Exfiltration Trench 5B"
"       23.000   % Impervious"
"        0.110   Total Area"
"       37.000   Flow length"
"        2.000   Overland Slope"
"        0.085   Pervious Area"
"       37.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       26.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.244   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.882   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.013     0.000     0.000     0.000 c.m/sec"
"             Catchment 55           Pervious   Impervious Total Area "
"             Surface Area           0.085      0.025      0.110      hectare"
"             Time of concentration  18.997     1.486      9.908      minutes"
"             Time to Centroid       118.846    86.207     101.905    minutes"
"             Rainfall depth         66.122     66.122     66.122     mm"
"             Rainfall volume        56.01      16.73      72.73      c.m"
"             Rainfall losses        49.975     7.785      40.271     mm"
"             Runoff depth           16.146     58.337     25.850     mm"
"             Runoff volume          13.68      14.76      28.44      c.m"
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"             Runoff coefficient     0.244      0.882      0.391      "
"             Maximum flow           0.005      0.012      0.013      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"              4   Add Runoff "
"                    0.013     0.013     0.000     0.000"
" 57          TRENCH Design d/s of 55"
"        0.013   Peak inflow"
"       28.435   Hydrograph volume"
"      247.800   Ground elevation"
"      245.750   Downstream trench invert"
"        1.000   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.750     0.000       0.0"
"                245.800     0.000       0.2"
"                245.850     0.000       0.3"
"                245.900     0.000       0.5"
"                245.950     0.000       0.7"
"                246.000     0.000       0.9"
"                246.050     0.000       1.2"
"                246.100     0.000       1.4"
"                246.150     0.000       1.7"
"                246.200     0.000       2.0"
"                246.250     0.000       2.4"
"                246.300     0.000       2.8"
"                246.350     0.000       3.2"
"                246.400     0.000       3.7"
"                246.450     0.000       4.1"
"                246.500     0.000       4.4"
"                246.550     0.000       4.8"
"                246.600     0.000       5.2"
"                246.650     0.000       5.6"
"                246.700     0.000       6.1"
"                246.750     0.000       6.5"
"                246.800     0.000       6.6"
"                246.850     0.000       6.6"
"                246.900     0.000       6.7"
"                246.950     0.000       6.7"
"                247.000     0.000       6.8"
"                247.050     0.000       6.8"
"                247.100     0.000       6.9"
"                247.150     0.000       6.9"
"                247.200     0.000       7.0"
"                247.250     0.000       7.1"
"                247.300     0.000       7.1"
"                247.350     0.000       7.2"
"                247.400     0.000       7.2"
"                247.450     0.000       7.3"
"                247.500     0.000       7.3"
"                247.550     0.000       7.4"
"                247.600     0.000       7.5"
"                247.650     0.000       7.5"
"                247.700     0.000       7.6"
"                247.750     0.000       7.6"
"                247.800     0.000       7.7"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                246.150    10.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                Access"
"                diameter"
"                  1.200"
"              Peak outflow                  0.000    c.m/sec"
"              Outflow volume                0.000    c.m"
"              Peak exfiltration             0.010    c.m/sec"
"              Exfiltration volume          28.316    c.m"
"              Maximum level               246.247    metre"
"              Maximum storage               2.375    c.m"
"              Centroidal lag                1.876   hours"
"              Infiltration area 2 sides    14.070   sq.metre"
"              Infiltration Base area       10.000   sq.metre"
"                   0.013     0.013     0.000     0.010 c.m/sec"
" 40          HYDROGRAPH   Combine    1005"
"              6   Combine "
"           1005   Node #"
"                  overflow from lot 5"
"              Maximum flow                  0.000    c.m/sec"
"              Hydrograph volume             0.001    c.m"
"                   0.013     0.013     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"              2   Start - New Tributary"
"                    0.013     0.000     0.000     0.000"
" 33          CATCHMENT 6"
"              1   Triangular SCS"
"              3   Specify values"
"              1   SCS method"
"              6   Lot 6 - Tributary to Exfiltration Trench 6A"
"         21.000   % Impervious"
"          0.120   Total Area"
"         37.000   Flow length"
"          2.000   Overland Slope"
"          0.095   Pervious Area"
"         37.000   Pervious length"
"          2.000   Pervious slope"
"          0.025   Impervious Area"
"         26.000   Impervious length"
"          2.000   Impervious slope"
"          0.250   Pervious Manning 'n'"
"         60.000   Pervious SCS Curve No."
"          0.244   Pervious Runoff coefficient"
"          0.030   Pervious Ia/S coefficient"
"          5.080   Pervious Initial abstraction"
"          0.015   Impervious Manning 'n'"
"         98.000   Impervious SCS Curve No."
"          0.882   Impervious Runoff coefficient"
"          0.386   Impervious Ia/S coefficient"
"          2.001   Impervious Initial abstraction"
"                    0.013     0.000     0.000     0.000 c.m/sec"
"              Catchment 6             Pervious   Impervious Total Area "
"              Surface Area            0.095      0.025      0.120      hectare"
"              Time of concentration   18.997     1.486      10.418     minutes"
"              Time to Centroid        118.846    86.207     102.856    minutes"
"              Rainfall depth          66.122     66.122     66.122     mm"
"              Rainfall volume         62.68      16.66      79.35      c.m"
"              Rainfall losses         49.975     7.785      41.115     mm"
"              Runoff depth            16.146     58.337     25.006     mm"
"              Runoff volume           15.31      14.70      30.01      c.m"
"              Runoff coefficient      0.244      0.882      0.378      "
"              Maximum flow            0.005      0.012      0.013      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"              4   Add Runoff "
"                    0.013     0.013     0.000     0.000"
" 57          TRENCH Design d/s of 6"
"          0.013   Peak inflow"
"         30.008   Hydrograph volume"
"        247.700   Ground elevation"
"        245.650   Downstream trench invert"
"          1.000   Trench height"
"        244.200   Water table elevation"
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"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.650     0.000       0.0"
"                245.700     0.000       0.2"
"                245.750     0.000       0.3"
"                245.800     0.000       0.5"
"                245.850     0.000       0.7"
"                245.900     0.000       0.9"
"                245.950     0.000       1.2"
"                246.000     0.000       1.4"
"                246.050     0.000       1.7"
"                246.100     0.000       2.0"
"                246.150     0.000       2.4"
"                246.200     0.000       2.8"
"                246.250     0.000       3.2"
"                246.300     0.000       3.7"
"                246.350     0.000       4.1"
"                246.400     0.000       4.4"
"                246.450     0.000       4.8"
"                246.500     0.000       5.2"
"                246.550     0.000       5.6"
"                246.600     0.000       6.1"
"                246.650     0.000       6.5"
"                246.700     0.000       6.6"
"                246.750     0.000       6.6"
"                246.800     0.000       6.7"
"                246.850     0.000       6.7"
"                246.900     0.000       6.8"
"                246.950     0.000       6.8"
"                247.000     0.000       6.9"
"                247.050     0.000       6.9"
"                247.100     0.000       7.0"
"                247.150     0.000       7.1"
"                247.200     0.000       7.1"
"                247.250     0.000       7.2"
"                247.300     0.000       7.2"
"                247.350     0.000       7.3"
"                247.400     0.000       7.3"
"                247.450     0.000       7.4"
"                247.500     0.000       7.5"
"                247.550     0.000       7.5"
"                247.600     0.000       7.6"
"                247.650     0.000       7.6"
"                247.700     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"                246.050    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.001    c.m"
"            Peak exfiltration             0.010    c.m/sec"
"            Exfiltration volume          29.821    c.m"
"            Maximum level               246.152    metre"
"            Maximum storage               2.414    c.m"
"            Centroidal lag                1.901   hours"
"            Infiltration area 2 sides    14.212   sq.metre"
"            Infiltration Base area       10.000   sq.metre"
"                 0.013     0.013     0.000     0.010 c.m/sec"
" 40          HYDROGRAPH   Combine    1006"
"               6   Combine "
"            1006   Node #"
"                   overflow from lot 6"
"                Maximum flow                  0.000    c.m/sec"
"                Hydrograph volume             0.001    c.m"
"                       0.013     0.013     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"               2   Start - New Tributary"
"                       0.013     0.000     0.000     0.000"
" 33          CATCHMENT 66"
"               1   Triangular SCS"
"               3   Specify values"
"               1   SCS method"
"              66   Lot 6 - Tributary to Exfiltration Trench 6B"
"          21.000   % Impervious"
"           0.120   Total Area"
"          37.000   Flow length"
"           2.000   Overland Slope"
"           0.095   Pervious Area"
"          37.000   Pervious length"
"           2.000   Pervious slope"
"           0.025   Impervious Area"
"          26.000   Impervious length"
"           2.000   Impervious slope"
"           0.250   Pervious Manning 'n'"
"          60.000   Pervious SCS Curve No."
"           0.244   Pervious Runoff coefficient"
"           0.030   Pervious Ia/S coefficient"
"           5.080   Pervious Initial abstraction"
"           0.015   Impervious Manning 'n'"
"          98.000   Impervious SCS Curve No."
"           0.882   Impervious Runoff coefficient"
"           0.386   Impervious Ia/S coefficient"
"           2.001   Impervious Initial abstraction"
"                       0.013     0.000     0.000     0.000 c.m/sec"
"                Catchment 66           Pervious   Impervious Total Area "
"                Surface Area           0.095      0.025      0.120      hectare"
"                Time of concentration  18.997     1.486      10.418     minutes"
"                Time to Centroid       118.846    86.207     102.856    minutes"
"                Rainfall depth         66.122     66.122     66.122     mm"
"                Rainfall volume        62.68      16.66      79.35      c.m"
"                Rainfall losses        49.975     7.785      41.115     mm"
"                Runoff depth           16.146     58.337     25.006     mm"
"                Runoff volume          15.31      14.70      30.01      c.m"
"                Runoff coefficient     0.244      0.882      0.378      "
"                Maximum flow           0.005      0.012      0.013      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"               4   Add Runoff "
"                       0.013     0.013     0.000     0.000"
" 57          TRENCH Design d/s of 66"
"           0.013   Peak inflow"
"          30.008   Hydrograph volume"
"         247.800   Ground elevation"
"         245.750   Downstream trench invert"
"           1.000   Trench height"
"         244.200   Water table elevation"
"           3.000   Trench top width"
"           1.000   Trench bottom width"
"          30.000   Voids ratio (%)"
"        1267.200   Hydraulic conductivity"
"           0.000   Trench gradient (%)"
"          10.000   Trench length"
"           1.000   Include base width"
"             42.   Number of stages"
"                     Level Discharge    Volume"
"                   245.750     0.000       0.0"
"                   245.800     0.000       0.2"
"                   245.850     0.000       0.3"
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"               245.900     0.000       0.5"
"               245.950     0.000       0.7"
"               246.000     0.000       0.9"
"               246.050     0.000       1.2"
"               246.100     0.000       1.4"
"               246.150     0.000       1.7"
"               246.200     0.000       2.0"
"               246.250     0.000       2.4"
"               246.300     0.000       2.8"
"               246.350     0.000       3.2"
"               246.400     0.000       3.7"
"               246.450     0.000       4.1"
"               246.500     0.000       4.4"
"               246.550     0.000       4.8"
"               246.600     0.000       5.2"
"               246.650     0.000       5.6"
"               246.700     0.000       6.1"
"               246.750     0.000       6.5"
"               246.800     0.000       6.6"
"               246.850     0.000       6.6"
"               246.900     0.000       6.7"
"               246.950     0.000       6.7"
"               247.000     0.000       6.8"
"               247.050     0.000       6.8"
"               247.100     0.000       6.9"
"               247.150     0.000       6.9"
"               247.200     0.000       7.0"
"               247.250     0.000       7.1"
"               247.300     0.000       7.1"
"               247.350     0.000       7.2"
"               247.400     0.000       7.2"
"               247.450     0.000       7.3"
"               247.500     0.000       7.3"
"               247.550     0.000       7.4"
"               247.600     0.000       7.5"
"               247.650     0.000       7.5"
"               247.700     0.000       7.6"
"               247.750     0.000       7.6"
"               247.800     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.150    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.001    c.m"
"            Peak exfiltration            0.010    c.m/sec"
"            Exfiltration volume         29.815    c.m"
"            Maximum level              246.256    metre"
"            Maximum storage              2.443    c.m"
"            Centroidal lag               1.902   hours"
"            Infiltration area 2 sides   14.311   sq.metre"
"            Infiltration Base area      10.000   sq.metre"
"                 0.013     0.013     0.000     0.010 c.m/sec"
" 40         HYDROGRAPH   Combine    1006"
"           6   Combine "
"        1006   Node #"
"               overflow from lot 6"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.001    c.m"
"                    0.013     0.013     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                    0.013     0.000     0.000     0.000"
" 33         CATCHMENT 7"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"           7   Lot 7 - Tributary to Exfiltration Trench 7A"
"      10.000   % Impervious"
"       0.140   Total Area"
"      50.000   Flow length"
"       2.000   Overland Slope"
"       0.126   Pervious Area"
"      50.000   Pervious length"
"       2.000   Pervious slope"
"       0.014   Impervious Area"
"      24.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.244   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.881   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                    0.008     0.000     0.000     0.000 c.m/sec"
"           Catchment 7            Pervious   Impervious Total Area "
"           Surface Area           0.126      0.014      0.140      hectare"
"           Time of concentration  22.758     1.417      16.653     minutes"
"           Time to Centroid       123.743    86.151     112.988    minutes"
"           Rainfall depth         66.122     66.122     66.122     mm"
"           Rainfall volume        83.31      9.26       92.57      c.m"
"           Rainfall losses        49.966     7.856      45.755     mm"
"           Runoff depth           16.155     58.266     20.366     mm"
"           Runoff volume          20.36      8.16       28.51      c.m"
"           Runoff coefficient     0.244      0.881      0.308      "
"           Maximum flow           0.006      0.007      0.008      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                    0.008     0.008     0.000     0.000"
" 57         TRENCH Design d/s of 7"
"       0.008   Peak inflow"
"      28.513   Hydrograph volume"
"     247.750   Ground elevation"
"     245.700   Downstream trench invert"
"       1.000   Trench height"
"     244.140   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"       8.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"               Level Discharge    Volume"
"               245.700     0.000       0.0"
"               245.750     0.000       0.1"
"               245.800     0.000       0.3"
"               245.850     0.000       0.4"
"               245.900     0.000       0.6"
"               245.950     0.000       0.8"
"               246.000     0.000       0.9"
"               246.050     0.000       1.1"
"               246.100     0.000       1.3"
"               246.150     0.000       1.6"
"               246.200     0.000       1.9"
"               246.250     0.000       2.2"
"               246.300     0.000       2.6"
"               246.350     0.000       2.9"
"               246.400     0.000       3.3"
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"               246.450     0.000       3.5"
"               246.500     0.000       3.9"
"               246.550     0.000       4.2"
"               246.600     0.000       4.5"
"               246.650     0.000       4.8"
"               246.700     0.000       5.2"
"               246.750     0.000       5.3"
"               246.800     0.000       5.3"
"               246.850     0.000       5.4"
"               246.900     0.000       5.4"
"               246.950     0.000       5.5"
"               247.000     0.000       5.5"
"               247.050     0.000       5.6"
"               247.100     0.000       5.6"
"               247.150     0.000       5.7"
"               247.200     0.000       5.8"
"               247.250     0.000       5.8"
"               247.300     0.000       5.9"
"               247.350     0.000       5.9"
"               247.400     0.000       6.0"
"               247.450     0.000       6.0"
"               247.500     0.000       6.1"
"               247.550     0.000       6.2"
"               247.600     0.000       6.2"
"               247.650     0.000       6.3"
"               247.700     0.000       6.3"
"               247.750     0.000       6.4"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.100     8.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.001    c.m"
"            Peak exfiltration            0.007    c.m/sec"
"            Exfiltration volume         28.394    c.m"
"            Maximum level              246.140    metre"
"            Maximum storage              1.557    c.m"
"            Centroidal lag               2.083   hours"
"            Infiltration area 2 sides    9.961   sq.metre"
"            Infiltration Base area       8.000   sq.metre"
"                0.008     0.008     0.000     0.007 c.m/sec"
" 40         HYDROGRAPH   Combine    1007"
"           6   Combine "
"        1007   Node #"
"               overflow from lot 7"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.001    c.m"
"                  0.008     0.008     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.008     0.000     0.000     0.000"
" 33         CATCHMENT 77"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          77   Lot 7 - Tributary to Exfiltration Trench 7B"
"      16.500   % Impervious"
"       0.240   Total Area"
"      54.000   Flow length"
"       2.000   Overland Slope"
"       0.200   Pervious Area"
"      54.000   Pervious length"
"       2.000   Pervious slope"
"       0.040   Impervious Area"
"      24.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.244   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.881   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                 0.020     0.000     0.000     0.000 c.m/sec"
"            Catchment 77           Pervious   Impervious Total Area "
"            Surface Area           0.200      0.040      0.240      hectare"
"            Time of concentration  23.834     1.417      14.506     minutes"
"            Time to Centroid       125.124    86.151     108.908    minutes"
"            Rainfall depth         66.122     66.122     66.122     mm"
"            Rainfall volume        132.51     26.18      158.69     c.m"
"            Rainfall losses        49.964     7.856      43.016     mm"
"            Runoff depth           16.158     58.266     23.105     mm"
"            Runoff volume          32.38      23.07      55.45      c.m"
"            Runoff coefficient     0.244      0.881      0.349      "
"            Maximum flow           0.010      0.019      0.020      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                 0.020     0.020     0.000     0.000"
" 57         TRENCH Design d/s of 77"
"       0.020   Peak inflow"
"      55.453   Hydrograph volume"
"     247.700   Ground elevation"
"     245.650   Downstream trench invert"
"       1.000   Trench height"
"     244.000   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"      16.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               245.650     0.000       0.0"
"               245.700     0.000       0.3"
"               245.750     0.000       0.5"
"               245.800     0.000       0.8"
"               245.850     0.000       1.2"
"               245.900     0.000       1.5"
"               245.950     0.000       1.9"
"               246.000     0.000       2.3"
"               246.050     0.000       2.7"
"               246.100     0.000       3.2"
"               246.150     0.000       3.8"
"               246.200     0.000       4.5"
"               246.250     0.000       5.2"
"               246.300     0.000       5.9"
"               246.350     0.000       6.5"
"               246.400     0.000       7.1"
"               246.450     0.000       7.7"
"               246.500     0.000       8.3"
"               246.550     0.000       9.0"
"               246.600     0.000       9.7"
"               246.650     0.000      10.4"
"               246.700     0.000      10.4"
"               246.750     0.000      10.5"
"               246.800     0.000      10.6"
"               246.850     0.000      10.6"
"               246.900     0.000      10.7"
"               246.950     0.000      10.7"
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"               247.000     0.000      10.8"
"               247.050     0.000      10.8"
"               247.100     0.000      10.9"
"               247.150     0.000      11.0"
"               247.200     0.000      11.0"
"               247.250     0.000      11.1"
"               247.300     0.000      11.1"
"               247.350     0.000      11.2"
"               247.400     0.000      11.2"
"               247.450     0.000      11.3"
"               247.500     0.000      11.4"
"               247.550     0.000      11.4"
"               247.600     0.000      11.5"
"               247.650     0.000      11.5"
"               247.700     0.000      11.6"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.050    16.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.001    c.m"
"            Peak exfiltration            0.015    c.m/sec"
"            Exfiltration volume         55.264    c.m"
"            Maximum level              246.138    metre"
"            Maximum storage              3.689    c.m"
"            Centroidal lag               2.020   hours"
"            Infiltration area 2 sides   22.104   sq.metre"
"            Infiltration Base area      16.000   sq.metre"
"                 0.020     0.020     0.000     0.015 c.m/sec"
" 40         HYDROGRAPH   Combine    1007"
"           6   Combine "
"        1007   Node #"
"               overflow from lot 7"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.001    c.m"
"                  0.020     0.020     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.020     0.000     0.000     0.000"
" 33         CATCHMENT 8"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"           8   Lot 8 - Tributary to Exfiltration Trench 8A"
"       42.000  % Impervious"
"        0.060  Total Area"
"       36.000  Flow length"
"        2.000  Overland Slope"
"        0.035  Pervious Area"
"       36.000  Pervious length"
"        2.000  Pervious slope"
"        0.025  Impervious Area"
"       24.000  Impervious length"
"        2.000  Impervious slope"
"        0.250  Pervious Manning 'n'"
"       60.000  Pervious SCS Curve No."
"        0.244  Pervious Runoff coefficient"
"        0.030  Pervious Ia/S coefficient"
"        5.080  Pervious Initial abstraction"
"        0.015  Impervious Manning 'n'"
"       98.000  Impervious SCS Curve No."
"        0.881  Impervious Runoff coefficient"
"        0.386  Impervious Ia/S coefficient"
"        2.001  Impervious Initial abstraction"
"                  0.012     0.000     0.000     0.000 c.m/sec"
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"            Catchment 8            Pervious   Impervious Total Area "
"            Surface Area           0.035      0.025      0.060      hectare"
"            Time of concentration  18.687     1.417      6.197      minutes"
"            Time to Centroid       118.444    86.151     95.091     minutes"
"            Rainfall depth         66.122     66.122     66.122     mm"
"            Rainfall volume        23.01      16.66      39.67      c.m"
"            Rainfall losses        49.971     7.856      32.283     mm"
"            Runoff depth           16.151     58.266     33.839     mm"
"            Runoff volume          5.62       14.68      20.30      c.m"
"            Runoff coefficient     0.244      0.881      0.512      "
"            Maximum flow           0.002      0.012      0.012      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.012     0.012     0.000     0.000"
" 57         TRENCH Design d/s of 8"
"       0.012   Peak inflow"
"      20.303   Hydrograph volume"
"     247.700   Ground elevation"
"     245.650   Downstream trench invert"
"       1.000   Trench height"
"     244.000   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"       8.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               245.650     0.000       0.0"
"               245.700     0.000       0.1"
"               245.750     0.000       0.3"
"               245.800     0.000       0.4"
"               245.850     0.000       0.6"
"               245.900     0.000       0.8"
"               245.950     0.000       0.9"
"               246.000     0.000       1.1"
"               246.050     0.000       1.3"
"               246.100     0.000       1.6"
"               246.150     0.000       1.9"
"               246.200     0.000       2.2"
"               246.250     0.000       2.6"
"               246.300     0.000       2.9"
"               246.350     0.000       3.3"
"               246.400     0.000       3.5"
"               246.450     0.000       3.9"
"               246.500     0.000       4.2"
"               246.550     0.000       4.5"
"               246.600     0.000       4.8"
"               246.650     0.000       5.2"
"               246.700     0.000       5.3"
"               246.750     0.000       5.3"
"               246.800     0.000       5.4"
"               246.850     0.000       5.4"
"               246.900     0.000       5.5"
"               246.950     0.000       5.5"
"               247.000     0.000       5.6"
"               247.050     0.000       5.6"
"               247.100     0.000       5.7"
"               247.150     0.000       5.8"
"               247.200     0.000       5.8"
"               247.250     0.000       5.9"
"               247.300     0.000       5.9"
"               247.350     0.000       6.0"
"               247.400     0.000       6.0"
"               247.450     0.000       6.1"
"               247.500     0.000       6.2"
"               247.550     0.000       6.2"
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"               247.600     0.000       6.3"
"               247.650     0.000       6.3"
"               247.700     0.000       6.4"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.050     8.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.009    c.m/sec"
"            Exfiltration volume          20.307    c.m"
"            Maximum level               246.223    metre"
"            Maximum storage               2.398    c.m"
"            Centroidal lag                1.752   hours"
"            Infiltration area 2 sides    12.959   sq.metre"
"            Infiltration Base area        8.000   sq.metre"
"                 0.012     0.012     0.000     0.009 c.m/sec"
" 40         HYDROGRAPH   Combine    1008"
"           6   Combine "
"        1008   Node #"
"               overflow from lot 8"
"            Maximum flow                  0.000    c.m/sec"
"            Hydrograph volume             0.000    c.m"
"                 0.012     0.012     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                    0.012     0.000     0.000     0.000"
" 33         CATCHMENT 88"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          88   Lot 8 - Tributary to Exfiltration Trench 8B"
"      15.000   % Impervious"
"       0.170   Total Area"
"      55.000   Flow length"
"       2.000   Overland Slope"
"       0.145   Pervious Area"
"      55.000   Pervious length"
"       2.000   Pervious slope"
"       0.025   Impervious Area"
"      24.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.244   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.881   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                    0.013     0.000     0.000     0.000 c.m/sec"
"            Catchment 88           Pervious   Impervious Total Area "
"            Surface Area           0.145      0.025      0.170      hectare"
"            Time of concentration  24.098     1.417      15.278     minutes"
"            Time to Centroid       125.469    86.151     110.180    minutes"
"            Rainfall depth         66.122     66.122     66.122     mm"
"            Rainfall volume        95.55      16.86      112.41     c.m"
"            Rainfall losses        49.961     7.856      43.645     mm"
"            Runoff depth           16.161     58.266     22.477     mm"
"            Runoff volume          23.35      14.86      38.21      c.m"
"            Runoff coefficient     0.244      0.881      0.340      "
"            Maximum flow           0.007      0.012      0.013      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                    0.013     0.013     0.000     0.000"
" 57          TRENCH Design d/s of 88"
"         0.013   Peak inflow"
"        38.210   Hydrograph volume"
"       247.050   Ground elevation"
"       245.000   Downstream trench invert"
"         1.000   Trench height"
"       243.700   Water table elevation"
"         3.000   Trench top width"
"         1.000   Trench bottom width"
"        30.000   Voids ratio (%)"
"      1267.200   Hydraulic conductivity"
"         0.000   Trench gradient (%)"
"        10.000   Trench length"
"         1.000   Include base width"
"           42.   Number of stages"
"                   Level Discharge    Volume"
"                 245.000     0.000       0.0"
"                 245.050     0.000       0.2"
"                 245.100     0.000       0.3"
"                 245.150     0.000       0.5"
"                 245.200     0.000       0.7"
"                 245.250     0.000       0.9"
"                 245.300     0.000       1.2"
"                 245.350     0.000       1.4"
"                 245.400     0.000       1.7"
"                 245.450     0.000       2.0"
"                 245.500     0.000       2.4"
"                 245.550     0.000       2.8"
"                 245.600     0.000       3.2"
"                 245.650     0.000       3.7"
"                 245.700     0.000       4.1"
"                 245.750     0.000       4.4"
"                 245.800     0.000       4.8"
"                 245.850     0.000       5.2"
"                 245.900     0.000       5.6"
"                 245.950     0.000       6.1"
"                 246.000     0.000       6.5"
"                 246.050     0.000       6.6"
"                 246.100     0.000       6.6"
"                 246.150     0.000       6.7"
"                 246.200     0.000       6.7"
"                 246.250     0.000       6.8"
"                 246.300     0.000       6.8"
"                 246.350     0.000       6.9"
"                 246.400     0.000       6.9"
"                 246.450     0.000       7.0"
"                 246.500     0.000       7.1"
"                 246.550     0.000       7.1"
"                 246.600     0.000       7.2"
"                 246.650     0.000       7.2"
"                 246.700     0.000       7.3"
"                 246.750     0.000       7.3"
"                 246.800     0.000       7.4"
"                 246.850     0.000       7.5"
"                 246.900     0.000       7.5"
"                 246.950     0.000       7.6"
"                 247.000     0.000       7.6"
"                 247.050     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               245.400    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
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"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.010    c.m/sec"
"             Exfiltration volume          38.108    c.m"
"             Maximum level               245.500    metre"
"             Maximum storage               2.396    c.m"
"             Centroidal lag                2.061   hours"
"             Infiltration area 2 sides   14.149   sq.metre"
"             Infiltration Base area      10.000   sq.metre"
"                  0.013     0.013     0.000     0.010 c.m/sec"
" 40          HYDROGRAPH   Combine    1008"
"           6   Combine "
"        1008   Node #"
"               overflow from lot 8"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.013     0.013     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.013     0.000     0.000     0.000"
" 33          CATCHMENT 9"
"           1   Triangular SCS"
"           1   Equal length"
"           1   SCS method"
"           9   Lot 9 - Tributary to Exfiltration Trench 9A"
"      63.000   % Impervious"
"       0.040   Total Area"
"      24.000   Flow length"
"       2.000   Overland Slope"
"       0.015   Pervious Area"
"      24.000   Pervious length"
"       2.000   Pervious slope"
"       0.025   Impervious Area"
"      24.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.244   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.881   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                 0.012     0.000     0.000     0.000 c.m/sec"
"             Catchment 9            Pervious   Impervious Total Area "
"             Surface Area           0.015      0.025      0.040      hectare"
"             Time of concentration  14.652     1.417      3.270      minutes"
"             Time to Centroid       113.233    86.151     89.943     minutes"
"             Rainfall depth         66.122     66.122     66.122     mm"
"             Rainfall volume        9.79       16.66      26.45      c.m"
"             Rainfall losses        49.967     7.856      23.437     mm"
"             Runoff depth           16.154     58.266     42.684     mm"
"             Runoff volume          2.39       14.68      17.07      c.m"
"             Runoff coefficient     0.244      0.881      0.646      "
"             Maximum flow           0.001      0.012      0.012      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                 0.012     0.012     0.000     0.000"
" 57          TRENCH Design d/s of 9"
"       0.012   Peak inflow"
"      17.074   Hydrograph volume"
"     247.050   Ground elevation"
"     245.000   Downstream trench invert"
"       1.000   Trench height"
"     243.700   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"       8.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               245.000     0.000       0.0"
"               245.050     0.000       0.1"
"               245.100     0.000       0.3"
"               245.150     0.000       0.4"
"               245.200     0.000       0.6"
"               245.250     0.000       0.8"
"               245.300     0.000       0.9"
"               245.350     0.000       1.1"
"               245.400     0.000       1.3"
"               245.450     0.000       1.6"
"               245.500     0.000       1.9"
"               245.550     0.000       2.2"
"               245.600     0.000       2.6"
"               245.650     0.000       2.9"
"               245.700     0.000       3.3"
"               245.750     0.000       3.5"
"               245.800     0.000       3.9"
"               245.850     0.000       4.2"
"               245.900     0.000       4.5"
"               245.950     0.000       4.8"
"               246.000     0.000       5.2"
"               246.050     0.000       5.3"
"               246.100     0.000       5.3"
"               246.150     0.000       5.4"
"               246.200     0.000       5.4"
"               246.250     0.000       5.5"
"               246.300     0.000       5.5"
"               246.350     0.000       5.6"
"               246.400     0.000       5.6"
"               246.450     0.000       5.7"
"               246.500     0.000       5.8"
"               246.550     0.000       5.8"
"               246.600     0.000       5.9"
"               246.650     0.000       5.9"
"               246.700     0.000       6.0"
"               246.750     0.000       6.0"
"               246.800     0.000       6.1"
"               246.850     0.000       6.2"
"               246.900     0.000       6.2"
"               246.950     0.000       6.3"
"               247.000     0.000       6.3"
"               247.050     0.000       6.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"               245.400     8.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.009    c.m/sec"
"             Exfiltration volume          16.991    c.m"
"             Maximum level               245.547    metre"
"             Maximum storage               2.224    c.m"
"             Centroidal lag                1.643   hours"
"             Infiltration area 2 sides   12.375   sq.metre"
"             Infiltration Base area       8.000   sq.metre"
"                  0.012     0.012     0.000     0.009 c.m/sec"
" 40          HYDROGRAPH   Combine    1009"
"           6   Combine "
"        1009   Node #"
```

```
"                overflow from lot 9"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                    0.012     0.012     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.012     0.000     0.000     0.000"
" 33          CATCHMENT 99"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           99   Lot 9 - Tributary to Exfiltration Trench 9B (portion of Lot 8 included)"
"       10.000   % Impervious"
"        0.300   Total Area"
"       70.000   Flow length"
"        2.000   Overland Slope"
"        0.270   Pervious Area"
"       70.000   Pervious length"
"        2.000   Pervious slope"
"        0.030   Impervious Area"
"       38.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.245   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.886   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.016     0.000     0.000     0.000 c.m/sec"
"             Catchment 99           Pervious   Impervious Total Area "
"             Surface Area           0.270      0.030      0.300      hectare"
"             Time of concentration  27.849     1.866      20.391     minutes"
"             Time to Centroid       130.325    86.835     117.842    minutes"
"             Rainfall depth         66.122     66.122     66.122     mm"
"             Rainfall volume        178.53     19.84      198.37     c.m"
"             Rainfall losses        49.954     7.539      45.713     mm"
"             Runoff depth           16.168     58.583     20.409     mm"
"             Runoff volume          43.65      17.57      61.23      c.m"
"             Runoff coefficient     0.245      0.886      0.309      "
"             Maximum flow           0.012      0.014      0.016      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.016     0.016     0.000     0.000"
" 57          TRENCH Design d/s of 99"
"         0.016   Peak inflow"
"        61.227   Hydrograph volume"
"       246.300   Ground elevation"
"       244.250   Downstream trench invert"
"         1.000   Trench height"
"       243.300   Water table elevation"
"         3.000   Trench top width"
"         1.000   Trench bottom width"
"        30.000   Voids ratio (%)"
"      1267.200   Hydraulic conductivity"
"         0.000   Trench gradient (%)"
"        16.000   Trench length"
"         1.000   Include base width"
"           42.   Number of stages"
"                   Level Discharge    Volume"
"                 244.250     0.000      0.0"
"                 244.300     0.000      0.3"
"                 244.350     0.000      0.5"
"                 244.400     0.000      0.8"
"                 244.450     0.000      1.2"
"                 244.500     0.000      1.5"
"                 244.550     0.000      1.9"
"                 244.600     0.000      2.3"
"                 244.650     0.000      2.7"
"                 244.700     0.000      3.2"
"                 244.750     0.000      3.8"
"                 244.800     0.000      4.5"
"                 244.850     0.000      5.2"
"                 244.900     0.000      5.9"
"                 244.950     0.000      6.5"
"                 245.000     0.000      7.1"
"                 245.050     0.000      7.7"
"                 245.100     0.000      8.3"
"                 245.150     0.000      9.0"
"                 245.200     0.000      9.7"
"                 245.250     0.000     10.4"
"                 245.300     0.000     10.4"
"                 245.350     0.000     10.5"
"                 245.400     0.000     10.6"
"                 245.450     0.000     10.6"
"                 245.500     0.000     10.7"
"                 245.550     0.000     10.7"
"                 245.600     0.000     10.8"
"                 245.650     0.000     10.8"
"                 245.700     0.000     10.9"
"                 245.750     0.000     11.0"
"                 245.800     0.000     11.0"
"                 245.850     0.000     11.1"
"                 245.900     0.000     11.1"
"                 245.950     0.000     11.2"
"                 246.000     0.000     11.2"
"                 246.050     0.000     11.3"
"                 246.100     0.000     11.4"
"                 246.150     0.000     11.4"
"                 246.200     0.000     11.5"
"                 246.250     0.000     11.5"
"                 246.300     0.000     11.6"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                244.650    16.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.014    c.m/sec"
"             Exfiltration volume          60.931    c.m"
"             Maximum level               244.610    metre"
"             Maximum storage               2.352    c.m"
"             Centroidal lag                2.169   hours"
"             Infiltration area 2 sides   16.292   sq.metre"
"             Infiltration Base area      16.000   sq.metre"
"                    0.016     0.016     0.000     0.014 c.m/sec"
" 40          HYDROGRAPH   Combine    1009"
"            6   Combine "
"         1009   Node #"
"                overflow from lot 9"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.016     0.016     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.016     0.000     0.000     0.000"
" 33          CATCHMENT 10"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           10   Lot 10 - Tributary to Exfiltration Trench 10A"
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"       14.000   % Impervious"
"        0.190   Total Area"
"      120.000   Flow length"
"        2.000   Overland Slope"
"        0.163   Pervious Area"
"      120.000   Pervious length"
"        2.000   Pervious slope"
"        0.027   Impervious Area"
"       24.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.244   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.881   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.013     0.000     0.000     0.000 c.m/sec"
"             Catchment 10           Pervious   Impervious Total Area "
"             Surface Area           0.163      0.027      0.190      hectare"
"             Time of concentration  38.483     1.417      24.774     minutes"
"             Time to Centroid       144.118    86.151     122.679    minutes"
"             Rainfall depth         66.122     66.122     66.122     mm"
"             Rainfall volume        108.04     17.59      125.63     c.m"
"             Rainfall losses        49.960     7.856      44.065     mm"
"             Runoff depth           16.162     58.266     22.057     mm"
"             Runoff volume          26.41      15.50      41.91      c.m"
"             Runoff coefficient     0.244      0.881      0.334      "
"             Maximum flow           0.006      0.013      0.013      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                    0.013     0.013     0.000     0.000"
" 57          TRENCH Design d/s of 10"
"        0.013   Peak inflow"
"       41.908   Hydrograph volume"
"      246.250   Ground elevation"
"      244.200   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.200     0.000      0.0"
"                244.250     0.000      0.1"
"                244.300     0.000      0.3"
"                244.350     0.000      0.4"
"                244.400     0.000      0.6"
"                244.450     0.000      0.8"
"                244.500     0.000      0.9"
"                244.550     0.000      1.1"
"                244.600     0.000      1.3"
"                244.650     0.000      1.6"
"                244.700     0.000      1.9"
"                244.750     0.000      2.2"
"                244.800     0.000      2.6"
"                244.850     0.000      2.9"
"                244.900     0.000      3.3"
"                244.950     0.000      3.5"
"                245.000     0.000      3.9"
"                245.050     0.000      4.2"
"                245.100     0.000      4.5"
"                245.150     0.000      4.8"
"                245.200     0.000      5.2"
"                245.250     0.000      5.3"
"                245.300     0.000      5.3"
"                245.350     0.000      5.4"
"                245.400     0.000      5.4"
"                245.450     0.000      5.5"
"                245.500     0.000      5.5"
"                245.550     0.000      5.6"
"                245.600     0.000      5.6"
"                245.650     0.000      5.7"
"                245.700     0.000      5.8"
"                245.750     0.000      5.8"
"                245.800     0.000      5.9"
"                245.850     0.000      5.9"
"                245.900     0.000      6.0"
"                245.950     0.000      6.0"
"                246.000     0.000      6.1"
"                246.050     0.000      6.2"
"                246.100     0.000      6.2"
"                246.150     0.000      6.3"
"                246.200     0.000      6.3"
"                246.250     0.000      6.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                244.600     8.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.010    c.m/sec"
"             Exfiltration volume          41.895    c.m"
"             Maximum level               244.772    metre"
"             Maximum storage               2.390    c.m"
"             Centroidal lag                2.338   hours"
"             Infiltration area 2 sides   12.932   sq.metre"
"             Infiltration Base area       8.000   sq.metre"
"                  0.013     0.013     0.000     0.010 c.m/sec"
" 40          HYDROGRAPH   Combine    1010"
"           6   Combine "
"        1010   Node #"
"               overflow from lot 10"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.013     0.013     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.013     0.000     0.000     0.000"
" 33          CATCHMENT 100"
"             1   Triangular SCS"
"             3   Specify values"
"             1   SCS method"
"           100   Lot 10 - Tributary to Exfiltration Trench 10B"
"        14.000   % Impervious"
"         0.180   Total Area"
"       110.000   Flow length"
"         2.000   Overland Slope"
"         0.155   Pervious Area"
"       110.000   Pervious length"
"         2.000   Pervious slope"
"         0.025   Impervious Area"
"        24.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
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"        0.245   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.881   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.012     0.000     0.000     0.000 c.m/sec"
"             Catchment 100          Pervious   Impervious Total Area "
"             Surface Area           0.155      0.025      0.180      hectare"
"             Time of concentration  36.525     1.417      23.546     minutes"
"             Time to Centroid       141.576    86.151     121.085    minutes"
"             Rainfall depth         66.122     66.122     66.122     mm"
"             Rainfall volume        102.36     16.66      119.02     c.m"
"             Rainfall losses        49.950     7.856      44.057     mm"
"             Runoff depth           16.171     58.266     22.064     mm"
"             Runoff volume          25.03      14.68      39.72      c.m"
"             Runoff coefficient     0.245      0.881      0.334      "
"             Maximum flow           0.006      0.012      0.012      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.012     0.012     0.000     0.000"
" 57          TRENCH Design d/s of 100"
"        0.012   Peak inflow"
"       39.716   Hydrograph volume"
"      246.450   Ground elevation"
"      244.400   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.400     0.000      0.0"
"                244.450     0.000      0.1"
"                244.500     0.000      0.3"
"                244.550     0.000      0.4"
"                244.600     0.000      0.6"
"                244.650     0.000      0.8"
"                244.700     0.000      0.9"
"                244.750     0.000      1.1"
"                244.800     0.000      1.3"
"                244.850     0.000      1.6"
"                244.900     0.000      1.9"
"                244.950     0.000      2.2"
"                245.000     0.000      2.6"
"                245.050     0.000      2.9"
"                245.100     0.000      3.3"
"                245.150     0.000      3.5"
"                245.200     0.000      3.9"
"                245.250     0.000      4.2"
"                245.300     0.000      4.5"
"                245.350     0.000      4.8"
"                245.400     0.000      5.2"
"                245.450     0.000      5.3"
"                245.500     0.000      5.3"
"                245.550     0.000      5.4"
"                245.600     0.000      5.4"
"                245.650     0.000      5.5"
"                245.700     0.000      5.5"
"                245.750     0.000      5.6"
"                245.800     0.000      5.6"
"                245.850     0.000      5.7"
"                245.900     0.000      5.8"
"                245.950     0.000      5.8"
"                246.000     0.000      5.9"
"                246.050     0.000      5.9"
"                246.100     0.000      6.0"
"                246.150     0.000      6.0"
"                246.200     0.000      6.1"
"                246.250     0.000      6.2"
"                246.300     0.000      6.2"
"                246.350     0.000      6.3"
"                246.400     0.000      6.3"
"                246.450     0.000      6.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                244.800     8.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.009    c.m/sec"
"             Exfiltration volume          39.644    c.m"
"             Maximum level               244.961    metre"
"             Maximum storage               2.319    c.m"
"             Centroidal lag                2.298   hours"
"             Infiltration area 2 sides    12.694   sq.metre"
"             Infiltration Base area        8.000   sq.metre"
"                  0.012     0.012     0.000     0.009 c.m/sec"
" 40          HYDROGRAPH   Combine    1010"
"           6   Combine "
"        1010   Node #"
"               overflow from lot 10"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.002    c.m"
"                  0.012     0.012     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.012     0.000     0.000     0.000"
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"                MIDUSS Output ------------------------------------------------>"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                          Eng 1432-1\SWM\MIDUSS\Post for Lots"
"                Output filename:           100 year post - private lots-1.out"
"                Licensee name:                                          owner"
"                Company                                               HP Inc."
"                Date & Time last used:               2020-05-05 at 9:47:56 AM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     3000.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     1499.530   Coefficient A"
"        3.297   Constant B"
"        0.794   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"             Maximum intensity           257.108    mm/hr"
"             Total depth                  71.801    mm"
"            6   100hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 1"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"            1   Lot 1 - Tributary to Exfiltration Trench 1"
"       10.000   % Impervious"
"        0.250   Total Area"
"       32.000   Flow length"
"        2.000   Overland Slope"
"        0.225   Pervious Area"
"       32.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       40.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.262   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.893   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.021     0.000     0.000     0.000 c.m/sec"
"             Catchment 1            Pervious   Impervious Total Area "
"             Surface Area           0.225      0.025      0.250      hectare"
"             Time of concentration  16.009     1.833      12.114     minutes"
"             Time to Centroid       115.611    86.796     107.695    minutes"
"             Rainfall depth         71.801     71.801     71.801     mm"
"             Rainfall volume        161.55     17.95      179.50     c.m"
"             Rainfall losses        52.983     7.654      48.450     mm"
"             Runoff depth           18.818     64.147     23.351     mm"
"             Runoff volume          42.34      16.04      58.38      c.m"
"             Runoff coefficient     0.262      0.893      0.325      "
"             Maximum flow           0.016      0.013      0.021      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                     0.021     0.021     0.000     0.000"
" 57          TRENCH Design d/s of 1"
"        0.021   Peak inflow"
"       58.377   Hydrograph volume"
"      247.300   Ground elevation"
"      245.250   Downstream trench invert"
"        1.000   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       20.000   Trench length"
"        1.000   Include base width"
"           42.   Number of stages"
"                   Level Discharge     Volume"
"                 245.250     0.000        0.0"
"                 245.300     0.000        0.3"
"                 245.350     0.000        0.7"
"                 245.400     0.000        1.0"
"                 245.450     0.000        1.4"
"                 245.500     0.000        1.9"
"                 245.550     0.000        2.3"
"                 245.600     0.000        2.8"
"                 245.650     0.000        3.4"
"                 245.700     0.000        4.0"
"                 245.750     0.000        4.8"
"                 245.800     0.000        5.6"
"                 245.850     0.000        6.5"
"                 245.900     0.000        7.3"
"                 245.950     0.000        8.1"
"                 246.000     0.000        8.9"
"                 246.050     0.000        9.6"
"                 246.100     0.000       10.4"
"                 246.150     0.000       11.2"
"                 246.200     0.000       12.1"
"                 246.250     0.000       13.0"
"                 246.300     0.000       13.0"
"                 246.350     0.000       13.1"
"                 246.400     0.000       13.2"
"                 246.450     0.000       13.2"
"                 246.500     0.000       13.3"
"                 246.550     0.000       13.3"
"                 246.600     0.000       13.4"
"                 246.650     0.000       13.4"
"                 246.700     0.000       13.5"
"                 246.750     0.000       13.6"
"                 246.800     0.000       13.6"
"                 246.850     0.000       13.7"
"                 246.900     0.000       13.7"
"                 246.950     0.000       13.8"
"                 247.000     0.000       13.8"
"                 247.050     0.000       13.9"
"                 247.100     0.000       14.0"
"                 247.150     0.000       14.0"
"                 247.200     0.000       14.1"
"                 247.250     0.000       14.1"
"                 247.300     0.000       14.2"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                245.650    20.000    0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.018    c.m/sec"
"             Exfiltration volume          58.197    c.m"
"             Maximum level               245.703    metre"
"             Maximum storage               4.064    c.m"
"             Centroidal lag                1.968   hours"
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"             Infiltration area 2 sides   25.608   sq.metre"
"             Infiltration Base area      20.000   sq.metre"
"                 0.021     0.021     0.000     0.018 c.m/sec"
" 40          HYDROGRAPH   Combine    1001"
"           6   Combine "
"        1001   Node #"
"               overflow from lot 1"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                   0.021     0.021     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.021     0.000     0.000     0.000"
" 33          CATCHMENT 2"
"           1   Triangular SCS"
"           1   Equal length"
"           1   SCS method"
"           2   Lot 2 - Tributary to Exfiltration Trench 2"
"      12.500   % Impervious"
"       0.320   Total Area"
"      25.000   Flow length"
"       2.000   Overland Slope"
"       0.280   Pervious Area"
"      25.000   Pervious length"
"       2.000   Pervious slope"
"       0.040   Impervious Area"
"      25.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.262   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.888   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                 0.029     0.000     0.000     0.000 c.m/sec"
"             Catchment 2            Pervious   Impervious Total Area "
"             Surface Area           0.280      0.040      0.320      hectare"
"             Time of concentration  13.805     1.383      9.755      minutes"
"             Time to Centroid       112.649    86.124     104.001    minutes"
"             Rainfall depth         71.801     71.801     71.801     mm"
"             Rainfall volume        201.04     28.72      229.76     c.m"
"             Rainfall losses        52.972     8.044      47.356     mm"
"             Runoff depth           18.829     63.758     24.445     mm"
"             Runoff volume          52.72      25.50      78.22      c.m"
"             Runoff coefficient     0.262      0.888      0.340      "
"             Maximum flow           0.022      0.022      0.029      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                 0.029     0.029     0.000     0.000"
" 57          TRENCH Design d/s of 2"
"       0.029   Peak inflow"
"      78.224   Hydrograph volume"
"     246.750   Ground elevation"
"     244.700   Downstream trench invert"
"       1.000   Trench height"
"     243.700   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"      25.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               244.700     0.000       0.0"
"               244.750     0.000       0.4"
"               244.800     0.000       0.8"
"               244.850     0.000       1.3"
"               244.900     0.000       1.8"
"               244.950     0.000       2.3"
"               245.000     0.000       2.9"
"               245.050     0.000       3.5"
"               245.100     0.000       4.2"
"               245.150     0.000       5.0"
"               245.200     0.000       6.0"
"               245.250     0.000       7.0"
"               245.300     0.000       8.1"
"               245.350     0.000       9.1"
"               245.400     0.000      10.2"
"               245.450     0.000      11.1"
"               245.500     0.000      12.0"
"               245.550     0.000      13.0"
"               245.600     0.000      14.1"
"               245.650     0.000      15.1"
"               245.700     0.000      16.2"
"               245.750     0.000      16.3"
"               245.800     0.000      16.4"
"               245.850     0.000      16.4"
"               245.900     0.000      16.5"
"               245.950     0.000      16.5"
"               246.000     0.000      16.6"
"               246.050     0.000      16.6"
"               246.100     0.000      16.7"
"               246.150     0.000      16.7"
"               246.200     0.000      16.8"
"               246.250     0.000      16.9"
"               246.300     0.000      16.9"
"               246.350     0.000      17.0"
"               246.400     0.000      17.0"
"               246.450     0.000      17.1"
"               246.500     0.000      17.1"
"               246.550     0.000      17.2"
"               246.600     0.000      17.3"
"               246.650     0.000      17.3"
"               246.700     0.000      17.4"
"               246.750     0.000      17.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"               245.100     25.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.027    c.m/sec"
"             Exfiltration volume          77.731    c.m"
"             Maximum level               245.201    metre"
"             Maximum storage               6.017    c.m"
"             Centroidal lag                1.929   hours"
"             Infiltration area 2 sides    35.461   sq.metre"
"             Infiltration Base area       25.000   sq.metre"
"                  0.029     0.029     0.000     0.027 c.m/sec"
" 40          HYDROGRAPH   Combine    1002"
"           6   Combine "
"        1002   Node #"
"               overflow from lot 2"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                   0.029     0.029     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
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"                    0.029     0.000     0.000     0.000"
" 33          CATCHMENT 3"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"            3   Lot 3 - Tributary to Exfiltration Trench 3"
"       28.000   % Impervious"
"        0.180   Total Area"
"       40.000   Flow length"
"        2.000   Overland Slope"
"        0.130   Pervious Area"
"       40.000   Pervious length"
"        2.000   Pervious slope"
"        0.050   Impervious Area"
"       35.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.262   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.893   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.027     0.000     0.000     0.000 c.m/sec"
"             Catchment 3           Pervious   Impervious Total Area "
"             Surface Area          0.130      0.050      0.180      hectare"
"             Time of concentration  18.302     1.692      8.843      minutes"
"             Time to Centroid       118.609    86.531     100.342    minutes"
"             Rainfall depth         71.801     71.801     71.801     mm"
"             Rainfall volume        93.05      36.19      129.24     c.m"
"             Rainfall losses        52.959     7.717      40.291     mm"
"             Runoff depth           18.842     64.084     31.510     mm"
"             Runoff volume          24.42      32.30      56.72      c.m"
"             Runoff coefficient     0.262      0.893      0.439      "
"             Maximum flow           0.009      0.026      0.027      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.027     0.027     0.000     0.000"
" 57          TRENCH Design d/s of 3"
"        0.027   Peak inflow"
"       56.718   Hydrograph volume"
"      247.000   Ground elevation"
"      244.950   Downstream trench invert"
"        1.000   Trench height"
"      243.900   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       16.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.950     0.000      0.0"
"                245.000     0.000      0.3"
"                245.050     0.000      0.5"
"                245.100     0.000      0.8"
"                245.150     0.000      1.2"
"                245.200     0.000      1.5"
"                245.250     0.000      1.9"
"                245.300     0.000      2.3"
"                245.350     0.000      2.7"
"                245.400     0.000      3.2"
"                245.450     0.000      3.8"
"                245.500     0.000      4.5"
"                245.550     0.000      5.2"
"                245.600     0.000      5.9"
"                245.650     0.000      6.5"
"                245.700     0.000      7.1"
"                245.750     0.000      7.7"
"                245.800     0.000      8.3"
"                245.850     0.000      9.0"
"                245.900     0.000      9.7"
"                245.950     0.000     10.4"
"                246.000     0.000     10.4"
"                246.050     0.000     10.5"
"                246.100     0.000     10.6"
"                246.150     0.000     10.6"
"                246.200     0.000     10.7"
"                246.250     0.000     10.7"
"                246.300     0.000     10.8"
"                246.350     0.000     10.8"
"                246.400     0.000     10.9"
"                246.450     0.000     11.0"
"                246.500     0.000     11.0"
"                246.550     0.000     11.1"
"                246.600     0.000     11.1"
"                246.650     0.000     11.2"
"                246.700     0.000     11.2"
"                246.750     0.000     11.3"
"                246.800     0.000     11.4"
"                246.850     0.000     11.4"
"                246.900     0.000     11.5"
"                246.950     0.000     11.5"
"                247.000     0.000     11.6"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                245.350    16.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.021    c.m/sec"
"             Exfiltration volume          56.688    c.m"
"             Maximum level               245.596    metre"
"             Maximum storage               5.801    c.m"
"             Centroidal lag                1.896   hours"
"             Infiltration area 2 sides    29.245   sq.metre"
"             Infiltration Base area       16.000   sq.metre"
"                  0.027     0.027     0.000     0.021 c.m/sec"
" 40          HYDROGRAPH   Combine    1003"
"            6   Combine "
"         1003   Node #"
"                overflow from lot 2"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.027     0.027     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.027     0.000     0.000     0.000"
" 33          CATCHMENT 4"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"            4   Lot 4 - Tributary to Exfiltration Trench 4"
"       21.000   % Impervious"
"        0.190   Total Area"
"       40.000   Flow length"
"        2.000   Overland Slope"
"        0.150   Pervious Area"
"       40.000   Pervious length"
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"        2.000   Pervious slope"
"        0.040   Impervious Area"
"       40.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.262   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.893   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.022     0.000     0.000     0.000 c.m/sec"
"             Catchment 4            Pervious   Impervious Total Area "
"             Surface Area           0.150      0.040      0.190      hectare"
"             Time of concentration  18.302     1.833      10.478     minutes"
"             Time to Centroid       118.609    86.796     103.496    minutes"
"             Rainfall depth         71.801     71.801     71.801     mm"
"             Rainfall volume        107.77     28.65      136.42     c.m"
"             Rainfall losses        52.959     7.654      43.445     mm"
"             Runoff depth           18.842     64.147     28.356     mm"
"             Runoff volume          28.28      25.59      53.88      c.m"
"             Runoff coefficient     0.262      0.893      0.395      "
"             Maximum flow           0.010      0.020      0.022      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.022     0.022     0.000     0.000"
" 57          TRENCH Design d/s of 4"
"        0.022   Peak inflow"
"       53.877   Hydrograph volume"
"      246.650   Ground elevation"
"      244.600   Downstream trench invert"
"        1.000   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       16.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.600     0.000      0.0"
"                244.650     0.000      0.3"
"                244.700     0.000      0.5"
"                244.750     0.000      0.8"
"                244.800     0.000      1.2"
"                244.850     0.000      1.5"
"                244.900     0.000      1.9"
"                244.950     0.000      2.3"
"                245.000     0.000      2.7"
"                245.050     0.000      3.2"
"                245.100     0.000      3.8"
"                245.150     0.000      4.5"
"                245.200     0.000      5.2"
"                245.250     0.000      5.9"
"                245.300     0.000      6.5"
"                245.350     0.000      7.1"
"                245.400     0.000      7.7"
"                245.450     0.000      8.3"
"                245.500     0.000      9.0"
"                245.550     0.000      9.7"
"                245.600     0.000     10.4"
"                245.650     0.000     10.4"
"                245.700     0.000     10.5"
"                245.750     0.000     10.6"
"                245.800     0.000     10.6"
"                245.850     0.000     10.7"
"                245.900     0.000     10.7"
"                245.950     0.000     10.8"
"                246.000     0.000     10.8"
"                246.050     0.000     10.9"
"                246.100     0.000     11.0"
"                246.150     0.000     11.0"
"                246.200     0.000     11.1"
"                246.250     0.000     11.1"
"                246.300     0.000     11.2"
"                246.350     0.000     11.2"
"                246.400     0.000     11.3"
"                246.450     0.000     11.4"
"                246.500     0.000     11.4"
"                246.550     0.000     11.5"
"                246.600     0.000     11.5"
"                246.650     0.000     11.6"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               245.000    16.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"             Access"
"           diameter"
"              1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.001    c.m"
"            Peak exfiltration             0.018    c.m/sec"
"            Exfiltration volume          53.783    c.m"
"            Maximum level               245.134    metre"
"            Maximum storage               4.277    c.m"
"            Centroidal lag                1.935   hours"
"            Infiltration area 2 sides    24.162   sq.metre"
"            Infiltration Base area       16.000   sq.metre"
"                0.022     0.022     0.000     0.018 c.m/sec"
" 40          HYDROGRAPH   Combine    1004"
"           6   Combine "
"        1004   Node #"
"               overflow from lot 4"
"            Maximum flow                  0.000    c.m/sec"
"            Hydrograph volume             0.001    c.m"
"                    0.022     0.022     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.022     0.000     0.000     0.000"
" 33          CATCHMENT 5"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"            5   Lot 5 - Tributary to Exfiltration Trench 5A"
"       19.000   % Impervious"
"        0.130   Total Area"
"       37.000   Flow length"
"        2.000   Overland Slope"
"        0.105   Pervious Area"
"       37.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       26.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.262   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.888   Impervious Runoff coefficient"
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"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.014     0.000     0.000     0.000 c.m/sec"
"             Catchment 5            Pervious   Impervious Total Area "
"             Surface Area           0.105      0.025      0.130      hectare"
"             Time of concentration  17.466     1.416      10.358     minutes"
"             Time to Centroid       117.505    86.156     103.622    minutes"
"             Rainfall depth         71.801     71.801     71.801     mm"
"             Rainfall volume        75.61      17.73      93.34      c.m"
"             Rainfall losses        52.975     8.007      44.431     mm"
"             Runoff depth           18.826     63.794     27.370     mm"
"             Runoff volume          19.82      15.76      35.58      c.m"
"             Runoff coefficient     0.262      0.888      0.381      "
"             Maximum flow           0.007      0.013      0.014      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.014     0.014     0.000     0.000"
" 57          TRENCH Design d/s of 5"
"        0.014   Peak inflow"
"       35.581   Hydrograph volume"
"      248.000   Ground elevation"
"      245.950   Downstream trench invert"
"        1.000   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.950     0.000      0.0"
"                246.000     0.000      0.2"
"                246.050     0.000      0.3"
"                246.100     0.000      0.5"
"                246.150     0.000      0.7"
"                246.200     0.000      0.9"
"                246.250     0.000      1.2"
"                246.300     0.000      1.4"
"                246.350     0.000      1.7"
"                246.400     0.000      2.0"
"                246.450     0.000      2.4"
"                246.500     0.000      2.8"
"                246.550     0.000      3.2"
"                246.600     0.000      3.7"
"                246.650     0.000      4.1"
"                246.700     0.000      4.4"
"                246.750     0.000      4.8"
"                246.800     0.000      5.2"
"                246.850     0.000      5.6"
"                246.900     0.000      6.1"
"                246.950     0.000      6.5"
"                247.000     0.000      6.6"
"                247.050     0.000      6.6"
"                247.100     0.000      6.7"
"                247.150     0.000      6.7"
"                247.200     0.000      6.8"
"                247.250     0.000      6.8"
"                247.300     0.000      6.9"
"                247.350     0.000      6.9"
"                247.400     0.000      7.0"
"                247.450     0.000      7.1"
"                247.500     0.000      7.1"
"                247.550     0.000      7.2"
"                247.600     0.000      7.2"
"                247.650     0.000      7.3"
"                247.700     0.000      7.3"
"                247.750     0.000      7.4"
"                247.800     0.000      7.5"
"                247.850     0.000      7.5"
"                247.900     0.000      7.6"
"                247.950     0.000      7.6"
"                248.000     0.000      7.7"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                246.350    10.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.011    c.m/sec"
"             Exfiltration volume          35.427    c.m"
"             Maximum level               246.545    metre"
"             Maximum storage               3.188    c.m"
"             Centroidal lag                1.949   hours"
"             Infiltration area 2 sides    16.830   sq.metre"
"             Infiltration Base area       10.000   sq.metre"
"                  0.014     0.014     0.000     0.011 c.m/sec"
" 40          HYDROGRAPH   Combine    1005"
"           6   Combine "
"        1005   Node #"
"               overflow from lot 5"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.014     0.014     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.014     0.000     0.000     0.000"
" 33          CATCHMENT 55"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          55   Lot 5 - Tributary to Exfiltration Trench 5B"
"       23.000   % Impervious"
"        0.110   Total Area"
"       37.000   Flow length"
"        2.000   Overland Slope"
"        0.085   Pervious Area"
"       37.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       26.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.262   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.888   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.014     0.000     0.000     0.000 c.m/sec"
"             Catchment 55           Pervious   Impervious Total Area "
"             Surface Area           0.085      0.025      0.110      hectare"
"             Time of concentration  17.466     1.416      9.392      minutes"
"             Time to Centroid       117.505    86.156     101.736    minutes"
"             Rainfall depth         71.801     71.801     71.801     mm"
"             Rainfall volume        60.82      18.17      78.98      c.m"
"             Rainfall losses        52.975     8.007      42.632     mm"
"             Runoff depth           18.826     63.794     29.169     mm"
"             Runoff volume          15.95      16.14      32.09      c.m"
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"             Runoff coefficient     0.262      0.888      0.406      "
"             Maximum flow           0.006      0.014      0.014      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.014     0.014     0.000     0.000"
" 57          TRENCH Design d/s of 55"
"       0.014   Peak inflow"
"      32.086   Hydrograph volume"
"     247.800   Ground elevation"
"     245.750   Downstream trench invert"
"       1.000   Trench height"
"     244.200   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"      10.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               245.750     0.000       0.0"
"               245.800     0.000       0.2"
"               245.850     0.000       0.3"
"               245.900     0.000       0.5"
"               245.950     0.000       0.7"
"               246.000     0.000       0.9"
"               246.050     0.000       1.2"
"               246.100     0.000       1.4"
"               246.150     0.000       1.7"
"               246.200     0.000       2.0"
"               246.250     0.000       2.4"
"               246.300     0.000       2.8"
"               246.350     0.000       3.2"
"               246.400     0.000       3.7"
"               246.450     0.000       4.1"
"               246.500     0.000       4.4"
"               246.550     0.000       4.8"
"               246.600     0.000       5.2"
"               246.650     0.000       5.6"
"               246.700     0.000       6.1"
"               246.750     0.000       6.5"
"               246.800     0.000       6.6"
"               246.850     0.000       6.6"
"               246.900     0.000       6.7"
"               246.950     0.000       6.7"
"               247.000     0.000       6.8"
"               247.050     0.000       6.8"
"               247.100     0.000       6.9"
"               247.150     0.000       6.9"
"               247.200     0.000       7.0"
"               247.250     0.000       7.1"
"               247.300     0.000       7.1"
"               247.350     0.000       7.2"
"               247.400     0.000       7.2"
"               247.450     0.000       7.3"
"               247.500     0.000       7.3"
"               247.550     0.000       7.4"
"               247.600     0.000       7.5"
"               247.650     0.000       7.5"
"               247.700     0.000       7.6"
"               247.750     0.000       7.6"
"               247.800     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.150    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"                diameter"
"                  1.200"
"               Peak outflow                 0.000    c.m/sec"
"               Outflow volume               0.001    c.m"
"               Peak exfiltration            0.011    c.m/sec"
"               Exfiltration volume         31.885    c.m"
"               Maximum level              246.315    metre"
"               Maximum storage              2.937    c.m"
"               Centroidal lag               1.898   hours"
"               Infiltration area 2 sides   15.994   sq.metre"
"               Infiltration Base area      10.000   sq.metre"
"                    0.014     0.014     0.000     0.011 c.m/sec"
" 40          HYDROGRAPH   Combine    1005"
"            6   Combine "
"         1005   Node #"
"                overflow from lot 5"
"               Maximum flow                 0.000    c.m/sec"
"               Hydrograph volume            0.001    c.m"
"                    0.014     0.014     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.014     0.000     0.000     0.000"
" 33          CATCHMENT 6"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"            6   Lot 6 - Tributary to Exfiltration Trench 6A"
"       21.000   % Impervious"
"        0.120   Total Area"
"       37.000   Flow length"
"        2.000   Overland Slope"
"        0.095   Pervious Area"
"       37.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       26.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.262   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.888   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.014     0.000     0.000     0.000 c.m/sec"
"             Catchment 6            Pervious   Impervious Total Area "
"             Surface Area           0.095      0.025      0.120      hectare"
"             Time of concentration  17.466     1.416      9.860      minutes"
"             Time to Centroid       117.505    86.156     102.649    minutes"
"             Rainfall depth         71.801     71.801     71.801     mm"
"             Rainfall volume        68.07      18.09      86.16      c.m"
"             Rainfall losses        52.975     8.007      43.532     mm"
"             Runoff depth           18.826     63.794     28.269     mm"
"             Runoff volume          17.85      16.08      33.92      c.m"
"             Runoff coefficient     0.262      0.888      0.394      "
"             Maximum flow           0.006      0.014      0.014      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.014     0.014     0.000     0.000"
" 57          TRENCH Design d/s of 6"
"       0.014   Peak inflow"
"      33.923   Hydrograph volume"
"     247.700   Ground elevation"
"     245.650   Downstream trench invert"
"       1.000   Trench height"
"     244.200   Water table elevation"
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"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.650     0.000       0.0"
"                245.700     0.000       0.2"
"                245.750     0.000       0.3"
"                245.800     0.000       0.5"
"                245.850     0.000       0.7"
"                245.900     0.000       0.9"
"                245.950     0.000       1.2"
"                246.000     0.000       1.4"
"                246.050     0.000       1.7"
"                246.100     0.000       2.0"
"                246.150     0.000       2.4"
"                246.200     0.000       2.8"
"                246.250     0.000       3.2"
"                246.300     0.000       3.7"
"                246.350     0.000       4.1"
"                246.400     0.000       4.4"
"                246.450     0.000       4.8"
"                246.500     0.000       5.2"
"                246.550     0.000       5.6"
"                246.600     0.000       6.1"
"                246.650     0.000       6.5"
"                246.700     0.000       6.6"
"                246.750     0.000       6.6"
"                246.800     0.000       6.7"
"                246.850     0.000       6.7"
"                246.900     0.000       6.8"
"                246.950     0.000       6.8"
"                247.000     0.000       6.9"
"                247.050     0.000       6.9"
"                247.100     0.000       7.0"
"                247.150     0.000       7.1"
"                247.200     0.000       7.1"
"                247.250     0.000       7.2"
"                247.300     0.000       7.2"
"                247.350     0.000       7.3"
"                247.400     0.000       7.3"
"                247.450     0.000       7.4"
"                247.500     0.000       7.5"
"                247.550     0.000       7.5"
"                247.600     0.000       7.6"
"                247.650     0.000       7.6"
"                247.700     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"                246.050    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.001    c.m"
"            Peak exfiltration             0.011    c.m/sec"
"            Exfiltration volume          33.878    c.m"
"            Maximum level               246.224    metre"
"            Maximum storage               3.006    c.m"
"            Centroidal lag                1.923   hours"
"            Infiltration area 2 sides    16.225   sq.metre"
"            Infiltration Base area       10.000   sq.metre"
"                 0.014     0.014     0.000     0.011 c.m/sec"
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" 40          HYDROGRAPH   Combine    1006"
"               6   Combine "
"            1006   Node #"
"                   overflow from lot 6"
"                  Maximum flow                  0.000    c.m/sec"
"                  Hydrograph volume             0.001    c.m"
"                         0.014     0.014     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"               2   Start - New Tributary"
"                         0.014     0.000     0.000     0.000"
" 33          CATCHMENT 66"
"               1   Triangular SCS"
"               3   Specify values"
"               1   SCS method"
"              66   Lot 6 - Tributary to Exfiltration Trench 6B"
"          21.000   % Impervious"
"           0.120   Total Area"
"          37.000   Flow length"
"           2.000   Overland Slope"
"           0.095   Pervious Area"
"          37.000   Pervious length"
"           2.000   Pervious slope"
"           0.025   Impervious Area"
"          26.000   Impervious length"
"           2.000   Impervious slope"
"           0.250   Pervious Manning 'n'"
"          60.000   Pervious SCS Curve No."
"           0.262   Pervious Runoff coefficient"
"           0.030   Pervious Ia/S coefficient"
"           5.080   Pervious Initial abstraction"
"           0.015   Impervious Manning 'n'"
"          98.000   Impervious SCS Curve No."
"           0.888   Impervious Runoff coefficient"
"           0.386   Impervious Ia/S coefficient"
"           2.001   Impervious Initial abstraction"
"                         0.014     0.000     0.000     0.000 c.m/sec"
"                  Catchment 66           Pervious   Impervious Total Area "
"                  Surface Area           0.095      0.025      0.120      hectare"
"                  Time of concentration  17.466     1.416      9.860      minutes"
"                  Time to Centroid       117.505    86.156     102.649    minutes"
"                  Rainfall depth         71.801     71.801     71.801     mm"
"                  Rainfall volume        68.07      18.09      86.16      c.m"
"                  Rainfall losses        52.975     8.007      43.532     mm"
"                  Runoff depth           18.826     63.794     28.269     mm"
"                  Runoff volume          17.85      16.08      33.92      c.m"
"                  Runoff coefficient     0.262      0.888      0.394      "
"                  Maximum flow           0.006      0.014      0.014      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"               4   Add Runoff "
"                         0.014     0.014     0.000     0.000"
" 57          TRENCH Design d/s of 66"
"           0.014   Peak inflow"
"          33.923   Hydrograph volume"
"         247.800   Ground elevation"
"         245.750   Downstream trench invert"
"           1.000   Trench height"
"         244.200   Water table elevation"
"           3.000   Trench top width"
"           1.000   Trench bottom width"
"          30.000   Voids ratio (%)"
"        1267.200   Hydraulic conductivity"
"           0.000   Trench gradient (%)"
"          10.000   Trench length"
"           1.000   Include base width"
"             42.   Number of stages"
"                     Level Discharge    Volume"
"                   245.750     0.000       0.0"
"                   245.800     0.000       0.2"
"                   245.850     0.000       0.3"
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"               245.900     0.000       0.5"
"               245.950     0.000       0.7"
"               246.000     0.000       0.9"
"               246.050     0.000       1.2"
"               246.100     0.000       1.4"
"               246.150     0.000       1.7"
"               246.200     0.000       2.0"
"               246.250     0.000       2.4"
"               246.300     0.000       2.8"
"               246.350     0.000       3.2"
"               246.400     0.000       3.7"
"               246.450     0.000       4.1"
"               246.500     0.000       4.4"
"               246.550     0.000       4.8"
"               246.600     0.000       5.2"
"               246.650     0.000       5.6"
"               246.700     0.000       6.1"
"               246.750     0.000       6.5"
"               246.800     0.000       6.6"
"               246.850     0.000       6.6"
"               246.900     0.000       6.7"
"               246.950     0.000       6.7"
"               247.000     0.000       6.8"
"               247.050     0.000       6.8"
"               247.100     0.000       6.9"
"               247.150     0.000       6.9"
"               247.200     0.000       7.0"
"               247.250     0.000       7.1"
"               247.300     0.000       7.1"
"               247.350     0.000       7.2"
"               247.400     0.000       7.2"
"               247.450     0.000       7.3"
"               247.500     0.000       7.3"
"               247.550     0.000       7.4"
"               247.600     0.000       7.5"
"               247.650     0.000       7.5"
"               247.700     0.000       7.6"
"               247.750     0.000       7.6"
"               247.800     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.150    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"              diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.001    c.m"
"            Peak exfiltration            0.011    c.m/sec"
"            Exfiltration volume         33.871    c.m"
"            Maximum level              246.328    metre"
"            Maximum storage              3.045    c.m"
"            Centroidal lag               1.923   hours"
"            Infiltration area 2 sides   16.355   sq.metre"
"            Infiltration Base area      10.000   sq.metre"
"                 0.014     0.014     0.000     0.011 c.m/sec"
" 40         HYDROGRAPH   Combine    1006"
"           6   Combine "
"        1006   Node #"
"               overflow from lot 6"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.001    c.m"
"                    0.014     0.014     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                    0.014     0.000     0.000     0.000"
" 33         CATCHMENT 7"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"           7   Lot 7 - Tributary to Exfiltration Trench 7A"
"      10.000   % Impervious"
"       0.140   Total Area"
"      50.000   Flow length"
"       2.000   Overland Slope"
"       0.126   Pervious Area"
"      50.000   Pervious length"
"       2.000   Pervious slope"
"       0.014   Impervious Area"
"      24.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.263   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.887   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                    0.009     0.000     0.000     0.000 c.m/sec"
"            Catchment 7            Pervious   Impervious Total Area "
"            Surface Area           0.126      0.014      0.140      hectare"
"            Time of concentration  20.924     1.349      15.581     minutes"
"            Time to Centroid       122.116    86.087     112.281    minutes"
"            Rainfall depth         71.801     71.801     71.801     mm"
"            Rainfall volume        90.47      10.05      100.52     c.m"
"            Rainfall losses        52.950     8.101      48.465     mm"
"            Runoff depth           18.851     63.700     23.336     mm"
"            Runoff volume          23.75      8.92       32.67      c.m"
"            Runoff coefficient     0.263      0.887      0.325      "
"            Maximum flow           0.008      0.008      0.009      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                    0.009     0.009     0.000     0.000"
" 57         TRENCH Design d/s of 7"
"       0.009   Peak inflow"
"      32.670   Hydrograph volume"
"     247.750   Ground elevation"
"     245.700   Downstream trench invert"
"       1.000   Trench height"
"     244.140   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"       8.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"               Level Discharge    Volume"
"               245.700     0.000       0.0"
"               245.750     0.000       0.1"
"               245.800     0.000       0.3"
"               245.850     0.000       0.4"
"               245.900     0.000       0.6"
"               245.950     0.000       0.8"
"               246.000     0.000       0.9"
"               246.050     0.000       1.1"
"               246.100     0.000       1.3"
"               246.150     0.000       1.6"
"               246.200     0.000       1.9"
"               246.250     0.000       2.2"
"               246.300     0.000       2.6"
"               246.350     0.000       2.9"
"               246.400     0.000       3.3"
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"               246.450     0.000       3.5"
"               246.500     0.000       3.9"
"               246.550     0.000       4.2"
"               246.600     0.000       4.5"
"               246.650     0.000       4.8"
"               246.700     0.000       5.2"
"               246.750     0.000       5.3"
"               246.800     0.000       5.3"
"               246.850     0.000       5.4"
"               246.900     0.000       5.4"
"               246.950     0.000       5.5"
"               247.000     0.000       5.5"
"               247.050     0.000       5.6"
"               247.100     0.000       5.6"
"               247.150     0.000       5.7"
"               247.200     0.000       5.8"
"               247.250     0.000       5.8"
"               247.300     0.000       5.9"
"               247.350     0.000       5.9"
"               247.400     0.000       6.0"
"               247.450     0.000       6.0"
"               247.500     0.000       6.1"
"               247.550     0.000       6.2"
"               247.600     0.000       6.2"
"               247.650     0.000       6.3"
"               247.700     0.000       6.3"
"               247.750     0.000       6.4"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.100     8.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.001    c.m"
"            Peak exfiltration            0.008    c.m/sec"
"            Exfiltration volume         32.538    c.m"
"            Maximum level              246.248    metre"
"            Maximum storage              2.231    c.m"
"            Centroidal lag               2.110   hours"
"            Infiltration area 2 sides   12.402   sq.metre"
"            Infiltration Base area      8.000   sq.metre"
"                0.009     0.009     0.000     0.008 c.m/sec"
" 40         HYDROGRAPH   Combine    1007"
"           6   Combine "
"        1007   Node #"
"               overflow from lot 7"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.001    c.m"
"                  0.009     0.009     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.009     0.000     0.000     0.000"
" 33         CATCHMENT 77"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          77   Lot 7 - Tributary to Exfiltration Trench 7B"
"      16.500   % Impervious"
"       0.240   Total Area"
"      54.000   Flow length"
"       2.000   Overland Slope"
"       0.200   Pervious Area"
"      54.000   Pervious length"
"       2.000   Pervious slope"
"       0.040   Impervious Area"
"      24.000   Impervious length"
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"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.262   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.887   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                 0.023     0.000     0.000     0.000 c.m/sec"
"            Catchment 77            Pervious   Impervious Total Area "
"            Surface Area            0.200      0.040      0.240      hectare"
"            Time of concentration   21.913     1.349      13.676     minutes"
"            Time to Centroid        123.442    86.087     108.480    minutes"
"            Rainfall depth          71.801     71.801     71.801     mm"
"            Rainfall volume         143.89     28.43      172.32     c.m"
"            Rainfall losses         52.962     8.101      45.560     mm"
"            Runoff depth            18.839     63.700     26.241     mm"
"            Runoff volume           37.75      25.23      62.98      c.m"
"            Runoff coefficient      0.262      0.887      0.365      "
"            Maximum flow            0.012      0.021      0.023      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                 0.023     0.023     0.000     0.000"
" 57         TRENCH Design d/s of 77"
"       0.023   Peak inflow"
"      62.979   Hydrograph volume"
"     247.700   Ground elevation"
"     245.650   Downstream trench invert"
"       1.000   Trench height"
"     244.000   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"      16.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"               Level Discharge    Volume"
"             245.650     0.000       0.0"
"             245.700     0.000       0.3"
"             245.750     0.000       0.5"
"             245.800     0.000       0.8"
"             245.850     0.000       1.2"
"             245.900     0.000       1.5"
"             245.950     0.000       1.9"
"             246.000     0.000       2.3"
"             246.050     0.000       2.7"
"             246.100     0.000       3.2"
"             246.150     0.000       3.8"
"             246.200     0.000       4.5"
"             246.250     0.000       5.2"
"             246.300     0.000       5.9"
"             246.350     0.000       6.5"
"             246.400     0.000       7.1"
"             246.450     0.000       7.7"
"             246.500     0.000       8.3"
"             246.550     0.000       9.0"
"             246.600     0.000       9.7"
"             246.650     0.000      10.4"
"             246.700     0.000      10.4"
"             246.750     0.000      10.5"
"             246.800     0.000      10.6"
"             246.850     0.000      10.6"
"             246.900     0.000      10.7"
"             246.950     0.000      10.7"
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"               247.000     0.000      10.8"
"               247.050     0.000      10.8"
"               247.100     0.000      10.9"
"               247.150     0.000      11.0"
"               247.200     0.000      11.0"
"               247.250     0.000      11.1"
"               247.300     0.000      11.1"
"               247.350     0.000      11.2"
"               247.400     0.000      11.2"
"               247.450     0.000      11.3"
"               247.500     0.000      11.4"
"               247.550     0.000      11.4"
"               247.600     0.000      11.5"
"               247.650     0.000      11.5"
"               247.700     0.000      11.6"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.050    16.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.001    c.m"
"            Peak exfiltration            0.017    c.m/sec"
"            Exfiltration volume         62.692    c.m"
"            Maximum level              246.210    metre"
"            Maximum storage              4.619    c.m"
"            Centroidal lag               2.044   hours"
"            Infiltration area 2 sides   25.327   sq.metre"
"            Infiltration Base area      16.000   sq.metre"
"                 0.023     0.023     0.000     0.017 c.m/sec"
" 40         HYDROGRAPH   Combine    1007"
"           6   Combine "
"        1007   Node #"
"               overflow from lot 7"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.001    c.m"
"                  0.023     0.023     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.023     0.000     0.000     0.000"
" 33         CATCHMENT 8"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"           8   Lot 8 - Tributary to Exfiltration Trench 8A"
"       42.000  % Impervious"
"        0.060  Total Area"
"       36.000  Flow length"
"        2.000  Overland Slope"
"        0.035  Pervious Area"
"       36.000  Pervious length"
"        2.000  Pervious slope"
"        0.025  Impervious Area"
"       24.000  Impervious length"
"        2.000  Impervious slope"
"        0.250  Pervious Manning 'n'"
"       60.000  Pervious SCS Curve No."
"        0.262  Pervious Runoff coefficient"
"        0.030  Pervious Ia/S coefficient"
"        5.080  Pervious Initial abstraction"
"        0.015  Impervious Manning 'n'"
"       98.000  Impervious SCS Curve No."
"        0.887  Impervious Runoff coefficient"
"        0.386  Impervious Ia/S coefficient"
"        2.001  Impervious Initial abstraction"
"                  0.014     0.000     0.000     0.000 c.m/sec"
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"            Catchment 8            Pervious   Impervious Total Area "
"            Surface Area           0.035      0.025      0.060      hectare"
"            Time of concentration  17.181     1.349      5.938      minutes"
"            Time to Centroid       117.125    86.087     95.083     minutes"
"            Rainfall depth         71.801     71.801     71.801     mm"
"            Rainfall volume        24.99      18.09      43.08      c.m"
"            Rainfall losses        52.975     8.101      34.128     mm"
"            Runoff depth           18.826     63.700     37.673     mm"
"            Runoff volume          6.55       16.05      22.60      c.m"
"            Runoff coefficient     0.262      0.887      0.525      "
"            Maximum flow           0.002      0.014      0.014      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.014     0.014     0.000     0.000"
" 57         TRENCH Design d/s of 8"
"        0.014   Peak inflow"
"       22.604   Hydrograph volume"
"      247.700   Ground elevation"
"      245.650   Downstream trench invert"
"        1.000   Trench height"
"      244.000   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"               245.650     0.000       0.0"
"               245.700     0.000       0.1"
"               245.750     0.000       0.3"
"               245.800     0.000       0.4"
"               245.850     0.000       0.6"
"               245.900     0.000       0.8"
"               245.950     0.000       0.9"
"               246.000     0.000       1.1"
"               246.050     0.000       1.3"
"               246.100     0.000       1.6"
"               246.150     0.000       1.9"
"               246.200     0.000       2.2"
"               246.250     0.000       2.6"
"               246.300     0.000       2.9"
"               246.350     0.000       3.3"
"               246.400     0.000       3.5"
"               246.450     0.000       3.9"
"               246.500     0.000       4.2"
"               246.550     0.000       4.5"
"               246.600     0.000       4.8"
"               246.650     0.000       5.2"
"               246.700     0.000       5.3"
"               246.750     0.000       5.3"
"               246.800     0.000       5.4"
"               246.850     0.000       5.4"
"               246.900     0.000       5.5"
"               246.950     0.000       5.5"
"               247.000     0.000       5.6"
"               247.050     0.000       5.6"
"               247.100     0.000       5.7"
"               247.150     0.000       5.8"
"               247.200     0.000       5.8"
"               247.250     0.000       5.9"
"               247.300     0.000       5.9"
"               247.350     0.000       6.0"
"               247.400     0.000       6.0"
"               247.450     0.000       6.1"
"               247.500     0.000       6.2"
"               247.550     0.000       6.2"
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"               247.600     0.000       6.3"
"               247.650     0.000       6.3"
"               247.700     0.000       6.4"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.050     8.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.000    c.m"
"            Peak exfiltration             0.009    c.m/sec"
"            Exfiltration volume          22.557    c.m"
"            Maximum level               246.286    metre"
"            Maximum storage               2.829    c.m"
"            Centroidal lag                1.769   hours"
"            Infiltration area 2 sides    14.387   sq.metre"
"            Infiltration Base area        8.000   sq.metre"
"                 0.014     0.014     0.000     0.009 c.m/sec"
" 40         HYDROGRAPH   Combine    1008"
"           6   Combine "
"        1008   Node #"
"               overflow from lot 8"
"            Maximum flow                  0.000    c.m/sec"
"            Hydrograph volume             0.000    c.m"
"                 0.014     0.014     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.014     0.000     0.000     0.000"
" 33         CATCHMENT 88"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          88   Lot 8 - Tributary to Exfiltration Trench 8B"
"      15.000   % Impervious"
"       0.170   Total Area"
"      55.000   Flow length"
"       2.000   Overland Slope"
"       0.145   Pervious Area"
"      55.000   Pervious length"
"       2.000   Pervious slope"
"       0.025   Impervious Area"
"      24.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.262   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.887   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                 0.015     0.000     0.000     0.000 c.m/sec"
"            Catchment 88           Pervious   Impervious Total Area "
"            Surface Area           0.145      0.025      0.170      hectare"
"            Time of concentration  22.155     1.349      14.379     minutes"
"            Time to Centroid       123.774    86.087     109.687    minutes"
"            Rainfall depth         71.801     71.801     71.801     mm"
"            Rainfall volume        103.75     18.31      122.06     c.m"
"            Rainfall losses        52.968     8.101      46.238     mm"
"            Runoff depth           18.833     63.700     25.563     mm"
"            Runoff volume          27.21      16.24      43.46      c.m"
"            Runoff coefficient     0.262      0.887      0.356      "
"            Maximum flow           0.009      0.014      0.015      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                  0.015     0.015     0.000     0.000"
" 57          TRENCH Design d/s of 88"
"         0.015   Peak inflow"
"        43.458   Hydrograph volume"
"       247.050   Ground elevation"
"       245.000   Downstream trench invert"
"         1.000   Trench height"
"       243.700   Water table elevation"
"         3.000   Trench top width"
"         1.000   Trench bottom width"
"        30.000   Voids ratio (%)"
"      1267.200   Hydraulic conductivity"
"         0.000   Trench gradient (%)"
"        10.000   Trench length"
"         1.000   Include base width"
"           42.   Number of stages"
"                   Level Discharge    Volume"
"                 245.000     0.000       0.0"
"                 245.050     0.000       0.2"
"                 245.100     0.000       0.3"
"                 245.150     0.000       0.5"
"                 245.200     0.000       0.7"
"                 245.250     0.000       0.9"
"                 245.300     0.000       1.2"
"                 245.350     0.000       1.4"
"                 245.400     0.000       1.7"
"                 245.450     0.000       2.0"
"                 245.500     0.000       2.4"
"                 245.550     0.000       2.8"
"                 245.600     0.000       3.2"
"                 245.650     0.000       3.7"
"                 245.700     0.000       4.1"
"                 245.750     0.000       4.4"
"                 245.800     0.000       4.8"
"                 245.850     0.000       5.2"
"                 245.900     0.000       5.6"
"                 245.950     0.000       6.1"
"                 246.000     0.000       6.5"
"                 246.050     0.000       6.6"
"                 246.100     0.000       6.6"
"                 246.150     0.000       6.7"
"                 246.200     0.000       6.7"
"                 246.250     0.000       6.8"
"                 246.300     0.000       6.8"
"                 246.350     0.000       6.9"
"                 246.400     0.000       6.9"
"                 246.450     0.000       7.0"
"                 246.500     0.000       7.1"
"                 246.550     0.000       7.1"
"                 246.600     0.000       7.2"
"                 246.650     0.000       7.2"
"                 246.700     0.000       7.3"
"                 246.750     0.000       7.3"
"                 246.800     0.000       7.4"
"                 246.850     0.000       7.5"
"                 246.900     0.000       7.5"
"                 246.950     0.000       7.6"
"                 247.000     0.000       7.6"
"                 247.050     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               245.400    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
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"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.011    c.m/sec"
"             Exfiltration volume          43.327    c.m"
"             Maximum level               245.575    metre"
"             Maximum storage               3.015    c.m"
"             Centroidal lag                2.085   hours"
"             Infiltration area 2 sides   16.256   sq.metre"
"             Infiltration Base area      10.000   sq.metre"
"                  0.015     0.015     0.000     0.011 c.m/sec"
" 40          HYDROGRAPH   Combine    1008"
"           6   Combine "
"        1008   Node #"
"               overflow from lot 8"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.015     0.015     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.015     0.000     0.000     0.000"
" 33          CATCHMENT 9"
"           1   Triangular SCS"
"           1   Equal length"
"           1   SCS method"
"           9   Lot 9 - Tributary to Exfiltration Trench 9A"
"      63.000   % Impervious"
"       0.040   Total Area"
"      24.000   Flow length"
"       2.000   Overland Slope"
"       0.015   Pervious Area"
"      24.000   Pervious length"
"       2.000   Pervious slope"
"       0.025   Impervious Area"
"      24.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.262   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.887   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                    0.014     0.000     0.000     0.000 c.m/sec"
"             Catchment 9            Pervious   Impervious Total Area "
"             Surface Area           0.015      0.025      0.040      hectare"
"             Time of concentration  13.471     1.349      3.141      minutes"
"             Time to Centroid       112.210    86.087     89.948     minutes"
"             Rainfall depth         71.801     71.801     71.801     mm"
"             Rainfall volume        10.63      18.09      28.72      c.m"
"             Rainfall losses        52.987     8.101      24.709     mm"
"             Runoff depth           18.814     63.700     47.092     mm"
"             Runoff volume          2.78       16.05      18.84      c.m"
"             Runoff coefficient     0.262      0.887      0.656      "
"             Maximum flow           0.001      0.014      0.014      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                    0.014     0.014     0.000     0.000"
" 57          TRENCH Design d/s of 9"
"       0.014   Peak inflow"
"      18.837   Hydrograph volume"
"     247.050   Ground elevation"
"     245.000   Downstream trench invert"
"       1.000   Trench height"
"     243.700   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"       8.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               245.000     0.000       0.0"
"               245.050     0.000       0.1"
"               245.100     0.000       0.3"
"               245.150     0.000       0.4"
"               245.200     0.000       0.6"
"               245.250     0.000       0.8"
"               245.300     0.000       0.9"
"               245.350     0.000       1.1"
"               245.400     0.000       1.3"
"               245.450     0.000       1.6"
"               245.500     0.000       1.9"
"               245.550     0.000       2.2"
"               245.600     0.000       2.6"
"               245.650     0.000       2.9"
"               245.700     0.000       3.3"
"               245.750     0.000       3.5"
"               245.800     0.000       3.9"
"               245.850     0.000       4.2"
"               245.900     0.000       4.5"
"               245.950     0.000       4.8"
"               246.000     0.000       5.2"
"               246.050     0.000       5.3"
"               246.100     0.000       5.3"
"               246.150     0.000       5.4"
"               246.200     0.000       5.4"
"               246.250     0.000       5.5"
"               246.300     0.000       5.5"
"               246.350     0.000       5.6"
"               246.400     0.000       5.6"
"               246.450     0.000       5.7"
"               246.500     0.000       5.8"
"               246.550     0.000       5.8"
"               246.600     0.000       5.9"
"               246.650     0.000       5.9"
"               246.700     0.000       6.0"
"               246.750     0.000       6.0"
"               246.800     0.000       6.1"
"               246.850     0.000       6.2"
"               246.900     0.000       6.2"
"               246.950     0.000       6.3"
"               247.000     0.000       6.3"
"               247.050     0.000       6.4"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"               245.400     8.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.000    c.m"
"             Peak exfiltration             0.009    c.m/sec"
"             Exfiltration volume          18.877    c.m"
"             Maximum level               245.603    metre"
"             Maximum storage               2.606    c.m"
"             Centroidal lag                1.654   hours"
"             Infiltration area 2 sides    13.650   sq.metre"
"             Infiltration Base area        8.000   sq.metre"
"                  0.014     0.014     0.000     0.009 c.m/sec"
" 40          HYDROGRAPH   Combine    1009"
"           6   Combine "
"        1009   Node #"
```

```
"                overflow from lot 9"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                    0.014     0.014     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.014     0.000     0.000     0.000"
" 33          CATCHMENT 99"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           99   Lot 9 - Tributary to Exfiltration Trench 9B (portion of Lot 8 included)"
"       10.000   % Impervious"
"        0.300   Total Area"
"       70.000   Flow length"
"        2.000   Overland Slope"
"        0.270   Pervious Area"
"       70.000   Pervious length"
"        2.000   Pervious slope"
"        0.030   Impervious Area"
"       38.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.262   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.893   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.018     0.000     0.000     0.000 c.m/sec"
"             Catchment 99           Pervious   Impervious Total Area "
"             Surface Area           0.270      0.030      0.300      hectare"
"             Time of concentration  25.605     1.778      19.062     minutes"
"             Time to Centroid       128.353    86.694     116.914    minutes"
"             Rainfall depth         71.801     71.801     71.801     mm"
"             Rainfall volume        193.86     21.54      215.40     c.m"
"             Rainfall losses        52.974     7.658      48.442     mm"
"             Runoff depth           18.827     64.143     23.359     mm"
"             Runoff volume          50.83      19.24      70.08      c.m"
"             Runoff coefficient     0.262      0.893      0.325      "
"             Maximum flow           0.014      0.015      0.018      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.018     0.018     0.000     0.000"
" 57          TRENCH Design d/s of 99"
"        0.018   Peak inflow"
"       70.076   Hydrograph volume"
"      246.300   Ground elevation"
"      244.250   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       16.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.250     0.000      0.0"
"                244.300     0.000      0.3"
"                244.350     0.000      0.5"
"                244.400     0.000      0.8"
"                244.450     0.000      1.2"
"                244.500     0.000      1.5"
"                244.550     0.000      1.9"
"                244.600     0.000      2.3"
"                244.650     0.000      2.7"
"                244.700     0.000      3.2"
"                244.750     0.000      3.8"
"                244.800     0.000      4.5"
"                244.850     0.000      5.2"
"                244.900     0.000      5.9"
"                244.950     0.000      6.5"
"                245.000     0.000      7.1"
"                245.050     0.000      7.7"
"                245.100     0.000      8.3"
"                245.150     0.000      9.0"
"                245.200     0.000      9.7"
"                245.250     0.000     10.4"
"                245.300     0.000     10.4"
"                245.350     0.000     10.5"
"                245.400     0.000     10.6"
"                245.450     0.000     10.6"
"                245.500     0.000     10.7"
"                245.550     0.000     10.7"
"                245.600     0.000     10.8"
"                245.650     0.000     10.8"
"                245.700     0.000     10.9"
"                245.750     0.000     11.0"
"                245.800     0.000     11.0"
"                245.850     0.000     11.1"
"                245.900     0.000     11.1"
"                245.950     0.000     11.2"
"                246.000     0.000     11.2"
"                246.050     0.000     11.3"
"                246.100     0.000     11.4"
"                246.150     0.000     11.4"
"                246.200     0.000     11.5"
"                246.250     0.000     11.5"
"                246.300     0.000     11.6"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                244.650    16.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.016    c.m/sec"
"             Exfiltration volume          69.867    c.m"
"             Maximum level               244.709    metre"
"             Maximum storage               3.327    c.m"
"             Centroidal lag                2.195   hours"
"             Infiltration area 2 sides   20.763   sq.metre"
"             Infiltration Base area      16.000   sq.metre"
"                    0.018     0.018     0.000     0.016 c.m/sec"
" 40          HYDROGRAPH   Combine    1009"
"            6   Combine "
"         1009   Node #"
"                overflow from lot 9"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.018     0.018     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.018     0.000     0.000     0.000"
" 33          CATCHMENT 10"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           10   Lot 10 - Tributary to Exfiltration Trench 10A"
```

```
"       14.000   % Impervious"
"        0.190   Total Area"
"      120.000   Flow length"
"        2.000   Overland Slope"
"        0.163   Pervious Area"
"      120.000   Pervious length"
"        2.000   Pervious slope"
"        0.027   Impervious Area"
"       24.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.263   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.887   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.015     0.000     0.000     0.000 c.m/sec"
"             Catchment 10           Pervious   Impervious Total Area "
"             Surface Area           0.163      0.027      0.190      hectare"
"             Time of concentration  35.381     1.349      23.304     minutes"
"             Time to Centroid       141.374    86.087     121.755    minutes"
"             Rainfall depth         71.801     71.801     71.801     mm"
"             Rainfall volume        117.32     19.10      136.42     c.m"
"             Rainfall losses        52.949     8.101      46.670     mm"
"             Runoff depth           18.852     63.700     25.131     mm"
"             Runoff volume          30.80      16.94      47.75      c.m"
"             Runoff coefficient     0.263      0.887      0.350      "
"             Maximum flow           0.007      0.014      0.015      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                    0.015     0.015     0.000     0.000"
" 57          TRENCH Design d/s of 10"
"        0.015   Peak inflow"
"       47.749   Hydrograph volume"
"      246.250   Ground elevation"
"      244.200   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.200     0.000      0.0"
"                244.250     0.000      0.1"
"                244.300     0.000      0.3"
"                244.350     0.000      0.4"
"                244.400     0.000      0.6"
"                244.450     0.000      0.8"
"                244.500     0.000      0.9"
"                244.550     0.000      1.1"
"                244.600     0.000      1.3"
"                244.650     0.000      1.6"
"                244.700     0.000      1.9"
"                244.750     0.000      2.2"
"                244.800     0.000      2.6"
"                244.850     0.000      2.9"
"                244.900     0.000      3.3"
"                244.950     0.000      3.5"
"                245.000     0.000      3.9"
"                245.050     0.000      4.2"
"                245.100     0.000      4.5"
"                245.150     0.000      4.8"
"                245.200     0.000      5.2"
"                245.250     0.000      5.3"
"                245.300     0.000      5.3"
"                245.350     0.000      5.4"
"                245.400     0.000      5.4"
"                245.450     0.000      5.5"
"                245.500     0.000      5.5"
"                245.550     0.000      5.6"
"                245.600     0.000      5.6"
"                245.650     0.000      5.7"
"                245.700     0.000      5.8"
"                245.750     0.000      5.8"
"                245.800     0.000      5.9"
"                245.850     0.000      5.9"
"                245.900     0.000      6.0"
"                245.950     0.000      6.0"
"                246.000     0.000      6.1"
"                246.050     0.000      6.2"
"                246.100     0.000      6.2"
"                246.150     0.000      6.3"
"                246.200     0.000      6.3"
"                246.250     0.000      6.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                244.600     8.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.011    c.m/sec"
"             Exfiltration volume          47.710    c.m"
"             Maximum level               244.835    metre"
"             Maximum storage               2.822    c.m"
"             Centroidal lag                2.362   hours"
"             Infiltration area 2 sides   14.364   sq.metre"
"             Infiltration Base area      8.000   sq.metre"
"                  0.015     0.015     0.000     0.011 c.m/sec"
" 40          HYDROGRAPH   Combine    1010"
"           6   Combine "
"        1010   Node #"
"               overflow from lot 10"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.015     0.015     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.015     0.000     0.000     0.000"
" 33          CATCHMENT 100"
"             1   Triangular SCS"
"             3   Specify values"
"             1   SCS method"
"           100   Lot 10 - Tributary to Exfiltration Trench 10B"
"        14.000   % Impervious"
"         0.180   Total Area"
"       110.000   Flow length"
"         2.000   Overland Slope"
"         0.155   Pervious Area"
"       110.000   Pervious length"
"         2.000   Pervious slope"
"         0.025   Impervious Area"
"        24.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
```

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"        0.263   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.887   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.014     0.000     0.000     0.000 c.m/sec"
"             Catchment 100          Pervious   Impervious Total Area "
"             Surface Area           0.155      0.025      0.180      hectare"
"             Time of concentration  33.581     1.349      22.144     minutes"
"             Time to Centroid       138.970    86.087     120.205    minutes"
"             Rainfall depth         71.801     71.801     71.801     mm"
"             Rainfall volume        111.15     18.09      129.24     c.m"
"             Rainfall losses        52.946     8.101      46.668     mm"
"             Runoff depth           18.855     63.700     25.133     mm"
"             Runoff volume          29.19      16.05      45.24      c.m"
"             Runoff coefficient     0.263      0.887      0.350      "
"             Maximum flow           0.007      0.014      0.014      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                  0.014     0.014     0.000     0.000"
" 57          TRENCH Design d/s of 100"
"        0.014   Peak inflow"
"       45.240   Hydrograph volume"
"      246.450   Ground elevation"
"      244.400   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.400     0.000      0.0"
"                244.450     0.000      0.1"
"                244.500     0.000      0.3"
"                244.550     0.000      0.4"
"                244.600     0.000      0.6"
"                244.650     0.000      0.8"
"                244.700     0.000      0.9"
"                244.750     0.000      1.1"
"                244.800     0.000      1.3"
"                244.850     0.000      1.6"
"                244.900     0.000      1.9"
"                244.950     0.000      2.2"
"                245.000     0.000      2.6"
"                245.050     0.000      2.9"
"                245.100     0.000      3.3"
"                245.150     0.000      3.5"
"                245.200     0.000      3.9"
"                245.250     0.000      4.2"
"                245.300     0.000      4.5"
"                245.350     0.000      4.8"
"                245.400     0.000      5.2"
"                245.450     0.000      5.3"
"                245.500     0.000      5.3"
"                245.550     0.000      5.4"
"                245.600     0.000      5.4"
"                245.650     0.000      5.5"
"                245.700     0.000      5.5"
"                245.750     0.000      5.6"
"                245.800     0.000      5.6"
"                245.850     0.000      5.7"
"                245.900     0.000      5.8"
"                245.950     0.000      5.8"
"                246.000     0.000      5.9"
"                246.050     0.000      5.9"
"                246.100     0.000      6.0"
"                246.150     0.000      6.0"
"                246.200     0.000      6.1"
"                246.250     0.000      6.2"
"                246.300     0.000      6.2"
"                246.350     0.000      6.3"
"                246.400     0.000      6.3"
"                246.450     0.000      6.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                244.800     8.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.010    c.m/sec"
"             Exfiltration volume          45.229    c.m"
"             Maximum level               245.026    metre"
"             Maximum storage               2.760    c.m"
"             Centroidal lag                2.321   hours"
"             Infiltration area 2 sides    14.160   sq.metre"
"             Infiltration Base area        8.000   sq.metre"
"                  0.014     0.014     0.000     0.010 c.m/sec"
" 40          HYDROGRAPH   Combine    1010"
"            6   Combine "
"         1010   Node #"
"                overflow from lot 10"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.002    c.m"
"                  0.014     0.014     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                  0.014     0.000     0.000     0.000"
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"                MIDUSS Output ------------------------------------------------>"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used                                            ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                          Eng 1432-1\SWM\MIDUSS\Post for Lots"
"                Output filename:              250 year post - private lots.out"
"                Licensee name:                                           owner"
"                Company                                                HP Inc."
"                Date & Time last used:                2020-05-05 at 8:07:45 AM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1440.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     3048.220   Coefficient A"
"       10.030   Constant B"
"        0.888   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"             Maximum intensity           254.614    mm/hr"
"             Total depth                  86.611    mm"
"            6   250hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 1"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"            1   Lot 1 - Tributary to Exfiltration Trench 1"
"       10.000   % Impervious"
"        0.250   Total Area"
"       32.000   Flow length"
"        2.000   Overland Slope"
"        0.225   Pervious Area"
"       32.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       40.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.306   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.909   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.030     0.000     0.000     0.000 c.m/sec"
"             Catchment 1            Pervious   Impervious Total Area "
"             Surface Area           0.225      0.025      0.250      hectare"
"             Time of concentration  15.058     1.833      11.772     minutes"
"             Time to Centroid       110.126    85.143     103.918    minutes"
"             Rainfall depth         86.611     86.611     86.611     mm"
"             Rainfall volume        194.87     21.65      216.53     c.m"
"             Rainfall losses        60.148     7.860      54.919     mm"
"             Runoff depth           26.463     78.751     31.692     mm"
"             Runoff volume          59.54      19.69      79.23      c.m"
"             Runoff coefficient     0.306      0.909      0.366      "
"             Maximum flow           0.026      0.014      0.030      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                     0.030     0.030     0.000     0.000"
" 57          TRENCH Design d/s of 1"
"        0.030   Peak inflow"
"       79.229   Hydrograph volume"
"      247.300   Ground elevation"
"      245.250   Downstream trench invert"
"        1.000   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       20.000   Trench length"
"        1.000   Include base width"
"           42.   Number of stages"
"                   Level Discharge    Volume"
"                 245.250     0.000       0.0"
"                 245.300     0.000       0.3"
"                 245.350     0.000       0.7"
"                 245.400     0.000       1.0"
"                 245.450     0.000       1.4"
"                 245.500     0.000       1.9"
"                 245.550     0.000       2.3"
"                 245.600     0.000       2.8"
"                 245.650     0.000       3.4"
"                 245.700     0.000       4.0"
"                 245.750     0.000       4.8"
"                 245.800     0.000       5.6"
"                 245.850     0.000       6.5"
"                 245.900     0.000       7.3"
"                 245.950     0.000       8.1"
"                 246.000     0.000       8.9"
"                 246.050     0.000       9.6"
"                 246.100     0.000      10.4"
"                 246.150     0.000      11.2"
"                 246.200     0.000      12.1"
"                 246.250     0.000      13.0"
"                 246.300     0.000      13.0"
"                 246.350     0.000      13.1"
"                 246.400     0.000      13.2"
"                 246.450     0.000      13.2"
"                 246.500     0.000      13.3"
"                 246.550     0.000      13.3"
"                 246.600     0.000      13.4"
"                 246.650     0.000      13.4"
"                 246.700     0.000      13.5"
"                 246.750     0.000      13.6"
"                 246.800     0.000      13.6"
"                 246.850     0.000      13.7"
"                 246.900     0.000      13.7"
"                 246.950     0.000      13.8"
"                 247.000     0.000      13.8"
"                 247.050     0.000      13.9"
"                 247.100     0.000      14.0"
"                 247.150     0.000      14.0"
"                 247.200     0.000      14.1"
"                 247.250     0.000      14.1"
"                 247.300     0.000      14.2"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               245.650    20.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"              diameter"
"                 1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.026    c.m/sec"
"             Exfiltration volume          79.088    c.m"
"             Maximum level               245.970    metre"
"             Maximum storage               8.428    c.m"
"             Centroidal lag                1.964   hours"
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"             Infiltration area 2 sides   40.743   sq.metre"
"             Infiltration Base area      20.000   sq.metre"
"                 0.030     0.030     0.000     0.026 c.m/sec"
" 40          HYDROGRAPH   Combine    1001"
"           6   Combine "
"        1001   Node #"
"               overflow from lot 1"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                   0.030     0.030     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.030     0.000     0.000     0.000"
" 33          CATCHMENT 2"
"           1   Triangular SCS"
"           1   Equal length"
"           1   SCS method"
"           2   Lot 2 - Tributary to Exfiltration Trench 2"
"      12.500   % Impervious"
"       0.320   Total Area"
"      25.000   Flow length"
"       2.000   Overland Slope"
"       0.280   Pervious Area"
"      25.000   Pervious length"
"       2.000   Pervious slope"
"       0.040   Impervious Area"
"      25.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.304   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.904   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                   0.044     0.000     0.000     0.000 c.m/sec"
"            Catchment 2            Pervious   Impervious Total Area "
"            Surface Area           0.280      0.040      0.320      hectare"
"            Time of concentration  12.985     1.383      9.524      minutes"
"            Time to Centroid       107.627    84.502     100.728    minutes"
"            Rainfall depth         86.611     86.611     86.611     mm"
"            Rainfall volume        242.51     34.64      277.16     c.m"
"            Rainfall losses        60.293     8.283      53.792     mm"
"            Runoff depth           26.318     78.328     32.819     mm"
"            Runoff volume          73.69      31.33      105.02     c.m"
"            Runoff coefficient     0.304      0.904      0.379      "
"            Maximum flow           0.033      0.023      0.044      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                 0.044     0.044     0.000     0.000"
" 57          TRENCH Design d/s of 2"
"       0.044   Peak inflow"
"     105.022   Hydrograph volume"
"     246.750   Ground elevation"
"     244.700   Downstream trench invert"
"       1.000   Trench height"
"     243.700   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"      25.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               244.700     0.000       0.0"
"               244.750     0.000       0.4"
"               244.800     0.000       0.8"
"               244.850     0.000       1.3"
"               244.900     0.000       1.8"
"               244.950     0.000       2.3"
"               245.000     0.000       2.9"
"               245.050     0.000       3.5"
"               245.100     0.000       4.2"
"               245.150     0.000       5.0"
"               245.200     0.000       6.0"
"               245.250     0.000       7.0"
"               245.300     0.000       8.1"
"               245.350     0.000       9.1"
"               245.400     0.000      10.2"
"               245.450     0.000      11.1"
"               245.500     0.000      12.0"
"               245.550     0.000      13.0"
"               245.600     0.000      14.1"
"               245.650     0.000      15.1"
"               245.700     0.000      16.2"
"               245.750     0.000      16.3"
"               245.800     0.000      16.4"
"               245.850     0.000      16.4"
"               245.900     0.000      16.5"
"               245.950     0.000      16.5"
"               246.000     0.000      16.6"
"               246.050     0.000      16.6"
"               246.100     0.000      16.7"
"               246.150     0.000      16.7"
"               246.200     0.000      16.8"
"               246.250     0.000      16.9"
"               246.300     0.000      16.9"
"               246.350     0.000      17.0"
"               246.400     0.000      17.0"
"               246.450     0.000      17.1"
"               246.500     0.000      17.1"
"               246.550     0.000      17.2"
"               246.600     0.000      17.3"
"               246.650     0.000      17.3"
"               246.700     0.000      17.4"
"               246.750     0.000      17.4"
"         1.   TRENCH PIPES"
"           Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"              Invert    length     diam.    grade%     0=Yes  distance"
"              245.100     25.000     0.300     0.000     0.000     0.000"
"         1.   MANHOLE"
"               Access"
"            diameter"
"               1.200"
"           Peak outflow                  0.000    c.m/sec"
"           Outflow volume                0.001    c.m"
"           Peak exfiltration             0.038    c.m/sec"
"           Exfiltration volume         104.617    c.m"
"           Maximum level               245.452    metre"
"           Maximum storage              11.113    c.m"
"           Centroidal lag                1.921   hours"
"           Infiltration area 2 sides   53.152   sq.metre"
"           Infiltration Base area      25.000   sq.metre"
"                0.044     0.044     0.000     0.038 c.m/sec"
" 40          HYDROGRAPH   Combine    1002"
"           6   Combine "
"        1002   Node #"
"               overflow from lot 2"
"           Maximum flow                  0.000    c.m/sec"
"           Hydrograph volume             0.001    c.m"
"                   0.044     0.044     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
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"                    0.044     0.000     0.000     0.000"
" 33          CATCHMENT 3"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"            3   Lot 3 - Tributary to Exfiltration Trench 3"
"       28.000   % Impervious"
"        0.180   Total Area"
"       40.000   Flow length"
"        2.000   Overland Slope"
"        0.130   Pervious Area"
"       40.000   Pervious length"
"        2.000   Pervious slope"
"        0.050   Impervious Area"
"       35.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.306   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.908   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.032     0.000     0.000     0.000 c.m/sec"
"             Catchment 3            Pervious   Impervious Total Area "
"             Surface Area           0.130      0.050      0.180      hectare"
"             Time of concentration  17.216     1.692      8.894      minutes"
"             Time to Centroid       112.740    84.935     97.835     minutes"
"             Rainfall depth         86.611     86.611     86.611     mm"
"             Rainfall volume        112.25     43.65      155.90     c.m"
"             Rainfall losses        60.141     7.966      45.532     mm"
"             Runoff depth           26.470     78.645     41.079     mm"
"             Runoff volume          34.31      39.64      73.94      c.m"
"             Runoff coefficient     0.306      0.908      0.474      "
"             Maximum flow           0.014      0.028      0.032      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.032     0.032     0.000     0.000"
" 57          TRENCH Design d/s of 3"
"        0.032   Peak inflow"
"       73.942   Hydrograph volume"
"      247.000   Ground elevation"
"      244.950   Downstream trench invert"
"        1.000   Trench height"
"      243.900   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       16.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.950     0.000      0.0"
"                245.000     0.000      0.3"
"                245.050     0.000      0.5"
"                245.100     0.000      0.8"
"                245.150     0.000      1.2"
"                245.200     0.000      1.5"
"                245.250     0.000      1.9"
"                245.300     0.000      2.3"
"                245.350     0.000      2.7"
"                245.400     0.000      3.2"
"                245.450     0.000      3.8"
"                245.500     0.000      4.5"
"                245.550     0.000      5.2"
"                245.600     0.000      5.9"
"                245.650     0.000      6.5"
"                245.700     0.000      7.1"
"                245.750     0.000      7.7"
"                245.800     0.000      8.3"
"                245.850     0.000      9.0"
"                245.900     0.000      9.7"
"                245.950     0.000     10.4"
"                246.000     0.000     10.4"
"                246.050     0.000     10.5"
"                246.100     0.000     10.6"
"                246.150     0.000     10.6"
"                246.200     0.000     10.7"
"                246.250     0.000     10.7"
"                246.300     0.000     10.8"
"                246.350     0.000     10.8"
"                246.400     0.000     10.9"
"                246.450     0.000     11.0"
"                246.500     0.000     11.0"
"                246.550     0.000     11.1"
"                246.600     0.000     11.1"
"                246.650     0.000     11.2"
"                246.700     0.000     11.2"
"                246.750     0.000     11.3"
"                246.800     0.000     11.4"
"                246.850     0.000     11.4"
"                246.900     0.000     11.5"
"                246.950     0.000     11.5"
"                247.000     0.000     11.6"
"            1.   TRENCH PIPES"
"              Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                  Invert    length     diam.    grade%     0=Yes  distance"
"                245.350    16.000     0.300     0.000     0.000     0.000"
"            1.   MANHOLE"
"                 Access"
"               diameter"
"                   1.200"
"              Peak outflow                  0.000    c.m/sec"
"              Outflow volume                0.001    c.m"
"              Peak exfiltration             0.026    c.m/sec"
"              Exfiltration volume          73.932    c.m"
"              Maximum level               245.761    metre"
"              Maximum storage               7.850    c.m"
"              Centroidal lag                1.882   hours"
"              Infiltration area 2 sides    36.722   sq.metre"
"              Infiltration Base area       16.000   sq.metre"
"                   0.032     0.032     0.000     0.026 c.m/sec"
" 40          HYDROGRAPH   Combine    1003"
"            6   Combine "
"         1003   Node #"
"                overflow from lot 2"
"              Maximum flow                  0.000    c.m/sec"
"              Hydrograph volume             0.001    c.m"
"                   0.032     0.032     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                   0.032     0.000     0.000     0.000"
" 33          CATCHMENT 4"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"            4   Lot 4 - Tributary to Exfiltration Trench 4"
"       21.000   % Impervious"
"        0.190   Total Area"
"       40.000   Flow length"
"        2.000   Overland Slope"
"        0.150   Pervious Area"
"       40.000   Pervious length"
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"        2.000   Pervious slope"
"        0.040   Impervious Area"
"       40.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.306   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.909   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.027     0.000     0.000     0.000 c.m/sec"
"             Catchment 4            Pervious   Impervious Total Area "
"             Surface Area           0.150      0.040      0.190      hectare"
"             Time of concentration  17.216     1.833      10.423     minutes"
"             Time to Centroid       112.740    85.143     100.553    minutes"
"             Rainfall depth         86.611     86.611     86.611     mm"
"             Rainfall volume        130.00     34.56      164.56     c.m"
"             Rainfall losses        60.141     7.860      49.162     mm"
"             Runoff depth           26.470     78.751     37.449     mm"
"             Runoff volume          39.73      31.42      71.15      c.m"
"             Runoff coefficient     0.306      0.909      0.432      "
"             Maximum flow           0.016      0.022      0.027      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"              4   Add Runoff "
"                    0.027     0.027     0.000     0.000"
" 57          TRENCH Design d/s of 4"
"        0.027   Peak inflow"
"       71.153   Hydrograph volume"
"      246.650   Ground elevation"
"      244.600   Downstream trench invert"
"        1.000   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       16.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.600     0.000      0.0"
"                244.650     0.000      0.3"
"                244.700     0.000      0.5"
"                244.750     0.000      0.8"
"                244.800     0.000      1.2"
"                244.850     0.000      1.5"
"                244.900     0.000      1.9"
"                244.950     0.000      2.3"
"                245.000     0.000      2.7"
"                245.050     0.000      3.2"
"                245.100     0.000      3.8"
"                245.150     0.000      4.5"
"                245.200     0.000      5.2"
"                245.250     0.000      5.9"
"                245.300     0.000      6.5"
"                245.350     0.000      7.1"
"                245.400     0.000      7.7"
"                245.450     0.000      8.3"
"                245.500     0.000      9.0"
"                245.550     0.000      9.7"
"                245.600     0.000     10.4"
"                245.650     0.000     10.4"
"                245.700     0.000     10.5"
"                245.750     0.000     10.6"
"                245.800     0.000     10.6"
"                245.850     0.000     10.7"
"                245.900     0.000     10.7"
"                245.950     0.000     10.8"
"                246.000     0.000     10.8"
"                246.050     0.000     10.9"
"                246.100     0.000     11.0"
"                246.150     0.000     11.0"
"                246.200     0.000     11.1"
"                246.250     0.000     11.1"
"                246.300     0.000     11.2"
"                246.350     0.000     11.2"
"                246.400     0.000     11.3"
"                246.450     0.000     11.4"
"                246.500     0.000     11.4"
"                246.550     0.000     11.5"
"                246.600     0.000     11.5"
"                246.650     0.000     11.6"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                245.000    16.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.023    c.m/sec"
"             Exfiltration volume          71.233    c.m"
"             Maximum level               245.299    metre"
"             Maximum storage               6.497    c.m"
"             Centroidal lag                1.919   hours"
"             Infiltration area 2 sides    31.654   sq.metre"
"             Infiltration Base area       16.000   sq.metre"
"                    0.027     0.027     0.000     0.023 c.m/sec"
" 40          HYDROGRAPH   Combine    1004"
"           6   Combine "
"        1004   Node #"
"               overflow from lot 4"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.027     0.027     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"             2   Start - New Tributary"
"                    0.027     0.000     0.000     0.000"
" 33          CATCHMENT 5"
"             1   Triangular SCS"
"             3   Specify values"
"             1   SCS method"
"             5   Lot 5 - Tributary to Exfiltration Trench 5A"
"        19.000   % Impervious"
"         0.130   Total Area"
"        37.000   Flow length"
"         2.000   Overland Slope"
"         0.105   Pervious Area"
"        37.000   Pervious length"
"         2.000   Pervious slope"
"         0.025   Impervious Area"
"        26.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
"         0.305   Pervious Runoff coefficient"
"         0.030   Pervious Ia/S coefficient"
"         5.080   Pervious Initial abstraction"
"         0.015   Impervious Manning 'n'"
"        98.000   Impervious SCS Curve No."
"         0.905   Impervious Runoff coefficient"
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"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.017     0.000     0.000     0.000 c.m/sec"
"             Catchment 5            Pervious   Impervious Total Area "
"             Surface Area           0.105      0.025      0.130      hectare"
"             Time of concentration  16.429     1.416      10.269     minutes"
"             Time to Centroid       111.856    84.533     100.645    minutes"
"             Rainfall depth         86.611     86.611     86.611     mm"
"             Rainfall volume        91.20      21.39      112.59     c.m"
"             Rainfall losses        60.183     8.218      50.309     mm"
"             Runoff depth           26.428     78.393     36.302     mm"
"             Runoff volume          27.83      19.36      47.19      c.m"
"             Runoff coefficient     0.305      0.905      0.419      "
"             Maximum flow           0.012      0.014      0.017      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.017     0.017     0.000     0.000"
" 57          TRENCH Design d/s of 5"
"        0.017   Peak inflow"
"       47.192   Hydrograph volume"
"      248.000   Ground elevation"
"      245.950   Downstream trench invert"
"        1.000   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.950     0.000      0.0"
"                246.000     0.000      0.2"
"                246.050     0.000      0.3"
"                246.100     0.000      0.5"
"                246.150     0.000      0.7"
"                246.200     0.000      0.9"
"                246.250     0.000      1.2"
"                246.300     0.000      1.4"
"                246.350     0.000      1.7"
"                246.400     0.000      2.0"
"                246.450     0.000      2.4"
"                246.500     0.000      2.8"
"                246.550     0.000      3.2"
"                246.600     0.000      3.7"
"                246.650     0.000      4.1"
"                246.700     0.000      4.4"
"                246.750     0.000      4.8"
"                246.800     0.000      5.2"
"                246.850     0.000      5.6"
"                246.900     0.000      6.1"
"                246.950     0.000      6.5"
"                247.000     0.000      6.6"
"                247.050     0.000      6.6"
"                247.100     0.000      6.7"
"                247.150     0.000      6.7"
"                247.200     0.000      6.8"
"                247.250     0.000      6.8"
"                247.300     0.000      6.9"
"                247.350     0.000      6.9"
"                247.400     0.000      7.0"
"                247.450     0.000      7.1"
"                247.500     0.000      7.1"
"                247.550     0.000      7.2"
"                247.600     0.000      7.2"
"                247.650     0.000      7.3"
"                247.700     0.000      7.3"
"                247.750     0.000      7.4"
"                247.800     0.000      7.5"
"                247.850     0.000      7.5"
"                247.900     0.000      7.6"
"                247.950     0.000      7.6"
"                248.000     0.000      7.7"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                246.350    10.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.015    c.m/sec"
"             Exfiltration volume          47.172    c.m"
"             Maximum level               246.810    metre"
"             Maximum storage               5.294    c.m"
"             Centroidal lag                1.932   hours"
"             Infiltration area 2 sides    24.324   sq.metre"
"             Infiltration Base area       10.000   sq.metre"
"                  0.017     0.017     0.000     0.015 c.m/sec"
" 40          HYDROGRAPH   Combine    1005"
"           6   Combine "
"        1005   Node #"
"               overflow from lot 5"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                  0.017     0.017     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.017     0.000     0.000     0.000"
" 33          CATCHMENT 55"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          55   Lot 5 - Tributary to Exfiltration Trench 5B"
"       23.000   % Impervious"
"        0.110   Total Area"
"       37.000   Flow length"
"        2.000   Overland Slope"
"        0.085   Pervious Area"
"       37.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       26.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.305   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.905   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.016     0.000     0.000     0.000 c.m/sec"
"             Catchment 55           Pervious   Impervious Total Area "
"             Surface Area           0.085      0.025      0.110      hectare"
"             Time of concentration  16.429     1.416      9.376      minutes"
"             Time to Centroid       111.856    84.533     99.020     minutes"
"             Rainfall depth         86.611     86.611     86.611     mm"
"             Rainfall volume        73.36      21.91      95.27      c.m"
"             Rainfall losses        60.183     8.218      48.231     mm"
"             Runoff depth           26.428     78.393     38.380     mm"
"             Runoff volume          22.38      19.83      42.22      c.m"
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"             Runoff coefficient     0.305      0.905      0.443      "
"             Maximum flow           0.010      0.014      0.016      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"              4   Add Runoff "
"                     0.016     0.016     0.000     0.000"
" 57          TRENCH Design d/s of 55"
"        0.016   Peak inflow"
"       42.218   Hydrograph volume"
"      247.800   Ground elevation"
"      245.750   Downstream trench invert"
"        1.000   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                247.750     0.000       0.0"
"                245.800     0.000       0.2"
"                245.850     0.000       0.3"
"                245.900     0.000       0.5"
"                245.950     0.000       0.7"
"                246.000     0.000       0.9"
"                246.050     0.000       1.2"
"                246.100     0.000       1.4"
"                246.150     0.000       1.7"
"                246.200     0.000       2.0"
"                246.250     0.000       2.4"
"                246.300     0.000       2.8"
"                246.350     0.000       3.2"
"                246.400     0.000       3.7"
"                246.450     0.000       4.1"
"                246.500     0.000       4.4"
"                246.550     0.000       4.8"
"                246.600     0.000       5.2"
"                246.650     0.000       5.6"
"                246.700     0.000       6.1"
"                246.750     0.000       6.5"
"                246.800     0.000       6.6"
"                246.850     0.000       6.6"
"                246.900     0.000       6.7"
"                246.950     0.000       6.7"
"                247.000     0.000       6.8"
"                247.050     0.000       6.8"
"                247.100     0.000       6.9"
"                247.150     0.000       6.9"
"                247.200     0.000       7.0"
"                247.250     0.000       7.1"
"                247.300     0.000       7.1"
"                247.350     0.000       7.2"
"                247.400     0.000       7.2"
"                247.450     0.000       7.3"
"                247.500     0.000       7.3"
"                247.550     0.000       7.4"
"                247.600     0.000       7.5"
"                247.650     0.000       7.5"
"                247.700     0.000       7.6"
"                247.750     0.000       7.6"
"                247.800     0.000       7.7"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                246.150    10.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                Access"
"                diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.014    c.m/sec"
"             Exfiltration volume          42.176    c.m"
"             Maximum level               246.509    metre"
"             Maximum storage               4.502    c.m"
"             Centroidal lag                1.881   hours"
"             Infiltration area 2 sides    21.470   sq.metre"
"             Infiltration Base area       10.000   sq.metre"
"                  0.016     0.016     0.000     0.014 c.m/sec"
" 40          HYDROGRAPH   Combine    1005"
"              6   Combine "
"           1005   Node #"
"                  overflow from lot 5"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                  0.016     0.016     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"              2   Start - New Tributary"
"                     0.016     0.000     0.000     0.000"
" 33          CATCHMENT 6"
"              1   Triangular SCS"
"              3   Specify values"
"              1   SCS method"
"              6   Lot 6 - Tributary to Exfiltration Trench 6A"
"         21.000   % Impervious"
"          0.120   Total Area"
"         37.000   Flow length"
"          2.000   Overland Slope"
"          0.095   Pervious Area"
"         37.000   Pervious length"
"          2.000   Pervious slope"
"          0.025   Impervious Area"
"         26.000   Impervious length"
"          2.000   Impervious slope"
"          0.250   Pervious Manning 'n'"
"         60.000   Pervious SCS Curve No."
"          0.305   Pervious Runoff coefficient"
"          0.030   Pervious Ia/S coefficient"
"          5.080   Pervious Initial abstraction"
"          0.015   Impervious Manning 'n'"
"         98.000   Impervious SCS Curve No."
"          0.905   Impervious Runoff coefficient"
"          0.386   Impervious Ia/S coefficient"
"          2.001   Impervious Initial abstraction"
"                  0.017     0.000     0.000     0.000 c.m/sec"
"              Catchment 6             Pervious   Impervious Total Area "
"              Surface Area            0.095      0.025      0.120      hectare"
"              Time of concentration   16.429     1.416      9.810      minutes"
"              Time to Centroid        111.856    84.533     99.810     minutes"
"              Rainfall depth          86.611     86.611     86.611     mm"
"              Rainfall volume         82.11      21.83      103.93     c.m"
"              Rainfall losses         60.183     8.218      49.270     mm"
"              Runoff depth            26.428     78.393     37.341     mm"
"              Runoff volume           25.05      19.76      44.81      c.m"
"              Runoff coefficient      0.305      0.905      0.431      "
"              Maximum flow            0.011      0.014      0.017      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"              4   Add Runoff "
"                     0.017     0.017     0.000     0.000"
" 57          TRENCH Design d/s of 6"
"          0.017   Peak inflow"
"         44.809   Hydrograph volume"
"        247.700   Ground elevation"
"        245.650   Downstream trench invert"
"          1.000   Trench height"
"        244.200   Water table elevation"
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"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.650     0.000       0.0"
"                245.700     0.000       0.2"
"                245.750     0.000       0.3"
"                245.800     0.000       0.5"
"                245.850     0.000       0.7"
"                245.900     0.000       0.9"
"                245.950     0.000       1.2"
"                246.000     0.000       1.4"
"                246.050     0.000       1.7"
"                246.100     0.000       2.0"
"                246.150     0.000       2.4"
"                246.200     0.000       2.8"
"                246.250     0.000       3.2"
"                246.300     0.000       3.7"
"                246.350     0.000       4.1"
"                246.400     0.000       4.4"
"                246.450     0.000       4.8"
"                246.500     0.000       5.2"
"                246.550     0.000       5.6"
"                246.600     0.000       6.1"
"                246.650     0.000       6.5"
"                246.700     0.000       6.6"
"                246.750     0.000       6.6"
"                246.800     0.000       6.7"
"                246.850     0.000       6.7"
"                246.900     0.000       6.8"
"                246.950     0.000       6.8"
"                247.000     0.000       6.9"
"                247.050     0.000       6.9"
"                247.100     0.000       7.0"
"                247.150     0.000       7.1"
"                247.200     0.000       7.1"
"                247.250     0.000       7.2"
"                247.300     0.000       7.2"
"                247.350     0.000       7.3"
"                247.400     0.000       7.3"
"                247.450     0.000       7.4"
"                247.500     0.000       7.5"
"                247.550     0.000       7.5"
"                247.600     0.000       7.6"
"                247.650     0.000       7.6"
"                247.700     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"                246.050    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.001    c.m"
"            Peak exfiltration            0.015    c.m/sec"
"            Exfiltration volume         44.860    c.m"
"            Maximum level              246.444    metre"
"            Maximum storage              4.767    c.m"
"            Centroidal lag               1.907   hours"
"            Infiltration area 2 sides   22.450   sq.metre"
"            Infiltration Base area      10.000   sq.metre"
"                 0.017     0.017     0.000     0.015 c.m/sec"
" 40          HYDROGRAPH   Combine    1006"
"            6   Combine "
"         1006   Node #"
"                overflow from lot 6"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.017     0.017     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.017     0.000     0.000     0.000"
" 33          CATCHMENT 66"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           66   Lot 6 - Tributary to Exfiltration Trench 6B"
"       21.000   % Impervious"
"        0.120   Total Area"
"       37.000   Flow length"
"        2.000   Overland Slope"
"        0.095   Pervious Area"
"       37.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       26.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.305   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.905   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.017     0.000     0.000     0.000 c.m/sec"
"             Catchment 66           Pervious   Impervious Total Area "
"             Surface Area           0.095      0.025      0.120      hectare"
"             Time of concentration  16.429     1.416      9.810      minutes"
"             Time to Centroid       111.856    84.533     99.810     minutes"
"             Rainfall depth         86.611     86.611     86.611     mm"
"             Rainfall volume        82.11      21.83      103.93     c.m"
"             Rainfall losses        60.183     8.218      49.270     mm"
"             Runoff depth           26.428     78.393     37.341     mm"
"             Runoff volume          25.05      19.76      44.81      c.m"
"             Runoff coefficient     0.305      0.905      0.431      "
"             Maximum flow           0.011      0.014      0.017      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.017     0.017     0.000     0.000"
" 57          TRENCH Design d/s of 66"
"        0.017   Peak inflow"
"       44.809   Hydrograph volume"
"      247.800   Ground elevation"
"      245.750   Downstream trench invert"
"        1.000   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.750     0.000       0.0"
"                245.800     0.000       0.2"
"                245.850     0.000       0.3"
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"               245.900     0.000       0.5"
"               245.950     0.000       0.7"
"               246.000     0.000       0.9"
"               246.050     0.000       1.2"
"               246.100     0.000       1.4"
"               246.150     0.000       1.7"
"               246.200     0.000       2.0"
"               246.250     0.000       2.4"
"               246.300     0.000       2.8"
"               246.350     0.000       3.2"
"               246.400     0.000       3.7"
"               246.450     0.000       4.1"
"               246.500     0.000       4.4"
"               246.550     0.000       4.8"
"               246.600     0.000       5.2"
"               246.650     0.000       5.6"
"               246.700     0.000       6.1"
"               246.750     0.000       6.5"
"               246.800     0.000       6.6"
"               246.850     0.000       6.6"
"               246.900     0.000       6.7"
"               246.950     0.000       6.7"
"               247.000     0.000       6.8"
"               247.050     0.000       6.8"
"               247.100     0.000       6.9"
"               247.150     0.000       6.9"
"               247.200     0.000       7.0"
"               247.250     0.000       7.1"
"               247.300     0.000       7.1"
"               247.350     0.000       7.2"
"               247.400     0.000       7.2"
"               247.450     0.000       7.3"
"               247.500     0.000       7.3"
"               247.550     0.000       7.4"
"               247.600     0.000       7.5"
"               247.650     0.000       7.5"
"               247.700     0.000       7.6"
"               247.750     0.000       7.6"
"               247.800     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.150    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.001    c.m"
"            Peak exfiltration            0.014    c.m/sec"
"            Exfiltration volume         44.851    c.m"
"            Maximum level              246.553    metre"
"            Maximum storage              4.840    c.m"
"            Centroidal lag               1.907   hours"
"            Infiltration area 2 sides   22.716   sq.metre"
"            Infiltration Base area      10.000   sq.metre"
"                 0.017     0.017     0.000     0.014 c.m/sec"
" 40         HYDROGRAPH   Combine    1006"
"           6   Combine "
"        1006   Node #"
"               overflow from lot 6"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.001    c.m"
"                    0.017     0.017     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                    0.017     0.000     0.000     0.000"
" 33         CATCHMENT 7"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"           7   Lot 7 - Tributary to Exfiltration Trench 7A"
"      10.000   % Impervious"
"       0.140   Total Area"
"      50.000   Flow length"
"       2.000   Overland Slope"
"       0.126   Pervious Area"
"      50.000   Pervious length"
"       2.000   Pervious slope"
"       0.014   Impervious Area"
"      24.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.305   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.904   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                    0.014     0.000     0.000     0.000 c.m/sec"
"            Catchment 7            Pervious   Impervious Total Area "
"            Surface Area           0.126      0.014      0.140      hectare"
"            Time of concentration  19.682     1.349      15.145     minutes"
"            Time to Centroid       115.778    84.476     108.031    minutes"
"            Rainfall depth         86.611     86.611     86.611     mm"
"            Rainfall volume        109.13     12.13      121.26     c.m"
"            Rainfall losses        60.164     8.340      54.982     mm"
"            Runoff depth           26.447     78.271     31.629     mm"
"            Runoff volume          33.32      10.96      44.28      c.m"
"            Runoff coefficient     0.305      0.904      0.365      "
"            Maximum flow           0.012      0.008      0.014      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                    0.014     0.014     0.000     0.000"
" 57         TRENCH Design d/s of 7"
"       0.014   Peak inflow"
"      44.281   Hydrograph volume"
"     247.750   Ground elevation"
"     245.700   Downstream trench invert"
"       1.000   Trench height"
"     244.140   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"       8.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"               Level Discharge    Volume"
"               245.700     0.000       0.0"
"               245.750     0.000       0.1"
"               245.800     0.000       0.3"
"               245.850     0.000       0.4"
"               245.900     0.000       0.6"
"               245.950     0.000       0.8"
"               246.000     0.000       0.9"
"               246.050     0.000       1.1"
"               246.100     0.000       1.3"
"               246.150     0.000       1.6"
"               246.200     0.000       1.9"
"               246.250     0.000       2.2"
"               246.300     0.000       2.6"
"               246.350     0.000       2.9"
"               246.400     0.000       3.3"
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"               246.450     0.000       3.5"
"               246.500     0.000       3.9"
"               246.550     0.000       4.2"
"               246.600     0.000       4.5"
"               246.650     0.000       4.8"
"               246.700     0.000       5.2"
"               246.750     0.000       5.3"
"               246.800     0.000       5.3"
"               246.850     0.000       5.4"
"               246.900     0.000       5.4"
"               246.950     0.000       5.5"
"               247.000     0.000       5.5"
"               247.050     0.000       5.6"
"               247.100     0.000       5.6"
"               247.150     0.000       5.7"
"               247.200     0.000       5.8"
"               247.250     0.000       5.8"
"               247.300     0.000       5.9"
"               247.350     0.000       5.9"
"               247.400     0.000       6.0"
"               247.450     0.000       6.0"
"               247.500     0.000       6.1"
"               247.550     0.000       6.2"
"               247.600     0.000       6.2"
"               247.650     0.000       6.3"
"               247.700     0.000       6.3"
"               247.750     0.000       6.4"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.100     8.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.001    c.m"
"            Peak exfiltration            0.013    c.m/sec"
"            Exfiltration volume         44.239    c.m"
"            Maximum level              246.590    metre"
"            Maximum storage              4.435    c.m"
"            Centroidal lag               2.100   hours"
"            Infiltration area 2 sides   20.143   sq.metre"
"            Infiltration Base area      8.000   sq.metre"
"                0.014     0.014     0.000     0.013 c.m/sec"
" 40         HYDROGRAPH   Combine    1007"
"           6   Combine "
"        1007   Node #"
"               overflow from lot 7"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.001    c.m"
"                  0.014     0.014     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.014     0.000     0.000     0.000"
" 33         CATCHMENT 77"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          77   Lot 7 - Tributary to Exfiltration Trench 7B"
"      16.500   % Impervious"
"       0.240   Total Area"
"      54.000   Flow length"
"       2.000   Overland Slope"
"       0.200   Pervious Area"
"      54.000   Pervious length"
"       2.000   Pervious slope"
"       0.040   Impervious Area"
"      24.000   Impervious length"
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"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.306   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.904   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                 0.026     0.000     0.000     0.000 c.m/sec"
"            Catchment 77           Pervious   Impervious Total Area "
"            Surface Area           0.200      0.040      0.240      hectare"
"            Time of concentration  20.612     1.349      13.509     minutes"
"            Time to Centroid       116.896    84.476     104.941    minutes"
"            Rainfall depth         86.611     86.611     86.611     mm"
"            Rainfall volume        173.57     34.30      207.87     c.m"
"            Rainfall losses        60.134     8.340      51.588     mm"
"            Runoff depth           26.477     78.271     35.023     mm"
"            Runoff volume          53.06      31.00      84.06      c.m"
"            Runoff coefficient     0.306      0.904      0.404      "
"            Maximum flow           0.019      0.023      0.026      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                 0.026     0.026     0.000     0.000"
" 57         TRENCH Design d/s of 77"
"       0.026   Peak inflow"
"      84.056   Hydrograph volume"
"     247.700   Ground elevation"
"     245.650   Downstream trench invert"
"       1.000   Trench height"
"     244.000   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"      16.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               245.650     0.000       0.0"
"               245.700     0.000       0.3"
"               245.750     0.000       0.5"
"               245.800     0.000       0.8"
"               245.850     0.000       1.2"
"               245.900     0.000       1.5"
"               245.950     0.000       1.9"
"               246.000     0.000       2.3"
"               246.050     0.000       2.7"
"               246.100     0.000       3.2"
"               246.150     0.000       3.8"
"               246.200     0.000       4.5"
"               246.250     0.000       5.2"
"               246.300     0.000       5.9"
"               246.350     0.000       6.5"
"               246.400     0.000       7.1"
"               246.450     0.000       7.7"
"               246.500     0.000       8.3"
"               246.550     0.000       9.0"
"               246.600     0.000       9.7"
"               246.650     0.000      10.4"
"               246.700     0.000      10.4"
"               246.750     0.000      10.5"
"               246.800     0.000      10.6"
"               246.850     0.000      10.6"
"               246.900     0.000      10.7"
"               246.950     0.000      10.7"
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"               247.000     0.000      10.8"
"               247.050     0.000      10.8"
"               247.100     0.000      10.9"
"               247.150     0.000      11.0"
"               247.200     0.000      11.0"
"               247.250     0.000      11.1"
"               247.300     0.000      11.1"
"               247.350     0.000      11.2"
"               247.400     0.000      11.2"
"               247.450     0.000      11.3"
"               247.500     0.000      11.4"
"               247.550     0.000      11.4"
"               247.600     0.000      11.5"
"               247.650     0.000      11.5"
"               247.700     0.000      11.6"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.050    16.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.001    c.m"
"            Peak exfiltration            0.023    c.m/sec"
"            Exfiltration volume         84.122    c.m"
"            Maximum level              246.472    metre"
"            Maximum storage              7.981    c.m"
"            Centroidal lag               2.027   hours"
"            Infiltration area 2 sides   37.188   sq.metre"
"            Infiltration Base area      16.000   sq.metre"
"                 0.026     0.026     0.000     0.023 c.m/sec"
" 40         HYDROGRAPH   Combine    1007"
"           6   Combine "
"        1007   Node #"
"               overflow from lot 7"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.001    c.m"
"                  0.026     0.026     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.026     0.000     0.000     0.000"
" 33         CATCHMENT 8"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"           8   Lot 8 - Tributary to Exfiltration Trench 8A"
"       42.000  % Impervious"
"        0.060  Total Area"
"       36.000  Flow length"
"        2.000  Overland Slope"
"        0.035  Pervious Area"
"       36.000  Pervious length"
"        2.000  Pervious slope"
"        0.025  Impervious Area"
"       24.000  Impervious length"
"        2.000  Impervious slope"
"        0.250  Pervious Manning 'n'"
"       60.000  Pervious SCS Curve No."
"        0.305  Pervious Runoff coefficient"
"        0.030  Pervious Ia/S coefficient"
"        5.080  Pervious Initial abstraction"
"        0.015  Impervious Manning 'n'"
"       98.000  Impervious SCS Curve No."
"        0.904  Impervious Runoff coefficient"
"        0.386  Impervious Ia/S coefficient"
"        2.001  Impervious Initial abstraction"
"                  0.015     0.000     0.000     0.000 c.m/sec"
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"            Catchment 8            Pervious   Impervious Total Area "
"            Surface Area           0.035      0.025      0.060      hectare"
"            Time of concentration  16.161     1.349      6.055      minutes"
"            Time to Centroid       111.528    84.476     93.070     minutes"
"            Rainfall depth         86.611     86.611     86.611     mm"
"            Rainfall volume        30.14      21.83      51.97      c.m"
"            Rainfall losses        60.221     8.340      38.431     mm"
"            Runoff depth           26.390     78.271     48.180     mm"
"            Runoff volume          9.18       19.72      28.91      c.m"
"            Runoff coefficient     0.305      0.904      0.556      "
"            Maximum flow           0.004      0.014      0.015      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.015     0.015     0.000     0.000"
" 57         TRENCH Design d/s of 8"
"        0.015   Peak inflow"
"       28.908   Hydrograph volume"
"      247.700   Ground elevation"
"      245.650   Downstream trench invert"
"        1.000   Trench height"
"      244.000   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"               245.650     0.000       0.0"
"               245.700     0.000       0.1"
"               245.750     0.000       0.3"
"               245.800     0.000       0.4"
"               245.850     0.000       0.6"
"               245.900     0.000       0.8"
"               245.950     0.000       0.9"
"               246.000     0.000       1.1"
"               246.050     0.000       1.3"
"               246.100     0.000       1.6"
"               246.150     0.000       1.9"
"               246.200     0.000       2.2"
"               246.250     0.000       2.6"
"               246.300     0.000       2.9"
"               246.350     0.000       3.3"
"               246.400     0.000       3.5"
"               246.450     0.000       3.9"
"               246.500     0.000       4.2"
"               246.550     0.000       4.5"
"               246.600     0.000       4.8"
"               246.650     0.000       5.2"
"               246.700     0.000       5.3"
"               246.750     0.000       5.3"
"               246.800     0.000       5.4"
"               246.850     0.000       5.4"
"               246.900     0.000       5.5"
"               246.950     0.000       5.5"
"               247.000     0.000       5.6"
"               247.050     0.000       5.6"
"               247.100     0.000       5.7"
"               247.150     0.000       5.8"
"               247.200     0.000       5.8"
"               247.250     0.000       5.9"
"               247.300     0.000       5.9"
"               247.350     0.000       6.0"
"               247.400     0.000       6.0"
"               247.450     0.000       6.1"
"               247.500     0.000       6.2"
"               247.550     0.000       6.2"
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"               247.600     0.000       6.3"
"               247.650     0.000       6.3"
"               247.700     0.000       6.4"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.050     8.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.001    c.m"
"            Peak exfiltration             0.011    c.m/sec"
"            Exfiltration volume          28.934    c.m"
"            Maximum level               246.427    metre"
"            Maximum storage               3.708    c.m"
"            Centroidal lag                1.754   hours"
"            Infiltration area 2 sides    17.571   sq.metre"
"            Infiltration Base area        8.000   sq.metre"
"                 0.015     0.015     0.000     0.011 c.m/sec"
" 40         HYDROGRAPH   Combine    1008"
"           6   Combine "
"        1008   Node #"
"               overflow from lot 8"
"            Maximum flow                  0.000    c.m/sec"
"            Hydrograph volume             0.001    c.m"
"                 0.015     0.015     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.015     0.000     0.000     0.000"
" 33         CATCHMENT 88"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          88   Lot 8 - Tributary to Exfiltration Trench 8B"
"       15.000   % Impervious"
"        0.170   Total Area"
"       55.000   Flow length"
"        2.000   Overland Slope"
"        0.145   Pervious Area"
"       55.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       24.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.306   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.904   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.017     0.000     0.000     0.000 c.m/sec"
"            Catchment 88           Pervious   Impervious Total Area "
"            Surface Area           0.145      0.025      0.170      hectare"
"            Time of concentration  20.840     1.349      14.159     minutes"
"            Time to Centroid       117.174    84.476     105.965    minutes"
"            Rainfall depth         86.611     86.611     86.611     mm"
"            Rainfall volume        125.15     22.09      147.24     c.m"
"            Rainfall losses        60.130     8.340      52.361     mm"
"            Runoff depth           26.481     78.271     34.250     mm"
"            Runoff volume          38.27      19.96      58.22      c.m"
"            Runoff coefficient     0.306      0.904      0.395      "
"            Maximum flow           0.013      0.015      0.017      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                 0.017     0.017     0.000     0.000"
" 57          TRENCH Design d/s of 88"
"         0.017   Peak inflow"
"        58.225   Hydrograph volume"
"       247.050   Ground elevation"
"       245.000   Downstream trench invert"
"         1.000   Trench height"
"       243.700   Water table elevation"
"         3.000   Trench top width"
"         1.000   Trench bottom width"
"        30.000   Voids ratio (%)"
"      1267.200   Hydraulic conductivity"
"         0.000   Trench gradient (%)"
"        10.000   Trench length"
"         1.000   Include base width"
"           42.   Number of stages"
"                   Level Discharge    Volume"
"                 245.000     0.000       0.0"
"                 245.050     0.000       0.2"
"                 245.100     0.000       0.3"
"                 245.150     0.000       0.5"
"                 245.200     0.000       0.7"
"                 245.250     0.000       0.9"
"                 245.300     0.000       1.2"
"                 245.350     0.000       1.4"
"                 245.400     0.000       1.7"
"                 245.450     0.000       2.0"
"                 245.500     0.000       2.4"
"                 245.550     0.000       2.8"
"                 245.600     0.000       3.2"
"                 245.650     0.000       3.7"
"                 245.700     0.000       4.1"
"                 245.750     0.000       4.4"
"                 245.800     0.000       4.8"
"                 245.850     0.000       5.2"
"                 245.900     0.000       5.6"
"                 245.950     0.000       6.1"
"                 246.000     0.000       6.5"
"                 246.050     0.000       6.6"
"                 246.100     0.000       6.6"
"                 246.150     0.000       6.7"
"                 246.200     0.000       6.7"
"                 246.250     0.000       6.8"
"                 246.300     0.000       6.8"
"                 246.350     0.000       6.9"
"                 246.400     0.000       6.9"
"                 246.450     0.000       7.0"
"                 246.500     0.000       7.1"
"                 246.550     0.000       7.1"
"                 246.600     0.000       7.2"
"                 246.650     0.000       7.2"
"                 246.700     0.000       7.3"
"                 246.750     0.000       7.3"
"                 246.800     0.000       7.4"
"                 246.850     0.000       7.5"
"                 246.900     0.000       7.5"
"                 246.950     0.000       7.6"
"                 247.000     0.000       7.6"
"                 247.050     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               245.400    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
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"             Outflow volume               0.001    c.m"
"             Peak exfiltration            0.016    c.m/sec"
"             Exfiltration volume         58.282    c.m"
"             Maximum level              245.867    metre"
"             Maximum storage              5.356    c.m"
"             Centroidal lag               2.069   hours"
"             Infiltration area 2 sides   24.536   sq.metre"
"             Infiltration Base area      10.000   sq.metre"
"                  0.017     0.017     0.000     0.016 c.m/sec"
" 40          HYDROGRAPH   Combine    1008"
"           6   Combine "
"        1008   Node #"
"               overflow from lot 8"
"             Maximum flow                 0.000    c.m/sec"
"             Hydrograph volume            0.001    c.m"
"                    0.017     0.017     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.017     0.000     0.000     0.000"
" 33          CATCHMENT 9"
"           1   Triangular SCS"
"           1   Equal length"
"           1   SCS method"
"           9   Lot 9 - Tributary to Exfiltration Trench 9A"
"      63.000   % Impervious"
"       0.040   Total Area"
"      24.000   Flow length"
"       2.000   Overland Slope"
"       0.015   Pervious Area"
"      24.000   Pervious length"
"       2.000   Pervious slope"
"       0.025   Impervious Area"
"      24.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.305   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.904   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                  0.015     0.000     0.000     0.000 c.m/sec"
"             Catchment 9            Pervious   Impervious Total Area "
"             Surface Area           0.015      0.025      0.040      hectare"
"             Time of concentration  12.671     1.349      3.220      minutes"
"             Time to Centroid       107.217    84.476     88.233     minutes"
"             Rainfall depth         86.611     86.611     86.611     mm"
"             Rainfall volume        12.82      21.83      34.64      c.m"
"             Rainfall losses        60.233     8.340      27.540     mm"
"             Runoff depth           26.378     78.271     59.071     mm"
"             Runoff volume          3.90       19.72      23.63      c.m"
"             Runoff coefficient     0.305      0.904      0.682      "
"             Maximum flow           0.002      0.014      0.015      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.015     0.015     0.000     0.000"
" 57          TRENCH Design d/s of 9"
"       0.015   Peak inflow"
"      23.628   Hydrograph volume"
"     247.050   Ground elevation"
"     245.000   Downstream trench invert"
"       1.000   Trench height"
"     243.700   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"       8.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               245.000     0.000       0.0"
"               245.050     0.000       0.1"
"               245.100     0.000       0.3"
"               245.150     0.000       0.4"
"               245.200     0.000       0.6"
"               245.250     0.000       0.8"
"               245.300     0.000       0.9"
"               245.350     0.000       1.1"
"               245.400     0.000       1.3"
"               245.450     0.000       1.6"
"               245.500     0.000       1.9"
"               245.550     0.000       2.2"
"               245.600     0.000       2.6"
"               245.650     0.000       2.9"
"               245.700     0.000       3.3"
"               245.750     0.000       3.5"
"               245.800     0.000       3.9"
"               245.850     0.000       4.2"
"               245.900     0.000       4.5"
"               245.950     0.000       4.8"
"               246.000     0.000       5.2"
"               246.050     0.000       5.3"
"               246.100     0.000       5.3"
"               246.150     0.000       5.4"
"               246.200     0.000       5.4"
"               246.250     0.000       5.5"
"               246.300     0.000       5.5"
"               246.350     0.000       5.6"
"               246.400     0.000       5.6"
"               246.450     0.000       5.7"
"               246.500     0.000       5.8"
"               246.550     0.000       5.8"
"               246.600     0.000       5.9"
"               246.650     0.000       5.9"
"               246.700     0.000       6.0"
"               246.750     0.000       6.0"
"               246.800     0.000       6.1"
"               246.850     0.000       6.2"
"               246.900     0.000       6.2"
"               246.950     0.000       6.3"
"               247.000     0.000       6.3"
"               247.050     0.000       6.4"
"           1.  TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"               245.400     8.000     0.300     0.000     0.000     0.000"
"           1.  MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"             Peak outflow                 0.000    c.m/sec"
"             Outflow volume               0.000    c.m"
"             Peak exfiltration            0.011    c.m/sec"
"             Exfiltration volume         23.592    c.m"
"             Maximum level              245.718    metre"
"             Maximum storage              3.356    c.m"
"             Centroidal lag               1.634   hours"
"             Infiltration area 2 sides   16.239   sq.metre"
"             Infiltration Base area       8.000   sq.metre"
"                  0.015     0.015     0.000     0.011 c.m/sec"
" 40          HYDROGRAPH   Combine    1009"
"           6   Combine "
"        1009   Node #"
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```
"                overflow from lot 9"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.000    c.m"
"                    0.015     0.015     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.015     0.000     0.000     0.000"
" 33          CATCHMENT 99"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           99   Lot 9 - Tributary to Exfiltration Trench 9B (portion of Lot 8 included)"
"       10.000   % Impervious"
"        0.300   Total Area"
"       70.000   Flow length"
"        2.000   Overland Slope"
"        0.270   Pervious Area"
"       70.000   Pervious length"
"        2.000   Pervious slope"
"        0.030   Impervious Area"
"       38.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.306   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.909   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.027     0.000     0.000     0.000 c.m/sec"
"             Catchment 99           Pervious   Impervious Total Area "
"             Surface Area           0.270      0.030      0.300      hectare"
"             Time of concentration  24.085     1.777      18.547     minutes"
"             Time to Centroid       121.169    85.062     112.205    minutes"
"             Rainfall depth         86.611     86.611     86.611     mm"
"             Rainfall volume        233.85     25.98      259.83     c.m"
"             Rainfall losses        60.121     7.882      54.897     mm"
"             Runoff depth           26.490     78.729     31.714     mm"
"             Runoff volume          71.52      23.62      95.14      c.m"
"             Runoff coefficient     0.306      0.909      0.366      "
"             Maximum flow           0.023      0.016      0.027      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.027     0.027     0.000     0.000"
" 57          TRENCH Design d/s of 99"
"        0.027   Peak inflow"
"       95.141   Hydrograph volume"
"      246.300   Ground elevation"
"      244.250   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       16.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.250     0.000      0.0"
"                244.300     0.000      0.3"
"                244.350     0.000      0.5"
"                244.400     0.000      0.8"
"                244.450     0.000      1.2"
"                244.500     0.000      1.5"
"                244.550     0.000      1.9"
"                244.600     0.000      2.3"
"                244.650     0.000      2.7"
"                244.700     0.000      3.2"
"                244.750     0.000      3.8"
"                244.800     0.000      4.5"
"                244.850     0.000      5.2"
"                244.900     0.000      5.9"
"                244.950     0.000      6.5"
"                245.000     0.000      7.1"
"                245.050     0.000      7.7"
"                245.100     0.000      8.3"
"                245.150     0.000      9.0"
"                245.200     0.000      9.7"
"                245.250     0.000     10.4"
"                245.300     0.000     10.4"
"                245.350     0.000     10.5"
"                245.400     0.000     10.6"
"                245.450     0.000     10.6"
"                245.500     0.000     10.7"
"                245.550     0.000     10.7"
"                245.600     0.000     10.8"
"                245.650     0.000     10.8"
"                245.700     0.000     10.9"
"                245.750     0.000     11.0"
"                245.800     0.000     11.0"
"                245.850     0.000     11.1"
"                245.900     0.000     11.1"
"                245.950     0.000     11.2"
"                246.000     0.000     11.2"
"                246.050     0.000     11.3"
"                246.100     0.000     11.4"
"                246.150     0.000     11.4"
"                246.200     0.000     11.5"
"                246.250     0.000     11.5"
"                246.300     0.000     11.6"
"            1.   TRENCH PIPES"
"              Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                  Invert    length     diam.    grade%     0=Yes  distance"
"                 244.650    16.000     0.300     0.000     0.000     0.000"
"            1.   MANHOLE"
"                  Access"
"                diameter"
"                   1.200"
"              Peak outflow                  0.000    c.m/sec"
"              Outflow volume                0.001    c.m"
"              Peak exfiltration             0.025    c.m/sec"
"              Exfiltration volume          95.029    c.m"
"              Maximum level               245.014    metre"
"              Maximum storage               7.262    c.m"
"              Centroidal lag                2.183   hours"
"              Infiltration area 2 sides    34.570   sq.metre"
"              Infiltration Base area       16.000   sq.metre"
"                    0.027     0.027     0.000     0.025 c.m/sec"
" 40          HYDROGRAPH    Combine    1009"
"            6   Combine "
"         1009   Node #"
"                overflow from lot 9"
"              Maximum flow                  0.000    c.m/sec"
"              Hydrograph volume             0.001    c.m"
"                    0.027     0.027     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.027     0.000     0.000     0.000"
" 33          CATCHMENT 10"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           10   Lot 10 - Tributary to Exfiltration Trench 10A"
```

```
"       14.000   % Impervious"
"        0.190   Total Area"
"      120.000   Flow length"
"        2.000   Overland Slope"
"        0.163   Pervious Area"
"      120.000   Pervious length"
"        2.000   Pervious slope"
"        0.027   Impervious Area"
"       24.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.306   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.904   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.016     0.000     0.000     0.000 c.m/sec"
"            Catchment 10           Pervious   Impervious Total Area "
"            Surface Area           0.163      0.027      0.190      hectare"
"            Time of concentration  33.281     1.349      22.910     minutes"
"            Time to Centroid       132.420    84.476     116.849    minutes"
"            Rainfall depth         86.611     86.611     86.611     mm"
"            Rainfall volume        141.52     23.04      164.56     c.m"
"            Rainfall losses        60.120     8.340      52.871     mm"
"            Runoff depth           26.491     78.271     33.740     mm"
"            Runoff volume          43.29      20.82      64.11      c.m"
"            Runoff coefficient     0.306      0.904      0.390      "
"            Maximum flow           0.011      0.015      0.016      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"          4   Add Runoff "
"                    0.016     0.016     0.000     0.000"
" 57         TRENCH Design d/s of 10"
"        0.016   Peak inflow"
"       64.107   Hydrograph volume"
"      246.250   Ground elevation"
"      244.200   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.200     0.000      0.0"
"                244.250     0.000      0.1"
"                244.300     0.000      0.3"
"                244.350     0.000      0.4"
"                244.400     0.000      0.6"
"                244.450     0.000      0.8"
"                244.500     0.000      0.9"
"                244.550     0.000      1.1"
"                244.600     0.000      1.3"
"                244.650     0.000      1.6"
"                244.700     0.000      1.9"
"                244.750     0.000      2.2"
"                244.800     0.000      2.6"
"                244.850     0.000      2.9"
"                244.900     0.000      3.3"
"                244.950     0.000      3.5"
"                245.000     0.000      3.9"
"                245.050     0.000      4.2"
"                245.100     0.000      4.5"
"                245.150     0.000      4.8"
"                245.200     0.000      5.2"
"                245.250     0.000      5.3"
"                245.300     0.000      5.3"
"                245.350     0.000      5.4"
"                245.400     0.000      5.4"
"                245.450     0.000      5.5"
"                245.500     0.000      5.5"
"                245.550     0.000      5.6"
"                245.600     0.000      5.6"
"                245.650     0.000      5.7"
"                245.700     0.000      5.8"
"                245.750     0.000      5.8"
"                245.800     0.000      5.9"
"                245.850     0.000      5.9"
"                245.900     0.000      6.0"
"                245.950     0.000      6.0"
"                246.000     0.000      6.1"
"                246.050     0.000      6.2"
"                246.100     0.000      6.2"
"                246.150     0.000      6.3"
"                246.200     0.000      6.3"
"                246.250     0.000      6.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                244.600     8.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.013    c.m/sec"
"             Exfiltration volume          64.087    c.m"
"             Maximum level               244.989    metre"
"             Maximum storage               3.786    c.m"
"             Centroidal lag                2.345   hours"
"             Infiltration area 2 sides   17.857   sq.metre"
"             Infiltration Base area      8.000   sq.metre"
"                  0.016     0.016     0.000     0.013 c.m/sec"
" 40         HYDROGRAPH   Combine    1010"
"          6   Combine "
"       1010   Node #"
"              overflow from lot 10"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.016     0.016     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"          2   Start - New Tributary"
"                  0.016     0.000     0.000     0.000"
" 33         CATCHMENT 100"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"          100   Lot 10 - Tributary to Exfiltration Trench 10B"
"       14.000   % Impervious"
"        0.180   Total Area"
"      110.000   Flow length"
"        2.000   Overland Slope"
"        0.155   Pervious Area"
"      110.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       24.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
```

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"        0.306   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.904   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.015     0.000     0.000     0.000 c.m/sec"
"             Catchment 100          Pervious   Impervious Total Area "
"             Surface Area           0.155      0.025      0.180      hectare"
"             Time of concentration  31.588     1.349      21.762     minutes"
"             Time to Centroid       130.348    84.476     115.442    minutes"
"             Rainfall depth         86.611     86.611     86.611     mm"
"             Rainfall volume        134.07     21.83      155.90     c.m"
"             Rainfall losses        60.141     8.340      52.889     mm"
"             Runoff depth           26.470     78.271     33.723     mm"
"             Runoff volume          40.98      19.72      60.70      c.m"
"             Runoff coefficient     0.306      0.904      0.389      "
"             Maximum flow           0.011      0.014      0.015      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.015     0.015     0.000     0.000"
" 57          TRENCH Design d/s of 100"
"        0.015   Peak inflow"
"       60.701   Hydrograph volume"
"      246.450   Ground elevation"
"      244.400   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.400     0.000      0.0"
"                244.450     0.000      0.1"
"                244.500     0.000      0.3"
"                244.550     0.000      0.4"
"                244.600     0.000      0.6"
"                244.650     0.000      0.8"
"                244.700     0.000      0.9"
"                244.750     0.000      1.1"
"                244.800     0.000      1.3"
"                244.850     0.000      1.6"
"                244.900     0.000      1.9"
"                244.950     0.000      2.2"
"                245.000     0.000      2.6"
"                245.050     0.000      2.9"
"                245.100     0.000      3.3"
"                245.150     0.000      3.5"
"                245.200     0.000      3.9"
"                245.250     0.000      4.2"
"                245.300     0.000      4.5"
"                245.350     0.000      4.8"
"                245.400     0.000      5.2"
"                245.450     0.000      5.3"
"                245.500     0.000      5.3"
"                245.550     0.000      5.4"
"                245.600     0.000      5.4"
"                245.650     0.000      5.5"
"                245.700     0.000      5.5"
"                245.750     0.000      5.6"
"                245.800     0.000      5.6"
"                245.850     0.000      5.7"
"                245.900     0.000      5.8"
"                245.950     0.000      5.8"
"                246.000     0.000      5.9"
"                246.050     0.000      5.9"
"                246.100     0.000      6.0"
"                246.150     0.000      6.0"
"                246.200     0.000      6.1"
"                246.250     0.000      6.2"
"                246.300     0.000      6.2"
"                246.350     0.000      6.3"
"                246.400     0.000      6.3"
"                246.450     0.000      6.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                244.800     8.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.013    c.m/sec"
"             Exfiltration volume          60.664    c.m"
"             Maximum level               245.220    metre"
"             Maximum storage               3.980    c.m"
"             Centroidal lag                2.305   hours"
"             Infiltration area 2 sides    18.558   sq.metre"
"             Infiltration Base area        8.000   sq.metre"
"                  0.015     0.015     0.000     0.013 c.m/sec"
" 40          HYDROGRAPH   Combine    1010"
"           6   Combine "
"        1010   Node #"
"               overflow from lot 10"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.002    c.m"
"                  0.015     0.015     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.015     0.000     0.000     0.000"
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"                MIDUSS Output ------------------------------------------------>"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                          Eng 1432-1\SWM\MIDUSS\Post for Lots"
"                Output filename:         250 year SCS post - private lots.out"
"                Licensee name:                                          owner"
"                Company                                               HP Inc."
"                Date & Time last used:               2020-05-05 at 8:25:23 AM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"     1440.000   Max. Storm length"
"     3000.000   Max. Hydrograph"
" 32          STORM Mass Curve"
"            3   Mass Curve"
"      119.000   Rainfall depth"
"     1440.000   Duration"
"           48   C:\Program Files (x86)\MIDUSS\SCS_Type2_24hr.mrd   SCS 24 hour Type II storm"
"             Maximum intensity           145.657    mm/hr"
"             Total depth                 119.000    mm"
"            7   0250hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 1"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"            1   Lot 1 - Tributary to Exfiltration Trench 1"
"       10.000   % Impervious"
"        0.250   Total Area"
"       32.000   Flow length"
"        2.000   Overland Slope"
"        0.225   Pervious Area"
"       32.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       40.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.385   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.934   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.039     0.000     0.000     0.000 c.m/sec"
"             Catchment 1            Pervious   Impervious Total Area "
"             Surface Area           0.225      0.025      0.250      hectare"
"             Time of concentration  14.280     2.272      11.727     minutes"
"             Time to Centroid       856.631    753.738    834.756    minutes"
"             Rainfall depth         119.000    119.000    119.000    mm"
"             Rainfall volume        267.75     29.75      297.50     c.m"
"             Rainfall losses        73.239     7.800      66.695     mm"
"             Runoff depth           45.761     111.200    52.305     mm"
"             Runoff volume          102.96     27.80      130.76     c.m"
"             Runoff coefficient     0.385      0.934      0.440      "
"             Maximum flow           0.034      0.010      0.039      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                     0.039     0.039     0.000     0.000"
" 57          TRENCH Design d/s of 1"
"        0.039   Peak inflow"
"      130.762   Hydrograph volume"
"      247.300   Ground elevation"
"      245.250   Downstream trench invert"
"        1.000   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       20.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.250     0.000       0.0"
"                245.300     0.000       0.3"
"                245.350     0.000       0.7"
"                245.400     0.000       1.0"
"                245.450     0.000       1.4"
"                245.500     0.000       1.9"
"                245.550     0.000       2.3"
"                245.600     0.000       2.8"
"                245.650     0.000       3.4"
"                245.700     0.000       4.0"
"                245.750     0.000       4.8"
"                245.800     0.000       5.6"
"                245.850     0.000       6.5"
"                245.900     0.000       7.3"
"                245.950     0.000       8.1"
"                246.000     0.000       8.9"
"                246.050     0.000       9.6"
"                246.100     0.000      10.4"
"                246.150     0.000      11.2"
"                246.200     0.000      12.1"
"                246.250     0.000      13.0"
"                246.300     0.000      13.0"
"                246.350     0.000      13.1"
"                246.400     0.000      13.2"
"                246.450     0.000      13.2"
"                246.500     0.000      13.3"
"                246.550     0.000      13.3"
"                246.600     0.000      13.4"
"                246.650     0.000      13.4"
"                246.700     0.000      13.5"
"                246.750     0.000      13.6"
"                246.800     0.000      13.6"
"                246.850     0.000      13.7"
"                246.900     0.000      13.7"
"                246.950     0.000      13.8"
"                247.000     0.000      13.8"
"                247.050     0.000      13.9"
"                247.100     0.000      14.0"
"                247.150     0.000      14.0"
"                247.200     0.000      14.1"
"                247.250     0.000      14.1"
"                247.300     0.000      14.2"
"           1.   TRENCH PIPES"
"              Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                  Invert    length     diam.    grade%     0=Yes  distance"
"                245.650    20.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"                diameter"
"                   1.200"
"              Peak outflow                  0.000    c.m/sec"
"              Outflow volume                0.001    c.m"
"              Peak exfiltration             0.032    c.m/sec"
"              Exfiltration volume         130.411    c.m"
"              Maximum level               246.135    metre"
"              Maximum storage              10.999    c.m"
"              Centroidal lag               14.599   hours"
"              Infiltration area 2 sides   50.054   sq.metre"
"              Infiltration Base area      20.000   sq.metre"
"                   0.039     0.039     0.000     0.032 c.m/sec"
```

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" 40          HYDROGRAPH   Combine    1001"
"           6   Combine "
"        1001   Node #"
"               overflow from lot 1"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.039     0.039     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.039     0.000     0.000     0.000"
" 33          CATCHMENT 2"
"           1   Triangular SCS"
"           1   Equal length"
"           1   SCS method"
"           2   Lot 2 - Tributary to Exfiltration Trench 2"
"      12.500   % Impervious"
"       0.320   Total Area"
"      25.000   Flow length"
"       2.000   Overland Slope"
"       0.280   Pervious Area"
"      25.000   Pervious length"
"       2.000   Pervious slope"
"       0.040   Impervious Area"
"      25.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.384   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.932   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                  0.053     0.000     0.000     0.000 c.m/sec"
"             Catchment 2            Pervious   Impervious Total Area "
"             Surface Area           0.280      0.040      0.320      hectare"
"             Time of concentration  12.314     1.714      9.586      minutes"
"             Time to Centroid       852.367    752.519    826.667    minutes"
"             Rainfall depth         119.000    119.000    119.000    mm"
"             Rainfall volume        333.20     47.60      380.80     c.m"
"             Rainfall losses        73.305     8.140      65.159     mm"
"             Runoff depth           45.695     110.860    53.841     mm"
"             Runoff volume          127.95     44.34      172.29     c.m"
"             Runoff coefficient     0.384      0.932      0.452      "
"             Maximum flow           0.046      0.016      0.053      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.053     0.053     0.000     0.000"
" 57          TRENCH Design d/s of 2"
"       0.053   Peak inflow"
"     172.291   Hydrograph volume"
"     246.750   Ground elevation"
"     244.700   Downstream trench invert"
"       1.000   Trench height"
"     243.700   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"      25.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               244.700     0.000       0.0"
"               244.750     0.000       0.4"
"               244.800     0.000       0.8"
"               244.850     0.000       1.3"
"               244.900     0.000       1.8"
"               244.950     0.000       2.3"
"               245.000     0.000       2.9"
"               245.050     0.000       3.5"
"               245.100     0.000       4.2"
"               245.150     0.000       5.0"
"               245.200     0.000       6.0"
"               245.250     0.000       7.0"
"               245.300     0.000       8.1"
"               245.350     0.000       9.1"
"               245.400     0.000      10.2"
"               245.450     0.000      11.1"
"               245.500     0.000      12.0"
"               245.550     0.000      13.0"
"               245.600     0.000      14.1"
"               245.650     0.000      15.1"
"               245.700     0.000      16.2"
"               245.750     0.000      16.3"
"               245.800     0.000      16.4"
"               245.850     0.000      16.4"
"               245.900     0.000      16.5"
"               245.950     0.000      16.5"
"               246.000     0.000      16.6"
"               246.050     0.000      16.6"
"               246.100     0.000      16.7"
"               246.150     0.000      16.7"
"               246.200     0.000      16.8"
"               246.250     0.000      16.9"
"               246.300     0.000      16.9"
"               246.350     0.000      17.0"
"               246.400     0.000      17.0"
"               246.450     0.000      17.1"
"               246.500     0.000      17.1"
"               246.550     0.000      17.2"
"               246.600     0.000      17.3"
"               246.650     0.000      17.3"
"               246.700     0.000      17.4"
"               246.750     0.000      17.4"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               245.100    25.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.045    c.m/sec"
"             Exfiltration volume         172.320    c.m"
"             Maximum level               245.598    metre"
"             Maximum storage              14.013    c.m"
"             Centroidal lag               14.446   hours"
"             Infiltration area 2 sides    63.474   sq.metre"
"             Infiltration Base area       25.000   sq.metre"
"                  0.053     0.053     0.000     0.045 c.m/sec"
" 40          HYDROGRAPH   Combine    1002"
"           6   Combine "
"        1002   Node #"
"               overflow from lot 2"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.053     0.053     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.053     0.000     0.000     0.000"
" 33          CATCHMENT 3"
"           1   Triangular SCS"
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"            3   Specify values"
"            1   SCS method"
"            3   Lot 3 - Tributary to Exfiltration Trench 3"
"       28.000   % Impervious"
"        0.180   Total Area"
"       40.000   Flow length"
"        2.000   Overland Slope"
"        0.130   Pervious Area"
"       40.000   Pervious length"
"        2.000   Pervious slope"
"        0.050   Impervious Area"
"       35.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.384   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.933   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.033     0.000     0.000     0.000 c.m/sec"
"             Catchment 3            Pervious   Impervious Total Area "
"             Surface Area           0.130      0.050      0.180      hectare"
"             Time of concentration  16.325     2.097      9.416      minutes"
"             Time to Centroid       861.217    753.423    808.870    minutes"
"             Rainfall depth         119.000    119.000    119.000    mm"
"             Rainfall volume        154.22     59.98      214.20     c.m"
"             Rainfall losses        73.250     7.935      54.962     mm"
"             Runoff depth           45.750     111.065    64.038     mm"
"             Runoff volume          59.29      55.98      115.27     c.m"
"             Runoff coefficient     0.384      0.933      0.538      "
"             Maximum flow           0.018      0.020      0.033      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.033     0.033     0.000     0.000"
" 57          TRENCH Design d/s of 3"
"        0.033   Peak inflow"
"      115.268   Hydrograph volume"
"      247.000   Ground elevation"
"      244.950   Downstream trench invert"
"        1.000   Trench height"
"      243.900   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       16.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.950     0.000      0.0"
"                245.000     0.000      0.3"
"                245.050     0.000      0.5"
"                245.100     0.000      0.8"
"                245.150     0.000      1.2"
"                245.200     0.000      1.5"
"                245.250     0.000      1.9"
"                245.300     0.000      2.3"
"                245.350     0.000      2.7"
"                245.400     0.000      3.2"
"                245.450     0.000      3.8"
"                245.500     0.000      4.5"
"                245.550     0.000      5.2"
"                245.600     0.000      5.9"
"                245.650     0.000      6.5"
"                245.700     0.000      7.1"
"                245.750     0.000      7.7"
"                245.800     0.000      8.3"
"                245.850     0.000      9.0"
"                245.900     0.000      9.7"
"                245.950     0.000     10.4"
"                246.000     0.000     10.4"
"                246.050     0.000     10.5"
"                246.100     0.000     10.6"
"                246.150     0.000     10.6"
"                246.200     0.000     10.7"
"                246.250     0.000     10.7"
"                246.300     0.000     10.8"
"                246.350     0.000     10.8"
"                246.400     0.000     10.9"
"                246.450     0.000     11.0"
"                246.500     0.000     11.0"
"                246.550     0.000     11.1"
"                246.600     0.000     11.1"
"                246.650     0.000     11.2"
"                246.700     0.000     11.2"
"                246.750     0.000     11.3"
"                246.800     0.000     11.4"
"                246.850     0.000     11.4"
"                246.900     0.000     11.5"
"                246.950     0.000     11.5"
"                247.000     0.000     11.6"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                245.350    16.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                   1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.026    c.m/sec"
"             Exfiltration volume         115.022    c.m"
"             Maximum level               245.780    metre"
"             Maximum storage               8.081    c.m"
"             Centroidal lag               14.028   hours"
"             Infiltration area 2 sides    37.545   sq.metre"
"             Infiltration Base area       16.000   sq.metre"
"                    0.033     0.033     0.000     0.026 c.m/sec"
" 40          HYDROGRAPH   Combine    1003"
"            6   Combine "
"         1003   Node #"
"                overflow from lot 2"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.033     0.033     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.033     0.000     0.000     0.000"
" 33          CATCHMENT 4"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"            4   Lot 4 - Tributary to Exfiltration Trench 4"
"       21.000   % Impervious"
"        0.190   Total Area"
"       40.000   Flow length"
"        2.000   Overland Slope"
"        0.150   Pervious Area"
"       40.000   Pervious length"
"        2.000   Pervious slope"
"        0.040   Impervious Area"
"       40.000   Impervious length"
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"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.384   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.934   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.031     0.000     0.000     0.000 c.m/sec"
"             Catchment 4            Pervious   Impervious Total Area "
"             Surface Area           0.150      0.040      0.190      hectare"
"             Time of concentration  16.325     2.272      10.809     minutes"
"             Time to Centroid       861.217    753.738    819.030    minutes"
"             Rainfall depth         119.000    119.000    119.000    mm"
"             Rainfall volume        178.62     47.48      226.10     c.m"
"             Rainfall losses        73.250     7.800      59.506     mm"
"             Runoff depth           45.750     111.200    59.494     mm"
"             Runoff volume          68.67      44.37      113.04     c.m"
"             Runoff coefficient     0.384      0.934      0.500      "
"             Maximum flow           0.021      0.016      0.031      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.031     0.031     0.000     0.000"
" 57          TRENCH Design d/s of 4"
"        0.031   Peak inflow"
"      113.039   Hydrograph volume"
"      246.650   Ground elevation"
"      244.600   Downstream trench invert"
"        1.000   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       16.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.600     0.000       0.0"
"                244.650     0.000       0.3"
"                244.700     0.000       0.5"
"                244.750     0.000       0.8"
"                244.800     0.000       1.2"
"                244.850     0.000       1.5"
"                244.900     0.000       1.9"
"                244.950     0.000       2.3"
"                245.000     0.000       2.7"
"                245.050     0.000       3.2"
"                245.100     0.000       3.8"
"                245.150     0.000       4.5"
"                245.200     0.000       5.2"
"                245.250     0.000       5.9"
"                245.300     0.000       6.5"
"                245.350     0.000       7.1"
"                245.400     0.000       7.7"
"                245.450     0.000       8.3"
"                245.500     0.000       9.0"
"                245.550     0.000       9.7"
"                245.600     0.000      10.4"
"                245.650     0.000      10.4"
"                245.700     0.000      10.5"
"                245.750     0.000      10.6"
"                245.800     0.000      10.6"
"                245.850     0.000      10.7"
"                245.900     0.000      10.7"
"                245.950     0.000      10.8"
"                246.000     0.000      10.8"
"                246.050     0.000      10.9"
"                246.100     0.000      11.0"
"                246.150     0.000      11.0"
"                246.200     0.000      11.1"
"                246.250     0.000      11.1"
"                246.300     0.000      11.2"
"                246.350     0.000      11.2"
"                246.400     0.000      11.3"
"                246.450     0.000      11.4"
"                246.500     0.000      11.4"
"                246.550     0.000      11.5"
"                246.600     0.000      11.5"
"                246.650     0.000      11.6"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                245.000    16.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.026    c.m/sec"
"             Exfiltration volume         112.781    c.m"
"             Maximum level               245.370    metre"
"             Maximum storage               7.340    c.m"
"             Centroidal lag               14.253   hours"
"             Infiltration area 2 sides    34.857   sq.metre"
"             Infiltration Base area       16.000   sq.metre"
"                  0.031     0.031     0.000     0.026 c.m/sec"
" 40          HYDROGRAPH   Combine    1004"
"           6   Combine "
"        1004   Node #"
"               overflow from lot 4"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                    0.031     0.031     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.031     0.000     0.000     0.000"
" 33          CATCHMENT 5"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"           5   Lot 5 - Tributary to Exfiltration Trench 5A"
"       19.000   % Impervious"
"        0.130   Total Area"
"       37.000   Flow length"
"        2.000   Overland Slope"
"        0.105   Pervious Area"
"       37.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       26.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.384   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.932   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.020     0.000     0.000     0.000 c.m/sec"
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"             Catchment 5            Pervious   Impervious Total Area "
"             Surface Area           0.105      0.025      0.130      hectare"
"             Time of concentration  15.579     1.755      10.567     minutes"
"             Time to Centroid       859.581    752.534    820.772    minutes"
"             Rainfall depth         119.000    119.000    119.000    mm"
"             Rainfall volume        125.31     29.39      154.70     c.m"
"             Rainfall losses        73.255     8.089      60.873     mm"
"             Runoff depth           45.745     110.911    58.127     mm"
"             Runoff volume          48.17      27.39      75.56      c.m"
"             Runoff coefficient     0.384      0.932      0.488      "
"             Maximum flow           0.015      0.010      0.020      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                   0.020     0.020     0.000     0.000"
" 57          TRENCH Design d/s of 5"
"       0.020   Peak inflow"
"      75.565   Hydrograph volume"
"     248.000   Ground elevation"
"     245.950   Downstream trench invert"
"       1.000   Trench height"
"     244.200   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"      10.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               245.950     0.000      0.0"
"               246.000     0.000      0.2"
"               246.050     0.000      0.3"
"               246.100     0.000      0.5"
"               246.150     0.000      0.7"
"               246.200     0.000      0.9"
"               246.250     0.000      1.2"
"               246.300     0.000      1.4"
"               246.350     0.000      1.7"
"               246.400     0.000      2.0"
"               246.450     0.000      2.4"
"               246.500     0.000      2.8"
"               246.550     0.000      3.2"
"               246.600     0.000      3.7"
"               246.650     0.000      4.1"
"               246.700     0.000      4.4"
"               246.750     0.000      4.8"
"               246.800     0.000      5.2"
"               246.850     0.000      5.6"
"               246.900     0.000      6.1"
"               246.950     0.000      6.5"
"               247.000     0.000      6.6"
"               247.050     0.000      6.6"
"               247.100     0.000      6.7"
"               247.150     0.000      6.7"
"               247.200     0.000      6.8"
"               247.250     0.000      6.8"
"               247.300     0.000      6.9"
"               247.350     0.000      6.9"
"               247.400     0.000      7.0"
"               247.450     0.000      7.1"
"               247.500     0.000      7.1"
"               247.550     0.000      7.2"
"               247.600     0.000      7.2"
"               247.650     0.000      7.3"
"               247.700     0.000      7.3"
"               247.750     0.000      7.4"
"               247.800     0.000      7.5"
"               247.850     0.000      7.5"
"               247.900     0.000      7.6"
"               247.950     0.000      7.6"
"               248.000     0.000      7.7"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"               246.350    10.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.017    c.m/sec"
"             Exfiltration volume          75.473    c.m"
"             Maximum level               246.906    metre"
"             Maximum storage               6.101    c.m"
"             Centroidal lag               14.324    hours"
"             Infiltration area 2 sides    27.027    sq.metre"
"             Infiltration Base area       10.000    sq.metre"
"                  0.020     0.020     0.000     0.017 c.m/sec"
" 40          HYDROGRAPH   Combine    1005"
"            6   Combine "
"         1005   Node #"
"                overflow from lot 5"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
"                  0.020     0.020     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                   0.020     0.000     0.000     0.000"
" 33          CATCHMENT 55"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           55   Lot 5 - Tributary to Exfiltration Trench 5B"
"       23.000   % Impervious"
"        0.110   Total Area"
"       37.000   Flow length"
"        2.000   Overland Slope"
"        0.085   Pervious Area"
"       37.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       26.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.384   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.932   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.019     0.000     0.000     0.000 c.m/sec"
"             Catchment 55           Pervious   Impervious Total Area "
"             Surface Area           0.085      0.025      0.110      hectare"
"             Time of concentration  15.579     1.755      9.773      minutes"
"             Time to Centroid       859.581    752.533    814.618    minutes"
"             Rainfall depth         119.000    119.000    119.000    mm"
"             Rainfall volume        100.79     30.11      130.90     c.m"
"             Rainfall losses        73.255     8.089      58.267     mm"
"             Runoff depth           45.745     110.911    60.733     mm"
"             Runoff volume          38.75      28.06      66.81      c.m"
"             Runoff coefficient     0.384      0.932      0.510      "
"             Maximum flow           0.012      0.010      0.019      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
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"            4   Add Runoff "
"                    0.019     0.019     0.000     0.000"
" 57          TRENCH Design d/s of 55"
"        0.019   Peak inflow"
"       66.807   Hydrograph volume"
"      247.800   Ground elevation"
"      245.750   Downstream trench invert"
"        1.000   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                247.750     0.000       0.0"
"                247.800     0.000       0.2"
"                247.850     0.000       0.3"
"                247.900     0.000       0.5"
"                247.950     0.000       0.7"
"                246.000     0.000       0.9"
"                246.050     0.000       1.2"
"                246.100     0.000       1.4"
"                246.150     0.000       1.7"
"                246.200     0.000       2.0"
"                246.250     0.000       2.4"
"                246.300     0.000       2.8"
"                246.350     0.000       3.2"
"                246.400     0.000       3.7"
"                246.450     0.000       4.1"
"                246.500     0.000       4.4"
"                246.550     0.000       4.8"
"                246.600     0.000       5.2"
"                246.650     0.000       5.6"
"                246.700     0.000       6.1"
"                246.750     0.000       6.5"
"                246.800     0.000       6.6"
"                246.850     0.000       6.6"
"                246.900     0.000       6.7"
"                246.950     0.000       6.7"
"                247.000     0.000       6.8"
"                247.050     0.000       6.8"
"                247.100     0.000       6.9"
"                247.150     0.000       6.9"
"                247.200     0.000       7.0"
"                247.250     0.000       7.1"
"                247.300     0.000       7.1"
"                247.350     0.000       7.2"
"                247.400     0.000       7.2"
"                247.450     0.000       7.3"
"                247.500     0.000       7.3"
"                247.550     0.000       7.4"
"                247.600     0.000       7.5"
"                247.650     0.000       7.5"
"                247.700     0.000       7.6"
"                247.750     0.000       7.6"
"                247.800     0.000       7.7"
"            1.   TRENCH PIPES"
"              Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                  Invert    length     diam.    grade%     0=Yes  distance"
"                 246.150    10.000     0.300     0.000     0.000     0.000"
"            1.   MANHOLE"
"                  Access"
"                 diameter"
"                    1.200"
"              Peak outflow                  0.000    c.m/sec"
"              Outflow volume                0.001    c.m"
"              Peak exfiltration             0.015    c.m/sec"
"              Exfiltration volume          66.635    c.m"
"              Maximum level               246.572    metre"
"              Maximum storage               4.992    c.m"
"              Centroidal lag               14.134   hours"
"              Infiltration area 2 sides    23.256   sq.metre"
"              Infiltration Base area       10.000   sq.metre"
"                   0.019     0.019     0.000     0.015 c.m/sec"
" 40          HYDROGRAPH   Combine    1005"
"            6   Combine "
"         1005   Node #"
"                overflow from lot 5"
"              Maximum flow                  0.000    c.m/sec"
"              Hydrograph volume             0.003    c.m"
"                     0.019     0.019     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"              2   Start - New Tributary"
"                     0.019     0.000     0.000     0.000"
" 33          CATCHMENT 6"
"              1   Triangular SCS"
"              3   Specify values"
"              1   SCS method"
"              6   Lot 6 - Tributary to Exfiltration Trench 6A"
"         21.000   % Impervious"
"          0.120   Total Area"
"         37.000   Flow length"
"          2.000   Overland Slope"
"          0.095   Pervious Area"
"         37.000   Pervious length"
"          2.000   Pervious slope"
"          0.025   Impervious Area"
"         26.000   Impervious length"
"          2.000   Impervious slope"
"          0.250   Pervious Manning 'n'"
"         60.000   Pervious SCS Curve No."
"          0.384   Pervious Runoff coefficient"
"          0.030   Pervious Ia/S coefficient"
"          5.080   Pervious Initial abstraction"
"          0.015   Impervious Manning 'n'"
"         98.000   Impervious SCS Curve No."
"          0.932   Impervious Runoff coefficient"
"          0.386   Impervious Ia/S coefficient"
"          2.001   Impervious Initial abstraction"
"                     0.020     0.000     0.000     0.000 c.m/sec"
"              Catchment 6            Pervious   Impervious Total Area "
"              Surface Area           0.095      0.025      0.120      hectare"
"              Time of concentration  15.579     1.755      10.161     minutes"
"              Time to Centroid       859.582    752.534    817.628    minutes"
"              Rainfall depth         119.000    119.000    119.000    mm"
"              Rainfall volume        112.81     29.99      142.80     c.m"
"              Rainfall losses        73.255     8.089      59.570     mm"
"              Runoff depth           45.745     110.911    59.430     mm"
"              Runoff volume          43.37      27.95      71.32      c.m"
"              Runoff coefficient     0.384      0.932      0.499      "
"              Maximum flow           0.014      0.010      0.020      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"              4   Add Runoff "
"                     0.020     0.020     0.000     0.000"
" 57          TRENCH Design d/s of 6"
"          0.020   Peak inflow"
"         71.316   Hydrograph volume"
"        247.700   Ground elevation"
"        245.650   Downstream trench invert"
"          1.000   Trench height"
"        244.200   Water table elevation"
"          3.000   Trench top width"
"          1.000   Trench bottom width"
"         30.000   Voids ratio (%)"
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"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"      10.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               245.650     0.000       0.0"
"               245.700     0.000       0.2"
"               245.750     0.000       0.3"
"               245.800     0.000       0.5"
"               245.850     0.000       0.7"
"               245.900     0.000       0.9"
"               245.950     0.000       1.2"
"               246.000     0.000       1.4"
"               246.050     0.000       1.7"
"               246.100     0.000       2.0"
"               246.150     0.000       2.4"
"               246.200     0.000       2.8"
"               246.250     0.000       3.2"
"               246.300     0.000       3.7"
"               246.350     0.000       4.1"
"               246.400     0.000       4.4"
"               246.450     0.000       4.8"
"               246.500     0.000       5.2"
"               246.550     0.000       5.6"
"               246.600     0.000       6.1"
"               246.650     0.000       6.5"
"               246.700     0.000       6.6"
"               246.750     0.000       6.6"
"               246.800     0.000       6.7"
"               246.850     0.000       6.7"
"               246.900     0.000       6.8"
"               246.950     0.000       6.8"
"               247.000     0.000       6.9"
"               247.050     0.000       6.9"
"               247.100     0.000       7.0"
"               247.150     0.000       7.1"
"               247.200     0.000       7.1"
"               247.250     0.000       7.2"
"               247.300     0.000       7.2"
"               247.350     0.000       7.3"
"               247.400     0.000       7.3"
"               247.450     0.000       7.4"
"               247.500     0.000       7.5"
"               247.550     0.000       7.5"
"               247.600     0.000       7.6"
"               247.650     0.000       7.6"
"               247.700     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.050    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.001    c.m"
"            Peak exfiltration            0.016    c.m/sec"
"            Exfiltration volume         71.368    c.m"
"            Maximum level              246.521    metre"
"            Maximum storage              5.387    c.m"
"            Centroidal lag              14.221   hours"
"            Infiltration area 2 sides   24.642   sq.metre"
"            Infiltration Base area      10.000   sq.metre"
"                 0.020     0.020     0.000     0.016 c.m/sec"
" 40         HYDROGRAPH   Combine    1006"
"           6   Combine "
"         1006   Node #"
"                 overflow from lot 6"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.001    c.m"
"                 0.020     0.020     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.020     0.000     0.000     0.000"
" 33         CATCHMENT 66"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"          66   Lot 6 - Tributary to Exfiltration Trench 6B"
"       21.000   % Impervious"
"        0.120   Total Area"
"       37.000   Flow length"
"        2.000   Overland Slope"
"        0.095   Pervious Area"
"       37.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       26.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.384   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.932   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                 0.020     0.000     0.000     0.000 c.m/sec"
"            Catchment 66           Pervious   Impervious Total Area "
"            Surface Area           0.095      0.025      0.120      hectare"
"            Time of concentration  15.579     1.755      10.161     minutes"
"            Time to Centroid       859.582    752.534    817.628    minutes"
"            Rainfall depth         119.000    119.000    119.000    mm"
"            Rainfall volume        112.81     29.99      142.80     c.m"
"            Rainfall losses        73.255     8.089      59.570     mm"
"            Runoff depth           45.745     110.911    59.430     mm"
"            Runoff volume          43.37      27.95      71.32      c.m"
"            Runoff coefficient     0.384      0.932      0.499      "
"            Maximum flow           0.014      0.010      0.020      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                 0.020     0.020     0.000     0.000"
" 57         TRENCH Design d/s of 66"
"        0.020   Peak inflow"
"       71.316   Hydrograph volume"
"      247.800   Ground elevation"
"      245.750   Downstream trench invert"
"        1.000   Trench height"
"      244.200   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.750     0.000       0.0"
"                245.800     0.000       0.2"
"                245.850     0.000       0.3"
"                245.900     0.000       0.5"
"                245.950     0.000       0.7"
"                246.000     0.000       0.9"
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"               246.050     0.000       1.2"
"               246.100     0.000       1.4"
"               246.150     0.000       1.7"
"               246.200     0.000       2.0"
"               246.250     0.000       2.4"
"               246.300     0.000       2.8"
"               246.350     0.000       3.2"
"               246.400     0.000       3.7"
"               246.450     0.000       4.1"
"               246.500     0.000       4.4"
"               246.550     0.000       4.8"
"               246.600     0.000       5.2"
"               246.650     0.000       5.6"
"               246.700     0.000       6.1"
"               246.750     0.000       6.5"
"               246.800     0.000       6.6"
"               246.850     0.000       6.6"
"               246.900     0.000       6.7"
"               246.950     0.000       6.7"
"               247.000     0.000       6.8"
"               247.050     0.000       6.8"
"               247.100     0.000       6.9"
"               247.150     0.000       6.9"
"               247.200     0.000       7.0"
"               247.250     0.000       7.1"
"               247.300     0.000       7.1"
"               247.350     0.000       7.2"
"               247.400     0.000       7.2"
"               247.450     0.000       7.3"
"               247.500     0.000       7.3"
"               247.550     0.000       7.4"
"               247.600     0.000       7.5"
"               247.650     0.000       7.5"
"               247.700     0.000       7.6"
"               247.750     0.000       7.6"
"               247.800     0.000       7.7"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"               246.150    10.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.016    c.m/sec"
"             Exfiltration volume          71.352    c.m"
"             Maximum level               246.631    metre"
"             Maximum storage               5.468    c.m"
"             Centroidal lag               14.222   hours"
"             Infiltration area 2 sides    24.918   sq.metre"
"             Infiltration Base area       10.000   sq.metre"
"                 0.020     0.020     0.000     0.016 c.m/sec"
" 40          HYDROGRAPH   Combine    1006"
"            6   Combine "
"         1006   Node #"
"                overflow from lot 6"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.003    c.m"
"                   0.020     0.020     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                  0.020     0.000     0.000     0.000"
" 33          CATCHMENT 7"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"            7   Lot 7 - Tributary to Exfiltration Trench 7A"
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"       10.000   % Impervious"
"        0.140   Total Area"
"       50.000   Flow length"
"        2.000   Overland Slope"
"        0.126   Pervious Area"
"       50.000   Pervious length"
"        2.000   Pervious slope"
"        0.014   Impervious Area"
"       24.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.385   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.931   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.017     0.000     0.000     0.000 c.m/sec"
"            Catchment 7            Pervious   Impervious Total Area "
"            Surface Area           0.126      0.014      0.140      hectare"
"            Time of concentration  18.664     1.673      15.064     minutes"
"            Time to Centroid       866.374    752.430    842.229    minutes"
"            Rainfall depth         119.000    119.000    119.000    mm"
"            Rainfall volume        149.94     16.66      166.60     c.m"
"            Rainfall losses        73.228     8.236      66.729     mm"
"            Runoff depth           45.772     110.764    52.271     mm"
"            Runoff volume          57.67      15.51      73.18      c.m"
"            Runoff coefficient     0.385      0.931      0.439      "
"            Maximum flow           0.017      0.006      0.017      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                  0.017     0.017     0.000     0.000"
" 57          TRENCH Design d/s of 7"
"         0.017   Peak inflow"
"        73.179   Hydrograph volume"
"       247.750   Ground elevation"
"       245.700   Downstream trench invert"
"         1.000   Trench height"
"       244.140   Water table elevation"
"         3.000   Trench top width"
"         1.000   Trench bottom width"
"        30.000   Voids ratio (%)"
"      1267.200   Hydraulic conductivity"
"         0.000   Trench gradient (%)"
"         8.000   Trench length"
"         1.000   Include base width"
"           42.   Number of stages"
"                   Level Discharge    Volume"
"                 245.700     0.000       0.0"
"                 245.750     0.000       0.1"
"                 245.800     0.000       0.3"
"                 245.850     0.000       0.4"
"                 245.900     0.000       0.6"
"                 245.950     0.000       0.8"
"                 246.000     0.000       0.9"
"                 246.050     0.000       1.1"
"                 246.100     0.000       1.3"
"                 246.150     0.000       1.6"
"                 246.200     0.000       1.9"
"                 246.250     0.000       2.2"
"                 246.300     0.000       2.6"
"                 246.350     0.000       2.9"
"                 246.400     0.000       3.3"
"                 246.450     0.000       3.5"
"                 246.500     0.000       3.9"
"                 246.550     0.000       4.2"
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"               246.600     0.000       4.5"
"               246.650     0.000       4.8"
"               246.700     0.000       5.2"
"               246.750     0.000       5.3"
"               246.800     0.000       5.3"
"               246.850     0.000       5.4"
"               246.900     0.000       5.4"
"               246.950     0.000       5.5"
"               247.000     0.000       5.5"
"               247.050     0.000       5.6"
"               247.100     0.000       5.6"
"               247.150     0.000       5.7"
"               247.200     0.000       5.8"
"               247.250     0.000       5.8"
"               247.300     0.000       5.9"
"               247.350     0.000       5.9"
"               247.400     0.000       6.0"
"               247.450     0.000       6.0"
"               247.500     0.000       6.1"
"               247.550     0.000       6.2"
"               247.600     0.000       6.2"
"               247.650     0.000       6.3"
"               247.700     0.000       6.3"
"               247.750     0.000       6.4"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.100     8.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                 0.000    c.m/sec"
"            Outflow volume               0.002    c.m"
"            Peak exfiltration            0.016    c.m/sec"
"            Exfiltration volume         73.123    c.m"
"            Maximum level              247.109    metre"
"            Maximum storage              5.659    c.m"
"            Centroidal lag              14.896   hours"
"            Infiltration area 2 sides   22.627   sq.metre"
"            Infiltration Base area      8.000   sq.metre"
"                 0.017     0.017     0.000     0.016 c.m/sec"
" 40         HYDROGRAPH   Combine    1007"
"             6   Combine "
"          1007   Node #"
"               overflow from lot 7"
"            Maximum flow                 0.000    c.m/sec"
"            Hydrograph volume            0.002    c.m"
"                   0.017     0.017     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"             2   Start - New Tributary"
"                   0.017     0.000     0.000     0.000"
" 33         CATCHMENT 77"
"             1   Triangular SCS"
"             3   Specify values"
"             1   SCS method"
"            77   Lot 7 - Tributary to Exfiltration Trench 7B"
"         16.500   % Impervious"
"          0.240   Total Area"
"         54.000   Flow length"
"          2.000   Overland Slope"
"          0.200   Pervious Area"
"         54.000   Pervious length"
"          2.000   Pervious slope"
"          0.040   Impervious Area"
"         24.000   Impervious length"
"          2.000   Impervious slope"
"          0.250   Pervious Manning 'n'"
"         60.000   Pervious SCS Curve No."
"          0.385   Pervious Runoff coefficient"
"          0.030   Pervious Ia/S coefficient"
"          5.080   Pervious Initial abstraction"
"          0.015   Impervious Manning 'n'"
"         98.000   Impervious SCS Curve No."
"          0.931   Impervious Runoff coefficient"
"          0.386   Impervious Ia/S coefficient"
"          2.001   Impervious Initial abstraction"
"                   0.031     0.000     0.000     0.000 c.m/sec"
"               Catchment 77           Pervious   Impervious Total Area "
"               Surface Area           0.200      0.040      0.240      hectare"
"               Time of concentration  19.546     1.673      13.764     minutes"
"               Time to Centroid       868.370    752.430    830.860    minutes"
"               Rainfall depth         119.000    119.000    119.000    mm"
"               Rainfall volume        238.48     47.12      285.60     c.m"
"               Rainfall losses        73.236     8.236      62.511     mm"
"               Runoff depth           45.764     110.764    56.489     mm"
"               Runoff volume          91.71      43.86      135.57     c.m"
"               Runoff coefficient     0.385      0.931      0.475      "
"               Maximum flow           0.026      0.016      0.031      c.m/sec"
" 40            HYDROGRAPH Add Runoff "
"              4   Add Runoff "
"                   0.031     0.031     0.000     0.000"
" 57            TRENCH Design d/s of 77"
"          0.031   Peak inflow"
"        135.574   Hydrograph volume"
"        247.700   Ground elevation"
"        245.650   Downstream trench invert"
"          1.000   Trench height"
"        244.000   Water table elevation"
"          3.000   Trench top width"
"          1.000   Trench bottom width"
"         30.000   Voids ratio (%)"
"       1267.200   Hydraulic conductivity"
"          0.000   Trench gradient (%)"
"         16.000   Trench length"
"          1.000   Include base width"
"            42.   Number of stages"
"                    Level Discharge    Volume"
"                  245.650     0.000       0.0"
"                  245.700     0.000       0.3"
"                  245.750     0.000       0.5"
"                  245.800     0.000       0.8"
"                  245.850     0.000       1.2"
"                  245.900     0.000       1.5"
"                  245.950     0.000       1.9"
"                  246.000     0.000       2.3"
"                  246.050     0.000       2.7"
"                  246.100     0.000       3.2"
"                  246.150     0.000       3.8"
"                  246.200     0.000       4.5"
"                  246.250     0.000       5.2"
"                  246.300     0.000       5.9"
"                  246.350     0.000       6.5"
"                  246.400     0.000       7.1"
"                  246.450     0.000       7.7"
"                  246.500     0.000       8.3"
"                  246.550     0.000       9.0"
"                  246.600     0.000       9.7"
"                  246.650     0.000      10.4"
"                  246.700     0.000      10.4"
"                  246.750     0.000      10.5"
"                  246.800     0.000      10.6"
"                  246.850     0.000      10.6"
"                  246.900     0.000      10.7"
"                  246.950     0.000      10.7"
"                  247.000     0.000      10.8"
"                  247.050     0.000      10.8"
"                  247.100     0.000      10.9"
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"               247.150     0.000      11.0"
"               247.200     0.000      11.0"
"               247.250     0.000      11.1"
"               247.300     0.000      11.1"
"               247.350     0.000      11.2"
"               247.400     0.000      11.2"
"               247.450     0.000      11.3"
"               247.500     0.000      11.4"
"               247.550     0.000      11.4"
"               247.600     0.000      11.5"
"               247.650     0.000      11.5"
"               247.700     0.000      11.6"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.050    16.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"               Access"
"              diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.001    c.m"
"            Peak exfiltration             0.026    c.m/sec"
"            Exfiltration volume         135.348    c.m"
"            Maximum level               246.584    metre"
"            Maximum storage               9.471    c.m"
"            Centroidal lag               14.571   hours"
"            Infiltration area 2 sides   42.289   sq.metre"
"            Infiltration Base area      16.000   sq.metre"
"                 0.031     0.031     0.000     0.026 c.m/sec"
" 40         HYDROGRAPH   Combine    1007"
"           6   Combine "
"        1007   Node #"
"               overflow from lot 7"
"            Maximum flow                  0.000    c.m/sec"
"            Hydrograph volume             0.003    c.m"
"                 0.031     0.031     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                 0.031     0.000     0.000     0.000"
" 33         CATCHMENT 8"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"           8   Lot 8 - Tributary to Exfiltration Trench 8A"
"       42.000   % Impervious"
"        0.060   Total Area"
"       36.000   Flow length"
"        2.000   Overland Slope"
"        0.035   Pervious Area"
"       36.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       24.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.384   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.931   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                 0.014     0.000     0.000     0.000 c.m/sec"
"            Catchment 8            Pervious   Impervious Total Area "
"            Surface Area           0.035      0.025      0.060      hectare"
"            Time of concentration  15.325     1.673      6.630      minutes"
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"            Time to Centroid       859.001    752.431    791.129    minutes"
"            Rainfall depth         119.000    119.000    119.000    mm"
"            Rainfall volume        41.41      29.99      71.40      c.m"
"            Rainfall losses        73.269     8.236      45.955     mm"
"            Runoff depth           45.731     110.764    73.045     mm"
"            Runoff volume          15.91      27.91      43.83      c.m"
"            Runoff coefficient     0.384      0.931      0.614      "
"            Maximum flow           0.005      0.010      0.014      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                 0.014     0.014     0.000     0.000"
" 57         TRENCH Design d/s of 8"
"         0.014   Peak inflow"
"        43.827   Hydrograph volume"
"       247.700   Ground elevation"
"       245.650   Downstream trench invert"
"         1.000   Trench height"
"       244.000   Water table elevation"
"         3.000   Trench top width"
"         1.000   Trench bottom width"
"        30.000   Voids ratio (%)"
"      1267.200   Hydraulic conductivity"
"         0.000   Trench gradient (%)"
"         8.000   Trench length"
"         1.000   Include base width"
"           42.   Number of stages"
"                   Level Discharge    Volume"
"                 245.650     0.000       0.0"
"                 245.700     0.000       0.1"
"                 245.750     0.000       0.3"
"                 245.800     0.000       0.4"
"                 245.850     0.000       0.6"
"                 245.900     0.000       0.8"
"                 245.950     0.000       0.9"
"                 246.000     0.000       1.1"
"                 246.050     0.000       1.3"
"                 246.100     0.000       1.6"
"                 246.150     0.000       1.9"
"                 246.200     0.000       2.2"
"                 246.250     0.000       2.6"
"                 246.300     0.000       2.9"
"                 246.350     0.000       3.3"
"                 246.400     0.000       3.5"
"                 246.450     0.000       3.9"
"                 246.500     0.000       4.2"
"                 246.550     0.000       4.5"
"                 246.600     0.000       4.8"
"                 246.650     0.000       5.2"
"                 246.700     0.000       5.3"
"                 246.750     0.000       5.3"
"                 246.800     0.000       5.4"
"                 246.850     0.000       5.4"
"                 246.900     0.000       5.5"
"                 246.950     0.000       5.5"
"                 247.000     0.000       5.6"
"                 247.050     0.000       5.6"
"                 247.100     0.000       5.7"
"                 247.150     0.000       5.8"
"                 247.200     0.000       5.8"
"                 247.250     0.000       5.9"
"                 247.300     0.000       5.9"
"                 247.350     0.000       6.0"
"                 247.400     0.000       6.0"
"                 247.450     0.000       6.1"
"                 247.500     0.000       6.2"
"                 247.550     0.000       6.2"
"                 247.600     0.000       6.3"
"                 247.650     0.000       6.3"
"                 247.700     0.000       6.4"
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"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               246.050     8.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.001    c.m"
"            Peak exfiltration             0.010    c.m/sec"
"            Exfiltration volume          43.743    c.m"
"            Maximum level               246.375    metre"
"            Maximum storage               3.402    c.m"
"            Centroidal lag               13.551   hours"
"            Infiltration area 2 sides   16.415   sq.metre"
"            Infiltration Base area      8.000   sq.metre"
"                 0.014     0.014     0.000     0.010 c.m/sec"
" 40         HYDROGRAPH   Combine    1008"
"           6   Combine "
"        1008   Node #"
"               overflow from lot 8"
"            Maximum flow                  0.000    c.m/sec"
"            Hydrograph volume             0.001    c.m"
"                    0.014     0.014     0.000     0.000"
" 40         HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                   0.014     0.000     0.000     0.000"
" 33         CATCHMENT 88"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           88   Lot 8 - Tributary to Exfiltration Trench 8B"
"       15.000   % Impervious"
"        0.170   Total Area"
"       55.000   Flow length"
"        2.000   Overland Slope"
"        0.145   Pervious Area"
"       55.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       24.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.385   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.931   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                   0.021     0.000     0.000     0.000 c.m/sec"
"             Catchment 88           Pervious   Impervious Total Area "
"             Surface Area           0.145      0.025      0.170      hectare"
"             Time of concentration  19.763     1.673      14.349     minutes"
"             Time to Centroid       868.827    752.430    833.996    minutes"
"             Rainfall depth         119.000    119.000    119.000    mm"
"             Rainfall volume        171.96     30.34      202.30     c.m"
"             Rainfall losses        73.229     8.236      63.480     mm"
"             Runoff depth           45.771     110.764    55.520     mm"
"             Runoff volume          66.14      28.24      94.38      c.m"
"             Runoff coefficient     0.385      0.931      0.467      "
"             Maximum flow           0.018      0.010      0.021      c.m/sec"
" 40         HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                   0.021     0.021     0.000     0.000"
" 57         TRENCH Design d/s of 88"
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"        0.021   Peak inflow"
"       94.384   Hydrograph volume"
"      247.050   Ground elevation"
"      245.000   Downstream trench invert"
"        1.000   Trench height"
"      243.700   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       10.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                245.000     0.000       0.0"
"                245.050     0.000       0.2"
"                245.100     0.000       0.3"
"                245.150     0.000       0.5"
"                245.200     0.000       0.7"
"                245.250     0.000       0.9"
"                245.300     0.000       1.2"
"                245.350     0.000       1.4"
"                245.400     0.000       1.7"
"                245.450     0.000       2.0"
"                245.500     0.000       2.4"
"                245.550     0.000       2.8"
"                245.600     0.000       3.2"
"                245.650     0.000       3.7"
"                245.700     0.000       4.1"
"                245.750     0.000       4.4"
"                245.800     0.000       4.8"
"                245.850     0.000       5.2"
"                245.900     0.000       5.6"
"                245.950     0.000       6.1"
"                246.000     0.000       6.5"
"                246.050     0.000       6.6"
"                246.100     0.000       6.6"
"                246.150     0.000       6.7"
"                246.200     0.000       6.7"
"                246.250     0.000       6.8"
"                246.300     0.000       6.8"
"                246.350     0.000       6.9"
"                246.400     0.000       6.9"
"                246.450     0.000       7.0"
"                246.500     0.000       7.1"
"                246.550     0.000       7.1"
"                246.600     0.000       7.2"
"                246.650     0.000       7.2"
"                246.700     0.000       7.3"
"                246.750     0.000       7.3"
"                246.800     0.000       7.4"
"                246.850     0.000       7.5"
"                246.900     0.000       7.5"
"                246.950     0.000       7.6"
"                247.000     0.000       7.6"
"                247.050     0.000       7.7"
"          1.   TRENCH PIPES"
"            Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                Invert    length     diam.    grade%     0=Yes  distance"
"               245.400    10.000     0.300     0.000     0.000     0.000"
"          1.   MANHOLE"
"                Access"
"               diameter"
"                 1.200"
"            Peak outflow                  0.000    c.m/sec"
"            Outflow volume                0.002    c.m"
"            Peak exfiltration             0.019    c.m/sec"
"            Exfiltration volume          94.329    c.m"
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"             Maximum level               245.995    metre"
"             Maximum storage               6.453    c.m"
"             Centroidal lag               14.695   hours"
"             Infiltration area 2 sides   28.150   sq.metre"
"             Infiltration Base area      10.000   sq.metre"
"                  0.021     0.021     0.000     0.019 c.m/sec"
" 40          HYDROGRAPH   Combine    1008"
"           6   Combine "
"        1008   Node #"
"               overflow from lot 8"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.003    c.m"
"                    0.021     0.021     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                    0.021     0.000     0.000     0.000"
" 33          CATCHMENT 9"
"           1   Triangular SCS"
"           1   Equal length"
"           1   SCS method"
"           9   Lot 9 - Tributary to Exfiltration Trench 9A"
"      63.000   % Impervious"
"       0.040   Total Area"
"      24.000   Flow length"
"       2.000   Overland Slope"
"       0.015   Pervious Area"
"      24.000   Pervious length"
"       2.000   Pervious slope"
"       0.025   Impervious Area"
"      24.000   Impervious length"
"       2.000   Impervious slope"
"       0.250   Pervious Manning 'n'"
"      60.000   Pervious SCS Curve No."
"       0.384   Pervious Runoff coefficient"
"       0.030   Pervious Ia/S coefficient"
"       5.080   Pervious Initial abstraction"
"       0.015   Impervious Manning 'n'"
"      98.000   Impervious SCS Curve No."
"       0.931   Impervious Runoff coefficient"
"       0.386   Impervious Ia/S coefficient"
"       2.001   Impervious Initial abstraction"
"                    0.012     0.000     0.000     0.000 c.m/sec"
"            Catchment 9            Pervious   Impervious Total Area "
"            Surface Area           0.015      0.025      0.040      hectare"
"            Time of concentration  12.016     1.673      3.691      minutes"
"            Time to Centroid       851.638    752.431    771.789    minutes"
"            Rainfall depth         119.000    119.000    119.000    mm"
"            Rainfall volume        17.61      29.99      47.60      c.m"
"            Rainfall losses        73.278     8.236      32.302     mm"
"            Runoff depth           45.722     110.764    86.698     mm"
"            Runoff volume          6.77       27.91      34.68      c.m"
"            Runoff coefficient     0.384      0.931      0.729      "
"            Maximum flow           0.002      0.010      0.012      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                    0.012     0.012     0.000     0.000"
" 57          TRENCH Design d/s of 9"
"       0.012   Peak inflow"
"      34.679   Hydrograph volume"
"     247.050   Ground elevation"
"     245.000   Downstream trench invert"
"       1.000   Trench height"
"     243.700   Water table elevation"
"       3.000   Trench top width"
"       1.000   Trench bottom width"
"      30.000   Voids ratio (%)"
"    1267.200   Hydraulic conductivity"
"       0.000   Trench gradient (%)"
"       8.000   Trench length"
"       1.000   Include base width"
"         42.   Number of stages"
"                 Level Discharge    Volume"
"               245.000     0.000       0.0"
"               245.050     0.000       0.1"
"               245.100     0.000       0.3"
"               245.150     0.000       0.4"
"               245.200     0.000       0.6"
"               245.250     0.000       0.8"
"               245.300     0.000       0.9"
"               245.350     0.000       1.1"
"               245.400     0.000       1.3"
"               245.450     0.000       1.6"
"               245.500     0.000       1.9"
"               245.550     0.000       2.2"
"               245.600     0.000       2.6"
"               245.650     0.000       2.9"
"               245.700     0.000       3.3"
"               245.750     0.000       3.5"
"               245.800     0.000       3.9"
"               245.850     0.000       4.2"
"               245.900     0.000       4.5"
"               245.950     0.000       4.8"
"               246.000     0.000       5.2"
"               246.050     0.000       5.3"
"               246.100     0.000       5.3"
"               246.150     0.000       5.4"
"               246.200     0.000       5.4"
"               246.250     0.000       5.5"
"               246.300     0.000       5.5"
"               246.350     0.000       5.6"
"               246.400     0.000       5.6"
"               246.450     0.000       5.7"
"               246.500     0.000       5.8"
"               246.550     0.000       5.8"
"               246.600     0.000       5.9"
"               246.650     0.000       5.9"
"               246.700     0.000       6.0"
"               246.750     0.000       6.0"
"               246.800     0.000       6.1"
"               246.850     0.000       6.2"
"               246.900     0.000       6.2"
"               246.950     0.000       6.3"
"               247.000     0.000       6.3"
"               247.050     0.000       6.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"               245.400     8.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.001    c.m"
"             Peak exfiltration             0.010    c.m/sec"
"             Exfiltration volume          34.531    c.m"
"             Maximum level               245.623    metre"
"             Maximum storage               2.741    c.m"
"             Centroidal lag               13.109   hours"
"             Infiltration area 2 sides   14.096   sq.metre"
"             Infiltration Base area       8.000   sq.metre"
"                  0.012     0.012     0.000     0.010 c.m/sec"
" 40          HYDROGRAPH   Combine    1009"
"           6   Combine "
"        1009   Node #"
"               overflow from lot 9"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.001    c.m"
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"                    0.012     0.012     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.012     0.000     0.000     0.000"
" 33          CATCHMENT 99"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           99   Lot 9 - Tributary to Exfiltration Trench 9B (portion of Lot 8 included)"
"       10.000   % Impervious"
"        0.300   Total Area"
"       70.000   Flow length"
"        2.000   Overland Slope"
"        0.270   Pervious Area"
"       70.000   Pervious length"
"        2.000   Pervious slope"
"        0.030   Impervious Area"
"       38.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.385   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.934   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.032     0.000     0.000     0.000 c.m/sec"
"             Catchment 99           Pervious   Impervious Total Area "
"             Surface Area           0.270      0.030      0.300      hectare"
"             Time of concentration  22.840     2.204      18.455     minutes"
"             Time to Centroid       875.695    753.628    849.759    minutes"
"             Rainfall depth         119.000    119.000    119.000    mm"
"             Rainfall volume        321.30     35.70      357.00     c.m"
"             Rainfall losses        73.221     7.845      66.684     mm"
"             Runoff depth           45.779     111.155    52.316     mm"
"             Runoff volume          123.60     33.35      156.95     c.m"
"             Runoff coefficient     0.385      0.934      0.440      "
"             Maximum flow           0.031      0.012      0.032      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.032     0.032     0.000     0.000"
" 57          TRENCH Design d/s of 99"
"        0.032   Peak inflow"
"      156.949   Hydrograph volume"
"      246.300   Ground elevation"
"      244.250   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"       16.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.250     0.000      0.0"
"                244.300     0.000      0.3"
"                244.350     0.000      0.5"
"                244.400     0.000      0.8"
"                244.450     0.000      1.2"
"                244.500     0.000      1.5"
"                244.550     0.000      1.9"
"                244.600     0.000      2.3"
"                244.650     0.000      2.7"
"                244.700     0.000      3.2"
"                244.750     0.000      3.8"
"                244.800     0.000      4.5"
"                244.850     0.000      5.2"
"                244.900     0.000      5.9"
"                244.950     0.000      6.5"
"                245.000     0.000      7.1"
"                245.050     0.000      7.7"
"                245.100     0.000      8.3"
"                245.150     0.000      9.0"
"                245.200     0.000      9.7"
"                245.250     0.000     10.4"
"                245.300     0.000     10.4"
"                245.350     0.000     10.5"
"                245.400     0.000     10.6"
"                245.450     0.000     10.6"
"                245.500     0.000     10.7"
"                245.550     0.000     10.7"
"                245.600     0.000     10.8"
"                245.650     0.000     10.8"
"                245.700     0.000     10.9"
"                245.750     0.000     11.0"
"                245.800     0.000     11.0"
"                245.850     0.000     11.1"
"                245.900     0.000     11.1"
"                245.950     0.000     11.2"
"                246.000     0.000     11.2"
"                246.050     0.000     11.3"
"                246.100     0.000     11.4"
"                246.150     0.000     11.4"
"                246.200     0.000     11.5"
"                246.250     0.000     11.5"
"                246.300     0.000     11.6"
"            1.   TRENCH PIPES"
"              Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                  Invert    length     diam.    grade%     0=Yes  distance"
"                 244.650    16.000     0.300     0.000     0.000     0.000"
"            1.   MANHOLE"
"                  Access"
"                 diameter"
"                   1.200"
"              Peak outflow                  0.000    c.m/sec"
"              Outflow volume                0.002    c.m"
"              Peak exfiltration             0.030    c.m/sec"
"              Exfiltration volume         156.811    c.m"
"              Maximum level               245.176    metre"
"              Maximum storage               9.350    c.m"
"              Centroidal lag               15.053   hours"
"              Infiltration area 2 sides    41.886   sq.metre"
"              Infiltration Base area       16.000   sq.metre"
"                   0.032     0.032     0.000     0.030 c.m/sec"
" 40          HYDROGRAPH   Combine    1009"
"            6   Combine "
"         1009   Node #"
"                overflow from lot 9"
"              Maximum flow                  0.000    c.m/sec"
"              Hydrograph volume             0.002    c.m"
"                     0.032     0.032     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"            2   Start - New Tributary"
"                    0.032     0.000     0.000     0.000"
" 33          CATCHMENT 10"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"           10   Lot 10 - Tributary to Exfiltration Trench 10A"
"       14.000   % Impervious"
"        0.190   Total Area"
"      120.000   Flow length"
```

```
"        2.000   Overland Slope"
"        0.163   Pervious Area"
"      120.000   Pervious length"
"        2.000   Pervious slope"
"        0.027   Impervious Area"
"       24.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.385   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.931   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.016     0.000     0.000     0.000 c.m/sec"
"             Catchment 10           Pervious   Impervious Total Area "
"             Surface Area           0.163      0.027      0.190      hectare"
"             Time of concentration  31.560     1.673      23.117     minutes"
"             Time to Centroid       895.118    752.431    854.808    minutes"
"             Rainfall depth         119.000    119.000    119.000    mm"
"             Rainfall volume        194.45     31.65      226.10     c.m"
"             Rainfall losses        73.206     8.236      64.110     mm"
"             Runoff depth           45.794     110.764    54.890     mm"
"             Runoff volume          74.83      29.46      104.29     c.m"
"             Runoff coefficient     0.385      0.931      0.461      "
"             Maximum flow           0.015      0.011      0.016      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                  0.016     0.016     0.000     0.000"
" 57          TRENCH Design d/s of 10"
"        0.016   Peak inflow"
"      104.291   Hydrograph volume"
"      246.250   Ground elevation"
"      244.200   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.200     0.000       0.0"
"                244.250     0.000       0.1"
"                244.300     0.000       0.3"
"                244.350     0.000       0.4"
"                244.400     0.000       0.6"
"                244.450     0.000       0.8"
"                244.500     0.000       0.9"
"                244.550     0.000       1.1"
"                244.600     0.000       1.3"
"                244.650     0.000       1.6"
"                244.700     0.000       1.9"
"                244.750     0.000       2.2"
"                244.800     0.000       2.6"
"                244.850     0.000       2.9"
"                244.900     0.000       3.3"
"                244.950     0.000       3.5"
"                245.000     0.000       3.9"
"                245.050     0.000       4.2"
"                245.100     0.000       4.5"
"                245.150     0.000       4.8"
"                245.200     0.000       5.2"
"                245.250     0.000       5.3"
"                245.300     0.000       5.3"
"                245.350     0.000       5.4"
"                245.400     0.000       5.4"
"                245.450     0.000       5.5"
"                245.500     0.000       5.5"
"                245.550     0.000       5.6"
"                245.600     0.000       5.6"
"                245.650     0.000       5.7"
"                245.700     0.000       5.8"
"                245.750     0.000       5.8"
"                245.800     0.000       5.9"
"                245.850     0.000       5.9"
"                245.900     0.000       6.0"
"                245.950     0.000       6.0"
"                246.000     0.000       6.1"
"                246.050     0.000       6.2"
"                246.100     0.000       6.2"
"                246.150     0.000       6.3"
"                246.200     0.000       6.3"
"                246.250     0.000       6.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                244.600     8.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                Access"
"               diameter"
"                  1.200"
"             Peak outflow                  0.000    c.m/sec"
"             Outflow volume                0.002    c.m"
"             Peak exfiltration             0.015    c.m/sec"
"             Exfiltration volume         104.269    c.m"
"             Maximum level               245.117    metre"
"             Maximum storage               4.614    c.m"
"             Centroidal lag               15.212   hours"
"             Infiltration area 2 sides    20.743   sq.metre"
"             Infiltration Base area        8.000   sq.metre"
"                  0.016     0.016     0.000     0.015 c.m/sec"
" 40          HYDROGRAPH   Combine    1010"
"           6   Combine "
"        1010   Node #"
"               overflow from lot 10"
"             Maximum flow                  0.000    c.m/sec"
"             Hydrograph volume             0.002    c.m"
"                  0.016     0.016     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.016     0.000     0.000     0.000"
" 33          CATCHMENT 100"
"           1   Triangular SCS"
"           3   Specify values"
"           1   SCS method"
"         100   Lot 10 - Tributary to Exfiltration Trench 10B"
"       14.000   % Impervious"
"        0.180   Total Area"
"      110.000   Flow length"
"        2.000   Overland Slope"
"        0.155   Pervious Area"
"      110.000   Pervious length"
"        2.000   Pervious slope"
"        0.025   Impervious Area"
"       24.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.385   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
```

```
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.931   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.016     0.000     0.000     0.000 c.m/sec"
"             Catchment 100          Pervious   Impervious Total Area "
"             Surface Area           0.155      0.025      0.180      hectare"
"             Time of concentration  29.955     1.673      21.966     minutes"
"             Time to Centroid       891.511    752.431    852.225    minutes"
"             Rainfall depth         119.000    119.000    119.000    mm"
"             Rainfall volume        184.21     29.99      214.20     c.m"
"             Rainfall losses        73.199     8.236      64.104     mm"
"             Runoff depth           45.801     110.764    54.896     mm"
"             Runoff volume          70.90      27.91      98.81      c.m"
"             Runoff coefficient     0.385      0.931      0.461      "
"             Maximum flow           0.015      0.010      0.016      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"           4   Add Runoff "
"                    0.016     0.016     0.000     0.000"
" 57          TRENCH Design d/s of 100"
"        0.016   Peak inflow"
"       98.813   Hydrograph volume"
"      246.450   Ground elevation"
"      244.400   Downstream trench invert"
"        1.000   Trench height"
"      243.300   Water table elevation"
"        3.000   Trench top width"
"        1.000   Trench bottom width"
"       30.000   Voids ratio (%)"
"     1267.200   Hydraulic conductivity"
"        0.000   Trench gradient (%)"
"        8.000   Trench length"
"        1.000   Include base width"
"          42.   Number of stages"
"                  Level Discharge    Volume"
"                244.400     0.000       0.0"
"                244.450     0.000       0.1"
"                244.500     0.000       0.3"
"                244.550     0.000       0.4"
"                244.600     0.000       0.6"
"                244.650     0.000       0.8"
"                244.700     0.000       0.9"
"                244.750     0.000       1.1"
"                244.800     0.000       1.3"
"                244.850     0.000       1.6"
"                244.900     0.000       1.9"
"                244.950     0.000       2.2"
"                245.000     0.000       2.6"
"                245.050     0.000       2.9"
"                245.100     0.000       3.3"
"                245.150     0.000       3.5"
"                245.200     0.000       3.9"
"                245.250     0.000       4.2"
"                245.300     0.000       4.5"
"                245.350     0.000       4.8"
"                245.400     0.000       5.2"
"                245.450     0.000       5.3"
"                245.500     0.000       5.3"
"                245.550     0.000       5.4"
"                245.600     0.000       5.4"
"                245.650     0.000       5.5"
"                245.700     0.000       5.5"
"                245.750     0.000       5.6"
"                245.800     0.000       5.6"
"                245.850     0.000       5.7"
"                245.900     0.000       5.8"
"                245.950     0.000       5.8"
"                246.000     0.000       5.9"
"                246.050     0.000       5.9"
"                246.100     0.000       6.0"
"                246.150     0.000       6.0"
"                246.200     0.000       6.1"
"                246.250     0.000       6.2"
"                246.300     0.000       6.2"
"                246.350     0.000       6.3"
"                246.400     0.000       6.3"
"                246.450     0.000       6.4"
"           1.   TRENCH PIPES"
"             Downstream      Pipe      Pipe      Pipe Perf'ted?    Offset"
"                 Invert    length     diam.    grade%     0=Yes  distance"
"                244.800     8.000     0.300     0.000     0.000     0.000"
"           1.   MANHOLE"
"                 Access"
"              diameter"
"                  1.200"
"             Peak outflow                 0.000    c.m/sec"
"             Outflow volume               0.002    c.m"
"             Peak exfiltration            0.015    c.m/sec"
"             Exfiltration volume         98.780    c.m"
"             Maximum level              245.352    metre"
"             Maximum storage              4.854    c.m"
"             Centroidal lag              15.142   hours"
"             Infiltration area 2 sides   21.535   sq.metre"
"             Infiltration Base area       8.000   sq.metre"
"                  0.016     0.016     0.000     0.015 c.m/sec"
" 40          HYDROGRAPH   Combine    1010"
"           6   Combine "
"        1010   Node #"
"               overflow from lot 10"
"             Maximum flow                 0.000    c.m/sec"
"             Hydrograph volume            0.004    c.m"
"                    0.016     0.016     0.000     0.000"
" 40          HYDROGRAPH Start - New Tributary"
"           2   Start - New Tributary"
"                  0.016     0.000     0.000     0.000"
```

APPENDIX F

Stormwater Management
Post Development – Ilderton Road Model

POST DEVELOPMENT TO ILDERTON ROAD - MODELING DATA

CATCHMENT NO.	AREA (ha)	IMPERVIOUS (%)	IMPERVIOUS AREA (ha)	PERVIOUS LENGTH (m)	IMP. LENGTH (m)	CATCHMENT AVG. SLOPE (%)	SCS CURVE #	PERVIOUS MANNINGS (n)	CHANNEL LENGTH (m)	CHANNEL SLOPE AVG (%)
101	1.56	30	0.468	38	4	2	60	0.25	150	0.3
10	0.33	37	0.122	5	5	2	60	0.25	50	1.1
11	0.21	25	0.053	5	5	2	60	0.25	70	1.1
12	0.18	32	0.058	5	5	2	60	0.25	94	0.25

POST DEVELOPMENT MODEL FLOW SUMMARY

	TOTAL FLOW
2	0.082
5	0.125
10	0.154
25	0.184
50	0.212
100	0.238
250	0.301
250-24hr	0.288

LOT 1 & 2 SHARED DRIVEWAY - CULVERT PERFORMANCE CURVE

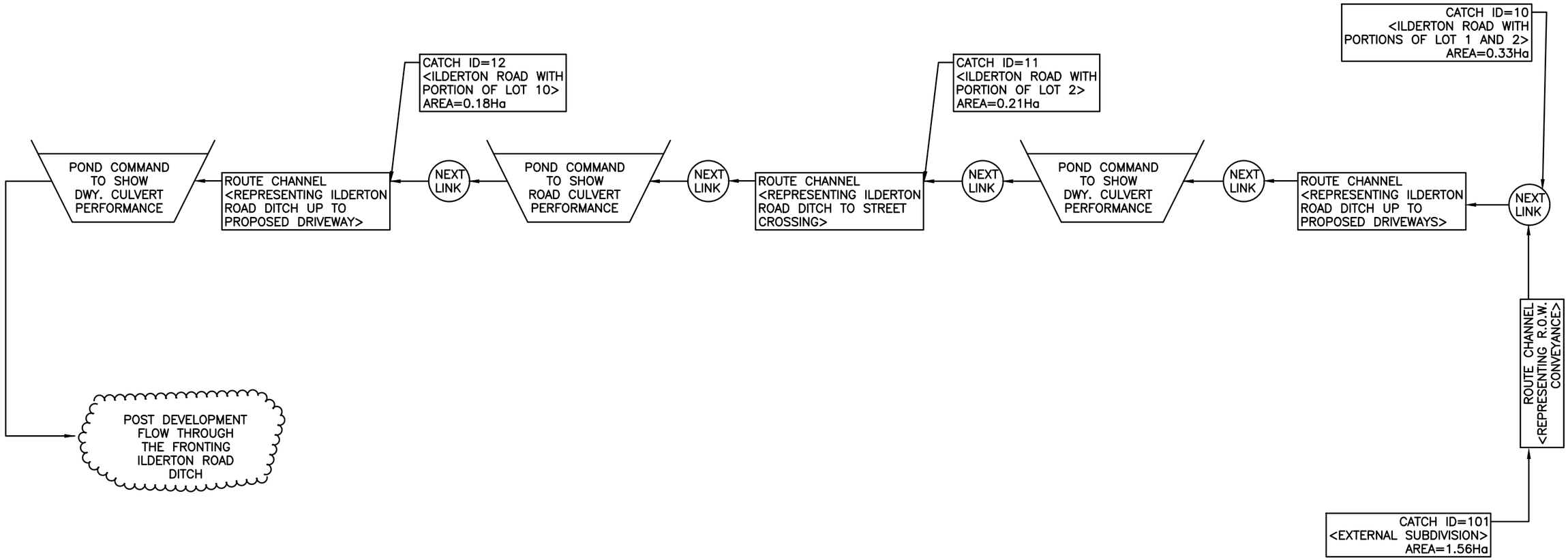
Elevation (m)	Storage		Discharge			Description
	Incremental Storage (m^3)	Total Storage (m^3)	600 Diam. Culv	Driveway Weir	Combined Discharge	
246.970	0.0	0.00	0.000	0.000	0.000	
247.070	0.2	0.21	0.010	0.000	0.010	
247.170	2.3	2.47	0.050	0.000	0.050	
247.270	6.3	8.81	0.110	0.000	0.110	
247.370	9.9	18.68	0.180	0.000	0.180	
247.470	13.1	31.78	0.270	0.000	0.270	250 Year Water Elev. = 247.50
247.570	15.6	47.41	0.370	0.000	0.370	

BOWLING GREEN DRIVE - CULVERT PERFORMANCE CURVE

Elevation (m)	Storage		Discharge			Description
	Incremental Storage (m^3)	Total Storage (m^3)	600 Diam. Culv	Overflow Weir	Combined Discharge	
246.300	0.0	0.00	0.000	0.000	0.000	
246.400	0.2	0.24	0.010	0.000	0.010	
246.500	3.5	3.70	0.050	0.000	0.050	
246.600	8.6	12.26	0.110	0.000	0.110	
246.700	14.6	26.90	0.180	0.000	0.180	
246.800	21.6	48.53	0.270	0.000	0.270	250 Year Water Elev. = 246.83
246.900	29.6	78.09	0.370	0.000	0.370	
247.000	37.8	115.85	0.470	0.000	0.470	
247.100	46.0	161.89	0.560	0.000	0.560	
247.180	42.7	204.57	0.615	0.000	0.615	

LOT 10 DRIVEWAY - CULVERT PERFORMANCE CURVE

Elevation (m)	Storage		Discharge			Description
	Incremental Storage (m^3)	Total Storage (m^3)	375 Diam. Culv	Overflow Weir	Combined Discharge	
245.380	0.0	0.00	0.000	0.000	0.000	
245.480	2.6	2.56	0.015	0.000	0.015	
245.580	8.0	10.59	0.035	0.000	0.035	
245.680	13.6	24.17	0.080	0.000	0.080	2 Year Water Elev. = 245.69
245.740	11.0	35.15	0.105	0.000	0.105	
245.800	13.2	48.32	0.135	0.025	0.160	
245.890	24.2	72.50	0.170	0.260	0.430	



POPLAR WOODS SUBDIVISION

POST DEVELOPMENT FLOWS TO ILDERTON ROAD MODEL SCHEMATIC

DATE: AUGUST 2020

ARCHIBALD, GRAY & McKAY ENGINEERING LTD.
3514 WHITE OAK ROAD, LONDON, ON, N6E 2Z9
PHONE 519-685-5300 FAX 519-685-5303
EMAIL info@agm.on.ca WEB www.agm.on.ca
PLAN • SURVEY • ENGINEER

Plot date: Aug 25, 2020 F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\Eng 1432-1\CAD 2019\1432-1 Design Storm.dwg

Model
Output Files

```
"                MIDUSS Output ----------------------------------------------->"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                    Eng 1432-1\SWM\MIDUSS\Post to Ilderton Road"
"                Output filename:              2 year post-Ilderton Road-7.out"
"                Licensee name:                                          owner"
"                Company                                               HP Inc."
"                Date & Time last used:               2020-05-11 at 9:36:17 AM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1500.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"      724.690   Coefficient A"
"        5.500   Constant B"
"        0.800   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"              Maximum intensity           101.773    mm/hr"
"              Total depth                  33.312    mm"
"            4   2hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 101"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"          101   Bowling Green Drive Subdivision"
"       30.000   % Impervious"
"        1.560   Total Area"
"       38.000   Flow length"
"        2.000   Overland Slope"
"        1.092   Pervious Area"
"       38.000   Pervious length"
"        2.000   Pervious slope"
"        0.468   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.121   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.754   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.099     0.000     0.000     0.000 c.m/sec"
"              Catchment 101          Pervious   Impervious Total Area "
"              Surface Area           1.092      0.468      1.560      hectare"
"              Time of concentration  36.889     0.694      10.555     minutes"
"              Time to Centroid       143.137    88.944     103.709    minutes"
"              Rainfall depth         33.312     33.312     33.312     mm"
"              Rainfall volume        363.77     155.90     519.66     c.m"
"              Rainfall losses        29.279     8.183      22.950     mm"
"              Runoff depth           4.033      25.129     10.362     mm"
"              Runoff volume          44.04      117.60     161.64     c.m"
"              Runoff coefficient     0.121      0.754      0.311      "
"              Maximum flow           0.009      0.099      0.099      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.099     0.099     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.099   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        0.500   Channel depth    metre"
"        0.300   Gradient   %"
"              Depth of flow                 0.071    metre"
"              Velocity                      0.394    m/sec"
"              Channel capacity             18.111    c.m/sec"
"              Critical depth                0.060    metre"
" 53          ROUTE    Channel Route 150"
"      150.00      Channel Route 150 Reach length   ( metre)"
"        0.470   X-factor <= 0.5"
"      285.557   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      300.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"              Peak outflow                  0.097    c.m/sec"
"                     0.099     0.099     0.097     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"             5   Next link "
"                     0.099     0.097     0.097     0.000"
" 33          CATCHMENT 10"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"           10   Ilderton road ROW with part of lot 1 and 2 "
"       37.000   % Impervious"
"        0.330   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.208   Pervious Area"
"        5.000   Pervious length"
"        2.000   Pervious slope"
"        0.122   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.121   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.764   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.026     0.097     0.097     0.000 c.m/sec"
"              Catchment 10           Pervious   Impervious Total Area "
"              Surface Area           0.208      0.122      0.330      hectare"
"              Time of concentration  10.925     0.793      2.943      minutes"
"              Time to Centroid       112.057    88.795     93.731     minutes"
"              Rainfall depth         33.312     33.312     33.312     mm"
"              Rainfall volume        69.26      40.67      109.93     c.m"
"              Rainfall losses        29.285     7.859      21.358     mm"
"              Runoff depth           4.027      25.453     11.954     mm"
"              Runoff volume          8.37       31.08      39.45      c.m"
"              Runoff coefficient     0.121      0.764      0.359      "
"              Maximum flow           0.003      0.026      0.026      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.026     0.117     0.097     0.000"
" 52          CHANNEL DESIGN"
"        0.117   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
```

```
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                 0.196    metre"
"             Velocity                      0.552    m/sec"
"             Channel capacity              8.979    c.m/sec"
"             Critical depth                0.156    metre"
" 53          ROUTE    Channel Route 50"
"        50.00      Channel Route 50 Reach length   ( metre)"
"        0.433   X-factor <= 0.5"
"       67.985   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"       75.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.102    c.m/sec"
"                    0.026     0.117     0.102     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.026     0.102     0.102     0.000"
" 54          POND DESIGN"
"        0.102   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"        201.1   Hydrograph volume    c.m"
"           7.   Number of stages"
"      246.970   Minimum water level    metre"
"      247.570   Maximum water level    metre"
"      246.970   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                246.970     0.000     0.000"
"                247.070   0.01000    0.2100"
"                247.170   0.05000     2.470"
"                247.270    0.1100     8.810"
"                247.370    0.1800    18.680"
"                247.470    0.2700    31.780"
"                247.570    0.3700    47.410"
"             Peak outflow                  0.091    c.m/sec"
"             Maximum level               247.244    metre"
"             Maximum storage               7.149    c.m"
"             Centroidal lag                1.793   hours"
"                    0.026     0.102     0.091     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.026     0.091     0.091     0.000"
" 33          CATCHMENT 11"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"           11   Ilderton Road ROW with a opertion of Lot 2."
"       25.000   % Impervious"
"        0.210   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.157   Pervious Area"
"        5.000   Pervious length"
"       10.000   Pervious slope"
"        0.052   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.120   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
```

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"       98.000   Impervious SCS Curve No."
"        0.764   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.012     0.091     0.091     0.000 c.m/sec"
"             Catchment 11           Pervious   Impervious Total Area "
"             Surface Area           0.157      0.052      0.210      hectare"
"             Time of concentration  6.741      0.793      2.694      minutes"
"             Time to Centroid       107.270    88.795     94.700     minutes"
"             Rainfall depth         33.312     33.312     33.312     mm"
"             Rainfall volume        52.47      17.49      69.95      c.m"
"             Rainfall losses        29.326     7.859      23.959     mm"
"             Runoff depth           3.986      25.453     9.353      mm"
"             Runoff volume          6.28       13.36      19.64      c.m"
"             Runoff coefficient     0.120      0.764      0.281      "
"             Maximum flow           0.003      0.011      0.012      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.012     0.099     0.091     0.000"
" 52          CHANNEL DESIGN"
"        0.099   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                 0.184    metre"
"             Velocity                      0.529    m/sec"
"             Channel capacity              8.979    c.m/sec"
"             Critical depth                0.146    metre"
" 53          ROUTE    Channel Route 70"
"        70.00      Channel Route 70 Reach length   ( metre)"
"        0.455   X-factor <= 0.5"
"       99.238   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      100.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.097    c.m/sec"
"                    0.012     0.099     0.097     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.012     0.097     0.097     0.000"
" 54          POND DESIGN"
"        0.097   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"        220.1   Hydrograph volume    c.m"
"          10.   Number of stages"
"      246.300   Minimum water level    metre"
"      247.200   Maximum water level    metre"
"      246.300   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                246.300     0.000     0.000"
"                246.400   0.01000    0.2400"
"                246.500   0.05000     3.700"
"                246.600    0.1100    12.260"
"                246.700    0.1800    26.900"
"                246.800    0.2700    48.530"
"                246.900    0.3700    78.090"
"                247.000    0.4700   115.850"
"                247.100    0.5600   161.890"
"                247.180    0.6150   204.570"
"             Peak outflow                  0.088    c.m/sec"
"             Maximum level               246.568    metre"
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"             Maximum storage               9.546    c.m"
"             Centroidal lag                1.822   hours"
"                  0.012     0.097     0.088     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                   0.012     0.088     0.088     0.000"
" 33          CATCHMENT 12"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"           12   Ilderton Road ROW with a portion of Lot 10"
"       32.000   % Impervious"
"        0.180   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.122   Pervious Area"
"        5.000   Pervious length"
"       10.000   Pervious slope"
"        0.058   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.120   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.764   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.013     0.088     0.088     0.000 c.m/sec"
"             Catchment 12           Pervious   Impervious Total Area "
"             Surface Area           0.122      0.058      0.180      hectare"
"             Time of concentration  6.741      0.793      2.278      minutes"
"             Time to Centroid       107.270    88.795     93.408     minutes"
"             Rainfall depth         33.312     33.312     33.312     mm"
"             Rainfall volume        40.77      19.19      59.96      c.m"
"             Rainfall losses        29.326     7.859      22.457     mm"
"             Runoff depth           3.986      25.453     10.855     mm"
"             Runoff volume          4.88       14.66      19.54      c.m"
"             Runoff coefficient     0.120      0.764      0.326      "
"             Maximum flow           0.003      0.012      0.013      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                   0.013     0.095     0.088     0.000"
" 52          CHANNEL DESIGN"
"        0.095   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.250   Gradient   %"
"             Depth of flow                 0.240    metre"
"             Velocity                      0.300    m/sec"
"             Channel capacity              4.281    c.m/sec"
"             Critical depth                0.143    metre"
" 53          ROUTE    Channel Route 94"
"        94.00      Channel Route 94 Reach length   ( metre)"
"        0.309   X-factor <= 0.5"
"      234.682   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      300.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
```

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"             Peak outflow                  0.093    c.m/sec"
"                  0.013     0.095     0.093     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                   0.013     0.093     0.093     0.000"
" 54          POND DESIGN"
"        0.093   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"        239.4   Hydrograph volume    c.m"
"           7.   Number of stages"
"      245.380   Minimum water level    metre"
"      245.890   Maximum water level    metre"
"      245.380   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                245.380     0.000     0.000"
"                245.480   0.01500     2.560"
"                245.580   0.03500    10.590"
"                245.680   0.08000    24.170"
"                245.740    0.1050    35.150"
"                245.800    0.1600    48.320"
"                245.890    0.4300    72.500"
"             Peak outflow                  0.082    c.m/sec"
"             Maximum level               245.685    metre"
"             Maximum storage              25.171    c.m"
"             Centroidal lag                1.938   hours"
"                  0.013     0.093     0.082     0.000 c.m/sec"
```

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"                MIDUSS Output ----------------------------------------------->"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                      Eng 1432-1\SWM\MIDUSS\Post to Ilderton Road"
"                Output filename:              5 year post-Ilderton Road-1.out"
"                Licensee name:                                          owner"
"                Company                                               HP Inc."
"                Date & Time last used:               2020-05-11 at 9:38:53 AM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1500.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     1330.310   Coefficient A"
"        7.938   Constant B"
"        0.855   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"              Maximum intensity           137.641    mm/hr"
"              Total depth                  45.372    mm"
"            4   Shyd   Hydrograph extension used in this file"
" 33          CATCHMENT 101"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"          101   Bowling Green Drive Subdivision"
"       30.000   % Impervious"
"        1.560   Total Area"
"       38.000   Flow length"
"        2.000   Overland Slope"
"        1.092   Pervious Area"
"       38.000   Pervious length"
"        2.000   Pervious slope"
"        0.468   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.171   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.782   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.143     0.000     0.000     0.000 c.m/sec"
"              Catchment 101          Pervious   Impervious Total Area "
"              Surface Area           1.092      0.468      1.560      hectare"
"              Time of concentration  27.534     0.602      9.683      minutes"
"              Time to Centroid       128.612    86.403     100.635    minutes"
"              Rainfall depth         45.372     45.372     45.372     mm"
"              Rainfall volume        495.47     212.34     707.81     c.m"
"              Rainfall losses        37.634     9.878      29.307     mm"
"              Runoff depth           7.738      35.495     16.065     mm"
"              Runoff volume          84.50      166.12     250.62     c.m"
"              Runoff coefficient     0.171      0.782      0.354      "
"              Maximum flow           0.023      0.142      0.143      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.143     0.143     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.143   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        0.500   Channel depth    metre"
"        0.300   Gradient   %"
"              Depth of flow                 0.081    metre"
"              Velocity                      0.432    m/sec"
"              Channel capacity             18.111    c.m/sec"
"              Critical depth                0.070    metre"
" 53          ROUTE    Channel Route 150"
"      150.00      Channel Route 150 Reach length   ( metre)"
"        0.466   X-factor <= 0.5"
"      260.476   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"              Peak outflow                  0.126    c.m/sec"
"                     0.143     0.143     0.126     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"             5   Next link "
"                     0.143     0.126     0.126     0.000"
" 33          CATCHMENT 10"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"           10   Ilderton road ROW with part of lot 1 and 2 "
"       37.000   % Impervious"
"        0.330   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.208   Pervious Area"
"        5.000   Pervious length"
"        2.000   Pervious slope"
"        0.122   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.170   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.795   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.039     0.126     0.126     0.000 c.m/sec"
"              Catchment 10           Pervious   Impervious Total Area "
"              Surface Area           0.208      0.122      0.330      hectare"
"              Time of concentration  8.154      0.688      2.682      minutes"
"              Time to Centroid       105.113    86.324     91.342     minutes"
"              Rainfall depth         45.372     45.372     45.372     mm"
"              Rainfall volume        94.33      55.40      149.73     c.m"
"              Rainfall losses        37.652     9.296      27.160     mm"
"              Runoff depth           7.721      36.076     18.212     mm"
"              Runoff volume          16.05      44.05      60.10      c.m"
"              Runoff coefficient     0.170      0.795      0.401      "
"              Maximum flow           0.009      0.037      0.039      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.039     0.157     0.126     0.000"
" 52          CHANNEL DESIGN"
"        0.157   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
```

```
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                 0.219    metre"
"             Velocity                      0.594    m/sec"
"             Channel capacity              8.979    c.m/sec"
"             Critical depth                0.175    metre"
" 53          ROUTE    Channel Route 50"
"        50.00      Channel Route 50 Reach length   ( metre)"
"         0.425   X-factor <= 0.5"
"        63.166   K-lag   ( seconds)"
"         0.000   Default(0) or user spec.(1) values used"
"         0.500   X-factor <= 0.5"
"        30.000   K-lag   ( seconds)"
"         0.500   Beta weighting factor"
"        60.000   Routing time step   ( seconds)"
"             1   No. of sub-reaches"
"              Peak outflow                 0.144    c.m/sec"
"                     0.039     0.157     0.144     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"             5   Next link "
"                     0.039     0.144     0.144     0.000"
" 54          POND DESIGN"
"         0.144   Current peak flow    c.m/sec"
"         0.051   Target outflow    c.m/sec"
"         310.7   Hydrograph volume    c.m"
"            7.   Number of stages"
"       246.970   Minimum water level    metre"
"       247.570   Maximum water level    metre"
"       246.970   Starting water level    metre"
"             0   Keep Design Data: 1 = True; 0 = False"
"                   Level Discharge    Volume"
"                 246.970     0.000     0.000"
"                 247.070   0.01000    0.2100"
"                 247.170   0.05000     2.470"
"                 247.270    0.1100     8.810"
"                 247.370    0.1800    18.680"
"                 247.470    0.2700    31.780"
"                 247.570    0.3700    47.410"
"              Peak outflow                 0.130    c.m/sec"
"              Maximum level              247.303    metre"
"              Maximum storage             12.020    c.m"
"              Centroidal lag               1.741   hours"
"                     0.039     0.144     0.130     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"             5   Next link "
"                     0.039     0.130     0.130     0.000"
" 33          CATCHMENT 11"
"             1   Triangular SCS"
"             1   Equal length"
"             1   SCS method"
"            11   Ilderton Road ROW with a opertion of Lot 2."
"        25.000   % Impervious"
"         0.210   Total Area"
"         5.000   Flow length"
"         2.000   Overland Slope"
"         0.157   Pervious Area"
"         5.000   Pervious length"
"        10.000   Pervious slope"
"         0.052   Impervious Area"
"         5.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
"         0.170   Pervious Runoff coefficient"
"         0.030   Pervious Ia/S coefficient"
"         5.080   Pervious Initial abstraction"
"         0.015   Impervious Manning 'n'"
"        98.000   Impervious SCS Curve No."
"         0.795   Impervious Runoff coefficient"
"         0.386   Impervious Ia/S coefficient"
"         2.001   Impervious Initial abstraction"
"                       0.018     0.130     0.130     0.000 c.m/sec"
"              Catchment 11           Pervious   Impervious Total Area "
"              Surface Area           0.157      0.052      0.210      hectare"
"              Time of concentration  5.031      0.688      2.384      minutes"
"              Time to Centroid       101.306    86.324     92.175     minutes"
"              Rainfall depth         45.372     45.372     45.372     mm"
"              Rainfall volume        71.46      23.82      95.28      c.m"
"              Rainfall losses        37.667     9.296      30.574     mm"
"              Runoff depth           7.705      36.076     14.798     mm"
"              Runoff volume          12.14      18.94      31.08      c.m"
"              Runoff coefficient     0.170      0.795      0.326      "
"              Maximum flow           0.007      0.016      0.018      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                       0.018     0.143     0.130     0.000"
" 52          CHANNEL DESIGN"
"         0.143   Current peak flow    c.m/sec"
"         0.040   Manning 'n'"
"            0.   Cross-section type: 0=trapezoidal; 1=general"
"         0.000   Basewidth    metre"
"         7.000   Left bank slope"
"         4.000   Right bank slope"
"         1.000   Channel depth    metre"
"         1.100   Gradient   %"
"              Depth of flow                 0.212    metre"
"              Velocity                      0.580    m/sec"
"              Channel capacity              8.979    c.m/sec"
"              Critical depth                0.169    metre"
" 53          ROUTE    Channel Route 70"
"        70.00      Channel Route 70 Reach length   ( metre)"
"         0.448   X-factor <= 0.5"
"        90.522   K-lag   ( seconds)"
"         0.000   Default(0) or user spec.(1) values used"
"         0.500   X-factor <= 0.5"
"        30.000   K-lag   ( seconds)"
"         0.500   Beta weighting factor"
"        75.000   Routing time step   ( seconds)"
"             1   No. of sub-reaches"
"              Peak outflow                 0.141    c.m/sec"
"                       0.018     0.143     0.141     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"             5   Next link "
"                       0.018     0.141     0.141     0.000"
" 54          POND DESIGN"
"         0.141   Current peak flow    c.m/sec"
"         0.051   Target outflow    c.m/sec"
"         341.0   Hydrograph volume    c.m"
"           10.   Number of stages"
"       246.300   Minimum water level    metre"
"       247.200   Maximum water level    metre"
"       246.300   Starting water level    metre"
"             0   Keep Design Data: 1 = True; 0 = False"
"                   Level Discharge    Volume"
"                 246.300     0.000     0.000"
"                 246.400   0.01000    0.2400"
"                 246.500   0.05000     3.700"
"                 246.600    0.1100    12.260"
"                 246.700    0.1800    26.900"
"                 246.800    0.2700    48.530"
"                 246.900    0.3700    78.090"
"                 247.000    0.4700   115.850"
"                 247.100    0.5600   161.890"
"                 247.180    0.6150   204.570"
"              Peak outflow                 0.128    c.m/sec"
"              Maximum level              246.630    metre"
```

```
"             Maximum storage              16.705    c.m"
"             Centroidal lag                1.771   hours"
"                  0.018     0.141     0.128     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                   0.018     0.128     0.128     0.000"
" 33          CATCHMENT 12"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"           12   Ilderton Road ROW with a portion of Lot 10"
"       32.000   % Impervious"
"        0.180   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.122   Pervious Area"
"        5.000   Pervious length"
"       10.000   Pervious slope"
"        0.058   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.170   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.795   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.019     0.128     0.128     0.000 c.m/sec"
"             Catchment 12           Pervious   Impervious Total Area "
"             Surface Area           0.122      0.058      0.180      hectare"
"             Time of concentration  5.031      0.688      2.044      minutes"
"             Time to Centroid       101.306    86.324     91.001     minutes"
"             Rainfall depth         45.372     45.372     45.372     mm"
"             Rainfall volume        55.54      26.13      81.67      c.m"
"             Rainfall losses        37.667     9.296      28.589     mm"
"             Runoff depth           7.705      36.076     16.784     mm"
"             Runoff volume          9.43       20.78      30.21      c.m"
"             Runoff coefficient     0.170      0.795      0.370      "
"             Maximum flow           0.005      0.017      0.019      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                   0.019     0.138     0.128     0.000"
" 52          CHANNEL DESIGN"
"        0.138   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.250   Gradient   %"
"             Depth of flow                 0.276    metre"
"             Velocity                      0.330    m/sec"
"             Channel capacity              4.281    c.m/sec"
"             Critical depth                0.167    metre"
" 53          ROUTE    Channel Route 94"
"        94.00      Channel Route 94 Reach length   ( metre)"
"        0.280   X-factor <= 0.5"
"      213.768   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      300.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
```

```
"             Peak outflow                  0.137    c.m/sec"
"                  0.019     0.138     0.137     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                   0.019     0.137     0.137     0.000"
" 54          POND DESIGN"
"        0.137   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"        371.5   Hydrograph volume    c.m"
"           7.   Number of stages"
"      245.380   Minimum water level    metre"
"      245.890   Maximum water level    metre"
"      245.380   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                245.380     0.000     0.000"
"                245.480   0.01500     2.560"
"                245.580   0.03500    10.590"
"                245.680   0.08000    24.170"
"                245.740    0.1050    35.150"
"                245.800    0.1600    48.320"
"                245.890    0.4300    72.500"
"             Peak outflow                  0.125    c.m/sec"
"             Maximum level               245.762    metre"
"             Maximum storage              39.926    c.m"
"             Centroidal lag                1.890   hours"
"                  0.019     0.137     0.125     0.000 c.m/sec"
```

```
"                MIDUSS Output ----------------------------------------------->"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                      Eng 1432-1\SWM\MIDUSS\Post to Ilderton Road"
"                Output filename:            10 year post-Ilderton Road-1.out"
"                Licensee name:                                        owner"
"                Company                                             HP Inc."
"                Date & Time last used:             2020-05-11 at 9:39:45 AM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1500.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     1497.190   Coefficient A"
"        7.188   Constant B"
"        0.850   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"              Maximum intensity          164.792    mm/hr"
"              Total depth                 52.597    mm"
" 33           CATCHMENT 101"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"          101   Bowling Green Drive Subdivision"
"       30.000   % Impervious"
"        1.560   Total Area"
"       38.000   Flow length"
"        2.000   Overland Slope"
"        1.092   Pervious Area"
"       38.000   Pervious length"
"        2.000   Pervious slope"
"        0.468   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.198   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.792   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.175     0.000     0.000     0.000 c.m/sec"
"              Catchment 101          Pervious   Impervious Total Area "
"              Surface Area           1.092      0.468      1.560      hectare"
"              Time of concentration  24.325     0.556      9.311      minutes"
"              Time to Centroid       124.065    85.843     99.922     minutes"
"              Rainfall depth         52.597     52.597     52.597     mm"
"              Rainfall volume        574.36     246.15     820.51     c.m"
"              Rainfall losses        42.190     10.952     32.819     mm"
"              Runoff depth           10.407     41.645     19.778     mm"
"              Runoff volume          113.64     194.90     308.54     c.m"
"              Runoff coefficient     0.198      0.792      0.376      "
"              Maximum flow           0.035      0.173      0.175      c.m/sec"
" 40           HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.175     0.175     0.000     0.000"
" 52           CHANNEL DESIGN"
"        0.175   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        0.500   Channel depth    metre"
"        0.300   Gradient   %"
"              Depth of flow                  0.088    metre"
"              Velocity                       0.454    m/sec"
"              Channel capacity              18.111    c.m/sec"
"              Critical depth                 0.076    metre"
" 53           ROUTE    Channel Route 150"
"      150.00      Channel Route 150 Reach length   ( metre)"
"        0.463   X-factor <= 0.5"
"      247.652   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"             1   No. of sub-reaches"
"              Peak outflow                   0.153    c.m/sec"
"                     0.175     0.175     0.153     0.000 c.m/sec"
" 40           HYDROGRAPH Next link "
"             5   Next link "
"                     0.175     0.153     0.153     0.000"
" 33           CATCHMENT 10"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"           10   Ilderton road ROW with part of lot 1 and 2 "
"       37.000   % Impervious"
"        0.330   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.208   Pervious Area"
"        5.000   Pervious length"
"        2.000   Pervious slope"
"        0.122   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.196   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.806   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.047     0.153     0.153     0.000 c.m/sec"
"              Catchment 10           Pervious   Impervious Total Area "
"              Surface Area           0.208      0.122      0.330      hectare"
"              Time of concentration  7.204      0.636      2.563      minutes"
"              Time to Centroid       103.313    85.797     90.935     minutes"
"              Rainfall depth         52.597     52.597     52.597     mm"
"              Rainfall volume        109.35     64.22      173.57     c.m"
"              Rainfall losses        42.267     10.228     30.413     mm"
"              Runoff depth           10.330     42.369     22.185     mm"
"              Runoff volume          21.48      51.73      73.21      c.m"
"              Runoff coefficient     0.196      0.806      0.422      "
"              Maximum flow           0.013      0.045      0.047      c.m/sec"
" 40           HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.047     0.192     0.153     0.000"
" 52           CHANNEL DESIGN"
"        0.192   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
```

```
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                0.236    metre"
"             Velocity                     0.624    m/sec"
"             Channel capacity             8.979    c.m/sec"
"             Critical depth               0.190    metre"
" 53          ROUTE    Channel Route 50"
"       50.00      Channel Route 50 Reach length   ( metre)"
"        0.419   X-factor <= 0.5"
"       60.067   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"       60.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                0.178    c.m/sec"
"                    0.047     0.192     0.178     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.047     0.178     0.178     0.000"
" 54          POND DESIGN"
"        0.178   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"        381.7   Hydrograph volume    c.m"
"           7.   Number of stages"
"      246.970   Minimum water level    metre"
"      247.570   Maximum water level    metre"
"      246.970   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                246.970     0.000     0.000"
"                247.070   0.01000    0.2100"
"                247.170   0.05000     2.470"
"                247.270    0.1100     8.810"
"                247.370    0.1800    18.680"
"                247.470    0.2700    31.780"
"                247.570    0.3700    47.410"
"             Peak outflow                0.157    c.m/sec"
"             Maximum level             247.344    metre"
"             Maximum storage            16.088    c.m"
"             Centroidal lag              1.728   hours"
"                    0.047     0.178     0.157     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.047     0.157     0.157     0.000"
" 33          CATCHMENT 11"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"           11   Ilderton Road ROW with a opertion of Lot 2."
"       25.000   % Impervious"
"        0.210   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.157   Pervious Area"
"        5.000   Pervious length"
"       10.000   Pervious slope"
"        0.052   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.196   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.806   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.023     0.157     0.157     0.000 c.m/sec"
"             Catchment 11           Pervious   Impervious Total Area "
"             Surface Area           0.157      0.052      0.210      hectare"
"             Time of concentration  4.445      0.636      2.244      minutes"
"             Time to Centroid       99.870     85.797     91.738     minutes"
"             Rainfall depth         52.597     52.597     52.597     mm"
"             Rainfall volume        82.84      27.61      110.45     c.m"
"             Rainfall losses        42.280     10.228     34.267     mm"
"             Runoff depth           10.317     42.369     18.330     mm"
"             Runoff volume          16.25      22.24      38.49      c.m"
"             Runoff coefficient     0.196      0.806      0.349      "
"             Maximum flow           0.010      0.019      0.023      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.023     0.172     0.157     0.000"
" 52          CHANNEL DESIGN"
"        0.172   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                0.227    metre"
"             Velocity                     0.607    m/sec"
"             Channel capacity             8.979    c.m/sec"
"             Critical depth               0.182    metre"
" 53          ROUTE    Channel Route 70"
"       70.00      Channel Route 70 Reach length   ( metre)"
"        0.445   X-factor <= 0.5"
"       86.438   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"       75.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                0.171    c.m/sec"
"                    0.023     0.172     0.171     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.023     0.171     0.171     0.000"
" 54          POND DESIGN"
"        0.171   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"        419.6   Hydrograph volume    c.m"
"          10.   Number of stages"
"      246.300   Minimum water level    metre"
"      247.200   Maximum water level    metre"
"      246.300   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                246.300     0.000     0.000"
"                246.400   0.01000    0.2400"
"                246.500   0.05000     3.700"
"                246.600    0.1100    12.260"
"                246.700    0.1800    26.900"
"                246.800    0.2700    48.530"
"                246.900    0.3700    78.090"
"                247.000    0.4700   115.850"
"                247.100    0.5600   161.890"
"                247.180    0.6150   204.570"
"             Peak outflow                0.154    c.m/sec"
"             Maximum level             246.670    metre"
```

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"             Maximum storage              22.445    c.m"
"             Centroidal lag                1.761   hours"
"                  0.023     0.171     0.154     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                   0.023     0.154     0.154     0.000"
" 33          CATCHMENT 12"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"           12   Ilderton Road ROW with a portion of Lot 10"
"       32.000   % Impervious"
"        0.180   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.122   Pervious Area"
"        5.000   Pervious length"
"       10.000   Pervious slope"
"        0.058   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.196   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.806   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.024     0.154     0.154     0.000 c.m/sec"
"             Catchment 12           Pervious   Impervious Total Area "
"             Surface Area           0.122      0.058      0.180      hectare"
"             Time of concentration  4.445      0.636      1.935      minutes"
"             Time to Centroid       99.870     85.797     90.596     minutes"
"             Rainfall depth         52.597     52.597     52.597     mm"
"             Rainfall volume        64.38      30.30      94.67      c.m"
"             Rainfall losses        42.280     10.228     32.023     mm"
"             Runoff depth           10.317     42.369     20.574     mm"
"             Runoff volume          12.63      24.40      37.03      c.m"
"             Runoff coefficient     0.196      0.806      0.391      "
"             Maximum flow           0.008      0.021      0.024      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                   0.024     0.166     0.154     0.000"
" 52          CHANNEL DESIGN"
"        0.166   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.250   Gradient   %"
"             Depth of flow                 0.296    metre"
"             Velocity                      0.345    m/sec"
"             Channel capacity              4.281    c.m/sec"
"             Critical depth                0.179    metre"
" 53          ROUTE    Channel Route 94"
"        94.00      Channel Route 94 Reach length   ( metre)"
"        0.264   X-factor <= 0.5"
"      204.120   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      300.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
```

```
"             Peak outflow                  0.165    c.m/sec"
"                  0.024     0.166     0.165     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                   0.024     0.165     0.165     0.000"
" 54          POND DESIGN"
"        0.165   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"        456.7   Hydrograph volume    c.m"
"           7.   Number of stages"
"      245.380   Minimum water level    metre"
"      245.890   Maximum water level    metre"
"      245.380   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                245.380     0.000     0.000"
"                245.480   0.01500     2.560"
"                245.580   0.03500    10.590"
"                245.680   0.08000    24.170"
"                245.740    0.1050    35.150"
"                245.800    0.1600    48.320"
"                245.890    0.4300    72.500"
"             Peak outflow                  0.154    c.m/sec"
"             Maximum level               245.793    metre"
"             Maximum storage              46.779    c.m"
"             Centroidal lag                1.879   hours"
"                  0.024     0.165     0.154     0.000 c.m/sec"
```

```
"                MIDUSS Output ----------------------------------------------->"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                      Eng 1432-1\SWM\MIDUSS\Post to Ilderton Road"
"                Output filename:            25 year post-Ilderton Road-1.out"
"                Licensee name:                                        owner"
"                Company                                             HP Inc."
"                Date & Time last used:             2020-05-11 at 9:41:14 AM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1500.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     1455.000   Coefficient A"
"        5.000   Constant B"
"        0.820   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"              Maximum intensity          202.437    mm/hr"
"              Total depth                 60.381    mm"
"            5   25hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 101"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"          101   Bowling Green Drive Subdivision"
"       30.000   % Impervious"
"        1.560   Total Area"
"       38.000   Flow length"
"        2.000   Overland Slope"
"        1.092   Pervious Area"
"       38.000   Pervious length"
"        2.000   Pervious slope"
"        0.468   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.225   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.800   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.220     0.000     0.000     0.000 c.m/sec"
"             Catchment 101          Pervious   Impervious Total Area "
"             Surface Area           1.092      0.468      1.560      hectare"
"             Time of concentration  21.153     0.509      8.691      minutes"
"             Time to Centroid       121.168    85.754     99.789     minutes"
"             Rainfall depth         60.381     60.381     60.381     mm"
"             Rainfall volume        659.37     282.59     941.95     c.m"
"             Rainfall losses        46.783     12.049     36.363     mm"
"             Runoff depth           13.598     48.332     24.018     mm"
"             Runoff volume          148.49     226.19     374.69     c.m"
"             Runoff coefficient     0.225      0.800      0.398      "
"             Maximum flow           0.049      0.215      0.220      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.220     0.220     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.220   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        0.500   Channel depth    metre"
"        0.300   Gradient   %"
"              Depth of flow                 0.096    metre"
"              Velocity                      0.481    m/sec"
"              Channel capacity             18.111    c.m/sec"
"              Critical depth                0.083    metre"
" 53          ROUTE    Channel Route 150"
"      150.00      Channel Route 150 Reach length   ( metre)"
"        0.460   X-factor <= 0.5"
"      233.881   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"              Peak outflow                  0.188    c.m/sec"
"                     0.220     0.220     0.188     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"             5   Next link "
"                     0.220     0.188     0.188     0.000"
" 33          CATCHMENT 10"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"           10   Ilderton road ROW with part of lot 1 and 2 "
"       37.000   % Impervious"
"        0.330   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.208   Pervious Area"
"        5.000   Pervious length"
"        2.000   Pervious slope"
"        0.122   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.223   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.813   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.061     0.188     0.188     0.000 c.m/sec"
"             Catchment 10           Pervious   Impervious Total Area "
"             Surface Area           0.208      0.122      0.330      hectare"
"             Time of concentration  6.264      0.582      2.391      minutes"
"             Time to Centroid       102.451    85.754     91.068     minutes"
"             Rainfall depth         60.381     60.381     60.381     mm"
"             Rainfall volume        125.53     73.73      199.26     c.m"
"             Rainfall losses        46.914     11.262     33.723     mm"
"             Runoff depth           13.467     49.119     26.659     mm"
"             Runoff volume          28.00      59.97      87.97      c.m"
"             Runoff coefficient     0.223      0.813      0.442      "
"             Maximum flow           0.016      0.056      0.061      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.061     0.234     0.188     0.000"
" 52          CHANNEL DESIGN"
"        0.234   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
```

```
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                0.255    metre"
"             Velocity                     0.656    m/sec"
"             Channel capacity             8.979    c.m/sec"
"             Critical depth               0.206    metre"
" 53          ROUTE    Channel Route 50"
"       50.00      Channel Route 50 Reach length   ( metre)"
"        0.413   X-factor <= 0.5"
"       57.168   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"       60.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                 0.219    c.m/sec"
"                    0.061     0.234     0.219     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.061     0.219     0.219     0.000"
" 54          POND DESIGN"
"        0.219   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"        462.7   Hydrograph volume    c.m"
"           7.   Number of stages"
"      246.970   Minimum water level    metre"
"      247.570   Maximum water level    metre"
"      246.970   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                246.970     0.000     0.000"
"                247.070   0.01000    0.2100"
"                247.170   0.05000     2.470"
"                247.270    0.1100     8.810"
"                247.370    0.1800    18.680"
"                247.470    0.2700    31.780"
"                247.570    0.3700    47.410"
"             Peak outflow                 0.188    c.m/sec"
"             Maximum level              247.388    metre"
"             Maximum storage             21.032    c.m"
"             Centroidal lag               1.724   hours"
"                    0.061     0.219     0.188     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.061     0.188     0.188     0.000"
" 33          CATCHMENT 11"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"           11   Ilderton Road ROW with a opertion of Lot 2."
"       25.000   % Impervious"
"        0.210   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.157   Pervious Area"
"        5.000   Pervious length"
"       10.000   Pervious slope"
"        0.052   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.221   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.813   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.031     0.188     0.188     0.000 c.m/sec"
"             Catchment 11           Pervious   Impervious Total Area "
"             Surface Area           0.157      0.052      0.210      hectare"
"             Time of concentration  3.865      0.582      2.056      minutes"
"             Time to Centroid       99.525     85.754     91.935     minutes"
"             Rainfall depth         60.381     60.381     60.381     mm"
"             Rainfall volume        95.10      31.70      126.80     c.m"
"             Rainfall losses        47.047     11.262     38.100     mm"
"             Runoff depth           13.335     49.119     22.281     mm"
"             Runoff volume          21.00      25.79      46.79      c.m"
"             Runoff coefficient     0.221      0.813      0.369      "
"             Maximum flow           0.014      0.024      0.031      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.031     0.208     0.188     0.000"
" 52          CHANNEL DESIGN"
"        0.208   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                0.244    metre"
"             Velocity                     0.637    m/sec"
"             Channel capacity             8.979    c.m/sec"
"             Critical depth               0.196    metre"
" 53          ROUTE    Channel Route 70"
"       70.00      Channel Route 70 Reach length   ( metre)"
"        0.441   X-factor <= 0.5"
"       82.427   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"       75.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                 0.205    c.m/sec"
"                    0.031     0.208     0.205     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.031     0.205     0.205     0.000"
" 54          POND DESIGN"
"        0.205   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"        509.2   Hydrograph volume    c.m"
"          10.   Number of stages"
"      246.300   Minimum water level    metre"
"      247.200   Maximum water level    metre"
"      246.300   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                246.300     0.000     0.000"
"                246.400   0.01000    0.2400"
"                246.500   0.05000     3.700"
"                246.600    0.1100    12.260"
"                246.700    0.1800    26.900"
"                246.800    0.2700    48.530"
"                246.900    0.3700    78.090"
"                247.000    0.4700   115.850"
"                247.100    0.5600   161.890"
"                247.180    0.6150   204.570"
"             Peak outflow                 0.185    c.m/sec"
"             Maximum level              246.711    metre"
```

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"             Maximum storage              29.327    c.m"
"             Centroidal lag                1.760   hours"
"                  0.031     0.205     0.185     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                   0.031     0.185     0.185     0.000"
" 33          CATCHMENT 12"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"           12   Ilderton Road ROW with a portion of Lot 10"
"       32.000   % Impervious"
"        0.180   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.122   Pervious Area"
"        5.000   Pervious length"
"       10.000   Pervious slope"
"        0.058   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.221   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.813   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                   0.032     0.185     0.185     0.000 c.m/sec"
"             Catchment 12           Pervious   Impervious Total Area "
"             Surface Area           0.122      0.058      0.180      hectare"
"             Time of concentration  3.865      0.582      1.783      minutes"
"             Time to Centroid       99.525     85.754     90.792     minutes"
"             Rainfall depth         60.381     60.381     60.381     mm"
"             Rainfall volume        73.91      34.78      108.69     c.m"
"             Rainfall losses        47.047     11.262     35.596     mm"
"             Runoff depth           13.335     49.119     24.786     mm"
"             Runoff volume          16.32      28.29      44.61      c.m"
"             Runoff coefficient     0.221      0.813      0.410      "
"             Maximum flow           0.011      0.026      0.032      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                   0.032     0.200     0.185     0.000"
" 52          CHANNEL DESIGN"
"        0.200   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.250   Gradient   %"
"             Depth of flow                 0.317    metre"
"             Velocity                      0.362    m/sec"
"             Channel capacity              4.281    c.m/sec"
"             Critical depth                0.193    metre"
" 53          ROUTE    Channel Route 94"
"        94.00      Channel Route 94 Reach length   ( metre)"
"        0.247   X-factor <= 0.5"
"      194.829   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
```

```
"             Peak outflow                  0.195    c.m/sec"
"                  0.032     0.200     0.195     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                   0.032     0.195     0.195     0.000"
" 54          POND DESIGN"
"        0.195   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"        553.0   Hydrograph volume    c.m"
"           7.   Number of stages"
"      245.380   Minimum water level    metre"
"      245.890   Maximum water level    metre"
"      245.380   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                245.380     0.000     0.000"
"                245.480   0.01500     2.560"
"                245.580   0.03500    10.590"
"                245.680   0.08000    24.170"
"                245.740    0.1050    35.150"
"                245.800    0.1600    48.320"
"                245.890    0.4300    72.500"
"             Peak outflow                  0.184    c.m/sec"
"             Maximum level               245.810    metre"
"             Maximum storage              51.012    c.m"
"             Centroidal lag                1.874   hours"
"                  0.032     0.195     0.184     0.000 c.m/sec"
```

```
"                MIDUSS Output ------------------------------------------------>"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                      Eng 1432-1\SWM\MIDUSS\Post to Ilderton Road"
"                Output filename:            50 year post-Ilderton Road-2.out"
"                Licensee name:                                        owner"
"                Company                                             HP Inc."
"                Date & Time last used:             2020-05-11 at 9:42:00 AM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1500.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     1499.060   Coefficient A"
"        4.188   Constant B"
"        0.809   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"              Maximum intensity          229.029    mm/hr"
"              Total depth                 66.122    mm"
" 33          CATCHMENT 101"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"          101   Bowling Green Drive Subdivision"
"       30.000   % Impervious"
"        1.560   Total Area"
"       38.000   Flow length"
"        2.000   Overland Slope"
"        1.092   Pervious Area"
"       38.000   Pervious length"
"        2.000   Pervious slope"
"        0.468   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.244   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.808   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.252     0.000     0.000     0.000 c.m/sec"
"             Catchment 101          Pervious   Impervious Total Area "
"             Surface Area           1.092      0.468      1.560      hectare"
"             Time of concentration  19.303     0.483      8.268      minutes"
"             Time to Centroid       119.252    85.540     99.484     minutes"
"             Rainfall depth         66.122     66.122     66.122     mm"
"             Rainfall volume        722.05     309.45     1031.50    c.m"
"             Rainfall losses        49.979     12.727     38.804     mm"
"             Runoff depth           16.142     53.394     27.318     mm"
"             Runoff volume          176.27     249.88     426.16     c.m"
"             Runoff coefficient     0.244      0.808      0.413      "
"             Maximum flow           0.060      0.245      0.252      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.252     0.252     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.252   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        0.500   Channel depth    metre"
"        0.300   Gradient   %"
"             Depth of flow                 0.101    metre"
"             Velocity                      0.498    m/sec"
"             Channel capacity             18.111    c.m/sec"
"             Critical depth                0.088    metre"
" 53          ROUTE    Channel Route 150"
"      150.00      Channel Route 150 Reach length   ( metre)"
"        0.458   X-factor <= 0.5"
"      226.074   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.214    c.m/sec"
"                    0.252     0.252     0.214     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"             5   Next link "
"                     0.252     0.214     0.214     0.000"
" 33          CATCHMENT 10"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"           10   Ilderton road ROW with part of lot 1 and 2 "
"       37.000   % Impervious"
"        0.330   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.208   Pervious Area"
"        5.000   Pervious length"
"        2.000   Pervious slope"
"        0.122   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.243   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.818   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.071     0.214     0.214     0.000 c.m/sec"
"             Catchment 10           Pervious   Impervious Total Area "
"             Surface Area           0.208      0.122      0.330      hectare"
"             Time of concentration  5.717      0.553      2.289      minutes"
"             Time to Centroid       101.688    85.597     91.008     minutes"
"             Rainfall depth         66.122     66.122     66.122     mm"
"             Rainfall volume        137.47     80.73      218.20     c.m"
"             Rainfall losses        50.037     12.055     35.984     mm"
"             Runoff depth           16.085     54.066     30.138     mm"
"             Runoff volume          33.44      66.01      99.46      c.m"
"             Runoff coefficient     0.243      0.818      0.456      "
"             Maximum flow           0.019      0.064      0.071      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.071     0.266     0.214     0.000"
" 52          CHANNEL DESIGN"
"        0.266   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
```

```
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                 0.267    metre"
"             Velocity                      0.677    m/sec"
"             Channel capacity              8.979    c.m/sec"
"             Critical depth                0.217    metre"
" 53          ROUTE    Channel Route 50"
"       50.00      Channel Route 50 Reach length   ( metre)"
"        0.409   X-factor <= 0.5"
"       55.365   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"       60.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.250    c.m/sec"
"                    0.071     0.266     0.250     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.071     0.250     0.250     0.000"
" 54          POND DESIGN"
"        0.250   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"        525.6   Hydrograph volume    c.m"
"           7.   Number of stages"
"      246.970   Minimum water level    metre"
"      247.570   Maximum water level    metre"
"      246.970   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                246.970     0.000     0.000"
"                247.070   0.01000    0.2100"
"                247.170   0.05000     2.470"
"                247.270    0.1100     8.810"
"                247.370    0.1800    18.680"
"                247.470    0.2700    31.780"
"                247.570    0.3700    47.410"
"             Peak outflow                  0.212    c.m/sec"
"             Maximum level               247.418    metre"
"             Maximum storage              25.031    c.m"
"             Centroidal lag                1.718   hours"
"                    0.071     0.250     0.212     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.071     0.212     0.212     0.000"
" 33          CATCHMENT 11"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"           11   Ilderton Road ROW with a opertion of Lot 2."
"       25.000   % Impervious"
"        0.210   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.157   Pervious Area"
"        5.000   Pervious length"
"       10.000   Pervious slope"
"        0.052   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.238   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
```

```
"       98.000   Impervious SCS Curve No."
"        0.818   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.037     0.212     0.212     0.000 c.m/sec"
"             Catchment 11           Pervious   Impervious Total Area "
"             Surface Area           0.157      0.052      0.210      hectare"
"             Time of concentration  3.527      0.553      1.940      minutes"
"             Time to Centroid       99.099     85.597     91.892     minutes"
"             Rainfall depth         66.122     66.122     66.122     mm"
"             Rainfall volume        104.14     34.71      138.86     c.m"
"             Rainfall losses        50.381     12.055     40.799     mm"
"             Runoff depth           15.741     54.066     25.322     mm"
"             Runoff volume          24.79      28.38      53.18      c.m"
"             Runoff coefficient     0.238      0.818      0.383      "
"             Maximum flow           0.017      0.027      0.037      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.037     0.237     0.212     0.000"
" 52          CHANNEL DESIGN"
"        0.237   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                 0.256    metre"
"             Velocity                      0.658    m/sec"
"             Channel capacity              8.979    c.m/sec"
"             Critical depth                0.207    metre"
" 53          ROUTE    Channel Route 70"
"       70.00      Channel Route 70 Reach length   ( metre)"
"        0.438   X-factor <= 0.5"
"       79.781   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"       75.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.232    c.m/sec"
"                    0.037     0.237     0.232     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.037     0.232     0.232     0.000"
" 54          POND DESIGN"
"        0.232   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"        578.8   Hydrograph volume    c.m"
"          10.   Number of stages"
"      246.300   Minimum water level    metre"
"      247.200   Maximum water level    metre"
"      246.300   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                246.300     0.000     0.000"
"                246.400   0.01000    0.2400"
"                246.500   0.05000     3.700"
"                246.600    0.1100    12.260"
"                246.700    0.1800    26.900"
"                246.800    0.2700    48.530"
"                246.900    0.3700    78.090"
"                247.000    0.4700   115.850"
"                247.100    0.5600   161.890"
"                247.180    0.6150   204.570"
"             Peak outflow                  0.208    c.m/sec"
"             Maximum level               246.738    metre"
```

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"             Maximum storage              35.166    c.m"
"             Centroidal lag                1.755   hours"
"                  0.037     0.232     0.208     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                   0.037     0.208     0.208     0.000"
" 33          CATCHMENT 12"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"           12   Ilderton Road ROW with a portion of Lot 10"
"       32.000   % Impervious"
"        0.180   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.122   Pervious Area"
"        5.000   Pervious length"
"       10.000   Pervious slope"
"        0.058   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.238   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.818   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                   0.037     0.208     0.208     0.000 c.m/sec"
"             Catchment 12           Pervious   Impervious Total Area "
"             Surface Area           0.122      0.058      0.180      hectare"
"             Time of concentration  3.527      0.553      1.690      minutes"
"             Time to Centroid       99.099     85.597     90.758     minutes"
"             Rainfall depth         66.122     66.122     66.122     mm"
"             Rainfall volume        80.93      38.09      119.02     c.m"
"             Rainfall losses        50.381     12.055     38.117     mm"
"             Runoff depth           15.741     54.066     28.005     mm"
"             Runoff volume          19.27      31.14      50.41      c.m"
"             Runoff coefficient     0.238      0.818      0.424      "
"             Maximum flow           0.013      0.030      0.037      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                   0.037     0.225     0.208     0.000"
" 52          CHANNEL DESIGN"
"        0.225   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.250   Gradient   %"
"             Depth of flow                 0.331    metre"
"             Velocity                      0.373    m/sec"
"             Channel capacity              4.281    c.m/sec"
"             Critical depth                0.203    metre"
" 53          ROUTE    Channel Route 94"
"        94.00      Channel Route 94 Reach length   ( metre)"
"        0.236   X-factor <= 0.5"
"      189.176   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
```

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"             Peak outflow                  0.219    c.m/sec"
"                  0.037     0.225     0.219     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                   0.037     0.219     0.219     0.000"
" 54          POND DESIGN"
"        0.219   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"        628.9   Hydrograph volume    c.m"
"           7.   Number of stages"
"      245.380   Minimum water level    metre"
"      245.890   Maximum water level    metre"
"      245.380   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                245.380     0.000     0.000"
"                245.480   0.01500     2.560"
"                245.580   0.03500    10.590"
"                245.680   0.08000    24.170"
"                245.740    0.1050    35.150"
"                245.800    0.1600    48.320"
"                245.890    0.4300    72.500"
"             Peak outflow                  0.212    c.m/sec"
"             Maximum level               245.818    metre"
"             Maximum storage              53.230    c.m"
"             Centroidal lag                1.867   hours"
"                  0.037     0.219     0.212     0.000 c.m/sec"
```

```
"                MIDUSS Output ------------------------------------------------>"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                      Eng 1432-1\SWM\MIDUSS\Post to Ilderton Road"
"                Output filename:            100 year post-Ilderton Road-1.out"
"                Licensee name:                                        owner"
"                Company                                             HP Inc."
"                Date & Time last used:               2020-05-11 at 9:42:59 AM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1500.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     1499.530   Coefficient A"
"        3.297   Constant B"
"        0.794   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"              Maximum intensity           257.108    mm/hr"
"              Total depth                  71.801    mm"
"            6   100hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 101"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"          101   Bowling Green Drive Subdivision"
"       30.000   % Impervious"
"        1.560   Total Area"
"       38.000   Flow length"
"        2.000   Overland Slope"
"        1.092   Pervious Area"
"       38.000   Pervious length"
"        2.000   Pervious slope"
"        0.468   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.262   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.814   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.286     0.000     0.000     0.000 c.m/sec"
"              Catchment 101          Pervious   Impervious Total Area "
"              Surface Area           1.092      0.468      1.560      hectare"
"              Time of concentration  17.747     0.460      7.880      minutes"
"              Time to Centroid       117.877    85.455     99.371     minutes"
"              Rainfall depth         71.801     71.801     71.801     mm"
"              Rainfall volume        784.07     336.03     1120.10    c.m"
"              Rainfall losses        52.962     13.348     41.078     mm"
"              Runoff depth           18.839     58.454     30.723     mm"
"              Runoff volume          205.72     273.56     479.28     c.m"
"              Runoff coefficient     0.262      0.814      0.428      "
"              Maximum flow           0.074      0.277      0.286      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.286     0.286     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.286   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        0.500   Channel depth    metre"
"        0.300   Gradient   %"
"              Depth of flow                 0.106    metre"
"              Velocity                      0.514    m/sec"
"              Channel capacity             18.111    c.m/sec"
"              Critical depth                0.092    metre"
" 53          ROUTE    Channel Route 150"
"      150.00      Channel Route 150 Reach length   ( metre)"
"        0.456   X-factor <= 0.5"
"      219.033   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"              Peak outflow                  0.241    c.m/sec"
"                     0.286     0.286     0.241     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"             5   Next link "
"                     0.286     0.241     0.241     0.000"
" 33          CATCHMENT 10"
"             1   Triangular SCS"
"             1   Equal length"
"             1   SCS method"
"            10   Ilderton road ROW with part of lot 1 and 2 "
"        37.000   % Impervious"
"         0.330   Total Area"
"         5.000   Flow length"
"         2.000   Overland Slope"
"         0.208   Pervious Area"
"         5.000   Pervious length"
"         2.000   Pervious slope"
"         0.122   Impervious Area"
"         5.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
"         0.262   Pervious Runoff coefficient"
"         0.030   Pervious Ia/S coefficient"
"         5.080   Pervious Initial abstraction"
"         0.015   Impervious Manning 'n'"
"        98.000   Impervious SCS Curve No."
"         0.821   Impervious Runoff coefficient"
"         0.386   Impervious Ia/S coefficient"
"         2.001   Impervious Initial abstraction"
"                     0.082     0.241     0.241     0.000 c.m/sec"
"              Catchment 10           Pervious   Impervious Total Area "
"              Surface Area           0.208      0.122      0.330      hectare"
"              Time of concentration  5.256      0.526      2.190      minutes"
"              Time to Centroid       101.265    85.576     91.094     minutes"
"              Rainfall depth         71.801     71.801     71.801     mm"
"              Rainfall volume        149.27     87.67      236.94     c.m"
"              Rainfall losses        53.014     12.838     38.149     mm"
"              Runoff depth           18.787     58.963     33.652     mm"
"              Runoff volume          39.06      71.99      111.05     c.m"
"              Runoff coefficient     0.262      0.821      0.469      "
"              Maximum flow           0.024      0.072      0.082      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.082     0.298     0.241     0.000"
" 52          CHANNEL DESIGN"
"        0.298   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
```

```
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                 0.279    metre"
"             Velocity                      0.697    m/sec"
"             Channel capacity              8.979    c.m/sec"
"             Critical depth                0.227    metre"
" 53          ROUTE    Channel Route 50"
"       50.00      Channel Route 50 Reach length   ( metre)"
"        0.405   X-factor <= 0.5"
"       53.815   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"       60.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.282    c.m/sec"
"                    0.082     0.298     0.282     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.082     0.282     0.282     0.000"
" 54          POND DESIGN"
"        0.282   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"        590.3   Hydrograph volume    c.m"
"           7.   Number of stages"
"      246.970   Minimum water level    metre"
"      247.570   Maximum water level    metre"
"      246.970   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                246.970     0.000     0.000"
"                247.070   0.01000    0.2100"
"                247.170   0.05000     2.470"
"                247.270    0.1100     8.810"
"                247.370    0.1800    18.680"
"                247.470    0.2700    31.780"
"                247.570    0.3700    47.410"
"             Peak outflow                  0.236    c.m/sec"
"             Maximum level               247.450    metre"
"             Maximum storage              29.144    c.m"
"             Centroidal lag                1.717   hours"
"                    0.082     0.282     0.236     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.082     0.236     0.236     0.000"
" 33          CATCHMENT 11"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"           11   Ilderton Road ROW with a opertion of Lot 2."
"       25.000   % Impervious"
"        0.210   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.157   Pervious Area"
"        5.000   Pervious length"
"       10.000   Pervious slope"
"        0.052   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.256   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.821   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.043     0.236     0.236     0.000 c.m/sec"
"             Catchment 11           Pervious   Impervious Total Area "
"             Surface Area           0.157      0.052      0.210      hectare"
"             Time of concentration  3.243      0.526      1.839      minutes"
"             Time to Centroid       98.785     85.576     91.960     minutes"
"             Rainfall depth         71.801     71.801     71.801     mm"
"             Rainfall volume        113.09     37.70      150.78     c.m"
"             Rainfall losses        53.417     12.838     43.272     mm"
"             Runoff depth           18.384     58.963     28.529     mm"
"             Runoff volume          28.95      30.96      59.91      c.m"
"             Runoff coefficient     0.256      0.821      0.397      "
"             Maximum flow           0.020      0.031      0.043      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.043     0.268     0.236     0.000"
" 52          CHANNEL DESIGN"
"        0.268   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                 0.268    metre"
"             Velocity                      0.679    m/sec"
"             Channel capacity              8.979    c.m/sec"
"             Critical depth                0.217    metre"
" 53          ROUTE    Channel Route 70"
"       70.00      Channel Route 70 Reach length   ( metre)"
"        0.435   X-factor <= 0.5"
"       77.367   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"       75.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.259    c.m/sec"
"                    0.043     0.268     0.259     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.043     0.259     0.259     0.000"
" 54          POND DESIGN"
"        0.259   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"        649.8   Hydrograph volume    c.m"
"          10.   Number of stages"
"      246.300   Minimum water level    metre"
"      247.200   Maximum water level    metre"
"      246.300   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                246.300     0.000     0.000"
"                246.400   0.01000    0.2400"
"                246.500   0.05000     3.700"
"                246.600    0.1100    12.260"
"                246.700    0.1800    26.900"
"                246.800    0.2700    48.530"
"                246.900    0.3700    78.090"
"                247.000    0.4700   115.850"
"                247.100    0.5600   161.890"
"                247.180    0.6150   204.570"
"             Peak outflow                  0.233    c.m/sec"
"             Maximum level               246.766    metre"
```

```
"             Maximum storage              41.156    c.m"
"             Centroidal lag                1.754   hours"
"                  0.043     0.259     0.233     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                  0.043     0.233     0.233     0.000"
" 33          CATCHMENT 12"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"           12   Ilderton Road ROW with a portion of Lot 10"
"       32.000   % Impervious"
"        0.180   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.122   Pervious Area"
"        5.000   Pervious length"
"       10.000   Pervious slope"
"        0.058   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.256   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.821   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                  0.043     0.233     0.233     0.000 c.m/sec"
"             Catchment 12           Pervious   Impervious Total Area "
"             Surface Area           0.122      0.058      0.180      hectare"
"             Time of concentration  3.243      0.526      1.609      minutes"
"             Time to Centroid       98.785     85.576     90.840     minutes"
"             Rainfall depth         71.801     71.801     71.801     mm"
"             Rainfall volume        87.88      41.36      129.24     c.m"
"             Rainfall losses        53.417     12.838     40.432     mm"
"             Runoff depth           18.384     58.963     31.369     mm"
"             Runoff volume          22.50      33.96      56.46      c.m"
"             Runoff coefficient     0.256      0.821      0.437      "
"             Maximum flow           0.016      0.034      0.043      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                  0.043     0.250     0.233     0.000"
" 52          CHANNEL DESIGN"
"        0.250   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.250   Gradient   %"
"             Depth of flow                 0.345    metre"
"             Velocity                      0.383    m/sec"
"             Channel capacity              4.281    c.m/sec"
"             Critical depth                0.211    metre"
" 53          ROUTE    Channel Route 94"
"        94.00      Channel Route 94 Reach length   ( metre)"
"        0.225   X-factor <= 0.5"
"      184.258   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
```

```
"             Peak outflow                  0.244    c.m/sec"
"                  0.043     0.250     0.244     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                  0.043     0.244     0.244     0.000"
" 54          POND DESIGN"
"        0.244   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"        706.8   Hydrograph volume    c.m"
"           7.   Number of stages"
"      245.380   Minimum water level    metre"
"      245.890   Maximum water level    metre"
"      245.380   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                245.380     0.000     0.000"
"                245.480   0.01500     2.560"
"                245.580   0.03500    10.590"
"                245.680   0.08000    24.170"
"                245.740    0.1050    35.150"
"                245.800    0.1600    48.320"
"                245.890    0.4300    72.500"
"             Peak outflow                  0.238    c.m/sec"
"             Maximum level               245.826    metre"
"             Maximum storage              55.416    c.m"
"             Centroidal lag                1.864   hours"
"                  0.043     0.244     0.238     0.000 c.m/sec"
```

```
"                MIDUSS Output ------------------------------------------------>"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                          ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                      Eng 1432-1\SWM\MIDUSS\Post to Ilderton Road"
"                Output filename:            250 year post-Ilderton Road-1.out"
"                Licensee name:                                          owner"
"                Company                                               HP Inc."
"                Date & Time last used:               2020-05-11 at 9:43:42 AM"
" 31          TIME PARAMETERS"
"        5.000   Time Step"
"      180.000   Max. Storm length"
"     1500.000   Max. Hydrograph"
" 32          STORM Chicago storm"
"            1   Chicago storm"
"     3048.220   Coefficient A"
"       10.030   Constant B"
"        0.888   Exponent C"
"        0.380   Fraction R"
"      180.000   Duration"
"        1.000   Time step multiplier"
"             Maximum intensity           254.614    mm/hr"
"             Total depth                  86.611    mm"
"            6   250hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 101"
"            1   Triangular SCS"
"            3   Specify values"
"            1   SCS method"
"          101   Bowling Green Drive Subdivision"
"       30.000   % Impervious"
"        1.560   Total Area"
"       38.000   Flow length"
"        2.000   Overland Slope"
"        1.092   Pervious Area"
"       38.000   Pervious length"
"        2.000   Pervious slope"
"        0.468   Impervious Area"
"        4.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.305   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.817   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.290     0.000     0.000     0.000 c.m/sec"
"             Catchment 101          Pervious   Impervious Total Area "
"             Surface Area           1.092      0.468      1.560      hectare"
"             Time of concentration  16.694     0.460      8.021      minutes"
"             Time to Centroid       112.126    83.833     97.010     minutes"
"             Rainfall depth         86.611     86.611     86.611     mm"
"             Rainfall volume        945.79     405.34     1351.13    c.m"
"             Rainfall losses        60.159     15.812     46.855     mm"
"             Runoff depth           26.452     70.799     39.756     mm"
"             Runoff volume          288.86     331.34     620.20     c.m"
"             Runoff coefficient     0.305      0.817      0.459      "
"             Maximum flow           0.117      0.277      0.290      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                     0.290     0.290     0.000     0.000"
" 52          CHANNEL DESIGN"
"        0.290   Current peak flow    c.m/sec"
"        0.015   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"       50.000   Left bank slope"
"       50.000   Right bank slope"
"        0.500   Channel depth    metre"
"        0.300   Gradient   %"
"             Depth of flow                 0.106    metre"
"             Velocity                      0.515    m/sec"
"             Channel capacity             18.111    c.m/sec"
"             Critical depth                0.093    metre"
" 53          ROUTE    Channel Route 150"
"      150.00      Channel Route 150 Reach length   ( metre)"
"        0.456   X-factor <= 0.5"
"      218.274   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.264    c.m/sec"
"                   0.290     0.290     0.264     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                   0.290     0.264     0.264     0.000"
" 33          CATCHMENT 10"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"           10   Ilderton road ROW with part of lot 1 and 2 "
"       37.000   % Impervious"
"        0.330   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.208   Pervious Area"
"        5.000   Pervious length"
"        2.000   Pervious slope"
"        0.122   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.304   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.827   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                     0.086     0.264     0.264     0.000 c.m/sec"
"             Catchment 10           Pervious   Impervious Total Area "
"             Surface Area           0.208      0.122      0.330      hectare"
"             Time of concentration  4.944      0.526      2.227      minutes"
"             Time to Centroid       97.772     83.947     89.270     minutes"
"             Rainfall depth         86.611     86.611     86.611     mm"
"             Rainfall volume        180.06     105.75     285.82     c.m"
"             Rainfall losses        60.258     14.954     43.495     mm"
"             Runoff depth           26.353     71.657     43.116     mm"
"             Runoff volume          54.79      87.49      142.28     c.m"
"             Runoff coefficient     0.304      0.827      0.498      "
"             Maximum flow           0.033      0.072      0.086      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                   0.086     0.343     0.264     0.000"
" 52          CHANNEL DESIGN"
"        0.343   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
```

```
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                 0.294    metre"
"             Velocity                      0.722    m/sec"
"             Channel capacity              8.979    c.m/sec"
"             Critical depth                0.240    metre"
" 53          ROUTE    Channel Route 50"
"       50.00      Channel Route 50 Reach length   ( metre)"
"        0.400   X-factor <= 0.5"
"       51.956   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"       60.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.325    c.m/sec"
"                    0.086     0.343     0.325     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.086     0.325     0.325     0.000"
" 54          POND DESIGN"
"        0.325   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"        762.5   Hydrograph volume    c.m"
"           7.   Number of stages"
"      246.970   Minimum water level    metre"
"      247.570   Maximum water level    metre"
"      246.970   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                246.970     0.000     0.000"
"                247.070   0.01000    0.2100"
"                247.170   0.05000     2.470"
"                247.270    0.1100     8.810"
"                247.370    0.1800    18.680"
"                247.470    0.2700    31.780"
"                247.570    0.3700    47.410"
"             Peak outflow                  0.295    c.m/sec"
"             Maximum level               247.498    metre"
"             Maximum storage              36.225    c.m"
"             Centroidal lag                1.682   hours"
"                    0.086     0.325     0.295     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.086     0.295     0.295     0.000"
" 33          CATCHMENT 11"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"           11   Ilderton Road ROW with a opertion of Lot 2."
"       25.000   % Impervious"
"        0.210   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.157   Pervious Area"
"        5.000   Pervious length"
"       10.000   Pervious slope"
"        0.052   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.299   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.827   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                    0.048     0.295     0.295     0.000 c.m/sec"
"             Catchment 11           Pervious   Impervious Total Area "
"             Surface Area           0.157      0.052      0.210      hectare"
"             Time of concentration  3.051      0.526      1.840      minutes"
"             Time to Centroid       95.504     83.947     89.961     minutes"
"             Rainfall depth         86.611     86.611     86.611     mm"
"             Rainfall volume        136.41     45.47      181.88     c.m"
"             Rainfall losses        60.690     14.954     49.256     mm"
"             Runoff depth           25.921     71.657     37.355     mm"
"             Runoff volume          40.83      37.62      78.45      c.m"
"             Runoff coefficient     0.299      0.827      0.431      "
"             Maximum flow           0.028      0.031      0.048      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                    0.048     0.325     0.295     0.000"
" 52          CHANNEL DESIGN"
"        0.325   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                 0.288    metre"
"             Velocity                      0.712    m/sec"
"             Channel capacity              8.979    c.m/sec"
"             Critical depth                0.235    metre"
" 53          ROUTE    Channel Route 70"
"       70.00      Channel Route 70 Reach length   ( metre)"
"        0.430   X-factor <= 0.5"
"       73.725   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"       75.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                  0.323    c.m/sec"
"                    0.048     0.325     0.323     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                    0.048     0.323     0.323     0.000"
" 54          POND DESIGN"
"        0.323   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"        840.2   Hydrograph volume    c.m"
"          10.   Number of stages"
"      246.300   Minimum water level    metre"
"      247.200   Maximum water level    metre"
"      246.300   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                246.300     0.000     0.000"
"                246.400   0.01000    0.2400"
"                246.500   0.05000     3.700"
"                246.600    0.1100    12.260"
"                246.700    0.1800    26.900"
"                246.800    0.2700    48.530"
"                246.900    0.3700    78.090"
"                247.000    0.4700   115.850"
"                247.100    0.5600   161.890"
"                247.180    0.6150   204.570"
"             Peak outflow                  0.295    c.m/sec"
"             Maximum level               246.825    metre"
```

```
"             Maximum storage              55.773    c.m"
"             Centroidal lag                1.723   hours"
"                  0.048     0.323     0.295     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                   0.048     0.295     0.295     0.000"
" 33          CATCHMENT 12"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"           12   Ilderton Road ROW with a portion of Lot 10"
"       32.000   % Impervious"
"        0.180   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.122   Pervious Area"
"        5.000   Pervious length"
"       10.000   Pervious slope"
"        0.058   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.299   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.827   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
"        2.001   Impervious Initial abstraction"
"                   0.047     0.295     0.295     0.000 c.m/sec"
"             Catchment 12           Pervious   Impervious Total Area "
"             Surface Area           0.122      0.058      0.180      hectare"
"             Time of concentration  3.051      0.526      1.623      minutes"
"             Time to Centroid       95.504     83.947     88.970     minutes"
"             Rainfall depth         86.611     86.611     86.611     mm"
"             Rainfall volume        106.01     49.89      155.90     c.m"
"             Rainfall losses        60.690     14.954     46.055     mm"
"             Runoff depth           25.921     71.657     40.556     mm"
"             Runoff volume          31.73      41.27      73.00      c.m"
"             Runoff coefficient     0.299      0.827      0.468      "
"             Maximum flow           0.022      0.034      0.047      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                   0.047     0.312     0.295     0.000"
" 52          CHANNEL DESIGN"
"        0.312   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        0.250   Gradient   %"
"             Depth of flow                 0.375    metre"
"             Velocity                      0.404    m/sec"
"             Channel capacity              4.281    c.m/sec"
"             Critical depth                0.231    metre"
" 53          ROUTE    Channel Route 94"
"        94.00      Channel Route 94 Reach length   ( metre)"
"        0.201   X-factor <= 0.5"
"      174.330   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
```

```
"             Peak outflow                  0.306    c.m/sec"
"                  0.047     0.312     0.306     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                   0.047     0.306     0.306     0.000"
" 54          POND DESIGN"
"        0.306   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"        913.6   Hydrograph volume    c.m"
"           7.   Number of stages"
"      245.380   Minimum water level    metre"
"      245.890   Maximum water level    metre"
"      245.380   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                245.380     0.000     0.000"
"                245.480   0.01500     2.560"
"                245.580   0.03500    10.590"
"                245.680   0.08000    24.170"
"                245.740    0.1050    35.150"
"                245.800    0.1600    48.320"
"                245.890    0.4300    72.500"
"             Peak outflow                  0.301    c.m/sec"
"             Maximum level               245.848    metre"
"             Maximum storage              61.184    c.m"
"             Centroidal lag                1.823   hours"
"                  0.047     0.306     0.301     0.000 c.m/sec"
```

```
"                MIDUSS Output ------------------------------------------------>"
"                MIDUSS version                          Version 2.25  rev. 473"
"                MIDUSS created                                February 7, 2010"
"           10   Units used:                                        ie METRIC"
"                Job folder:              F:\Projects\L\lobo\LO\Lo-49\Lo-49-3\"
"                                       Eng 1432-1\SWM\MIDUSS\Post to Ilderton Road"
"                Output filename:        250 year scs  post-Ilderton Road-1.out"
"                Licensee name:                                        owner"
"                Company                                             HP Inc."
"                Date & Time last used:               2020-05-11 at 9:44:29 AM"
" 31          TIME PARAMETERS"
"         5.000   Time Step"
"      1440.000   Max. Storm length"
"      3000.000   Max. Hydrograph"
" 32          STORM Mass Curve"
"             3   Mass Curve"
"       119.000   Rainfall depth"
"      1440.000   Duration"
"            48   C:\Program Files (x86)\MIDUSS\SCS_Type2_24hr.mrd   SCS 24 hour Type II storm"
"              Maximum intensity           145.657    mm/hr"
"              Total depth                 119.000    mm"
"             7   0250hyd   Hydrograph extension used in this file"
" 33          CATCHMENT 101"
"             1   Triangular SCS"
"             3   Specify values"
"             1   SCS method"
"           101   Bowling Green Drive Subdivision"
"        30.000   % Impervious"
"         1.560   Total Area"
"        38.000   Flow length"
"         2.000   Overland Slope"
"         1.092   Pervious Area"
"        38.000   Pervious length"
"         2.000   Pervious slope"
"         0.468   Impervious Area"
"         4.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
"         0.384   Pervious Runoff coefficient"
"         0.030   Pervious Ia/S coefficient"
"         5.080   Pervious Initial abstraction"
"         0.015   Impervious Manning 'n'"
"        98.000   Impervious SCS Curve No."
"         0.875   Impervious Runoff coefficient"
"         0.386   Impervious Ia/S coefficient"
"         2.001   Impervious Initial abstraction"
"                     0.264     0.000     0.000     0.000 c.m/sec"
"              Catchment 101          Pervious   Impervious Total Area "
"              Surface Area           1.092      0.468      1.560      hectare"
"              Time of concentration  15.831     0.571      8.294      minutes"
"              Time to Centroid       860.127    750.107    805.786    minutes"
"              Rainfall depth         119.000    119.000    119.000    mm"
"              Rainfall volume        1299.48    556.92     1856.40    c.m"
"              Rainfall losses        73.251     14.820     55.722     mm"
"              Runoff depth           45.749     104.180    63.278     mm"
"              Runoff volume          499.58     487.56     987.14     c.m"
"              Runoff coefficient     0.384      0.875      0.532      "
"              Maximum flow           0.155      0.161      0.264      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.264     0.264     0.000     0.000"
" 52          CHANNEL DESIGN"
"         0.264   Current peak flow    c.m/sec"
"         0.015   Manning 'n'"
"            0.   Cross-section type: 0=trapezoidal; 1=general"
"         0.000   Basewidth    metre"
"        50.000   Left bank slope"
"        50.000   Right bank slope"
"         0.500   Channel depth    metre"
"         0.300   Gradient   %"
"              Depth of flow                0.102    metre"
"              Velocity                     0.503    m/sec"
"              Channel capacity            18.111    c.m/sec"
"              Critical depth               0.089    metre"
" 53          ROUTE    Channel Route 150"
"       150.00      Channel Route 150 Reach length   ( metre)"
"         0.457   X-factor <= 0.5"
"       223.460   K-lag   ( seconds)"
"         0.000   Default(0) or user spec.(1) values used"
"         0.500   X-factor <= 0.5"
"        30.000   K-lag   ( seconds)"
"         0.500   Beta weighting factor"
"       150.000   Routing time step   ( seconds)"
"             1   No. of sub-reaches"
"              Peak outflow                 0.235    c.m/sec"
"                     0.264     0.264     0.235     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"             5   Next link "
"                     0.264     0.235     0.235     0.000"
" 33          CATCHMENT 10"
"             1   Triangular SCS"
"             1   Equal length"
"             1   SCS method"
"            10   Ilderton road ROW with part of lot 1 and 2 "
"        37.000   % Impervious"
"         0.330   Total Area"
"         5.000   Flow length"
"         2.000   Overland Slope"
"         0.208   Pervious Area"
"         5.000   Pervious length"
"         2.000   Pervious slope"
"         0.122   Impervious Area"
"         5.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
"         0.384   Pervious Runoff coefficient"
"         0.030   Pervious Ia/S coefficient"
"         5.080   Pervious Initial abstraction"
"         0.015   Impervious Manning 'n'"
"        98.000   Impervious SCS Curve No."
"         0.883   Impervious Runoff coefficient"
"         0.386   Impervious Ia/S coefficient"
"         2.001   Impervious Initial abstraction"
"                     0.082     0.235     0.235     0.000 c.m/sec"
"              Catchment 10           Pervious   Impervious Total Area "
"              Surface Area           0.208      0.122      0.330      hectare"
"              Time of concentration  4.688      0.653      2.368      minutes"
"              Time to Centroid       835.270    750.338    786.448    minutes"
"              Rainfall depth         119.000    119.000    119.000    mm"
"              Rainfall volume        247.40     145.30     392.70     c.m"
"              Rainfall losses        73.341     13.892     51.345     mm"
"              Runoff depth           45.659     105.108    67.655     mm"
"              Runoff volume          94.93      128.34     223.26     c.m"
"              Runoff coefficient     0.384      0.883      0.569      "
"              Maximum flow           0.040      0.042      0.082      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.082     0.309     0.235     0.000"
" 52          CHANNEL DESIGN"
"         0.309   Current peak flow    c.m/sec"
"         0.040   Manning 'n'"
"            0.   Cross-section type: 0=trapezoidal; 1=general"
"         0.000   Basewidth    metre"
"         7.000   Left bank slope"
"         4.000   Right bank slope"
"         1.000   Channel depth    metre"
```

```
"        1.100   Gradient   %"
"             Depth of flow                0.283    metre"
"             Velocity                     0.703    m/sec"
"             Channel capacity             8.979    c.m/sec"
"             Critical depth               0.230    metre"
" 53          ROUTE    Channel Route 50"
"        50.00      Channel Route 50 Reach length   ( metre)"
"        0.404   X-factor <= 0.5"
"       53.330   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"       60.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                 0.301    c.m/sec"
"                    0.082     0.309     0.301     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                  0.082     0.301     0.301     0.000"
" 54          POND DESIGN"
"        0.301   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"       1210.4   Hydrograph volume    c.m"
"           7.   Number of stages"
"      246.970   Minimum water level    metre"
"      247.570   Maximum water level    metre"
"      246.970   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                246.970     0.000     0.000"
"                247.070   0.01000    0.2100"
"                247.170   0.05000     2.470"
"                247.270    0.1100     8.810"
"                247.370    0.1800    18.680"
"                247.470    0.2700    31.780"
"                247.570    0.3700    47.410"
"             Peak outflow                 0.284    c.m/sec"
"             Maximum level              247.486    metre"
"             Maximum storage             34.276    c.m"
"             Centroidal lag              13.453   hours"
"                  0.082     0.301     0.284     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                  0.082     0.284     0.284     0.000"
" 33          CATCHMENT 11"
"            1   Triangular SCS"
"            1   Equal length"
"            1   SCS method"
"           11   Ilderton Road ROW with a opertion of Lot 2."
"       25.000   % Impervious"
"        0.210   Total Area"
"        5.000   Flow length"
"        2.000   Overland Slope"
"        0.157   Pervious Area"
"        5.000   Pervious length"
"       10.000   Pervious slope"
"        0.052   Impervious Area"
"        5.000   Impervious length"
"        2.000   Impervious slope"
"        0.250   Pervious Manning 'n'"
"       60.000   Pervious SCS Curve No."
"        0.379   Pervious Runoff coefficient"
"        0.030   Pervious Ia/S coefficient"
"        5.080   Pervious Initial abstraction"
"        0.015   Impervious Manning 'n'"
"       98.000   Impervious SCS Curve No."
"        0.883   Impervious Runoff coefficient"
"        0.386   Impervious Ia/S coefficient"
```

```
"        2.001   Impervious Initial abstraction"
"                  0.047     0.284     0.284     0.000 c.m/sec"
"             Catchment 11            Pervious   Impervious Total Area "
"             Surface Area            0.157      0.052      0.210      hectare"
"             Time of concentration   2.893      0.653      1.914      minutes"
"             Time to Centroid        832.335    750.338    796.500    minutes"
"             Rainfall depth          119.000    119.000    119.000    mm"
"             Rainfall volume         187.43     62.47      249.90     c.m"
"             Rainfall losses         73.869     13.892     58.875     mm"
"             Runoff depth            45.131     105.108    60.125     mm"
"             Runoff volume           71.08      55.18      126.26     c.m"
"             Runoff coefficient      0.379      0.883      0.505      "
"             Maximum flow            0.029      0.018      0.047      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"            4   Add Runoff "
"                  0.047     0.317     0.284     0.000"
" 52          CHANNEL DESIGN"
"        0.317   Current peak flow    c.m/sec"
"        0.040   Manning 'n'"
"           0.   Cross-section type: 0=trapezoidal; 1=general"
"        0.000   Basewidth    metre"
"        7.000   Left bank slope"
"        4.000   Right bank slope"
"        1.000   Channel depth    metre"
"        1.100   Gradient   %"
"             Depth of flow                0.285    metre"
"             Velocity                     0.708    m/sec"
"             Channel capacity             8.979    c.m/sec"
"             Critical depth               0.232    metre"
" 53          ROUTE    Channel Route 70"
"        70.00      Channel Route 70 Reach length   ( metre)"
"        0.431   X-factor <= 0.5"
"       74.186   K-lag   ( seconds)"
"        0.000   Default(0) or user spec.(1) values used"
"        0.500   X-factor <= 0.5"
"       30.000   K-lag   ( seconds)"
"        0.500   Beta weighting factor"
"       75.000   Routing time step   ( seconds)"
"            1   No. of sub-reaches"
"             Peak outflow                 0.306    c.m/sec"
"                    0.047     0.317     0.306     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
"            5   Next link "
"                  0.047     0.306     0.306     0.000"
" 54          POND DESIGN"
"        0.306   Current peak flow    c.m/sec"
"        0.051   Target outflow    c.m/sec"
"       1336.7   Hydrograph volume    c.m"
"          10.   Number of stages"
"      246.300   Minimum water level    metre"
"      247.200   Maximum water level    metre"
"      246.300   Starting water level    metre"
"            0   Keep Design Data: 1 = True; 0 = False"
"                  Level Discharge    Volume"
"                246.300     0.000     0.000"
"                246.400   0.01000    0.2400"
"                246.500   0.05000     3.700"
"                246.600    0.1100    12.260"
"                246.700    0.1800    26.900"
"                246.800    0.2700    48.530"
"                246.900    0.3700    78.090"
"                247.000    0.4700   115.850"
"                247.100    0.5600   161.890"
"                247.180    0.6150   204.570"
"             Peak outflow                 0.282    c.m/sec"
"             Maximum level              246.817    metre"
"             Maximum storage             53.491    c.m"
"             Centroidal lag              13.483   hours"
"                  0.047     0.306     0.282     0.000 c.m/sec"
```

```
" 40          HYDROGRAPH Next link "
"             5   Next link "
"                     0.047     0.282     0.282     0.000"
" 33          CATCHMENT 12"
"             1   Triangular SCS"
"             1   Equal length"
"             1   SCS method"
"            12   Ilderton Road ROW with a portion of Lot 10"
"        32.000   % Impervious"
"         0.180   Total Area"
"         5.000   Flow length"
"         2.000   Overland Slope"
"         0.122   Pervious Area"
"         5.000   Pervious length"
"        10.000   Pervious slope"
"         0.058   Impervious Area"
"         5.000   Impervious length"
"         2.000   Impervious slope"
"         0.250   Pervious Manning 'n'"
"        60.000   Pervious SCS Curve No."
"         0.379   Pervious Runoff coefficient"
"         0.030   Pervious Ia/S coefficient"
"         5.080   Pervious Initial abstraction"
"         0.015   Impervious Manning 'n'"
"        98.000   Impervious SCS Curve No."
"         0.883   Impervious Runoff coefficient"
"         0.386   Impervious Ia/S coefficient"
"         2.001   Impervious Initial abstraction"
"                     0.043     0.282     0.282     0.000 c.m/sec"
"              Catchment 12           Pervious   Impervious Total Area "
"              Surface Area           0.122      0.058      0.180      hectare"
"              Time of concentration  2.893      0.653      1.721      minutes"
"              Time to Centroid       832.335    750.338    789.459    minutes"
"              Rainfall depth         119.000    119.000    119.000    mm"
"              Rainfall volume        145.66     68.54      214.20     c.m"
"              Rainfall losses        73.869     13.892     54.676     mm"
"              Runoff depth           45.131     105.108    64.324     mm"
"              Runoff volume          55.24      60.54      115.78     c.m"
"              Runoff coefficient     0.379      0.883      0.541      "
"              Maximum flow           0.023      0.020      0.043      c.m/sec"
" 40          HYDROGRAPH Add Runoff "
"             4   Add Runoff "
"                     0.043     0.297     0.282     0.000"
" 52          CHANNEL DESIGN"
"         0.297   Current peak flow    c.m/sec"
"         0.040   Manning 'n'"
"            0.   Cross-section type: 0=trapezoidal; 1=general"
"         0.000   Basewidth    metre"
"         7.000   Left bank slope"
"         4.000   Right bank slope"
"         1.000   Channel depth    metre"
"         0.250   Gradient   %"
"              Depth of flow                 0.368    metre"
"              Velocity                      0.399    m/sec"
"              Channel capacity              4.281    c.m/sec"
"              Critical depth                0.226    metre"
" 53          ROUTE    Channel Route 94"
"         94.00      Channel Route 94 Reach length   ( metre)"
"         0.207   X-factor <= 0.5"
"      176.491   K-lag   ( seconds)"
"         0.000   Default(0) or user spec.(1) values used"
"         0.500   X-factor <= 0.5"
"        30.000   K-lag   ( seconds)"
"         0.500   Beta weighting factor"
"      150.000   Routing time step   ( seconds)"
"             1   No. of sub-reaches"
"              Peak outflow                  0.290    c.m/sec"
"                     0.043     0.297     0.290     0.000 c.m/sec"
" 40          HYDROGRAPH Next link "
```

```
"             5   Next link "
"                     0.043     0.290     0.290     0.000"
" 54           POND DESIGN"
"         0.290   Current peak flow    c.m/sec"
"         0.051   Target outflow    c.m/sec"
"        1452.3   Hydrograph volume    c.m"
"            7.   Number of stages"
"       245.380   Minimum water level    metre"
"       245.890   Maximum water level    metre"
"       245.380   Starting water level    metre"
"             0   Keep Design Data: 1 = True; 0 = False"
"                   Level Discharge    Volume"
"                 245.380     0.000     0.000"
"                 245.480   0.01500     2.560"
"                 245.580   0.03500    10.590"
"                 245.680   0.08000    24.170"
"                 245.740    0.1050    35.150"
"                 245.800    0.1600    48.320"
"                 245.890    0.4300    72.500"
"              Peak outflow                  0.288    c.m/sec"
"              Maximum level               245.843    metre"
"              Maximum storage              59.786    c.m"
"              Centroidal lag               13.571   hours"
"                   0.043     0.290     0.288     0.000 c.m/sec"
```

APPENDIX G

Stormwater Management
Stormceptor Reports

Detailed Stormceptor Sizing Report – Poplar Woods Sub. Sump #1

Project Information & Location			
Project Name	Poplar Woods Subdivision	**Project Number**	1432-1
City	London	**State/ Province**	Ontario
Country	Canada	**Date**	4/28/2020
Designer Information		**EOR Information (optional)**	
Name	Lukas Grabowski	**Name**	
Company	AGM Engineering Ltd.	**Company**	
Phone #	519-685-5300	**Phone #**	
Email	lgrabowski@agm.on.ca	**Email**	

Stormwater Treatment Recommendation

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

Site Name	Poplar Woods Sub. Sump #1
Recommended Stormceptor Model	STC 300
Target TSS Removal (%)	80.0
TSS Removal (%) Provided	83
PSD	Fine Distribution
Rainfall Station	LONDON A

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

Stormceptor Sizing Summary	
Stormceptor Model	**% TSS Removal Provided**
STC 300	83
STC 750	90
STC 1000	91
STC 1500	91
STC 2000	93
STC 3000	94
STC 4000	95
STC 5000	96
STC 6000	97
STC 9000	98
STC 10000	98
STC 14000	98
StormceptorMAX	Custom

Stormceptor
The Stormceptor oil and sediment separator is sized to treat stormwater runoff by removing pollutants through gravity separation and flotation. Stormceptor's patented design generates positive TSS removal for each rainfall event, including large storms. Significant levels of pollutants such as heavy metals, free oils and nutrients are prevented from entering natural water resources and the re-suspension of previously captured sediment (scour) does not occur.
Stormceptor provides a high level of TSS removal for small frequent storm events that represent the majority of annual rainfall volume and pollutant load. Positive treatment continues for large infrequent events, however, such events have little impact on the average annual TSS removal as they represent a small percentage of the total runoff volume and pollutant load.

Design Methodology
Stormceptor is sized using PCSWMM for Stormceptor, a continuous simulation model based on US EPA SWMM. The program calculates hydrology using local historical rainfall data and specified site parameters. With US EPA SWMM's precision, every Stormceptor unit is designed to achieve a defined water quality objective. The TSS removal data presented follows US EPA guidelines to reduce the average annual TSS load. The Stormceptor's unit process for TSS removal is settling. The settling model calculates TSS removal by analyzing:
• Site parameters
• Continuous historical rainfall data, including duration, distribution, peaks & inter-event dry periods
• Particle size distribution, and associated settling velocities (Stokes Law, corrected for drag)
• TSS load
• Detention time of the system

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

Rainfall Station			
State/Province	Ontario	**Total Number of Rainfall Events**	5513
Rainfall Station Name	LONDON A	**Total Rainfall (mm)**	28681.4
Station ID #	4475	**Average Annual Rainfall (mm)**	667.0
Coordinates	43°02'00"N, 81°09'00"W	**Total Evaporation (mm)**	2506.0
Elevation (ft)	912	**Total Infiltration (mm)**	0.0
Years of Rainfall Data	43	**Total Rainfall that is Runoff (mm)**	26175.4

Notes
• Stormceptor performance estimates are based on simulations using PCSWMM for Stormceptor, which uses the EPA Rainfall and Runoff modules. • Design estimates listed are only representative of specific project requirements based on total suspended solids (TSS) removal defined by the selected PSD, and based on stable site conditions only, after construction is completed. • For submerged applications or sites specific to spill control, please contact your local Stormceptor representative for further design assistance.

Drainage Area	
Total Area (ha)	0.12
Imperviousness %	100.00

Up Stream Storage	
Storage (ha-m)	Discharge (cms)
0.000	0.000

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

Up Stream Flow Diversion	
Max. Flow to Stormceptor (cms)	

Design Details	
Stormceptor Inlet Invert Elev (m)	
Stormceptor Outlet Invert Elev (m)	
Stormceptor Rim Elev (m)	
Normal Water Level Elevation (m)	
Pipe Diameter (mm)	
Pipe Material	
Multiple Inlets (Y/N)	Yes
Grate Inlet (Y/N)	No

Particle Size Distribution (PSD)

Removing the smallest fraction of particulates from runoff ensures the majority of pollutants, such as metals, hydrocarbons and nutrients are captured. The table below identifies the Particle Size Distribution (PSD) that was selected to define TSS removal for the Stormceptor design.

Fine Distribution		
Particle Diameter (microns)	Distribution %	Specific Gravity
20.0	20.0	1.30
60.0	20.0	1.80
150.0	20.0	2.20
400.0	20.0	2.65
2000.0	20.0	2.65

Site Name	Poplar Woods Sub. Sump #1

Site Details

Drainage Area

Total Area (ha)	0.12
Imperviousness %	100.00

Surface Characteristics

Width (m)	69.00
Slope %	2
Impervious Depression Storage (mm)	0.508
Pervious Depression Storage (mm)	5.08
Impervious Manning's n	0.015
Pervious Manning's n	0.25

Maintenance Frequency

Maintenance Frequency (months) >	12

Infiltration Parameters

Horton's equation is used to estimate infiltration

Max. Infiltration Rate (mm/hr)	61.98
Min. Infiltration Rate (mm/hr)	10.16
Decay Rate (1/sec)	0.00055
Regeneration Rate (1/sec)	0.01

Evaporation

Daily Evaporation Rate (mm/day)	2.54

Dry Weather Flow

Dry Weather Flow (lps)	0

Winter Months

Winter Infiltration	0

TSS Loading Parameters

TSS Loading Function	

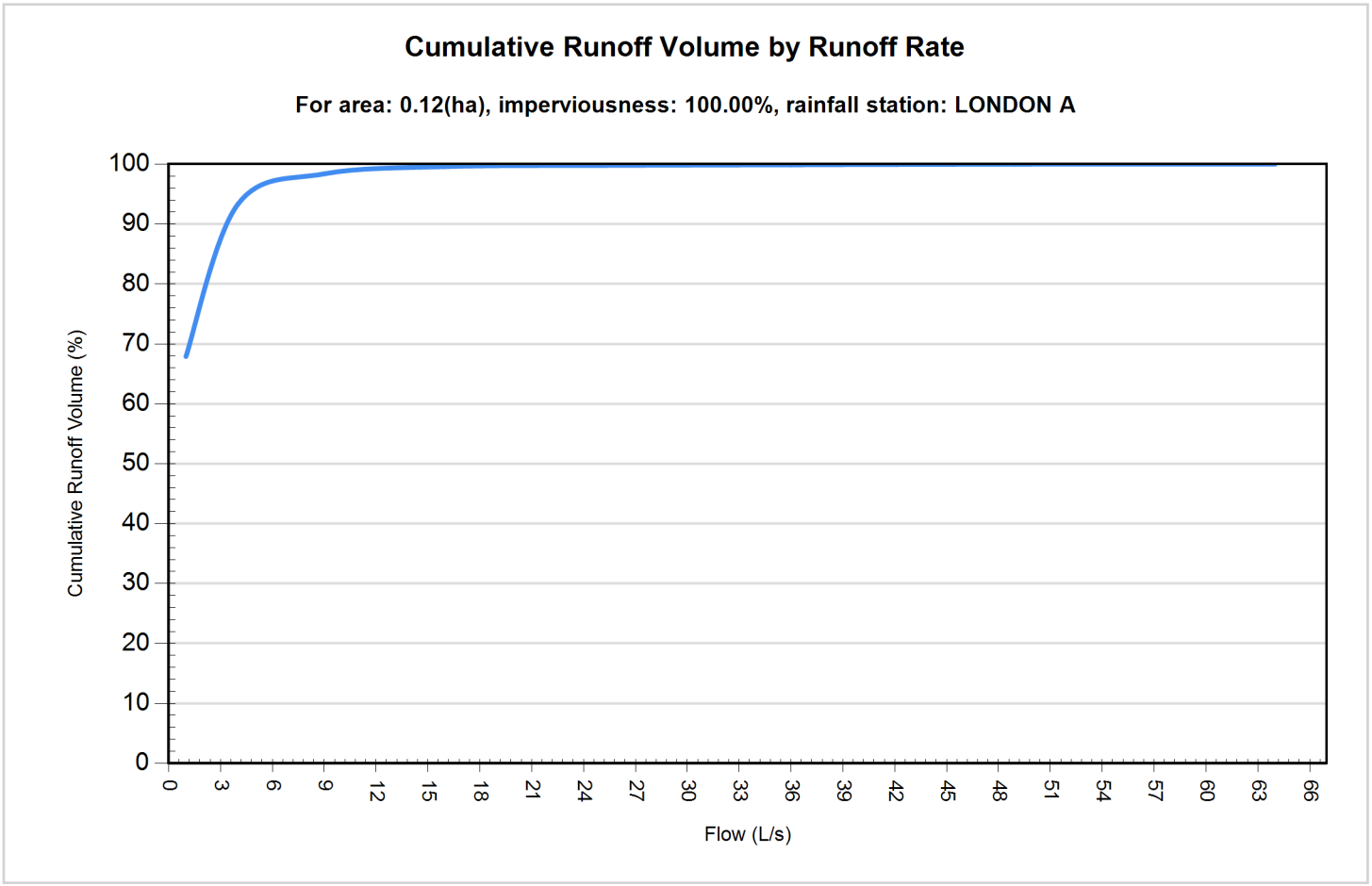
Buildup/Wash-off Parameters

Target Event Mean Conc. (EMC) mg/L	
Exponential Buildup Power	
Exponential Washoff Exponent	

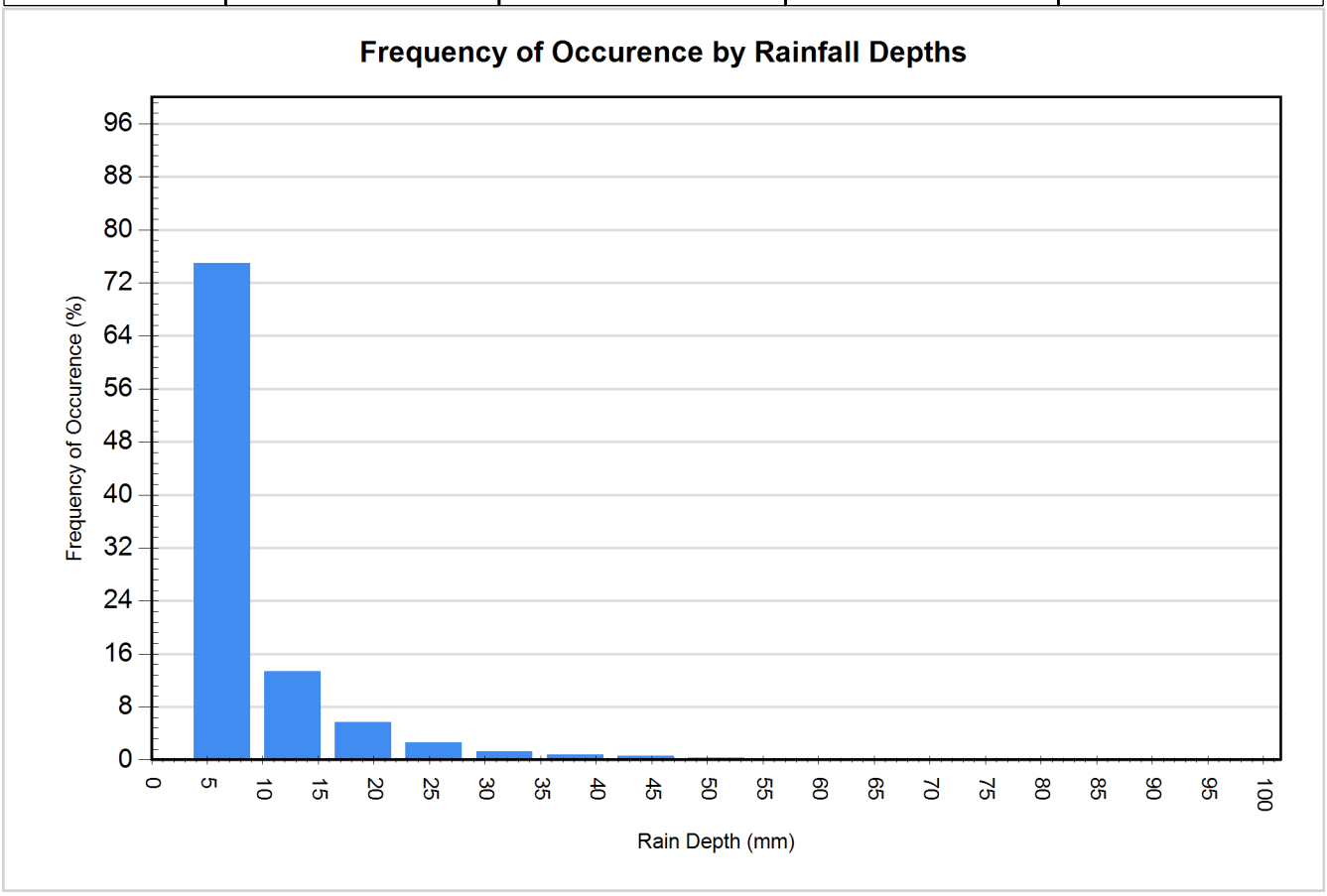
TSS Availability Parameters

Availability Constant A	
Availability Factor B	
Availability Exponent C	
Min. Particle Size Affected by Availability (micron)	

Cumulative Runoff Volume by Runoff Rate			
Runoff Rate (L/s)	**Runoff Volume (m^3)**	**Volume Over (m^3)**	**Cumulative Runoff Volume (%)**
1	21519	10176	67.9
4	29558	2137	93.3
9	31193	502	98.4
16	31563	132	99.6
25	31645	49	99.8
36	31673	22	99.9
49	31684	11	100.0
64	31695	0	100.0



Rainfall Event Analysis				
Rainfall Depth (mm)	**No. of Events**	**Percentage of Total Events (%)**	**Total Volume (mm)**	**Percentage of Annual Volume (%)**
6.35	4133	75.0	7031	24.5
12.70	739	13.4	6819	23.8
19.05	313	5.7	4859	16.9
25.40	146	2.6	3251	11.3
31.75	72	1.3	2047	7.1
38.10	42	0.8	1464	5.1
44.45	33	0.6	1353	4.7
50.80	18	0.3	850	3.0
57.15	9	0.2	488	1.7
63.50	5	0.1	303	1.1
69.85	1	0.0	65	0.2
76.20	1	0.0	70	0.2
82.55	1	0.0	83	0.3
88.90	0	0.0	0	0.0
95.25	0	0.0	0	0.0



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Detailed Stormceptor Sizing Report – Poplar Woods Sub. Sump #2

Project Information & Location			
Project Name	Poplar Woods Subdivision	**Project Number**	1432-1
City	London	**State/ Province**	Ontario
Country	Canada	**Date**	4/28/2020
Designer Information		**EOR Information (optional)**	
Name	Lukas Grabowski	**Name**	
Company	AGM Engineering Ltd.	**Company**	
Phone #	519-685-5300	**Phone #**	
Email	lgrabowski@agm.on.ca	**Email**	

Stormwater Treatment Recommendation

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

Site Name	Poplar Woods Sub. Sump #2
Recommended Stormceptor Model	STC 750
Target TSS Removal (%)	80.0
TSS Removal (%) Provided	86
PSD	Fine Distribution
Rainfall Station	LONDON A

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

Stormceptor Sizing Summary	
Stormceptor Model	**% TSS Removal Provided**
STC 300	79
STC 750	86
STC 1000	88
STC 1500	88
STC 2000	90
STC 3000	91
STC 4000	93
STC 5000	94
STC 6000	95
STC 9000	97
STC 10000	97
STC 14000	98
StormceptorMAX	Custom

Stormceptor
The Stormceptor oil and sediment separator is sized to treat stormwater runoff by removing pollutants through gravity separation and flotation. Stormceptor's patented design generates positive TSS removal for each rainfall event, including large storms. Significant levels of pollutants such as heavy metals, free oils and nutrients are prevented from entering natural water resources and the re-suspension of previously captured sediment (scour) does not occur.
Stormceptor provides a high level of TSS removal for small frequent storm events that represent the majority of annual rainfall volume and pollutant load. Positive treatment continues for large infrequent events, however, such events have little impact on the average annual TSS removal as they represent a small percentage of the total runoff volume and pollutant load.

Design Methodology
Stormceptor is sized using PCSWMM for Stormceptor, a continuous simulation model based on US EPA SWMM. The program calculates hydrology using local historical rainfall data and specified site parameters. With US EPA SWMM's precision, every Stormceptor unit is designed to achieve a defined water quality objective. The TSS removal data presented follows US EPA guidelines to reduce the average annual TSS load. The Stormceptor's unit process for TSS removal is settling. The settling model calculates TSS removal by analyzing:
• Site parameters
• Continuous historical rainfall data, including duration, distribution, peaks & inter-event dry periods
• Particle size distribution, and associated settling velocities (Stokes Law, corrected for drag)
• TSS load
• Detention time of the system

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

Rainfall Station			
State/Province	Ontario	**Total Number of Rainfall Events**	5513
Rainfall Station Name	LONDON A	**Total Rainfall (mm)**	28681.4
Station ID #	4475	**Average Annual Rainfall (mm)**	667.0
Coordinates	43°02'00"N, 81°09'00"W	**Total Evaporation (mm)**	1881.7
Elevation (ft)	912	**Total Infiltration (mm)**	7133.9
Years of Rainfall Data	43	**Total Rainfall that is Runoff (mm)**	19665.8

Notes
• Stormceptor performance estimates are based on simulations using PCSWMM for Stormceptor, which uses the EPA Rainfall and Runoff modules. • Design estimates listed are only representative of specific project requirements based on total suspended solids (TSS) removal defined by the selected PSD, and based on stable site conditions only, after construction is completed. • For submerged applications or sites specific to spill control, please contact your local Stormceptor representative for further design assistance.

Drainage Area	
Total Area (ha)	0.26
Imperviousness %	75.00

Up Stream Storage	
Storage (ha-m)	Discharge (cms)
0.000	0.000

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

Up Stream Flow Diversion	
Max. Flow to Stormceptor (cms)	

Design Details	
Stormceptor Inlet Invert Elev (m)	
Stormceptor Outlet Invert Elev (m)	
Stormceptor Rim Elev (m)	
Normal Water Level Elevation (m)	
Pipe Diameter (mm)	
Pipe Material	
Multiple Inlets (Y/N)	Yes
Grate Inlet (Y/N)	No

Particle Size Distribution (PSD)

Removing the smallest fraction of particulates from runoff ensures the majority of pollutants, such as metals, hydrocarbons and nutrients are captured. The table below identifies the Particle Size Distribution (PSD) that was selected to define TSS removal for the Stormceptor design.

Fine Distribution		
Particle Diameter (microns)	Distribution %	Specific Gravity
20.0	20.0	1.30
60.0	20.0	1.80
150.0	20.0	2.20
400.0	20.0	2.65
2000.0	20.0	2.65

Site Name	Poplar Woods Sub. Sump #2

Site Details

Drainage Area

Total Area (ha)	0.26
Imperviousness %	75.00

Surface Characteristics

Width (m)	102.00
Slope %	2
Impervious Depression Storage (mm)	0.508
Pervious Depression Storage (mm)	5.08
Impervious Manning's n	0.015
Pervious Manning's n	0.25

Maintenance Frequency

Maintenance Frequency (months) >	12

Infiltration Parameters

Horton's equation is used to estimate infiltration

Max. Infiltration Rate (mm/hr)	61.98
Min. Infiltration Rate (mm/hr)	10.16
Decay Rate (1/sec)	0.00055
Regeneration Rate (1/sec)	0.01

Evaporation

Daily Evaporation Rate (mm/day)	2.54

Dry Weather Flow

Dry Weather Flow (lps)	0

Winter Months

Winter Infiltration	0

TSS Loading Parameters

TSS Loading Function	

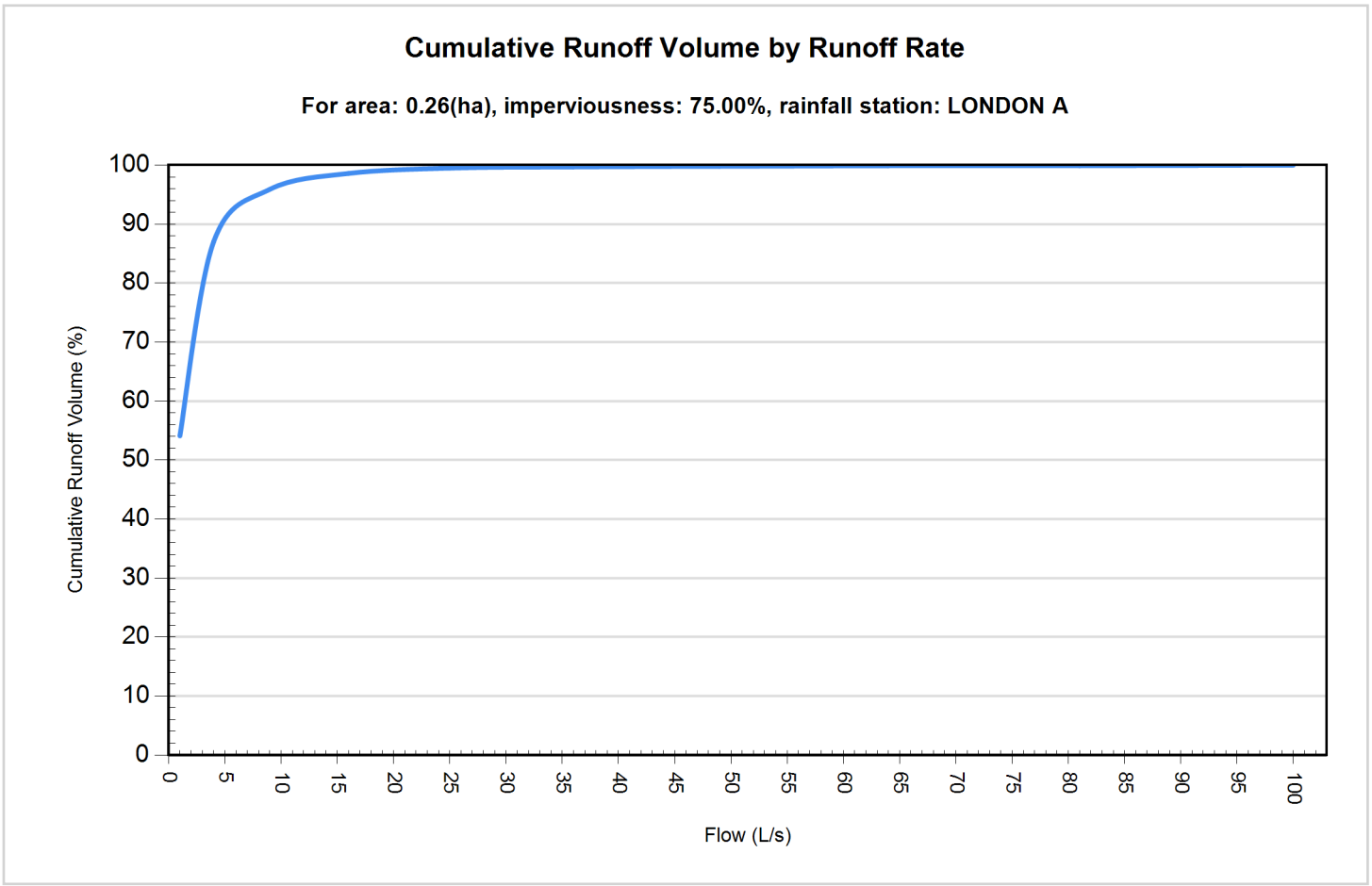
Buildup/Wash-off Parameters

Target Event Mean Conc. (EMC) mg/L	
Exponential Buildup Power	
Exponential Washoff Exponent	

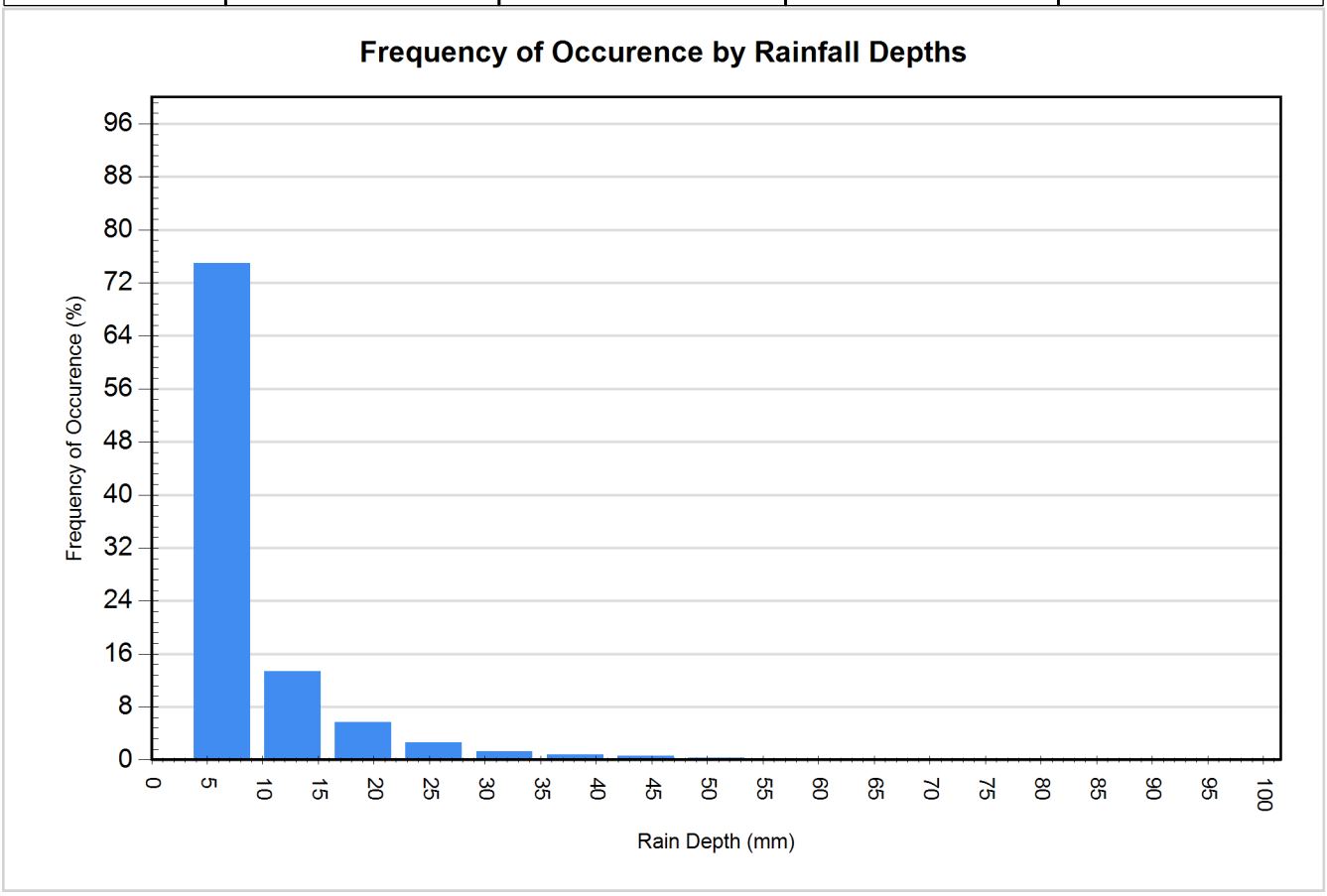
TSS Availability Parameters

Availability Constant A	
Availability Factor B	
Availability Exponent C	
Min. Particle Size Affected by Availability (micron)	

Cumulative Runoff Volume by Runoff Rate			
Runoff Rate (L/s)	**Runoff Volume (m^3)**	**Volume Over (m^3)**	**Cumulative Runoff Volume (%)**
1	27881	23678	54.1
4	44864	6693	87.0
9	49421	2134	95.9
16	50820	735	98.6
25	51280	275	99.5
36	51413	142	99.7
49	51477	78	99.8
64	51506	49	99.9
81	51522	33	99.9
100	51539	16	100.0



Rainfall Event Analysis				
Rainfall Depth (mm)	**No. of Events**	**Percentage of Total Events (%)**	**Total Volume (mm)**	**Percentage of Annual Volume (%)**
6.35	4133	75.0	7031	24.5
12.70	739	13.4	6819	23.8
19.05	313	5.7	4859	16.9
25.40	146	2.6	3251	11.3
31.75	72	1.3	2047	7.1
38.10	42	0.8	1464	5.1
44.45	33	0.6	1353	4.7
50.80	18	0.3	850	3.0
57.15	9	0.2	488	1.7
63.50	5	0.1	303	1.1
69.85	1	0.0	65	0.2
76.20	1	0.0	70	0.2
82.55	1	0.0	83	0.3
88.90	0	0.0	0	0.0
95.25	0	0.0	0	0.0



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