

6150 THUNDER ROAD: SWM REPORT

NOVEMBER 2021



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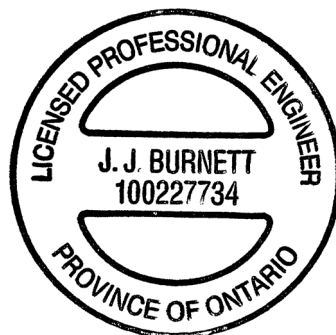
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In the City of Ottawa, Ontario

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A handwritten signature in black ink, appearing to read 'J.F. Sabourin', written over a horizontal line.

(J.F. Sabourin and Associates Inc.)

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- Appendix A – Pre-Development Conditions
- Appendix B – Post-Development Conditions

1 Introduction

J.F Sabourin and Associates (JFSA) were commissioned by LRL Associates (LRL) to complete the stormwater management analysis for the proposed industrial development located at 6150 Thunder Road in Ottawa. The proposed development will be a 12.3 ha Industrial Park, comprising primarily of office spaces, loading bays and parking lots. The site under existing conditions is undeveloped vegetated land, with several small drainage channels, which all ultimately discharge to the Bear Brook tributary. These lands under proposed conditions will also discharge to Bear Brook tributary. The site will implement various SWM solutions to ensure that the proposed development does not result in increases in peak flows from existing conditions and will not have any adverse impacts on the existing watercourse. Figure 1 below outlines the approximate extent and location of the proposed development. The following document outlines and assesses the various stormwater management solutions that are proposed for this site.

Figure 1: Development Overview



1.1 Background Data / Information

The following section outlines the background data and information used to support and supplement this study:

1.1.1 Topographic Survey

A detailed topographic survey of the site was completed by Annis, O'Sullivan Vollebakk LTD (AOV) in March 2021. This topographic information has been merged with the City of Ottawa LiDAR to determine the pre-development conditions of the site.

1.1.2 LiDAR

LiDAR data was purchased from the City of Ottawa to supplement locations where there is insufficient topographic detail included in the survey by AOV. This LiDAR was merged with AOV's survey to provide a complete picture of the topography throughout the development area.

1.1.3 Existing Reports

The following background documents were reviewed in preparing this report:

- 5368 Boundary Road and 6150 Thunder Road Functional Serviceability Report, LRL, December 2020
- Environmental Impact Statement, 6150 Thunder Road, Ottawa, Kilgore & Associates LTD, December 2020
- 6150 Thunder Road: Floodplain Mapping, JFSA, July 2021
- Stormwater Management Planning and Design Manual, Ministry of the Environment, March 2003.
- Erosion and Sediment Control Guidelines for Urban Construction, Conservation Halton et al., December 2006.
- City of Ottawa Sewer Design Guidelines, City of Ottawa, October 2012.
- Technical Bulletin ISDTB-2014-01, Revisions to Ottawa Design Guidelines – Sewer, City of Ottawa, February 2014.
- City of Ottawa Technical Bulletin PIEDTB-2016-01, City of Ottawa, September 2016.
- City of Ottawa Technical Bulletin ISTB-2018-04, City of Ottawa, June 2018.

2 Existing Conditions

Given that the site under existing conditions is a large natural undeveloped area, it was determined that the SWMHYMO modelling software would be the most suitable hydrologic modelling program to use to determine the pre-development flows. The following outlines the derivation of key model parameters used to represent these existing lands, and in turn, determined the post-development target release rates.

2.1.1 Drainage Areas

As identified above, LiDAR data was merged with the detailed topographic survey of the site completed by AOV to derive a single Digital Terrain Model (DTM). This data was imported into GIS software where watershed delineation algorithms were applied. Figure A1 in Appendix A provides a visual overview of the existing drainage areas within the study area. Note that the majority of the site drains directly to the Bear Brook tributary, with a small portion of the site in the northeast corner draining to a roadside ditch before discharging to the Bear Brook tributary

2.1.2 Land Use

Land use data has been taken from Land Information Ontario's (LIO) Southern Ontario Land Resource Information System (SOLRIS) data package, which is a primary data layer that provides a comprehensive, standardized, landscape-level inventory of natural, rural and urban lands throughout southern Ontario. This data was discretized based on the respective subcatchments. Figure A2 in Appendix A provides a visual overview of the respective land use data for each of the subcatchments within the study area. Under existing conditions, the site primarily consists of plantation and treed swamplands.

2.1.3 Soil/Infiltration Data

Soil data within the study area has been taken from the Soil Survey Complex Data available on Land Information Ontario (LIO). Figure A3 in Appendix A provides a visual overview of the respective soil type data for each of the subcatchments within the study area. Under existing conditions, the site primarily consists of Allendale and Cheney Soils both of which are Loamy Fine Sand soils (Hydrologic Soil Type C)

2.1.4 Curve Number (CN)

Based on the underlying Land Use Type and Soil Classification at each location within a subcatchment, a Curve Number (CN) was calculated, based on applicable values outlined in Tables A2 and A3 in the SWMHYMO Manual. Each Curve Number was then weighted based on the total area within a given subcatchment to determine the weighted CN for that subcatchment. Table A1 in Appendix A provides a full summary of the CN calculations for each of the pre-development subcatchments.

2.1.5 Time to Peak (t_p)

The time to peak values for each of the subcatchments has been calculated based on existing topography. Flow paths have been discretized based on the topographic data using GIS tools and the longest major flow path within each subcatchment identified; refer to Figure A4 in Appendix A for the flow paths discretized for each subcatchment. The upstream and downstream topographic elevations and flow lengths were identified for each subcatchment and used in the calculations. For these natural subcatchments, the Federal Aviation Administration (FFA) method was determined to be the most appropriate method to calculate the Time to Peak. Full details of these calculations have been provided in Table A2 in Appendix A, along with other time to peak values using alternative t_p calculation methods.

2.2 Results

The following table outlines the peak flow at key locations within the study area based on the SWMHYMO simulations. Note that both the 3 Hour Chicago and 24 Hour SCS design storms were assessed in this study. The peak flows determined by this model have been used to set the maximum allowable post-development release rates. Full input and summary files of the proposed SWMHYMO models have been provided in Appendix A.

Table 1: Pre-Development Peak Flows

Event	Peak Flow (m ³ /s)	
	Bear Brook Trib	Thunder Road Ditch
25mm CHI 4Hr	0.020	0.001
2-Year CHI 3Hr	0.039	0.002
5-Year CHI 3Hr	0.072	0.005
100-Year CHI 3Hr	0.198	0.013
100-Year SCS 24 Hr	0.270	0.019
100-Year CHI 3Hr +20%	0.276	0.019

3 Proposed Conditions

3.1 Model Overview

3.1.1 Drainage Areas / Imperviousness

Under proposed conditions, the drainage areas have been delineated by LRL based on the site's proposed grading. The impervious values for each of these areas are based on the proposed development footprint of the site. For these lands, the following Horton's Infiltration parameters have been assumed: $F_o=76.2$ mm/hr, $F_c=13.2$ mm/hr, $DCAY=4.14$ /hr, $F=0$ mm, and initial abstraction values of 1.57mm and 4.67 mm for impervious and pervious surfaces, all as per the City of Ottawa design guidelines. An overview of the proposed development drainage areas and imperviousness have been provided in Figure B1 of Appendix B.

3.1.2 Storm Sewer Network & Pumping Station

The storm sewer network was designed by LRL based on rational method calculations and general site grading constraints (see Appendix B for full rational method calculations). The storm sewer network plan has been incorporated into the model based on this design, with exit losses applied to the model to account for losses that occur at bends in the system. Due to grade raise restrictions across the site, flows captured by the storm sewer network will need to be pumped to the proposed SWM pond. At this stage of the design, a conceptual pumping system has been implemented that conveys all flows from this pipe network to the SWM pond unobstructed, as the proposed pumping station will be sufficiently sized to convey the full runoff from the site to the pond without flooding the site. As such full pump operation curves will be implemented in future iterations of this analysis. The full storm sewer network has been outlined in Figure B2 of Appendix B.

3.1.3 Road Storage & ICDs

The site grading has been optimized to make full use of any potential major system ponding locations throughout the site. This storage has been represented in the model through the use of storage nodes, which are depth/area curves based on LRL's detailed grading of the site. Inlet control devices (ICD) are proposed to be implemented downstream of each of the CBs to make full use of this storage during extreme events. For emergencies, a major system flow route from these areas to the SWM pond has also been provided in the event of a blockage in the storm sewer network or a malfunction with the storm sewer pumping system. The required ICD sizes have been outlined in Figure B2 of Appendix B. Figure B3 of Appendix B outlines the major system flow routes within the development.

3.1.4 Roof Top Storage

To optimize storage volume throughout the site, rooftop storage is proposed on all buildings. per MTO guidelines, this rooftop storage has not been accounted for in this analysis to ensure a conservative design (as the flow constriction device that creates the rooftop storage could be easily removed post-construction). As such flows from these locations to the storm sewer network have been restricted based on the capacity of the lead pipe from the rooftop storage to the storm sewer network (which conversely, can not be easily removed or replaced). The ponding option has been implemented at these locations within the model, with a ponding area reflective of the respective roof footprints. This representation intends to ensure that that head can build on the lead pipe increasing flows to the storm sewer as if no rooftop storage was provided.

3.1.5 SWM Ponds

There are 3 SWM ponds proposed throughout the site. These ponds will be dry ponds and will attenuate runoff from the development to match the pre-development rates that have been specified above in Section 2.2. Ponds 1 & 2 are located in the northwest of the development and service the larger portion of the site and will discharge directly to the Bear Brook tributary through an outlet in Pond 1. The pond 1 outlet will consist of 3 components, a 150 mm circular orifice at the invert elevation of the pond (75.8 m), a 0.40 m wide x 0.5 m high rectangular opening 45cm above the pond invert (76.25 m) and a 5 m wide emergency overflow weir 0.85m above the pond invert (76.6m). Pond 1 and Pond 2 are directly connected via two 525 mm CSPs that pass under the proposed access road to the site, with the intention of the two ponds to hydraulically operate as a single system, making full use of potential storage volume throughout the site without impeding on the lot layout.

Pond 3 is located in the northeast corner of the development servicing a smaller portion of the development and will discharge to the roadside ditch along thunder road, before discharging to the Bear brook tributary. Given the small release rates for this location, a conventional orifice outlet configuration is not a feasible option as the orifice opening sizes would be so small that it would be at risk of blockage. Alternatively, a hydrovex flow control device is proposed to be implemented at this location to limit the flows to the required rate while avoiding the risk of blockage. For this analysis, a Veolia 75 VHV-1 hydrovex unit has been assumed. A 5 m wide emergency overflow weir set 0.60 m above the pond invert (77.25 m) has also been included in the pond outlet structure.

3.1.6 Swale

A grass swale will be implemented along with the southern extent of the site. This swale will capture runoff from the parking spaces at the back of the building and will provide hydration to an existing stream to the south. To attenuate runoff from this location a 50mm orifice plate will be implemented at the swale outlet, for the more extreme events a 20m overflow with a crest 0.75m above the swale invert will also be implemented.

3.1.7 Oil and Grit Separator (OGS) Units

Throughout this site, Oil and grit separator (OGS) units will be implemented to provide enhanced (80%) water quality treatment for the site. OGS units will be implemented upstream of both SWM ponds and downstream of the proposed swale. The exact details of these OGS units will be determined in future submissions.

3.2 Results

The following section outlines the various results for the proposed development

3.2.1 Post-Development Release Rates

Table 2 outlines the peak flows from the development from Pond 1, the southern swale and Pond 3. Note that the peak flows from Pond 1 and the southern swale have been summed together to determine the total peak flow to the Bear Brook tributary. As seen below the peak flows to both the Bear Brook Tributary and the Thunder Roadside Ditch are either equal to or less than that under pre-development conditions as outlined in Table 1 above, as such the proposed development should have no negative impacts on the existing floodplain. Additionally, peak flows for the 25mm event are also either less than or equal to pre-development conditions and as such the proposed development will not exacerbate any existing erosion concerns.

Table 2: Post Development Peak Flows

Event	Pond 1 Outlet	Swale Outlet	Bear Brook Trib ¹	Thunder Road Ditch
25mm CHI 4Hr	0.019	0.002	0.021	0.000
2-Year CHI 3Hr	0.023	0.003	0.025	0.002
5-Year CHI 3Hr	0.037	0.003	0.040	0.003
100-Year CHI 3Hr	0.164	0.004	0.168	0.004
100-Year SCS 24 Hr	0.225	0.004	0.229	0.004
100-Year CHI 3Hr +20%	0.228	0.004	0.233	0.043

¹ Sum of peak flows out of Pond 1 outlet and Swale Outlet

3.2.2 SWM Pond

Table 3 outlines the peak water levels and depths for Pond 1, 2 & 3 for the various return periods. Note that flows are contained within the pond for all events, including the stress test.

Table 3: SWM Pond Peak Water Surface Elevation (WSE) and Depth

Event	Pond 1		Pond 2		Pond 3	
	Max WSE (m)	Max Depth (m)	Max WSE (m)	Max Depth (m)	Max WSE (m)	Max Depth (m)
25mm CHI 4Hr	76.09	0.29	76.09	0.29	76.72	0.07
2-Year CHI 3Hr	76.18	0.38	76.18	0.38	76.80	0.15
5-Year CHI 3Hr	76.31	0.51	76.31	0.51	76.90	0.25
100-Year CHI 3Hr	76.56	0.76	76.56	0.76	77.21	0.56
100-Year SCS 24 Hr	76.65	0.85	76.65	0.85	77.18	0.53
100-Year CHI 3Hr +20%	76.65	0.85	76.65	0.85	77.27	0.62

3.2.3 HGL Summary

Table 4 outlines the maximum HGL within the storm sewer trunk system for both the 100 Year Chicago 3Hr and 100 Year SCS 24Hr events. Refer to Figure B2 in Appendix B for the exact location of each MH. As outlined below the HGL is below the rim elevation for all MHs and as such, the storm sewer network throughout the site is sufficiently sized to convey the proposed flows.

Table 4: Storm Sewer 100 Year HGL

ID	100 Year Chicago 3Hr			100 Year SCS 24 Hr		
	HGL (m)	Rim Elevation (m)	Freeboard (m)	HGL (m)	Rim Elevation (m)	Freeboard (m)
STM_MH01	76.16	77.50	1.34	76.16	77.50	1.34
STM_MH02	75.98	77.15	1.17	75.98	77.15	1.17
STM_MH03	75.88	77.30	1.42	75.88	77.30	1.42
STM_MH04	75.77	77.15	1.38	75.76	77.15	1.39
STM_MH05	75.64	77.15	1.51	75.64	77.15	1.51
STM_MH06	75.46	77.00	1.54	75.45	77.00	1.55
STM_MH07	75.11	76.90	1.79	75.09	76.90	1.81
STM_MH08	75.09	76.95	1.86	75.04	76.95	1.91
STM_MH09	74.97	77.23	2.26	74.91	77.23	2.32
STM_CB109	77.08	77.10	0.02	76.02	77.10	1.08
STM_CBMH102	75.92	76.90	0.98	75.41	76.90	1.49
STM_CBMH103	76.03	76.80	0.77	75.47	76.80	1.33
STM_CBMH104	76.14	76.80	0.66	75.52	76.80	1.28
STM_CBMH105	76.27	76.90	0.63	75.58	76.90	1.32
STM_CBMH106	76.47	77.20	0.73	75.65	77.20	1.55
STM_CBMH107	76.62	77.20	0.58	75.71	77.20	1.49
STM_CBMH108	76.85	77.20	0.35	75.87	77.20	1.33
STM_MH09	74.97	77.23	2.26	74.91	77.23	2.32
STM_MH101	75.53	77.23	1.70	75.21	77.23	2.02

3.2.4 Road Ponding

Table 5 outlines the maximum ponding depth and elevation throughout the major system ponding locations. Refer to Figure B3 in Appendix B for the exact location of each of these items. Based on this table below it is seen that the maximum ponding elevation for both 100-year events is less than 0.35m. for the stress test the maximum ponding elevation is below the finished floor level (77.5m and 78.0m), as such the major system ponding elevations do not pose a risk to the proposed buildings.

Table 5: Maximum Surface Ponding Depth & Elevation

Location	100 Year Chicago		100 Year SCS 24 Hr		100 Year Chicago 3Hr +20%	
	WSE (m)	Depth (m)	WSE (m)	Depth (m)	WSE (m)	Depth (m)
SURF-WS-01	77.57	0.31	77.55	0.30	77.59	0.33
SURF-WS-02	77.59	0.28	77.59	0.28	77.60	0.29
SURF-WS-03	77.20	0.29	77.18	0.27	77.25	0.34
SURF-WS-04	77.25	0.34	77.21	0.30	77.31	0.41
SURF-WS-05	77.20	0.29	77.18	0.28	77.23	0.32
SURF-WS-06	77.25	0.34	77.23	0.32	77.28	0.37
SURF-WS-07	77.20	0.29	77.18	0.28	77.23	0.32
SURF-WS-08	77.21	0.30	77.19	0.28	77.23	0.33
SURF-WS-09	77.15	0.25	77.14	0.23	77.18	0.28
SURF-WS-10	77.08	0.17	77.06	0.16	77.09	0.19
SURF-WS-11	77.07	0.31	77.06	0.30	77.08	0.32
SURF-WS-12	77.08	0.32	77.06	0.30	77.09	0.33
SURF-WS-13	77.01	0.25	76.99	0.23	77.06	0.30
SURF-WS-14	77.06	0.30	77.03	0.27	77.09	0.33
SURF-WS-15	77.07	0.31	77.05	0.30	77.10	0.34
SURF-WS-16	77.05	0.30	77.03	0.28	77.07	0.31
SURF-WS-18	77.01	0.10	77.00	0.09	77.02	0.11
SURF-WS-19	76.85	0.05	76.85	0.05	76.87	0.06
SURF-WS-20	76.89	0.08	76.87	0.07	76.91	0.10
SURF-WS-21	76.98	0.05	76.98	0.05	76.99	0.06

3.3 Erosion and sediment control during and after construction

Silt and erosion control strategies shall be implemented during construction activities to minimize the transfer of silt off-site. The following measures should be implemented:

- i) Silt control fences shall be installed as required to prevent the movement of silt off-site during rainfall events.
- ii) Construction of a mud mat shall be installed at the site entrance to promote self-cleaning of truck tires when leaving the site.
- iii) All catch basins shall be equipped with a crushed stone filter to prevent the capture of silt in the storm sewer system.
- iv) Regular cleaning of the adjacent roads shall be undertaken during the construction activities.
- v) Regular inspection and maintenance of the silt control measures shall be undertaken until the site has been stabilized.
- vi) The erosion and sediment control devices shall be removed after the site has been stabilized.

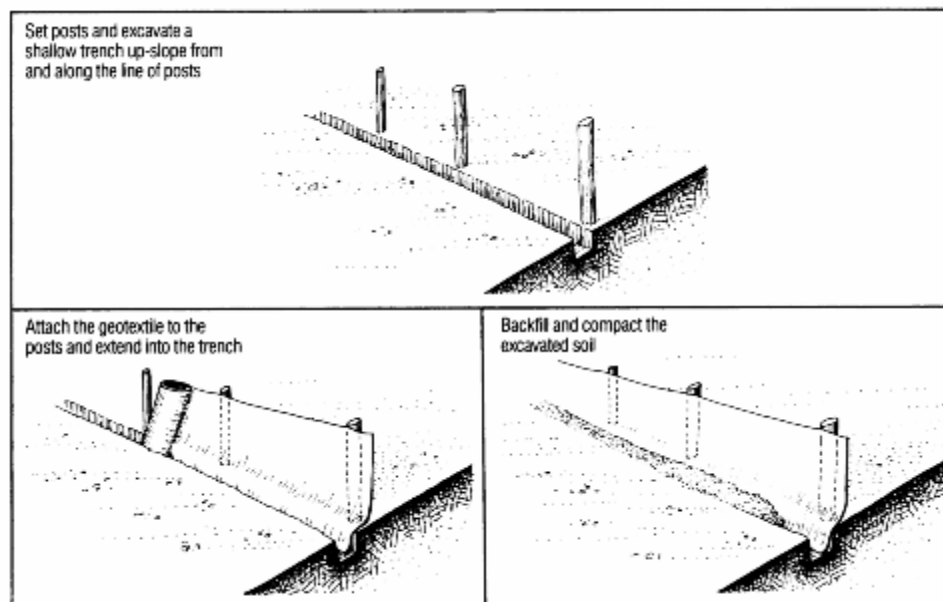


Figure 7: Typical installation of silt fences

4 CONCLUSION

As documented above, J.F. Sabourin and Associates Inc (JFSA) has completed a detailed hydrologic analysis of the proposed development site under pre-development conditions to establish target release rates. A detailed PCSWMM model was then created based on the detailed design developed by LRL to assess the hydrologic and hydraulic operations of the site under post-development conditions to ensure that: the developments storm sewer network is sufficiently sized, the proposed SWM ponds have sufficient capacity to attenuate flows to pre-development conditions and that the major system storage locations do not pose a risk to the proposed building. Based on this analysis it was determined that the proposed SWM infrastructure is sufficiently sized to ensure no risk to both the proposed development and surrounding existing lands

Appendix A

Pre-Development Model
(SWMHYMO)



Legend

- Subcatchments
<Name>
<Area>



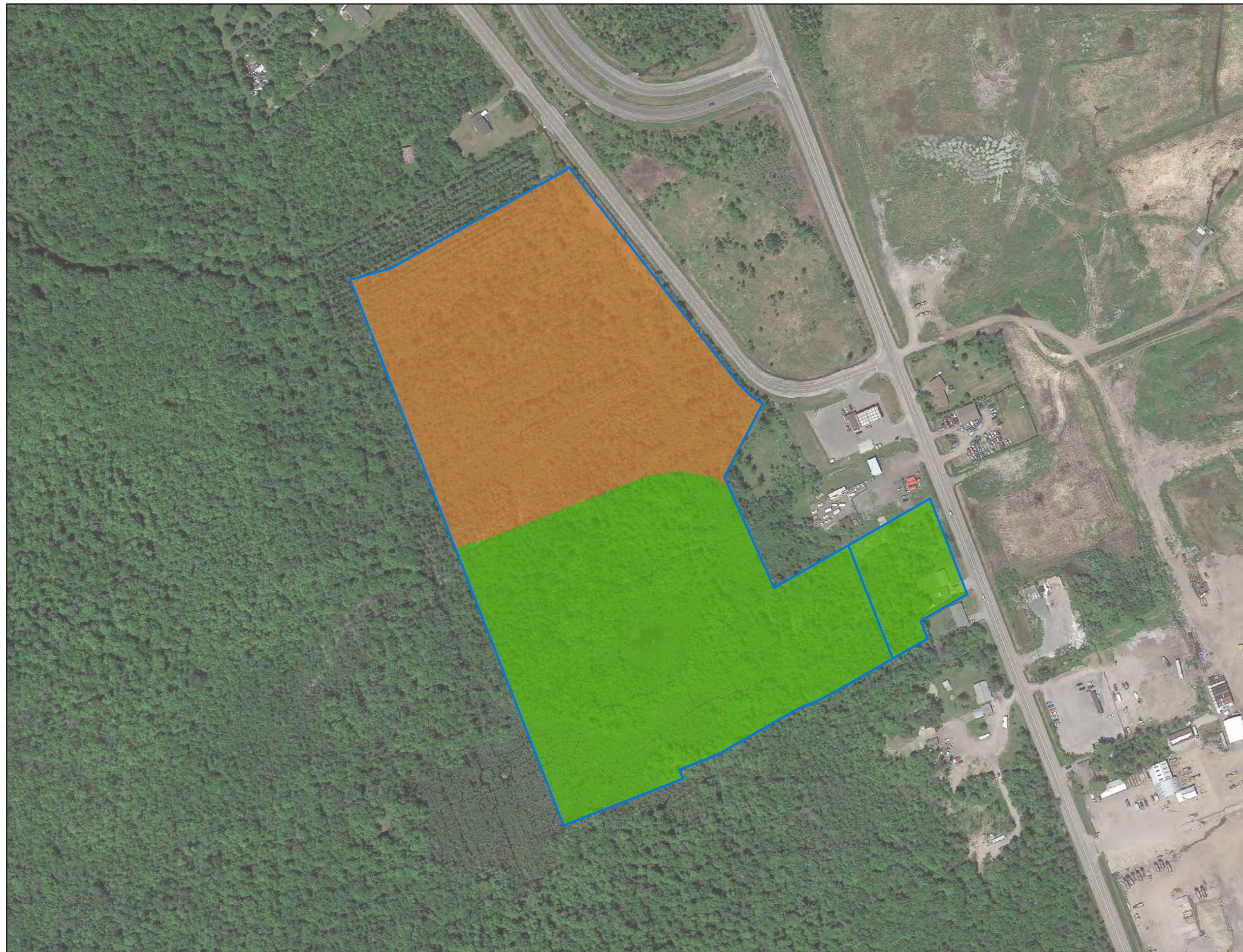
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Figure A1: Subcatchments

PROJECT	2120(01)-21
DRAWN	MP
DATE	NOV 2021



Legend

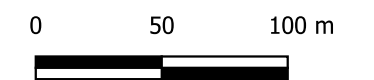
Land Use


 Plantation

 Treed Swamp

 Subcatchments

SCALE: 1:3000



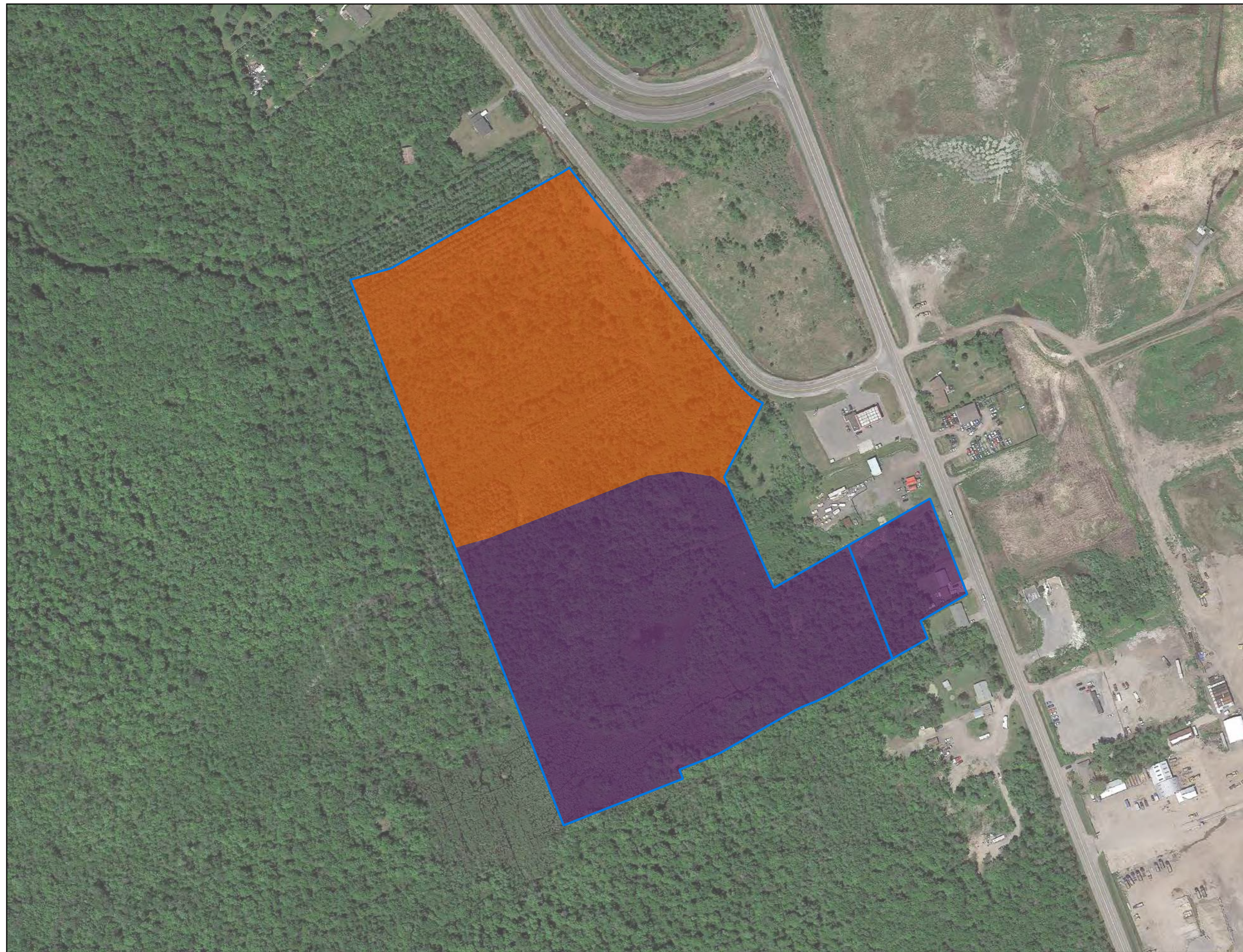
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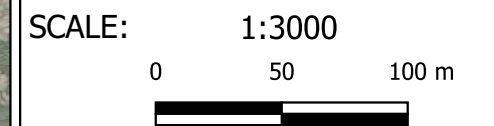
Figure A2: Land Use

PROJECT	2120(01)-21
DRAWN	MP
DATE	NOV 2021



Legend

- Soil Name (Type)
- ALLENDALE (C)
- CHENEY (C)
- Subcatchments



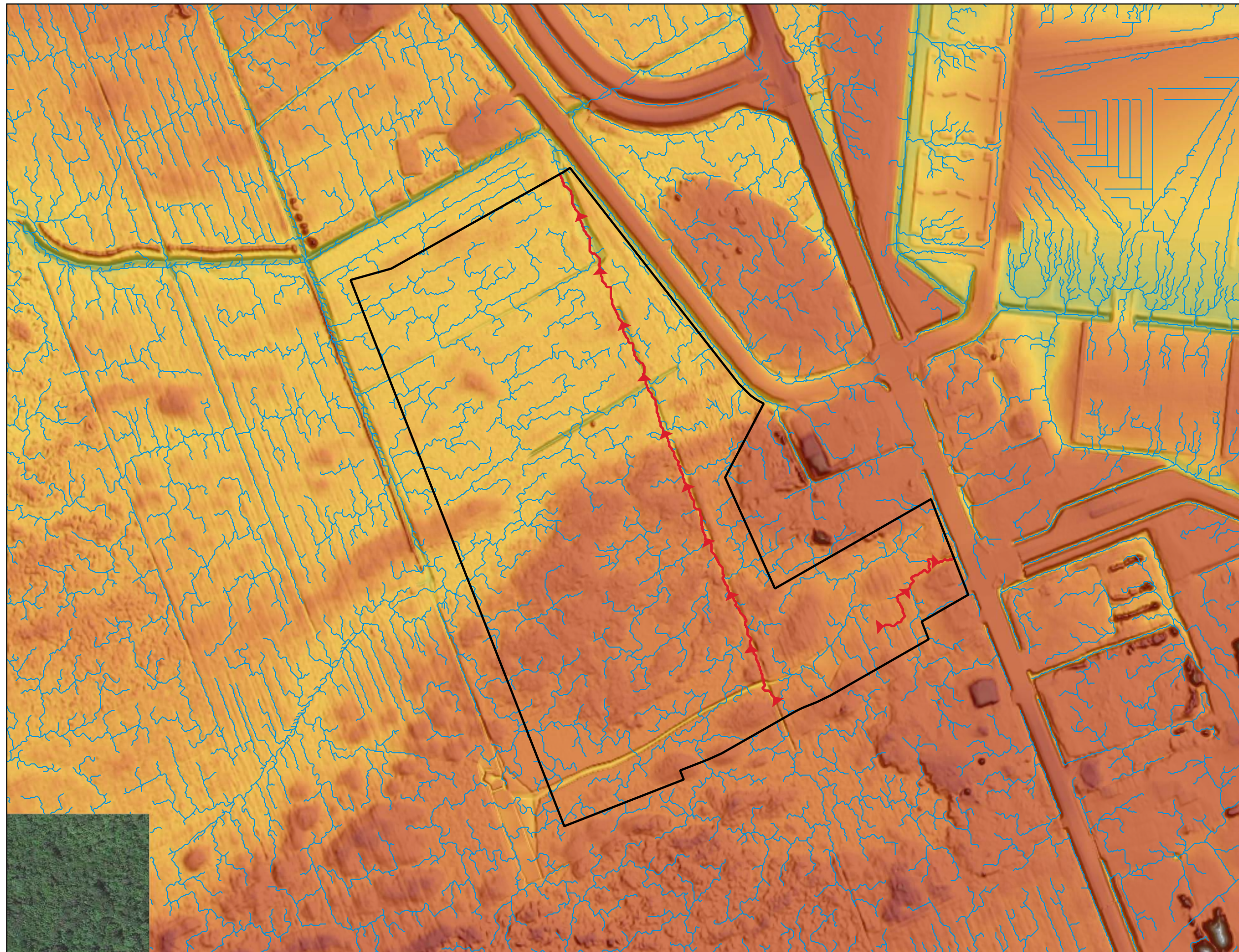
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Figure A3: Soil Types

PROJECT	2120(01)-21
DRAWN	MP
DATE	NOV 2021

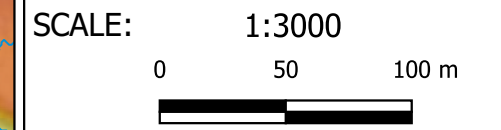


Legend

- Development Area
- Streams
- Major Flow Path

Terrain (m)

- 70
- 72
- 74
- 76
- 78
- 80
- 82
- 84



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Figure A4: Terrain

PROJECT	2120(01)-21
DRAWN	MP
DATE	NOV 2021

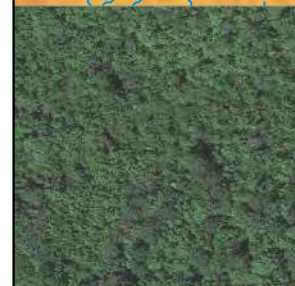


Table A1: Calculation of SCS Curve Number (CN) and Modified Curve Number (CN*)

EWS-01 (11.632 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
5.833	Treed Swamp	CHENEY	C	Good	50	50.1%	25.1
5.798	Plantation	ALLENDALE	C	Good	70	49.8%	34.9
						CN	60.0

EWS-02 (0.669 ha)							
Area (ha)	Land Type	Soil Name	Soil Condition	Soil Group	CN	% of Catchment	Weighted CN
0.669	Treed Swamp	CHENEY	C	Good	50	100.0%	50.0
						CN	50.0

Table A2: Time to Peak Calculations

Parameter	Units	EWS-01	EWS-02
Area	ha	11.63	0.67
CN	-	60	50
Ptotal to calc C from CN, use 2 yr 12 hr SCS stom	P(mm)	43.2	43.2
	Ia(mm)	4.67	4.67
	RV(mm)	7.1	5.1
C	-	0.17	0.12
Length of Channel	m	514	120
	ft	1686	394
Elevation of Head Water	m	77.04	77.00
	ft	253	253
Elevation of Outlet	m	76.22	76.83
	ft	250	252
Average Slope	m/m	0.16%	0.14%
	ft/ft	0.16%	0.14%
Kirpich			
Time of Concentration	mins	28	10
Time to Peak	min	19	7
Time to Peak	Hours	0.32	0.11
FAA			
Time of Concentration	mins	128	68
Time to Peak	mins	85	45
Time to Peak	Hours	1.42	0.75
Barnsby Williams			
Time of Concentration	mins	33	11
Time to Peak	mins	22	7
Time to Peak	Hours	0.37	0.12
SCS			
Time of Concentration	mins	210	90
Time to Peak	mins	140	60
Time to Peak	Hours	2.33	1.00
Selected Method			
FAA			
Time to Peak	min	85	45
Time to Peak	Hours	1.42	0.75

Note:

All methods calculated as per Appendix A of the SWMHYMO manual

Time to Peak calculated as 2/3 Time of concentration

```

1 20 Metric units / ID numbers OFF
2 *#*****
3 *# SWMHYMO Ver:5.02/Jan 2001 <BETA> / INPUT DATA FILE
4 *#*****
5 *# Project Name : [6150 Thunder Road SWM - Existing Conditions]
6 *# Project Number: [2196]
7 *# Date : 2021/08/23
8 *# Modeller : J. Burnett, P.Eng.
9 *# Company : J.F. Sabourin and Associates
10 *# License # : 2582634
11 *#*****
12 *Model developed to set pre-development release rates for future industrial park
13 *#*****
14 *% 25 mm Storm based on 2-Year, 4-Hour Chicago Storm
15 START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[001]
16 ["25MM4H.stm"] <--storm filename, one per line for NSTORM time
17 *%-----|-----|
18 READ STORM STORM_FILENAME=["storm.001"]
19 *%-----|-----|
20 *DEFAULT VALUES ICASEdef=[1], read and print values
21 * DEFVAL_FILENAME=["Ottawa.val"]
22 *%-----|-----|
23 *#*****
24 *# Pre-Development Drainage Area
25 *#*****
26 CALIB NASHYD NHYD=["EWS-01"], DT=[1] (min), AREA=[11.632] (ha),
27 DWF=[0] (cms), CN=[60], IA=[ 4.67] (mm), N=[ 3 ], TP[ 1.42 ] (hrs),
28 RAINFALL[ , , -1]
29 *%-----|-----|
30 CALIB NASHYD NHYD=["EWS-02"], DT=[1] (min), AREA=[0.669] (ha),
31 DWF=[0] (cms), CN=[50], IA=[ 4.67] (mm), N=[ 3 ], TP[ 0.75 ] (hrs),
32 RAINFALL[ , , -1]
33 *%-----|-----|
34 *#*****
35 *# STORMS
36 *#*****
37 *% 25 mm Storm based on 2-Year, 3-Hour Chicago Storm
38 *%START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[001]
39 *% ["25MMC3H.stm"] <--storm filename, one per line for NSTORM time
40 *%-----|-----|
41 *% 2-Year, 3-Hour Chicago Storm
42 START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[002]
43 ["002YC3H.stm"] <--storm filename, one per line for NSTORM time
44 *%-----|-----|
45 *% 5-Year, 3-Hour Chicago Storm
46 START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[005]
47 ["005YC3H.stm"] <--storm filename, one per line for NSTORM time
48 *%-----|-----|
49 *% 10-Year, 3-Hour Chicago Storm
50 *START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[010]
51 *% ["010YC3H.stm"] <--storm filename, one per line for NSTORM time
52 *%-----|-----|
53 *% 25-Year, 3-Hour Chicago Storm
54 *START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[025]
55 *% ["025YC3H.stm"] <--storm filename, one per line for NSTORM time
56 *%-----|-----|
57 *% 50-Year, 3-Hour Chicago Storm
58 *START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[050]
59 *% ["050YC3H.stm"] <--storm filename, one per line for NSTORM time
60 *%-----|-----|
61 *% 100-Year, 3-Hour Chicago Storm
62 START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[099]
63 ["100YC3H.stm"] <--storm filename, one per line for NSTORM time
64 *%-----|-----|
65 *% 2-Year, 24-Hour SCS Storm
66 *START TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[102]

```

```

67  *%          ["SC24002x.stm"] <--storm filename, one per line for NSTORM time
68  *%-----|-----|
69  *% 5-Year, 24-Hour SCS Storm
70  *START      TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[105]
71  *%          ["SC24005x.stm"] <--storm filename, one per line for NSTORM time
72  *%-----|-----|
73  *% 10-Year, 24-Hour SCS Storm
74  *START      TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[110]
75  *%          ["SC24010x.stm"] <--storm filename, one per line for NSTORM time
76  *%-----|-----|
77  *% 25-Year, 24-Hour SCS Storm
78  *START      TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[125]
79  *%          ["SC24025x.stm"] <--storm filename, one per line for NSTORM time
80  *%-----|-----|
81  *% 50-Year, 24-Hour SCS Storm
82  *START      TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[150]
83  *%          ["SC24050x.stm"] <--storm filename, one per line for NSTORM time
84  *%-----|-----|
85  *% 100-Year, 24-Hour SCS Storm
86  START      TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[199]
87  *%          ["SC24100x.stm"] <--storm filename, one per line for NSTORM time
88  *%-----|-----|
89  *% 2-Year, 12-Hour SCS Storm
90  *START      TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[202]
91  *%          ["SC12002c.stm"] <--storm filename, one per line for NSTORM time
92  *%-----|-----|
93  *% 5-Year, 12-Hour SCS Storm
94  *START      TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[205]
95  *%          ["SC12005c.stm"] <--storm filename, one per line for NSTORM time
96  *%-----|-----|
97  *% 10-Year, 12-Hour SCS Storm
98  *START      TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[210]
99  *%          ["SC12010c.stm"] <--storm filename, one per line for NSTORM time
100 *%-----|-----|
101 *% 25-Year, 12-Hour SCS Storm
102 *START      TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[225]
103 *%          ["SC12025c.stm"] <--storm filename, one per line for NSTORM time
104 *%-----|-----|
105 *% 50-Year, 12-Hour SCS Storm
106 *START      TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[250]
107 *%          ["SC12050c.stm"] <--storm filename, one per line for NSTORM time
108 *%-----|-----|
109 *% 100-Year, 12-Hour SCS Storm
110 *START      TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[299]
111 *%          ["SC12100c.stm"] <--storm filename, one per line for NSTORM time
112 *%-----|-----|
113 *% July 1st, 1979 Storm - Ottawa International Airport
114 *START      TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[979]
115 *%          ["19790701.stm"] <--storm filename, one per line for NSTORM time
116 *%-----|-----|
117 *% August 4th, 1988 Storm - Ottawa International Airport
118 *START      TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[988]
119 *%          ["19880804.stm"] <--storm filename, one per line for NSTORM time
120 *%-----|-----|
121 *% August 8th, 1996 Storm - Ottawa International Airport
122 *START      TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[996]
123 *%          ["19960808.stm"] <--storm filename, one per line for NSTORM time
124 *%-----|-----|
125 *% 100-Year, 24-Hour SCS Storm + 20%
126 *START      TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[998]
127 *%          ["SC24100x+.stm"] <--storm filename, one per line for NSTORM time
128 *%-----|-----|
129 *% 100-Year, 3-Hour Chicago Storm + 20%
130 START      TZERO=[0.0], METOUT=[2], NSTORM=[1], NRUN=[999]
131 *%          ["100YC3H+.stm"] <--storm filename, one per line for NSTORM time
132 *%-----|-----|

```



```

00001-----
00002-----
00003-----
00004 S W W M M M H H Y Y M M M O O O 222 000 11 5555 -----
00005 S W W M M M H H Y Y M M M O O O 2 0 0 11 5 -----
00006 S W W M M M H H Y Y M M M O O O 222 0 0 11 555 FEB 2013
00007 S W W M M M H H Y Y M M M O O O 0 0 11 5 -----
00008 S W W M M M H H Y Y M M M O O O 2 0 0 11 5 # 2549237
00009-----
00010 StormWater Management HYDROlogic Model 222 000 11 555 -----
00011-----
00012 ***** SWHYMDO Ver 5.000 *****
00013 ***** A single event and continuous hydrologic simulation model *****
00014 ***** based on the principles of HYMO and its successors *****
00015 ***** CTRM=SI and CTRM=89 *****
00016 ***** Distributed by: J.F. Sabourin and Associates Inc. *****
00017 ***** Ottawa, Ontario: (613) 836-3884 *****
00018 ***** Gatineau, Quebec: (819) 243-6858 *****
00019 ***** E-mail: jsabourin@jfsa.com *****
00020-----
00021 *****
00022 *****
00023 *****
00024 ***** Licensed user: JFSAinc. *****
00025 ***** SERIAL#:2549237 *****
00026 *****
00027 *****
00028 ***** PROGRAM ARRAY DIMENSIONS *****
00029 ***** Maximum Value for ID numbers : 31 *****
00030 ***** Max. number of rainfall points: 105408 *****
00031 *****
00032 *****
00033 *****
00034 *****
00035 ***** S U M M A R Y O U T P U T *****
00036 *****
00037 ***** RUN DATE: 2021-11-02 TIME: 18:26:41 RUN COUNTER: 086029 *****
00038 *****
00039 *****
00040 ***** Input file: C:\Temp\20211105-Pre-Dev Flows\TRUN_V01-Ex.dat *****
00041 ***** Output file: C:\Temp\20211105-Pre-Dev Flows\TRUN_V01-Ex.out *****
00042 ***** Summary file: C:\Temp\20211105-Pre-Dev Flows\TRUN_V01-Ex.sum *****
00043 ***** User comments: *****
00044 *****
00045 *****
00046 *****
00047 *****
00048 *****
00049 *****
00050 *****
00051 ***** SWHYMDO Ver:02/Jan 2001 <BETA> / INPUT DATA FILE *****
00052 *****
00053 ***** Project Name : [6150 Thunder Road SMM - Existing Conditions] *****
00054 ***** Project Number: [2196] *****
00055 ***** Date : 2021/09/23 *****
00056 ***** Modeller : J. Burnett, P.Eng. *****
00057 ***** Company : J.F. Sabourin and Associates *****
00058 ***** License # : 2582634 *****
00059 *****
00060 *****
00061 ***** RUN#:COMMAND# *****
00062 R001:CO0001 *****
00063 ***** START *****
00064 [TZERO = .00 hrs on 0] *****
00065 [NETOUT= 2 (1=Imperial, 2=metric output)] *****
00066 [NFORM= 1] *****
00067 [NRUN = 0099] *****
00068 R001:CO0002 *****
00069 ***** READ STORM *****
00070 ***** Filename = storm.001 *****
00071 ***** Comment = CHICAGO STORM 2 Year, 3 Hours *****
00072 [SDT=10.00;SDDR= 3.00;PTOT= 42.51] *****
00073 ***** Pre-Development Drainage Area *****
00074 ***** # Pre-Development Drainage Area *****
00075 ***** # STORMS *****
00076 R001:CO0003 *****
00077 ***** CALIB NASHYD *****
00078 [CM= 60.0; N= 3.00; Tp= 1.42] *****
00079 R001:CO0004 *****
00080 ***** CALIB NASHYD *****
00081 [CM= 50.0; N= 3.00; Tp= .75] *****
00082 ***** # STORMS *****
00083 *****
00084 ***** ** END OF RUN : 1 *****
00085 *****
00086 *****
00087 *****
00088 *****
00089 *****
00090 *****
00091 *****
00092 *****
00093 ***** RUN#:COMMAND# *****
00094 R002:CO0001 *****
00095 ***** START *****
00096 [TZERO = .00 hrs on 0] *****
00097 [NETOUT= 2 (1=Imperial, 2=metric output)] *****
00098 [NFORM= 1] *****
00099 [NRUN = 0002] *****
00100 *****
00101 ***** SWHYMDO Ver:02/Jan 2001 <BETA> / INPUT DATA FILE *****
00102 *****
00103 ***** Project Name : [6150 Thunder Road SMM - Existing Conditions] *****
00104 ***** Project Number: [2196] *****
00105 ***** Date : 2021/09/23 *****
00106 ***** Modeller : J. Burnett, P.Eng. *****
00107 ***** Company : J.F. Sabourin and Associates *****
00108 ***** License # : 2582634 *****
00109 *****
00110 *****
00111 ***** R002:CO0002 *****
00112 ***** READ STORM *****
00113 ***** Filename = storm.001 *****
00114 ***** Comment = CHICAGO STORM 2 Year, 3 Hours *****
00115 [SDT=10.00;SDDR= 3.00;PTOT= 31.86] *****
00116 ***** Pre-Development Drainage Area *****
00117 ***** # Pre-Development Drainage Area *****
00118 ***** # STORMS *****
00119 R002:CO0003 *****
00120 ***** CALIB NASHYD *****
00121 [CM= 60.0; N= 3.00; Tp= 1.42] *****
00122 R002:CO0004 *****
00123 ***** CALIB NASHYD *****
00124 [CM= 50.0; N= 3.00; Tp= .75] *****
00125 ***** # STORMS *****
00126 *****
00127 ***** ** END OF RUN : 4 *****
00128 *****
00129 *****
00130 *****
00131 *****
00132 *****
00133 *****
00134 *****
00135 *****
00136 ***** RUN#:COMMAND# *****
00137 R005:CO0001 *****
00138 ***** START *****
00139 [TZERO = .00 hrs on 0] *****
00140 [NETOUT= 2 (1=Imperial, 2=metric output)] *****
00141 [NFORM= 1] *****
00142 [NRUN = 0005] *****
00143 *****
00144 ***** SWHYMDO Ver:02/Jan 2001 <BETA> / INPUT DATA FILE *****
00145 *****
00146 ***** Project Name : [6150 Thunder Road SMM - Existing Conditions] *****
00147 ***** Project Number: [2196] *****
00148 ***** Date : 2021/09/23 *****
00149 ***** Modeller : J. Burnett, P.Eng. *****
00150 ***** Company : J.F. Sabourin and Associates *****
00151 ***** License # : 2582634 *****
00152 *****
00153 *****
00154 ***** R005:CO0002 *****
00155 ***** READ STORM *****
00156 ***** Filename = storm.001 *****
00157 ***** Comment = CHICAGO STORM 5 Year, 3 Hours *****
00158 [SDT=10.00;SDDR= 3.00;PTOT= 42.51] *****
00159 ***** Pre-Development Drainage Area *****
00160 ***** # Pre-Development Drainage Area *****
00161 ***** # STORMS *****
00162 R005:CO0003 *****
00163 ***** CALIB NASHYD *****
00164 [CM= 60.0; N= 3.00; Tp= 1.42] *****
00165 R005:CO0004 *****
00166 ***** CALIB NASHYD *****
00167 [CM= 50.0; N= 3.00; Tp= .75] *****
00168 ***** # STORMS *****
00169 *****
00170 ***** ** END OF RUN : 98 *****
00171 *****
00172 *****
00173 *****
00174 *****
00175 *****
00176 *****
00177 *****
00178 *****
00179 ***** RUN#:COMMAND# *****
00180 R009:CO0001 *****

```

```

00181> START *****
00182 [TZERO = .00 hrs on 0] *****
00183 [NETOUT= 2 (1=Imperial, 2=metric output)] *****
00184 [NFORM= 1] *****
00185 [NRUN = 0099] *****
00186 *****
00187 ***** SWHYMDO Ver:02/Jan 2001 <BETA> / INPUT DATA FILE *****
00188 *****
00189 ***** Project Name : [6150 Thunder Road SMM - Existing Conditions] *****
00190 ***** Project Number: [2196] *****
00191 ***** Date : 2021/09/23 *****
00192 ***** Modeller : J. Burnett, P.Eng. *****
00193 ***** Company : J.F. Sabourin and Associates *****
00194 ***** License # : 2582634 *****
00195 *****
00196 *****
00197 ***** R009:CO0002 *****
00198 ***** READ STORM *****
00199 ***** Filename = storm.001 *****
00200 ***** Comment = CHICAGO STORM 100 Year, 3 Hours *****
00201 [SDT=10.00;SDDR= 3.00;PTOT= 71.66] *****
00202 ***** Pre-Development Drainage Area *****
00203 ***** # Pre-Development Drainage Area *****
00204 ***** # STORMS *****
00205 R009:CO0003 *****
00206 ***** CALIB NASHYD *****
00207 [CM= 60.0; N= 3.00; Tp= 1.42] *****
00208 R009:CO0004 *****
00209 ***** CALIB NASHYD *****
00210 [CM= 50.0; N= 3.00; Tp= .75] *****
00211 ***** ** END OF RUN : 198 *****
00212 *****
00213 *****
00214 *****
00215 *****
00216 *****
00217 *****
00218 *****
00219 *****
00220 *****
00221 *****
00222 ***** RUN#:COMMAND# *****
00223 R0199:CO0001 *****
00224 ***** START *****
00225 [TZERO = .00 hrs on 0] *****
00226 [NETOUT= 2 (1=Imperial, 2=metric output)] *****
00227 [NFORM= 1] *****
00228 [NRUN = 0199] *****
00229 *****
00230 ***** SWHYMDO Ver:02/Jan 2001 <BETA> / INPUT DATA FILE *****
00231 *****
00232 ***** Project Name : [6150 Thunder Road SMM - Existing Conditions] *****
00233 ***** Project Number: [2196] *****
00234 ***** Date : 2021/09/23 *****
00235 ***** Modeller : J. Burnett, P.Eng. *****
00236 ***** Company : J.F. Sabourin and Associates *****
00237 ***** License # : 2582634 *****
00238 *****
00239 *****
00240 ***** R0199:CO0002 *****
00241 ***** READ STORM *****
00242 ***** Filename = storm.001 *****
00243 ***** Comment = 100 years SCS Type 2 Storm 24 Hours step 10 min, City of Ottawa *****
00244 [SDT=10.00;SDDR= 24.00;PTOT= 106.73] *****
00245 ***** Pre-Development Drainage Area *****
00246 ***** # Pre-Development Drainage Area *****
00247 ***** # STORMS *****
00248 R0199:CO0003 *****
00249 ***** CALIB NASHYD *****
00250 [CM= 60.0; N= 3.00; Tp= 1.42] *****
00251 R0199:CO0004 *****
00252 ***** CALIB NASHYD *****
00253 [CM= 50.0; N= 3.00; Tp= .75] *****
00254 ***** ** END OF RUN : 998 *****
00255 *****
00256 *****
00257 *****
00258 *****
00259 *****
00260 *****
00261 *****
00262 *****
00263 *****
00264 *****
00265 *****
00266 *****
00267 *****
00268 *****
00269 *****
00270 *****
00271 *****
00272 *****
00273 ***** SWHYMDO Ver:02/Jan 2001 <BETA> / INPUT DATA FILE *****
00274 *****
00275 ***** Project Name : [6150 Thunder Road SMM - Existing Conditions] *****
00276 ***** Project Number: [2196] *****
00277 ***** Date : 2021/09/23 *****
00278 ***** Modeller : J. Burnett, P.Eng. *****
00279 ***** Company : J.F. Sabourin and Associates *****
00280 ***** License # : 2582634 *****
00281 *****
00282 *****
00283 ***** R0099:CO0002 *****
00284 ***** READ STORM *****
00285 ***** Filename = storm.001 *****
00286 ***** Comment = CHICAGO STORM 100 Year, 3 Hours +20% Stress Test *****
00287 [SDT=10.00;SDDR= 3.00;PTOT= 86.00] *****
00288 ***** Pre-Development Drainage Area *****
00289 ***** # Pre-Development Drainage Area *****
00290 ***** # STORMS *****
00291 R0099:CO0003 *****
00292 ***** CALIB NASHYD *****
00293 [CM= 60.0; N= 3.00; Tp= 1.42] *****
00294 R0099:CO0004 *****
00295 ***** CALIB NASHYD *****
00296 [CM= 50.0; N= 3.00; Tp= .75] *****
00297 ***** ** END OF RUN : 229 *****
00298 *****
00299 *****
00300 *****
00301 *****
00302 *****
00303 *****
00304 *****
00305 *****
00306 *****
00307 *****
00308 *****

```

Appendix B

Post Development Model
(PCSWMM)



Legend

- Subcatchments
<Name>
<Area (ha)>
<% Imp>
- Site Plan



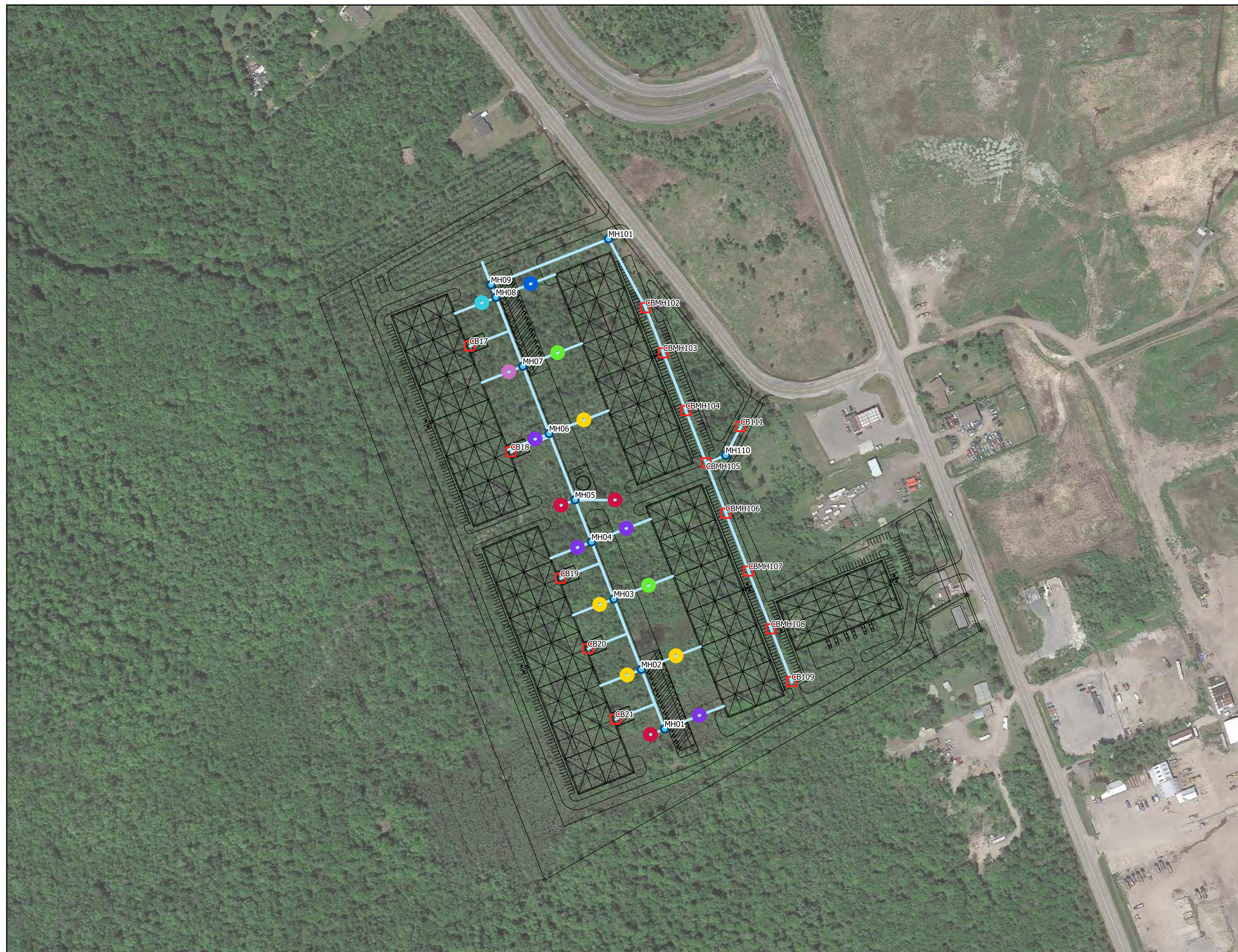
J.F. Sabourin and Associates Inc.
 WATER RESOURCES AND ENVIRONMENTAL CONSULTANTS
 52 Springbrook Drive
 Ottawa, ON, K2S 1B9
 (613) 836-3884
 www.jfsa.com



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Figure B1: Subcatchments

PROJECT	2120(01)-21
DRAWN	MP
DATE	NOV 2021



Legend

— Site Plan

● MH

□ CB

ICDs

● 83mm Circular Orifice Plate

● 94mm Circular Orifice Plate

● 102mm Circular Orifice Plate

● 108mm Circular Orifice Plate

● 127mm Circular Orifice Plate

● 152mm Circular Orifice Plate

● 178mm Circular Orifice Plate

SCALE: 1:3000

0 50 100 m



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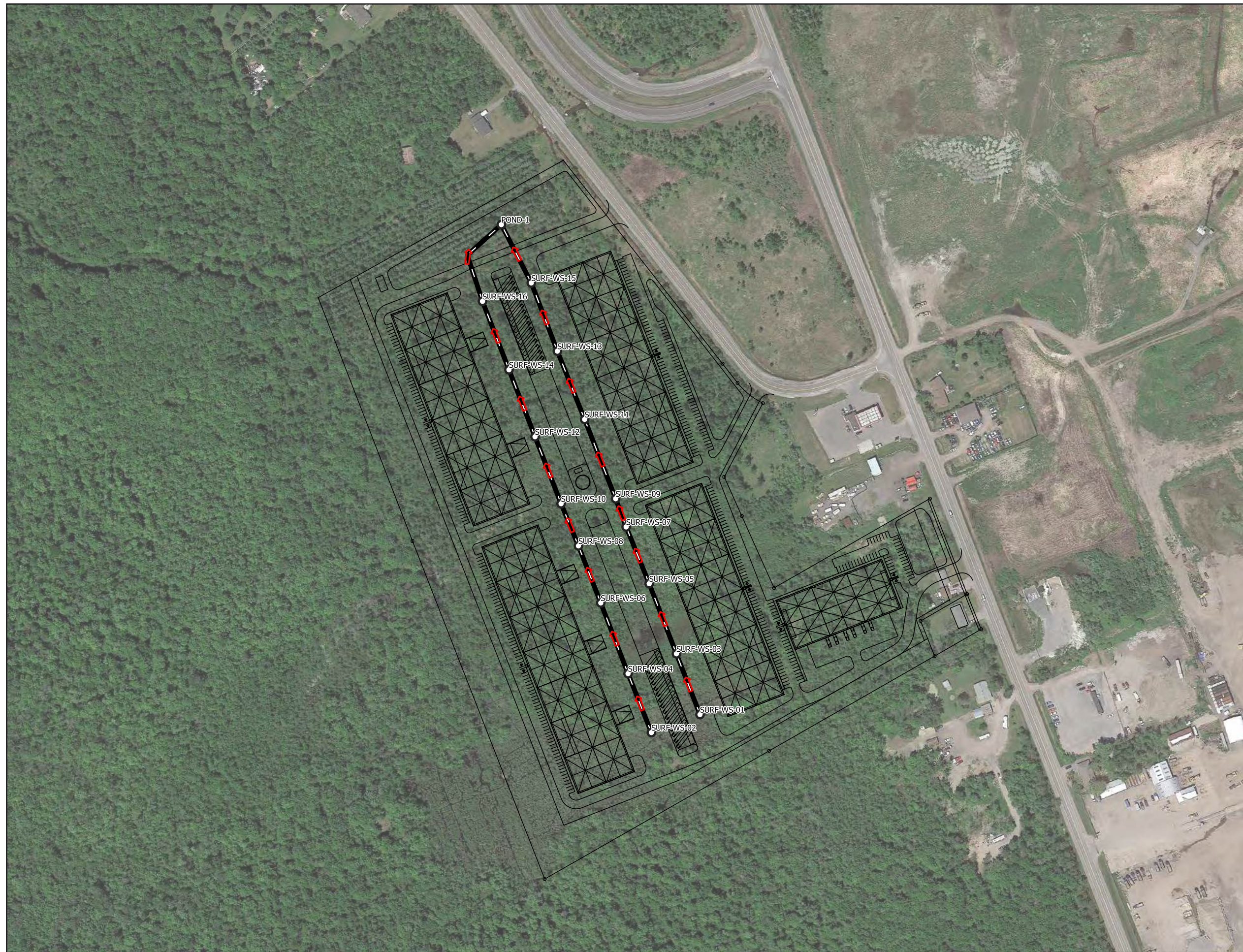
6150 Thunder Road SWM Report

Figure B2: Minor System

PROJECT	2120(01)-21
---------	-------------

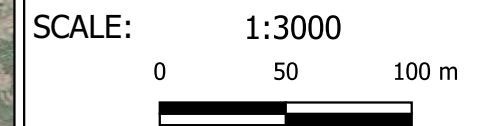
DRAWN	MP
-------	----

DATE	NOV 2021
------	----------



Legend

- Site Plan
- Major System Junctions
- ▬ Major System Conduits



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 Ottawa, ON, K2S 1B9 www.jfsa.com



6150 Thunder Road SWM Report

Figure B3: Major System

PROJECT	2120(01)-21
DRAWN	MP
DATE	NOV 2021

LRL Associates Ltd.
Storm Design Sheet



LRL File No. 200578
Project: Thunder Development
Location: Boundary Rd, Ottawa (ON)
Date: November 24, 2021
Designed: M. Longtin
Checked: V. Johnson
Drawing Reference: C.401

Storm Design Parameters

<u>Rational Method</u>	<u>Runoff Coefficient (C)</u>	<u>Prescott IDF curve</u>
Q = 2.78CIA	Grass 0.2	Equation (5 year event, intensity in mm/hr)
Q = Peak flow (L/s)	Gravel 0.80	$I = 27.0 (Td/60)^{-0.699}$
A = Drainage area (ha)	Asphalt / rooftop 0.90	Min. velocity = 0.80 m/s
C = Runoff coefficient		Manning's "n" = 0.013
I = Rainfall intensity (mm/hr)		

LOCATION			AREA (ha)			FLOW					STORM SEWER							
WATERSHED / STREET	From MH	To MH	C = 0.20	C = 0.80	C = 0.90	Indiv. 2.78AC	Accum. 2.78AC	Time of Conc. (min.)	Rainfall Intensity (mm/hr)	Peak Flow Q (L/s)	Pipe Diameter (mm)	Type	Slope (%)	Length (m)	Capacity Full (L/s)	Velocity Full (m/s)	Time of Flow (min.)	Ratio (Q/Q _{FULL})
WS-01A (ROOF)	RD	CB	0.000	0.000	0.149	0.37	0.37	10.00	104.90	2.52	100	PVC	1.00%	33.0	5.2	0.66	0.84	0.49
WS-01	STM CB02	STM MH01	0.051	0.000	0.227	0.60	0.60	10.00	104.90	65.14	300	Concrete	1.00%	30.0	96.7	1.37	0.37	0.67
WS-02A (ROOF)	RD	CB	0.000	0.000	0.149	0.37	0.37	10.00	104.90	2.52	100	PVC	1.00%	33.0	5.2	0.66	0.84	0.49
WS-02	STM CB01	STM MH01	0.031	0.000	0.263	0.67	0.67	10.00	104.90	73.29	300	Concrete	1.00%	12.2	96.7	1.37	0.15	0.76
	STM MH01	STM MH02	0.083	0.000	0.490	1.27	1.27	10.51	105.41	139.09	525	Concrete	0.20%	51.5	192.3	0.89	0.97	0.72
WS-03A (ROOF)	RD	CB	0.000	0.000	0.298	0.75	0.75	10.00	104.90	5.04	100	PVC	1.50%	33.0	6.3	0.81	0.68	0.80
WS-03	STM CB04	STM MH02	0.000	0.000	0.393	0.98	0.98	10.00	104.90	103.20	300	Concrete	1.50%	30.0	118.4	1.68	0.30	0.87
WS-04A (ROOF)	RD	CB	0.000	0.000	0.297	0.74	0.74	10.00	104.90	5.04	100	PVC	1.50%	33.0	6.3	0.81	0.68	0.80
WS-04	STM CB03	STM MH02	0.000	0.000	0.281	0.70	0.70	10.00	104.90	78.76	300	Concrete	1.25%	12.2	108.1	1.53	0.13	0.73
	STM MH02	STM MH03	0.000	0.000	0.674	1.69	2.96	10.95	106.29	329.56	750	Concrete	0.15%	61.0	431.2	0.98	1.04	0.76
WS-05A (ROOF)	RD	CB	0.000	0.000	0.297	0.74	0.74	10.00	104.90	5.04	100	PVC	1.50%	33.0	6.3	0.81	0.68	0.80
WS-05	STM CB06	STM MH03	0.000	0.000	0.244	0.61	0.61	10.00	104.90	69.18	300	Concrete	1.25%	30.0	108.1	1.53	0.33	0.64
WS-06A (ROOF)	RD	CB	0.000	0.000	0.446	1.12	1.12	10.00	104.90	7.56	150	PVC	1.00%	33.0	15.2	0.86	0.64	0.50
WS-06	STM CB05	STM MH03	0.000	0.000	0.281	0.70	0.70	10.00	104.90	81.31	300	Concrete	1.25%	12.2	108.1	1.53	0.13	0.75
	STM MH03	STM MH04	0.000	0.000	0.525	1.31	4.27	11.41	106.40	482.34	825	Concrete	0.20%	61.0	641.9	1.20	0.85	0.75
WS-07A (ROOF)	RD	CB	0.000	0.000	0.149	0.37	0.37	10.00	104.90	2.52	100	PVC	1.00%	33.0	5.2	0.66	0.84	0.49

LRL Associates Ltd.
Storm Design Sheet



LRL File No. 200578
Project: Thunder Development
Location: Boundary Rd, Ottawa (ON)
Date: November 24, 2021
Designed: M. Longtin
Checked: V. Johnson
Drawing Reference: C.401

Storm Design Parameters

<u>Rational Method</u>	<u>Runoff Coefficient (C)</u>	<u>Prescott IDF curve</u>
Q = 2.78CIA	Grass 0.2	Equation (5 year event, intensity in mm/hr)
Q = Peak flow (L/s)	Gravel 0.80	$I = 27.0 (Td/60)^{-0.699}$
A = Drainage area (ha)	Asphalt / rooftop 0.90	Min. velocity = 0.80 m/s
C = Runoff coefficient		Manning's "n" = 0.013
I = Rainfall intensity (mm/hr)		

WS-07	STM CB08	STM MH04	0.000	0.000	0.119	0.30	0.30	10.00	104.90	33.67	300	PVC	1.00%	30.0	96.7	1.37	0.37	0.35
WS-08A (ROOF)	RD	CB	0.000	0.000	0.149	0.37	0.37	10.00	104.90	2.52	100	PVC	1.00%	33.0	5.2	0.66	0.84	0.49
WS-08	STM CB07	STM MH04	0.000	0.000	0.174	0.44	0.44	10.00	104.90	48.24	300	PVC	1.00%	12.2	96.7	1.37	0.15	0.50
	STM MH04	STM MH05	0.000	0.000	0.293	0.73	5.01	11.92	106.26	564.64	825	Concrete	0.20%	61.0	641.9	1.20	0.85	0.88
WS-09	STM CB10	STM MH05	0.037	0.000	0.110	0.30	0.30	10.00	104.90	31.05	300	PVC	0.50%	32.3	68.4	0.97	0.56	0.45
WS-10	STM CB09	STM MH05	0.037	0.000	0.170	0.44	0.44	10.00	104.90	46.67	300	PVC	0.50%	12.2	68.4	0.97	0.21	0.68
	STM MH05	STM MH06	0.074	0.000	0.280	0.74	5.75	12.69	106.51	644.83	900	Concrete	0.20%	61.0	809.6	1.27	0.80	0.80
WS-11A (ROOF)	RD	CB	0.000	0.000	0.446	1.12	1.12	10.00	104.90	7.56	150	PVC	1.00%	33.0	15.2	0.86	0.64	0.50
WS-11	STM CB12	STM MH06	0.000	0.000	0.344	0.86	0.86	10.00	104.90	97.84	300	PVC	1.50%	30.0	118.4	1.68	0.30	0.83
WS-12A (ROOF)	RD	CB	0.000	0.000	0.297	0.74	0.74	10.00	104.90	5.04	100	PVC	1.50%	33.0	6.3	0.81	0.68	0.80
WS-12	STM CB11	STM MH06	0.000	0.000	0.314	0.79	0.79	10.00	104.90	87.42	300	PVC	1.50%	12.2	118.4	1.68	0.12	0.74
	STM MH06	STM MH07	0.000	0.000	0.658	1.65	7.39	13.11	106.11	907.55	975	Concrete	0.30%	61.0	1227.5	1.64	0.62	0.74
WS-13A (ROOF)	RD	CB	0.000	0.000	0.297	0.74	0.74	10.00	104.90	5.04	100	PVC	1.50%	33.0	6.3	0.81	0.68	0.80
WS-13	STM CB14	STM MH07	0.000	0.000	0.240	0.60	0.60	10.00	104.90	68.11	300	PVC	1.25%	30.0	108.1	1.53	0.33	0.63
WS-14A (ROOF)	RD	CB	0.000	0.000	0.297	0.74	0.74	10.00	104.90	5.04	100	PVC	1.50%	33.0	6.3	0.81	0.68	0.80
WS-14	STM CB13	STM MH07	0.000	0.000	0.277	0.69	0.69	10.00	104.90	77.69	300	PVC	1.25%	12.2	108.1	1.53	0.13	0.72
	STM MH07	STM MH08	0.000	0.000	0.517	1.29	8.69	13.57	105.97	1838.17	1200	Concrete	0.30%	61.0	2135.4	1.89	0.54	0.86
WS-15A (ROOF)	RD	CB	0.000	0.000	0.149	0.37	0.37	10.00	104.90	2.52	100	PVC	1.00%	33.0	5.2	0.66	0.84	0.49

LRL Associates Ltd.
Storm Design Sheet



LRL File No. 200578
Project: Thunder Development
Location: Boundary Rd, Ottawa (ON)
Date: November 24, 2021
Designed: M. Longtin
Checked: V. Johnson
Drawing Reference: C.401

Storm Design Parameters

<u>Rational Method</u>	<u>Runoff Coefficient (C)</u>	<u>Prescott IDF curve</u>
Q = 2.78CIA	Grass 0.2	Equation (5 year event, intensity in mm/hr)
Q = Peak flow (L/s)	Gravel 0.80	$I = 27.0 (Td/60)^{-0.699}$
A = Drainage area (ha)	Asphalt / rooftop 0.90	Min. velocity = 0.80 m/s
C = Runoff coefficient		Manning's "n" = 0.013
I = Rainfall intensity (mm/hr)		

WS-15	STM CB16	STM MH08	0.070	0.000	0.225	0.60	0.60	10.00	104.90	65.54	300	PVC	1.00%	30.0	96.7	1.37	0.37	0.68
WS-16A (ROOF)	RD	CB	0.000	0.000	0.297	0.74	0.74	10.00	104.90	5.04	100	PVC	1.50%	33.0	6.3	0.81	0.68	0.80
WS-16	STM CB15	STM MH08	0.012	0.000	0.261	0.66	0.66	10.00	104.90	74.24	300	PVC	1.00%	12.2	96.7	1.37	0.15	0.77
	STM MH07	STM MH08	0.082	0.000	0.486	1.26	9.95	14.08	105.95	2899.60	1350	Concrete	0.40%	61.0	3375.7	2.36	0.43	0.86
WS-25	STM CB109	STM CBMH108	0.000	0.000	0.138	0.34	0.34	10.00	104.90	36.14	300	PVC	0.35%	45.7	57.2	0.81	0.94	0.63
WS-24	STM CB108	STM CBMH107	0.000	0.000	0.104	0.26	0.26	10.00	104.90	63.33	375	PVC	0.25%	50.0	87.7	0.79	1.05	0.72
WS-23	STM CBMH107	STM CBMH106	0.000	0.000	0.071	0.18	0.18	10.00	104.90	81.96	450	PVC	0.20%	50.0	127.5	0.80	1.04	0.64
WS-22	STM CBMH106	STM CBMH105	0.000	0.000	0.070	0.18	0.18	10.00	104.90	100.44	450	PVC	0.20%	43.7	127.5	0.80	0.91	0.79
WS-26	STM CB111	STM MH110	0.000	0.000	0.043	0.11	0.11	10.00	104.90	11.29	300	PVC	0.35%	43.7	57.2	0.81	0.90	0.20
WS-21	STM CBMH105	STM CBMH104	0.005	0.000	0.101	0.25	0.25	10.00	104.90	138.46	525	PVC	0.20%	43.7	192.3	0.89	0.82	0.72
WS-20	STM CBMH104	STM CBMH103	0.000	0.000	0.122	0.31	0.31	10.00	104.90	170.48	600	PVC	0.20%	43.7	274.6	0.97	0.75	0.62
WS-19	STM CBMH103	STM CBMH102	0.000	0.000	0.097	0.24	0.24	10.00	104.90	195.81	600	PVC	0.20%	43.7	274.6	0.97	0.75	0.71
WS-18	STM CBMH102	MH101	0.084	0.000	0.112	0.33	0.33	10.00	104.90	230.02	600	PVC	0.20%	43.7	274.6	0.97	0.75	0.84

Note

The Peak flow controlled by an ICD at the outlet of CBMH05

[TITLE]
;;Project Title/Notes

[OPTIONS]
;;Option Value
FLOW_UNITS CMS
INFILTRATION HORTON
FLOW_ROUTING DYNWAVE
LINK_OFFSETS ELEVATION
MIN_SLOPE 0
ALLOW_PONDING YES
SKIP_STEADY_STATE NO

START_DATE 01/01/2019
START_TIME 00:00:00
REPORT_START_DATE 01/01/2019
REPORT_START_TIME 00:00:00
END_DATE 01/02/2019
END_TIME 00:00:00
SWEEP_START 01/01
SWEEP_END 12/31
DRY_DAYS 0
REPORT_STEP 00:01:00
WET_STEP 00:05:00
DRY_STEP 00:05:00
ROUTING_STEP 1
RULE_STEP 00:00:00

INERTIAL_DAMPING PARTIAL
NORMAL_FLOW_LIMITED BOTH
FORCE_MAIN_EQUATION H-W
VARIABLE_STEP 0.75
LENGTHENING_STEP 0
MIN_SURFAREA 0
MAX_TRIALS 8
HEAD_TOLERANCE 0.0015
SYS_FLOW_TOL 5
LAT_FLOW_TOL 5
MINIMUM_STEP 0.5
THREADS 6

[EVAPORATION]
;;Data Source Parameters
;;-----
CONSTANT 0.0
DRY_ONLY NO

[RAINGAGES]
;;Name Format Interval SCF Source
;;-----
002yrChicago3hr INTENSITY 0:10 1.0 TIMESERIES 002yrChicago3hr
002YrSCS24 INTENSITY 0:10 1.0 TIMESERIES 002YrSCS24
005yrChicago3hr INTENSITY 0:10 1.0 TIMESERIES 005yrChicago3hr
005YrSCS24 INTENSITY 0:10 1.0 TIMESERIES 005YrSCS24
010yrChicago3hr INTENSITY 0:10 1.0 TIMESERIES 010yrChicago3hr
010YrSCS24 INTENSITY 0:10 1.0 TIMESERIES 010YrSCS24
025yrChicago3hr INTENSITY 0:10 1.0 TIMESERIES 025yrChicago3hr

025YrSCS24	INTENSITY 0:10	1.0	TIMESERIES 025YrSCS24
050yrChicago3hr	INTENSITY 0:10	1.0	TIMESERIES 050yrChicago3hr
050YrSCS24	INTENSITY 0:10	1.0	TIMESERIES 050YrSCS24
100yrChicago3hr	INTENSITY 0:10	1.0	TIMESERIES 100yrChicago3hr
100yrChicago3hr+20%	INTENSITY 0:10	1.0	TIMESERIES 100yrChicago3hr+20%
100YrSCS24	INTENSITY 0:10	1.0	TIMESERIES 100YrSCS24
100YrSCS24+20%	INTENSITY 0:10	1.0	TIMESERIES 100YrSCS24+20%
25mmChicago4Hr	INTENSITY 0:10	1.0	TIMESERIES 25mmChicago4Hr

[SUBCATCHMENTS]

;;Name	Rain Gage	Outlet	Area	%Imperv	Width	%
Slope CurbLen	SnowPack					
;;-----	-----	-----	-----	-----	-----	-----
WS-01 0	100YrSCS24	SURF-WS-01	0.278	81.4	79.429	2
WS-01A 0	100YrSCS24	WS-01A-Lead	0.149	100	30	0.1
WS-02 0	100YrSCS24	SURF-WS-02	0.294	90	98	2
WS-02A 0	100YrSCS24	WS-02A-Lead	0.149	100	30	0.1
WS-03 0	100YrSCS24	SURF-WS-03	0.245	100	74.242	2
WS-03A 0	100YrSCS24	WS-03A-Lead	0.298	100	60	0.1
WS-04 0	100YrSCS24	SURF-WS-04	0.281	100	78.056	2
WS-04A 0	100YrSCS24	WS-04A-Lead	0.297	100	60	0.1
WS-05 0	100YrSCS24	SURF-WS-05	0.244	100	67.778	2
WS-05A 0	100YrSCS24	WS-05A-Lead	0.297	100	61	0.1
WS-06 0	100YrSCS24	SURF-WS-06	0.281	100	75.946	2
WS-06A 0	100YrSCS24	WS-06A-Lead	0.446	100	90	0.1
WS-07 0	100YrSCS24	SURF-WS-07	0.119	100	45.769	2
WS-07A 0	100YrSCS24	WS-07A-Lead	0.149	100	30	0.1
WS-08 0	100YrSCS24	SURF-WS-08	0.174	100	64.444	2
WS-08A 0	100YrSCS24	WS-08A-Lead	0.149	100	30	0.1
WS-09 0	100YrSCS24	SURF-WS-09	0.147	74.3	70	2
WS-10 0	100YrSCS24	SURF-WS-10	0.207	81.4	66.774	2
WS-11 0	100YrSCS24	SURF-WS-11	0.344	100	57.333	2
WS-11A 0	100YrSCS24	WS-11A-Lead	0.446	100	90	0.1
WS-12 0	100YrSCS24	SURF-WS-12	0.314	100	65.417	2
WS-12A 0	100YrSCS24	WS-12A-Lead	0.297	100	60	0.1
WS-13 0	100YrSCS24	SURF-WS-13	0.24	100	68.571	2

WS-13A 0	100YrSCS24	WS-13A-Lead	0.297	100	60	0.1
WS-14 0	100YrSCS24	SURF-WS-14	0.277	100	74.865	2
WS-14A 0	100YrSCS24	WS-14A-Lead	0.297	100	60	0.1
WS-15 0	100YrSCS24	SURF-WS-15	0.295	75.7	84.286	2
WS-15A 0	100YrSCS24	WS-15A-Lead	0.149	100	30	0.1
WS-16 0	100YrSCS24	SURF-WS-16	0.273	95.7	75.833	2
WS-16A 0	100YrSCS24	WS-16A-Lead	0.297	100	59	0.1
WS-17_1 0	100YrSCS24	J2	0.6057	63	302.85	0.5
WS-17_2 0	100YrSCS24	J1	0.5432	63	271.6	0.5
WS-18 0	100YrSCS24	SURF-WS-18	0.195	57.1	90	1
WS-19 0	100YrSCS24	SURF-WS-19	0.0965	25	50	1
WS-20 0	100YrSCS24	SURF-WS-20	0.122	100	62	1
WS-21 0	100YrSCS24	SURF-WS-21	0.106	100	25	1
WS-22 0	100YrSCS24	STM_CBMH106	0.0704	100	48	1
WS-23 0	100YrSCS24	STM_CBMH107	0.071	100	50	1
WS-24 0	100YrSCS24	STM_CBMH108	0.1037	100	50	1
WS-25 0	100YrSCS24	STM_CB109	0.1377	100	68	1
WS-26 0	100YrSCS24	STM_CB111	0.043	100	8	1
WS-27 0	100YrSCS24	POND-2	0.389	7	45	0.5
WS-28 0	100YrSCS24	POND-1	0.6297	7	314.85	0.5
WS-29 0	100YrSCS24	POND-3	1.36	62.9	90.667	1
WS-30 0	100YrSCS24	SURF-WS-21	0.0984	7	196.8	0.5

[SUBAREAS]

;;Subcatchment PctRouted ;;----- -----	N-Imperv	N-Perv	S-Imperv	S-Perv	PctZero	RouteTo
WS-01	0.013	0.25	1.57	4.67	25	OUTLET
WS-01A	0.013	0.25	1.57	4.67	25	OUTLET
WS-02	0.013	0.25	1.57	4.67	25	OUTLET
WS-02A	0.013	0.25	1.57	4.67	25	OUTLET
WS-03	0.013	0.25	1.57	4.67	25	OUTLET
WS-03A	0.013	0.25	1.57	4.67	25	OUTLET
WS-04	0.013	0.25	1.57	4.67	25	OUTLET
WS-04A	0.013	0.25	1.57	4.67	25	OUTLET
WS-05	0.013	0.25	1.57	4.67	25	OUTLET

WS-05A	0.013	0.25	1.57	4.67	25	OUTLET
WS-06	0.013	0.25	1.57	4.67	25	OUTLET
WS-06A	0.013	0.25	1.57	4.67	25	OUTLET
WS-07	0.013	0.25	1.57	4.67	25	OUTLET
WS-07A	0.013	0.25	1.57	4.67	25	OUTLET
WS-08	0.013	0.25	1.57	4.67	25	OUTLET
WS-08A	0.013	0.25	1.57	4.67	25	OUTLET
WS-09	0.013	0.25	1.57	4.67	25	OUTLET
WS-10	0.013	0.25	1.57	4.67	25	OUTLET
WS-11	0.013	0.25	1.57	4.67	25	OUTLET
WS-11A	0.013	0.25	1.57	4.67	25	OUTLET
WS-12	0.013	0.25	1.57	4.67	25	OUTLET
WS-12A	0.013	0.25	1.57	4.67	25	OUTLET
WS-13	0.013	0.25	1.57	4.67	25	OUTLET
WS-13A	0.013	0.25	1.57	4.67	25	OUTLET
WS-14	0.013	0.25	1.57	4.67	25	OUTLET
WS-14A	0.013	0.25	1.57	4.67	25	OUTLET
WS-15	0.013	0.25	1.57	4.67	25	OUTLET
WS-15A	0.013	0.25	1.57	4.67	25	OUTLET
WS-16	0.013	0.25	1.57	4.67	25	OUTLET
WS-16A	0.013	0.25	1.57	4.67	25	OUTLET
WS-17_1 100	0.013	0.25	1.57	4.67	25	PERVIOUS
WS-17_2 100	0.013	0.25	1.57	4.67	25	PERVIOUS
WS-18	0.013	0.25	1.57	4.67	25	OUTLET
WS-19	0.013	0.25	1.57	4.67	25	OUTLET
WS-20	0.013	0.25	1.57	4.67	25	OUTLET
WS-21	0.013	0.25	1.57	4.67	25	OUTLET
WS-22	0.013	0.25	1.57	4.67	25	OUTLET
WS-23	0.013	0.25	1.57	4.67	25	OUTLET
WS-24	0.013	0.25	1.57	4.67	25	OUTLET
WS-25	0.013	0.25	1.57	4.67	25	OUTLET
WS-26	0.013	0.25	1.57	4.67	25	OUTLET
WS-27	0.013	0.25	1.57	4.67	25	OUTLET
WS-28	0.013	0.25	1.57	4.67	25	OUTLET
WS-29 100	0.013	0.25	1.57	4.67	25	PERVIOUS
WS-30	0.013	0.25	1.57	4.67	25	OUTLET

[INFILTRATION]

;;Subcatchment	Param1	Param2	Param3	Param4	Param5
;;-----	-----	-----	-----	-----	-----
WS-01	76.2	13.2	4.14	7	0
WS-01A	76.2	13.2	4.14	7	0
WS-02	76.2	13.2	4.14	7	0
WS-02A	76.2	13.2	4.14	7	0
WS-03	76.2	13.2	4.14	7	0
WS-03A	76.2	13.2	4.14	7	0
WS-04	76.2	13.2	4.14	7	0
WS-04A	76.2	13.2	4.14	7	0
WS-05	76.2	13.2	4.14	7	0
WS-05A	76.2	13.2	4.14	7	0
WS-06	76.2	13.2	4.14	7	0
WS-06A	76.2	13.2	4.14	7	0
WS-07	76.2	13.2	4.14	7	0
WS-07A	76.2	13.2	4.14	7	0

WS-08	76.2	13.2	4.14	7	0
WS-08A	76.2	13.2	4.14	7	0
WS-09	76.2	13.2	4.14	7	0
WS-10	76.2	13.2	4.14	7	0
WS-11	76.2	13.2	4.14	7	0
WS-11A	76.2	13.2	4.14	7	0
WS-12	76.2	13.2	4.14	7	0
WS-12A	76.2	13.2	4.14	7	0
WS-13	76.2	13.2	4.14	7	0
WS-13A	76.2	13.2	4.14	7	0
WS-14	76.2	13.2	4.14	7	0
WS-14A	76.2	13.2	4.14	7	0
WS-15	76.2	13.2	4.14	7	0
WS-15A	76.2	13.2	4.14	7	0
WS-16	76.2	13.2	4.14	7	0
WS-16A	76.2	13.2	4.14	7	0
WS-17_1	76.2	13.2	4.14	7	0
WS-17_2	76.2	13.2	4.14	7	0
WS-18	76.2	13.2	4.14	7	0
WS-19	76.2	13.2	4.14	7	0
WS-20	76.2	13.2	4.14	7	0
WS-21	76.2	13.2	4.14	7	0
WS-22	76.2	13.2	4.14	7	0
WS-23	76.2	13.2	4.14	7	0
WS-24	76.2	13.2	4.14	7	0
WS-25	76.2	13.2	4.14	7	0
WS-26	76.2	13.2	4.14	7	0
WS-27	76.2	13.2	4.14	7	0
WS-28	76.2	13.2	4.14	7	0
WS-29	76.2	13.2	4.14	7	0
WS-30	76.2	13.2	4.14	7	0

[JUNCTIONS]

;;Name	Elevation	MaxDepth	InitDepth	SurDepth	Aponded
;;-----	-----	-----	-----	-----	-----
J1	76.7	0.3	0	0	1
J2	76.85	0.3	0	0	0
J3	77.05	0.3	0	0	0
OF3	0	0	0	0	0
Out	0	0	0	0	0
PUMP_CHAMBER	74.125	2.925	0	0	0
STM_CB09	75.992	5.914	0	0	0
STM_CB10	76.193	5.715	0	0	0
STM_CB109	75.8	1.3	0	0	1
STM_CB111	75.481	1.519	0	0	1
STM_CB17	75.48	0.82	0	0	1
STM_CB18	75.67	0.71	0	0	1
STM_CB19	76.01	0.79	0	0	0
STM_CB20	76.07	0.73	0	0	0
STM_CB21	76.12	0.71	0	0	0
STM_CBMH01	76.322	5.987	0	0	0
STM_CBMH02	76.5	5.757	0	0	0
STM_CBMH03	76.2	5.707	0	0	0
STM_CBMH04	76.19	5.719	0	0	0
STM_CBMH05	75.962	5.947	0	0	0
STM_CBMH06	76.19	5.714	0	0	0
STM_CBMH07	76.012	5.896	0	0	0

STM_CBMH08	76.206	5.7	0	0	0
STM_CBMH102	74.64	2.26	0	0	0
STM_CBMH103	74.78	2.02	0	0	1
STM_CBMH104	74.91	1.89	0	0	1
STM_CBMH105	75.08	1.82	0	0	1
STM_CBMH106	75.25	1.95	0	0	1
STM_CBMH107	75.38	1.82	0	0	1
STM_CBMH108	75.56	1.64	0	0	1
STM_CBMH11	75.682	6.08	0	0	0
STM_CBMH12	75.951	5.807	0	0	0
STM_CBMH13	75.682	6.073	0	0	0
STM_CBMH14	75.906	5.853	0	0	0
STM_CBMH15	75.472	6.283	0	0	1
STM_CBMH16	75.65	6.106	0	0	0
STM_MH01	75.98	1.52	0	0	0
STM_MH02	75.65	1.5	0	0	0
STM_MH03	75.49	1.806	0	0	0
STM_MH04	75.36	1.79	0	0	0
STM_MH05	75.22	1.93	0	0	0
STM_MH06	75.03	1.97	0	0	0
STM_MH07	74.63	2.27	0	0	0
STM_MH08	74.42	2.53	0	0	0
STM_MH09	74.19	3.037	0	0	0
STM_MH101	74.45	2.777	0	0	1
STM_MH110	75.359	1.891	0	0	0
SURF-WS-17	76.25	1	0	0	0
SWM_Out	75.8	2.288	0	0	0
TREATMENT_UNIT_1	74.15	3.035	0	0	1
WS-01A-Lead	76.739	4	0	0	1490
WS-02A-Lead	76.581	4	0	0	1490
WS-03A-Lead	76.534	4	0	0	2980
WS-04A-Lead	76.576	4	0	0	2970
WS-05A-Lead	76.533	4	0	0	2970
WS-06A-Lead	76.221	4	0	0	4460
WS-07A-Lead	76.449	4	0	0	1490
WS-08A-Lead	76.391	4	0	0	1490
WS-11A-Lead	76.208	4	0	0	4460
WS-12A-Lead	76.227	4	0	0	2970
WS-13A-Lead	76.322	4	0	0	2970
WS-14A-Lead	76.227	4	0	0	2970
WS-15A-Lead	76.058	4	0	0	1490
WS-16A-Lead	76.018	4	0	0	2970

[OUTFALLS]

;;Name	Elevation	Type	Stage Data	Gated	Route To
;;-----	-----	-----	-----	-----	-----
OF1	75.79	FREE		NO	
OF2	0	FREE		NO	
OF4	0	FREE		NO	

[STORAGE]

;;Name	Elev.	MaxDepth	InitDepth	Shape	Curve Name/Params
N/A	Fevap	Psi	Ksat	IMD	
;;-----	-----	-----	-----	-----	-----
;;-----	-----	-----	-----	-----	-----
;;0.9m					
POND-1	75.8	5	0	TABULAR	WS-28
0	0				

```

;0.9m
POND-2      75.8      5      0      TABULAR      WS-27
0      0
;0.65m
POND-3      76.65     0.65     0      TABULAR      Pond_3
0      0
SURF-WS-01  77.257     5      0      TABULAR      WS-01
0      0
SURF-WS-02  77.309     5      0      TABULAR      WS-02
0      0
SURF-WS-03  76.909     5      0      TABULAR      WS-03
0      0
SURF-WS-04  76.907     5      0      TABULAR      WS-04
0      0
SURF-WS-05  76.904     5      0      TABULAR      WS-05
0      0
SURF-WS-06  76.909     5      0      TABULAR      WS-06
0      0
SURF-WS-07  76.906     5      0      TABULAR      WS-07
0      0
SURF-WS-08  76.908     5      0      TABULAR      WS-08
0      0
SURF-WS-09  76.908     5      0      TABULAR      WS-09
0      0
SURF-WS-10  76.906     5      0      TABULAR      WS-10
0      0
SURF-WS-11  76.758     5      0      TABULAR      WS-11
0      0
SURF-WS-12  76.762     5      0      TABULAR      WS-12
0      0
SURF-WS-13  76.759     5      0      TABULAR      WS-13
0      0
SURF-WS-14  76.755     5      0      TABULAR      WS-14
0      0
SURF-WS-15  76.756     5      0      TABULAR      WS-15
0      0
SURF-WS-16  76.755     5      0      TABULAR      WS-16
0      0
SURF-WS-18  76.91      5      0      TABULAR      WS-18
0      0
SURF-WS-19  76.804     5      0      TABULAR      WS-19
0      0
SURF-WS-20  76.805     5      0      TABULAR      WS-20
0      0
SURF-WS-21  76.925     5      0      TABULAR      Pond_3
0      0

```

[CONDUITS]

```

;;Name      From Node      To Node      Length      Roughness      InOffset
OutOffset  InitFlow      MaxFlow
;-----
C1          SURF-WS-01     SURF-WS-03     5      0.013      77.56
77.555     0              0
C10         SURF-WS-10     SURF-WS-12     5      0.013      76.906
76.901     0              0
C11         SURF-WS-11     SURF-WS-13     5      0.013      77.05
77.045     0              0
C12         SURF-WS-12     SURF-WS-14     5      0.013      77.05
77.045     0              0

```

C13		SURF-WS-13	SURF-WS-15	5	0.013	77.18
77.175	0	0				
C14		SURF-WS-14	SURF-WS-16	59.161	0.013	77.09
77.085	0	0				
C15		SURF-WS-15	POND-1	5	0.013	77.14
77.135	0	0				
C16		SURF-WS-16	POND-1	76.066	0.013	77.05
77.045	0	0				
C17		Out	OF2	6.249	0.013	0
0	0	0				
C18		J3	J2	100.003	0.035	77.05
76.85	0	0				
C19		J2	SURF-WS-17	236.971	0.035	76.85
76.25	0	0				
C2		SURF-WS-02	SURF-WS-04	51.101	0.013	77.54
77.535	0	0				
C20		J1	SURF-WS-17	188.35	0.035	76.7
76.25	0	0				
C21		OF3	OF4	3.965	0.01	0
0	0	0				
C3		SURF-WS-03	SURF-WS-05	60.636	0.013	77.3
77.295	0	0				
C4		SURF-WS-04	SURF-WS-06	5	0.013	77.4
77.395	0	0				
C5		SURF-WS-05	SURF-WS-07	49.387	0.013	77.29
77.285	0	0				
C6		SURF-WS-06	SURF-WS-08	5	0.013	77.54
77.535	0	0				
C7		SURF-WS-07	SURF-WS-09	24.247	0.013	77.26
77.255	0	0				
C8		SURF-WS-08	SURF-WS-10	5	0.013	77.21
77.205	0	0				
C9		SURF-WS-09	SURF-WS-11	5	0.013	77.38
77.375	0	0				
Out		SWM_Out	OF1	44.493	0.013	75.8
75.79	0	0				
Pipe_-_03		TREATMENT_UNIT_1	PUMP_CHAMBER	12.381	0.013	74.15
74.125	0	0				
Pipe_-_04		STM_MH09	TREATMENT_UNIT_1	7.146	0.013	74.19
74.176	0	0				
Pipe_-_05		STM_MH08	STM_MH09	10.848	0.013	74.42
74.377	0	0				
Pipe_-_06		STM_MH07	STM_MH08	59.651	0.013	74.63
74.451	0	0				
Pipe_-_07		STM_MH06	STM_MH07	58.253	0.013	75.03
74.855	0	0				
Pipe_-_08		STM_MH05	STM_MH06	57.381	0.013	75.22
75.105	0	0				
Pipe_-_09		STM_MH04	STM_MH05	36.456	0.013	75.36
75.287	0	0				
Pipe_-_10		STM_MH03	STM_MH04	49.35	0.013	75.49
75.391	0	0				
Pipe_-_100		STM_MH101	STM_MH09	101.654	0.013	74.45
74.247	0	0				
Pipe_-_101		STM_CBMH102	STM_MH101	63.074	0.013	74.64
74.514	0	0				
Pipe_-_102		STM_CBMH103	STM_CBMH102	39.087	0.013	74.78
74.702	0	0				
Pipe_-_103		STM_CBMH104	STM_CBMH103	50	0.013	74.91
74.81	0	0				

Pipe_-_104	STM_CBMH105	STM_CBMH104	45.147	0.013	75.08
74.99	0				
Pipe_-_105	STM_MH110	STM_CBMH105	16.862	0.013	75.359
75.3	0				
Pipe_-_106	STM_CB111	STM_MH110	26.032	0.013	75.481
75.39	0				
Pipe_-_107	STM_CBMH106	STM_CBMH105	43.741	0.013	75.25
75.163	0				
Pipe_-_108	STM_CBMH107	STM_CBMH106	50	0.013	75.38
75.28	0				
Pipe_-_109	STM_CBMH108	STM_CBMH107	50	0.013	75.56
75.46	0				
Pipe_-_11	STM_MH02	STM_MH03	61.037	0.013	75.65
75.558	0				
Pipe_-_110	STM_CB109	STM_CBMH108	45.669	0.013	75.8
75.64	0				
Pipe_-_12	STM_MH01	STM_MH02	51.5	0.013	75.98
75.877	0				
Pipe_-_29	STM_CB17	STM_MH08	34.011	0.013	75.48
75.14	0				
Pipe_-_30	STM_CB18	STM_MH06	34.011	0.013	75.67
75.5	0				
Pipe_-_31	STM_CB19	STM_MH04	34.011	0.013	76.01
75.84	0				
Pipe_-_32	STM_CB20	STM_MH03	34.011	0.013	76.07
75.9	0				
Pipe_-_33	STM_CB21	STM_MH02	34.011	0.013	76.12
75.95	0				
Pipe_-_34	WS-15A-Lead	STM_CBMH16	20.811	0.013	76.058
75.85	0				
Pipe_-_35	WS-16A-Lead	STM_CBMH15	23.185	0.013	76.018
75.67	0				
Pipe_-_36	WS-13A-Lead	STM_CBMH14	20.831	0.013	76.322
76.01	0				
Pipe_-_37	WS-14A-Lead	STM_CBMH13	23.165	0.013	76.227
75.88	0				
Pipe_-_38	WS-11A-Lead	STM_CBMH12	20.85	0.013	76.208
76	0				
Pipe_-_39	WS-12A-Lead	STM_CBMH11	23.146	0.013	76.227
75.88	0				
Pipe_-_40	WS-07A-Lead	STM_CBMH08	20.881	0.013	76.449
76.24	0				
Pipe_-_41	WS-08A-Lead	STM_CBMH07	23.115	0.013	76.391
76.16	0				
Pipe_-_42	WS-05A-Lead	STM_CBMH06	20.897	0.013	76.533
76.22	0				
Pipe_-_43	WS-06A-Lead	STM_CBMH05	23.098	0.013	76.221
75.99	0				
Pipe_-_44	WS-03A-Lead	STM_CBMH04	20.918	0.013	76.534
76.22	0				
Pipe_-_45	WS-04A-Lead	STM_CBMH03	23.098	0.013	76.576
76.23	0				
Pipe_-_46	WS-01A-Lead	STM_CBMH02	20.918	0.013	76.739
76.53	0				
Pipe_-_47	WS-02A-Lead	STM_CBMH01	23.098	0.013	76.581
76.35	0				
Ponds	POND-2	POND-1	50	0.013	75.81
75.8	0				

[PUMPS]

```

;;Name      From Node      To Node      Pump Curve      Status
Startup  Shutoff
;;-----
P1         PUMP_CHAMBER      POND-1       Pond_Pump       ON              0
0

```

[ORIFICES]

```

;;Name      From Node      To Node      Type      Offset      Qcoeff
Gated      CloseTime
;;-----
GRATE-01   SURF-WS-01     STM_CBMH02   BOTTOM     77.257     0.62
NO         0
GRATE-02   SURF-WS-02     STM_CBMH01   BOTTOM     77.309     0.62
NO         0
GRATE-03   SURF-WS-03     STM_CBMH04   BOTTOM     76.909     0.62
NO         0
GRATE-04   SURF-WS-04     STM_CBMH03   BOTTOM     76.907     0.62
NO         0
GRATE-05   SURF-WS-05     STM_CBMH06   BOTTOM     76.904     0.62
NO         0
GRATE-06   SURF-WS-06     STM_CBMH05   BOTTOM     76.909     0.62
NO         0
GRATE-07   SURF-WS-07     STM_CBMH08   BOTTOM     76.906     0.62
NO         0
GRATE-08   SURF-WS-08     STM_CBMH07   BOTTOM     76.908     0.62
NO         0
GRATE-09   SURF-WS-09     STM_CB10     BOTTOM     76.908     0.62
NO         0
GRATE-10   SURF-WS-10     STM_CB09     BOTTOM     76.906     0.62
NO         0
GRATE-11   SURF-WS-11     STM_CBMH12   BOTTOM     76.758     0.62
NO         0
GRATE-12   SURF-WS-12     STM_CBMH11   BOTTOM     76.762     0.62
NO         0
GRATE-13   SURF-WS-13     STM_CBMH14   BOTTOM     76.759     0.62
NO         0
GRATE-14   SURF-WS-14     STM_CBMH13   BOTTOM     76.755     0.62
NO         0
GRATE-15   SURF-WS-15     STM_CBMH16   BOTTOM     76.756     0.62
NO         0
GRATE-16   SURF-WS-16     STM_CBMH15   BOTTOM     76.755     0.62
NO         0
GRATE-18   SURF-WS-18     STM_CBMH102  BOTTOM     76.91      0.62
NO         0
GRATE-19   SURF-WS-19     STM_CBMH103  BOTTOM     76.804     0.62
NO         0
GRATE-20   SURF-WS-20     STM_CBMH104  BOTTOM     76.805     0.62
NO         0
GRATE-21   SURF-WS-21     STM_CBMH105  BOTTOM     76.925     0.62
NO         0
OR18       POND-1         SWM_Out      SIDE      76.25      0.62
NO         0
OR20       SURF-WS-17     OF3          SIDE      76.25      0.62
NO         0
Pipe_-_13  STM_CBMH16     STM_MH08     SIDE      75.65      0.62
NO         0
Pipe_-_14  STM_CBMH15     STM_MH08     SIDE      75.472     0.62
NO         0

```

Pipe_-_15 NO 0	STM_CBMH14	STM_MH07	SIDE	75.906	0.62
Pipe_-_16 NO 0	STM_CBMH13	STM_MH07	SIDE	75.682	0.62
Pipe_-_17 NO 0	STM_CBMH12	STM_MH06	SIDE	75.951	0.62
Pipe_-_18 NO 0	STM_CBMH11	STM_MH06	SIDE	75.682	0.62
Pipe_-_19 NO 0	STM_CB10	STM_MH05	SIDE	76.193	0.62
Pipe_-_20 NO 0	STM_CB09	STM_MH05	SIDE	75.992	0.62
Pipe_-_21 NO 0	STM_CBMH08	STM_MH04	SIDE	76.206	0.62
Pipe_-_22 NO 0	STM_CBMH07	STM_MH04	SIDE	76.012	0.62
Pipe_-_23 NO 0	STM_CBMH06	STM_MH03	SIDE	76.19	0.62
Pipe_-_24 NO 0	STM_CBMH05	STM_MH03	SIDE	75.962	0.62
Pipe_-_25 NO 0	STM_CBMH04	STM_MH02	SIDE	76.19	0.62
Pipe_-_26 NO 0	STM_CBMH03	STM_MH02	SIDE	76.2	0.62
Pipe_-_27 NO 0	STM_CBMH02	STM_MH01	SIDE	76.5	0.62
Pipe_-_28 NO 0	STM_CBMH01	STM_MH01	SIDE	76.322	0.62
Qual1 NO 0	POND-1	SWM_Out	SIDE	75.8	0.62

[WEIRS]

;;Name		From Node	To Node	Type	CrestHt	Qcoeff
Gated	EndCon	EndCoeff	Surcharge RoadWidth	RoadSurf	Coeff. Curve	
W1 NO 0		SURF-WS-17 0	OF3 YES	TRANSVERSE	77	1.58
W2 NO 0		POND-3 0	Out YES	TRANSVERSE	77.2	1.8
W3 NO 0		POND-1 0	SWM_Out YES	TRANSVERSE	76.65	1.8

[OUTLETS]

;;Name		From Node	To Node	Offset	Type
QTable/Qcoeff	Qexpon	Gated			
OL1 75_VHV-1		POND-3 NO	Out	76.65	TABULAR/HEAD

[XSECTIONS]

;;Link		Shape	Geom1	Geom2	Geom3	Geom4
Barrels	Culvert					
C1		IRREGULAR	C1	0	0	1
C10		IRREGULAR	C10	0	0	1
C11		IRREGULAR	C11	0	0	1
C12		IRREGULAR	C12	0	0	1

C13	IRREGULAR	C13	0	0	0	1
C14	IRREGULAR	C14	0	0	0	1
C15	IRREGULAR	C15	0	0	0	1
C16	IRREGULAR	C16	0	0	0	1
C17	TRAPEZOIDAL	1	1	3	3	1
C18	TRIANGULAR	0.3	6	0	0	1
C19	TRIANGULAR	0.3	6	0	0	1
C2	IRREGULAR	C2	0	0	0	1
C20	TRIANGULAR	0.3	6	0	0	1
C21	TRAPEZOIDAL	1	1	3	3	1
C3	IRREGULAR	C3	0	0	0	1
C4	IRREGULAR	C4	0	0	0	1
C5	IRREGULAR	C5	0	0	0	1
C6	IRREGULAR	C6	0	0	0	1
C7	IRREGULAR	C7	0	0	0	1
C8	IRREGULAR	C8	0	0	0	1
C9	IRREGULAR	C9	0	0	0	1
Out	CIRCULAR	0.6	0	0	0	1
Pipe_-_03	CIRCULAR	0.6	0	0	0	1
Pipe_-_04	CIRCULAR	0.6	0	0	0	1
Pipe_-_05	CIRCULAR	0.6	0	0	0	1
Pipe_-_06	CIRCULAR	1.2	0	0	0	1
Pipe_-_07	CIRCULAR	0.975	0	0	0	1
Pipe_-_08	CIRCULAR	0.9	0	0	0	1
Pipe_-_09	CIRCULAR	0.825	0	0	0	1
Pipe_-_10	CIRCULAR	0.825	0	0	0	1
Pipe_-_100	CIRCULAR	0.6	0	0	0	1
Pipe_-_101	CIRCULAR	0.6	0	0	0	1
Pipe_-_102	CIRCULAR	0.6	0	0	0	1
Pipe_-_103	CIRCULAR	0.6	0	0	0	1
Pipe_-_104	CIRCULAR	0.525	0	0	0	1
Pipe_-_105	CIRCULAR	0.3	0	0	0	1
Pipe_-_106	CIRCULAR	0.3	0	0	0	1
Pipe_-_107	CIRCULAR	0.45	0	0	0	1
Pipe_-_108	CIRCULAR	0.45	0	0	0	1
Pipe_-_109	CIRCULAR	0.375	0	0	0	1
Pipe_-_11	CIRCULAR	0.75	0	0	0	1
Pipe_-_110	CIRCULAR	0.3	0	0	0	1
Pipe_-_12	CIRCULAR	0.525	0	0	0	1
Pipe_-_29	CIRCULAR	0.3	0	0	0	1
Pipe_-_30	CIRCULAR	0.3	0	0	0	1
Pipe_-_31	CIRCULAR	0.3	0	0	0	1
Pipe_-_32	CIRCULAR	0.3	0	0	0	1
Pipe_-_33	CIRCULAR	0.3	0	0	0	1
Pipe_-_34	CIRCULAR	0.1	0	0	0	1
Pipe_-_35	CIRCULAR	0.1	0	0	0	1
Pipe_-_36	CIRCULAR	0.1	0	0	0	1
Pipe_-_37	CIRCULAR	0.1	0	0	0	1
Pipe_-_38	CIRCULAR	0.15	0	0	0	1
Pipe_-_39	CIRCULAR	0.1	0	0	0	1
Pipe_-_40	CIRCULAR	0.1	0	0	0	1
Pipe_-_41	CIRCULAR	0.1	0	0	0	1
Pipe_-_42	CIRCULAR	0.1	0	0	0	1
Pipe_-_43	CIRCULAR	0.15	0	0	0	1
Pipe_-_44	CIRCULAR	0.1	0	0	0	1
Pipe_-_45	CIRCULAR	0.1	0	0	0	1
Pipe_-_46	CIRCULAR	0.1	0	0	0	1

GR 77.555	17	77.554	18	77.546	19	77.546	20	77.568
21								
GR 77.604	23	77.627	24	77.641	25	77.659	26	77.681
27								
GR 77.7	28	77.721	29	77.737	30	77.758	31	77.794
33								
GR 77.81	34	77.833	35	77.851	36	77.871	37	77.892
38								
GR 77.906	39	77.929	40	77.929	40.0508674578319			

;

;Transect created from transect line: 6

NC 0.01	0.01	0.01						
X1 C10		30	0	0	0.0	0.0	0.0	0.0
0.0								
GR 77.243	0	77.232	1	77.229	3	77.223	5	77.223
6								
GR 77.217	7	77.213	9	77.208	10	77.205	11	77.205
12								
GR 77.203	13	77.199	14	77.196	15	77.194	16	77.194
17								
GR 77.193	18	77.195	19	77.192	20	77.194	21	77.191
22								
GR 77.194	23	77.192	25	77.192	26	77.193	27	77.191
28								
GR 77.195	30	77.201	31	77.198	32	77.196	33	77.194
48.3572602284857								

;

;Transect created from transect line: 16

NC 0.01	0.01	0.01						
X1 C11		37	0	0	0.0	0.0	0.0	0.0
0.0								
GR 77.191	0	77.173	1	77.159	2	77.167	3	77.165
4								
GR 77.159	5	77.151	6	77.147	7	77.137	8	77.128
9								
GR 77.122	10	77.113	11	77.103	12	77.083	15	77.074
16								
GR 77.058	18	77.049	19	77.053	20	77.067	21	77.086
22								
GR 77.103	23	77.125	24	77.144	25	77.162	26	77.184
27								
GR 77.202	28	77.219	29	77.239	30	77.258	31	77.3
33								
GR 77.316	34	77.337	35	77.369	37	77.391	38	77.411
39								
GR 77.436	40	77.436	40.0484821846399					

;

;Transect created from transect line: 5

NC 0.01	0.01	0.01						
X1 C12		33	0	0	0.0	0.0	0.0	0.0
0.0								
GR 77.442	0	77.421	1	77.402	2	77.33	6	77.316
7								
GR 77.299	8	77.263	10	77.244	11	77.227	12	77.208
13								
GR 77.196	14	77.176	15	77.159	16	77.123	18	77.104
19								
GR 77.087	20	77.073	21	77.047	22	77.052	23	77.06
24								

```

GR 77.065 25 77.105 31 77.113 32 77.122 34 77.132
35
GR 77.142 37 77.151 38 77.156 39 77.17 41 77.175
42
GR 77.183 43 77.189 44 77.191 46.1322376312043
;
;Transect created from transect line: 2
NC 0.01 0.01 0.01
X1 C13 39 0 0 0.0 0.0 0.0 0.0
0.0
GR 77.19 0 77.189 1 77.194 2 77.204 3 77.205
4
GR 77.223 5 77.201 6 77.228 7 77.236 8 77.204
9
GR 77.253 10 77.21 11 77.269 12 77.272 13 77.273
14
GR 77.292 15 77.276 16 77.297 17 77.305 18 77.308
19
GR 77.326 20 77.322 21 77.329 22 77.338 23 77.339
24
GR 77.342 25 77.356 26 77.348 27 77.359 28 77.374
29
GR 77.376 30 77.395 31 77.391 32 77.393 33 77.412
34
GR 77.408 35 77.424 37 77.428 38 77.428 40.0484822233505
;
;Transect created from transect line: 1
NC 0.01 0.01 0.01
X1 C14 25 0 0 0.0 0.0 0.0 0.0
0.0
GR 77.093 0 77.088 1 77.088 4 77.058 5 77.049
6
GR 77.051 7 77.056 8 77.059 9 77.066 10 77.067
11
GR 77.071 12 77.077 13 77.083 15 77.088 16 77.091
17
GR 77.096 18 77.112 20 77.121 21 77.126 22 77.133
23
GR 77.144 24 77.157 26 77.167 27 77.189 30 77.19
46.1489919329164
;
;Transect created from transect line: 4
NC 0.01 0.01 0.01
X1 C15 59 0 0 0.0 0.0 0.0 0.0
0.0
GR 77.336 0 77.323 1 77.314 2 77.29 3 77.282
4
GR 77.263 5 77.265 6 77.25 7 77.241 8 77.234
9
GR 77.217 10 77.21 11 77.205 12 77.197 13 77.172
14
GR 77.162 15 77.151 16 77.143 17 77.144 18 77.16
19
GR 77.16 20 77.166 21 77.173 22 77.177 23 77.193
24
GR 77.19 25 77.194 26 77.205 27 77.208 28 77.21
29
GR 77.223 30 77.227 31 77.233 32 77.241 33 77.234
34

```

GR 77.257	35	77.251	36	77.251	37	77.274	38	77.267
39								
GR 77.271	40	77.286	41	77.291	42	77.289	43	77.305
44								
GR 77.308	45	77.32	46	77.325	47	77.327	48	77.343
49								
GR 77.345	50	77.35	51	77.358	52	77.364	53	77.364
54								
GR 77.377	55	77.381	56	77.391	57	77.396	64.4486216262681	

;

;Transect created from transect line: 3

NC 0.01	0.01	0.01						
X1 C16		31	0	0	0.0	0.0	0.0	0.0
0.0								
GR 77.187	0	77.18	1	77.17	2	77.161	3	77.155
4								
GR 77.142	5	77.135	6	77.126	7	77.123	8	77.112
9								
GR 77.105	10	77.095	11	77.086	12	77.08	13	77.067
14								
GR 77.061	15	77.052	16	77.052	17	77.056	18	77.061
19								
GR 77.084	20	77.091	21	77.108	22	77.121	24	77.14
25								
GR 77.146	26	77.165	27	77.166	28	77.176	29	77.195
30								
GR 77.195	61.4699167630226							

;

;Transect created from transect line: 10

NC 0.01	0.01	0.01						
X1 C2		25	0	0	0.0	0.0	0.0	0.0
0.0								
GR 77.542	0	77.545	1	77.55	2	77.551	3	77.558
4								
GR 77.559	5	77.561	6	77.567	7	77.571	9	77.576
10								
GR 77.581	12	77.586	13	77.596	17	77.603	18	77.603
19								
GR 77.606	20	77.612	21	77.617	23	77.622	24	77.623
25								
GR 77.628	26	77.63	27	77.638	29	77.644	30	77.645
46.0939675103782								

;

;Transect created from transect line: 12

NC 0.01	0.01	0.01						
X1 C3		34	0	0	0.0	0.0	0.0	0.0
0.0								
GR 77.397	0	77.395	1	77.388	2	77.38	3	77.374
4								
GR 77.37	5	77.364	6	77.356	8	77.343	10	77.328
13								
GR 77.32	14	77.313	16	77.305	17	77.299	18	77.299
19								
GR 77.308	20	77.34	21	77.367	22	77.397	23	77.43
24								
GR 77.46	25	77.558	28	77.577	29	77.612	30	77.644
31								
GR 77.672	32	77.705	33	77.736	34	77.772	35	77.799
36								


```

GR 77.824 37 77.893 39 77.919 40 77.92 40.0946857436173
;
;Transect created from transect line: 9
NC 0.01 0.01 0.01
X1 C4 22 0 0 0.0 0.0 0.0
0.0
GR 77.532 0 77.531 1 77.523 2 77.517 3 77.515
4
GR 77.509 5 77.501 7 77.494 8 77.47 13 77.464
14
GR 77.463 15 77.449 17 77.446 18 77.44 19 77.433
21
GR 77.426 22 77.423 23 77.415 24 77.403 27 77.395
28
GR 77.397 29 77.397 46.0831975261376
;
;Transect created from transect line: 13
NC 0.01 0.01 0.01
X1 C5 35 0 0 0.0 0.0 0.0
0.0
GR 77.391 0 77.394 1 77.384 2 77.371 5 77.353
8
GR 77.348 9 77.332 12 77.325 13 77.323 14 77.309
16
GR 77.306 17 77.299 18 77.296 19 77.31 20 77.338
21
GR 77.371 22 77.4 23 77.432 24 77.466 25 77.497
26
GR 77.516 27 77.552 28 77.584 29 77.618 30 77.645
31
GR 77.677 32 77.713 33 77.737 34 77.765 35 77.799
36
GR 77.832 37 77.859 38 77.892 39 77.932 40 77.932
40.0965854482443
;
;Transect created from transect line: 8
NC 0.01 0.01 0.01
X1 C6 26 0 0 0.0 0.0 0.0
0.0
GR 77.549 0 77.517 1 77.492 2 77.471 3 77.453
4
GR 77.432 5 77.408 6 77.318 10 77.299 11 77.296
12
GR 77.299 13 77.308 14 77.311 15 77.316 16 77.323
17
GR 77.326 18 77.333 19 77.355 23 77.358 24 77.364
25
GR 77.369 26 77.372 27 77.379 28 77.384 29 77.391
30
GR 77.391 46.0949701672376
;
;Transect created from transect line: 14
NC 0.01 0.01 0.01
X1 C7 32 0 0 0.0 0.0 0.0
0.0
GR 77.4 0 77.368 2 77.343 4 77.337 5 77.327
6
GR 77.327 7 77.316 8 77.303 9 77.284 11 77.285
12

```

```

GR 77.316 13 77.344 15 77.35 16 77.36 17 77.369
18
GR 77.422 19 77.437 20 77.451 21 77.467 22 77.542
23
GR 77.592 24 77.663 25 77.723 26 77.773 27 77.832
28
GR 77.831 29 77.86 30 77.838 31 77.86 32 77.905
33
GR 77.913 34 77.913 43.4275612791544

```

```
;
```

```
;Transect created from transect line: 7
```

```

NC 0.01 0.01 0.01
X1 C8 39 0 0 0.0 0.0 0.0 0.0
0.0
GR 77.91 0 77.865 1 77.865 2 77.71 3 77.575
4
GR 77.463 5 77.449 6 77.446 7 77.433 8 77.438
9
GR 77.43 10 77.428 11 77.424 12 77.425 13 77.403
14
GR 77.336 15 77.232 16 77.241 17 77.215 18 77.233
19
GR 77.246 20 77.28 21 77.273 22 77.289 23 77.295
24
GR 77.316 25 77.302 26 77.327 27 77.322 28 77.325
29
GR 77.35 30 77.35 31 77.362 32 77.369 33 77.378
34
GR 77.385 35 77.388 36 77.395 37 77.399 46.5139438528636

```

```
;
```

```
;Transect created from transect line: 15
```

```

NC 0.01 0.01 0.01
X1 C9 26 0 0 0.0 0.0 0.0 0.0
0.0
GR 77.38 0 77.375 1 77.365 2 77.366 3 77.357
4
GR 77.357 5 77.349 6 77.34 7 77.342 8 77.333
9
GR 77.334 10 77.328 11 77.326 12 77.337 13 77.335
14
GR 77.342 15 77.341 16 77.342 17 77.352 18 77.351
19
GR 77.358 20 77.356 21 77.356 22 77.362 23 77.348
24
GR 77.347 40.6132507847166

```

```
[LOSSES]
```

```

;;Link Kentry Kexit Kavg Flap Gate Seepage
-----
Pipe_-_03 0 0.02 0 NO 0
Pipe_-_04 0 0.02 0 NO 0
Pipe_-_05 0 0.02 0 NO 0
Pipe_-_06 0 0.02 0 NO 0
Pipe_-_07 0 0.02 0 NO 0
Pipe_-_08 0 0.02 0 NO 0
Pipe_-_09 0 0.02 0 NO 0
Pipe_-_10 0 0.02 0 NO 0
Pipe_-_100 0 1.33 0 NO 0
Pipe_-_101 0 1.19 0 NO 0

```

Pipe_-_102	0	0.055	0	NO	0
Pipe_-_103	0	0.02	0	NO	0
Pipe_-_104	0	0.035	0	NO	0
Pipe_-_105	0	1.33	0	NO	0
Pipe_-_106	0	0.39	0	NO	0
Pipe_-_107	0	0.035	0	NO	0
Pipe_-_108	0	0.02	0	NO	0
Pipe_-_109	0	0.02	0	NO	0
Pipe_-_11	0	0.02	0	NO	0
Pipe_-_110	0	0.02	0	NO	0
Pipe_-_12	0	0.02	0	NO	0
Pipe_-_29	0	0.02	0	NO	0
Pipe_-_30	0	0.035	0	NO	0
Pipe_-_31	0	0.02	0	NO	0
Pipe_-_32	0	0.02	0	NO	0
Pipe_-_33	0	0.02	0	NO	0
Pipe_-_34	0	0.035	0	NO	0
Pipe_-_35	0	0.035	0	NO	0
Pipe_-_36	0	0.02	0	NO	0
Pipe_-_37	0	0.02	0	NO	0
Pipe_-_38	0	0.02	0	NO	0
Pipe_-_39	0	0.02	0	NO	0
Pipe_-_40	0	0.02	0	NO	0
Pipe_-_41	0	0.02	0	NO	0
Pipe_-_42	0	0.02	0	NO	0
Pipe_-_43	0	0.035	0	NO	0
Pipe_-_44	0	0.02	0	NO	0
Pipe_-_45	0	0.02	0	NO	0
Pipe_-_46	0	0.02	0	NO	0
Pipe_-_47	0	0.02	0	NO	0
Ponds	0.9	0	0	NO	0

[CURVES]

;;Name	Type	X-Value	Y-Value
;-----			
Pond_Pump	Pump3	0	1
Pond_Pump		2.5	1
125-VHV-2	Rating	0	0
125-VHV-2		0.066	0
125-VHV-2		0.076	0
125-VHV-2		0.086	0.001
125-VHV-2		0.096	0.001
125-VHV-2		0.106	0.002
125-VHV-2		0.116	0.002
125-VHV-2		0.126	0.003
125-VHV-2		0.136	0.004
125-VHV-2		0.146	0.004
125-VHV-2		0.156	0.005
125-VHV-2		0.176	0.006
125-VHV-2		0.206	0.007
125-VHV-2		0.256	0.009
125-VHV-2		0.306	0.01
125-VHV-2		0.356	0.011
125-VHV-2		0.456	0.013
125-VHV-2		0.556	0.014
125-VHV-2		0.656	0.016

125-VHV-2	0.756	0.017
125-VHV-2	0.856	0.018
125-VHV-2	0.956	0.019
125-VHV-2	1.056	0.02
125-VHV-2	1.156	0.021
125-VHV-2	1.256	0.022
125-VHV-2	1.356	0.023
125-VHV-2	1.456	0.024
125-VHV-2	1.556	0.025
125-VHV-2	1.656	0.026
125-VHV-2	1.756	0.027
125-VHV-2	1.856	0.028
125-VHV-2	1.956	0.028
125-VHV-2	2.056	0.029
125-VHV-2	2.156	0.03
125-VHV-2	2.256	0.03
125-VHV-2	2.356	0.031
125-VHV-2	2.456	0.032
125-VHV-2	2.556	0.032
125-VHV-2	2.656	0.033
125-VHV-2	2.756	0.034
125-VHV-2	2.856	0.034
125-VHV-2	2.956	0.035
125-VHV-2	3.056	0.036
125-VHV-2	4.056	0.041
125-VHV-2	5.056	0.046
125-VHV-2	6.056	0.05
125-VHV-2	6.306	0.051

75_VHV-1	Rating	0	0
75_VHV-1		0.086	0.000105
75_VHV-1		0.096	0.000205
75_VHV-1		0.106	0.000446
75_VHV-1		0.116	0.000776
75_VHV-1		0.126	0.001182
75_VHV-1		0.136	0.001664
75_VHV-1		0.146	0.002133
75_VHV-1		0.156	0.002362
75_VHV-1		0.166	0.002577
75_VHV-1		0.176	0.002752
75_VHV-1		0.186	0.002908
75_VHV-1		0.196	0.003023
75_VHV-1		0.206	0.00314
75_VHV-1		0.216	0.003257
75_VHV-1		0.226	0.00334
75_VHV-1		0.236	0.00337
75_VHV-1		0.246	0.0033
75_VHV-1		0.256	0.00325
75_VHV-1		0.266	0.003262
75_VHV-1		0.276	0.00324
75_VHV-1		0.286	0.002885
75_VHV-1		0.296	0.002811
75_VHV-1		0.306	0.002794
75_VHV-1		0.316	0.002819
75_VHV-1		0.326	0.002854
75_VHV-1		0.336	0.002889
75_VHV-1		0.346	0.002939

75_VHV-1	0.356	0.002979
75_VHV-1	0.366	0.003019
75_VHV-1	0.376	0.003064
75_VHV-1	0.476	0.003485
75_VHV-1	0.576	0.003913
75_VHV-1	0.676	0.004271
75_VHV-1	0.776	0.004614
75_VHV-1	0.876	0.004932
75_VHV-1	0.976	0.005231
75_VHV-1	1.076	0.005514
75_VHV-1	1.176	0.005783
75_VHV-1	1.276	0.00604
75_VHV-1	1.376	0.006287
75_VHV-1	1.476	0.006524
75_VHV-1	1.576	0.006753
75_VHV-1	1.676	0.006975
75_VHV-1	1.776	0.00719
75_VHV-1	1.876	0.007398
75_VHV-1	1.976	0.007601
75_VHV-1	2.076	0.007798
75_VHV-1	2.176	0.007991
75_VHV-1	2.276	0.008179
75_VHV-1	2.376	0.008363
75_VHV-1	2.476	0.008543
75_VHV-1	2.576	0.008719
75_VHV-1	2.676	0.008891
75_VHV-1	2.776	0.009061
75_VHV-1	2.876	0.009227
75_VHV-1	2.976	0.00939
75_VHV-1	3.076	0.009551
75_VHV-1	4.076	0.011028
75_VHV-1	5.076	0.01233
75_VHV-1	6.076	0.013507
75_VHV-1	7.076	0.014589
75_VHV-1	8.076	0.015597
75_VHV-1	9.076	0.016543
75_VHV-1	10.076	0.017437

;From Storage Creator, Name = WS-20; Minimum Elev. = 75.8; Maximum Elev. = 77.396;
Depth = 1.596

Pond	Storage	0	3995
Pond		0.05	4053
Pond		0.1	4108
Pond		0.15	4168
Pond		0.2	4225
Pond		0.25	4281
Pond		0.3	4337
Pond		0.35	4396
Pond		0.4	4457
Pond		0.45	4511
Pond		0.5	4572
Pond		0.55	4628
Pond		0.6	4687
Pond		0.65	4749
Pond		0.7	4809
Pond		0.75	4867
Pond		0.8	4926

Pond	0.85	4977
Pond	0.9	5017
Pond	0.95	5017
Pond	1	5017
Pond	1.05	5017
Pond	1.1	5017
Pond	1.15	5017
Pond	1.2	5017
Pond	1.25	5017
Pond	1.3	5021
Pond	1.35	5024
Pond	1.4	5031
Pond	1.45	5036
Pond	1.5	5039
Pond	1.55	5043
Pond	1.596	5046

Pond_3	Storage	0	1000
Pond_3		0.65	1300

;From Storage Creator, Name = WS-01; Minimum Elev. = 77.258; Maximum Elev. = 77.95;
Depth = 0.692

WS-01	Storage	0	1
WS-01		0.025	11
WS-01		0.05	27
WS-01		0.075	61
WS-01		0.1	99
WS-01		0.125	154
WS-01		0.15	215
WS-01		0.175	283
WS-01		0.2	370
WS-01		0.225	465
WS-01		0.25	574
WS-01		0.275	683
WS-01		0.3	803
WS-01		0.325	940
WS-01		0.35	1055
WS-01		0.375	1188
WS-01		0.4	1378
WS-01		0.425	1525
WS-01		0.45	1634
WS-01		0.475	1719
WS-01		0.5	1790
WS-01		0.525	1856
WS-01		0.55	1917
WS-01		0.575	1974
WS-01		0.6	2058
WS-01		0.625	2124
WS-01		0.65	2185
WS-01		0.675	2235
WS-01		0.692	2246

;From Storage Creator, Name = WS-01A; Minimum Elev. = 77.934; Maximum Elev. = 77.947; Depth = 0.013

WS-01A	Storage	0	1
WS-01A		0.013	10

;From Storage Creator, Name = WS-02; Minimum Elev. = 77.309; Maximum Elev. = 100;
Depth = 22.691

WS-02	Storage	0	1
WS-02		0.025	14
WS-02		0.05	43
WS-02		0.075	88
WS-02		0.1	145
WS-02		0.125	216
WS-02		0.15	302
WS-02		0.175	406
WS-02		0.2	526
WS-02		0.225	655
WS-02		0.25	800
WS-02		0.275	944
WS-02		0.3	1083
WS-02		0.325	1218
WS-02		0.35	1347
WS-02		0.375	1463
WS-02		0.4	1565
WS-02		0.425	1646
WS-02		0.45	1716
WS-02		0.475	1775
WS-02		0.5	1833

;From Storage Creator, Name = WS-02A; Minimum Elev. = 99.755; Maximum Elev. = 100;
Depth = 0.245

WS-02A	Storage	0	1
WS-02A		0.025	10
WS-02A		0.05	36
WS-02A		0.075	76
WS-02A		0.1	130
WS-02A		0.125	202
WS-02A		0.15	285
WS-02A		0.175	385
WS-02A		0.2	500
WS-02A		0.225	628
WS-02A		0.245	710

;From Storage Creator, Name = WS-03; Minimum Elev. = 76.903; Maximum Elev. =
77.949; Depth = 1.047

WS-03	Storage	0	1
WS-03		0.025	4
WS-03		0.05	16
WS-03		0.075	33
WS-03		0.1	58
WS-03		0.125	90
WS-03		0.15	128
WS-03		0.175	173
WS-03		0.2	228
WS-03		0.225	287
WS-03		0.25	354
WS-03		0.275	425
WS-03		0.3	507
WS-03		0.325	595
WS-03		0.35	688
WS-03		0.375	789
WS-03		0.4	895

WS-03	0.425	997
WS-03	0.45	1096
WS-03	0.475	1195
WS-03	0.5	1285
WS-03	0.525	1380
WS-03	0.55	1472
WS-03	0.575	1561
WS-03	0.6	1647
WS-03	0.625	1731
WS-03	0.65	1811
WS-03	0.675	1891
WS-03	0.7	1959
WS-03	0.725	2019
WS-03	0.75	2064
WS-03	0.775	2102
WS-03	0.8	2141
WS-03	0.825	2179
WS-03	0.85	2214
WS-03	0.875	2253
WS-03	0.9	2290
WS-03	0.925	2320
WS-03	0.95	2356
WS-03	0.975	2392
WS-03	1	2421
WS-03	1.025	2446
WS-03	1.047	2447

;From Storage Creator, Name = WS-03A; Minimum Elev. = 77.916; Maximum Elev. = 77.935; Depth = 0.018

WS-03A	Storage	0	1
WS-03A		0.018	21

;From Storage Creator, Name = WS-04; Minimum Elev. = 76.91; Maximum Elev. = 77.65; Depth = 0.74

WS-04	Storage	0	1
WS-04		0.025	7
WS-04		0.05	20
WS-04		0.075	40
WS-04		0.1	68
WS-04		0.125	99
WS-04		0.15	140
WS-04		0.175	189
WS-04		0.2	242
WS-04		0.225	301
WS-04		0.25	368
WS-04		0.275	443
WS-04		0.3	526
WS-04		0.325	614
WS-04		0.35	707
WS-04		0.375	810
WS-04		0.4	920
WS-04		0.425	1034
WS-04		0.45	1158
WS-04		0.475	1284
WS-04		0.5	1416
WS-04		0.525	1540
WS-04		0.55	1653

WS-04	0.575	1760
WS-04	0.6	1857
WS-04	0.625	1948
WS-04	0.65	2034
WS-04	0.675	2106
WS-04	0.7	2165
WS-04	0.725	2210
WS-04	0.74	2233

;From Storage Creator, Name = WS-04A; Minimum Elev. = 99.991; Maximum Elev. = 99.996; Depth = 0.005

WS-04A	Storage	0	1
WS-04A		0.005	7

;From Storage Creator, Name = WS-05; Minimum Elev. = 76.908; Maximum Elev. = 77.95; Depth = 1.042

WS-05	Storage	0	1
WS-05		0.025	8
WS-05		0.05	26
WS-05		0.075	51
WS-05		0.1	87
WS-05		0.125	133
WS-05		0.15	186
WS-05		0.175	246
WS-05		0.2	324
WS-05		0.225	404
WS-05		0.25	491
WS-05		0.275	588
WS-05		0.3	705
WS-05		0.325	815
WS-05		0.35	950
WS-05		0.375	1093
WS-05		0.4	1241
WS-05		0.425	1379
WS-05		0.45	1499
WS-05		0.475	1613
WS-05		0.5	1732
WS-05		0.525	1770
WS-05		0.55	1809
WS-05		0.575	1847
WS-05		0.6	1881
WS-05		0.625	1920
WS-05		0.65	1958
WS-05		0.675	1991
WS-05		0.7	2026
WS-05		0.725	2064
WS-05		0.75	2102
WS-05		0.775	2134
WS-05		0.8	2172
WS-05		0.825	2207
WS-05		0.85	2236
WS-05		0.875	2272
WS-05		0.9	2305
WS-05		0.925	2336
WS-05		0.95	2366
WS-05		0.975	2401
WS-05		1	2431

WS-05	1.025	2445
WS-05	1.042	2445

;From Storage Creator, Name = WS-05A; Minimum Elev. = 77.919; Maximum Elev. = 77.938; Depth = 0.019

WS-05A	Storage	0	1
WS-05A		0.019	24

;From Storage Creator, Name = WS-06; Minimum Elev. = 76.913; Maximum Elev. = 77.545; Depth = 0.633

WS-06	Storage	0	1
WS-06		0.025	10
WS-06		0.05	26
WS-06		0.075	50
WS-06		0.1	80
WS-06		0.125	122
WS-06		0.15	171
WS-06		0.175	229
WS-06		0.2	296
WS-06		0.225	369
WS-06		0.25	451
WS-06		0.275	539
WS-06		0.3	635
WS-06		0.325	737
WS-06		0.35	851
WS-06		0.375	976
WS-06		0.4	1105
WS-06		0.425	1229
WS-06		0.45	1349
WS-06		0.475	1461
WS-06		0.5	1550
WS-06		0.525	1674
WS-06		0.55	1788
WS-06		0.575	1892
WS-06		0.6	1984
WS-06		0.625	2059
WS-06		0.633	2083

;From Storage Creator, Name = WS-07; Minimum Elev. = 76.911; Maximum Elev. = 77.95; Depth = 1.039

WS-07	Storage	0	1
WS-07		0.025	4
WS-07		0.05	15
WS-07		0.075	26
WS-07		0.1	45
WS-07		0.125	67
WS-07		0.15	92
WS-07		0.175	124
WS-07		0.2	160
WS-07		0.225	199
WS-07		0.25	241
WS-07		0.275	290
WS-07		0.3	346
WS-07		0.325	405
WS-07		0.35	464
WS-07		0.375	536
WS-07		0.4	604

WS-07	0.425	666
WS-07	0.45	732
WS-07	0.475	794
WS-07	0.5	850
WS-07	0.525	866
WS-07	0.55	885
WS-07	0.575	903
WS-07	0.6	916
WS-07	0.625	932
WS-07	0.65	948
WS-07	0.675	963
WS-07	0.7	977
WS-07	0.725	993
WS-07	0.75	1007
WS-07	0.775	1023
WS-07	0.8	1035
WS-07	0.825	1050
WS-07	0.85	1064
WS-07	0.875	1078
WS-07	0.9	1091
WS-07	0.925	1104
WS-07	0.95	1117
WS-07	0.975	1129
WS-07	1	1141
WS-07	1.025	1145
WS-07	1.039	1145

;From Storage Creator, Name = WS-07A; Minimum Elev. = 77.919; Maximum Elev. = 77.917; Depth = -0.002

;From Storage Creator, Name = WS-08; Minimum Elev. = 76.912; Maximum Elev. = 77.856; Depth = 0.944

WS-08	Storage	0	1
WS-08		0.025	7
WS-08		0.05	18
WS-08		0.075	38
WS-08		0.1	61
WS-08		0.125	90
WS-08		0.15	129
WS-08		0.175	172
WS-08		0.2	219
WS-08		0.225	276
WS-08		0.25	338
WS-08		0.275	401
WS-08		0.3	473
WS-08		0.325	552
WS-08		0.35	628
WS-08		0.375	712
WS-08		0.4	795
WS-08		0.425	877
WS-08		0.45	958
WS-08		0.475	1039
WS-08		0.5	1090
WS-08		0.525	1118
WS-08		0.55	1148
WS-08		0.575	1178
WS-08		0.6	1208
WS-08		0.625	1236

WS-08	0.65	1266
WS-08	0.675	1289
WS-08	0.7	1311
WS-08	0.725	1332
WS-08	0.75	1355
WS-08	0.775	1377
WS-08	0.8	1396
WS-08	0.825	1415
WS-08	0.85	1439
WS-08	0.875	1458
WS-08	0.9	1475
WS-08	0.925	1493
WS-08	0.944	1508

;From Storage Creator, Name = WS-09; Minimum Elev. = 76.91; Maximum Elev. = 77.948;
Depth = 1.038

WS-09	Storage	0	1
WS-09		0.025	7
WS-09		0.05	25
WS-09		0.075	46
WS-09		0.1	79
WS-09		0.125	125
WS-09		0.15	166
WS-09		0.175	223
WS-09		0.2	281
WS-09		0.225	333
WS-09		0.25	403
WS-09		0.275	464
WS-09		0.3	532
WS-09		0.325	604
WS-09		0.35	674
WS-09		0.375	751
WS-09		0.4	829
WS-09		0.425	897
WS-09		0.45	941
WS-09		0.475	975
WS-09		0.5	996
WS-09		0.525	998
WS-09		0.55	999
WS-09		0.575	999
WS-09		0.6	1000
WS-09		0.625	1000
WS-09		0.65	1000
WS-09		0.675	1002
WS-09		0.7	1002
WS-09		0.725	1002
WS-09		0.75	1002
WS-09		0.775	1003
WS-09		0.8	1003
WS-09		0.825	1005
WS-09		0.85	1005
WS-09		0.875	1006
WS-09		0.9	1007
WS-09		0.925	1007
WS-09		0.95	1008
WS-09		0.975	1009
WS-09		1	1010

WS-09	1.025	1011
WS-09	1.038	1011

;From Storage Creator, Name = WS-10; Minimum Elev. = 76.913; Maximum Elev. = 77.918; Depth = 1.005

WS-10	Storage	0	1
WS-10		0.025	10
WS-10		0.05	30
WS-10		0.075	60
WS-10		0.1	97
WS-10		0.125	147
WS-10		0.15	208
WS-10		0.175	278
WS-10		0.2	361
WS-10		0.225	453
WS-10		0.25	556
WS-10		0.275	663
WS-10		0.3	747
WS-10		0.325	804
WS-10		0.35	852
WS-10		0.375	898
WS-10		0.4	946
WS-10		0.425	997
WS-10		0.45	1044
WS-10		0.475	1093
WS-10		0.5	1147
WS-10		0.525	1150
WS-10		0.55	1150
WS-10		0.575	1151
WS-10		0.6	1151
WS-10		0.625	1151
WS-10		0.65	1151
WS-10		0.675	1151
WS-10		0.7	1151
WS-10		0.725	1151
WS-10		0.75	1151
WS-10		0.775	1151
WS-10		0.8	1151
WS-10		0.825	1151
WS-10		0.85	1152
WS-10		0.875	1152
WS-10		0.9	1152
WS-10		0.925	1152
WS-10		0.95	1153
WS-10		0.975	1153
WS-10		1	1153
WS-10		1.005	1153

;From Storage Creator, Name = WS-11; Minimum Elev. = 76.754; Maximum Elev. = 77.45; Depth = 0.695

WS-11	Storage	0	1
WS-11		0.025	11
WS-11		0.05	40
WS-11		0.075	86
WS-11		0.1	148
WS-11		0.125	226
WS-11		0.15	321

WS-11	0.175	432
WS-11	0.2	565
WS-11	0.225	709
WS-11	0.25	874
WS-11	0.275	1055
WS-11	0.3	1255
WS-11	0.325	1448
WS-11	0.35	1637
WS-11	0.375	1819
WS-11	0.4	1975
WS-11	0.425	2115
WS-11	0.45	2234
WS-11	0.475	2348
WS-11	0.5	2465
WS-11	0.525	2585
WS-11	0.55	2709
WS-11	0.575	2837
WS-11	0.6	2969
WS-11	0.625	3088
WS-11	0.65	3176
WS-11	0.675	3245
WS-11	0.695	3250

;From Storage Creator, Name = WS-11A; Minimum Elev. = 77.43; Maximum Elev. = 77.441; Depth = 0.011

WS-11A	Storage	0	1
WS-11A		0.011	27

;From Storage Creator, Name = WS-12; Minimum Elev. = 76.757; Maximum Elev. = 77.439; Depth = 0.681

WS-12	Storage	0	1
WS-12		0.025	9
WS-12		0.05	33
WS-12		0.075	68
WS-12		0.1	120
WS-12		0.125	184
WS-12		0.15	253
WS-12		0.175	337
WS-12		0.2	438
WS-12		0.225	554
WS-12		0.25	681
WS-12		0.275	820
WS-12		0.3	965
WS-12		0.325	1093
WS-12		0.35	1201
WS-12		0.375	1287
WS-12		0.4	1362
WS-12		0.425	1531
WS-12		0.45	1880
WS-12		0.475	2276
WS-12		0.5	2690
WS-12		0.525	2741
WS-12		0.55	2773
WS-12		0.575	2798
WS-12		0.6	2823
WS-12		0.625	2848
WS-12		0.65	2874

WS-12	0.675	2898
WS-12	0.681	2902

;From Storage Creator, Name = WS-13; Minimum Elev. = 76.759; Maximum Elev. = 77.45;
Depth = 0.69

WS-13	Storage	0	1
WS-13		0.025	14
WS-13		0.05	40
WS-13		0.075	76
WS-13		0.1	131
WS-13		0.125	205
WS-13		0.15	282
WS-13		0.175	379
WS-13		0.2	491
WS-13		0.225	608
WS-13		0.25	751
WS-13		0.275	900
WS-13		0.3	1067
WS-13		0.325	1234
WS-13		0.35	1376
WS-13		0.375	1518
WS-13		0.4	1636
WS-13		0.425	1743
WS-13		0.45	1836
WS-13		0.475	1916
WS-13		0.5	1990
WS-13		0.525	2064
WS-13		0.55	2133
WS-13		0.575	2200
WS-13		0.6	2256
WS-13		0.625	2314
WS-13		0.65	2366
WS-13		0.675	2404
WS-13		0.69	2404

;From Storage Creator, Name = WS-13A; Minimum Elev. = 77.428; Maximum Elev. = 77.436; Depth = 0.008

WS-13A	Storage	0	1
WS-13A		0.008	13

;From Storage Creator, Name = WS-14; Minimum Elev. = 76.759; Maximum Elev. = 77.439; Depth = 0.68

WS-14	Storage	0	1
WS-14		0.025	17
WS-14		0.05	53
WS-14		0.075	107
WS-14		0.1	179
WS-14		0.125	273
WS-14		0.15	385
WS-14		0.175	516
WS-14		0.2	665
WS-14		0.225	834
WS-14		0.25	1020
WS-14		0.275	1234
WS-14		0.3	1449
WS-14		0.325	1648
WS-14		0.35	1806

WS-14	0.375	1933
WS-14	0.4	2035
WS-14	0.425	2110
WS-14	0.45	2165
WS-14	0.475	2222
WS-14	0.5	2273
WS-14	0.525	2326
WS-14	0.55	2376
WS-14	0.575	2426
WS-14	0.6	2474
WS-14	0.625	2522
WS-14	0.65	2571
WS-14	0.675	2617
WS-14	0.68	2625

;From Storage Creator, Name = WS-15; Minimum Elev. = 76.754; Maximum Elev. = 77.45;
Depth = 0.696

WS-15	Storage	0	1
WS-15		0.025	8
WS-15		0.05	30
WS-15		0.075	64
WS-15		0.1	109
WS-15		0.125	171
WS-15		0.15	240
WS-15		0.175	330
WS-15		0.2	422
WS-15		0.225	534
WS-15		0.25	657
WS-15		0.275	810
WS-15		0.3	1050
WS-15		0.325	1198
WS-15		0.35	1343
WS-15		0.375	1505
WS-15		0.4	1650
WS-15		0.425	1782
WS-15		0.45	1895
WS-15		0.475	1994
WS-15		0.5	2112
WS-15		0.525	2233
WS-15		0.55	2345
WS-15		0.575	2444
WS-15		0.6	2539
WS-15		0.625	2619
WS-15		0.65	2680
WS-15		0.675	2742
WS-15		0.696	2773

;From Storage Creator, Name = WS-15A; Minimum Elev. = 77.432; Maximum Elev. = 77.45; Depth = 0.018

WS-15A	Storage	0	1
WS-15A		0.018	23

;From Storage Creator, Name = WS-16; Minimum Elev. = 76.757; Maximum Elev. = 77.333; Depth = 0.576

WS-16	Storage	0	1
WS-16		0.025	16
WS-16		0.05	47

WS-16	0.075	103
WS-16	0.1	171
WS-16	0.125	260
WS-16	0.15	368
WS-16	0.175	497
WS-16	0.2	640
WS-16	0.225	804
WS-16	0.25	993
WS-16	0.275	1195
WS-16	0.3	1386
WS-16	0.325	1546
WS-16	0.35	1682
WS-16	0.375	1786
WS-16	0.4	1869
WS-16	0.425	1927
WS-16	0.45	1963
WS-16	0.475	1992
WS-16	0.5	2020
WS-16	0.525	2050
WS-16	0.55	2076
WS-16	0.575	2105
WS-16	0.576	2105

;From Storage Creator, Name = WS-17; Minimum Elev. = 76.26; Maximum Elev. = 77.897;
Depth = 1.637

WS-17	Storage	0	1
WS-17		0.05	15
WS-17		0.1	45
WS-17		0.15	68
WS-17		0.2	117
WS-17		0.25	196
WS-17		0.3	311
WS-17		0.35	474
WS-17		0.4	715
WS-17		0.45	1046
WS-17		0.5	1390
WS-17		0.55	1542
WS-17		0.6	1674
WS-17		0.65	1801
WS-17		0.7	1954
WS-17		0.75	2129
WS-17		0.8	2312
WS-17		0.85	2537
WS-17		0.9	2716
WS-17		0.95	2879
WS-17		1	3042
WS-17		1.05	3189
WS-17		1.1	3297
WS-17		1.15	3385
WS-17		1.2	3394
WS-17		1.25	3410
WS-17		1.3	3423
WS-17		1.35	3428
WS-17		1.4	3439
WS-17		1.45	3446
WS-17		1.5	3448
WS-17		1.55	3450

WS-17	1.6	3450
WS-17	1.637	3450

;From Storage Creator, Name = WS-17_1; Minimum Elev. = 76.273; Maximum Elev. = 77.886; Depth = 1.613

WS-17_1	Storage	
WS-17_1	0	1
WS-17_1	0.025	4
WS-17_1	0.05	9
WS-17_1	0.075	17
WS-17_1	0.1	21
WS-17_1	0.125	27
WS-17_1	0.15	31
WS-17_1	0.175	39
WS-17_1	0.2	46
WS-17_1	0.225	60
WS-17_1	0.25	75
WS-17_1	0.275	93
WS-17_1	0.3	114
WS-17_1	0.325	143
WS-17_1	0.35	167
WS-17_1	0.375	197
WS-17_1	0.4	231
WS-17_1	0.425	267
WS-17_1	0.45	303
WS-17_1	0.475	345
WS-17_1	0.5	395
WS-17_1	0.525	444
WS-17_1	0.55	492
WS-17_1	0.575	552
WS-17_1	0.6	603
WS-17_1	0.625	660
WS-17_1	0.65	723
WS-17_1	0.675	785
WS-17_1	0.7	860
WS-17_1	0.725	948
WS-17_1	0.75	1042
WS-17_1	0.775	1123
WS-17_1	0.8	1209
WS-17_1	0.825	1301
WS-17_1	0.85	1438
WS-17_1	0.875	1522
WS-17_1	0.9	1601
WS-17_1	0.925	1691
WS-17_1	0.95	1770
WS-17_1	0.975	1850
WS-17_1	1	1922
WS-17_1	1.025	2005
WS-17_1	1.05	2065
WS-17_1	1.075	2122
WS-17_1	1.1	2172
WS-17_1	1.125	2214
WS-17_1	1.15	2234
WS-17_1	1.175	2245
WS-17_1	1.2	2248
WS-17_1	1.225	2252
WS-17_1	1.25	2262
WS-17_1	1.275	2265

WS-17_1	1.3	2269
WS-17_1	1.325	2275
WS-17_1	1.35	2277
WS-17_1	1.375	2278
WS-17_1	1.4	2281
WS-17_1	1.425	2282
WS-17_1	1.45	2284
WS-17_1	1.475	2284
WS-17_1	1.5	2284
WS-17_1	1.525	2284
WS-17_1	1.55	2284
WS-17_1	1.575	2284
WS-17_1	1.6	2284
WS-17_1	1.613	2284

;From Storage Creator, Name = WS-17_2; Minimum Elev. = 76.266; Maximum Elev. = 76.921; Depth = 0.655

WS-17_2	Storage	0	1
WS-17_2		0.025	5
WS-17_2		0.05	11
WS-17_2		0.075	20
WS-17_2		0.1	27
WS-17_2		0.125	32
WS-17_2		0.15	41
WS-17_2		0.175	59
WS-17_2		0.2	82
WS-17_2		0.225	109
WS-17_2		0.25	138
WS-17_2		0.275	178
WS-17_2		0.3	219
WS-17_2		0.325	272
WS-17_2		0.35	341
WS-17_2		0.375	423
WS-17_2		0.4	535
WS-17_2		0.425	659
WS-17_2		0.45	811
WS-17_2		0.475	955
WS-17_2		0.5	1032
WS-17_2		0.525	1065
WS-17_2		0.55	1077
WS-17_2		0.575	1091
WS-17_2		0.6	1101
WS-17_2		0.625	1112
WS-17_2		0.65	1117
WS-17_2		0.655	1119

;From Storage Creator, Name = WS-18; Minimum Elev. = 76.91; Maximum Elev. = 77.334; Depth = 0.424

WS-18	Storage	0	1
WS-18		0.025	9
WS-18		0.05	26
WS-18		0.075	48
WS-18		0.1	84
WS-18		0.125	130
WS-18		0.15	174
WS-18		0.175	233
WS-18		0.2	297

WS-18	0.225	348
WS-18	0.25	414
WS-18	0.275	476
WS-18	0.3	530
WS-18	0.325	574
WS-18	0.35	617
WS-18	0.375	647
WS-18	0.4	665
WS-18	0.424	672

;From Storage Creator, Name = WS-19; Minimum Elev. = 76.804; Maximum Elev. = 77.25;
Depth = 0.446

WS-19	Storage	0	1
WS-19		0.025	7
WS-19		0.05	21
WS-19		0.075	45
WS-19		0.1	79
WS-19		0.125	120
WS-19		0.15	170
WS-19		0.175	231
WS-19		0.2	297
WS-19		0.225	376
WS-19		0.25	463
WS-19		0.275	535
WS-19		0.3	603
WS-19		0.325	654
WS-19		0.35	696
WS-19		0.375	734
WS-19		0.4	766
WS-19		0.425	793
WS-19		0.446	815

;From Storage Creator, Name = WS-20; Minimum Elev. = 76.805; Maximum Elev. = 77.244; Depth = 0.439

WS-20	Storage	0	1
WS-20		0.025	8
WS-20		0.05	25
WS-20		0.075	53
WS-20		0.1	91
WS-20		0.125	141
WS-20		0.15	202
WS-20		0.175	271
WS-20		0.2	352
WS-20		0.225	441
WS-20		0.25	536
WS-20		0.275	627
WS-20		0.3	709
WS-20		0.325	782
WS-20		0.35	850
WS-20		0.375	916
WS-20		0.4	986
WS-20		0.425	1027
WS-20		0.439	1042

;From Storage Creator, Name = WS-25; Minimum Elev. = 77.943; Maximum Elev. = 77.942; Depth = -0.001

;From Storage Creator, Name = WS-27; Minimum Elev. = 75.8; Maximum Elev. = 77.327;
Depth = 1.527

WS-27	Storage	0	1860
WS-27		0.025	1881
WS-27		0.05	1900
WS-27		0.075	1920
WS-27		0.1	1944
WS-27		0.125	1967
WS-27		0.15	1989
WS-27		0.175	2011
WS-27		0.2	2032
WS-27		0.225	2053
WS-27		0.25	2075
WS-27		0.275	2097
WS-27		0.3	2119
WS-27		0.325	2141
WS-27		0.35	2163
WS-27		0.375	2182
WS-27		0.4	2205
WS-27		0.425	2228
WS-27		0.45	2253
WS-27		0.475	2277
WS-27		0.5	2297
WS-27		0.525	2318
WS-27		0.55	2341
WS-27		0.575	2367
WS-27		0.6	2388
WS-27		0.625	2408
WS-27		0.65	2432
WS-27		0.675	2452
WS-27		0.7	2477
WS-27		0.725	2503
WS-27		0.75	2524
WS-27		0.775	2547
WS-27		0.8	2571
WS-27		0.825	2590
WS-27		0.85	2614
WS-27		0.875	2638
WS-27		0.9	2676
WS-27		0.925	2676
WS-27		0.95	2676
WS-27		0.975	2676
WS-27		1	2676
WS-27		1.025	2676
WS-27		1.05	2676
WS-27		1.075	2676
WS-27		1.1	2676
WS-27		1.125	2676
WS-27		1.15	2676
WS-27		1.175	2676
WS-27		1.2	2676
WS-27		1.225	2676
WS-27		1.25	2681
WS-27		1.275	2692
WS-27		1.3	2707
WS-27		1.325	2725
WS-27		1.35	2740
WS-27		1.375	2750
WS-27		1.4	2758

WS-27	1.425	2770
WS-27	1.45	2779
WS-27	1.475	2781
WS-27	1.5	2784
WS-27	1.525	2787
WS-27	1.527	2787

;From Storage Creator, Name = WS-28; Minimum Elev. = 75.8; Maximum Elev. = 77.392;
Depth = 1.592

WS-28	Storage	0	3997
WS-28		0.025	4024
WS-28		0.05	4053
WS-28		0.075	4082
WS-28		0.1	4108
WS-28		0.125	4139
WS-28		0.15	4166
WS-28		0.175	4195
WS-28		0.2	4224
WS-28		0.225	4250
WS-28		0.25	4282
WS-28		0.275	4309
WS-28		0.3	4340
WS-28		0.325	4367
WS-28		0.35	4395
WS-28		0.375	4425
WS-28		0.4	4455
WS-28		0.425	4483
WS-28		0.45	4515
WS-28		0.475	4541
WS-28		0.5	4572
WS-28		0.525	4600
WS-28		0.55	4631
WS-28		0.575	4656
WS-28		0.6	4686
WS-28		0.625	4720
WS-28		0.65	4748
WS-28		0.675	4777
WS-28		0.7	4804
WS-28		0.725	4837
WS-28		0.75	4867
WS-28		0.775	4888
WS-28		0.8	4907
WS-28		0.825	4924
WS-28		0.85	4942
WS-28		0.875	4959
WS-28		0.9	4974
WS-28		0.925	4974
WS-28		0.95	4974
WS-28		0.975	4974
WS-28		1	4974
WS-28		1.025	4974
WS-28		1.05	4974
WS-28		1.075	4974
WS-28		1.1	4974
WS-28		1.125	4974
WS-28		1.15	4974
WS-28		1.175	4974

WS-28	1.2	4974
WS-28	1.225	4974
WS-28	1.25	4974
WS-28	1.275	4978
WS-28	1.3	4980
WS-28	1.325	4982
WS-28	1.35	4985
WS-28	1.375	4991
WS-28	1.4	4996
WS-28	1.425	5001
WS-28	1.45	5005
WS-28	1.475	5009
WS-28	1.5	5012
WS-28	1.525	5015
WS-28	1.55	5017
WS-28	1.575	5020
WS-28	1.592	5022

;From Storage Creator, Name = WS-29; Minimum Elev. = 76.65; Maximum Elev. = 77.299;
Depth = 0.649

WS-29	Storage	0	1065
WS-29		0.025	1076
WS-29		0.05	1084
WS-29		0.075	1093
WS-29		0.1	1103
WS-29		0.125	1114
WS-29		0.15	1124
WS-29		0.175	1134
WS-29		0.2	1145
WS-29		0.225	1157
WS-29		0.25	1171
WS-29		0.275	1180
WS-29		0.3	1190
WS-29		0.325	1199
WS-29		0.35	1207
WS-29		0.375	1219
WS-29		0.4	1229
WS-29		0.425	1242
WS-29		0.45	1252
WS-29		0.475	1264
WS-29		0.5	1274
WS-29		0.525	1285
WS-29		0.55	1295
WS-29		0.575	1306
WS-29		0.6	1319
WS-29		0.625	1329
WS-29		0.649	1341

;From Storage Creator, Name = WS-30; Minimum Elev. = 77.412; Maximum Elev. = 77.415; Depth = 0.004

WS-30	Storage	0	1
WS-30		0.004	1

[TIMESERIES]

;Name	Date	Time	Value
;-----			
;Rainfall	(mm/hr)		

002yrChicago3hr	01/01/2019	00:00:00	0
002yrChicago3hr	01/01/2019	00:10:00	2.81459
002yrChicago3hr	01/01/2019	00:20:00	3.49824
002yrChicago3hr	01/01/2019	00:30:00	4.68718
002yrChicago3hr	01/01/2019	00:40:00	7.30485
002yrChicago3hr	01/01/2019	00:50:00	18.20881
002yrChicago3hr	01/01/2019	01:00:00	76.805
002yrChicago3hr	01/01/2019	01:10:00	24.07906
002yrChicago3hr	01/01/2019	01:20:00	12.36376
002yrChicago3hr	01/01/2019	01:30:00	8.32403
002yrChicago3hr	01/01/2019	01:40:00	6.30341
002yrChicago3hr	01/01/2019	01:50:00	5.09498
002yrChicago3hr	01/01/2019	02:00:00	4.29133
002yrChicago3hr	01/01/2019	02:10:00	3.71786
002yrChicago3hr	01/01/2019	02:20:00	3.28762
002yrChicago3hr	01/01/2019	02:30:00	2.95254
002yrChicago3hr	01/01/2019	02:40:00	2.68388
002yrChicago3hr	01/01/2019	02:50:00	2.46348
002yrChicago3hr	01/01/2019	03:00:00	2.27921

;Rainfall (mm/hr)

002YrSCS24	01/01/2019	00:00:00	0.53
002YrSCS24	01/01/2019	00:10:00	0.53
002YrSCS24	01/01/2019	00:20:00	0.53
002YrSCS24	01/01/2019	00:30:00	0.53
002YrSCS24	01/01/2019	00:40:00	0.53
002YrSCS24	01/01/2019	00:50:00	0.53
002YrSCS24	01/01/2019	01:00:00	0.53
002YrSCS24	01/01/2019	01:10:00	0.53
002YrSCS24	01/01/2019	01:20:00	0.53
002YrSCS24	01/01/2019	01:30:00	0.53
002YrSCS24	01/01/2019	01:40:00	0.53
002YrSCS24	01/01/2019	01:50:00	0.53
002YrSCS24	01/01/2019	02:00:00	0.63
002YrSCS24	01/01/2019	02:10:00	0.63
002YrSCS24	01/01/2019	02:20:00	0.63
002YrSCS24	01/01/2019	02:30:00	0.63
002YrSCS24	01/01/2019	02:40:00	0.63
002YrSCS24	01/01/2019	02:50:00	0.63
002YrSCS24	01/01/2019	03:00:00	0.63
002YrSCS24	01/01/2019	03:10:00	0.63
002YrSCS24	01/01/2019	03:20:00	0.63
002YrSCS24	01/01/2019	03:30:00	0.63
002YrSCS24	01/01/2019	03:40:00	0.63
002YrSCS24	01/01/2019	03:50:00	0.63
002YrSCS24	01/01/2019	04:00:00	0.78
002YrSCS24	01/01/2019	04:10:00	0.78
002YrSCS24	01/01/2019	04:20:00	0.78
002YrSCS24	01/01/2019	04:30:00	0.78
002YrSCS24	01/01/2019	04:40:00	0.78
002YrSCS24	01/01/2019	04:50:00	0.78
002YrSCS24	01/01/2019	05:00:00	0.78
002YrSCS24	01/01/2019	05:10:00	0.78
002YrSCS24	01/01/2019	05:20:00	0.78
002YrSCS24	01/01/2019	05:30:00	0.78
002YrSCS24	01/01/2019	05:40:00	0.78
002YrSCS24	01/01/2019	05:50:00	0.78

002YrSCS24	01/01/2019	06:00:00	0.87
002YrSCS24	01/01/2019	06:10:00	0.87
002YrSCS24	01/01/2019	06:20:00	0.87
002YrSCS24	01/01/2019	06:30:00	0.87
002YrSCS24	01/01/2019	06:40:00	0.87
002YrSCS24	01/01/2019	06:50:00	0.87
002YrSCS24	01/01/2019	07:00:00	1.07
002YrSCS24	01/01/2019	07:10:00	1.07
002YrSCS24	01/01/2019	07:20:00	1.07
002YrSCS24	01/01/2019	07:30:00	1.07
002YrSCS24	01/01/2019	07:40:00	1.07
002YrSCS24	01/01/2019	07:50:00	1.07
002YrSCS24	01/01/2019	08:00:00	1.26
002YrSCS24	01/01/2019	08:10:00	1.26
002YrSCS24	01/01/2019	08:20:00	1.26
002YrSCS24	01/01/2019	08:30:00	1.36
002YrSCS24	01/01/2019	08:40:00	1.36
002YrSCS24	01/01/2019	08:50:00	1.36
002YrSCS24	01/01/2019	09:00:00	1.55
002YrSCS24	01/01/2019	09:10:00	1.55
002YrSCS24	01/01/2019	09:20:00	1.55
002YrSCS24	01/01/2019	09:30:00	1.74
002YrSCS24	01/01/2019	09:40:00	1.74
002YrSCS24	01/01/2019	09:50:00	1.74
002YrSCS24	01/01/2019	10:00:00	2.23
002YrSCS24	01/01/2019	10:10:00	2.23
002YrSCS24	01/01/2019	10:20:00	2.23
002YrSCS24	01/01/2019	10:30:00	3.01
002YrSCS24	01/01/2019	10:40:00	3.01
002YrSCS24	01/01/2019	10:50:00	3.01
002YrSCS24	01/01/2019	11:00:00	4.65
002YrSCS24	01/01/2019	11:10:00	4.65
002YrSCS24	01/01/2019	11:20:00	4.65
002YrSCS24	01/01/2019	11:30:00	14.35
002YrSCS24	01/01/2019	11:40:00	36.84
002YrSCS24	01/01/2019	11:50:00	59.33
002YrSCS24	01/01/2019	12:00:00	6.98
002YrSCS24	01/01/2019	12:10:00	6.98
002YrSCS24	01/01/2019	12:20:00	6.98
002YrSCS24	01/01/2019	12:30:00	3.59
002YrSCS24	01/01/2019	12:40:00	3.59
002YrSCS24	01/01/2019	12:50:00	3.59
002YrSCS24	01/01/2019	13:00:00	2.62
002YrSCS24	01/01/2019	13:10:00	2.62
002YrSCS24	01/01/2019	13:20:00	2.62
002YrSCS24	01/01/2019	13:30:00	2.04
002YrSCS24	01/01/2019	13:40:00	2.04
002YrSCS24	01/01/2019	13:50:00	2.04
002YrSCS24	01/01/2019	14:00:00	1.45
002YrSCS24	01/01/2019	14:10:00	1.45
002YrSCS24	01/01/2019	14:20:00	1.45
002YrSCS24	01/01/2019	14:30:00	1.45
002YrSCS24	01/01/2019	14:40:00	1.45
002YrSCS24	01/01/2019	14:50:00	1.45
002YrSCS24	01/01/2019	15:00:00	1.45
002YrSCS24	01/01/2019	15:10:00	1.45
002YrSCS24	01/01/2019	15:20:00	1.45

002YrSCS24	01/01/2019	15:30:00	1.45
002YrSCS24	01/01/2019	15:40:00	1.45
002YrSCS24	01/01/2019	15:50:00	1.45
002YrSCS24	01/01/2019	16:00:00	0.87
002YrSCS24	01/01/2019	16:10:00	0.87
002YrSCS24	01/01/2019	16:20:00	0.87
002YrSCS24	01/01/2019	16:30:00	0.87
002YrSCS24	01/01/2019	16:40:00	0.87
002YrSCS24	01/01/2019	16:50:00	0.87
002YrSCS24	01/01/2019	17:00:00	0.87
002YrSCS24	01/01/2019	17:10:00	0.87
002YrSCS24	01/01/2019	17:20:00	0.87
002YrSCS24	01/01/2019	17:30:00	0.87
002YrSCS24	01/01/2019	17:40:00	0.87
002YrSCS24	01/01/2019	17:50:00	0.87
002YrSCS24	01/01/2019	18:00:00	0.87
002YrSCS24	01/01/2019	18:10:00	0.87
002YrSCS24	01/01/2019	18:20:00	0.87
002YrSCS24	01/01/2019	18:30:00	0.87
002YrSCS24	01/01/2019	18:40:00	0.87
002YrSCS24	01/01/2019	18:50:00	0.87
002YrSCS24	01/01/2019	19:00:00	0.87
002YrSCS24	01/01/2019	19:10:00	0.87
002YrSCS24	01/01/2019	19:20:00	0.87
002YrSCS24	01/01/2019	19:30:00	0.87
002YrSCS24	01/01/2019	19:40:00	0.87
002YrSCS24	01/01/2019	19:50:00	0.87
002YrSCS24	01/01/2019	20:00:00	0.58
002YrSCS24	01/01/2019	20:10:00	0.58
002YrSCS24	01/01/2019	20:20:00	0.58
002YrSCS24	01/01/2019	20:30:00	0.58
002YrSCS24	01/01/2019	20:40:00	0.58
002YrSCS24	01/01/2019	20:50:00	0.58
002YrSCS24	01/01/2019	21:00:00	0.58
002YrSCS24	01/01/2019	21:10:00	0.58
002YrSCS24	01/01/2019	21:20:00	0.58
002YrSCS24	01/01/2019	21:30:00	0.58
002YrSCS24	01/01/2019	21:40:00	0.58
002YrSCS24	01/01/2019	21:50:00	0.58
002YrSCS24	01/01/2019	22:00:00	0.58
002YrSCS24	01/01/2019	22:10:00	0.58
002YrSCS24	01/01/2019	22:20:00	0.58
002YrSCS24	01/01/2019	22:30:00	0.58
002YrSCS24	01/01/2019	22:40:00	0.58
002YrSCS24	01/01/2019	22:50:00	0.58
002YrSCS24	01/01/2019	23:00:00	0.58
002YrSCS24	01/01/2019	23:10:00	0.58
002YrSCS24	01/01/2019	23:20:00	0.58
002YrSCS24	01/01/2019	23:30:00	0.58
002YrSCS24	01/01/2019	23:40:00	0.58
002YrSCS24	01/01/2019	23:50:00	0.58

;Rainfall (mm/hr)

005YrChicago3hr	01/01/2019	00:00:00	0
005YrChicago3hr	01/01/2019	00:10:00	3.68223
005YrChicago3hr	01/01/2019	00:20:00	4.58232
005YrChicago3hr	01/01/2019	00:30:00	6.15055

005yrChicago3hr	01/01/2019	00:40:00	9.6141
005yrChicago3hr	01/01/2019	00:50:00	24.17035
005yrChicago3hr	01/01/2019	01:00:00	104.193
005yrChicago3hr	01/01/2019	01:10:00	32.03692
005yrChicago3hr	01/01/2019	01:20:00	16.3375
005yrChicago3hr	01/01/2019	01:30:00	10.96479
005yrChicago3hr	01/01/2019	01:40:00	8.28693
005yrChicago3hr	01/01/2019	01:50:00	6.68897
005yrChicago3hr	01/01/2019	02:00:00	5.6279
005yrChicago3hr	01/01/2019	02:10:00	4.87167
005yrChicago3hr	01/01/2019	02:20:00	4.30483
005yrChicago3hr	01/01/2019	02:30:00	3.8637
005yrChicago3hr	01/01/2019	02:40:00	3.51028
005yrChicago3hr	01/01/2019	02:50:00	3.22046
005yrChicago3hr	01/01/2019	03:00:00	2.97831

;Rainfall (mm/hr)

005YrSCS24	01/01/2019	00:00:00	0.71
005YrSCS24	01/01/2019	00:10:00	0.71
005YrSCS24	01/01/2019	00:20:00	0.71
005YrSCS24	01/01/2019	00:30:00	0.71
005YrSCS24	01/01/2019	00:40:00	0.71
005YrSCS24	01/01/2019	00:50:00	0.71
005YrSCS24	01/01/2019	01:00:00	0.71
005YrSCS24	01/01/2019	01:10:00	0.71
005YrSCS24	01/01/2019	01:20:00	0.71
005YrSCS24	01/01/2019	01:30:00	0.71
005YrSCS24	01/01/2019	01:40:00	0.71
005YrSCS24	01/01/2019	01:50:00	0.71
005YrSCS24	01/01/2019	02:00:00	0.83
005YrSCS24	01/01/2019	02:10:00	0.83
005YrSCS24	01/01/2019	02:20:00	0.83
005YrSCS24	01/01/2019	02:30:00	0.83
005YrSCS24	01/01/2019	02:40:00	0.83
005YrSCS24	01/01/2019	02:50:00	0.83
005YrSCS24	01/01/2019	03:00:00	0.83
005YrSCS24	01/01/2019	03:10:00	0.83
005YrSCS24	01/01/2019	03:20:00	0.83
005YrSCS24	01/01/2019	03:30:00	0.83
005YrSCS24	01/01/2019	03:40:00	0.83
005YrSCS24	01/01/2019	03:50:00	0.83
005YrSCS24	01/01/2019	04:00:00	1.03
005YrSCS24	01/01/2019	04:10:00	1.03
005YrSCS24	01/01/2019	04:20:00	1.03
005YrSCS24	01/01/2019	04:30:00	1.03
005YrSCS24	01/01/2019	04:40:00	1.03
005YrSCS24	01/01/2019	04:50:00	1.03
005YrSCS24	01/01/2019	05:00:00	1.03
005YrSCS24	01/01/2019	05:10:00	1.03
005YrSCS24	01/01/2019	05:20:00	1.03
005YrSCS24	01/01/2019	05:30:00	1.03
005YrSCS24	01/01/2019	05:40:00	1.03
005YrSCS24	01/01/2019	05:50:00	1.03
005YrSCS24	01/01/2019	06:00:00	1.15
005YrSCS24	01/01/2019	06:10:00	1.15
005YrSCS24	01/01/2019	06:20:00	1.15
005YrSCS24	01/01/2019	06:30:00	1.15

005YrSCS24	01/01/2019	06:40:00	1.15
005YrSCS24	01/01/2019	06:50:00	1.15
005YrSCS24	01/01/2019	07:00:00	1.41
005YrSCS24	01/01/2019	07:10:00	1.41
005YrSCS24	01/01/2019	07:20:00	1.41
005YrSCS24	01/01/2019	07:30:00	1.41
005YrSCS24	01/01/2019	07:40:00	1.41
005YrSCS24	01/01/2019	07:50:00	1.41
005YrSCS24	01/01/2019	08:00:00	1.67
005YrSCS24	01/01/2019	08:10:00	1.67
005YrSCS24	01/01/2019	08:20:00	1.67
005YrSCS24	01/01/2019	08:30:00	1.8
005YrSCS24	01/01/2019	08:40:00	1.8
005YrSCS24	01/01/2019	08:50:00	1.8
005YrSCS24	01/01/2019	09:00:00	2.05
005YrSCS24	01/01/2019	09:10:00	2.05
005YrSCS24	01/01/2019	09:20:00	2.05
005YrSCS24	01/01/2019	09:30:00	2.31
005YrSCS24	01/01/2019	09:40:00	2.31
005YrSCS24	01/01/2019	09:50:00	2.31
005YrSCS24	01/01/2019	10:00:00	2.95
005YrSCS24	01/01/2019	10:10:00	2.95
005YrSCS24	01/01/2019	10:20:00	2.95
005YrSCS24	01/01/2019	10:30:00	3.98
005YrSCS24	01/01/2019	10:40:00	3.98
005YrSCS24	01/01/2019	10:50:00	3.98
005YrSCS24	01/01/2019	11:00:00	6.16
005YrSCS24	01/01/2019	11:10:00	6.16
005YrSCS24	01/01/2019	11:20:00	6.16
005YrSCS24	01/01/2019	11:30:00	18.98
005YrSCS24	01/01/2019	11:40:00	48.73
005YrSCS24	01/01/2019	11:50:00	78.48
005YrSCS24	01/01/2019	12:00:00	9.23
005YrSCS24	01/01/2019	12:10:00	9.23
005YrSCS24	01/01/2019	12:20:00	9.23
005YrSCS24	01/01/2019	12:30:00	4.74
005YrSCS24	01/01/2019	12:40:00	4.74
005YrSCS24	01/01/2019	12:50:00	4.74
005YrSCS24	01/01/2019	13:00:00	3.46
005YrSCS24	01/01/2019	13:10:00	3.46
005YrSCS24	01/01/2019	13:20:00	3.46
005YrSCS24	01/01/2019	13:30:00	2.69
005YrSCS24	01/01/2019	13:40:00	2.69
005YrSCS24	01/01/2019	13:50:00	2.69
005YrSCS24	01/01/2019	14:00:00	1.92
005YrSCS24	01/01/2019	14:10:00	1.92
005YrSCS24	01/01/2019	14:20:00	1.92
005YrSCS24	01/01/2019	14:30:00	1.92
005YrSCS24	01/01/2019	14:40:00	1.92
005YrSCS24	01/01/2019	14:50:00	1.92
005YrSCS24	01/01/2019	15:00:00	1.92
005YrSCS24	01/01/2019	15:10:00	1.92
005YrSCS24	01/01/2019	15:20:00	1.92
005YrSCS24	01/01/2019	15:30:00	1.92
005YrSCS24	01/01/2019	15:40:00	1.92
005YrSCS24	01/01/2019	15:50:00	1.92
005YrSCS24	01/01/2019	16:00:00	1.15

005YrSCS24	01/01/2019	16:10:00	1.15
005YrSCS24	01/01/2019	16:20:00	1.15
005YrSCS24	01/01/2019	16:30:00	1.15
005YrSCS24	01/01/2019	16:40:00	1.15
005YrSCS24	01/01/2019	16:50:00	1.15
005YrSCS24	01/01/2019	17:00:00	1.15
005YrSCS24	01/01/2019	17:10:00	1.15
005YrSCS24	01/01/2019	17:20:00	1.15
005YrSCS24	01/01/2019	17:30:00	1.15
005YrSCS24	01/01/2019	17:40:00	1.15
005YrSCS24	01/01/2019	17:50:00	1.15
005YrSCS24	01/01/2019	18:00:00	1.15
005YrSCS24	01/01/2019	18:10:00	1.15
005YrSCS24	01/01/2019	18:20:00	1.15
005YrSCS24	01/01/2019	18:30:00	1.15
005YrSCS24	01/01/2019	18:40:00	1.15
005YrSCS24	01/01/2019	18:50:00	1.15
005YrSCS24	01/01/2019	19:00:00	1.15
005YrSCS24	01/01/2019	19:10:00	1.15
005YrSCS24	01/01/2019	19:20:00	1.15
005YrSCS24	01/01/2019	19:30:00	1.15
005YrSCS24	01/01/2019	19:40:00	1.15
005YrSCS24	01/01/2019	19:50:00	1.15
005YrSCS24	01/01/2019	20:00:00	0.77
005YrSCS24	01/01/2019	20:10:00	0.77
005YrSCS24	01/01/2019	20:20:00	0.77
005YrSCS24	01/01/2019	20:30:00	0.77
005YrSCS24	01/01/2019	20:40:00	0.77
005YrSCS24	01/01/2019	20:50:00	0.77
005YrSCS24	01/01/2019	21:00:00	0.77
005YrSCS24	01/01/2019	21:10:00	0.77
005YrSCS24	01/01/2019	21:20:00	0.77
005YrSCS24	01/01/2019	21:30:00	0.77
005YrSCS24	01/01/2019	21:40:00	0.77
005YrSCS24	01/01/2019	21:50:00	0.77
005YrSCS24	01/01/2019	22:00:00	0.77
005YrSCS24	01/01/2019	22:10:00	0.77
005YrSCS24	01/01/2019	22:20:00	0.77
005YrSCS24	01/01/2019	22:30:00	0.77
005YrSCS24	01/01/2019	22:40:00	0.77
005YrSCS24	01/01/2019	22:50:00	0.77
005YrSCS24	01/01/2019	23:00:00	0.77
005YrSCS24	01/01/2019	23:10:00	0.77
005YrSCS24	01/01/2019	23:20:00	0.77
005YrSCS24	01/01/2019	23:30:00	0.77
005YrSCS24	01/01/2019	23:40:00	0.77
005YrSCS24	01/01/2019	23:50:00	0.77

;Rainfall (mm/hr)

010yrChicago3hr	01/01/2019	00:00:00	0
010yrChicago3hr	01/01/2019	00:10:00	4.24804
010yrChicago3hr	01/01/2019	00:20:00	5.29032
010yrChicago3hr	01/01/2019	00:30:00	7.10821
010yrChicago3hr	01/01/2019	00:40:00	11.12994
010yrChicago3hr	01/01/2019	00:50:00	28.09961
010yrChicago3hr	01/01/2019	01:00:00	122.1418
010yrChicago3hr	01/01/2019	01:10:00	37.28489

010YrChicago3hr	01/01/2019	01:20:00	18.95368
010YrChicago3hr	01/01/2019	01:30:00	12.69959
010YrChicago3hr	01/01/2019	01:40:00	9.58762
010YrChicago3hr	01/01/2019	01:50:00	7.7327
010YrChicago3hr	01/01/2019	02:00:00	6.50203
010YrChicago3hr	01/01/2019	02:10:00	5.6255
010YrChicago3hr	01/01/2019	02:20:00	4.96886
010YrChicago3hr	01/01/2019	02:30:00	4.45808
010YrChicago3hr	01/01/2019	02:40:00	4.04902
010YrChicago3hr	01/01/2019	02:50:00	3.71371
010YrChicago3hr	01/01/2019	03:00:00	3.4336

;Rainfall (mm/hr)

010YrSCS24	01/01/2019	00:00:00	0.82
010YrSCS24	01/01/2019	00:10:00	0.82
010YrSCS24	01/01/2019	00:20:00	0.82
010YrSCS24	01/01/2019	00:30:00	0.82
010YrSCS24	01/01/2019	00:40:00	0.82
010YrSCS24	01/01/2019	00:50:00	0.82
010YrSCS24	01/01/2019	01:00:00	0.82
010YrSCS24	01/01/2019	01:10:00	0.82
010YrSCS24	01/01/2019	01:20:00	0.82
010YrSCS24	01/01/2019	01:30:00	0.82
010YrSCS24	01/01/2019	01:40:00	0.82
010YrSCS24	01/01/2019	01:50:00	0.82
010YrSCS24	01/01/2019	02:00:00	0.97
010YrSCS24	01/01/2019	02:10:00	0.97
010YrSCS24	01/01/2019	02:20:00	0.97
010YrSCS24	01/01/2019	02:30:00	0.97
010YrSCS24	01/01/2019	02:40:00	0.97
010YrSCS24	01/01/2019	02:50:00	0.97
010YrSCS24	01/01/2019	03:00:00	0.97
010YrSCS24	01/01/2019	03:10:00	0.97
010YrSCS24	01/01/2019	03:20:00	0.97
010YrSCS24	01/01/2019	03:30:00	0.97
010YrSCS24	01/01/2019	03:40:00	0.97
010YrSCS24	01/01/2019	03:50:00	0.97
010YrSCS24	01/01/2019	04:00:00	1.19
010YrSCS24	01/01/2019	04:10:00	1.19
010YrSCS24	01/01/2019	04:20:00	1.19
010YrSCS24	01/01/2019	04:30:00	1.19
010YrSCS24	01/01/2019	04:40:00	1.19
010YrSCS24	01/01/2019	04:50:00	1.19
010YrSCS24	01/01/2019	05:00:00	1.19
010YrSCS24	01/01/2019	05:10:00	1.19
010YrSCS24	01/01/2019	05:20:00	1.19
010YrSCS24	01/01/2019	05:30:00	1.19
010YrSCS24	01/01/2019	05:40:00	1.19
010YrSCS24	01/01/2019	05:50:00	1.19
010YrSCS24	01/01/2019	06:00:00	1.34
010YrSCS24	01/01/2019	06:10:00	1.34
010YrSCS24	01/01/2019	06:20:00	1.34
010YrSCS24	01/01/2019	06:30:00	1.34
010YrSCS24	01/01/2019	06:40:00	1.34
010YrSCS24	01/01/2019	06:50:00	1.34
010YrSCS24	01/01/2019	07:00:00	1.64
010YrSCS24	01/01/2019	07:10:00	1.64

010YrSCS24	01/01/2019	07:20:00	1.64
010YrSCS24	01/01/2019	07:30:00	1.64
010YrSCS24	01/01/2019	07:40:00	1.64
010YrSCS24	01/01/2019	07:50:00	1.64
010YrSCS24	01/01/2019	08:00:00	1.93
010YrSCS24	01/01/2019	08:10:00	1.93
010YrSCS24	01/01/2019	08:20:00	1.93
010YrSCS24	01/01/2019	08:30:00	2.08
010YrSCS24	01/01/2019	08:40:00	2.08
010YrSCS24	01/01/2019	08:50:00	2.08
010YrSCS24	01/01/2019	09:00:00	2.38
010YrSCS24	01/01/2019	09:10:00	2.38
010YrSCS24	01/01/2019	09:20:00	2.38
010YrSCS24	01/01/2019	09:30:00	2.68
010YrSCS24	01/01/2019	09:40:00	2.68
010YrSCS24	01/01/2019	09:50:00	2.68
010YrSCS24	01/01/2019	10:00:00	3.42
010YrSCS24	01/01/2019	10:10:00	3.42
010YrSCS24	01/01/2019	10:20:00	3.42
010YrSCS24	01/01/2019	10:30:00	4.61
010YrSCS24	01/01/2019	10:40:00	4.61
010YrSCS24	01/01/2019	10:50:00	4.61
010YrSCS24	01/01/2019	11:00:00	7.14
010YrSCS24	01/01/2019	11:10:00	7.14
010YrSCS24	01/01/2019	11:20:00	7.14
010YrSCS24	01/01/2019	11:30:00	22
010YrSCS24	01/01/2019	11:40:00	56.5
010YrSCS24	01/01/2019	11:50:00	90.99
010YrSCS24	01/01/2019	12:00:00	10.7
010YrSCS24	01/01/2019	12:10:00	10.7
010YrSCS24	01/01/2019	12:20:00	10.7
010YrSCS24	01/01/2019	12:30:00	5.5
010YrSCS24	01/01/2019	12:40:00	5.5
010YrSCS24	01/01/2019	12:50:00	5.5
010YrSCS24	01/01/2019	13:00:00	4.01
010YrSCS24	01/01/2019	13:10:00	4.01
010YrSCS24	01/01/2019	13:20:00	4.01
010YrSCS24	01/01/2019	13:30:00	3.12
010YrSCS24	01/01/2019	13:40:00	3.12
010YrSCS24	01/01/2019	13:50:00	3.12
010YrSCS24	01/01/2019	14:00:00	2.23
010YrSCS24	01/01/2019	14:10:00	2.23
010YrSCS24	01/01/2019	14:20:00	2.23
010YrSCS24	01/01/2019	14:30:00	2.23
010YrSCS24	01/01/2019	14:40:00	2.23
010YrSCS24	01/01/2019	14:50:00	2.23
010YrSCS24	01/01/2019	15:00:00	2.23
010YrSCS24	01/01/2019	15:10:00	2.23
010YrSCS24	01/01/2019	15:20:00	2.23
010YrSCS24	01/01/2019	15:30:00	2.23
010YrSCS24	01/01/2019	15:40:00	2.23
010YrSCS24	01/01/2019	15:50:00	2.23
010YrSCS24	01/01/2019	16:00:00	1.34
010YrSCS24	01/01/2019	16:10:00	1.34
010YrSCS24	01/01/2019	16:20:00	1.34
010YrSCS24	01/01/2019	16:30:00	1.34
010YrSCS24	01/01/2019	16:40:00	1.34

010YrSCS24	01/01/2019	16:50:00	1.34
010YrSCS24	01/01/2019	17:00:00	1.34
010YrSCS24	01/01/2019	17:10:00	1.34
010YrSCS24	01/01/2019	17:20:00	1.34
010YrSCS24	01/01/2019	17:30:00	1.34
010YrSCS24	01/01/2019	17:40:00	1.34
010YrSCS24	01/01/2019	17:50:00	1.34
010YrSCS24	01/01/2019	18:00:00	1.34
010YrSCS24	01/01/2019	18:10:00	1.34
010YrSCS24	01/01/2019	18:20:00	1.34
010YrSCS24	01/01/2019	18:30:00	1.34
010YrSCS24	01/01/2019	18:40:00	1.34
010YrSCS24	01/01/2019	18:50:00	1.34
010YrSCS24	01/01/2019	19:00:00	1.34
010YrSCS24	01/01/2019	19:10:00	1.34
010YrSCS24	01/01/2019	19:20:00	1.34
010YrSCS24	01/01/2019	19:30:00	1.34
010YrSCS24	01/01/2019	19:40:00	1.34
010YrSCS24	01/01/2019	19:50:00	1.34
010YrSCS24	01/01/2019	20:00:00	0.89
010YrSCS24	01/01/2019	20:10:00	0.89
010YrSCS24	01/01/2019	20:20:00	0.89
010YrSCS24	01/01/2019	20:30:00	0.89
010YrSCS24	01/01/2019	20:40:00	0.89
010YrSCS24	01/01/2019	20:50:00	0.89
010YrSCS24	01/01/2019	21:00:00	0.89
010YrSCS24	01/01/2019	21:10:00	0.89
010YrSCS24	01/01/2019	21:20:00	0.89
010YrSCS24	01/01/2019	21:30:00	0.89
010YrSCS24	01/01/2019	21:40:00	0.89
010YrSCS24	01/01/2019	21:50:00	0.89
010YrSCS24	01/01/2019	22:00:00	0.89
010YrSCS24	01/01/2019	22:10:00	0.89
010YrSCS24	01/01/2019	22:20:00	0.89
010YrSCS24	01/01/2019	22:30:00	0.89
010YrSCS24	01/01/2019	22:40:00	0.89
010YrSCS24	01/01/2019	22:50:00	0.89
010YrSCS24	01/01/2019	23:00:00	0.89
010YrSCS24	01/01/2019	23:10:00	0.89
010YrSCS24	01/01/2019	23:20:00	0.89
010YrSCS24	01/01/2019	23:30:00	0.89
010YrSCS24	01/01/2019	23:40:00	0.89
010YrSCS24	01/01/2019	23:50:00	0.89

;Rainfall (mm/hr)

025yrChicago3hr	01/01/2019	00:00:00	0
025yrChicago3hr	01/01/2019	00:10:00	4.9336
025yrChicago3hr	01/01/2019	00:20:00	6.15217
025yrChicago3hr	01/01/2019	00:30:00	8.28157
025yrChicago3hr	01/01/2019	00:40:00	13.00553
025yrChicago3hr	01/01/2019	00:50:00	33.04079
025yrChicago3hr	01/01/2019	01:00:00	144.693
025yrChicago3hr	01/01/2019	01:10:00	43.90416
025yrChicago3hr	01/01/2019	01:20:00	22.22391
025yrChicago3hr	01/01/2019	01:30:00	14.85162
025yrChicago3hr	01/01/2019	01:40:00	11.19158
025yrChicago3hr	01/01/2019	01:50:00	9.01374

025YrChicago3hr	01/01/2019	02:00:00	7.57085
025YrChicago3hr	01/01/2019	02:10:00	6.54433
025YrChicago3hr	01/01/2019	02:20:00	5.77608
025YrChicago3hr	01/01/2019	02:30:00	5.17898
025YrChicago3hr	01/01/2019	02:40:00	4.7011
025YrChicago3hr	01/01/2019	02:50:00	4.30965
025YrChicago3hr	01/01/2019	03:00:00	3.98283

;Rainfall (mm/hr)

025YrSCS24	01/01/2019	00:00:00	0.96
025YrSCS24	01/01/2019	00:10:00	0.96
025YrSCS24	01/01/2019	00:20:00	0.96
025YrSCS24	01/01/2019	00:30:00	0.96
025YrSCS24	01/01/2019	00:40:00	0.96
025YrSCS24	01/01/2019	00:50:00	0.96
025YrSCS24	01/01/2019	01:00:00	0.96
025YrSCS24	01/01/2019	01:10:00	0.96
025YrSCS24	01/01/2019	01:20:00	0.96
025YrSCS24	01/01/2019	01:30:00	0.96
025YrSCS24	01/01/2019	01:40:00	0.96
025YrSCS24	01/01/2019	01:50:00	0.96
025YrSCS24	01/01/2019	02:00:00	1.13
025YrSCS24	01/01/2019	02:10:00	1.13
025YrSCS24	01/01/2019	02:20:00	1.13
025YrSCS24	01/01/2019	02:30:00	1.13
025YrSCS24	01/01/2019	02:40:00	1.13
025YrSCS24	01/01/2019	02:50:00	1.13
025YrSCS24	01/01/2019	03:00:00	1.13
025YrSCS24	01/01/2019	03:10:00	1.13
025YrSCS24	01/01/2019	03:20:00	1.13
025YrSCS24	01/01/2019	03:30:00	1.13
025YrSCS24	01/01/2019	03:40:00	1.13
025YrSCS24	01/01/2019	03:50:00	1.13
025YrSCS24	01/01/2019	04:00:00	1.39
025YrSCS24	01/01/2019	04:10:00	1.39
025YrSCS24	01/01/2019	04:20:00	1.39
025YrSCS24	01/01/2019	04:30:00	1.39
025YrSCS24	01/01/2019	04:40:00	1.39
025YrSCS24	01/01/2019	04:50:00	1.39
025YrSCS24	01/01/2019	05:00:00	1.39
025YrSCS24	01/01/2019	05:10:00	1.39
025YrSCS24	01/01/2019	05:20:00	1.39
025YrSCS24	01/01/2019	05:30:00	1.39
025YrSCS24	01/01/2019	05:40:00	1.39
025YrSCS24	01/01/2019	05:50:00	1.39
025YrSCS24	01/01/2019	06:00:00	1.56
025YrSCS24	01/01/2019	06:10:00	1.56
025YrSCS24	01/01/2019	06:20:00	1.56
025YrSCS24	01/01/2019	06:30:00	1.56
025YrSCS24	01/01/2019	06:40:00	1.56
025YrSCS24	01/01/2019	06:50:00	1.56
025YrSCS24	01/01/2019	07:00:00	1.91
025YrSCS24	01/01/2019	07:10:00	1.91
025YrSCS24	01/01/2019	07:20:00	1.91
025YrSCS24	01/01/2019	07:30:00	1.91
025YrSCS24	01/01/2019	07:40:00	1.91
025YrSCS24	01/01/2019	07:50:00	1.91

025YrSCS24	01/01/2019	08:00:00	2.26
025YrSCS24	01/01/2019	08:10:00	2.26
025YrSCS24	01/01/2019	08:20:00	2.26
025YrSCS24	01/01/2019	08:30:00	2.43
025YrSCS24	01/01/2019	08:40:00	2.43
025YrSCS24	01/01/2019	08:50:00	2.43
025YrSCS24	01/01/2019	09:00:00	2.78
025YrSCS24	01/01/2019	09:10:00	2.78
025YrSCS24	01/01/2019	09:20:00	2.78
025YrSCS24	01/01/2019	09:30:00	3.13
025YrSCS24	01/01/2019	09:40:00	3.13
025YrSCS24	01/01/2019	09:50:00	3.13
025YrSCS24	01/01/2019	10:00:00	4
025YrSCS24	01/01/2019	10:10:00	4
025YrSCS24	01/01/2019	10:20:00	4
025YrSCS24	01/01/2019	10:30:00	5.39
025YrSCS24	01/01/2019	10:40:00	5.39
025YrSCS24	01/01/2019	10:50:00	5.39
025YrSCS24	01/01/2019	11:00:00	8.34
025YrSCS24	01/01/2019	11:10:00	8.34
025YrSCS24	01/01/2019	11:20:00	8.34
025YrSCS24	01/01/2019	11:30:00	25.73
025YrSCS24	01/01/2019	11:40:00	66.05
025YrSCS24	01/01/2019	11:50:00	106.38
025YrSCS24	01/01/2019	12:00:00	12.52
025YrSCS24	01/01/2019	12:10:00	12.52
025YrSCS24	01/01/2019	12:20:00	12.52
025YrSCS24	01/01/2019	12:30:00	6.43
025YrSCS24	01/01/2019	12:40:00	6.43
025YrSCS24	01/01/2019	12:50:00	6.43
025YrSCS24	01/01/2019	13:00:00	4.69
025YrSCS24	01/01/2019	13:10:00	4.69
025YrSCS24	01/01/2019	13:20:00	4.69
025YrSCS24	01/01/2019	13:30:00	3.65
025YrSCS24	01/01/2019	13:40:00	3.65
025YrSCS24	01/01/2019	13:50:00	3.65
025YrSCS24	01/01/2019	14:00:00	2.61
025YrSCS24	01/01/2019	14:10:00	2.61
025YrSCS24	01/01/2019	14:20:00	2.61
025YrSCS24	01/01/2019	14:30:00	2.61
025YrSCS24	01/01/2019	14:40:00	2.61
025YrSCS24	01/01/2019	14:50:00	2.61
025YrSCS24	01/01/2019	15:00:00	2.61
025YrSCS24	01/01/2019	15:10:00	2.61
025YrSCS24	01/01/2019	15:20:00	2.61
025YrSCS24	01/01/2019	15:30:00	2.61
025YrSCS24	01/01/2019	15:40:00	2.61
025YrSCS24	01/01/2019	15:50:00	2.61
025YrSCS24	01/01/2019	16:00:00	1.56
025YrSCS24	01/01/2019	16:10:00	1.56
025YrSCS24	01/01/2019	16:20:00	1.56
025YrSCS24	01/01/2019	16:30:00	1.56
025YrSCS24	01/01/2019	16:40:00	1.56
025YrSCS24	01/01/2019	16:50:00	1.56
025YrSCS24	01/01/2019	17:00:00	1.56
025YrSCS24	01/01/2019	17:10:00	1.56
025YrSCS24	01/01/2019	17:20:00	1.56

025YrSCS24	01/01/2019	17:30:00	1.56
025YrSCS24	01/01/2019	17:40:00	1.56
025YrSCS24	01/01/2019	17:50:00	1.56
025YrSCS24	01/01/2019	18:00:00	1.56
025YrSCS24	01/01/2019	18:10:00	1.56
025YrSCS24	01/01/2019	18:20:00	1.56
025YrSCS24	01/01/2019	18:30:00	1.56
025YrSCS24	01/01/2019	18:40:00	1.56
025YrSCS24	01/01/2019	18:50:00	1.56
025YrSCS24	01/01/2019	19:00:00	1.56
025YrSCS24	01/01/2019	19:10:00	1.56
025YrSCS24	01/01/2019	19:20:00	1.56
025YrSCS24	01/01/2019	19:30:00	1.56
025YrSCS24	01/01/2019	19:40:00	1.56
025YrSCS24	01/01/2019	19:50:00	1.56
025YrSCS24	01/01/2019	20:00:00	1.04
025YrSCS24	01/01/2019	20:10:00	1.04
025YrSCS24	01/01/2019	20:20:00	1.04
025YrSCS24	01/01/2019	20:30:00	1.04
025YrSCS24	01/01/2019	20:40:00	1.04
025YrSCS24	01/01/2019	20:50:00	1.04
025YrSCS24	01/01/2019	21:00:00	1.04
025YrSCS24	01/01/2019	21:10:00	1.04
025YrSCS24	01/01/2019	21:20:00	1.04
025YrSCS24	01/01/2019	21:30:00	1.04
025YrSCS24	01/01/2019	21:40:00	1.04
025YrSCS24	01/01/2019	21:50:00	1.04
025YrSCS24	01/01/2019	22:00:00	1.04
025YrSCS24	01/01/2019	22:10:00	1.04
025YrSCS24	01/01/2019	22:20:00	1.04
025YrSCS24	01/01/2019	22:30:00	1.04
025YrSCS24	01/01/2019	22:40:00	1.04
025YrSCS24	01/01/2019	22:50:00	1.04
025YrSCS24	01/01/2019	23:00:00	1.04
025YrSCS24	01/01/2019	23:10:00	1.04
025YrSCS24	01/01/2019	23:20:00	1.04
025YrSCS24	01/01/2019	23:30:00	1.04
025YrSCS24	01/01/2019	23:40:00	1.04
025YrSCS24	01/01/2019	23:50:00	1.04

;Rainfall (mm/hr)

050yrChicago3hr	01/01/2019	00:00:00	0
050yrChicago3hr	01/01/2019	00:10:00	5.46715
050yrChicago3hr	01/01/2019	00:20:00	6.8204
050yrChicago3hr	01/01/2019	00:30:00	9.18659
050yrChicago3hr	01/01/2019	00:40:00	14.44064
050yrChicago3hr	01/01/2019	00:50:00	36.76423
050yrChicago3hr	01/01/2019	01:00:00	161.4707
050yrChicago3hr	01/01/2019	01:10:00	48.876
050yrChicago3hr	01/01/2019	01:20:00	24.70426
050yrChicago3hr	01/01/2019	01:30:00	16.49475
050yrChicago3hr	01/01/2019	01:40:00	12.42227
050yrChicago3hr	01/01/2019	01:50:00	10.00043
050yrChicago3hr	01/01/2019	02:00:00	8.39661
050yrChicago3hr	01/01/2019	02:10:00	7.256
050yrChicago3hr	01/01/2019	02:20:00	6.40264
050yrChicago3hr	01/01/2019	02:30:00	5.73956

050YrChicago3hr	01/01/2019	02:40:00	5.20902
050YrChicago3hr	01/01/2019	02:50:00	4.77451
050YrChicago3hr	01/01/2019	03:00:00	4.41182

;Rainfall (mm/hr)

050YrSCS24	01/01/2019	00:00:00	1.06
050YrSCS24	01/01/2019	00:10:00	1.06
050YrSCS24	01/01/2019	00:20:00	1.06
050YrSCS24	01/01/2019	00:30:00	1.06
050YrSCS24	01/01/2019	00:40:00	1.06
050YrSCS24	01/01/2019	00:50:00	1.06
050YrSCS24	01/01/2019	01:00:00	1.06
050YrSCS24	01/01/2019	01:10:00	1.06
050YrSCS24	01/01/2019	01:20:00	1.06
050YrSCS24	01/01/2019	01:30:00	1.06
050YrSCS24	01/01/2019	01:40:00	1.06
050YrSCS24	01/01/2019	01:50:00	1.06
050YrSCS24	01/01/2019	02:00:00	1.25
050YrSCS24	01/01/2019	02:10:00	1.25
050YrSCS24	01/01/2019	02:20:00	1.25
050YrSCS24	01/01/2019	02:30:00	1.25
050YrSCS24	01/01/2019	02:40:00	1.25
050YrSCS24	01/01/2019	02:50:00	1.25
050YrSCS24	01/01/2019	03:00:00	1.25
050YrSCS24	01/01/2019	03:10:00	1.25
050YrSCS24	01/01/2019	03:20:00	1.25
050YrSCS24	01/01/2019	03:30:00	1.25
050YrSCS24	01/01/2019	03:40:00	1.25
050YrSCS24	01/01/2019	03:50:00	1.25
050YrSCS24	01/01/2019	04:00:00	1.54
050YrSCS24	01/01/2019	04:10:00	1.54
050YrSCS24	01/01/2019	04:20:00	1.54
050YrSCS24	01/01/2019	04:30:00	1.54
050YrSCS24	01/01/2019	04:40:00	1.54
050YrSCS24	01/01/2019	04:50:00	1.54
050YrSCS24	01/01/2019	05:00:00	1.54
050YrSCS24	01/01/2019	05:10:00	1.54
050YrSCS24	01/01/2019	05:20:00	1.54
050YrSCS24	01/01/2019	05:30:00	1.54
050YrSCS24	01/01/2019	05:40:00	1.54
050YrSCS24	01/01/2019	05:50:00	1.54
050YrSCS24	01/01/2019	06:00:00	1.74
050YrSCS24	01/01/2019	06:10:00	1.74
050YrSCS24	01/01/2019	06:20:00	1.74
050YrSCS24	01/01/2019	06:30:00	1.74
050YrSCS24	01/01/2019	06:40:00	1.74
050YrSCS24	01/01/2019	06:50:00	1.74
050YrSCS24	01/01/2019	07:00:00	2.12
050YrSCS24	01/01/2019	07:10:00	2.12
050YrSCS24	01/01/2019	07:20:00	2.12
050YrSCS24	01/01/2019	07:30:00	2.12
050YrSCS24	01/01/2019	07:40:00	2.12
050YrSCS24	01/01/2019	07:50:00	2.12
050YrSCS24	01/01/2019	08:00:00	2.51
050YrSCS24	01/01/2019	08:10:00	2.51
050YrSCS24	01/01/2019	08:20:00	2.51
050YrSCS24	01/01/2019	08:30:00	2.7

050YrSCS24	01/01/2019	08:40:00	2.7
050YrSCS24	01/01/2019	08:50:00	2.7
050YrSCS24	01/01/2019	09:00:00	3.09
050YrSCS24	01/01/2019	09:10:00	3.09
050YrSCS24	01/01/2019	09:20:00	3.09
050YrSCS24	01/01/2019	09:30:00	3.48
050YrSCS24	01/01/2019	09:40:00	3.48
050YrSCS24	01/01/2019	09:50:00	3.48
050YrSCS24	01/01/2019	10:00:00	4.44
050YrSCS24	01/01/2019	10:10:00	4.44
050YrSCS24	01/01/2019	10:20:00	4.44
050YrSCS24	01/01/2019	10:30:00	5.98
050YrSCS24	01/01/2019	10:40:00	5.98
050YrSCS24	01/01/2019	10:50:00	5.98
050YrSCS24	01/01/2019	11:00:00	9.27
050YrSCS24	01/01/2019	11:10:00	9.27
050YrSCS24	01/01/2019	11:20:00	9.27
050YrSCS24	01/01/2019	11:30:00	28.57
050YrSCS24	01/01/2019	11:40:00	73.36
050YrSCS24	01/01/2019	11:50:00	118.15
050YrSCS24	01/01/2019	12:00:00	13.9
050YrSCS24	01/01/2019	12:10:00	13.9
050YrSCS24	01/01/2019	12:20:00	13.9
050YrSCS24	01/01/2019	12:30:00	7.14
050YrSCS24	01/01/2019	12:40:00	7.14
050YrSCS24	01/01/2019	12:50:00	7.14
050YrSCS24	01/01/2019	13:00:00	5.21
050YrSCS24	01/01/2019	13:10:00	5.21
050YrSCS24	01/01/2019	13:20:00	5.21
050YrSCS24	01/01/2019	13:30:00	4.05
050YrSCS24	01/01/2019	13:40:00	4.05
050YrSCS24	01/01/2019	13:50:00	4.05
050YrSCS24	01/01/2019	14:00:00	2.9
050YrSCS24	01/01/2019	14:10:00	2.9
050YrSCS24	01/01/2019	14:20:00	2.9
050YrSCS24	01/01/2019	14:30:00	2.9
050YrSCS24	01/01/2019	14:40:00	2.9
050YrSCS24	01/01/2019	14:50:00	2.9
050YrSCS24	01/01/2019	15:00:00	2.9
050YrSCS24	01/01/2019	15:10:00	2.9
050YrSCS24	01/01/2019	15:20:00	2.9
050YrSCS24	01/01/2019	15:30:00	2.9
050YrSCS24	01/01/2019	15:40:00	2.9
050YrSCS24	01/01/2019	15:50:00	2.9
050YrSCS24	01/01/2019	16:00:00	1.74
050YrSCS24	01/01/2019	16:10:00	1.74
050YrSCS24	01/01/2019	16:20:00	1.74
050YrSCS24	01/01/2019	16:30:00	1.74
050YrSCS24	01/01/2019	16:40:00	1.74
050YrSCS24	01/01/2019	16:50:00	1.74
050YrSCS24	01/01/2019	17:00:00	1.74
050YrSCS24	01/01/2019	17:10:00	1.74
050YrSCS24	01/01/2019	17:20:00	1.74
050YrSCS24	01/01/2019	17:30:00	1.74
050YrSCS24	01/01/2019	17:40:00	1.74
050YrSCS24	01/01/2019	17:50:00	1.74
050YrSCS24	01/01/2019	18:00:00	1.74

050YrSCS24	01/01/2019	18:10:00	1.74
050YrSCS24	01/01/2019	18:20:00	1.74
050YrSCS24	01/01/2019	18:30:00	1.74
050YrSCS24	01/01/2019	18:40:00	1.74
050YrSCS24	01/01/2019	18:50:00	1.74
050YrSCS24	01/01/2019	19:00:00	1.74
050YrSCS24	01/01/2019	19:10:00	1.74
050YrSCS24	01/01/2019	19:20:00	1.74
050YrSCS24	01/01/2019	19:30:00	1.74
050YrSCS24	01/01/2019	19:40:00	1.74
050YrSCS24	01/01/2019	19:50:00	1.74
050YrSCS24	01/01/2019	20:00:00	1.16
050YrSCS24	01/01/2019	20:10:00	1.16
050YrSCS24	01/01/2019	20:20:00	1.16
050YrSCS24	01/01/2019	20:30:00	1.16
050YrSCS24	01/01/2019	20:40:00	1.16
050YrSCS24	01/01/2019	20:50:00	1.16
050YrSCS24	01/01/2019	21:00:00	1.16
050YrSCS24	01/01/2019	21:10:00	1.16
050YrSCS24	01/01/2019	21:20:00	1.16
050YrSCS24	01/01/2019	21:30:00	1.16
050YrSCS24	01/01/2019	21:40:00	1.16
050YrSCS24	01/01/2019	21:50:00	1.16
050YrSCS24	01/01/2019	22:00:00	1.16
050YrSCS24	01/01/2019	22:10:00	1.16
050YrSCS24	01/01/2019	22:20:00	1.16
050YrSCS24	01/01/2019	22:30:00	1.16
050YrSCS24	01/01/2019	22:40:00	1.16
050YrSCS24	01/01/2019	22:50:00	1.16
050YrSCS24	01/01/2019	23:00:00	1.16
050YrSCS24	01/01/2019	23:10:00	1.16
050YrSCS24	01/01/2019	23:20:00	1.16
050YrSCS24	01/01/2019	23:30:00	1.16
050YrSCS24	01/01/2019	23:40:00	1.16
050YrSCS24	01/01/2019	23:50:00	1.16

;Rainfall (mm/hr)

100YrChicago3hr	01/01/2019	00:00:00	0
100YrChicago3hr	01/01/2019	00:10:00	6.04573
100YrChicago3hr	01/01/2019	00:20:00	7.54219
100YrChicago3hr	01/01/2019	00:30:00	10.1588
100YrChicago3hr	01/01/2019	00:40:00	15.96889
100YrChicago3hr	01/01/2019	00:50:00	40.65497
100YrChicago3hr	01/01/2019	01:00:00	178.559
100YrChicago3hr	01/01/2019	01:10:00	54.04853
100YrChicago3hr	01/01/2019	01:20:00	27.3187
100YrChicago3hr	01/01/2019	01:30:00	18.24039
100YrChicago3hr	01/01/2019	01:40:00	13.73692
100YrChicago3hr	01/01/2019	01:50:00	11.05876
100YrChicago3hr	01/01/2019	02:00:00	9.28521
100YrChicago3hr	01/01/2019	02:10:00	8.02389
100YrChicago3hr	01/01/2019	02:20:00	7.08022
100YrChicago3hr	01/01/2019	02:30:00	6.34698
100YrChicago3hr	01/01/2019	02:40:00	5.76029
100YrChicago3hr	01/01/2019	02:50:00	5.27978
100YrChicago3hr	01/01/2019	03:00:00	4.87871

```

;Rainfall (mm/hr)
100YrChicago3hr+20% 01/01/2019 00:00:00 0
100YrChicago3hr+20% 01/01/2019 00:10:00 7.25488
100YrChicago3hr+20% 01/01/2019 00:20:00 9.05063
100YrChicago3hr+20% 01/01/2019 00:30:00 12.19056
100YrChicago3hr+20% 01/01/2019 00:40:00 19.16267
100YrChicago3hr+20% 01/01/2019 00:50:00 48.78596
100YrChicago3hr+20% 01/01/2019 01:00:00 214.2708
100YrChicago3hr+20% 01/01/2019 01:10:00 64.85824
100YrChicago3hr+20% 01/01/2019 01:20:00 32.78244
100YrChicago3hr+20% 01/01/2019 01:30:00 21.88847
100YrChicago3hr+20% 01/01/2019 01:40:00 16.4843
100YrChicago3hr+20% 01/01/2019 01:50:00 13.27051
100YrChicago3hr+20% 01/01/2019 02:00:00 11.14225
100YrChicago3hr+20% 01/01/2019 02:10:00 9.62867
100YrChicago3hr+20% 01/01/2019 02:20:00 8.49626
100YrChicago3hr+20% 01/01/2019 02:30:00 7.61638
100YrChicago3hr+20% 01/01/2019 02:40:00 6.91235
100YrChicago3hr+20% 01/01/2019 02:50:00 6.33574
100YrChicago3hr+20% 01/01/2019 03:00:00 5.85445

```

```

;Rainfall (mm/hr)
100YrSCS24 01/01/2019 00:00:00 1.17
100YrSCS24 01/01/2019 00:10:00 1.17
100YrSCS24 01/01/2019 00:20:00 1.17
100YrSCS24 01/01/2019 00:30:00 1.17
100YrSCS24 01/01/2019 00:40:00 1.17
100YrSCS24 01/01/2019 00:50:00 1.17
100YrSCS24 01/01/2019 01:00:00 1.17
100YrSCS24 01/01/2019 01:10:00 1.17
100YrSCS24 01/01/2019 01:20:00 1.17
100YrSCS24 01/01/2019 01:30:00 1.17
100YrSCS24 01/01/2019 01:40:00 1.17
100YrSCS24 01/01/2019 01:50:00 1.17
100YrSCS24 01/01/2019 02:00:00 1.39
100YrSCS24 01/01/2019 02:10:00 1.39
100YrSCS24 01/01/2019 02:20:00 1.39
100YrSCS24 01/01/2019 02:30:00 1.39
100YrSCS24 01/01/2019 02:40:00 1.39
100YrSCS24 01/01/2019 02:50:00 1.39
100YrSCS24 01/01/2019 03:00:00 1.39
100YrSCS24 01/01/2019 03:10:00 1.39
100YrSCS24 01/01/2019 03:20:00 1.39
100YrSCS24 01/01/2019 03:30:00 1.39
100YrSCS24 01/01/2019 03:40:00 1.39
100YrSCS24 01/01/2019 03:50:00 1.39
100YrSCS24 01/01/2019 04:00:00 1.71
100YrSCS24 01/01/2019 04:10:00 1.71
100YrSCS24 01/01/2019 04:20:00 1.71
100YrSCS24 01/01/2019 04:30:00 1.71
100YrSCS24 01/01/2019 04:40:00 1.71
100YrSCS24 01/01/2019 04:50:00 1.71
100YrSCS24 01/01/2019 05:00:00 1.71
100YrSCS24 01/01/2019 05:10:00 1.71
100YrSCS24 01/01/2019 05:20:00 1.71
100YrSCS24 01/01/2019 05:30:00 1.71
100YrSCS24 01/01/2019 05:40:00 1.71

```

100YrSCS24	01/01/2019	05:50:00	1.71
100YrSCS24	01/01/2019	06:00:00	1.92
100YrSCS24	01/01/2019	06:10:00	1.92
100YrSCS24	01/01/2019	06:20:00	1.92
100YrSCS24	01/01/2019	06:30:00	1.92
100YrSCS24	01/01/2019	06:40:00	1.92
100YrSCS24	01/01/2019	06:50:00	1.92
100YrSCS24	01/01/2019	07:00:00	2.35
100YrSCS24	01/01/2019	07:10:00	2.35
100YrSCS24	01/01/2019	07:20:00	2.35
100YrSCS24	01/01/2019	07:30:00	2.35
100YrSCS24	01/01/2019	07:40:00	2.35
100YrSCS24	01/01/2019	07:50:00	2.35
100YrSCS24	01/01/2019	08:00:00	2.78
100YrSCS24	01/01/2019	08:10:00	2.78
100YrSCS24	01/01/2019	08:20:00	2.78
100YrSCS24	01/01/2019	08:30:00	2.99
100YrSCS24	01/01/2019	08:40:00	2.99
100YrSCS24	01/01/2019	08:50:00	2.99
100YrSCS24	01/01/2019	09:00:00	3.42
100YrSCS24	01/01/2019	09:10:00	3.42
100YrSCS24	01/01/2019	09:20:00	3.42
100YrSCS24	01/01/2019	09:30:00	3.84
100YrSCS24	01/01/2019	09:40:00	3.84
100YrSCS24	01/01/2019	09:50:00	3.84
100YrSCS24	01/01/2019	10:00:00	4.91
100YrSCS24	01/01/2019	10:10:00	4.91
100YrSCS24	01/01/2019	10:20:00	4.91
100YrSCS24	01/01/2019	10:30:00	6.62
100YrSCS24	01/01/2019	10:40:00	6.62
100YrSCS24	01/01/2019	10:50:00	6.62
100YrSCS24	01/01/2019	11:00:00	10.25
100YrSCS24	01/01/2019	11:10:00	10.25
100YrSCS24	01/01/2019	11:20:00	10.25
100YrSCS24	01/01/2019	11:30:00	31.6
100YrSCS24	01/01/2019	11:40:00	81.12
100YrSCS24	01/01/2019	11:50:00	130.65
100YrSCS24	01/01/2019	12:00:00	15.37
100YrSCS24	01/01/2019	12:10:00	15.37
100YrSCS24	01/01/2019	12:20:00	15.37
100YrSCS24	01/01/2019	12:30:00	7.9
100YrSCS24	01/01/2019	12:40:00	7.9
100YrSCS24	01/01/2019	12:50:00	7.9
100YrSCS24	01/01/2019	13:00:00	5.76
100YrSCS24	01/01/2019	13:10:00	5.76
100YrSCS24	01/01/2019	13:20:00	5.76
100YrSCS24	01/01/2019	13:30:00	4.48
100YrSCS24	01/01/2019	13:40:00	4.48
100YrSCS24	01/01/2019	13:50:00	4.48
100YrSCS24	01/01/2019	14:00:00	3.2
100YrSCS24	01/01/2019	14:10:00	3.2
100YrSCS24	01/01/2019	14:20:00	3.2
100YrSCS24	01/01/2019	14:30:00	3.2
100YrSCS24	01/01/2019	14:40:00	3.2
100YrSCS24	01/01/2019	14:50:00	3.2
100YrSCS24	01/01/2019	15:00:00	3.2
100YrSCS24	01/01/2019	15:10:00	3.2

100YrSCS24	01/01/2019	15:20:00	3.2
100YrSCS24	01/01/2019	15:30:00	3.2
100YrSCS24	01/01/2019	15:40:00	3.2
100YrSCS24	01/01/2019	15:50:00	3.2
100YrSCS24	01/01/2019	16:00:00	1.92
100YrSCS24	01/01/2019	16:10:00	1.92
100YrSCS24	01/01/2019	16:20:00	1.92
100YrSCS24	01/01/2019	16:30:00	1.92
100YrSCS24	01/01/2019	16:40:00	1.92
100YrSCS24	01/01/2019	16:50:00	1.92
100YrSCS24	01/01/2019	17:00:00	1.92
100YrSCS24	01/01/2019	17:10:00	1.92
100YrSCS24	01/01/2019	17:20:00	1.92
100YrSCS24	01/01/2019	17:30:00	1.92
100YrSCS24	01/01/2019	17:40:00	1.92
100YrSCS24	01/01/2019	17:50:00	1.92
100YrSCS24	01/01/2019	18:00:00	1.92
100YrSCS24	01/01/2019	18:10:00	1.92
100YrSCS24	01/01/2019	18:20:00	1.92
100YrSCS24	01/01/2019	18:30:00	1.92
100YrSCS24	01/01/2019	18:40:00	1.92
100YrSCS24	01/01/2019	18:50:00	1.92
100YrSCS24	01/01/2019	19:00:00	1.92
100YrSCS24	01/01/2019	19:10:00	1.92
100YrSCS24	01/01/2019	19:20:00	1.92
100YrSCS24	01/01/2019	19:30:00	1.92
100YrSCS24	01/01/2019	19:40:00	1.92
100YrSCS24	01/01/2019	19:50:00	1.92
100YrSCS24	01/01/2019	20:00:00	1.28
100YrSCS24	01/01/2019	20:10:00	1.28
100YrSCS24	01/01/2019	20:20:00	1.28
100YrSCS24	01/01/2019	20:30:00	1.28
100YrSCS24	01/01/2019	20:40:00	1.28
100YrSCS24	01/01/2019	20:50:00	1.28
100YrSCS24	01/01/2019	21:00:00	1.28
100YrSCS24	01/01/2019	21:10:00	1.28
100YrSCS24	01/01/2019	21:20:00	1.28
100YrSCS24	01/01/2019	21:30:00	1.28
100YrSCS24	01/01/2019	21:40:00	1.28
100YrSCS24	01/01/2019	21:50:00	1.28
100YrSCS24	01/01/2019	22:00:00	1.28
100YrSCS24	01/01/2019	22:10:00	1.28
100YrSCS24	01/01/2019	22:20:00	1.28
100YrSCS24	01/01/2019	22:30:00	1.28
100YrSCS24	01/01/2019	22:40:00	1.28
100YrSCS24	01/01/2019	22:50:00	1.28
100YrSCS24	01/01/2019	23:00:00	1.28
100YrSCS24	01/01/2019	23:10:00	1.28
100YrSCS24	01/01/2019	23:20:00	1.28
100YrSCS24	01/01/2019	23:30:00	1.28
100YrSCS24	01/01/2019	23:40:00	1.28
100YrSCS24	01/01/2019	23:50:00	1.28

;Rainfall (mm/hr)

100YrSCS24+20%	01/01/2019	00:00:00	1.404
100YrSCS24+20%	01/01/2019	00:10:00	1.404
100YrSCS24+20%	01/01/2019	00:20:00	1.404

100YrSCS24+20%	01/01/2019	00:30:00	1.404
100YrSCS24+20%	01/01/2019	00:40:00	1.404
100YrSCS24+20%	01/01/2019	00:50:00	1.404
100YrSCS24+20%	01/01/2019	01:00:00	1.404
100YrSCS24+20%	01/01/2019	01:10:00	1.404
100YrSCS24+20%	01/01/2019	01:20:00	1.404
100YrSCS24+20%	01/01/2019	01:30:00	1.404
100YrSCS24+20%	01/01/2019	01:40:00	1.404
100YrSCS24+20%	01/01/2019	01:50:00	1.404
100YrSCS24+20%	01/01/2019	02:00:00	1.668
100YrSCS24+20%	01/01/2019	02:10:00	1.668
100YrSCS24+20%	01/01/2019	02:20:00	1.668
100YrSCS24+20%	01/01/2019	02:30:00	1.668
100YrSCS24+20%	01/01/2019	02:40:00	1.668
100YrSCS24+20%	01/01/2019	02:50:00	1.668
100YrSCS24+20%	01/01/2019	03:00:00	1.668
100YrSCS24+20%	01/01/2019	03:10:00	1.668
100YrSCS24+20%	01/01/2019	03:20:00	1.668
100YrSCS24+20%	01/01/2019	03:30:00	1.668
100YrSCS24+20%	01/01/2019	03:40:00	1.668
100YrSCS24+20%	01/01/2019	03:50:00	1.668
100YrSCS24+20%	01/01/2019	04:00:00	2.052
100YrSCS24+20%	01/01/2019	04:10:00	2.052
100YrSCS24+20%	01/01/2019	04:20:00	2.052
100YrSCS24+20%	01/01/2019	04:30:00	2.052
100YrSCS24+20%	01/01/2019	04:40:00	2.052
100YrSCS24+20%	01/01/2019	04:50:00	2.052
100YrSCS24+20%	01/01/2019	05:00:00	2.052
100YrSCS24+20%	01/01/2019	05:10:00	2.052
100YrSCS24+20%	01/01/2019	05:20:00	2.052
100YrSCS24+20%	01/01/2019	05:30:00	2.052
100YrSCS24+20%	01/01/2019	05:40:00	2.052
100YrSCS24+20%	01/01/2019	05:50:00	2.052
100YrSCS24+20%	01/01/2019	06:00:00	2.304
100YrSCS24+20%	01/01/2019	06:10:00	2.304
100YrSCS24+20%	01/01/2019	06:20:00	2.304
100YrSCS24+20%	01/01/2019	06:30:00	2.304
100YrSCS24+20%	01/01/2019	06:40:00	2.304
100YrSCS24+20%	01/01/2019	06:50:00	2.304
100YrSCS24+20%	01/01/2019	07:00:00	2.82
100YrSCS24+20%	01/01/2019	07:10:00	2.82
100YrSCS24+20%	01/01/2019	07:20:00	2.82
100YrSCS24+20%	01/01/2019	07:30:00	2.82
100YrSCS24+20%	01/01/2019	07:40:00	2.82
100YrSCS24+20%	01/01/2019	07:50:00	2.82
100YrSCS24+20%	01/01/2019	08:00:00	3.336
100YrSCS24+20%	01/01/2019	08:10:00	3.336
100YrSCS24+20%	01/01/2019	08:20:00	3.336
100YrSCS24+20%	01/01/2019	08:30:00	3.588
100YrSCS24+20%	01/01/2019	08:40:00	3.588
100YrSCS24+20%	01/01/2019	08:50:00	3.588
100YrSCS24+20%	01/01/2019	09:00:00	4.104
100YrSCS24+20%	01/01/2019	09:10:00	4.104
100YrSCS24+20%	01/01/2019	09:20:00	4.104
100YrSCS24+20%	01/01/2019	09:30:00	4.608
100YrSCS24+20%	01/01/2019	09:40:00	4.608
100YrSCS24+20%	01/01/2019	09:50:00	4.608

100YrSCS24+20%	01/01/2019	10:00:00	5.892
100YrSCS24+20%	01/01/2019	10:10:00	5.892
100YrSCS24+20%	01/01/2019	10:20:00	5.892
100YrSCS24+20%	01/01/2019	10:30:00	7.944
100YrSCS24+20%	01/01/2019	10:40:00	7.944
100YrSCS24+20%	01/01/2019	10:50:00	7.944
100YrSCS24+20%	01/01/2019	11:00:00	12.3
100YrSCS24+20%	01/01/2019	11:10:00	12.3
100YrSCS24+20%	01/01/2019	11:20:00	12.3
100YrSCS24+20%	01/01/2019	11:30:00	37.92
100YrSCS24+20%	01/01/2019	11:40:00	97.344
100YrSCS24+20%	01/01/2019	11:50:00	156.78
100YrSCS24+20%	01/01/2019	12:00:00	18.444
100YrSCS24+20%	01/01/2019	12:10:00	18.444
100YrSCS24+20%	01/01/2019	12:20:00	18.444
100YrSCS24+20%	01/01/2019	12:30:00	9.48
100YrSCS24+20%	01/01/2019	12:40:00	9.48
100YrSCS24+20%	01/01/2019	12:50:00	9.48
100YrSCS24+20%	01/01/2019	13:00:00	6.912
100YrSCS24+20%	01/01/2019	13:10:00	6.912
100YrSCS24+20%	01/01/2019	13:20:00	6.912
100YrSCS24+20%	01/01/2019	13:30:00	5.376
100YrSCS24+20%	01/01/2019	13:40:00	5.376
100YrSCS24+20%	01/01/2019	13:50:00	5.376
100YrSCS24+20%	01/01/2019	14:00:00	3.84
100YrSCS24+20%	01/01/2019	14:10:00	3.84
100YrSCS24+20%	01/01/2019	14:20:00	3.84
100YrSCS24+20%	01/01/2019	14:30:00	3.84
100YrSCS24+20%	01/01/2019	14:40:00	3.84
100YrSCS24+20%	01/01/2019	14:50:00	3.84
100YrSCS24+20%	01/01/2019	15:00:00	3.84
100YrSCS24+20%	01/01/2019	15:10:00	3.84
100YrSCS24+20%	01/01/2019	15:20:00	3.84
100YrSCS24+20%	01/01/2019	15:30:00	3.84
100YrSCS24+20%	01/01/2019	15:40:00	3.84
100YrSCS24+20%	01/01/2019	15:50:00	3.84
100YrSCS24+20%	01/01/2019	16:00:00	2.304
100YrSCS24+20%	01/01/2019	16:10:00	2.304
100YrSCS24+20%	01/01/2019	16:20:00	2.304
100YrSCS24+20%	01/01/2019	16:30:00	2.304
100YrSCS24+20%	01/01/2019	16:40:00	2.304
100YrSCS24+20%	01/01/2019	16:50:00	2.304
100YrSCS24+20%	01/01/2019	17:00:00	2.304
100YrSCS24+20%	01/01/2019	17:10:00	2.304
100YrSCS24+20%	01/01/2019	17:20:00	2.304
100YrSCS24+20%	01/01/2019	17:30:00	2.304
100YrSCS24+20%	01/01/2019	17:40:00	2.304
100YrSCS24+20%	01/01/2019	17:50:00	2.304
100YrSCS24+20%	01/01/2019	18:00:00	2.304
100YrSCS24+20%	01/01/2019	18:10:00	2.304
100YrSCS24+20%	01/01/2019	18:20:00	2.304
100YrSCS24+20%	01/01/2019	18:30:00	2.304
100YrSCS24+20%	01/01/2019	18:40:00	2.304
100YrSCS24+20%	01/01/2019	18:50:00	2.304
100YrSCS24+20%	01/01/2019	19:00:00	2.304
100YrSCS24+20%	01/01/2019	19:10:00	2.304
100YrSCS24+20%	01/01/2019	19:20:00	2.304

100YrSCS24+20%	01/01/2019	19:30:00	2.304
100YrSCS24+20%	01/01/2019	19:40:00	2.304
100YrSCS24+20%	01/01/2019	19:50:00	2.304
100YrSCS24+20%	01/01/2019	20:00:00	1.536
100YrSCS24+20%	01/01/2019	20:10:00	1.536
100YrSCS24+20%	01/01/2019	20:20:00	1.536
100YrSCS24+20%	01/01/2019	20:30:00	1.536
100YrSCS24+20%	01/01/2019	20:40:00	1.536
100YrSCS24+20%	01/01/2019	20:50:00	1.536
100YrSCS24+20%	01/01/2019	21:00:00	1.536
100YrSCS24+20%	01/01/2019	21:10:00	1.536
100YrSCS24+20%	01/01/2019	21:20:00	1.536
100YrSCS24+20%	01/01/2019	21:30:00	1.536
100YrSCS24+20%	01/01/2019	21:40:00	1.536
100YrSCS24+20%	01/01/2019	21:50:00	1.536
100YrSCS24+20%	01/01/2019	22:00:00	1.536
100YrSCS24+20%	01/01/2019	22:10:00	1.536
100YrSCS24+20%	01/01/2019	22:20:00	1.536
100YrSCS24+20%	01/01/2019	22:30:00	1.536
100YrSCS24+20%	01/01/2019	22:40:00	1.536
100YrSCS24+20%	01/01/2019	22:50:00	1.536
100YrSCS24+20%	01/01/2019	23:00:00	1.536
100YrSCS24+20%	01/01/2019	23:10:00	1.536
100YrSCS24+20%	01/01/2019	23:20:00	1.536
100YrSCS24+20%	01/01/2019	23:30:00	1.536
100YrSCS24+20%	01/01/2019	23:40:00	1.536
100YrSCS24+20%	01/01/2019	23:50:00	1.536

;Rainfall (mm/hr)

25mmChicago4Hr	01/01/2019	00:00:00	0
25mmChicago4Hr	01/01/2019	00:10:00	1.5122
25mmChicago4Hr	01/01/2019	00:20:00	1.7483
25mmChicago4Hr	01/01/2019	00:30:00	2.0803
25mmChicago4Hr	01/01/2019	00:40:00	2.5819
25mmChicago4Hr	01/01/2019	00:50:00	3.4597
25mmChicago4Hr	01/01/2019	01:00:00	5.3924
25mmChicago4Hr	01/01/2019	01:10:00	13.4405
25mmChicago4Hr	01/01/2019	01:20:00	56.6613
25mmChicago4Hr	01/01/2019	01:30:00	17.7634
25mmChicago4Hr	01/01/2019	01:40:00	9.1177
25mmChicago4Hr	01/01/2019	01:50:00	6.1375
25mmChicago4Hr	01/01/2019	02:00:00	4.6474
25mmChicago4Hr	01/01/2019	02:10:00	3.7548
25mmChicago4Hr	01/01/2019	02:20:00	3.1647
25mmChicago4Hr	01/01/2019	02:30:00	2.7442
25mmChicago4Hr	01/01/2019	02:40:00	2.427
25mmChicago4Hr	01/01/2019	02:50:00	2.1762
25mmChicago4Hr	01/01/2019	03:00:00	1.977
25mmChicago4Hr	01/01/2019	03:10:00	1.8147
25mmChicago4Hr	01/01/2019	03:20:00	1.6819
25mmChicago4Hr	01/01/2019	03:30:00	1.5639
25mmChicago4Hr	01/01/2019	03:40:00	1.468
25mmChicago4Hr	01/01/2019	03:50:00	1.3795
25mmChicago4Hr	01/01/2019	04:00:00	1.3057

[REPORT]

;Reporting Options

INPUT YES
CONTROLS NO
SUBCATCHMENTS ALL
NODES ALL
LINKS ALL

[TAGS]

Node	PUMP_CHAMBER	Minor
Node	STM_CB09	Minor
Node	STM_CB10	Minor
Node	STM_CB109	Minor
Node	STM_CB111	Minor
Node	STM_CB17	Minor
Node	STM_CB18	Minor
Node	STM_CB19	Minor
Node	STM_CB20	Minor
Node	STM_CB21	Minor
Node	STM_CBMH01	Minor
Node	STM_CBMH02	Minor
Node	STM_CBMH03	Minor
Node	STM_CBMH04	Minor
Node	STM_CBMH05	Minor
Node	STM_CBMH06	Minor
Node	STM_CBMH07	Minor
Node	STM_CBMH08	Minor
Node	STM_CBMH102	Minor
Node	STM_CBMH103	Minor
Node	STM_CBMH104	Minor
Node	STM_CBMH105	Minor
Node	STM_CBMH106	Minor
Node	STM_CBMH107	Minor
Node	STM_CBMH108	Minor
Node	STM_CBMH11	Minor
Node	STM_CBMH12	Minor
Node	STM_CBMH13	Minor
Node	STM_CBMH14	Minor
Node	STM_CBMH15	Minor
Node	STM_CBMH16	Minor
Node	STM_MH01	Minor
Node	STM_MH02	Minor
Node	STM_MH03	Minor
Node	STM_MH04	Minor
Node	STM_MH05	Minor
Node	STM_MH06	Minor
Node	STM_MH07	Minor
Node	STM_MH08	Minor
Node	STM_MH09	Minor
Node	STM_MH101	Minor
Node	STM_MH110	Minor
Node	TREATMENT_UNIT_1	Minor
Link	C1	Maj
Link	C10	Maj
Link	C11	Maj
Link	C12	Maj
Link	C13	Maj
Link	C14	Maj
Link	C15	Maj

Link	C16	Maj
Link	C2	Maj
Link	C3	Maj
Link	C4	Maj
Link	C5	Maj
Link	C6	Maj
Link	C7	Maj
Link	C8	Maj
Link	C9	Maj
Link	Out	Minor
Link	Pipe_-_03	Minor
Link	Pipe_-_04	Minor
Link	Pipe_-_05	Minor
Link	Pipe_-_06	Minor
Link	Pipe_-_07	Minor
Link	Pipe_-_08	Minor
Link	Pipe_-_09	Minor
Link	Pipe_-_10	Minor
Link	Pipe_-_100	Minor
Link	Pipe_-_101	Minor
Link	Pipe_-_102	Minor
Link	Pipe_-_103	Minor
Link	Pipe_-_104	Minor
Link	Pipe_-_105	Minor
Link	Pipe_-_106	Minor
Link	Pipe_-_107	Minor
Link	Pipe_-_108	Minor
Link	Pipe_-_109	Minor
Link	Pipe_-_11	Minor
Link	Pipe_-_110	Minor
Link	Pipe_-_12	Minor
Link	Pipe_-_29	Minor
Link	Pipe_-_30	Minor
Link	Pipe_-_31	Minor
Link	Pipe_-_32	Minor
Link	Pipe_-_33	Minor
Link	Pipe_-_34	Minor
Link	Pipe_-_35	Minor
Link	Pipe_-_36	Minor
Link	Pipe_-_37	Minor
Link	Pipe_-_38	Minor
Link	Pipe_-_39	Minor
Link	Pipe_-_40	Minor
Link	Pipe_-_41	Minor
Link	Pipe_-_42	Minor
Link	Pipe_-_43	Minor
Link	Pipe_-_44	Minor
Link	Pipe_-_45	Minor
Link	Pipe_-_46	Minor
Link	Pipe_-_47	Minor
Link	Ponds	Minor
Link	Pipe_-_13	Minor
Link	Pipe_-_14	Minor
Link	Pipe_-_15	Minor
Link	Pipe_-_16	Minor
Link	Pipe_-_17	Minor
Link	Pipe_-_18	Minor

Link	Pipe_-_19	Minor
Link	Pipe_-_20	Minor
Link	Pipe_-_21	Minor
Link	Pipe_-_22	Minor
Link	Pipe_-_23	Minor
Link	Pipe_-_24	Minor
Link	Pipe_-_25	Minor
Link	Pipe_-_26	Minor
Link	Pipe_-_27	Minor
Link	Pipe_-_28	Minor

[MAP]

DIMENSIONS	387137.50125	5022963.37325	387684.59175	5023546.56575
UNITS	Meters			

[COORDINATES]

;;Node	X-Coord	Y-Coord
;;-----	-----	-----
J1	387180.602	5023391.565
J2	387335.38	5022995.436
J3	387428.523	5023031.829
OF3	387242.977	5023213.605
Out	387633.642	5023242.746
PUMP_CHAMBER	387268.611	5023444.736
STM_CB09	387332.11	5023248.803
STM_CB10	387375.735	5023253.13
STM_CB109	387518.063	5023106.554
STM_CB111	387476.937	5023312.161
STM_CB17	387258.496	5023377.169
STM_CB18	387291.823	5023291.875
STM_CB19	387331.68	5023189.868
STM_CB20	387353.842	5023133.148
STM_CB21	387376.035	5023076.348
STM_CBMH01	387404.238	5023063.988
STM_CBMH02	387443.626	5023079.373
STM_CBMH03	387385.496	5023111.956
STM_CBMH04	387424.885	5023127.337
STM_CBMH05	387363.363	5023168.818
STM_CBMH06	387402.671	5023184.192
STM_CBMH07	387345.401	5023214.789
STM_CBMH08	387384.71	5023230.158
STM_CBMH102	387400.34	5023408.029
STM_CBMH103	387414.565	5023371.622
STM_CBMH104	387432.762	5023325.05
STM_CBMH105	387449.13	5023282.975
STM_CBMH106	387465.049	5023242.233
STM_CBMH107	387483.246	5023195.662
STM_CBMH108	387501.443	5023149.091
STM_CBMH11	387311.248	5023302.198
STM_CBMH12	387350.56	5023317.56
STM_CBMH13	387290.052	5023356.444
STM_CBMH14	387329.371	5023371.791
STM_CBMH15	387268.319	5023412.068
STM_CBMH16	387307.651	5023427.379
STM_MH01	387415.641	5023068.437
STM_MH02	387396.899	5023116.406
STM_MH03	387374.685	5023173.257

STM_MH04	387356.725	5023219.223
STM_MH05	387343.458	5023253.18
STM_MH06	387322.575	5023306.626
STM_MH07	387301.375	5023360.884
STM_MH08	387279.666	5023416.444
STM_MH09	387275.718	5023426.548
STM_MH101	387370.401	5023463.544
STM_MH110	387464.836	5023289.112
SURF-WS-17	387247.252	5023215.406
SWM_Out	387199.254	5023438.675
TREATMENT_UNIT_1	387273.117	5023433.204
WS-01A-Lead	387463.104	5023086.999
WS-02A-Lead	387382.727	5023055.573
WS-03A-Lead	387444.363	5023134.963
WS-04A-Lead	387363.983	5023103.547
WS-05A-Lead	387422.135	5023191.797
WS-06A-Lead	387341.85	5023160.409
WS-07A-Lead	387404.16	5023237.757
WS-08A-Lead	387323.876	5023206.365
WS-11A-Lead	387369.981	5023325.145
WS-12A-Lead	387289.689	5023293.776
WS-13A-Lead	387348.774	5023379.369
WS-14A-Lead	387268.482	5023347.997
WS-15A-Lead	387327.047	5023434.921
WS-16A-Lead	387246.724	5023403.63
OF1	387165.653	5023467.838
OF2	387638.696	5023246.422
OF4	387239.293	5023212.144
POND-1	387284.107	5023474.415
POND-2	387407.252	5023423.406
POND-3	387605.252	5023233.406
SURF-WS-01	387444.252	5023079.406
SURF-WS-02	387405.065	5023064.895
SURF-WS-03	387425.252	5023128.406
SURF-WS-04	387386.252	5023112.406
SURF-WS-05	387403.299	5023184.928
SURF-WS-06	387364.252	5023169.406
SURF-WS-07	387384.725	5023230.688
SURF-WS-08	387346.252	5023215.406
SURF-WS-09	387376.252	5023253.406
SURF-WS-10	387332.252	5023249.406
SURF-WS-11	387351.252	5023317.406
SURF-WS-12	387311.252	5023303.406
SURF-WS-13	387329.252	5023372.406
SURF-WS-14	387290.252	5023357.406
SURF-WS-15	387308.252	5023427.406
SURF-WS-16	387268.892	5023412.575
SURF-WS-18	387400.252	5023409.928
SURF-WS-19	387415.252	5023371.928
SURF-WS-20	387433.252	5023325.928
SURF-WS-21	387450.252	5023283.928

[VERTICES]

;Link	X-Coord	Y-Coord
;-----	-----	-----
C16	387256.659	5023449.844
Pipe_-_29	387290.205	5023389.487

Pipe_-_30	387323.529	5023304.206
Pipe_-_31	387363.371	5023202.174
Pipe_-_32	387385.577	5023145.435
Pipe_-_33	387407.765	5023088.539
Ponds	387356.466	5023486.577
OR18	387241.177	5023461.426
W1	387244.542	5023215.905
W2	387621.611	5023243.648
W3	387241.52	5023463.672

[POLYGONS]

;;Subcatchment	X-Coord	Y-Coord
;;-----	-----	-----
WS-01	387438.828	5023039.111
WS-01	387417.812	5023092.658
WS-01	387455.152	5023107.246
WS-01	387455.712	5023105.947
WS-01	387466.814	5023077.561
WS-01	387489.523	5023086.443
WS-01	387496.487	5023068.619
WS-01	387461.132	5023048.488
WS-01	387450.398	5023043.636
WS-01	387438.828	5023039.111
WS-01A	387466.814	5023077.561
WS-01A	387455.718	5023105.958
WS-01A	387501.134	5023123.712
WS-01A	387512.23	5023095.315
WS-01A	387466.814	5023077.561
WS-02	387417.812	5023092.658
WS-02	387438.828	5023039.111
WS-02	387427.709	5023034.762
WS-02	387373.154	5023013.425
WS-02	387368.851	5023024.428
WS-02	387391.56	5023033.309
WS-02	387380.482	5023061.681
WS-02	387374.881	5023075.878
WS-02	387417.812	5023092.658
WS-02A	387380.458	5023061.695
WS-02A	387391.553	5023033.298
WS-02A	387346.139	5023015.54
WS-02A	387335.043	5023043.938
WS-02A	387380.458	5023061.695
WS-03	387417.802	5023092.682
WS-03	387395.627	5023149.438
WS-03	387432.964	5023164.033
WS-03	387433.508	5023162.72
WS-03	387455.196	5023107.265
WS-03	387417.802	5023092.682
WS-03A	387455.115	5023107.233
WS-03A	387433.441	5023162.702
WS-03A	387478.935	5023180.487
WS-03A	387501.12	5023123.707
WS-03A	387455.717	5023105.963
WS-03A	387455.115	5023107.233
WS-04	387395.627	5023149.438
WS-04	387417.802	5023092.682
WS-04	387374.881	5023075.878

WS-04	387358.253	5023118.468
WS-04	387352.706	5023132.662
WS-04	387395.627	5023149.438
WS-04A	387358.253	5023118.468
WS-04A	387380.446	5023061.669
WS-04A	387335.034	5023043.919
WS-04A	387312.841	5023100.718
WS-04A	387358.253	5023118.468
WS-05	387395.627	5023149.438
WS-05	387373.441	5023206.218
WS-05	387410.781	5023220.807
WS-05	387411.287	5023219.485
WS-05	387433.508	5023162.72
WS-05	387432.966	5023164.027
WS-05	387395.627	5023149.438
WS-05A	387456.729	5023237.263
WS-05A	387478.917	5023180.475
WS-05A	387433.508	5023162.72
WS-05A	387411.319	5023219.507
WS-05A	387456.729	5023237.263
WS-06	387395.627	5023149.438
WS-06	387352.684	5023132.654
WS-06	387330.517	5023189.441
WS-06	387373.441	5023206.218
WS-06	387395.627	5023149.438
WS-06A	387324.947	5023203.626
WS-06A	387330.492	5023189.431
WS-06A	387352.684	5023132.653
WS-06A	387358.253	5023118.468
WS-06A	387312.836	5023100.745
WS-06A	387279.515	5023185.857
WS-06A	387324.947	5023203.626
WS-07	387360.85	5023238.412
WS-07	387391.122	5023243.637
WS-07	387391.122	5023243.637
WS-07	387391.25	5023243.34
WS-07	387391.399	5023243.052
WS-07	387391.566	5023242.775
WS-07	387391.752	5023242.51
WS-07	387391.956	5023242.258
WS-07	387392.176	5023242.021
WS-07	387392.412	5023241.799
WS-07	387392.663	5023241.594
WS-07	387392.927	5023241.406
WS-07	387393.203	5023241.237
WS-07	387393.49	5023241.087
WS-07	387393.787	5023240.958
WS-07	387394.092	5023240.848
WS-07	387394.403	5023240.76
WS-07	387394.72	5023240.693
WS-07	387395.041	5023240.648
WS-07	387395.364	5023240.625
WS-07	387395.688	5023240.624
WS-07	387396.011	5023240.646
WS-07	387396.332	5023240.689
WS-07	387396.649	5023240.754
WS-07	387396.961	5023240.84

WS-07	387397.266	5023240.948
WS-07	387402.163	5023242.863
WS-07	387410.788	5023220.81
WS-07	387373.446	5023206.205
WS-07	387360.85	5023238.412
WS-07A	387400.201	5023247.878
WS-07A	387445.619	5023265.641
WS-07A	387456.721	5023237.255
WS-07A	387411.278	5023219.506
WS-07A	387410.781	5023220.807
WS-07A	387402.163	5023242.863
WS-07A	387400.201	5023247.878
WS-08	387360.85	5023238.412
WS-08	387373.443	5023206.213
WS-08	387330.517	5023189.441
WS-08	387324.947	5023203.626
WS-08	387315.806	5023226.997
WS-08	387320.703	5023228.912
WS-08	387360.85	5023238.412
WS-08A	387313.845	5023232.012
WS-08A	387324.941	5023203.615
WS-08A	387279.525	5023185.861
WS-08A	387268.429	5023214.258
WS-08A	387313.845	5023232.012
WS-09	387391.122	5023243.637
WS-09	387360.85	5023238.412
WS-09	387352.062	5023260.879
WS-09	387386.714	5023267.928
WS-09	387391.611	5023269.843
WS-09	387393.572	5023264.828
WS-09	387416.281	5023273.709
WS-09	387422.91	5023256.76
WS-09	387400.201	5023247.878
WS-09	387402.163	5023242.861
WS-09	387397.266	5023240.948
WS-09	387396.961	5023240.84
WS-09	387396.649	5023240.754
WS-09	387396.332	5023240.689
WS-09	387396.011	5023240.646
WS-09	387395.688	5023240.624
WS-09	387395.364	5023240.625
WS-09	387395.041	5023240.648
WS-09	387394.72	5023240.693
WS-09	387394.403	5023240.76
WS-09	387394.092	5023240.848
WS-09	387393.787	5023240.958
WS-09	387393.49	5023241.087
WS-09	387393.203	5023241.237
WS-09	387392.927	5023241.406
WS-09	387392.663	5023241.594
WS-09	387392.412	5023241.799
WS-09	387392.176	5023242.021
WS-09	387391.956	5023242.258
WS-09	387391.752	5023242.51
WS-09	387391.566	5023242.775
WS-09	387391.399	5023243.052
WS-09	387391.25	5023243.34

WS-09	387391.122	5023243.637
WS-10	387360.85	5023238.412
WS-10	387320.703	5023228.912
WS-10	387315.806	5023226.997
WS-10	387313.845	5023232.012
WS-10	387291.136	5023223.131
WS-10	387284.507	5023240.08
WS-10	387307.216	5023248.962
WS-10	387305.254	5023253.977
WS-10	387310.01	5023255.837
WS-10	387338.265	5023273.218
WS-10	387338.197	5023273.411
WS-10	387338.143	5023273.609
WS-10	387338.101	5023273.809
WS-10	387338.074	5023274.012
WS-10	387338.061	5023274.217
WS-10	387338.061	5023274.422
WS-10	387338.076	5023274.626
WS-10	387338.104	5023274.829
WS-10	387338.147	5023275.029
WS-10	387338.202	5023275.226
WS-10	387338.272	5023275.419
WS-10	387338.354	5023275.607
WS-10	387338.448	5023275.788
WS-10	387338.555	5023275.963
WS-10	387338.674	5023276.13
WS-10	387338.804	5023276.289
WS-10	387338.944	5023276.438
WS-10	387339.094	5023276.577
WS-10	387339.253	5023276.706
WS-10	387339.421	5023276.824
WS-10	387339.596	5023276.93
WS-10	387339.778	5023277.024
WS-10	387339.967	5023277.105
WS-10	387339.967	5023277.105
WS-10	387344.954	5023279.055
WS-10	387352.062	5023260.879
WS-10	387360.85	5023238.412
WS-11	387359.393	5023352.216
WS-11	387360.257	5023349.991
WS-11	387391.605	5023269.84
WS-11	387386.714	5023267.928
WS-11	387352.062	5023260.879
WS-11	387344.954	5023279.055
WS-11	387322.073	5023337.634
WS-11	387359.375	5023352.209
WS-11	387359.393	5023352.216
WS-11A	387405.695	5023367.754
WS-11A	387438.978	5023282.586
WS-11A	387393.569	5023264.827
WS-11A	387391.605	5023269.84
WS-11A	387360.287	5023350.003
WS-11A	387405.695	5023367.754
WS-12	387322.073	5023337.634
WS-12	387344.954	5023279.055
WS-12	387339.967	5023277.105
WS-12	387339.778	5023277.024

WS-12	387339.596	5023276.93
WS-12	387339.421	5023276.824
WS-12	387339.253	5023276.706
WS-12	387339.094	5023276.577
WS-12	387338.944	5023276.438
WS-12	387338.804	5023276.289
WS-12	387338.674	5023276.13
WS-12	387338.555	5023275.963
WS-12	387338.448	5023275.788
WS-12	387338.354	5023275.607
WS-12	387338.272	5023275.419
WS-12	387338.202	5023275.226
WS-12	387338.147	5023275.029
WS-12	387338.104	5023274.829
WS-12	387338.076	5023274.626
WS-12	387338.061	5023274.422
WS-12	387338.061	5023274.217
WS-12	387338.074	5023274.012
WS-12	387338.101	5023273.809
WS-12	387338.143	5023273.609
WS-12	387338.197	5023273.411
WS-12	387338.265	5023273.218
WS-12	387338.265	5023273.218
WS-12	387310.01	5023255.837
WS-12	387305.234	5023253.999
WS-12	387285.008	5023305.733
WS-12	387279.159	5023320.706
WS-12	387322.073	5023337.634
WS-12A	387285.01	5023305.728
WS-12A	387307.196	5023248.946
WS-12A	387261.789	5023231.194
WS-12A	387239.603	5023287.976
WS-12A	387285.01	5023305.728
WS-13	387337.538	5023408.097
WS-13	387338.061	5023406.758
WS-13	387359.375	5023352.209
WS-13	387322.073	5023337.634
WS-13	387300.236	5023393.522
WS-13	387337.538	5023408.097
WS-13A	387405.673	5023367.75
WS-13A	387360.244	5023349.986
WS-13A	387359.375	5023352.209
WS-13A	387338.062	5023406.758
WS-13A	387383.49	5023424.522
WS-13A	387396.443	5023391.377
WS-13A	387405.673	5023367.75
WS-14	387279.102	5023320.844
WS-14	387262.828	5023362.495
WS-14	387257.274	5023376.708
WS-14	387300.236	5023393.522
WS-14	387322.073	5023337.634
WS-14	387279.102	5023320.844
WS-14A	387262.807	5023362.507
WS-14A	387279.088	5023320.839
WS-14A	387284.996	5023305.72
WS-14A	387239.586	5023287.964
WS-14A	387217.397	5023344.751

WS-14A	387262.807	5023362.507
WS-15	387339.589	5023469.805
WS-15	387349.671	5023444.027
WS-15	387326.959	5023435.145
WS-15	387337.538	5023408.097
WS-15	387300.222	5023393.502
WS-15	387279.561	5023446.327
WS-15	387339.589	5023469.805
WS-15A	387372.368	5023452.908
WS-15A	387383.478	5023424.549
WS-15A	387338.049	5023406.789
WS-15A	387337.538	5023408.097
WS-15A	387326.959	5023435.144
WS-15A	387372.368	5023452.908
WS-16	387257.256	5023376.7
WS-16	387240.603	5023419.279
WS-16	387226.465	5023413.75
WS-16	387223.108	5023422.148
WS-16	387239.837	5023428.691
WS-16	387242.06	5023429.688
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WS-16	387261.158	5023439.13
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WS-28	387192.902	5023436.369
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WS-28	387193.112	5023436.849
WS-28	387193.194	5023437.004
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WS-28	387193.372	5023437.304

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WS-28	387193.571	5023437.591
WS-28	387193.678	5023437.729
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WS-28	387194.026	5023438.12
WS-28	387194.151	5023438.242
WS-28	387194.28	5023438.36
WS-28	387194.414	5023438.473
WS-28	387194.551	5023438.581
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WS-28	387194.836	5023438.783
WS-28	387194.983	5023438.876
WS-28	387195.134	5023438.964
WS-28	387333.968	5023516.803
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WS-29	387504.04	5023181.305
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WS-29	387659.724	5023176.29
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WS-29	387627.834	5023140.388
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WS-29	387537.44	5023089.657
WS-29	387505.551	5023171.158
WS-29	387504.04	5023181.305
WS-30	387492.187	5023331.722
WS-30	387495.023	5023330.24
WS-30	387463.92	5023270.738
WS-30	387478.021	5023239.306
WS-30	387504.04	5023181.305
WS-30	387505.551	5023171.158
WS-30	387502.96	5023172.292
WS-30	387502.897	5023172.453
WS-30	387498.986	5023170.923
WS-30	387498.953	5023170.911
WS-30	387498.92	5023170.9
WS-30	387498.886	5023170.89
WS-30	387498.852	5023170.881
WS-30	387498.818	5023170.874
WS-30	387498.784	5023170.868
WS-30	387498.75	5023170.862
WS-30	387498.715	5023170.859
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WS-30	387498.645	5023170.855
WS-30	387498.61	5023170.854
WS-30	387498.575	5023170.855
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WS-30	387498.471	5023170.866
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WS-30	387498.403	5023170.878
WS-30	387498.369	5023170.887
WS-30	387498.335	5023170.896
WS-30	387498.302	5023170.907
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WS-30	387498.236	5023170.931

WS-30	387498.204	5023170.945
WS-30	387498.173	5023170.96
WS-30	387498.142	5023170.977
WS-30	387498.112	5023170.994
WS-30	387498.082	5023171.012
WS-30	387498.053	5023171.031
WS-30	387498.025	5023171.052
WS-30	387497.997	5023171.073
WS-30	387497.97	5023171.095
WS-30	387497.944	5023171.119
WS-30	387497.919	5023171.143
WS-30	387497.894	5023171.168
WS-30	387497.871	5023171.193
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WS-30	387497.827	5023171.247
WS-30	387497.806	5023171.276
WS-30	387497.786	5023171.304
WS-30	387497.767	5023171.334
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WS-30	387497.733	5023171.395
WS-30	387497.718	5023171.426
WS-30	387497.703	5023171.458
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WS-30	387496.491	5023174.511
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WS-30	387478.294	5023221.082
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WS-30	387460.411	5023266.815
WS-30	387460.347	5023267.009
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WS-30	387460.237	5023267.404
WS-30	387460.193	5023267.604
WS-30	387460.155	5023267.806
WS-30	387460.124	5023268.009
WS-30	387460.1	5023268.212
WS-30	387460.083	5023268.417
WS-30	387460.074	5023268.622
WS-30	387460.071	5023268.827
WS-30	387460.075	5023269.032
WS-30	387460.086	5023269.236
WS-30	387460.104	5023269.441
WS-30	387460.129	5023269.644
WS-30	387460.161	5023269.847
WS-30	387460.2	5023270.048
WS-30	387460.246	5023270.248
WS-30	387460.299	5023270.446
WS-30	387460.358	5023270.642
WS-30	387460.424	5023270.837
WS-30	387460.497	5023271.028
WS-30	387460.576	5023271.218
WS-30	387460.661	5023271.404
WS-30	387460.753	5023271.587
WS-30	387470.229	5023289.715
WS-30	387492.187	5023331.722

[SYMBOLS]

; ;Gage

X-Coord

Y-Coord

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[PROFILES]

;;Name

Links

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"Main Trunk " Pipe_-_03 Pipe_-_04 Pipe_-_05 Pipe_-_06 Pipe_-_07

"Main Trunk " Pipe_-_08 Pipe_-_09 Pipe_-_10 Pipe_-_11 Pipe_-_12

"Main Trunk " Pipe_-_28 Pipe_-_47

"Secondary Trunk " P1 Pipe_-_03 Pipe_-_04 Pipe_-_100 Pipe_-_101

"Secondary Trunk " Pipe_-_102 Pipe_-_103 Pipe_-_104 Pipe_-_107 Pipe_-_108

"Secondary Trunk " Pipe_-_109 Pipe_-_110