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FUNCTIONAL SERVICING & STORMWATER MANAGEMENT REPORT

5150 NINTH LINE

CITY OF MISSISSAUGA

REGION OF PEEL

PREPARED FOR
MATTAMY HOMES

Urbantech File No.: 19-608

2ND SUBMISSION – MAY 2020

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1 INTRODUCTION

1.1. BACKGROUND

This report provides functional servicing design and stormwater management information in support of the site plan application for the proposed residential development located at 5150 Ninth Line, hereafter referred to as the subject property.

The development concepts contained in this report are an extension of the information contained within the following reports:

- Ninth Line South Urban Design Study by NAK Design Strategies (2019)
- Ninth Line Lands Scoped Subwatershed Study by Wood (2018)
- Ninth Line Lands: Servicing Strategy Report by Region of Peel (2016)

This study presents the recommended stormwater management and municipal servicing scheme for the development of the subject property. This report is also applicable for any future revisions to the site plan, assuming the revisions are minor and in general conformance with the concepts outlined herein.

The information presented in this report conforms to the following guidelines:

- City of Mississauga T&W Development Requirements
- Region of Peel Public Works Design, Specifications & Procedures Manual
- Stormwater Management Planning and Design Manual by the Ministry of Environment (MOE)

1.2. SUBJECT PROPERTY

The subject property is approximately 4.33 ha in size including the 10m setback and MTO buffer, and 3.85 ha not including these features. The site currently consists mainly of agricultural land with a veterinary hospital and various residential properties. The site is bounded by an existing woodlot to the north, Ninth Line to the east, a holdout property to the south and Highway 407 ETR to the west.

1.3. LAND USE

The proposed land use consists of primarily low-rise residential (180 townhouses) with supporting roads and amenity spaces. A public right-of-way is proposed to connect to Ninth Line which will ultimately extend through the properties to the south. The western portion of the property is designated as a future transitway corridor.

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2 GRADING & ROADS

The site grading design considers the following objectives and constraints:

- Conform to City of Mississauga grading criteria
- Match existing boundary conditions
- Minimize cut and fill operations and work towards a balanced site
- Provide overland flow conveyance for major storm conditions
- Provide minimum cover on proposed servicing

A retaining wall is proposed along the south property limit of the adjacent holdout property, 5170 Ninth Line. This is unavoidable due to constraints with required grading of the public road and the maximum allowable grade difference across the proposed townhouse units in relation to the high existing ground on the adjacent property. In accordance with City standards, the wall will feature a fence on top.

Noise barriers are proposed for Blocks 4, 8 and 25, in accordance with recommendations prepared by YCA Engineering. Refer to the Acoustic Report for further information. In some cases, an acoustic fence on top of retaining wall is required to achieve the total barrier height.

A public 20m right-of-way is proposed in accordance with City standard 2211.070 which will connect to Ninth Line. Prior to completion of the Ninth Line EA and road widening (estimated construction date of 2023), the public road will match into the existing pavement and curbs. The proposed public right-of-way will be extended south through the future developments west of Ninth Line.

Typical condo roads will feature 7m wide pavement and are sized sufficiently to accommodate proposed services and utilities, as well as to convey overland flow for major storm conditions. Where on street parking is required, wider pavement is proposed to accommodate two travel lanes in addition to a parking lane.

Refer to **Drawing 1**, "*Site Grading,*" and **Drawings 2** & **2A**, "*Grading Cross Sections*," for additional grading details.

Refer to **Drawing 4**, "*ROW Cross Sections*," for additional details regarding rights-of-way and typical cross sections.

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3 STORM SERVICING AND STORMWATER MANAGEMENT

3.1. PC SWMM MODELLING APPROACH

A PC SWMM model was selected in place of the previously completed Visual OTTHYMO model to provide a better evaluation of the existing target flows, system performance and the impact of post-development conditions on the existing storm infrastructure on Ninth Line. The PC SWMM model can better assess the system hydraulics and major and minor system flows on the Ninth Line ROW.

PCSWMM includes several hydrology methods to simulate rainfall-runoff responses. The hydrology method selected for this study is the Rainfall/Runoff process simulation with dynamic flow routing for the hydraulic component (i.e. pipes / overland flow). The 4-hour Chicago design storm distribution with five-minute time steps was considered appropriate to use for the site since it will have a high peak and provide more conservative flows. The City of Mississauga intensity-duration-frequency (IDF) curves were used to develop the design storm time series. Refer to **Section 3.2** and **Section 3.3** for further information used in establishing existing and proposed subcatchment, major and minor system characteristics.

A dual drainage model was developed for subject lands, including the existing Ninth Line right-of-way and sewers. The interaction between the major and minor system flow was modelled by using catchbasin capture curves from *City of Toronto Infoworks CB Basement Flooding Model Studies Guidelines (October 2014)*. Capture curves represent the amount of flow captured into the minor system based on major system flow depths. Flat grade horizontal bar fishbone, gentle grade horizontal bar fishbone and sag horizontal bar fishbone curves were utilized where appropriate on the Ninth Line ROW and in the proposed development area. The catchbasin curves are multiplied by the number of catchbasins in each ROW segment to get the total captured flow to the minor system. Refer to **Appendix A** for additional information.

3.2. EXISTING STORM DRAINAGE

The site is within the Credit Valley Conservation Authority jurisdiction, within the Sawmill Creek Subwatershed. There are no regulated features on the subject lands, although the woodlot and wetlands to the north of the property are regulated features.

Existing drainage patterns for the subject property are shown on **Drawing 5A**, "*Existing Storm Drainage*." The majority of the property, as well as the woodlot to the north of the site drains to the existing storm sewers on Ninth Line via several existing culverts, street catchbasins and ditch inlet catchbasins. The Ninth Line storm sewers appear to be adequately sized to convey the 10-year storm event from the contributing areas. Included in the **Appendix A** are 10-year and 100-year HGL for the existing condition. The southwest portion of the subject property drains southwards overland to an existing storm sewer at Eglinton Avenue (total catchment area to Eglinton is approximately 8.5 ha).

As noted above, a PC SWMM model was created to simulate the various return period event flows from the site including the external areas and Ninth Line ROW. Since Ninth Line is the outfall for the subject lands (including the 750mm storm sewer immediately south of the subject property),

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the model includes a minor, major and total combined flow location for comparison purposes. The summary of flows was provided at three locations. Refer to **Appendix A** for PC SWMM Plan and MH locations.

System Performance Nodes and Corresponding Existing Areas

Minor System		Major System		Location
Junction Name	**Existing Upstream Drainage Area (ha)**	**Junction Name**	**Existing Upstream Drainage Area (ha)**	**Location**
EX_STM_MH4	4.45	**EX_STM_MH4-S**	4.45	Upstream of proposed site
EX_MH1	15.36	**EX_MH1-S**	15.36	Proposed Site Storm Sewer Connection
EX_STM_MH5	17.83	**EX_STM_MH5-S**	17.83	Downstream of proposed site

The infiltration model used in the PC SWMM was the SCS curve number (CN) approach. Model parameters were based on available land use / soil information and measurements. The following table provides the PC SWMM model input for the existing conditions simulation.

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Existing Conditions Model Parameters

Area Description	Area [ha]	Surface slope [%]	Soil Group	Land Use	Curve Number	Initial Abstractions Pervious/ impervious [mm]
External "east" woodlot area and portion of 5170 Ninth Line	2.51	1	C	20% Meadow / 80% Forest	74	5
External "west" woodlot and agricultural area on 5150 Ninth Line	10.25	2.5	C	20% Meadow / 80% Forest	74	5
Existing drainage on 5150 and 5104 Ninth Line	2.04	1.5	C	20% Meadow / 80% Forest	82	5
5170 Ninth Line frontage on Ninth Line	0.35	1.5	C	75% IMP	74	5 / 1
5150 Ninth Line frontage on Ninth Line	0.29	1.5	C	50% IMP	74	5 / 1
Ninth Line ROW to existing 750mm storm sewer	1.81	1.8	C	70% IMP	74	5 / 1

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Based on the existing conditions model results, the following major, minor, and total system flows are provided in tables below based on the major and minor system nodes.

Existing Major and Minor System Flow

Design Event	Minor System Peak Flow [m^3/s]	Major System Peak Flow [m^3/s]	Minor System Peak Flow [m^3/s]	Major System Peak Flow [m^3/s]	Minor System Peak Flow [m^3/s]	Major System Peak Flow [m^3/s]
	EX_STM_MH4	EX_STM_MH4-S	EX_MH1	EX_MH1-S	EX_STM_MH5	EX_STM_MH5-S
25mm 4hr storm	0.08	0.1	0.1	0.13	0.27	0.12
(1) 2yr 4hr 5min Chicago	0.12	0.18	0.13	0.23	0.41	0.22
(2) 5yr 4hr 5min Chicago	0.16	0.26	0.18	0.35	0.59	0.33
(3) 10yr 4hr 5min Chicago	0.19	0.35	0.22	0.74	0.79	0.48
(4) 25yr 4hr 5min Chicago	0.23	0.42	0.27	1.01	0.97	0.60
(5) 50yr 4hr 5min Chicago	0.25	0.49	0.30	0.96	1.13	0.68
(6) 100yr 4hr 5min Chicago	0.27	0.57	0.34	1.03	1.26	0.77

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Total Existing System Flow

Design Event	Total System Peak Flow [m^3/s]	Total System Peak Flow [m^3/s]	Total System Peak Flow [m^3/s]
	EX_STM_MH4	EX_MH1	EX_STM_MH5
25 mm 4hr storm	0.18	0.23	0.39
(1) 2yr 4hr 5min Chicago	0.3	0.36	0.63
(2) 5yr 4hr 5min Chicago	0.42	0.53	0.92
(3) 10yr 4hr 5min Chicago	0.54	0.96	1.27
(4) 25yr 4hr 5min Chicago	0.65	1.28	1.57
(5) 50yr 4hr 5min Chicago	0.74	1.26	1.81
(6) 100yr 4hr 5min Chicago	0.84	1.37	2.03

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The validity of the existing conditions model was assessed through comparison to the existing studies for the subject lands. The Ninth Line Lands Scoped Subwatershed Study by Wood (2018) established the following criteria for new pre-development flow targets in the Sawmill Creek watershed (for the overall Ninth Line study area between Ninth Line and Highway 407). Please refer to the excerpt from the SWS below:

Table 2.2.2 Stormwater Management Facility Sizing Criteria for Flood Control – Sixteen Mile Creek Watershed		
Quantity Component	Cumulative Unitary Volume[1.] (m^3/impervious ha)	Unitary Discharge (m^3/s/ha)
Sawmill Creek Subwatershed		
5 Year	500	0.015
100 Year	800	0.050

While the subwatershed study flows are generally calculated using continuous modelling and frequency analysis (and are typically lower than event-based modelling), it was found that the existing conditions unit rates calculated based on the existing PC SWMM model were generally higher than the subwatershed study results. This is due to a more detailed subcatchment discretization (more, smaller catchments = lower time to peak = higher flows) compared to the typically generalized, larger catchments used in the SWS study model.

Total Existing 5 Year flow at EX_MH1= 0.53 m^3/s
Total Area at EX_MH1= 15.36 ha
5 Year Unitary Discharge (PC SWMM) = **0.034 m^3/s/ha** (vs. 0.015 m^3/s/ha)

Total Existing 100 Year flow at EX_MH1= 1.37 m^3/s
Total Area at EX_MH1= 15.36 ha
5 Year Unitary Discharge (PC SWMM) = **0.089 m^3/s/ha** (vs. 0.050 m^3/s/ha)

Total Existing 5 Year flow at EX_STM_MH5= 0.92m^3/s
Total Area at EX_STM_MH5= 17.83ha
5 Year Unitary Discharge (PC SWMM) = **0.052 m^3/s/ha** (vs. 0.015 m^3/s/ha)

Total Existing 100 Year flow at EX_STM_MH5= 2.03 m^3/s
Total Area at EX_STM_MH5= 17.83 ha
5 Year Unitary Discharge (PC SWMM) = **0.11 m^3/s/ha** (vs. 0.050 m^3/s/ha)

It is recommended that the SWS consultant perform a verification analysis to demonstrate to the City that the target flows downstream continue to be met through provision of post-to-pre control on the subject lands.

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3.3. PROPOSED STORM SERVICING

The storm drainage concept for the site has been designed to maintain flows and contributing drainage areas to the existing outlets on the site where possible and meet the existing targets established in the preceding section. Storm sewers for the subject lands have been sized according to the City of Mississauga sewer design criteria.

Under proposed conditions, flows from a portion of the woodlot area will be conveyed through the subject lands and combined with flows from the subject lands. Woodlot drainage will be captured via DICB and into the private sewer. With proposed development there was an opportunity to grade the transition area north of the proposed site and woodlot. This area will provide natural storage, that will serve as flog ponds with cumulative volume of 150m^3. A sub-surface tank is proposed to control the post-development flows (and pre-development woodlot drainage) to acceptable rates such that the existing minor system flows on Ninth Line are not exceeded.

A portion of the subject lands isolated by the public ROW at the south-east corner of the property is not able to drain to the proposed tank. This area will discharge flows directly into the minor and major system. The proposed tank servicing the large portion of the property will overcontrol to allow this area to drain uncontrolled. Quality control will be provided by an oil-grit separator. The tank outlet and the south-east area will drain via a 525mm storm sewer connection to Existing MH1 on Ninth Line.

The proposed public ROW through the subject lands cannot be controlled by the proposed tank due to ownership issues; therefore, the public ROW will have separate quantity control via a superpipe, which will drain directly to the Ninth Line storm sewer. Water quality and quantity controls (oil-grit separator) will be provided independently from the site plan area for the public ROW.

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3.4. STORM WATER MANAGEMENT

The following section describes the SWM criteria applicable to the subject lands.

Water Balance / Recharge

In order to meet the design criteria described in the T&W Developments Requirements Manual, the first 5 mm of runoff should be retained on-site. An annual water balance was established to determine the runoff and infiltration volume under post development conditions with mitigation measures.

Based on the 4.23 ha site area, approximately 212m^3 of runoff should be infiltrated / retained on site.

Property	Proposed Drainage Area (ha)	Target Infiltration (m^3)	Total Trench Length, L (m)	Total Proposed Infiltration Volume (m^3)*
Private Development	3.45	212	504	217
Public ROW – Street A	0.78			

*Based on detail on Drawing 403, trench dimensions are 1.2m (W) x 0.9m (H). Porosity of storage layer assumed to be 0.4; therefore, volume=(L)x(W)x(H)x(0.4)

Details on infiltration trenches can be found on **Drawing 1 – Site Grading**.

The infiltration galleries are approximately 504m long. The clear stone can vary in depth from 450mm to 650mm with native soil backfill depth from 400mm to 600mm. Calculations assumed infiltration depth of 0.9m. Based on the minimum trench size, the water balance targets can be met. The trench design will be revisited when detailed hydrogeological information / groundwater levels become available.

Note that rooftops within the site plan area will be discharged to pervious areas as well, and calculations do not account for any infiltration provided by site pervious areas. which will enhance the overall water balance.

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Quality Control

Stormwater quality control for the future development within the Ninth Line Lands is required to control runoff to an "Enhanced" standard of treatment.

Oil/grit separators are proposed to provide quality treatment for the subject lands. The optimal placement (i.e. multiple units upstream of the storage tank or one large unit downstream) must be determined with the oil/grit separator suppliers. Furthermore, the tank itself may have pre-treatment cells for ease of maintenance and additional TSS removal. However, assuming the entire private site plan area discharges to a single O/GS at MH 24 (approximately 10 ha including the woodlot), an STC-14000 or equivalent would be required.

For the public ROW area (0.78 ha), an STC-2000 or equivalent would be required.

Quantity Control

The Ninth Line Lands Scoped Subwatershed Study by Wood (2018) established the following quantity control criteria for stormwater management. However, these targets represent a "total" flow rate and don't take into consideration the capacity of the minor system on Ninth Line. Therefore, the proposed approach to meeting the existing minor and major system targets based on the PC SWMM model is more appropriate in this case.

Table 2.2.2 Stormwater Management Facility Sizing Criteria for Flood Control – Sixteen Mile Creek Watershed

Quantity Component	Cumulative Unitary Volume[1.] (m^3/impervious ha)	Unitary Discharge (m^3/s/ha)
Sawmill Creek Subwatershed		
5 Year	500	0.015
100 Year	800	0.050

The post-development model simulates the proposed drainage strategy including a storage tank, uncontrolled drainage areas, public ROW, and remaining woodlot / external drainage. The ultimate development (including Phase 2) has been considered in the model.

The following table describes the post-development model catchments.

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Proposed Conditions Model Parameters

Area Description	Area [ha]	Surface slope [%]	Soil Group	Land Use	Curve Number	Initial Abstractions Pervious/ impervious [mm]
External "east" woodlot area and portion of 5170 Ninth Line	2.51	1	C	20% Meadow / 80% Forest	74	5
External "west" woodlot area to Tank	6.45	2.5	C	20% Meadow / 80% Forest	74	5
5170 Ninth Line frontage on Ninth Line	0.35	1.5	C	75% IMP	74	5 / 1
Site area to Tank	3.16	1.5	C	65% IMP	74	5 / 1
Public ROW	0.54	1.5	C	65% IMP	74	5 / 1
South-east site plan area to major / minor system	0.38	1.5	C	65% IMP	74	5 / 1
South-east site plan area to Ninth Line major system	0.07	1.5	C	65% IMP	74	5 / 1
Ninth Line ROW to existing 750mm storm sewer	1.81	1.8	C	70% IMP	74	5 / 1

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The following storage elements were simulated:

Frog Pond Surface Storage (discussed in Section 3.3)

Discharge [m^3/s]	Elevation [m]	Volume [m^3]
0	191	0
0	192	147
0.111 (max 100-year flow from woodlot)	192.26	150

The 100-year flow from the frog pond discharges into MH 0.111 m^3/s in the proposed development.

Underground storage tank (discharged based on preliminary 220mm orifice size)

Discharge [m^3/s]	Elevation [m]	Volume [m^3]
0	0	0
0.03	187	200
0.06	188	600
0.08	189	1200
0.11	191	2290

The underground storage tank is within the private / site plan portion of the development and will discharge via a 110mm circular orifice to an 525mm pipe which crosses beneath Street A and into the private site plan area at the south-east corner of the site, which ultimately drains to EX_MH1 on Ninth Line.

"Superpipe" Storage (public ROW)

Discharge [m^3/s]	Elevation [m]	Volume [m^3]
0	0	0
0.035	188.54	160

The public ROW storage can be provided via a "superpipe" size 1.8m x 1.2m with orifice tube size 110mm. This pipe discharges to Ninth Line sewers.

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Below is the summary of existing storm sewer manholes and their proposed corresponding areas.

System Performance Nodes and Corresponding Existing Areas

Minor System		Major System		Location
Junction Name	**Existing Upstream Drainage Area (ha)**	**Junction Name**	**Existing Upstream Drainage Area (ha)**	**Location**
EX_STM_MH4	4.7	**EX_STM_MH4-S**	4.7	Upstream of proposed site
EX_MH1	15.76	**EX_MH1-S**	15.76	Proposed Site Storm Sewer Connection
EX_STM_MH5	17.68	**EX_STM_MH5-S**	17.68	Downstream of proposed site

The proposed conditions model results for the minor, major and total system flows are presented in the following tables, in addition to the existing flows at these same locations.

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Existing vs. Proposed EX_STM_MH4 Minor and Major System Summary

Design Event	Existing Minor System Peak Flow [m^3/s]	Existing HGL Elevation [m]	Proposed Minor System Peak Flow [m^3/s]	Proposed HGL Elevation [m]	Existing Major System Peak Flow [m^3/s]	Existing Major System Flow Depth [m]	Proposed Major System Peak Flow [m^3/s]	Proposed Major System Flow Depth [m]
(1) 2yr 4hr 5min Chicago	0.12	187.8	0.11	187.8	0.18	0.03	0.18	0.03
(2) 5yr 4hr 5min Chicago	0.16	187.8	0.16	187.8	0.26	0.04	0.27	0.04
(3) 10yr 4hr 5min Chicago	0.19	187.8	0.19	187.8	0.35	0.04	0.35	0.05
(4) 25yr 4hr 5min Chicago	0.23	187.8	0.23	187.8	0.42	0.05	0.43	0.05
(5) 50yr 4hr 5min Chicago	0.25	187.9	0.26	187.9	0.49	0.05	0.50	0.06
(6) 100yr 4hr 5min Chicago	0.27	187.9	0.27	187.9	0.57	0.05	0.58	0.06

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Existing vs. Proposed EX_MH1 Minor and Major System Summary

Design Event	Existing Minor System Peak Flow [m^3/s]	Existing HGL Elevation [m]	Proposed Minor System Peak Flow [m^3/s]	Proposed HGL Elevation [m]	Existing Major System Peak Flow [m^3/s]	Existing Major System Flow Depth [m]	Proposed Major System Peak Flow [m^3/s]	Proposed Major System Flow Depth [m]
(1) 2yr 4hr 5min Chicago	0.13	185.8	0.19	185.8	0.23	0.03	0.23	0.03
(2) 5yr 4hr 5min Chicago	0.18	185.8	0.23	185.8	0.35	0.04	0.31	0.04
(3) 10yr 4hr 5min Chicago	0.22	185.9	0.27	185.9	0.74	0.05	0.41	0.04
(4) 25yr 4hr 5min Chicago	0.27	186	0.33	185.9	1.01	0.05	0.50	0.05
(5) 50yr 4hr 5min Chicago	0.30	187.4	0.38	186	0.96	0.05	0.58	0.05
(6) 100yr 4hr 5min Chicago	0.34	187.9	0.42	186.7	1.03	0.06	0.67	0.06

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Existing vs. Proposed EX_STM_MH5 Minor and Major System Summary

Design Event	Existing Minor System Peak Flow [m^3/s]	Existing HGL Elevation [m]	Proposed Minor System Peak Flow [m^3/s]	Proposed HGL Elevation [m]	Existing Major System Peak Flow [m^3/s]	Existing Major System Flow Depth [m]	Proposed Major System Peak Flow [m^3/s]	Proposed Major System Flow Depth [m]
(1) 2yr 4hr 5min Chicago	0.41	185.2	0.40	185.15	0.22	0.07	0.21	0.07
(2) 5yr 4hr 5min Chicago	0.59	185.3	0.56	185.25	0.33	0.09	0.28	0.09
(3) 10yr 4hr 5min Chicago	0.79	185.4	0.73	185.35	0.48	0.11	0.38	0.11
(4) 25yr 4hr 5min Chicago	0.97	186.4	0.86	185.48	0.60	0.13	0.48	0.12
(5) 50yr 4hr 5min Chicago	1.13	186.5	0.98	186.7	0.68	0.14	0.56	0.13
(6) 100yr 4hr 5min Chicago	1.26	187.2	1.07	186.8	0.77	0.16	0.65	0.23

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The proposed conditions results indicate that the minor system flows are not exceeded upstream and downstream of the site. There is a slight difference in flows at EX_MH1 where the private site drains in the proposed condition. However, the results at the next MH downstream of site shows a significant decrease in both proposed flows and the HGL.

Overall results show decrease in flow and depth of flow for the proposed conditions in the minor and major systems, which is a net benefit to the City's infrastructure capacity.

Erosion Control

The Ninth Line Lands Scoped Subwatershed Study by Wood (2018) established criteria for erosion control based on the 25mm 4-hour storm. The total volume of rainfall simulated is 25.34mm.

The SWS established the following targets for erosion control.

Table 2.6.1 Stormwater Management Facility Sizing Criteria for Erosion Control for Ninth Line Lands – Sawmill Creek Subwatershed

Quantity Component	Cumulative Unitary Volume (m^3/impervious ha)	Unitary Discharge (m^3/s/ha)
Erosion	275	0.002

Modelling results were taken at three points in the system:

- EX_STM_MH4 located upstream or the proposed site
- EX_MH1 where the future private sewer will connect
- EX_STM_MH5 located downstream of the proposed site.

Total Existing 25mm Flow

Design Event	Minor System Peak Flow [m^3/s]	Major System Peak Flow [m^3/s]	Minor System Peak Flow [m^3/s]	Major System Peak Flow [m^3/s]	Minor System Peak Flow [m^3/s]	Major System Peak Flow [m^3/s]
	EX_STM_MH4	EX_STM_MH4-S	EX_MH1	EX_MH1-S	EX_STM_MH5	EX_STM_MH5-S
25mm Storm	0.082	0.10	0.10	0.13	0.27	0.12

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Total Proposed 25mm Flow

Design Event	Minor System Peak Flow [m^3/s]	Major System Peak Flow [m^3/s]	Minor System Peak Flow [m^3/s]	Major System Peak Flow [m^3/s]	Minor System Peak Flow [m^3/s]	Major System Peak Flow [m^3/s]
	EX_STM_MH4	EX_STM_MH4-S	EX_MH1	EX_MH1-S	EX_STM_MH5	EX_STM_MH5-S
25mm Storm	0.081	0.10	0.12	0.12	0.24	0.10

Based on the results provided in the above tables, the existing and proposed flows are almost identical, therefore the combination of site pervious areas and controls in place meet erosion control targets.

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4 SANITARY SERVICING

4.1. EXISTING SANITARY SERVICING

The subject lands fall within Erin Centre and Motorway Sewersheds of the West Trunk System which ultimately discharges to the Clarkson Water Pollution Control Plant. Existing wastewater infrastructure in and around the subject lands is outlined below:

- 825mm sanitary trunk sewer on Ninth Line from Erin Centre Boulevard north to Britannia Road West
- 825mm sanitary sewer on Erin Centre Boulevard
- No sanitary sewers on Ninth Line north of Saratoga Way or south of Erin Centre Boulevard
- Local sewers within subdivisions east of Ninth Line

As outlined in the Region's *Ninth Line Lands Servicing Strategy Report*, the Clarkson WPCP is anticipated to be expanded in the future and the existing 825mm trunk sewer on Erin Centre Boulevard is adequately sized to handle projected flows from the subject property. Therefore, it is assumed that there are no downstream sanitary capacity issues associated with the development of the subject property.

4.2. PROPOSED SANITARY SERVICING

A new sanitary sewer on Ninth Line is proposed to provide an outlet from the subject lands to the existing 825mm sanitary sewer at Erin Centre Boulevard. This sewer may also be extended farther south to accommodate future development of the properties along the west side of Ninth Line down to Eglinton Avenue.

Population densities of 3.24 people per unit for low-rise/townhouses and 1.84 people per unit for high-rise/apartments have been assumed based on marketing and demographic info for the area. Note these densities result in higher projected populations than the Region standard densities based on land area (175 people per hectare for townhouses and 475 people per hectare for apartments).

Refer to **Drawing 6**, "*Sanitary Drainage Plan*," for further details. Sanitary design calculations are included in **Appendix A**.

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5 WATER DISTRIBUTION

5.1. EXISTING WATER SERVICING

A 400mm trunk watermain exists within the east boulevard Ninth Line that will supply the proposed development through the construction of new water infrastructure. This watermain is within Pressure Zone 4W of the Region's water distribution system servicing elevations between 166.3m and 198.1m. Pressure Zone 4W is supplied by the Streetsville High-Lift Pumping Station and the Meadowvale North Low-Lift Pumping Station.

As outlined in the Region's Ninth Line Lands Servicing Strategy Report, the need to expand existing water distribution infrastructure in the area of Ninth Line is currently under review.

5.2. PROPOSED WATER SERVICING

A 300mm watermain is proposed within the new public road west of Ninth Line. This watermain will connect to the existing Pressure Zone 4W 400mm watermain on Ninth Line. Local, looped watermains (200mm or smaller) are proposed within the private condo roads to service the development. All proposed units will be provided with individual water service connections in accordance with Region design criteria.

Hydrant testing and water modelling will be conducted as part of the detailed engineering design to confirm adequate fire flow is available.

6 EROSION AND SEDIMENT CONTROL

The erosion and sediment control plan for the site will be designed in conformance with the City of Mississauga guidelines and Credit Valley Conservation Authority. The following erosion and sediment control measures will be installed and maintained during construction:

- A temporary sediment control fence will be placed prior to grading
- Temporary sediment traps will be provided at each outlet
- Gravel mud mats will be provided at construction vehicle access points to minimize off-site tracking of sediments
- All temporary erosion and sediment control measures will be routinely inspected and repaired during construction. Temporary controls will not be removed until the areas they serve are restored and stable.

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7 CONCLUSION

The proposed residential development at 5150 Ninth Line, which includes 180 townhouses, can be adequately serviced via the existing storm, sanitary and water distribution infrastructure and does not adversely impact any of the surrounding infrastructure or properties.

Stormwater quantity control for the private development is provided by an underground storage tank within the outdoor amenity space. Stormwater quantity control for the public road is provided by a "superpipe" within the proposed right-of-way.

Water balance is achieved via a restored bioretention area at the north end of the property near the woodlot, as well as infiltration trenches within the rear yards of the proposed townhouses. Water quality control is provided via two oil/grit separators treating the site plan area and public ROW.

Sanitary servicing is provided by a proposed trunk on Ninth Line to the existing 825mm trunk sewer on Erin Centre Boulevard, ultimately draining to the Clarkson Water Pollution Control Plant.

Water servicing is provided by the existing Pressure Zone 4W 400mm watermain on Ninth Line.

Report Prepared by:

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APPENDIX A

DESIGN CALCULATIONS

- Storm Sewer Design Sheet (10-Year)
- SWM Design Calculations & PC SWMM model results
- Sanitary Sewer Design Sheet

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SANITARY SEWER DESIGN SHEET

5150 NINTH LINE

CITY OF MISSISSAUGA, REGION OF PEEL

PROJECT DETAILS

Project No: 19-608
Date: 1-May-20
Designed by: SR
Checked by: DZ

DESIGN CRITERIA

Min. Flow =	13	l/s			
Min Diameter =	250	mm	Avg. Domestic Flow =	302.8	l/c/d
Mannings 'n'=	0.013		Infiltration =	0.200	l/s/ha
Min. Velocity =	0.75	m/s	Max. Peaking Factor =	4.00	
Max. Velocity =	3.50	m/s	Min. Peaking Factor=	1.50	
			Domestic Sewage flow for < 1000 ppl = 0.013m^3/s		
Factor of Safety =	15	%	(Region of Peel Std. 2-5-2)		

NOMINAL PIPE SIZE USED

STREET	FROM MH	TO MH	RESIDENTIAL							COMMERCIAL/INDUSTRIAL/INSTITUTIONAL						FLOW CALCULATIONS								PIPE DATA						
			AREA (ha)	ACC. AREA (ha)	UNITS (#)	DENISTY (P/ha)	DENSITY (P/unit)	POP	ACCUM. RES. POP.	AREA (ha)	ACC. AREA (ha)	EQUIV. POP. (p/ha)	FLOW RATE (l/s/ha)	EQUIV. POP.	ACCUM. EQUIV. POP.	INFILTRATION (l/s)	TOTAL ACCUM. POP.	PEAKING FACTOR	RES. FLOW (l/s)	MIN. RES. FLOW (l/s)	COMM. FLOW (l/s)	ACCUM. COMM. FLOW (l/s)	TOTAL FLOW (l/s)	SLOPE (%)	PIPE DIAMETER (mm)	PIPE LENGTH (m)	FULL FLOW CAPACITY (l/s)	FULL FLOW VELOCITY (m/s)	ACTUAL VELOCITY (m/s)	PERCENT FULL (%)
5034 NINTH LINE	1T	2T	0.72	0.72	209		1.84	385	385							0.1	385	4.00	5.4	13.0			13.1	0.40	250		37.6	0.77	0.69	35%
5054 NINTH LINE	2T	3T	1.03	1.75	298		1.84	548	933							0.4	933	3.82	12.5	13.0			13.4	0.40	250		37.6	0.77	0.69	35%
5080 NINTH LINE	3T	4T	2.86	4.61	835		1.84	1536	2469							0.9	2469	3.51	30.4	30.4			31.3	0.35	300		57.2	0.81	0.82	55%
5104 NINTH LINE	4T	5T	0.77	5.38	29		3.24	94	2563							1.1	2563	3.50	31.4	31.4			32.5	0.35	300		57.2	0.81	0.82	57%
NINTH LINE	5T	6T	2.22	7.60					2563							1.5	2563	3.50	31.4	31.4			33.0	0.35	300		57.2	0.81	0.82	58%
5150 NINTH LINE	6T	7T	4.24	11.84	180		3.24	532	3095							2.4	3095	3.43	37.2	37.2			39.6	0.35	300		57.2	0.81	0.85	69%
5170 NINTH LINE	7T	8T	0.73	12.57	27		3.24	89	3184							2.5	3184	3.42	38.2	38.2			40.7	0.35	300		57.2	0.81	0.87	71%
NINTH LINE	8T	9T		12.57					3184							2.5	3184	3.42	38.2	38.2			40.7	0.35	300		57.2	0.81	0.87	71%

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STORM SEWER DESIGN SHEET

10 Year Storm

5150 NINTH LINE

CITY OF MISSISSAUGA

PROJECT DETAILS

Project No: 19-608
Date: 1-Apr-20
Designed by: SR
Checked by: DZ

DESIGN CRITERIA

Min. Diameter =	300	mm	Rainfall Intensity =	A / (Tc+B)^c
Mannings 'n'=	0.013			
Starting Tc =	15	min	A =	1010
			B =	4.6
Factor of Safety =	15	%	c =	0.78

NOMINAL PIPE SIZE USED

STREET	FROM MH	TO MH	AREA (ha)	RUNOFF COEFFICIENT "R"	'AR'	ACCUM. 'AR'	RAINFALL INTENSITY (mm/hr)	FLOW (m3/s)	CONSTANT FLOW (m3/s)	ACCUM. CONSTANT FLOW (m3/s)	TOTAL FLOW (m3/s)	LENGTH (m)	SLOPE (%)	PIPE DIAMETER (mm)	FULL FLOW CAPACITY (m3/s)	FULL FLOW VELOCITY (m/s)	INITIAL Tc (min)	TIME OF CONCENTRATION (min)	ACC. TIME OF CONCENTRATION (min)	PERCENT FULL (%)
CEC ROAD "E"	1	2	0.13	0.65	0.08	0.08	99.2	0.023			0.023	80.4	0.50	300	0.068	0.97	15.00	1.39	16.39	34%
WOODLOT	DICB	2	6.45	0.25	1.61	1.61	63.7	0.285			0.285	4.5	2.00	450	0.403	2.54	30.00	0.03	30.03	71%
CEC ROAD "E"	2	3	0.39	0.65	0.25	1.95	63.6	0.345			0.345	38.0	0.50	600	0.434	1.54	30.03	0.41	30.44	79%
CEC ROAD "H"	3	4				1.95	63.0	0.341			0.341	13.3	0.50	600	0.434	1.54	30.44	0.14	30.59	79%
CEC ROAD "H"	4	5				1.95	62.8	0.340			0.340	47.5	0.50	600	0.434	1.54	30.59	0.52	31.10	78%
CEC ROAD "G"	5	6				1.95	62.1	0.337			0.337	37.1	0.50	600	0.434	1.54	31.10	0.40	31.50	78%
CEC ROAD "F"	7	8	0.12	0.65	0.08	0.08	99.2	0.021			0.021	28.7	1.00	300	0.097	1.37	15.00	0.35	15.35	22%
CEC ROAD "G"	8	9	0.58	0.65	0.38	0.46	97.8	0.124			0.124	48.0	0.50	450	0.202	1.27	15.35	0.63	15.98	61%
CEC ROAD "G"	9	6				0.46	95.5	0.121			0.121	41.7	0.50	450	0.202	1.27	15.98	0.55	16.53	60%
CEC ROAD "I"	6	10				2.41	61.6	0.411			0.411	7.7	0.50	675	0.594	1.66	31.50	0.08	31.58	69%
CEC ROAD "I"	10	11	0.30	0.65	0.20	2.60	61.5	0.444			0.444	44.9	0.50	675	0.594	1.66	31.58	0.45	32.03	75%
CEC ROAD "I"	11	12				2.60	60.9	0.440			0.440	57.3	0.50	675	0.594	1.66	32.03	0.57	32.61	74%
		13	0.16	0.25	0.04	0.04														
CEC ROAD "D"	13	15	0.56	0.65	0.36	0.40	99.2	0.111			0.111	88.0	1.50	375	0.215	1.94	15.00	0.75	15.75	52%
CEC ROAD "C"	15	16				0.40	96.3	0.108			0.108	38.8	0.50	450	0.202	1.27	15.75	0.51	16.26	54%
CEC ROAD "H"	17	16	0.36	0.65	0.23	0.23	99.2	0.064			0.064	64.3	0.50	375	0.124	1.12	15.00	0.95	15.95	52%
CEC ROAD "C"	16	12	0.13	0.65	0.08	0.72	94.4	0.190			0.190	36.8	0.50	525	0.304	1.40	16.26	0.44	16.70	62%
CEC ROAD "C"	12	18	0.06	0.65	0.04	3.36	60.1	0.562			0.562	15.5	0.50	750	0.787	1.78	32.61	0.14	32.75	71%
CEC ROAD "C"	18	TANK-IN-1				3.36	60.0	0.560			0.560	7.6	0.50	750	0.787	1.78	32.75	0.07	32.82	71%
CEC ROAD "I"	CB	TANK-IN-2	0.13	0.65	0.08	0.08	307.2	0.072			0.072									
CEC ROAD "C"	TANK-OUT	19	0.45	0.65	0.29	0.29	99.2	0.081	0.150	0.150	0.231	95.1	0.40	525	0.272	1.26	15.00	1.26	16.26	85%
CEC ROAD "A"	19	20				0.29	94.5	0.077		0.150	0.227	25.9	0.40	525	0.272	1.26	16.26	0.34	16.61	83%
CEC ROAD "A"	20	21				0.29	93.3	0.076		0.150	0.226	26.2	0.40	525	0.272	1.26	16.61	0.35	16.95	83%
TO NINTH LINE	21	22				0.29	92.1	0.075		0.150	0.225	14.2	0.40	525	0.272	1.26	16.95	0.19	17.14	83%
TO NINTH LINE	22	EX. 1				0.29	91.5	0.074		0.150	0.224	10.9	0.40	525	0.272	1.26	17.14	0.14	17.29	82%
STREET "A"	23	24	0.78	0.65	0.51	0.51	99.2	0.140			0.140	10.6	0.50	450	0.202	1.27	15.00	0.14	15.14	69%
STREET "A"	24	25				0.51	98.6	0.139			0.139	109.5	0.50	450	0.202	1.27	15.14	1.44	16.58	69%

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STORM SEWER DESIGN SHEET

10 Year Storm

5150 NINTH LINE

CITY OF MISSISSAUGA

PROJECT DETAILS

Project No: 19-608
Date: 1-Apr-20
Designed by: SR
Checked by: DZ

DESIGN CRITERIA

Min. Diameter =	300	mm	Rainfall Intensity =	A / (Tc+B)^c
Mannings 'n'=	0.013			
Starting Tc =	15	min	A =	1010
			B =	4.6
Factor of Safety =	15	%	c =	0.78

NOMINAL PIPE SIZE USED

STREET	FROM MH	TO MH	AREA (ha)	RUNOFF COEFFICIENT "R"	'AR'	ACCUM. 'AR'	RAINFALL INTENSITY (mm/hr)	FLOW (m3/s)	CONSTANT FLOW (m3/s)	ACCUM. CONSTANT FLOW (m3/s)	TOTAL FLOW (m3/s)	LENGTH (m)	SLOPE (%)	PIPE DIAMETER (mm)	FULL FLOW CAPACITY (m3/s)	FULL FLOW VELOCITY (m/s)	INITIAL Tc (min)	TIME OF CONCENTRATION (min)	ACC. TIME OF CONCENTRATION (min)	PERCENT FULL (%)
STREET "A"	25	26				0.51	93.3	0.131			0.131	20.9	0.50	450	0.202	1.27	16.58	0.27	16.85	65%
NINTH LINE		26	1.81	0.70	1.27	1.27														
NINTH LINE	26	EX. 1				1.77	92.4	0.455			0.455	52.0	1.60	525	0.544	2.51	16.85	0.34	17.20	84%
NINTH LINE	EX. 1	EX. 2				2.07	91.0	0.522		0.150	0.672	120.0	0.50	750	0.787	1.78	17.29	1.12	18.41	85%

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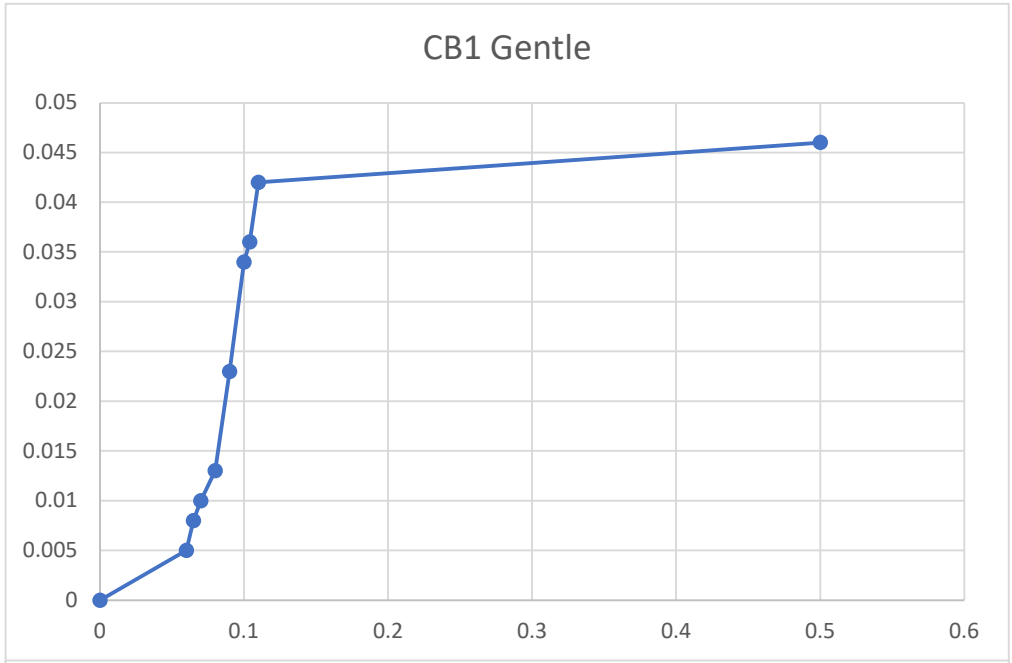
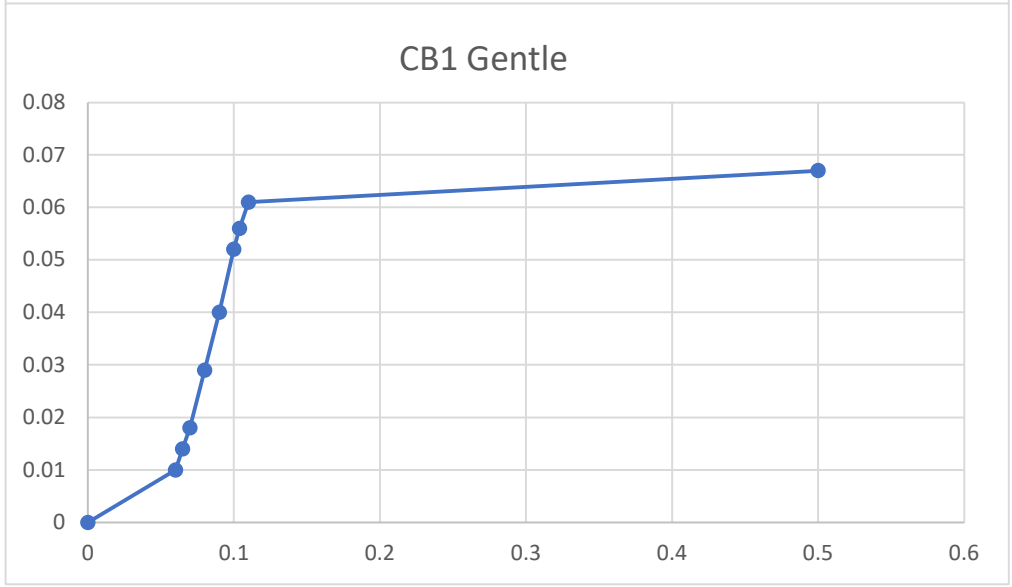
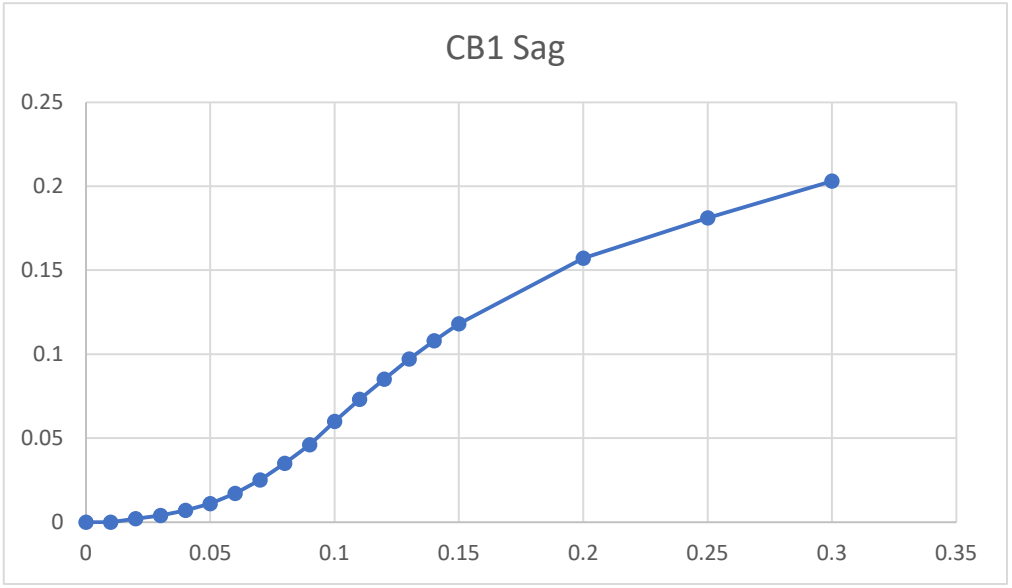
CB1 Flat	
slope <=0.5%	
Head (m)	Discharge (m3/s)
0	0
0.06	0.005
0.065	0.008
0.07	0.01
0.08	0.013
0.09	0.023
0.1	0.034
0.104	0.036
0.11	0.042
0.5	0.046



CB1 Gentle	
Slope >0.5% and <=3.99	
Head (m)	Discharge (m3/s)
0	0
0.06	0.01
0.065	0.014
0.07	0.018
0.08	0.029
0.09	0.04
0.1	0.052
0.104	0.056
0.11	0.061
0.5	0.067



CB1 Sag	
Head (m)	Discharge (m3/s)
0	0
0.01	0
0.02	0.002
0.03	0.004
0.04	0.007
0.05	0.011
0.06	0.017
0.07	0.025
0.08	0.035
0.09	0.046
0.1	0.06
0.11	0.073
0.12	0.085
0.13	0.097
0.14	0.108
0.15	0.118
0.2	0.157
0.25	0.181
0.3	0.203



Legend

Junctions

- Visible
- major>0.3
- major>0.2
- major>0.1
- major<0.1
- Outfalls

Conduits

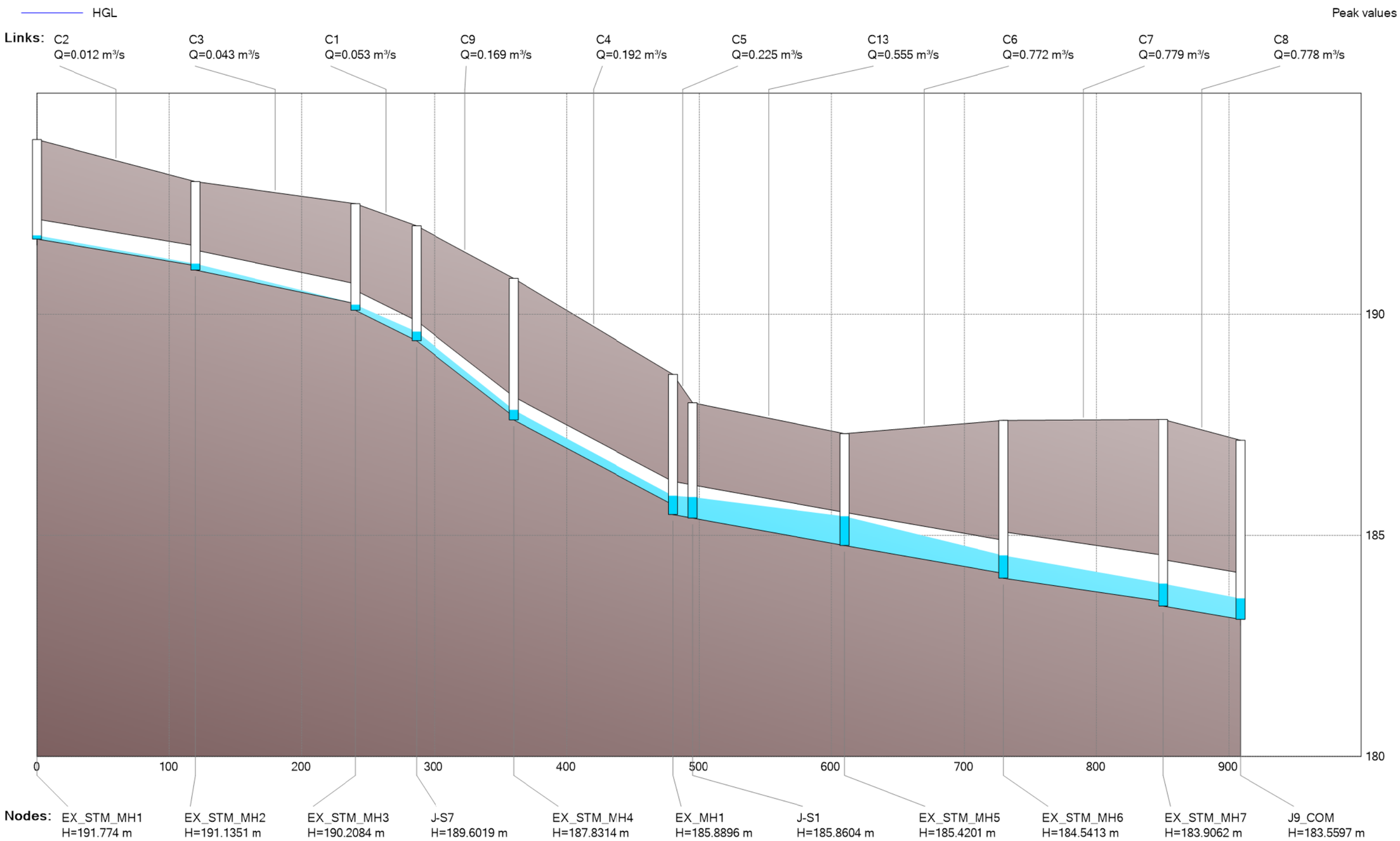
- Major System
- minor other
- minor surcrharge

- Weirs
- Outlets
- Subcatchments

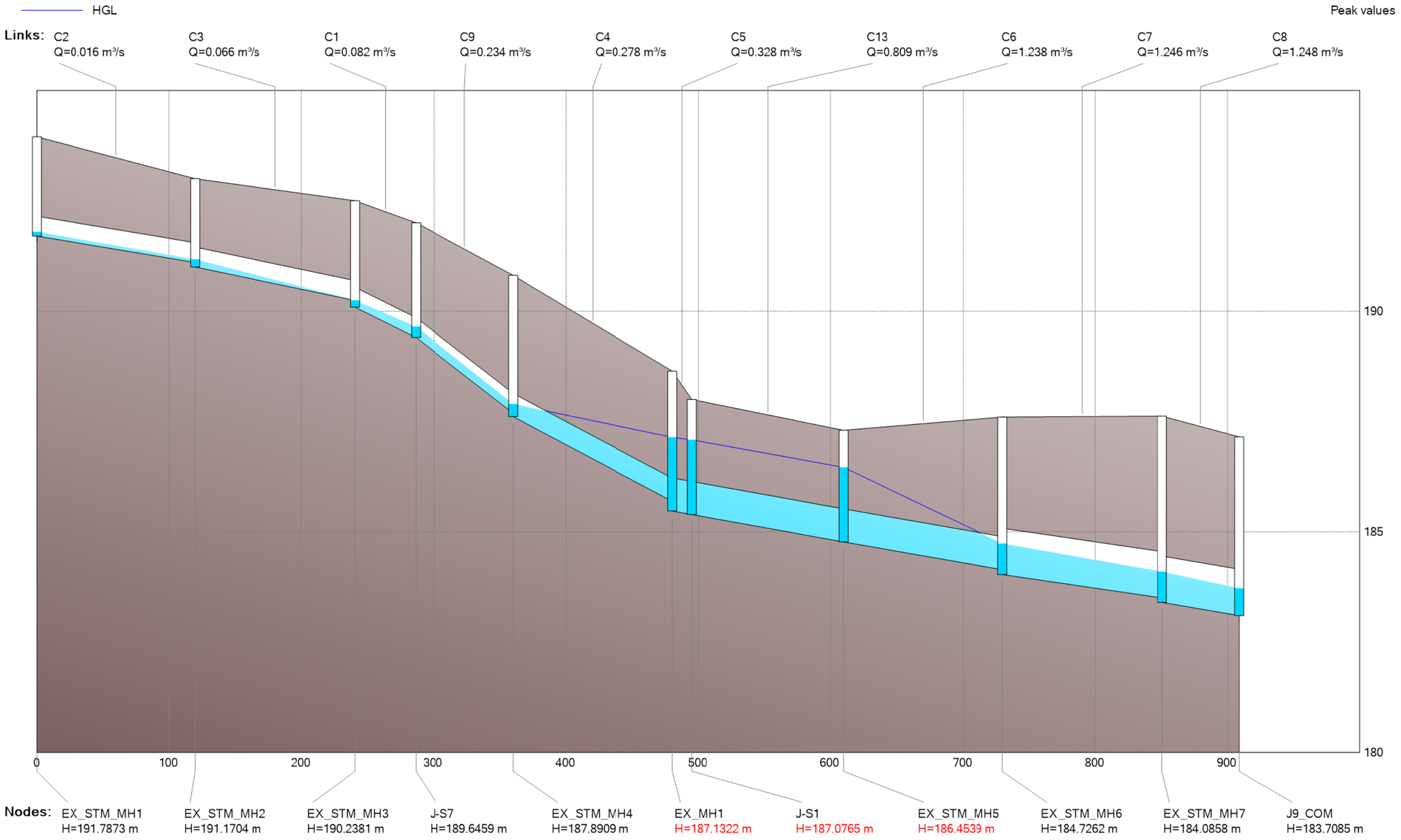
N

300 m

Ninth Line - 10 - year Existing HGL



Ninth Line - 100 - year Existing HGL



EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.013)

WARNING 03: negative offset ignored for Link C1
WARNING 03: negative offset ignored for Link C12
WARNING 03: negative offset ignored for Link C5
WARNING 10: crest elevation raised to downstream invert for regulator Link J-S1minor-IC
WARNING 10: crest elevation raised to downstream invert for regulator Link J-S7minor-IC
WARNING 02: maximum depth increased for Node J-S1minor
WARNING 02: maximum depth increased for Node J-S7minor

****
Element Count
****
Number of rain gages 10
Number of subcatchments ... 13
Number of nodes 21
Number of links 29
Number of pollutants 0
Number of land uses 0

****
Raingage Summary
****

Name	Data Source	Data Type	Recording Interval
25mm	25mm	INTENSITY	10 min.
Chicago_24h_100yr	Chicago_24h_100yr_COM	INTENSITY	5 min.
Chicago_24h_10yr	Chicago_24h_10yr_COM	INTENSITY	5 min.
Chicago_24h_2yr	Chicago_24h_2yr_COM	INTENSITY	5 min.
Chicago_4h_100year_COM	Chicago_4h_100year_COM	INTENSITY	5 min.
Chicago_4h_10year_COM	Chicago_4h_10year_COM	INTENSITY	5 min.
Chicago_4h_25year_COM	Chicago_4h_25year_COM	INTENSITY	5 min.
Chicago_4h_2yr_COM	Chicago_4h_2yr_COM	INTENSITY	5 min.
Chicago_4h_50year_COM	Chicago_4h_50year_COM	INTENSITY	5 min.
Chicago_4h_5year_COM	Chicago_4h_5year_COM	INTENSITY	5 min.

****
Subcatchment Summary
****

Name	Area	Width	%Imperv	%Slope	Rain Gage	Outlet
S1	10.25	208.76	5.00	2.5000	25mm	J-S1minor
S2	0.35	35.00	75.00	1.5000	25mm	EX_STM_MH4-S
S3	0.29	29.00	50.00	1.5000	25mm	EX_MH1-S
S4	2.04	102.00	20.00	1.5000	25mm	EX_STM_MH5-S
S5	8.59	859.00	10.00	1.5000	25mm	J9_COM
S6_ROW1	0.50	100.22	70.00	1.8000	25mm	EX_STM_MH1-S
S6_ROW2	0.36	72.87	70.00	1.8000	25mm	EX_STM_MH2-S
S6_ROW3	0.37	73.14	70.00	1.8000	25mm	EX_STM_MH3-S
S6_ROW4	0.36	72.06	70.00	1.8000	25mm	EX_STM_MH4-S
S6_ROW5	0.37	74.56	70.00	1.8000	25mm	EX_MH1-S
S6_ROW6	0.42	84.54	25.00	1.0000	25mm	EX_STM_MH5-S
S6_ROW7	0.45	89.84	25.00	1.0000	25mm	EX_STM_MH6-S
S7	2.51	100.40	3.00	1.0000	25mm	J-S7minor

****
Node Summary
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Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
EX_MH1	JUNCTION	185.47	3.17	0.0	
EX_MH1-S	JUNCTION	188.64	0.30	0.0	
EX_STM_MH1	JUNCTION	191.70	2.25	0.0	
EX_STM_MH1-S	JUNCTION	193.95	0.30	0.0	
EX_STM_MH2	JUNCTION	191.00	2.00	0.0	
EX_STM_MH2-S	JUNCTION	193.00	0.30	0.0	
EX_STM_MH3	JUNCTION	190.09	2.41	0.0	
EX_STM_MH3-S	JUNCTION	192.50	0.30	0.0	
EX_STM_MH4	JUNCTION	187.61	3.20	0.0	
EX_STM_MH4-S	JUNCTION	190.81	0.30	0.0	
EX_STM_MH5	JUNCTION	184.77	2.53	0.0	
EX_STM_MH5-S	JUNCTION	187.30	0.30	0.0	
EX_STM_MH6	JUNCTION	184.03	3.57	0.0	
EX_STM_MH6-S	JUNCTION	187.60	0.30	0.0	
EX_STM_MH7	JUNCTION	183.40	4.22	0.0	
EX_STM_MH7-S	JUNCTION	187.62	0.30	0.0	
J-S1	JUNCTION	185.39	2.61	0.0	
J-S1minor	JUNCTION	187.70	1.00	0.0	
J-S7	JUNCTION	189.40	2.60	0.0	
J-S7minor	JUNCTION	191.55	1.10	200.0	
J9_COM	OUTFALL	183.10	1.05	0.0	

****
Link Summary
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Name	From Node	To Node	Type	Length	%Slope	Roughness
C1	EX_STM_MH3	J-S7	CONDUIT	45.9	1.5022	0.0130
C12	J-S1minor	J-S1	CONDUIT	16.1	14.5153	0.0130
C13	J-S1	EX_STM_MH5	CONDUIT	114.8	0.5399	0.0130
C1-S	EX_STM_MH3-S	EX_STM_MH4-S	CONDUIT	102.1	1.6559	0.0140
C1-S7	J-S7minor	J-S7	CONDUIT	19.1	10.5464	0.0130
C2	EX_STM_MH1	EX_STM_MH2	CONDUIT	119.7	0.5013	0.0130
C2-S	EX_STM_MH1-S	EX_STM_MH2-S	CONDUIT	112.5	0.8445	0.0140
C3	EX_STM_MH2	EX_STM_MH3	CONDUIT	120.9	0.6286	0.0130
C3-S	EX_STM_MH2-S	EX_STM_MH3-S	CONDUIT	123.5	0.4048	0.0140
C4	EX_STM_MH4	EX_MH1	CONDUIT	120.3	1.5966	0.0130
C4-S	EX_STM_MH4-S	EX_MH1-S	CONDUIT	126.1	1.7218	0.0140
C5	EX_MH1	J-S1	CONDUIT	14.7	0.5438	0.0130
C5-S	EX_MH1-S	EX_STM_MH5-S	CONDUIT	138.9	0.9646	0.0140
C6	EX_STM_MH5	EX_STM_MH6	CONDUIT	120.0	0.5250	0.0130
C6-S	EX_STM_MH5-S	EX_STM_MH6-S	CONDUIT	119.3	-0.2514	0.0140
C7	EX_STM_MH6	EX_STM_MH7	CONDUIT	120.7	0.4390	0.0130
C7-S	EX_STM_MH7-S	EX_STM_MH6-S	CONDUIT	118.6	0.0177	0.0140
C8	EX_STM_MH7	J9_COM	CONDUIT	58.1	0.5163	0.0130
C9	J-S7	EX_STM_MH4	CONDUIT	73.5	2.3352	0.0130
J-S1minor-IC	J-S1minor	EX_MH1-S	WEIR			
J-S7minor-IC	J-S7minor	EX_STM_MH3-S	WEIR			
J1_COM-IC	EX_STM_MH1-S	EX_STM_MH1	OUTLET			
J2_COM-IC	EX_STM_MH2-S	EX_STM_MH2	OUTLET			
J3_COM-IC	EX_STM_MH3-S	EX_STM_MH3	OUTLET			
J4_COM-IC	EX_STM_MH4-S	EX_STM_MH4	OUTLET			
J5_COM-IC	EX_MH1-S	EX_MH1	OUTLET			
J6_COM-IC	EX_STM_MH5-S	EX_STM_MH5	OUTLET			
J7_COM-IC	EX_STM_MH6-S	EX_STM_MH6	OUTLET			
J8_COM-IC	EX_STM_MH7-S	EX_STM_MH7	OUTLET			

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Cross Section Summary

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Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
C1	CIRCULAR	0.45	0.16	0.11	0.45	1	0.35
C12	CIRCULAR	0.45	0.16	0.11	0.45	1	1.09
C13	CIRCULAR	0.75	0.44	0.19	0.75	1	0.82
C1-S	full-11m	0.30	4.26	0.20	26.00	1	13.51
C1-S7	CIRCULAR	0.30	0.07	0.07	0.30	1	0.31
C2	CIRCULAR	0.45	0.16	0.11	0.45	1	0.20
C2-S	full-11m	0.30	4.26	0.20	26.00	1	9.65
C3	CIRCULAR	0.45	0.16	0.11	0.45	1	0.23
C3-S	full-11m	0.30	4.26	0.20	26.00	1	6.68
C4	CIRCULAR	0.53	0.22	0.13	0.53	1	0.54
C4-S	full-11m	0.30	4.26	0.20	26.00	1	13.78
C5	CIRCULAR	0.75	0.44	0.19	0.75	1	0.82
C5-S	full-11m	0.30	4.26	0.20	26.00	1	10.31
C6	CIRCULAR	0.75	0.44	0.19	0.75	1	0.81
C6-S	full-11m	0.30	4.26	0.20	26.00	1	5.26
C7	CIRCULAR	1.05	0.87	0.26	1.05	1	1.81
C7-S	full-11m	0.30	4.26	0.20	26.00	1	1.40
C8	CIRCULAR	1.05	0.87	0.26	1.05	1	1.96
C9	CIRCULAR	0.45	0.16	0.11	0.45	1	0.44

****
Transect Summary
****

Transect full-11m
Area:

0.0015	0.0062	0.0139	0.0248	0.0387
0.0542	0.0697	0.0852	0.1007	0.1162
0.1317	0.1472	0.1627	0.1782	0.1937
0.2092	0.2246	0.2401	0.2556	0.2711
0.2866	0.3021	0.3176	0.3331	0.3486
0.3645	0.3813	0.3989	0.4173	0.4366
0.4568	0.4777	0.4996	0.5223	0.5458
0.5701	0.5954	0.6214	0.6483	0.6761
0.7046	0.7341	0.7644	0.7955	0.8275
0.8603	0.8939	0.9285	0.9638	1.0000

Hrad:

0.0147	0.0293	0.0440	0.0587	0.0733
0.1026	0.1317	0.1608	0.1898	0.2188
0.2477	0.2766	0.3053	0.3341	0.3627
0.3913	0.4198	0.4483	0.4767	0.5051
0.5334	0.5616	0.5898	0.6179	0.6459
0.6735	0.6991	0.7228	0.7447	0.7651
0.7841	0.8017	0.8182	0.8337	0.8482
0.8618	0.8747	0.8869	0.8985	0.9095
0.9200	0.9301	0.9398	0.9492	0.9582
0.9670	0.9755	0.9839	0.9920	1.0000

Width:

0.0846	0.1692	0.2538	0.3385	0.4231
0.4231	0.4231	0.4231	0.4231	0.4231
0.4231	0.4231	0.4231	0.4231	0.4231
0.4231	0.4231	0.4231	0.4231	0.4231
0.4231	0.4231	0.4231	0.4231	0.4231
0.4462	0.4692	0.4923	0.5154	0.5385
0.5615	0.5846	0.6077	0.6308	0.6538
0.6769	0.7000	0.7231	0.7462	0.7692
0.7923	0.8154	0.8385	0.8615	0.8846
0.9077	0.9308	0.9538	0.9769	1.0000

Transect Full7m
Area:

0.0006	0.0024	0.0054	0.0097	0.0151
0.0217	0.0296	0.0387	0.0489	0.0604
0.0731	0.0869	0.1010	0.1151	0.1292
0.1433	0.1574	0.1715	0.1856	0.1997
0.2138	0.2279	0.2419	0.2560	0.2701
0.2848	0.3007	0.3179	0.3362	0.3557
0.3764	0.3984	0.4215	0.4459	0.4715
0.4983	0.5262	0.5554	0.5858	0.6174
0.6503	0.6843	0.7195	0.7560	0.7936
0.8325	0.8726	0.9138	0.9563	1.0000

Hrad:

0.0185	0.0370	0.0555	0.0740	0.0925
0.1111	0.1296	0.1481	0.1666	0.1851
0.2036	0.2282	0.2647	0.3011	0.3374
0.3736	0.4097	0.4456	0.4815	0.5172
0.5528	0.5883	0.6236	0.6588	0.6940
0.7280	0.7580	0.7844	0.8076	0.8279
0.8459	0.8617	0.8756	0.8880	0.8991
0.9091	0.9182	0.9265	0.9341	0.9412
0.9480	0.9543	0.9605	0.9664	0.9721
0.9778	0.9834	0.9889	0.9945	1.0000

Width:

0.0273	0.0545	0.0818	0.1091	0.1364
0.1636	0.1909	0.2182	0.2455	0.2727
0.3000	0.3182	0.3182	0.3182	0.3182
0.3182	0.3182	0.3182	0.3182	0.3182
0.3182	0.3182	0.3182	0.3182	0.3182
0.3455	0.3727	0.4000	0.4273	0.4545
0.4818	0.5091	0.5364	0.5636	0.5909
0.6182	0.6455	0.6727	0.7000	0.7273
0.7545	0.7818	0.8091	0.8364	0.8636
0.8909	0.9182	0.9455	0.9727	1.0000

Transect overflow
Area:

0.0151	0.0304	0.0459	0.0616	0.0775
0.0936	0.1099	0.1264	0.1431	0.1600
0.1771	0.1944	0.2119	0.2296	0.2475
0.2656	0.2839	0.3024	0.3211	0.3400
0.3591	0.3784	0.3979	0.4176	0.4375
0.4576	0.4779	0.4984	0.5191	0.5400
0.5611	0.5824	0.6039	0.6256	0.6475
0.6696	0.6919	0.7144	0.7371	0.7600
0.7831	0.8064	0.8299	0.8536	0.8775
0.9016	0.9259	0.9504	0.9751	1.0000

Hrad:

0.0250	0.0496	0.0740	0.0982	0.1221
0.1457	0.1691	0.1922	0.2152	0.2378
0.2603	0.2825	0.3045	0.3263	0.3479
0.3693	0.3905	0.4115	0.4323	0.4530
0.4734	0.4937	0.5137	0.5336	0.5534
0.5730	0.5924	0.6116	0.6307	0.6496
0.6684	0.6871	0.7056	0.7239	0.7421
0.7602	0.7781	0.7959	0.8136	0.8311
0.8486	0.8658	0.8830	0.9001	0.9170
0.9338	0.9505	0.9671	0.9836	1.0000

Width:

0.6080	0.6160	0.6240	0.6320	0.6400
0.6480	0.6560	0.6640	0.6720	0.6800
0.6880	0.6960	0.7040	0.7120	0.7200
0.7280	0.7360	0.7440	0.7520	0.7600

0.7680	0.7760	0.7840	0.7920	0.8000
0.8080	0.8160	0.8240	0.8320	0.8400
0.8480	0.8560	0.8640	0.8720	0.8800
0.8880	0.8960	0.9040	0.9120	0.9200
0.9280	0.9360	0.9440	0.9520	0.9600
0.9680	0.9760	0.9840	0.9920	1.0000

****
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
****

****
Analysis Options
****
Flow Units ..... CMS
Process Models:
  Rainfall/Runoff ..... YES
  RDII ..... NO
  Snowmelt ..... NO
  Groundwater ..... NO
  Flow Routing ..... YES
  Ponding Allowed ..... YES
  Water Quality ..... NO
Infiltration Method ..... CURVE_NUMBER
Flow Routing Method ..... DYNWAVE
Surcharge Method ..... EXTRAN
Starting Date 04/29/2020 00:00:00
Ending Date 04/30/2020 00:00:00
Antecedent Dry Days 0.0
Report Time Step 00:01:00
Wet Time Step 00:00:30
Dry Time Step 00:01:00
Routing Time Step ..... 2.00 sec
Variable Time Step ..... YES
Maximum Trials 8
Number of Threads 6
Head Tolerance ..... 0.001500 m

**********	Volume	Depth
Runoff Quantity Continuity	hectare-m	mm
**********	---------	-------
Total Precipitation	0.681	25.342
Evaporation Loss	0.000	0.000
Infiltration Loss	0.551	20.527
Surface Runoff	0.094	3.517
Final Storage	0.035	1.298
Continuity Error (%)	-0.003	

**********	Volume	Volume
Flow Routing Continuity	hectare-m	10^6 ltr
**********	---------	---------
Dry Weather Inflow	0.000	0.000
Wet Weather Inflow	0.094	0.945
Groundwater Inflow	0.000	0.000
RDII Inflow	0.000	0.000
External Inflow	0.000	0.000
External Outflow	0.094	0.942
Flooding Loss	0.000	0.000
Evaporation Loss	0.000	0.000

Exfiltration Loss	0.000	0.000
Initial Stored Volume	0.000	0.000
Final Stored Volume	0.000	0.002
Continuity Error (%)	0.092	

****
Highest Continuity Errors
****
Node EX_STM_MH5-S (2.16%)

****
Time-Step Critical Elements
****
None

****
Highest Flow Instability Indexes
****
Link C12 (5)
Link C1-S7 (3)
Link C13 (2)

****
Routing Time Step Summary
****

Minimum Time Step	:	1.50 sec
Average Time Step	:	2.00 sec
Maximum Time Step	:	2.00 sec
Percent in Steady State	:	0.00
Average Iterations per Step	:	2.00
Percent Not Converging	:	0.00

****
Subcatchment Runoff Summary
****

Subcatchment	Total Precip mm	Total Runon mm	Total Evap mm	Total Infil mm	Imperv Runoff mm	Perv Runoff mm	Tot Runo
S1	25.34	0.00	0.00	22.87	1.19	0.01	1.
S2	25.34	0.00	0.00	5.99	17.88	0.03	17.
S3	25.34	0.00	0.00	12.01	11.92	0.03	11.
S4	25.34	0.00	0.00	18.59	4.77	0.67	5.
S5	25.34	0.00	0.00	21.63	2.38	0.03	2.
S6_ROW1	25.34	0.00	0.00	7.17	16.69	0.05	16.
S6_ROW2	25.34	0.00	0.00	7.17	16.69	0.05	16.
S6_ROW3	25.34	0.00	0.00	7.17	16.69	0.05	16.
S6_ROW4	25.34	0.00	0.00	7.17	16.69	0.05	16.
S6_ROW5	25.34	0.00	0.00	7.17	16.69	0.05	16.
S6_ROW6	25.34	0.00	0.00	17.30	5.96	0.76	6.
S6_ROW7	25.34	0.00	0.00	17.30	5.96	0.76	6.
S7	25.34	0.00	0.00	23.35	0.72	0.01	0.

****
Node Depth Summary
****

Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
EX_MH1	JUNCTION	0.01	0.21	185.68	0 01:30	0.21
EX_MH1-S	JUNCTION	0.00	0.02	188.66	0 01:30	0.02
EX_STM_MH1	JUNCTION	0.00	0.05	191.75	0 01:31	0.05
EX_STM_MH1-S	JUNCTION	0.00	0.03	193.98	0 01:30	0.03
EX_STM_MH2	JUNCTION	0.01	0.09	191.09	0 01:32	0.09
EX_STM_MH2-S	JUNCTION	0.00	0.03	193.03	0 01:31	0.03
EX_STM_MH3	JUNCTION	0.00	0.08	190.17	0 01:32	0.08
EX_STM_MH3-S	JUNCTION	0.00	0.02	192.52	0 01:30	0.02
EX_STM_MH4	JUNCTION	0.01	0.14	187.75	0 01:31	0.14
EX_STM_MH4-S	JUNCTION	0.00	0.03	190.84	0 01:30	0.03
EX_STM_MH5	JUNCTION	0.02	0.30	185.07	0 01:31	0.30
EX_STM_MH5-S	JUNCTION	0.01	0.06	187.36	0 01:35	0.06
EX_STM_MH6	JUNCTION	0.02	0.28	184.31	0 01:32	0.28
EX_STM_MH6-S	JUNCTION	0.00	0.02	187.62	0 01:30	0.02
EX_STM_MH7	JUNCTION	0.02	0.27	183.67	0 01:33	0.27
EX_STM_MH7-S	JUNCTION	0.00	0.00	187.62	0 00:00	0.00
J-S1	JUNCTION	0.02	0.27	185.66	0 01:30	0.27
J-S1minor	JUNCTION	0.02	0.39	188.09	0 01:30	0.39
J-S7	JUNCTION	0.01	0.13	189.53	0 01:30	0.13
J-S7minor	JUNCTION	0.02	0.27	191.82	0 01:30	0.27
J9_COM	OUTFALL	0.02	0.26	183.36	0 01:33	0.26

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CMS	Maximum Total Inflow CMS	Time of Max Occurrence days hr:min	Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Fl Balan Err Perce
EX_MH1	JUNCTION	0.000	0.092	0 01:31	0	0.221	0.0
EX_MH1-S	JUNCTION	0.056	0.132	0 01:30	0.0971	0.234	-0.5
EX_STM_MH1	JUNCTION	0.000	0.006	0 01:30	0	0.00828	-0.0
EX_STM_MH1-S	JUNCTION	0.049	0.049	0 01:30	0.0839	0.0839	-0.6
EX_STM_MH2	JUNCTION	0.000	0.020	0 01:31	0	0.0489	-0.0
EX_STM_MH2-S	JUNCTION	0.035	0.077	0 01:30	0.061	0.137	0.6
EX_STM_MH3	JUNCTION	0.000	0.023	0 01:32	0	0.0519	0.0
EX_STM_MH3-S	JUNCTION	0.036	0.082	0 01:30	0.0612	0.157	-0.0
EX_STM_MH4	JUNCTION	0.000	0.082	0 01:30	0	0.21	-0.0
EX_STM_MH4-S	JUNCTION	0.070	0.097	0 01:30	0.123	0.159	-0.0
EX_STM_MH5	JUNCTION	0.000	0.270	0 01:30	0	0.73	0.0
EX_STM_MH5-S	JUNCTION	0.071	0.118	0 01:30	0.139	0.215	2.2
EX_STM_MH6	JUNCTION	0.000	0.264	0 01:32	0	0.734	-0.0
EX_STM_MH6-S	JUNCTION	0.016	0.016	0 01:30	0.0302	0.0302	-0.7
EX_STM_MH7	JUNCTION	0.000	0.261	0 01:33	0	0.734	-0.0
EX_STM_MH7-S	JUNCTION	0.000	0.000	0 00:00	0	0	0.0
J-S1	JUNCTION	0.000	0.223	0 01:30	0	0.52	0.0
J-S1minor	JUNCTION	0.071	0.137	0 01:30	0.123	0.299	-0.0
J-S7	JUNCTION	0.000	0.072	0 01:30	0	0.189	0.0
J-S7minor	JUNCTION	0.011	0.052	0 01:30	0.0182	0.136	-0.1
J9_COM	OUTFALL	0.120	0.334	0 01:30	0.208	0.942	0.0

****
Node Surcharge Summary

****

No nodes were surcharged.

****
Node Flooding Summary
****

No nodes were flooded.

****
Outfall Loading Summary
****

Outfall Node	Flow Freq Pcnt	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr
J9_COM	51.73	0.021	0.334	0.942
System	51.73	0.021	0.334	0.942

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CMS	Time of Max Occurrence days hr:min	Maximum |Veloc| m/sec	Max/ Full Flow	Max/ Full Depth
C1	CONDUIT	0.023	0 01:32	0.87	0.07	0.22
C12	CONDUIT	0.136	0 01:30	1.18	0.13	0.73
C13	CONDUIT	0.221	0 01:30	1.43	0.27	0.38
C1-S	CHANNEL	0.028	0 01:30	0.27	0.00	0.08
C1-S7	CONDUIT	0.051	0 01:30	1.26	0.16	0.59
C2	CONDUIT	0.006	0 01:31	0.57	0.03	0.11
C2-S	CHANNEL	0.042	0 01:30	0.30	0.00	0.10
C3	CONDUIT	0.019	0 01:32	0.86	0.09	0.20
C3-S	CHANNEL	0.048	0 01:31	0.39	0.01	0.09
C4	CONDUIT	0.081	0 01:31	1.78	0.15	0.26
C4-S	CHANNEL	0.077	0 01:30	0.59	0.01	0.09
C5	CONDUIT	0.093	0 01:31	0.83	0.11	0.32
C5-S	CHANNEL	0.040	0 01:30	0.16	0.00	0.13
C6	CONDUIT	0.261	0 01:32	1.59	0.32	0.40
C6-S	CHANNEL	0.008	0 01:30	0.05	0.00	0.12
C7	CONDUIT	0.261	0 01:33	1.45	0.14	0.26
C7-S	CHANNEL	0.000	0 00:00	0.00	0.00	0.03
C8	CONDUIT	0.261	0 01:33	1.51	0.13	0.25
C9	CONDUIT	0.071	0 01:30	1.99	0.16	0.28
J-S1minor-IC	WEIR	0.067	0 01:30			0.41
J-S7minor-IC	WEIR	0.042	0 01:30			0.13
J1_COM-IC	DUMMY	0.006	0 01:30			
J2_COM-IC	DUMMY	0.014	0 01:31			
J3_COM-IC	DUMMY	0.004	0 01:30			
J4_COM-IC	DUMMY	0.011	0 01:30			
J5_COM-IC	DUMMY	0.011	0 01:30			
J6_COM-IC	DUMMY	0.059	0 01:35			
J7_COM-IC	DUMMY	0.003	0 01:30			
J8_COM-IC	DUMMY	0.000	0 00:00			

****
Flow Classification Summary
****

Conduit	Adjusted /Actual Length	Fraction of Time in Flow Class: Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl
C1	1.00	0.00	0.81	0.00	0.18	0.01	0.00	0.00	0.96	0.00
C12	1.00	0.00	0.00	0.00	0.97	0.03	0.00	0.00	0.00	1.00
C13	1.00	0.00	0.00	0.00	0.96	0.04	0.00	0.00	0.94	0.00
C1-S	1.00	0.00	0.01	0.00	0.99	0.00	0.00	0.00	0.99	0.00
C1-S7	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
C2	1.00	0.04	0.00	0.00	0.00	0.00	0.00	0.96	0.00	0.00
C2-S	1.00	0.00	0.00	0.00	0.98	0.02	0.00	0.00	0.97	0.00
C3	1.00	0.04	0.00	0.00	0.00	0.00	0.00	0.96	0.00	0.00
C3-S	1.00	0.00	0.00	0.00	0.01	0.99	0.00	0.00	0.00	0.00
C4	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
C4-S	1.00	0.00	0.00	0.00	0.01	0.99	0.00	0.00	0.00	0.00
C5	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.97	0.00
C5-S	1.00	0.00	0.12	0.00	0.88	0.00	0.00	0.00	0.99	0.00
C6	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
C6-S	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.99	0.00
C7	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
C7-S	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C8	1.00	0.00	0.00	0.00	0.85	0.14	0.00	0.00	0.77	0.00
C9	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00

****
Conduit Surcharge Summary
****

No conduits were surcharged.

Analysis begun on: Thu May 14 21:42:35 2020
Analysis ended on: Thu May 14 21:42:37 2020
Total elapsed time: 00:00:02

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.013)

WARNING 10: crest elevation raised to downstream invert for regulator Link J-S1minor-IC
WARNING 10: crest elevation raised to downstream invert for regulator Link J-S7minor-IC
WARNING 02: maximum depth increased for Node J-S1minor
WARNING 02: maximum depth increased for Node J-S7minor

****
Element Count
****
Number of rain gages 10
Number of subcatchments ... 13
Number of nodes 21
Number of links 29
Number of pollutants 0
Number of land uses 0

****
Raingage Summary
****

Name	Data Source	Data Type	Recording Interval
25mm	25mm	INTENSITY	10 min.
Chicago_24h_100yr	Chicago_24h_100yr_COM	INTENSITY	5 min.
Chicago_24h_10yr	Chicago_24h_10yr_COM	INTENSITY	5 min.
Chicago_24h_2yr	Chicago_24h_2yr_COM	INTENSITY	5 min.
Chicago_4h_100year_COM	Chicago_4h_100year_COM	INTENSITY	5 min.
Chicago_4h_10year_COM	Chicago_4h_10year_COM	INTENSITY	5 min.
Chicago_4h_25year_COM	Chicago_4h_25year_COM	INTENSITY	5 min.
Chicago_4h_2yr_COM	Chicago_4h_2yr_COM	INTENSITY	5 min.
Chicago_4h_50year_COM	Chicago_4h_50year_COM	INTENSITY	5 min.
Chicago_4h_5year_COM	Chicago_4h_5year_COM	INTENSITY	5 min.

****
Subcatchment Summary
****

Name	Area	Width	%Imperv	%Slope	Rain Gage	Outlet
S1	10.25	208.76	5.00	2.5000	Chicago_4h_10year_COM	J-S1minor
S2	0.35	35.00	75.00	1.5000	Chicago_4h_10year_COM	EX_STM_MH4-
S3	0.29	29.00	50.00	1.5000	Chicago_4h_10year_COM	EX_MH1-S
S4	2.04	102.00	20.00	1.5000	Chicago_4h_10year_COM	EX_STM_MH5-
S5	8.59	859.00	10.00	1.5000	Chicago_4h_10year_COM	J9_COM
S6_ROW1	0.50	100.22	70.00	1.8000	Chicago_4h_10year_COM	EX_STM_MH1-
S6_ROW2	0.36	72.87	70.00	1.8000	Chicago_4h_10year_COM	EX_STM_MH2-
S6_ROW3	0.37	73.14	70.00	1.8000	Chicago_4h_10year_COM	EX_STM_MH3-
S6_ROW4	0.36	72.06	70.00	1.8000	Chicago_4h_10year_COM	EX_STM_MH4-
S6_ROW5	0.37	74.56	70.00	1.8000	Chicago_4h_10year_COM	EX_MH1-S
S6_ROW6	0.42	84.54	25.00	1.0000	Chicago_4h_10year_COM	EX_STM_MH5-
S6_ROW7	0.45	89.84	25.00	1.0000	Chicago_4h_10year_COM	EX_STM_MH6-
S7	2.51	100.40	3.00	1.0000	Chicago_4h_10year_COM	J-S7minor

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Node Summary
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Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow

EX_MH1	JUNCTION	185.47	3.17	0.0
EX_MH1-S	JUNCTION	188.64	0.30	0.0
EX_STM_MH1	JUNCTION	191.70	2.25	0.0
EX_STM_MH1-S	JUNCTION	193.95	0.30	0.0
EX_STM_MH2	JUNCTION	191.00	2.00	0.0
EX_STM_MH2-S	JUNCTION	193.00	0.30	0.0
EX_STM_MH3	JUNCTION	190.09	2.41	0.0
EX_STM_MH3-S	JUNCTION	192.50	0.30	0.0
EX_STM_MH4	JUNCTION	187.61	3.20	0.0
EX_STM_MH4-S	JUNCTION	190.81	0.30	0.0
EX_STM_MH5	JUNCTION	184.77	2.53	0.0
EX_STM_MH5-S	JUNCTION	187.30	0.30	0.0
EX_STM_MH6	JUNCTION	184.03	3.57	0.0
EX_STM_MH6-S	JUNCTION	187.60	0.30	0.0
EX_STM_MH7	JUNCTION	183.40	4.22	0.0
EX_STM_MH7-S	JUNCTION	187.62	0.30	0.0
J-S1	JUNCTION	185.39	2.61	0.0
J-S1minor	JUNCTION	187.66	1.04	0.0
J-S7	JUNCTION	189.40	2.60	0.0
J-S7minor	JUNCTION	191.55	1.10	200.0
J9_COM	OUTFALL	183.10	1.05	0.0

****
Link Summary
****

Name	From Node	To Node	Type	Length	%Slope	Roughness
C1	EX_STM_MH3	J-S7	CONDUIT	45.9	1.5022	0.0130
C12	J-S1minor	J-S1	CONDUIT	16.1	14.2588	0.0130
C13	J-S1	EX_STM_MH5	CONDUIT	114.8	0.5399	0.0130
C1-S	EX_STM_MH3-S	EX_STM_MH4-S	CONDUIT	102.1	1.6559	0.0140
C1-S7	J-S7minor	J-S7	CONDUIT	19.1	10.5464	0.0130
C2	EX_STM_MH1	EX_STM_MH2	CONDUIT	119.7	0.5013	0.0130
C2-S	EX_STM_MH1-S	EX_STM_MH2-S	CONDUIT	112.5	0.8445	0.0140
C3	EX_STM_MH2	EX_STM_MH3	CONDUIT	120.9	0.6286	0.0130
C3-S	EX_STM_MH2-S	EX_STM_MH3-S	CONDUIT	123.5	0.4048	0.0140
C4	EX_STM_MH4	EX_MH1	CONDUIT	120.3	1.5966	0.0130
C4-S	EX_STM_MH4-S	EX_MH1-S	CONDUIT	126.1	1.7218	0.0140
C5	EX_MH1	J-S1	CONDUIT	14.7	0.5438	0.0130
C5-S	EX_MH1-S	EX_STM_MH5-S	CONDUIT	138.9	0.9646	0.0140
C6	EX_STM_MH5	EX_STM_MH6	CONDUIT	120.0	0.5250	0.0130
C6-S	EX_STM_MH5-S	EX_STM_MH6-S	CONDUIT	119.3	-0.2514	0.0140
C7	EX_STM_MH6	EX_STM_MH7	CONDUIT	120.7	0.4390	0.0130
C7-S	EX_STM_MH7-S	EX_STM_MH6-S	CONDUIT	118.6	0.0177	0.0140
C8	EX_STM_MH7	J9_COM	CONDUIT	58.1	0.5163	0.0130
C9	J-S7	EX_STM_MH4	CONDUIT	73.5	2.3352	0.0130
J-S1minor-IC	J-S1minor	EX_MH1-S	WEIR			
J-S7minor-IC	J-S7minor	EX_STM_MH3-S	WEIR			
J1_COM-IC	EX_STM_MH1-S	EX_STM_MH1	OUTLET			
J2_COM-IC	EX_STM_MH2-S	EX_STM_MH2	OUTLET			
J3_COM-IC	EX_STM_MH3-S	EX_STM_MH3	OUTLET			
J4_COM-IC	EX_STM_MH4-S	EX_STM_MH4	OUTLET			
J5_COM-IC	EX_MH1-S	EX_MH1	OUTLET			
J6_COM-IC	EX_STM_MH5-S	EX_STM_MH5	OUTLET			
J7_COM-IC	EX_STM_MH6-S	EX_STM_MH6	OUTLET			
J8_COM-IC	EX_STM_MH7-S	EX_STM_MH7	OUTLET			

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Cross Section Summary
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Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow

C1	CIRCULAR	0.45	0.16	0.11	0.45	1	0.35
C12	CIRCULAR	0.45	0.16	0.11	0.45	1	1.08
C13	CIRCULAR	0.75	0.44	0.19	0.75	1	0.82
C1-S	full-11m	0.30	4.26	0.20	26.00	1	13.51
C1-S7	CIRCULAR	0.30	0.07	0.07	0.30	1	0.31
C2	CIRCULAR	0.45	0.16	0.11	0.45	1	0.20
C2-S	full-11m	0.30	4.26	0.20	26.00	1	9.65
C3	CIRCULAR	0.45	0.16	0.11	0.45	1	0.23
C3-S	full-11m	0.30	4.26	0.20	26.00	1	6.68
C4	CIRCULAR	0.53	0.22	0.13	0.53	1	0.54
C4-S	full-11m	0.30	4.26	0.20	26.00	1	13.78
C5	CIRCULAR	0.75	0.44	0.19	0.75	1	0.82
C5-S	full-11m	0.30	4.26	0.20	26.00	1	10.31
C6	CIRCULAR	0.75	0.44	0.19	0.75	1	0.81
C6-S	full-11m	0.30	4.26	0.20	26.00	1	5.26
C7	CIRCULAR	1.05	0.87	0.26	1.05	1	1.81
C7-S	full-11m	0.30	4.26	0.20	26.00	1	1.40
C8	CIRCULAR	1.05	0.87	0.26	1.05	1	1.96
C9	CIRCULAR	0.45	0.16	0.11	0.45	1	0.44

****
Transect Summary
****

Transect full-11m
Area:

0.0015	0.0062	0.0139	0.0248	0.0387
0.0542	0.0697	0.0852	0.1007	0.1162
0.1317	0.1472	0.1627	0.1782	0.1937
0.2092	0.2246	0.2401	0.2556	0.2711
0.2866	0.3021	0.3176	0.3331	0.3486
0.3645	0.3813	0.3989	0.4173	0.4366
0.4568	0.4777	0.4996	0.5223	0.5458
0.5701	0.5954	0.6214	0.6483	0.6761
0.7046	0.7341	0.7644	0.7955	0.8275
0.8603	0.8939	0.9285	0.9638	1.0000

Hrad:

0.0147	0.0293	0.0440	0.0587	0.0733
0.1026	0.1317	0.1608	0.1898	0.2188
0.2477	0.2766	0.3053	0.3341	0.3627
0.3913	0.4198	0.4483	0.4767	0.5051
0.5334	0.5616	0.5898	0.6179	0.6459
0.6735	0.6991	0.7228	0.7447	0.7651
0.7841	0.8017	0.8182	0.8337	0.8482
0.8618	0.8747	0.8869	0.8985	0.9095
0.9200	0.9301	0.9398	0.9492	0.9582
0.9670	0.9755	0.9839	0.9920	1.0000

Width:

0.0846	0.1692	0.2538	0.3385	0.4231
0.4231	0.4231	0.4231	0.4231	0.4231
0.4231	0.4231	0.4231	0.4231	0.4231
0.4231	0.4231	0.4231	0.4231	0.4231
0.4231	0.4231	0.4231	0.4231	0.4231
0.4462	0.4692	0.4923	0.5154	0.5385
0.5615	0.5846	0.6077	0.6308	0.6538
0.6769	0.7000	0.7231	0.7462	0.7692
0.7923	0.8154	0.8385	0.8615	0.8846
0.9077	0.9308	0.9538	0.9769	1.0000

Transect Full7m
Area:

0.0006 0.0024 0.0054 0.0097 0.0151
0.0217 0.0296 0.0387 0.0489 0.0604
0.0731 0.0869 0.1010 0.1151 0.1292
0.1433 0.1574 0.1715 0.1856 0.1997
0.2138 0.2279 0.2419 0.2560 0.2701
0.2848 0.3007 0.3179 0.3362 0.3557
0.3764 0.3984 0.4215 0.4459 0.4715
0.4983 0.5262 0.5554 0.5858 0.6174
0.6503 0.6843 0.7195 0.7560 0.7936
0.8325 0.8726 0.9138 0.9563 1.0000

Hrad:

0.0185 0.0370 0.0555 0.0740 0.0925
0.1111 0.1296 0.1481 0.1666 0.1851
0.2036 0.2282 0.2647 0.3011 0.3374
0.3736 0.4097 0.4456 0.4815 0.5172
0.5528 0.5883 0.6236 0.6588 0.6940
0.7280 0.7580 0.7844 0.8076 0.8279
0.8459 0.8617 0.8756 0.8880 0.8991
0.9091 0.9182 0.9265 0.9341 0.9412
0.9480 0.9543 0.9605 0.9664 0.9721
0.9778 0.9834 0.9889 0.9945 1.0000

Width:

0.0273 0.0545 0.0818 0.1091 0.1364
0.1636 0.1909 0.2182 0.2455 0.2727
0.3000 0.3182 0.3182 0.3182 0.3182
0.3182 0.3182 0.3182 0.3182 0.3182
0.3182 0.3182 0.3182 0.3182 0.3182
0.3455 0.3727 0.4000 0.4273 0.4545
0.4818 0.5091 0.5364 0.5636 0.5909
0.6182 0.6455 0.6727 0.7000 0.7273
0.7545 0.7818 0.8091 0.8364 0.8636
0.8909 0.9182 0.9455 0.9727 1.0000

Transect overflow

Area:

0.0151 0.0304 0.0459 0.0616 0.0775
0.0936 0.1099 0.1264 0.1431 0.1600
0.1771 0.1944 0.2119 0.2296 0.2475
0.2656 0.2839 0.3024 0.3211 0.3400
0.3591 0.3784 0.3979 0.4176 0.4375
0.4576 0.4779 0.4984 0.5191 0.5400
0.5611 0.5824 0.6039 0.6256 0.6475
0.6696 0.6919 0.7144 0.7371 0.7600
0.7831 0.8064 0.8299 0.8536 0.8775
0.9016 0.9259 0.9504 0.9751 1.0000

Hrad:

0.0250 0.0496 0.0740 0.0982 0.1221
0.1457 0.1691 0.1922 0.2152 0.2378
0.2603 0.2825 0.3045 0.3263 0.3479
0.3693 0.3905 0.4115 0.4323 0.4530
0.4734 0.4937 0.5137 0.5336 0.5534
0.5730 0.5924 0.6116 0.6307 0.6496
0.6684 0.6871 0.7056 0.7239 0.7421
0.7602 0.7781 0.7959 0.8136 0.8311
0.8486 0.8658 0.8830 0.9001 0.9170
0.9338 0.9505 0.9671 0.9836 1.0000

Width:

0.6080 0.6160 0.6240 0.6320 0.6400
0.6480 0.6560 0.6640 0.6720 0.6800
0.6880 0.6960 0.7040 0.7120 0.7200
0.7280 0.7360 0.7440 0.7520 0.7600
0.7680 0.7760 0.7840 0.7920 0.8000
0.8080 0.8160 0.8240 0.8320 0.8400
0.8480 0.8560 0.8640 0.8720 0.8800

0.8880	0.8960	0.9040	0.9120	0.9200
0.9280	0.9360	0.9440	0.9520	0.9600
0.9680	0.9760	0.9840	0.9920	1.0000

****
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
****

****
Analysis Options
****
Flow Units ..... CMS
Process Models:
  Rainfall/Runoff ..... YES
  RDII ..... NO
  Snowmelt ..... NO
  Groundwater ..... NO
  Flow Routing ..... YES
  Ponding Allowed ..... YES
  Water Quality ..... NO
Infiltration Method ..... CURVE_NUMBER
Flow Routing Method ..... DYNWAVE
Surcharge Method ..... EXTRAN
Starting Date 04/29/2020 00:00:00
Ending Date 04/30/2020 00:00:00
Antecedent Dry Days 0.0
Report Time Step 00:01:00
Wet Time Step 00:00:30
Dry Time Step 00:01:00
Routing Time Step ..... 2.00 sec
Variable Time Step ..... YES
Maximum Trials 8
Number of Threads 6
Head Tolerance ..... 0.001500 m

**********	Volume	Depth
Runoff Quantity Continuity	hectare-m	mm
**********	---------	-------
Total Precipitation	1.488	55.384
Evaporation Loss	0.000	0.000
Infiltration Loss	0.973	36.233
Surface Runoff	0.480	17.855
Final Storage	0.035	1.299
Continuity Error (%)	-0.006	

**********	Volume	Volume
Flow Routing Continuity	hectare-m	10^6 ltr
**********	---------	---------
Dry Weather Inflow	0.000	0.000
Wet Weather Inflow	0.480	4.797
Groundwater Inflow	0.000	0.000
RDII Inflow	0.000	0.000
External Inflow	0.000	0.000
External Outflow	0.479	4.794
Flooding Loss	0.000	0.000
Evaporation Loss	0.000	0.000
Exfiltration Loss	0.000	0.000
Initial Stored Volume	0.000	0.000
Final Stored Volume	0.000	0.002

Continuity Error (%) 0.016

****
Time-Step Critical Elements
****
None

****
Highest Flow Instability Indexes
****
Link C12 (5)
Link C1-S7 (3)
Link C13 (2)

****
Routing Time Step Summary
****
Minimum Time Step   :   0.50 sec
Average Time Step   :   2.00 sec
Maximum Time Step   :   2.00 sec
Percent in Steady State   :   0.00
Average Iterations per Step :   2.01
Percent Not Converging   :   0.16

****
Subcatchment Runoff Summary
****

Subcatchment	Total Precip mm	Total Runon mm	Total Evap mm	Total Infil mm	Imperv Runoff mm	Perv Runoff mm	Tot Runo
S1	55.38	0.00	0.00	42.48	2.70	8.93	11.
S2	55.38	0.00	0.00	9.82	40.42	3.71	44.
S3	55.38	0.00	0.00	20.03	26.95	7.03	33.
S4	55.38	0.00	0.00	28.51	10.78	14.79	25.
S5	55.38	0.00	0.00	36.94	5.39	11.77	17.
S6_ROW1	55.38	0.00	0.00	11.65	37.73	4.58	42.
S6_ROW2	55.38	0.00	0.00	11.65	37.73	4.58	42.
S6_ROW3	55.38	0.00	0.00	11.65	37.73	4.58	42.
S6_ROW4	55.38	0.00	0.00	11.65	37.73	4.58	42.
S6_ROW5	55.38	0.00	0.00	11.65	37.73	4.58	42.
S6_ROW6	55.38	0.00	0.00	26.43	13.48	14.16	27.
S6_ROW7	55.38	0.00	0.00	26.43	13.48	14.16	27.
S7	55.38	0.00	0.00	42.78	1.62	9.72	11.

****
Node Depth Summary
****

Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
EX_MH1	JUNCTION	0.03	0.42	185.89	0 01:25	0.42
EX_MH1-S	JUNCTION	0.00	0.04	188.68	0 01:25	0.04
EX_STM_MH1	JUNCTION	0.00	0.07	191.77	0 01:26	0.07

EX_STM_MH1-S	JUNCTION	0.00	0.04	193.99	0	01:25	0.04
EX_STM_MH2	JUNCTION	0.01	0.14	191.14	0	01:27	0.14
EX_STM_MH2-S	JUNCTION	0.00	0.05	193.05	0	01:26	0.05
EX_STM_MH3	JUNCTION	0.01	0.12	190.21	0	01:27	0.12
EX_STM_MH3-S	JUNCTION	0.00	0.03	192.53	0	01:26	0.03
EX_STM_MH4	JUNCTION	0.02	0.22	187.83	0	01:28	0.22
EX_STM_MH4-S	JUNCTION	0.00	0.04	190.85	0	01:25	0.04
EX_STM_MH5	JUNCTION	0.06	0.65	185.42	0	01:30	0.65
EX_STM_MH5-S	JUNCTION	0.02	0.11	187.41	0	01:30	0.11
EX_STM_MH6	JUNCTION	0.06	0.51	184.54	0	01:30	0.51
EX_STM_MH6-S	JUNCTION	0.00	0.03	187.63	0	01:26	0.03
EX_STM_MH7	JUNCTION	0.05	0.51	183.91	0	01:31	0.51
EX_STM_MH7-S	JUNCTION	0.00	0.00	187.62	0	01:37	0.00
J-S1	JUNCTION	0.05	0.48	185.87	0	01:25	0.47
J-S1minor	JUNCTION	0.06	1.04	188.70	0	01:24	1.03
J-S7	JUNCTION	0.02	0.20	189.60	0	01:27	0.20
J-S7minor	JUNCTION	0.04	0.68	192.23	0	01:25	0.66
J9_COM	OUTFALL	0.05	0.46	183.56	0	01:31	0.46

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Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CMS	Maximum Total Inflow CMS	Time of Max Occurrence days	hr:min	Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Fl Balan Err Perce
EX_MH1	JUNCTION	0.000	0.224	0	01:27	0	0.761	0.0
EX_MH1-S	JUNCTION	0.192	0.578	0	01:24	0.256	0.653	-0.2
EX_STM_MH1	JUNCTION	0.000	0.014	0	01:25	0	0.0252	-0.0
EX_STM_MH1-S	JUNCTION	0.168	0.168	0	01:25	0.212	0.212	-0.2
EX_STM_MH2	JUNCTION	0.000	0.046	0	01:26	0	0.111	-0.0
EX_STM_MH2-S	JUNCTION	0.122	0.267	0	01:25	0.154	0.342	0.2
EX_STM_MH3	JUNCTION	0.000	0.053	0	01:27	0	0.124	-0.0
EX_STM_MH3-S	JUNCTION	0.122	0.271	0	01:25	0.155	0.409	0.0
EX_STM_MH4	JUNCTION	0.000	0.193	0	01:27	0	0.715	-0.0
EX_STM_MH4-S	JUNCTION	0.238	0.345	0	01:25	0.307	0.454	-0.0
EX_STM_MH5	JUNCTION	0.000	0.781	0	01:26	0	3.29	-0.0
EX_STM_MH5-S	JUNCTION	0.249	0.470	0	01:25	0.638	0.958	0.5
EX_STM_MH6	JUNCTION	0.000	0.780	0	01:30	0	3.32	-0.0
EX_STM_MH6-S	JUNCTION	0.056	0.056	0	01:25	0.124	0.124	-0.2
EX_STM_MH7	JUNCTION	0.000	0.779	0	01:31	0	3.32	-0.0
EX_STM_MH7-S	JUNCTION	0.000	0.000	0	01:26	0	0.000411	6.2
J-S1	JUNCTION	0.000	0.858	0	01:25	0	2.34	-0.0
J-S1minor	JUNCTION	0.247	0.404	0	01:24	1.19	1.58	0.0
J-S7	JUNCTION	0.000	0.169	0	01:27	0	0.658	0.0
J-S7minor	JUNCTION	0.037	0.126	0	01:25	0.284	0.534	-0.0
J9_COM	OUTFALL	0.416	0.987	0	01:30	1.47	4.79	0.0

****
Node Surcharge Summary
****

Surcharging occurs when water rises above the top of the highest conduit.

Node	Type	Hours Surcharged	Max. Height Above Crown Meters	Min. Depth Below Rim Meters
J-S1minor	JUNCTION	0.01	0.000	0.000

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Node Flooding Summary
****

No nodes were flooded.

****
Outfall Loading Summary
****

Outfall Node	Flow Freq Pcnt	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr
J9_COM	52.23	0.107	0.987	4.794
System	52.23	0.107	0.987	4.794

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Link Flow Summary
****

Link	Type	Maximum |Flow| CMS	Time of Max Occurrence days hr:min	Maximum |Veloc| m/sec	Max/ Full Flow	Max/ Full Depth
C1	CONDUIT	0.053	0 01:28	1.04	0.15	0.36
C12	CONDUIT	0.672	0 01:25	4.23	0.62	1.00
C13	CONDUIT	0.556	0 01:25	1.80	0.68	0.71
C1-S	CHANNEL	0.131	0 01:26	0.51	0.01	0.13
C1-S7	CONDUIT	0.121	0 01:25	2.24	0.39	0.72
C2	CONDUIT	0.012	0 01:26	0.69	0.06	0.16
C2-S	CHANNEL	0.146	0 01:25	0.47	0.02	0.15
C3	CONDUIT	0.043	0 01:27	1.08	0.19	0.30
C3-S	CHANNEL	0.169	0 01:26	0.57	0.03	0.14
C4	CONDUIT	0.192	0 01:28	2.25	0.35	0.42
C4-S	CHANNEL	0.281	0 01:25	0.87	0.02	0.15
C5	CONDUIT	0.229	0 01:26	0.94	0.28	0.60
C5-S	CHANNEL	0.216	0 01:25	0.38	0.02	0.25
C6	CONDUIT	0.774	0 01:30	2.05	0.96	0.80
C6-S	CHANNEL	0.024	0 01:26	0.05	0.00	0.23
C7	CONDUIT	0.779	0 01:31	1.94	0.43	0.47
C7-S	CHANNEL	0.000	0 01:26	0.01	0.00	0.04
C8	CONDUIT	0.780	0 01:31	2.00	0.40	0.46
C9	CONDUIT	0.169	0 01:27	2.50	0.39	0.44
J-S1minor-IC	WEIR	0.167	0 01:25			1.02
J-S7minor-IC	WEIR	0.099	0 01:26			0.22
J1_COM-IC	DUMMY	0.014	0 01:25			
J2_COM-IC	DUMMY	0.034	0 01:26			
J3_COM-IC	DUMMY	0.010	0 01:26			
J4_COM-IC	DUMMY	0.026	0 01:25			
J5_COM-IC	DUMMY	0.035	0 01:25			
J6_COM-IC	DUMMY	0.295	0 01:30			
J7_COM-IC	DUMMY	0.006	0 01:26			
J8_COM-IC	DUMMY	0.000	0 01:37			

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Flow Classification Summary
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Conduit	Adjusted /Actual Length	Fraction of Time in Flow Class: Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl
C1	1.00	0.00	0.78	0.00	0.21	0.00	0.00	0.00	0.97	0.00
C12	1.00	0.00	0.00	0.00	0.86	0.14	0.00	0.00	0.00	1.00
C13	1.00	0.00	0.00	0.00	0.95	0.05	0.00	0.00	0.94	0.00
C1-S	1.00	0.00	0.01	0.00	0.98	0.01	0.00	0.00	1.00	0.00
C1-S7	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
C2	1.00	0.03	0.00	0.00	0.00	0.00	0.00	0.97	0.00	0.00
C2-S	1.00	0.00	0.00	0.00	0.98	0.02	0.00	0.00	0.98	0.00
C3	1.00	0.03	0.00	0.00	0.00	0.00	0.00	0.97	0.00	0.00
C3-S	1.00	0.00	0.00	0.00	0.01	0.99	0.00	0.00	0.00	0.00
C4	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
C4-S	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.01	0.00
C5	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.86	0.00
C5-S	1.00	0.00	0.12	0.00	0.87	0.00	0.00	0.00	1.00	0.00
C6	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
C6-S	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00
C7	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
C7-S	1.00	0.00	0.96	0.00	0.03	0.00	0.00	0.00	0.92	0.00
C8	1.00	0.00	0.00	0.00	0.73	0.27	0.00	0.00	0.63	0.00
C9	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00

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Conduit Surcharge Summary
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Conduit	Hours Full: Both Ends	Upstream	Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
C12	0.01	0.28	0.03	0.01	0.01
C1-S7	0.01	0.39	0.01	0.01	0.01

Analysis begun on: Fri May 15 09:18:15 2020
Analysis ended on: Fri May 15 09:18:17 2020
Total elapsed time: 00:00:02

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.013)

WARNING 10: crest elevation raised to downstream invert for regulator Link J-S1minor-IC
WARNING 10: crest elevation raised to downstream invert for regulator Link J-S7minor-IC
WARNING 02: maximum depth increased for Node J-S1minor
WARNING 02: maximum depth increased for Node J-S7minor

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Element Count
****
Number of rain gages 10
Number of subcatchments ... 13
Number of nodes 21
Number of links 29
Number of pollutants 0
Number of land uses 0

****
Raingage Summary
****

Name	Data Source	Data Type	Recording Interval
25mm	25mm	INTENSITY	10 min.
Chicago_24h_100yr	Chicago_24h_100yr_COM	INTENSITY	5 min.
Chicago_24h_10yr	Chicago_24h_10yr_COM	INTENSITY	5 min.
Chicago_24h_2yr	Chicago_24h_2yr_COM	INTENSITY	5 min.
Chicago_4h_100year_COM	Chicago_4h_100year_COM	INTENSITY	5 min.
Chicago_4h_10year_COM	Chicago_4h_10year_COM	INTENSITY	5 min.
Chicago_4h_25year_COM	Chicago_4h_25year_COM	INTENSITY	5 min.
Chicago_4h_2yr_COM	Chicago_4h_2yr_COM	INTENSITY	5 min.
Chicago_4h_50year_COM	Chicago_4h_50year_COM	INTENSITY	5 min.
Chicago_4h_5year_COM	Chicago_4h_5year_COM	INTENSITY	5 min.

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Subcatchment Summary
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Name	Area	Width	%Imperv	%Slope	Rain Gage	Outlet
S1	10.25	208.76	5.00	2.5000	Chicago_4h_100year_COM	J-S1minor
S2	0.35	35.00	75.00	1.5000	Chicago_4h_100year_COM	EX_STM_MH4
S3	0.29	29.00	50.00	1.5000	Chicago_4h_100year_COM	EX_MH1-S
S4	2.04	102.00	20.00	1.5000	Chicago_4h_100year_COM	EX_STM_MH5
S5	8.59	859.00	10.00	1.5000	Chicago_4h_100year_COM	J9_COM
S6_ROW1	0.50	100.22	70.00	1.8000	Chicago_4h_100year_COM	EX_STM_MH1
S6_ROW2	0.36	72.87	70.00	1.8000	Chicago_4h_100year_COM	EX_STM_MH2
S6_ROW3	0.37	73.14	70.00	1.8000	Chicago_4h_100year_COM	EX_STM_MH3
S6_ROW4	0.36	72.06	70.00	1.8000	Chicago_4h_100year_COM	EX_STM_MH4
S6_ROW5	0.37	74.56	70.00	1.8000	Chicago_4h_100year_COM	EX_MH1-S
S6_ROW6	0.42	84.54	25.00	1.0000	Chicago_4h_100year_COM	EX_STM_MH5
S6_ROW7	0.45	89.84	25.00	1.0000	Chicago_4h_100year_COM	EX_STM_MH6
S7	2.51	100.40	3.00	1.0000	Chicago_4h_100year_COM	J-S7minor

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Node Summary
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Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow

EX_MH1	JUNCTION	185.47	3.17	0.0
EX_MH1-S	JUNCTION	188.64	0.30	0.0
EX_STM_MH1	JUNCTION	191.70	2.25	0.0
EX_STM_MH1-S	JUNCTION	193.95	0.30	0.0
EX_STM_MH2	JUNCTION	191.00	2.00	0.0
EX_STM_MH2-S	JUNCTION	193.00	0.30	0.0
EX_STM_MH3	JUNCTION	190.09	2.41	0.0
EX_STM_MH3-S	JUNCTION	192.50	0.30	0.0
EX_STM_MH4	JUNCTION	187.61	3.20	0.0
EX_STM_MH4-S	JUNCTION	190.81	0.30	0.0
EX_STM_MH5	JUNCTION	184.77	2.53	0.0
EX_STM_MH5-S	JUNCTION	187.30	0.30	0.0
EX_STM_MH6	JUNCTION	184.03	3.57	0.0
EX_STM_MH6-S	JUNCTION	187.60	0.30	0.0
EX_STM_MH7	JUNCTION	183.40	4.22	0.0
EX_STM_MH7-S	JUNCTION	187.62	0.30	0.0
J-S1	JUNCTION	185.39	2.61	0.0
J-S1minor	JUNCTION	187.66	1.04	0.0
J-S7	JUNCTION	189.40	2.60	0.0
J-S7minor	JUNCTION	191.55	1.10	200.0
J9_COM	OUTFALL	183.10	1.05	0.0

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Link Summary
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Name	From Node	To Node	Type	Length	%Slope	Roughness
C1	EX_STM_MH3	J-S7	CONDUIT	45.9	1.5022	0.0130
C12	J-S1minor	J-S1	CONDUIT	16.1	14.2588	0.0130
C13	J-S1	EX_STM_MH5	CONDUIT	114.8	0.5399	0.0130
C1-S	EX_STM_MH3-S	EX_STM_MH4-S	CONDUIT	102.1	1.6559	0.0140
C1-S7	J-S7minor	J-S7	CONDUIT	19.1	10.5464	0.0130
C2	EX_STM_MH1	EX_STM_MH2	CONDUIT	119.7	0.5013	0.0130
C2-S	EX_STM_MH1-S	EX_STM_MH2-S	CONDUIT	112.5	0.8445	0.0140
C3	EX_STM_MH2	EX_STM_MH3	CONDUIT	120.9	0.6286	0.0130
C3-S	EX_STM_MH2-S	EX_STM_MH3-S	CONDUIT	123.5	0.4048	0.0140
C4	EX_STM_MH4	EX_MH1	CONDUIT	120.3	1.5966	0.0130
C4-S	EX_STM_MH4-S	EX_MH1-S	CONDUIT	126.1	1.7218	0.0140
C5	EX_MH1	J-S1	CONDUIT	14.7	0.5438	0.0130
C5-S	EX_MH1-S	EX_STM_MH5-S	CONDUIT	138.9	0.9646	0.0140
C6	EX_STM_MH5	EX_STM_MH6	CONDUIT	120.0	0.5250	0.0130
C6-S	EX_STM_MH5-S	EX_STM_MH6-S	CONDUIT	119.3	-0.2514	0.0140
C7	EX_STM_MH6	EX_STM_MH7	CONDUIT	120.7	0.4390	0.0130
C7-S	EX_STM_MH7-S	EX_STM_MH6-S	CONDUIT	118.6	0.0177	0.0140
C8	EX_STM_MH7	J9_COM	CONDUIT	58.1	0.5163	0.0130
C9	J-S7	EX_STM_MH4	CONDUIT	73.5	2.3352	0.0130
J-S1minor-IC	J-S1minor	EX_MH1-S	WEIR			
J-S7minor-IC	J-S7minor	EX_STM_MH3-S	WEIR			
J1_COM-IC	EX_STM_MH1-S	EX_STM_MH1	OUTLET			
J2_COM-IC	EX_STM_MH2-S	EX_STM_MH2	OUTLET			
J3_COM-IC	EX_STM_MH3-S	EX_STM_MH3	OUTLET			
J4_COM-IC	EX_STM_MH4-S	EX_STM_MH4	OUTLET			
J5_COM-IC	EX_MH1-S	EX_MH1	OUTLET			
J6_COM-IC	EX_STM_MH5-S	EX_STM_MH5	OUTLET			
J7_COM-IC	EX_STM_MH6-S	EX_STM_MH6	OUTLET			
J8_COM-IC	EX_STM_MH7-S	EX_STM_MH7	OUTLET			

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Cross Section Summary
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Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow

C1	CIRCULAR	0.45	0.16	0.11	0.45	1	0.35
C12	CIRCULAR	0.45	0.16	0.11	0.45	1	1.08
C13	CIRCULAR	0.75	0.44	0.19	0.75	1	0.82
C1-S	full-11m	0.30	4.26	0.20	26.00	1	13.51
C1-S7	CIRCULAR	0.30	0.07	0.07	0.30	1	0.31
C2	CIRCULAR	0.45	0.16	0.11	0.45	1	0.20
C2-S	full-11m	0.30	4.26	0.20	26.00	1	9.65
C3	CIRCULAR	0.45	0.16	0.11	0.45	1	0.23
C3-S	full-11m	0.30	4.26	0.20	26.00	1	6.68
C4	CIRCULAR	0.53	0.22	0.13	0.53	1	0.54
C4-S	full-11m	0.30	4.26	0.20	26.00	1	13.78
C5	CIRCULAR	0.75	0.44	0.19	0.75	1	0.82
C5-S	full-11m	0.30	4.26	0.20	26.00	1	10.31
C6	CIRCULAR	0.75	0.44	0.19	0.75	1	0.81
C6-S	full-11m	0.30	4.26	0.20	26.00	1	5.26
C7	CIRCULAR	1.05	0.87	0.26	1.05	1	1.81
C7-S	full-11m	0.30	4.26	0.20	26.00	1	1.40
C8	CIRCULAR	1.05	0.87	0.26	1.05	1	1.96
C9	CIRCULAR	0.45	0.16	0.11	0.45	1	0.44

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Transect Summary
****

Transect full-11m
Area:

0.0015	0.0062	0.0139	0.0248	0.0387
0.0542	0.0697	0.0852	0.1007	0.1162
0.1317	0.1472	0.1627	0.1782	0.1937
0.2092	0.2246	0.2401	0.2556	0.2711
0.2866	0.3021	0.3176	0.3331	0.3486
0.3645	0.3813	0.3989	0.4173	0.4366
0.4568	0.4777	0.4996	0.5223	0.5458
0.5701	0.5954	0.6214	0.6483	0.6761
0.7046	0.7341	0.7644	0.7955	0.8275
0.8603	0.8939	0.9285	0.9638	1.0000

Hrad:

0.0147	0.0293	0.0440	0.0587	0.0733
0.1026	0.1317	0.1608	0.1898	0.2188
0.2477	0.2766	0.3053	0.3341	0.3627
0.3913	0.4198	0.4483	0.4767	0.5051
0.5334	0.5616	0.5898	0.6179	0.6459
0.6735	0.6991	0.7228	0.7447	0.7651
0.7841	0.8017	0.8182	0.8337	0.8482
0.8618	0.8747	0.8869	0.8985	0.9095
0.9200	0.9301	0.9398	0.9492	0.9582
0.9670	0.9755	0.9839	0.9920	1.0000

Width:

0.0846	0.1692	0.2538	0.3385	0.4231
0.4231	0.4231	0.4231	0.4231	0.4231
0.4231	0.4231	0.4231	0.4231	0.4231
0.4231	0.4231	0.4231	0.4231	0.4231
0.4231	0.4231	0.4231	0.4231	0.4231
0.4462	0.4692	0.4923	0.5154	0.5385
0.5615	0.5846	0.6077	0.6308	0.6538
0.6769	0.7000	0.7231	0.7462	0.7692
0.7923	0.8154	0.8385	0.8615	0.8846
0.9077	0.9308	0.9538	0.9769	1.0000

Transect Full7m
Area:

0.0006 0.0024 0.0054 0.0097 0.0151
0.0217 0.0296 0.0387 0.0489 0.0604
0.0731 0.0869 0.1010 0.1151 0.1292
0.1433 0.1574 0.1715 0.1856 0.1997
0.2138 0.2279 0.2419 0.2560 0.2701
0.2848 0.3007 0.3179 0.3362 0.3557
0.3764 0.3984 0.4215 0.4459 0.4715
0.4983 0.5262 0.5554 0.5858 0.6174
0.6503 0.6843 0.7195 0.7560 0.7936
0.8325 0.8726 0.9138 0.9563 1.0000

Hrad:

0.0185 0.0370 0.0555 0.0740 0.0925
0.1111 0.1296 0.1481 0.1666 0.1851
0.2036 0.2282 0.2647 0.3011 0.3374
0.3736 0.4097 0.4456 0.4815 0.5172
0.5528 0.5883 0.6236 0.6588 0.6940
0.7280 0.7580 0.7844 0.8076 0.8279
0.8459 0.8617 0.8756 0.8880 0.8991
0.9091 0.9182 0.9265 0.9341 0.9412
0.9480 0.9543 0.9605 0.9664 0.9721
0.9778 0.9834 0.9889 0.9945 1.0000

Width:

0.0273 0.0545 0.0818 0.1091 0.1364
0.1636 0.1909 0.2182 0.2455 0.2727
0.3000 0.3182 0.3182 0.3182 0.3182
0.3182 0.3182 0.3182 0.3182 0.3182
0.3182 0.3182 0.3182 0.3182 0.3182
0.3455 0.3727 0.4000 0.4273 0.4545
0.4818 0.5091 0.5364 0.5636 0.5909
0.6182 0.6455 0.6727 0.7000 0.7273
0.7545 0.7818 0.8091 0.8364 0.8636
0.8909 0.9182 0.9455 0.9727 1.0000

Transect overflow

Area:

0.0151 0.0304 0.0459 0.0616 0.0775
0.0936 0.1099 0.1264 0.1431 0.1600
0.1771 0.1944 0.2119 0.2296 0.2475
0.2656 0.2839 0.3024 0.3211 0.3400
0.3591 0.3784 0.3979 0.4176 0.4375
0.4576 0.4779 0.4984 0.5191 0.5400
0.5611 0.5824 0.6039 0.6256 0.6475
0.6696 0.6919 0.7144 0.7371 0.7600
0.7831 0.8064 0.8299 0.8536 0.8775
0.9016 0.9259 0.9504 0.9751 1.0000

Hrad:

0.0250 0.0496 0.0740 0.0982 0.1221
0.1457 0.1691 0.1922 0.2152 0.2378
0.2603 0.2825 0.3045 0.3263 0.3479
0.3693 0.3905 0.4115 0.4323 0.4530
0.4734 0.4937 0.5137 0.5336 0.5534
0.5730 0.5924 0.6116 0.6307 0.6496
0.6684 0.6871 0.7056 0.7239 0.7421
0.7602 0.7781 0.7959 0.8136 0.8311
0.8486 0.8658 0.8830 0.9001 0.9170
0.9338 0.9505 0.9671 0.9836 1.0000

Width:

0.6080 0.6160 0.6240 0.6320 0.6400
0.6480 0.6560 0.6640 0.6720 0.6800
0.6880 0.6960 0.7040 0.7120 0.7200
0.7280 0.7360 0.7440 0.7520 0.7600
0.7680 0.7760 0.7840 0.7920 0.8000
0.8080 0.8160 0.8240 0.8320 0.8400
0.8480 0.8560 0.8640 0.8720 0.8800

0.8880	0.8960	0.9040	0.9120	0.9200
0.9280	0.9360	0.9440	0.9520	0.9600
0.9680	0.9760	0.9840	0.9920	1.0000

****
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
****

****
Analysis Options
****
Flow Units ..... CMS
Process Models:
  Rainfall/Runoff ..... YES
  RDII ..... NO
  Snowmelt ..... NO
  Groundwater ..... NO
  Flow Routing ..... YES
  Ponding Allowed ..... YES
  Water Quality ..... NO
Infiltration Method ..... CURVE_NUMBER
Flow Routing Method ..... DYNWAVE
Surcharge Method ..... EXTRAN
Starting Date 04/29/2020 00:00:00
Ending Date 04/30/2020 00:00:00
Antecedent Dry Days 0.0
Report Time Step 00:01:00
Wet Time Step 00:00:30
Dry Time Step 00:01:00
Routing Time Step ..... 2.00 sec
Variable Time Step ..... YES
Maximum Trials 8
Number of Threads 6
Head Tolerance ..... 0.001500 m

**********	Volume	Depth
Runoff Quantity Continuity	hectare-m	mm
**********	---------	-------
Total Precipitation	2.134	79.436
Evaporation Loss	0.000	0.000
Infiltration Loss	1.174	43.682
Surface Runoff	0.926	34.460
Final Storage	0.035	1.299
Continuity Error (%)	-0.007	

**********	Volume	Volume
Flow Routing Continuity	hectare-m	10^6 ltr
**********	---------	---------
Dry Weather Inflow	0.000	0.000
Wet Weather Inflow	0.926	9.258
Groundwater Inflow	0.000	0.000
RDII Inflow	0.000	0.000
External Inflow	0.000	0.000
External Outflow	0.925	9.252
Flooding Loss	0.000	0.000
Evaporation Loss	0.000	0.000
Exfiltration Loss	0.000	0.000
Initial Stored Volume	0.000	0.000
Final Stored Volume	0.000	0.002

Continuity Error (%) 0.037

****
Time-Step Critical Elements
****
None

****
Highest Flow Instability Indexes
****
Link C12 (6)
Link C1-S7 (3)
Link C13 (2)
Link C5 (1)

****
Routing Time Step Summary
****
Minimum Time Step   :   0.19 sec
Average Time Step   :   2.00 sec
Maximum Time Step   :   2.00 sec
Percent in Steady State   :   0.00
Average Iterations per Step :   2.09
Percent Not Converging   :   1.42

****
Subcatchment Runoff Summary
****

Subcatchment	Total Precip mm	Total Runon mm	Total Evap mm	Total Infil mm	Imperv Runoff mm	Perv Runoff mm	Tot Runo
S1	79.44	0.00	0.00	51.61	3.90	22.65	26.
S2	79.44	0.00	0.00	11.84	58.46	7.70	66.
S3	79.44	0.00	0.00	24.12	38.98	14.96	53.
S4	79.44	0.00	0.00	32.77	15.59	29.77	45.
S5	79.44	0.00	0.00	44.47	7.80	25.89	33.
S6_ROW1	79.44	0.00	0.00	14.06	54.58	9.40	63.
S6_ROW2	79.44	0.00	0.00	14.06	54.58	9.40	63.
S6_ROW3	79.44	0.00	0.00	14.06	54.58	9.40	63.
S6_ROW4	79.44	0.00	0.00	14.06	54.58	9.40	63.
S6_ROW5	79.44	0.00	0.00	14.06	54.58	9.40	63.
S6_ROW6	79.44	0.00	0.00	30.86	19.49	27.77	47.
S6_ROW7	79.44	0.00	0.00	30.86	19.49	27.77	47.
S7	79.44	0.00	0.00	51.82	2.34	24.00	26.

****
Node Depth Summary
****

Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
EX_MH1	JUNCTION	0.06	2.36	187.83	0 01:25	1.66
EX_MH1-S	JUNCTION	0.00	0.06	188.70	0 01:25	0.06

EX_STM_MH1	JUNCTION	0.01	0.09	191.79	0	01:26	0.09
EX_STM_MH1-S	JUNCTION	0.00	0.05	194.00	0	01:25	0.05
EX_STM_MH2	JUNCTION	0.01	0.17	191.17	0	01:27	0.17
EX_STM_MH2-S	JUNCTION	0.01	0.06	193.06	0	01:25	0.06
EX_STM_MH3	JUNCTION	0.01	0.15	190.24	0	01:27	0.15
EX_STM_MH3-S	JUNCTION	0.00	0.04	192.54	0	01:26	0.04
EX_STM_MH4	JUNCTION	0.03	0.28	187.89	0	01:27	0.28
EX_STM_MH4-S	JUNCTION	0.00	0.05	190.86	0	01:25	0.05
EX_STM_MH5	JUNCTION	0.10	2.68	187.45	0	01:25	1.68
EX_STM_MH5-S	JUNCTION	0.02	0.16	187.46	0	01:31	0.16
EX_STM_MH6	JUNCTION	0.08	0.70	184.73	0	01:29	0.70
EX_STM_MH6-S	JUNCTION	0.00	0.03	187.63	0	01:30	0.03
EX_STM_MH7	JUNCTION	0.08	0.69	184.09	0	01:29	0.69
EX_STM_MH7-S	JUNCTION	0.00	0.00	187.62	0	01:43	0.00
J-S1	JUNCTION	0.08	2.39	187.78	0	01:25	1.69
J-S1minor	JUNCTION	0.11	1.19	188.85	0	01:22	1.04
J-S7	JUNCTION	0.03	0.25	189.65	0	01:27	0.25
J-S7minor	JUNCTION	0.07	0.99	192.54	0	01:25	0.99
J9_COM	OUTFALL	0.07	0.61	183.71	0	01:29	0.61

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CMS	Maximum Total Inflow CMS	Time of Max Occurrence days	hr:min	Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Fl Balan Err Perce
EX_MH1	JUNCTION	0.000	0.348	0	01:27	0	1.35	0.1
EX_MH1-S	JUNCTION	0.280	0.821	0	01:22	0.395	1.04	-0.2
EX_STM_MH1	JUNCTION	0.000	0.019	0	01:25	0	0.0379	-0.0
EX_STM_MH1-S	JUNCTION	0.244	0.244	0	01:25	0.321	0.321	-0.1
EX_STM_MH2	JUNCTION	0.000	0.071	0	01:25	0	0.159	-0.0
EX_STM_MH2-S	JUNCTION	0.178	0.395	0	01:25	0.233	0.516	0.1
EX_STM_MH3	JUNCTION	0.000	0.082	0	01:27	0	0.18	-0.0
EX_STM_MH3-S	JUNCTION	0.178	0.430	0	01:25	0.234	0.628	0.0
EX_STM_MH4	JUNCTION	0.000	0.272	0	01:27	0	1.27	0.0
EX_STM_MH4-S	JUNCTION	0.348	0.573	0	01:25	0.462	0.729	-0.0
EX_STM_MH5	JUNCTION	0.000	1.260	0	01:28	0	6.31	-0.0
EX_STM_MH5-S	JUNCTION	0.377	0.762	0	01:25	1.13	1.7	0.3
EX_STM_MH6	JUNCTION	0.000	1.269	0	01:28	0	6.36	-0.0
EX_STM_MH6-S	JUNCTION	0.088	0.088	0	01:25	0.212	0.212	-0.2
EX_STM_MH7	JUNCTION	0.000	1.249	0	01:29	0	6.36	-0.0
EX_STM_MH7-S	JUNCTION	0.000	0.001	0	01:30	0	0.00229	5.3
J-S1	JUNCTION	0.000	0.948	0	01:25	0	4.62	0.0
J-S1minor	JUNCTION	0.370	0.597	0	01:25	2.72	3.27	-0.0
J-S7	JUNCTION	0.000	0.234	0	01:27	0	1.18	0.0
J-S7minor	JUNCTION	0.058	0.191	0	01:25	0.661	1	-0.0
J9_COM	OUTFALL	0.658	1.710	0	01:30	2.89	9.25	0.0

****
Node Surcharge Summary
****

Surcharging occurs when water rises above the top of the highest conduit.

Node	Type	Hours Surcharged	Max. Height Above Crown Meters	Min. Depth Below Rim Meters

EX_MH1	JUNCTION	0.19	1.609	0.811
EX_STM_MH5	JUNCTION	0.33	1.929	0.000
J-S1	JUNCTION	0.22	1.637	0.223
J-S1minor	JUNCTION	0.01	0.148	0.000

****
Node Flooding Summary
****

No nodes were flooded.

****
Outfall Loading Summary
****

Outfall Node	Flow Freq Pcnt	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr
J9_COM	52.70	0.205	1.710	9.252
System	52.70	0.205	1.710	9.252

****
Link Flow Summary
****

Link	Type	Maximum |Flow| CMS	Time of Max Occurrence days hr:min	Maximum |Veloc| m/sec	Max/ Full Flow	Max/ Full Depth
C1	CONDUIT	0.082	0 01:27	1.22	0.23	0.44
C12	CONDUIT	0.701	0 01:23	4.41	0.65	1.00
C13	CONDUIT	0.815	0 01:25	1.88	1.00	1.00
C1-S	CHANNEL	0.256	0 01:26	0.69	0.02	0.16
C1-S7	CONDUIT	0.153	0 01:26	2.70	0.49	0.75
C2	CONDUIT	0.016	0 01:26	0.76	0.08	0.19
C2-S	CHANNEL	0.218	0 01:25	0.54	0.02	0.18
C3	CONDUIT	0.066	0 01:27	1.22	0.29	0.37
C3-S	CHANNEL	0.272	0 01:25	0.67	0.04	0.17
C4	CONDUIT	0.294	0 01:28	2.14	0.54	0.77
C4-S	CHANNEL	0.475	0 01:25	1.07	0.03	0.18
C5	CONDUIT	0.379	0 01:27	0.86	0.46	1.00
C5-S	CHANNEL	0.374	0 01:25	0.44	0.04	0.35
C6	CONDUIT	1.261	0 01:28	2.91	1.56	0.95
C6-S	CHANNEL	0.044	0 01:30	0.06	0.01	0.32
C7	CONDUIT	1.248	0 01:29	2.17	0.69	0.63
C7-S	CHANNEL	0.001	0 01:30	0.03	0.00	0.06
C8	CONDUIT	1.249	0 01:29	2.23	0.64	0.62
C9	CONDUIT	0.234	0 01:27	2.70	0.54	0.53
J-S1minor-IC	WEIR	0.296	0 01:22			3.46
J-S7minor-IC	WEIR	0.142	0 01:25			0.29
J1_COM-IC	DUMMY	0.019	0 01:25			
J2_COM-IC	DUMMY	0.055	0 01:25			
J3_COM-IC	DUMMY	0.016	0 01:26			
J4_COM-IC	DUMMY	0.042	0 01:25			
J5_COM-IC	DUMMY	0.059	0 01:25			
J6_COM-IC	DUMMY	0.504	0 01:31			
J7_COM-IC	DUMMY	0.009	0 01:30			

J8_COM-IC DUMMY 0.001 0 01:43

****
Flow Classification Summary
****

Conduit	Adjusted /Actual Length	Fraction of Time in Flow Class: Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl
C1	1.00	0.00	0.77	0.00	0.23	0.00	0.00	0.00	0.98	0.00
C12	1.00	0.00	0.00	0.00	0.85	0.15	0.00	0.00	0.00	0.99
C13	1.00	0.00	0.00	0.00	0.87	0.13	0.00	0.00	0.78	0.00
C1-S	1.00	0.00	0.01	0.00	0.98	0.01	0.00	0.00	1.00	0.00
C1-S7	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
C2	1.00	0.02	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00
C2-S	1.00	0.00	0.00	0.00	0.99	0.01	0.00	0.00	0.98	0.00
C3	1.00	0.02	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00
C3-S	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
C4	1.00	0.00	0.00	0.00	0.01	0.00	0.00	0.98	0.01	0.00
C4-S	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.01	0.00
C5	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.80	0.00
C5-S	1.00	0.00	0.12	0.00	0.88	0.00	0.00	0.00	1.00	0.00
C6	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
C6-S	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00
C7	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
C7-S	1.00	0.00	0.94	0.00	0.06	0.00	0.00	0.00	0.90	0.00
C8	1.00	0.00	0.00	0.00	0.69	0.31	0.00	0.00	0.59	0.00
C9	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00

****
Conduit Surcharge Summary
****

Conduit	Hours Full: Both Ends	Upstream	Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
C12	0.21	2.56	0.34	0.01	0.01
C13	0.21	0.21	0.33	0.01	0.06
C1-S7	0.01	1.99	0.01	0.01	0.01
C4	0.01	0.01	0.19	0.01	0.01
C5	0.18	0.18	0.21	0.01	0.05
C6	0.01	0.33	0.01	0.35	0.01

Analysis begun on: Fri May 15 09:19:30 2020
Analysis ended on: Fri May 15 09:19:32 2020
Total elapsed time: 00:00:02

EXISTING MINOR SYSTEM NODE SUMMARY

2yr										
Name	Invert Elev. (m)	Rim Elev. (m)	Depth (m)	Max. Depth (m)	Max. HGL (m)	Min. Freeboard (m)	Max. Total Inflow (m^3/s)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4	187.61	190.81	3.2	0.17	187.78	3.03	0.117	4.451	1.452	0.026
EX_MH1	185.47	188.64	3.17	0.28	185.75	2.89	0.134	15.364	2.37	0.009
EX_STM_MH5	184.77	187.3	2.53	0.39	185.16	2.14	0.41	17.827	2.884	0.023

5yr										
Name	Invert Elev. (m)	Rim Elev. (m)	Depth (m)	Max. Depth (m)	Max. HGL (m)	Min. Freeboard (m)	Max. Total Inflow (m^3/s)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4	187.61	190.81	3.2	0.2	187.81	3	0.156	4.451	1.452	0.035
EX_MH1	185.47	188.64	3.17	0.36	185.83	2.81	0.18	15.364	2.37	0.012
EX_STM_MH5	184.77	187.3	2.53	0.5	185.27	2.03	0.589	17.827	2.884	0.033

10yr										
Name	Invert Elev. (m)	Rim Elev. (m)	Depth (m)	Max. Depth (m)	Max. HGL (m)	Min. Freeboard (m)	Max. Total Inflow (m^3/s)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4	187.61	190.81	3.2	0.22	187.83	2.98	0.193	4.451	1.452	0.043
EX_MH1	185.47	188.64	3.17	0.42	185.89	2.75	0.224	15.364	2.37	0.015
EX_STM_MH5	184.77	187.3	2.53	0.65	185.42	1.88	0.79	17.827	2.884	0.044

25yr										
Name	Invert Elev. (m)	Rim Elev. (m)	Depth (m)	Max. Depth (m)	Max. HGL (m)	Min. Freeboard (m)	Max. Total Inflow (m^3/s)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4	187.61	190.81	3.2	0.24	187.85	2.96	0.225	4.451	1.452	0.051
EX_MH1	185.47	188.64	3.17	0.54	186.01	2.63	0.269	15.364	2.37	0.018
EX_STM_MH5	184.77	187.3	2.53	1.61	186.38	0.918	0.973	17.827	2.884	0.055

50yr										
Name	Invert Elev. (m)	Rim Elev. (m)	Depth (m)	Max. Depth (m)	Max. HGL (m)	Min. Freeboard (m)	Max. Total Inflow (m^3/s)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4	187.61	190.81	3.2	0.25	187.86	2.95	0.254	4.451	1.452	0.057
EX_MH1	185.47	188.64	3.17	1.95	187.42	1.217	0.302	15.364	2.37	0.02
EX_STM_MH5	184.77	187.3	2.53	1.71	186.48	0.822	1.13	17.827	2.884	0.063

100yr										
Name	Invert Elev. (m)	Rim Elev. (m)	Depth (m)	Max. Depth (m)	Max. HGL (m)	Min. Freeboard (m)	Max. Total Inflow (m^3/s)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4	187.61	190.81	3.2	0.29	187.9	2.91	0.272	4.451	1.452	0.061
EX_MH1	185.47	188.64	3.17	2.41	187.88	0.757	0.338	15.364	2.37	0.022
EX_STM_MH5	184.77	187.3	2.53	2.42	187.19	0.111	1.263	17.827	2.884	0.071

EXISTING MAJOR SYSTEM NODE SUMMARY

2yr									
Name	Invert Elev. (m)	Rim Elev. (m)	Max. Depth (m)	Max. HGL (m)	Max. Total Inflow (m^3/s)	Min. Freeboard (m)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4-S	190.81	191.11	0.03	190.84	0.18	0.27	4.451	1.452	0.04
EX_MH1-S	188.64	188.94	0.03	188.67	0.233	0.27	15.364	2.37	0.015
EX_STM_MH5-S	187.3	187.6	0.07	187.37	0.216	0.23	17.827	2.884	0.012

5yr									
Name	Invert Elev. (m)	Rim Elev. (m)	Max. Depth (m)	Max. HGL (m)	Max. Total Inflow (m^3/s)	Min. Freeboard (m)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4-S	190.81	191.11	0.04	190.85	0.262	0.26	4.451	1.452	0.059
EX_MH1-S	188.64	188.94	0.04	188.68	0.345	0.26	15.364	2.37	0.022
EX_STM_MH5-S	187.3	187.6	0.09	187.39	0.328	0.21	17.827	2.884	0.018

10yr									
Name	Invert Elev. (m)	Rim Elev. (m)	Max. Depth (m)	Max. HGL (m)	Max. Total Inflow (m^3/s)	Min. Freeboard (m)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4-S	190.81	191.11	0.04	190.85	0.345	0.26	4.451	1.452	0.078
EX_MH1-S	188.64	188.94	0.05	188.69	0.741	0.25	15.364	2.37	0.048
EX_STM_MH5-S	187.3	187.6	0.11	187.41	0.478	0.19	17.827	2.884	0.027

25yr									
Name	Invert Elev. (m)	Rim Elev. (m)	Max. Depth (m)	Max. HGL (m)	Max. Total Inflow (m^3/s)	Min. Freeboard (m)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4-S	190.81	191.11	0.05	190.86	0.421	0.25	4.451	1.452	0.095
EX_MH1-S	188.64	188.94	0.05	188.69	1.008	0.25	15.364	2.37	0.066
EX_STM_MH5-S	187.3	187.6	0.13	187.43	0.598	0.17	17.827	2.884	0.034

50yr									
Name	Invert Elev. (m)	Rim Elev. (m)	Max. Depth (m)	Max. HGL (m)	Max. Total Inflow (m^3/s)	Min. Freeboard (m)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4-S	190.81	191.11	0.05	190.86	0.491	0.25	4.451	1.452	0.11
EX_MH1-S	188.64	188.94	0.05	188.69	0.957	0.25	15.364	2.37	0.062
EX_STM_MH5-S	187.3	187.6	0.14	187.44	0.68	0.16	17.827	2.884	0.038

100yr									
Name	Invert Elev. (m)	Rim Elev. (m)	Max. Depth (m)	Max. HGL (m)	Max. Total Inflow (m^3/s)	Min. Freeboard (m)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4-S	190.81	191.11	0.05	190.86	0.573	0.25	4.451	1.452	0.129
EX_MH1-S	188.64	188.94	0.06	188.7	1.031	0.24	15.364	2.37	0.067
EX_STM_MH5-S	187.3	187.6	0.16	187.46	0.769	0.14	17.827	2.884	0.043

Legend

Junctions

- Visible
- Major>0.2
- Major>0.3
- Major>0.1
- Major<0.1
- Outfalls
- Storages

Conduits

- Visible
- major_system
- minor surcharge
- Sewer
- Orifices
- Weirs
- Outlets
- Subcatchments

N

250 m

Legend

Junctions
- Visible
- Major>0.2
- Major>0.3
- Major>0.1
- Major<0.1
- Outfalls
- Storages

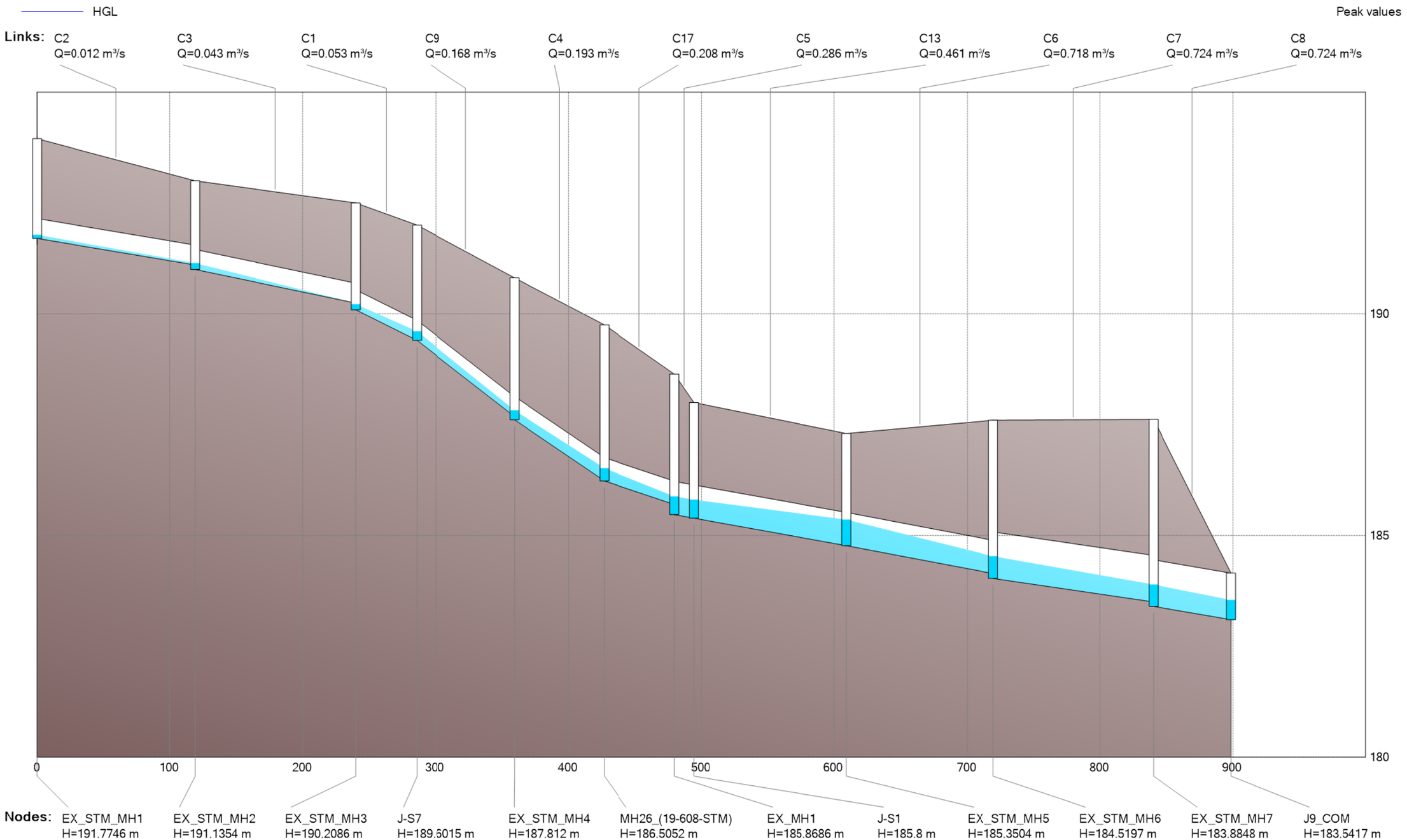
Conduits
- Visible
- major_system
- minor surcharge
- Sewer

- Orifices
- Weirs
- Outlets
- Subcatchments

N

250 m

Ninth Line - 10 - year Proposed HGL



EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.013)

WARNING 10: crest elevation raised to downstream invert for regulator Link J-S1minor-IC
WARNING 10: crest elevation raised to downstream invert for regulator Link J-S7minor-IC
WARNING 02: maximum depth increased for Node J-S1minor
WARNING 02: maximum depth increased for Node J-S7minor
WARNING 02: maximum depth increased for Node SU-pond

****
Element Count
****
Number of rain gages 9
Number of subcatchments ... 26
Number of nodes 76
Number of links 107
Number of pollutants 0
Number of land uses 0

****
Raingage Summary
****

Name	Data Source	Data Type	Recording Interval
25mm	25mm	INTENSITY	10 min.
Chicago_24h_100yr	Chicago_24h_100yr_COM	INTENSITY	5 min.
Chicago_24h_2yr	Chicago_24h_2yr_COM	INTENSITY	5 min.
Chicago_4h_100year_COM	Chicago_4h_100year_COM	INTENSITY	5 min.
Chicago_4h_10year_COM	Chicago_4h_10year_COM	INTENSITY	5 min.
Chicago_4h_25year_COM	Chicago_4h_25year_COM	INTENSITY	5 min.
Chicago_4h_2yr_COM	Chicago_4h_2yr_COM	INTENSITY	5 min.
Chicago_4h_50year_COM	Chicago_4h_50year_COM	INTENSITY	5 min.
Chicago_4h_5year_COM	Chicago_4h_5year_COM	INTENSITY	5 min.

****
Subcatchment Summary
****

Name	Area	Width	%Imperv	%Slope	Rain Gage	Outlet
S1	6.45	258.01	0.00	0.5000	25mm	SU-pond
S10	0.13	12.83	65.00	0.5000	25mm	MH1_(19-608-
S11	0.12	11.69	65.00	1.0000	25mm	MH7_(19-608-
S12	0.13	12.76	0.00	0.5000	25mm	MH24_(19-608
S13	0.58	58.02	65.00	0.5000	25mm	MH8_(19-608-
S14	0.36	35.74	65.00	0.5000	25mm	MH17_(19-608
S15	0.30	30.12	65.00	0.5000	25mm	MH10_(19-608
S16	0.13	13.12	65.00	0.5000	25mm	MH16_(19-608
S17	0.06	6.25	65.00	0.5000	25mm	MH12_(19-608
S18	0.45	44.77	65.00	0.4000	25mm	MH19_(19-608
S19	0.78	77.90	65.00	0.5000	25mm	MH23_(19-608
S20	0.09	9.35	65.00	0.5000	25mm	EX_MH1-S
S3	0.60	60.20	50.45	1.5000	25mm	EX_STM_MH4-S
S4_2	1.49	149.32	20.00	1.5000	25mm	EX_STM_MH-5-
S5_2	8.19	818.53	10.00	1.5000	25mm	J9_COM
S6	0.16	16.02	0.00	0.5000	25mm	MH15_(19-608
S6_ROW1	0.50	135.26	70.00	1.8000	25mm	EX_STM_MH1-S
S6_ROW2	0.36	36.43	70.00	1.8000	25mm	EX_STM_MH2-S
S6_ROW3	0.37	36.57	70.00	1.8000	25mm	EX_STM_MH3-S
S6_ROW4	0.36	36.03	70.00	1.8000	25mm	EX_STM_MH4-S
S6_ROW5	0.37	37.28	70.00	1.8000	25mm	EX_MH1-S

S6_ROW6	0.42	84.54	25.00	1.0000 25mm	EX_STM_MH-5-
S6_ROW7	0.45	89.84	25.00	1.0000 25mm	EX_STM_MH6-S
S7	2.51	100.40	3.00	1.0000 25mm	J-S7minor
S8	0.39	38.91	65.00	0.5000 25mm	MH2_(19-608-
S9	0.56	55.79	65.00	1.5000 25mm	MH13_(19-608

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Node Summary
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Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
Curb	JUNCTION	189.75	0.30	0.0	
DICB_(19-608-STM)	JUNCTION	188.79	2.46	0.0	
EX_MH1	JUNCTION	185.47	3.17	0.0	
EX_MH1-S	JUNCTION	188.64	0.30	0.0	
EX_STM_MH1	JUNCTION	191.70	2.25	0.0	
EX_STM_MH1-S	JUNCTION	193.95	0.30	0.0	
EX_STM_MH2	JUNCTION	191.00	2.00	0.0	
EX_STM_MH2-S	JUNCTION	193.00	0.30	0.0	
EX_STM_MH3	JUNCTION	190.09	2.41	0.0	
EX_STM_MH3-S	JUNCTION	192.50	0.30	0.0	
EX_STM_MH4	JUNCTION	187.61	3.20	0.0	
EX_STM_MH4-S	JUNCTION	190.81	0.30	0.0	
EX_STM_MH5	JUNCTION	184.77	2.53	0.0	
EX_STM_MH-5-S	JUNCTION	187.30	0.30	0.0	
EX_STM_MH6	JUNCTION	184.03	3.57	0.0	
EX_STM_MH6-S	JUNCTION	187.60	0.30	0.0	
EX_STM_MH7	JUNCTION	183.40	4.22	0.0	
EX_STM_MH7-S	JUNCTION	187.62	0.30	0.0	
J-S1	JUNCTION	185.39	2.61	0.0	
J-S1minor	JUNCTION	187.66	1.04	0.0	
J-S7	JUNCTION	189.40	2.60	0.0	
J-S7minor	JUNCTION	191.55	1.10	0.0	
MH1_(19-608-STM)	JUNCTION	189.24	2.79	0.0	
MH1_(19-608-STM)-S	JUNCTION	192.03	0.30	0.0	
MH10_(19-608-STM)	JUNCTION	187.51	3.29	0.0	
MH10_(19-608-STM)-S	JUNCTION	190.80	0.30	0.0	
MH11_(19-608-STM)	JUNCTION	187.27	3.31	0.0	
MH11_(19-608-STM)-S	JUNCTION	190.58	0.30	0.0	
MH12_(19-608-STM)	JUNCTION	186.90	3.69	0.0	
MH12_(19-608-STM)-S	JUNCTION	190.60	0.30	0.0	
MH13_(19-608-STM)	JUNCTION	188.98	2.63	0.0	
MH13_(19-608-STM)-S	JUNCTION	191.61	0.30	0.0	
MH15_(19-608-STM)	JUNCTION	187.58	3.34	0.0	
MH15_(19-608-STM)-S	JUNCTION	190.92	0.30	0.0	
MH16_(19-608-STM)	JUNCTION	187.31	3.60	0.0	
MH16_(19-608-STM)-S	JUNCTION	190.91	0.30	0.0	
MH17_(19-608-STM)	JUNCTION	187.78	3.16	0.0	
MH17_(19-608-STM)-S	JUNCTION	190.95	0.30	0.0	
MH18_(19-608-STM)	JUNCTION	186.75	3.93	0.0	
MH18_(19-608-STM)-S	JUNCTION	190.68	0.30	0.0	
MH19_(19-608-STM)	JUNCTION	186.12	3.32	0.0	
MH19_(19-608-STM)-S	JUNCTION	189.45	0.30	0.0	
MH2_(19-608-STM)	JUNCTION	188.54	3.85	0.0	
MH2_(19-608-STM)-S	JUNCTION	192.39	0.30	0.0	
MH20_(19-608-STM)	JUNCTION	185.96	3.19	0.0	
MH20_(19-608-STM)-S	JUNCTION	189.15	0.30	0.0	
MH21_(19-608-STM)	JUNCTION	185.83	3.18	0.0	
MH21_(19-608-STM)-S	JUNCTION	189.01	0.30	0.0	
MH22_(19-608-STM)	JUNCTION	185.74	2.79	0.0	
MH23_(19-608-STM)	JUNCTION	187.49	2.87	0.0	
MH23_(19-608-STM)-S	JUNCTION	190.35	0.30	0.0	

MH24_(19-608-STM)	JUNCTION	187.43	2.78	0.0
MH24_(19-608-STM)-S	JUNCTION	190.22	0.30	0.0
MH25_(19-608-STM)	JUNCTION	186.80	2.82	0.0
MH25_(19-608-STM)-2	JUNCTION	186.80	2.82	0.0
MH25_(19-608-STM)-S	JUNCTION	189.62	0.30	0.0
MH26_(19-608-STM)	JUNCTION	186.23	3.52	0.0
MH3_(19-608-STM)	JUNCTION	188.26	3.94	0.0
MH3_(19-608-STM)-S	JUNCTION	192.20	0.30	0.0
MH4_(19-608-STM)	JUNCTION	188.15	3.85	0.0
MH4_(19-608-STM)-S	JUNCTION	192.00	0.30	0.0
MH5_(19-608-STM)	JUNCTION	187.83	3.46	0.0
MH5_(19-608-STM)-S	JUNCTION	191.29	0.30	0.0
MH6_(19-608-STM)	JUNCTION	187.57	3.35	0.0
MH6_(19-608-STM)-S	JUNCTION	190.92	0.30	0.0
MH7_(19-608-STM)	JUNCTION	188.70	3.04	0.0
MH7_(19-608-STM)-S	JUNCTION	191.74	0.30	0.0
MH8_(19-608-STM)	JUNCTION	188.26	3.09	0.0
MH8_(19-608-STM)-S	JUNCTION	191.35	0.30	0.0
MH9_(19-608-STM)	JUNCTION	188.00	3.12	0.0
MH9_(19-608-STM)-S	JUNCTION	191.13	0.30	0.0
TANK-IN-1_(19-608-STM)-S	JUNCTION	191.42	0.30	0.0
TANK-OUT_(19-608-STM)	JUNCTION	186.56	4.84	0.0
J9_COM	OUTFALL	183.10	1.05	0.0
SU-pond	STORAGE	191.00	1.50	0.0
TANK-IN-1_(19-608-STM)	STORAGE	186.56	4.86	0.0

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Link Summary
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Name	From Node	To Node	Type	Length	%Slope	Roughness
C1	EX_STM_MH3	J-S7	CONDUIT	45.9	1.5026	0.0130
C10	Curb	MH25_(19-608-STM)-S	CONDUIT	5.9	2.1213	0.014
C12	J-S1minor	J-S1	CONDUIT	16.1	14.2534	0.0130
C13	J-S1	EX_STM_MH5	CONDUIT	114.8	0.5400	0.0130
C16	MH1_(19-608-STM)-S	MH7_(19-608-STM)-S	CONDUIT	39.8	0.7286	0.01
C17	MH26_(19-608-STM)	EX_MH1	CONDUIT	52.7	1.0048	0.0130
C1-S	EX_STM_MH3-S	EX_STM_MH4-S	CONDUIT	102.1	1.6559	0.0140
C1-S7	J-S7minor	J-S7	CONDUIT	19.1	10.5425	0.0130
C2	EX_STM_MH1	EX_STM_MH2	CONDUIT	119.1	0.5039	0.0130
C2-S	EX_STM_MH1-S	EX_STM_MH2-S	CONDUIT	112.5	0.8445	0.0140
C3	EX_STM_MH2	EX_STM_MH3	CONDUIT	120.9	0.6284	0.0130
C3-S	EX_STM_MH2-S	EX_STM_MH3-S	CONDUIT	123.5	0.4048	0.0140
C4	EX_STM_MH4	MH26_(19-608-STM)	CONDUIT	67.5	2.0448	0.0130
C4-S	EX_STM_MH4-S	EX_MH1-S	CONDUIT	132.8	1.6340	0.0140
C5	EX_MH1	J-S1	CONDUIT	14.7	0.5443	0.0130
C5-S	EX_MH1-S	EX_STM_MH-5-S	CONDUIT	132.1	1.0144	0.0140
C6	EX_STM_MH5	EX_STM_MH6	CONDUIT	110.5	0.5700	0.0130
C6-S	EX_STM_MH-5-S	EX_STM_MH6-S	CONDUIT	119.3	-0.2514	0.0140
C7	EX_STM_MH6	EX_STM_MH7	CONDUIT	120.8	0.4389	0.0130
C7-S	EX_STM_MH7-S	EX_STM_MH6-S	CONDUIT	118.6	0.0177	0.0140
C8	EX_STM_MH7	J9_COM	CONDUIT	58.1	0.5162	0.0130
C9	J-S7	EX_STM_MH4	CONDUIT	73.4	2.3410	0.0130
Pipe_-_(115)_(19-608-STM)	DICB_(19-608-STM)	MH2_(19-608-STM)	CONDUIT	4.9	2.0077	
Pipe_-_(62)_(19-608-STM)	MH1_(19-608-STM)	MH2_(19-608-STM)	CONDUIT	80.4	0.4999	
Pipe_-_(62)_(19-608-STM)-S	MH2_(19-608-STM)-S	MH1_(19-608-STM)-S	CONDUIT	80.4	0.45	
Pipe_-_(63)_(19-608-STM)	MH2_(19-608-STM)	MH3_(19-608-STM)	CONDUIT	38.0	0.4947	
Pipe_-_(63)_(19-608-STM)-S	MH2_(19-608-STM)-S	MH3_(19-608-STM)-S	CONDUIT	38.0	0.50	
Pipe_-_(64)_(19-608-STM)	MH3_(19-608-STM)	MH4_(19-608-STM)	CONDUIT	13.3	0.5032	
Pipe_-_(64)_(19-608-STM)-S	MH3_(19-608-STM)-S	MH4_(19-608-STM)-S	CONDUIT	13.3	1.51	
Pipe_-_(65)_(19-608-STM)	MH4_(19-608-STM)	MH5_(19-608-STM)	CONDUIT	47.5	0.4990	
Pipe_-_(65)_(19-608-STM)-S	MH4_(19-608-STM)-S	MH5_(19-608-STM)-S	CONDUIT	50.5	1.40	
Pipe_-_(66)_(1)_(19-608-STM)	MH17_(19-608-STM)	MH16_(19-608-STM)	CONDUIT	64.3	0.49	

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Pipe_-_(66)_(1)_(19-608-STM)-S MH17_(19-608-STM)-S MH16_(19-608-STM)-S CONDUIT           67.1
Pipe_-_(67)_(19-608-STM) MH16_(19-608-STM) MH12_(19-608-STM) CONDUIT          36.8    0.4997
Pipe_-_(67)_(19-608-STM)-S MH16_(19-608-STM)-S MH12_(19-608-STM)-S CONDUIT          42.4    0.
Pipe_-_(69)_(19-608-STM) MH12_(19-608-STM) MH18_(19-608-STM) CONDUIT          15.5    0.4983
Pipe_-_(69)_(19-608-STM)-S MH18_(19-608-STM)-S MH12_(19-608-STM)-S CONDUIT          18.2    0.
Pipe_-_(70)_(19-608-STM) MH18_(19-608-STM) TANK-IN-1_(19-608-STM) CONDUIT          7.6    0.5
Pipe_-_(70)_(19-608-STM)-S TANK-IN-1_(19-608-STM)-S MH18_(19-608-STM)-S CONDUIT          8.6
Pipe_-_(71)_(19-608-STM) MH5_(19-608-STM) MH6_(19-608-STM) CONDUIT          37.1    0.5013
Pipe_-_(71)_(19-608-STM)-S MH5_(19-608-STM)-S MH6_(19-608-STM)-S CONDUIT          35.3    1.05
Pipe_-_(72)_(19-608-STM) MH6_(19-608-STM) MH10_(19-608-STM) CONDUIT          7.7    0.5078
Pipe_-_(72)_(19-608-STM)-S MH6_(19-608-STM)-S MH10_(19-608-STM)-S CONDUIT          3.1    3.6
Pipe_-_(73)_(1)_(19-608-STM) MH11_(19-608-STM) MH12_(19-608-STM) CONDUIT          57.4    0.50
Pipe_-_(73)_(1)_(19-608-STM)-S MH12_(19-608-STM)-S MH11_(19-608-STM)-S CONDUIT          58.5
Pipe_-_(73)_(19-608-STM) MH10_(19-608-STM) MH11_(19-608-STM) CONDUIT          44.9    0.4984
Pipe_-_(73)_(19-608-STM)-S MH10_(19-608-STM)-S MH11_(19-608-STM)-S CONDUIT          46.3    0.
Pipe_-_(74)_(19-608-STM) MH7_(19-608-STM) MH8_(19-608-STM) CONDUIT          28.7    0.9999
Pipe_-_(74)_(19-608-STM)-S MH7_(19-608-STM)-S MH8_(19-608-STM)-S CONDUIT          30.1    1.28
Pipe_-_(75)_(1)_(19-608-STM) MH9_(19-608-STM) MH6_(19-608-STM) CONDUIT          41.7    0.5007
Pipe_-_(75)_(1)_(19-608-STM)-S MH9_(19-608-STM)-S MH6_(19-608-STM)-S CONDUIT          46.1
Pipe_-_(75)_(19-608-STM) MH8_(19-608-STM) MH9_(19-608-STM) CONDUIT          48.0    0.4981
Pipe_-_(75)_(19-608-STM)-S MH8_(19-608-STM)-S MH9_(19-608-STM)-S CONDUIT          49.6    0.45
Pipe_-_(76)_(19-608-STM) MH23_(19-608-STM) MH24_(19-608-STM) CONDUIT          10.6    0.4988
Pipe_-_(76)_(19-608-STM)-S MH23_(19-608-STM)-S MH24_(19-608-STM)-S CONDUIT          10.6    1.
Pipe_-_(77)_(19-608-STM) MH24_(19-608-STM) MH25_(19-608-STM) CONDUIT          109.5    0.5461
Pipe_-_(77)_(19-608-STM)-S MH24_(19-608-STM)-S MH25_(19-608-STM)-S CONDUIT          109.5    0.
Pipe_-_(78)_(19-608-STM) MH25_(19-608-STM)-2 MH26_(19-608-STM) CONDUIT          20.1    0.5172
Pipe_-_(79)_(19-608-STM) TANK-OUT_(19-608-STM) MH19_(19-608-STM) CONDUIT          95.1    0.40
Pipe_-_(80)_(19-608-STM) MH19_(19-608-STM) MH20_(19-608-STM) CONDUIT          25.9    0.4008
Pipe_-_(80)_(19-608-STM)-S MH19_(19-608-STM)-S MH20_(19-608-STM)-S CONDUIT          24.5    1.
Pipe_-_(81)_(19-608-STM) MH20_(19-608-STM) MH21_(19-608-STM) CONDUIT          26.2    0.3963
Pipe_-_(81)_(19-608-STM)-S MH20_(19-608-STM)-S MH21_(19-608-STM)-S CONDUIT          26.2    0.
Pipe_-_(82)_(19-608-STM) MH21_(19-608-STM) MH22_(19-608-STM) CONDUIT          14.2    0.4007
Pipe_-_(82)_(19-608-STM)-S MH21_(19-608-STM)-S EX_MH1-S         CONDUIT          38.3    0.965
Pipe_-_(83)_(19-608-STM) MH22_(19-608-STM) EX_MH1           CONDUIT          11.3    0.3880
Pipe_-_(85)_(19-608-STM) MH13_(19-608-STM) MH15_(19-608-STM) CONDUIT          88.0    1.4995
Pipe_-_(85)_(19-608-STM)-S MH13_(19-608-STM)-S MH15_(19-608-STM)-S CONDUIT          91.4    0.
Pipe_-_(86)_(19-608-STM) MH15_(19-608-STM) MH16_(19-608-STM) CONDUIT          38.8    0.5023
Pipe_-_(86)_(19-608-STM)-S MH15_(19-608-STM)-S MH16_(19-608-STM)-S CONDUIT          38.0    0.
OR1              TANK-IN-1_(19-608-STM) TANK-OUT_(19-608-STM) ORIFICE
OR2              MH25_(19-608-STM) MH25_(19-608-STM)-2 ORIFICE
J-S1minor-IC     J-S1minor        EX_MH1-S         WEIR
J-S7minor-IC     J-S7minor        EX_STM_MH3-S     WEIR
W4               SU-pond          DICB_(19-608-STM) WEIR
J1_COM-IC        EX_STM_MH1-S     EX_STM_MH1       OUTLET
J2_COM-IC        EX_STM_MH2-S     EX_STM_MH2       OUTLET
J3_COM-IC        EX_STM_MH3-S     EX_STM_MH3       OUTLET
J4_COM-IC        EX_STM_MH4-S     EX_STM_MH4       OUTLET
J5_COM-IC        EX_MH1-S         EX_MH1           OUTLET
J6_COM-IC        EX_STM_MH-5-S    EX_STM_MH5       OUTLET
J7_COM-IC        EX_STM_MH6-S     EX_STM_MH6       OUTLET
J8_COM-IC        EX_STM_MH7-S     EX_STM_MH7       OUTLET
MH1_(19-608-STM)-IC MH1_(19-608-STM)-S MH1_(19-608-STM) OUTLET
MH10_(19-608-STM)-IC MH10_(19-608-STM)-S MH10_(19-608-STM) OUTLET
MH11_(19-608-STM)-IC MH11_(19-608-STM)-S MH11_(19-608-STM) OUTLET
MH12_(19-608-STM)-IC MH12_(19-608-STM)-S MH12_(19-608-STM) OUTLET
MH13_(19-608-STM)-IC MH13_(19-608-STM)-S MH13_(19-608-STM) OUTLET
MH15_(19-608-STM)-IC MH15_(19-608-STM)-S MH15_(19-608-STM) OUTLET
MH16_(19-608-STM)-IC MH16_(19-608-STM)-S MH16_(19-608-STM) OUTLET
MH17_(19-608-STM)-IC MH17_(19-608-STM)-S MH17_(19-608-STM) OUTLET
MH18_(19-608-STM)-IC MH18_(19-608-STM)-S MH18_(19-608-STM) OUTLET
MH19_(19-608-STM)-IC MH19_(19-608-STM)-S MH19_(19-608-STM) OUTLET
MH2_(19-608-STM)-IC MH2_(19-608-STM)-S MH2_(19-608-STM) OUTLET
MH20_(19-608-STM)-IC MH20_(19-608-STM)-S MH20_(19-608-STM) OUTLET
MH21_(19-608-STM)-IC MH21_(19-608-STM)-S MH21_(19-608-STM) OUTLET
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MH23_(19-608-STM)-IC MH23_(19-608-STM)-S MH23_(19-608-STM) OUTLET
MH24_(19-608-STM)-IC MH24_(19-608-STM)-S MH24_(19-608-STM) OUTLET
MH25_(19-608-STM)-IC MH25_(19-608-STM)-S MH25_(19-608-STM) OUTLET
MH3_(19-608-STM)-IC MH3_(19-608-STM)-S MH3_(19-608-STM) OUTLET
MH4_(19-608-STM)-IC MH4_(19-608-STM)-S MH4_(19-608-STM) OUTLET
MH5_(19-608-STM)-IC MH5_(19-608-STM)-S MH5_(19-608-STM) OUTLET
MH6_(19-608-STM)-IC MH6_(19-608-STM)-S MH6_(19-608-STM) OUTLET
MH7_(19-608-STM)-IC MH7_(19-608-STM)-S MH7_(19-608-STM) OUTLET
MH8_(19-608-STM)-IC MH8_(19-608-STM)-S MH8_(19-608-STM) OUTLET
MH9_(19-608-STM)-IC MH9_(19-608-STM)-S MH9_(19-608-STM) OUTLET
TANK-IN-1_(19-608-STM)-IC TANK-IN-1_(19-608-STM)-S TANK-IN-1_(19-608-STM) OUTLET

****
Cross Section Summary
****

Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
C1	CIRCULAR	0.45	0.16	0.11	0.45	1	0.35
C10	full-7m	0.30	2.98	0.16	22.00	1	9.17
C12	CIRCULAR	0.45	0.16	0.11	0.45	1	1.08
C13	CIRCULAR	0.75	0.44	0.19	0.75	1	0.82
C16	full-7m	0.30	2.98	0.16	22.00	1	5.38
C17	CIRCULAR	0.53	0.22	0.13	0.53	1	0.43
C1-S	full-11m	0.30	4.26	0.20	26.00	1	13.51
C1-S7	CIRCULAR	0.30	0.07	0.07	0.30	1	0.31
C2	CIRCULAR	0.45	0.16	0.11	0.45	1	0.20
C2-S	full-11m	0.30	4.26	0.20	26.00	1	9.65
C3	CIRCULAR	0.45	0.16	0.11	0.45	1	0.23
C3-S	full-11m	0.30	4.26	0.20	26.00	1	6.68
C4	CIRCULAR	0.53	0.22	0.13	0.53	1	0.62
C4-S	full-11m	0.30	4.26	0.20	26.00	1	13.42
C5	CIRCULAR	0.75	0.44	0.19	0.75	1	0.82
C5-S	full-11m	0.30	4.26	0.20	26.00	1	10.57
C6	CIRCULAR	0.75	0.44	0.19	0.75	1	0.84
C6-S	full-11m	0.30	4.26	0.20	26.00	1	5.26
C7	CIRCULAR	1.05	0.87	0.26	1.05	1	1.81
C7-S	full-11m	0.30	4.26	0.20	26.00	1	1.40
C8	CIRCULAR	1.05	0.87	0.26	1.05	1	1.96
C9	CIRCULAR	0.45	0.16	0.11	0.45	1	0.44
Pipe_-_(115)_(19-608-STM)	CIRCULAR	0.45	0.16	0.11	0.45	1	0.4
Pipe_-_(62)_(19-608-STM)	CIRCULAR	0.30	0.07	0.07	0.30	1	0.08
Pipe_-_(62)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	4.
Pipe_-_(63)_(19-608-STM)	CIRCULAR	0.60	0.28	0.15	0.60	1	0.43
Pipe_-_(63)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	4.
Pipe_-_(64)_(19-608-STM)	CIRCULAR	0.60	0.28	0.15	0.60	1	0.44
Pipe_-_(64)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	7.
Pipe_-_(65)_(19-608-STM)	CIRCULAR	0.60	0.28	0.15	0.60	1	0.43
Pipe_-_(65)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	7.
Pipe_-_(66)_(1)_(19-608-STM)	CIRCULAR	0.38	0.11	0.09	0.38	1	
Pipe_-_(66)_(1)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	
Pipe_-_(67)_(19-608-STM)	CIRCULAR	0.53	0.22	0.13	0.53	1	0.30
Pipe_-_(67)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	5.
Pipe_-_(69)_(19-608-STM)	CIRCULAR	0.75	0.44	0.19	0.75	1	0.79
Pipe_-_(69)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	4.
Pipe_-_(70)_(19-608-STM)	CIRCULAR	0.75	0.44	0.19	0.75	1	0.79
Pipe_-_(70)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	18.
Pipe_-_(71)_(19-608-STM)	CIRCULAR	0.60	0.28	0.15	0.60	1	0.43
Pipe_-_(71)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	6.
Pipe_-_(72)_(19-608-STM)	CIRCULAR	0.68	0.36	0.17	0.68	1	0.60
Pipe_-_(72)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	12.
Pipe_-_(73)_(1)_(19-608-STM)	CIRCULAR	0.68	0.36	0.17	0.68	1	
Pipe_-_(73)_(1)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	

Pipe_-_(73)_(19-608-STM) CIRCULAR	0.68	0.36	0.17	0.68	1	0.59
Pipe_-_(73)_(19-608-STM)-S full-7m	0.30	2.98	0.16	22.00	1	4.
Pipe_-_(74)_(19-608-STM) CIRCULAR	0.30	0.07	0.07	0.30	1	0.11
Pipe_-_(74)_(19-608-STM)-S full-7m	0.30	2.98	0.16	22.00	1	7.
Pipe_-_(75)_(1)_(19-608-STM) CIRCULAR	0.45	0.16	0.11	0.45	1	
Pipe_-_(75)_(1)_(19-608-STM)-S full-7m	0.30	2.98	0.16	22.00	1	
Pipe_-_(75)_(19-608-STM) CIRCULAR	0.45	0.16	0.11	0.45	1	0.24
Pipe_-_(75)_(19-608-STM)-S full-7m	0.30	2.98	0.16	22.00	1	4.
Pipe_-_(76)_(19-608-STM) CIRCULAR	0.45	0.16	0.11	0.45	1	0.20
Pipe_-_(76)_(19-608-STM)-S full-7m	0.30	2.98	0.16	22.00	1	7.
Pipe_-_(77)_(19-608-STM) RECT_CLOSED	1.20	2.16	0.36	1.80	1	6.21
Pipe_-_(77)_(19-608-STM)-S full-7m	0.30	2.98	0.16	22.00	1	4.
Pipe_-_(78)_(19-608-STM) CIRCULAR	0.45	0.16	0.11	0.45	1	0.21
Pipe_-_(79)_(19-608-STM) CIRCULAR	0.53	0.22	0.13	0.53	1	0.32
Pipe_-_(80)_(19-608-STM) CIRCULAR	0.53	0.22	0.13	0.53	1	0.32
Pipe_-_(80)_(19-608-STM)-S full-7m	0.30	2.98	0.16	22.00	1	6.
Pipe_-_(81)_(19-608-STM) CIRCULAR	0.53	0.22	0.13	0.53	1	0.32
Pipe_-_(81)_(19-608-STM)-S full-7m	0.30	2.98	0.16	22.00	1	4.
Pipe_-_(82)_(19-608-STM) CIRCULAR	0.53	0.22	0.13	0.53	1	0.32
Pipe_-_(82)_(19-608-STM)-S full-7m	0.30	2.98	0.16	22.00	1	6.
Pipe_-_(83)_(19-608-STM) CIRCULAR	0.53	0.22	0.13	0.53	1	0.32
Pipe_-_(85)_(19-608-STM) CIRCULAR	0.38	0.11	0.09	0.38	1	0.25
Pipe_-_(85)_(19-608-STM)-S full-7m	0.30	2.98	0.16	22.00	1	5.
Pipe_-_(86)_(19-608-STM) CIRCULAR	0.45	0.16	0.11	0.45	1	0.24
Pipe_-_(86)_(19-608-STM)-S full-7m	0.30	2.98	0.16	22.00	1	1.

****
Transect Summary
****

Transect full-11m
Area:

0.0015	0.0062	0.0139	0.0248	0.0387
0.0542	0.0697	0.0852	0.1007	0.1162
0.1317	0.1472	0.1627	0.1782	0.1937
0.2092	0.2246	0.2401	0.2556	0.2711
0.2866	0.3021	0.3176	0.3331	0.3486
0.3645	0.3813	0.3989	0.4173	0.4366
0.4568	0.4777	0.4996	0.5223	0.5458
0.5701	0.5954	0.6214	0.6483	0.6761
0.7046	0.7341	0.7644	0.7955	0.8275
0.8603	0.8939	0.9285	0.9638	1.0000

Hrad:

0.0147	0.0293	0.0440	0.0587	0.0733
0.1026	0.1317	0.1608	0.1898	0.2188
0.2477	0.2766	0.3053	0.3341	0.3627
0.3913	0.4198	0.4483	0.4767	0.5051
0.5334	0.5616	0.5898	0.6179	0.6459
0.6735	0.6991	0.7228	0.7447	0.7651
0.7841	0.8017	0.8182	0.8337	0.8482
0.8618	0.8747	0.8869	0.8985	0.9095
0.9200	0.9301	0.9398	0.9492	0.9582
0.9670	0.9755	0.9839	0.9920	1.0000

Width:

0.0846	0.1692	0.2538	0.3385	0.4231
0.4231	0.4231	0.4231	0.4231	0.4231
0.4231	0.4231	0.4231	0.4231	0.4231
0.4231	0.4231	0.4231	0.4231	0.4231
0.4231	0.4231	0.4231	0.4231	0.4231
0.4462	0.4692	0.4923	0.5154	0.5385
0.5615	0.5846	0.6077	0.6308	0.6538
0.6769	0.7000	0.7231	0.7462	0.7692

0.7923 0.8154 0.8385 0.8615 0.8846
0.9077 0.9308 0.9538 0.9769 1.0000

Transect full-7m
Area:
0.0006 0.0024 0.0054 0.0097 0.0151
0.0217 0.0296 0.0387 0.0489 0.0604
0.0731 0.0869 0.1010 0.1151 0.1292
0.1433 0.1574 0.1715 0.1856 0.1997
0.2138 0.2279 0.2419 0.2560 0.2701
0.2848 0.3007 0.3179 0.3362 0.3557
0.3764 0.3984 0.4215 0.4459 0.4715
0.4983 0.5262 0.5554 0.5858 0.6174
0.6503 0.6843 0.7195 0.7560 0.7936
0.8325 0.8726 0.9138 0.9563 1.0000
Hrad:
0.0182 0.0364 0.0546 0.0728 0.0910
0.1092 0.1274 0.1456 0.1638 0.1820
0.2002 0.2243 0.2602 0.2960 0.3317
0.3673 0.4028 0.4381 0.4733 0.5084
0.5434 0.5783 0.6131 0.6477 0.6822
0.7157 0.7452 0.7713 0.7942 0.8145
0.8325 0.8484 0.8626 0.8754 0.8869
0.8974 0.9070 0.9160 0.9243 0.9322
0.9397 0.9469 0.9539 0.9607 0.9673
0.9739 0.9805 0.9870 0.9935 1.0000
Width:
0.0273 0.0545 0.0818 0.1091 0.1364
0.1636 0.1909 0.2182 0.2455 0.2727
0.3000 0.3182 0.3182 0.3182 0.3182
0.3182 0.3182 0.3182 0.3182 0.3182
0.3182 0.3182 0.3182 0.3182 0.3182
0.3455 0.3727 0.4000 0.4273 0.4545
0.4818 0.5091 0.5364 0.5636 0.5909
0.6182 0.6455 0.6727 0.7000 0.7273
0.7545 0.7818 0.8091 0.8364 0.8636
0.8909 0.9182 0.9455 0.9727 1.0000

Transect full-8.5m
Area:
0.0021 0.0086 0.0192 0.0333 0.0475
0.0618 0.0760 0.0903 0.1046 0.1188
0.1331 0.1473 0.1616 0.1758 0.1901
0.2044 0.2186 0.2329 0.2471 0.2614
0.2757 0.2899 0.3042 0.3184 0.3327
0.3474 0.3632 0.3799 0.3977 0.4164
0.4361 0.4569 0.4786 0.5013 0.5250
0.5497 0.5754 0.6021 0.6298 0.6585
0.6881 0.7188 0.7505 0.7831 0.8168
0.8515 0.8871 0.9237 0.9614 1.0000
Hrad:
0.0157 0.0314 0.0470 0.0731 0.1043
0.1354 0.1664 0.1974 0.2282 0.2590
0.2897 0.3202 0.3508 0.3812 0.4115
0.4418 0.4720 0.5021 0.5321 0.5620
0.5918 0.6216 0.6513 0.6809 0.7104
0.7394 0.7655 0.7890 0.8102 0.8293
0.8465 0.8620 0.8760 0.8886 0.9000
0.9104 0.9199 0.9286 0.9366 0.9440
0.9509 0.9574 0.9635 0.9693 0.9748
0.9801 0.9853 0.9903 0.9952 1.0000
Width:
0.1093 0.2186 0.3280 0.3644 0.3644
0.3644 0.3644 0.3644 0.3644 0.3644

0.3644	0.3644	0.3644	0.3644	0.3644
0.3644	0.3644	0.3644	0.3644	0.3644
0.3644	0.3644	0.3644	0.3644	0.3644
0.3898	0.4153	0.4407	0.4661	0.4915
0.5169	0.5424	0.5678	0.5932	0.6186
0.6441	0.6695	0.6949	0.7203	0.7458
0.7712	0.7966	0.8220	0.8475	0.8729
0.8983	0.9237	0.9492	0.9746	1.0000

****
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
****

****
Analysis Options
****
Flow Units ..... CMS
Process Models:
  Rainfall/Runoff ..... YES
  RDII ..... NO
  Snowmelt ..... NO
  Groundwater ..... NO
  Flow Routing ..... YES
  Ponding Allowed ..... YES
  Water Quality ..... NO
Infiltration Method ..... CURVE_NUMBER
Flow Routing Method ..... DYNWAVE
Surcharge Method ..... EXTRAN
Starting Date 04/29/2020 00:00:00
Ending Date 04/30/2020 00:00:00
Antecedent Dry Days 0.0
Report Time Step 00:01:00
Wet Time Step 00:01:00
Dry Time Step 00:01:00
Routing Time Step ..... 5.00 sec
Variable Time Step ..... YES
Maximum Trials 8
Number of Threads 6
Head Tolerance ..... 0.001500 m

**********	Volume	Depth
Runoff Quantity Continuity	hectare-m	mm
**********	---------	-------
Total Precipitation	0.667	25.342
Evaporation Loss	0.000	0.000
Infiltration Loss	0.496	18.861
Surface Runoff	0.136	5.172
Final Storage	0.034	1.311
Continuity Error (%)	-0.012	

**********	Volume	Volume
Flow Routing Continuity	hectare-m	10^6 ltr
**********	---------	---------
Dry Weather Inflow	0.000	0.000
Wet Weather Inflow	0.136	1.360
Groundwater Inflow	0.000	0.000
RDII Inflow	0.000	0.000
External Inflow	0.000	0.000
External Outflow	0.135	1.351

Flooding Loss	0.000	0.000
Evaporation Loss	0.000	0.000
Exfiltration Loss	0.000	0.000
Initial Stored Volume	0.000	0.000
Final Stored Volume	0.001	0.009
Continuity Error (%)	0.050	

****
Highest Continuity Errors
****
Node MH25_(19-608-STM)-S (2.45%)
Node EX_STM_MH-5-S (2.42%)
Node MH15_(19-608-STM)-S (1.35%)
Node MH5_(19-608-STM)-S (1.28%)
Node MH11_(19-608-STM)-S (1.20%)

****
Time-Step Critical Elements
****
Link Pipe_-_(70)_(19-608-STM) (16.87%)

****
Highest Flow Instability Indexes
****
Link C1-S7 (5)
Link C12 (3)
Link C9 (1)

****
Routing Time Step Summary
****

Minimum Time Step	:	2.01 sec
Average Time Step	:	4.77 sec
Maximum Time Step	:	5.00 sec
Percent in Steady State	:	0.00
Average Iterations per Step	:	2.00
Percent Not Converging	:	0.00

****
Subcatchment Runoff Summary
****

Subcatchment	Total Precip mm	Total Runon mm	Total Evap mm	Total Infil mm	Imperv Runoff mm	Perv Runoff mm	Tot Runo
S1	25.34	0.00	0.00	24.07	0.00	0.01	0.
S10	25.34	0.00	0.00	8.41	15.50	0.02	15.
S11	25.34	0.00	0.00	8.40	15.50	0.02	15.
S12	25.34	0.00	0.00	24.07	0.00	0.02	0.
S13	25.34	0.00	0.00	8.41	15.50	0.02	15.
S14	25.34	0.00	0.00	8.41	15.50	0.02	15.
S15	25.34	0.00	0.00	8.41	15.50	0.02	15.
S16	25.34	0.00	0.00	8.41	15.50	0.02	15.
S17	25.34	0.00	0.00	8.41	15.50	0.02	15.
S18	25.34	0.00	0.00	8.41	15.50	0.02	15.
S19	25.34	0.00	0.00	8.41	15.50	0.02	15.
S20	25.34	0.00	0.00	8.41	15.50	0.02	15.

S3	25.34	0.00	0.00	11.91	12.03	0.03	12.
S4_2	25.34	0.00	0.00	19.24	4.77	0.03	4.
S5_2	25.34	0.00	0.00	21.64	2.39	0.03	2.
S6	25.34	0.00	0.00	24.07	0.00	0.02	0.
S6_ROW1	25.34	0.00	0.00	7.17	16.70	0.06	16.
S6_ROW2	25.34	0.00	0.00	7.20	16.70	0.03	16.
S6_ROW3	25.34	0.00	0.00	7.20	16.70	0.03	16.
S6_ROW4	25.34	0.00	0.00	7.20	16.70	0.03	16.
S6_ROW5	25.34	0.00	0.00	7.20	16.70	0.03	16.
S6_ROW6	25.34	0.00	0.00	17.30	5.97	0.76	6.
S6_ROW7	25.34	0.00	0.00	17.30	5.97	0.76	6.
S7	25.34	0.00	0.00	23.35	0.72	0.01	0.
S8	25.34	0.00	0.00	8.41	15.50	0.02	15.
S9	25.34	0.00	0.00	8.40	15.50	0.03	15.

****
Node Depth Summary
****

Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
Curb	JUNCTION	0.00	0.00	189.75	0 00:00	0.00
DICB_(19-608-STM)	JUNCTION	0.00	0.00	188.79	0 00:00	0.00
EX_MH1	JUNCTION	0.04	0.24	185.71	0 01:33	0.24
EX_MH1-S	JUNCTION	0.00	0.03	188.67	0 01:31	0.03
EX_STM_MH1	JUNCTION	0.00	0.05	191.75	0 01:31	0.05
EX_STM_MH1-S	JUNCTION	0.00	0.03	193.98	0 01:30	0.03
EX_STM_MH2	JUNCTION	0.01	0.09	191.09	0 01:32	0.09
EX_STM_MH2-S	JUNCTION	0.00	0.03	193.03	0 01:31	0.03
EX_STM_MH3	JUNCTION	0.01	0.08	190.17	0 01:32	0.08
EX_STM_MH3-S	JUNCTION	0.00	0.02	192.52	0 01:31	0.02
EX_STM_MH4	JUNCTION	0.01	0.13	187.74	0 01:31	0.13
EX_STM_MH4-S	JUNCTION	0.00	0.03	190.84	0 01:30	0.03
EX_STM_MH5	JUNCTION	0.05	0.29	185.06	0 01:35	0.29
EX_STM_MH-5-S	JUNCTION	0.01	0.05	187.35	0 01:36	0.05
EX_STM_MH6	JUNCTION	0.04	0.27	184.30	0 01:36	0.27
EX_STM_MH6-S	JUNCTION	0.00	0.02	187.62	0 01:30	0.02
EX_STM_MH7	JUNCTION	0.04	0.26	183.66	0 01:36	0.26
EX_STM_MH7-S	JUNCTION	0.00	0.00	187.62	0 00:00	0.00
J-S1	JUNCTION	0.04	0.25	185.64	0 01:32	0.25
J-S1minor	JUNCTION	0.02	0.22	187.88	0 01:32	0.22
J-S7	JUNCTION	0.01	0.12	189.52	0 01:30	0.12
J-S7minor	JUNCTION	0.02	0.26	191.81	0 01:30	0.26
MH1_(19-608-STM)	JUNCTION	0.01	0.05	189.29	0 01:32	0.05
MH1_(19-608-STM)-S	JUNCTION	0.00	0.03	192.06	0 01:30	0.03
MH10_(19-608-STM)	JUNCTION	0.02	0.15	187.66	0 01:31	0.15
MH10_(19-608-STM)-S	JUNCTION	0.00	0.05	190.85	0 01:32	0.05
MH11_(19-608-STM)	JUNCTION	0.02	0.20	187.46	0 01:35	0.20
MH11_(19-608-STM)-S	JUNCTION	0.01	0.07	190.65	0 01:36	0.07
MH12_(19-608-STM)	JUNCTION	0.02	0.25	187.15	0 01:34	0.25
MH12_(19-608-STM)-S	JUNCTION	0.00	0.05	190.65	0 01:37	0.05
MH13_(19-608-STM)	JUNCTION	0.01	0.04	189.02	0 01:30	0.04
MH13_(19-608-STM)-S	JUNCTION	0.00	0.04	191.65	0 01:30	0.04
MH15_(19-608-STM)	JUNCTION	0.01	0.09	187.67	0 01:32	0.08
MH15_(19-608-STM)-S	JUNCTION	0.00	0.06	190.98	0 01:32	0.06
MH16_(19-608-STM)	JUNCTION	0.02	0.14	187.45	0 01:32	0.14
MH16_(19-608-STM)-S	JUNCTION	0.00	0.04	190.95	0 01:33	0.04
MH17_(19-608-STM)	JUNCTION	0.01	0.08	187.87	0 01:31	0.08
MH17_(19-608-STM)-S	JUNCTION	0.00	0.05	191.00	0 01:30	0.05
MH18_(19-608-STM)	JUNCTION	0.04	0.26	187.00	0 02:14	0.26

MH18_(19-608-STM)-S	JUNCTION	0.00	0.00	190.68	0	00:00	0.00
MH19_(19-608-STM)	JUNCTION	0.03	0.12	186.24	0	02:10	0.12
MH19_(19-608-STM)-S	JUNCTION	0.00	0.03	189.48	0	01:30	0.03
MH2_(19-608-STM)	JUNCTION	0.01	0.07	188.61	0	01:31	0.07
MH2_(19-608-STM)-S	JUNCTION	0.00	0.03	192.42	0	01:30	0.03
MH20_(19-608-STM)	JUNCTION	0.04	0.12	186.08	0	02:01	0.12
MH20_(19-608-STM)-S	JUNCTION	0.00	0.04	189.19	0	01:30	0.04
MH21_(19-608-STM)	JUNCTION	0.04	0.13	185.95	0	02:01	0.13
MH21_(19-608-STM)-S	JUNCTION	0.00	0.03	189.04	0	01:31	0.03
MH22_(19-608-STM)	JUNCTION	0.04	0.13	185.87	0	02:01	0.13
MH23_(19-608-STM)	JUNCTION	0.01	0.06	187.55	0	01:30	0.06
MH23_(19-608-STM)-S	JUNCTION	0.00	0.04	190.39	0	01:30	0.04
MH24_(19-608-STM)	JUNCTION	0.00	0.02	187.45	0	01:30	0.02
MH24_(19-608-STM)-S	JUNCTION	0.00	0.05	190.26	0	01:30	0.05
MH25_(19-608-STM)	JUNCTION	0.05	0.45	187.25	0	01:54	0.45
MH25_(19-608-STM)-2	JUNCTION	0.02	0.09	186.89	0	01:54	0.09
MH25_(19-608-STM)-S	JUNCTION	0.01	0.06	189.69	0	01:33	0.06
MH26_(19-608-STM)	JUNCTION	0.02	0.17	186.40	0	01:32	0.17
MH3_(19-608-STM)	JUNCTION	0.01	0.08	188.34	0	01:31	0.08
MH3_(19-608-STM)-S	JUNCTION	0.00	0.02	192.22	0	01:30	0.02
MH4_(19-608-STM)	JUNCTION	0.01	0.08	188.23	0	01:32	0.08
MH4_(19-608-STM)-S	JUNCTION	0.00	0.02	192.02	0	01:31	0.02
MH5_(19-608-STM)	JUNCTION	0.01	0.08	187.91	0	01:32	0.08
MH5_(19-608-STM)-S	JUNCTION	0.00	0.02	191.31	0	01:32	0.02
MH6_(19-608-STM)	JUNCTION	0.02	0.15	187.72	0	01:32	0.15
MH6_(19-608-STM)-S	JUNCTION	0.00	0.03	190.95	0	01:32	0.03
MH7_(19-608-STM)	JUNCTION	0.00	0.03	188.73	0	01:31	0.03
MH7_(19-608-STM)-S	JUNCTION	0.00	0.03	191.77	0	01:30	0.03
MH8_(19-608-STM)	JUNCTION	0.01	0.10	188.37	0	01:30	0.10
MH8_(19-608-STM)-S	JUNCTION	0.00	0.05	191.40	0	01:30	0.05
MH9_(19-608-STM)	JUNCTION	0.01	0.11	188.12	0	01:31	0.11
MH9_(19-608-STM)-S	JUNCTION	0.00	0.05	191.17	0	01:31	0.05
TANK-IN-1_(19-608-STM)-S	JUNCTION	0.00	0.00	191.42	0	00:00	0.00
TANK-OUT_(19-608-STM)	JUNCTION	0.04	0.11	186.67	0	02:15	0.11
J9_COM	OUTFALL	0.04	0.25	183.35	0	01:36	0.25
SU-pond	STORAGE	0.05	0.06	191.06	0	04:39	0.06
TANK-IN-1_(19-608-STM)	STORAGE	0.09	0.44	187.00	0	02:14	0.44

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Node Inflow Summary
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Node	Type	Maximum Lateral Inflow CMS	Maximum Total Inflow CMS	Time of Max Occurrence days hr:min		Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Fl Balan Err Perce
Curb	JUNCTION	0.000	0.000	0	00:00	0	0	0.0
DICB_(19-608-STM)	JUNCTION	0.000	0.000	0	00:00	0	0	0.0
EX_MH1	JUNCTION	0.000	0.125	0	01:33	0	0.799	0.0
EX_MH1-S	JUNCTION	0.043	0.141	0	01:30	0.0768	0.239	-0.3
EX_STM_MH1	JUNCTION	0.000	0.006	0	01:30	0	0.00826	-0.0
EX_STM_MH1-S	JUNCTION	0.049	0.049	0	01:30	0.0839	0.0839	-0.7
EX_STM_MH2	JUNCTION	0.000	0.020	0	01:31	0	0.0488	-0.0
EX_STM_MH2-S	JUNCTION	0.035	0.077	0	01:30	0.0609	0.137	0.6
EX_STM_MH3	JUNCTION	0.000	0.023	0	01:32	0	0.0519	0.0
EX_STM_MH3-S	JUNCTION	0.035	0.080	0	01:30	0.0611	0.157	0.0
EX_STM_MH4	JUNCTION	0.000	0.081	0	01:31	0	0.213	-0.0
EX_STM_MH4-S	JUNCTION	0.076	0.101	0	01:30	0.133	0.168	-0.1
EX_STM_MH5	JUNCTION	0.000	0.245	0	01:33	0	1.15	0.0
EX_STM_MH-5-S	JUNCTION	0.056	0.104	0	01:30	0.1	0.179	2.4
EX_STM_MH6	JUNCTION	0.000	0.244	0	01:35	0	1.15	-0.0

EX_STM_MH6-S	JUNCTION	0.016	0.016	0	01:30	0.0302	0.0302	-0.8
EX_STM_MH7	JUNCTION	0.000	0.244	0	01:36	0	1.15	-0.0
EX_STM_MH7-S	JUNCTION	0.000	0.000	0	00:00	0	0	0.0
J-S1	JUNCTION	0.000	0.194	0	01:32	0	0.974	-0.0
J-S1minor	JUNCTION	0.000	0.070	0	01:31	0	0.175	-0.0
J-S7	JUNCTION	0.000	0.070	0	01:30	0	0.188	0.0
J-S7minor	JUNCTION	0.011	0.050	0	01:30	0.0182	0.136	-0.1
MH1_(19-608-STM)	JUNCTION	0.000	0.005	0	01:30	0	0.0172	0.0
MH1_(19-608-STM)-S	JUNCTION	0.011	0.023	0	01:30	0.0199	0.0343	0.2
MH10_(19-608-STM)	JUNCTION	0.000	0.058	0	01:32	0	0.186	0.2
MH10_(19-608-STM)-S	JUNCTION	0.025	0.057	0	01:31	0.0467	0.0773	-0.7
MH11_(19-608-STM)	JUNCTION	0.000	0.101	0	01:34	0	0.251	-0.2
MH11_(19-608-STM)-S	JUNCTION	0.000	0.056	0	01:33	0	0.0661	1.2
MH12_(19-608-STM)	JUNCTION	0.000	0.149	0	01:34	0	0.407	0.0
MH12_(19-608-STM)-S	JUNCTION	0.005	0.031	0	01:33	0.0097	0.0369	1.0
MH13_(19-608-STM)	JUNCTION	0.000	0.007	0	01:30	0	0.0341	0.0
MH13_(19-608-STM)-S	JUNCTION	0.049	0.049	0	01:30	0.0866	0.0866	-0.8
MH15_(19-608-STM)	JUNCTION	0.000	0.018	0	01:32	0	0.0656	0.0
MH15_(19-608-STM)-S	JUNCTION	0.000	0.041	0	01:30	3.11e-05	0.0533	1.3
MH16_(19-608-STM)	JUNCTION	0.000	0.042	0	01:32	0	0.136	-0.0
MH16_(19-608-STM)-S	JUNCTION	0.011	0.040	0	01:31	0.0204	0.0517	0.2
MH17_(19-608-STM)	JUNCTION	0.000	0.016	0	01:30	0	0.0456	0.0
MH17_(19-608-STM)-S	JUNCTION	0.030	0.030	0	01:30	0.0554	0.0554	-0.7
MH18_(19-608-STM)	JUNCTION	0.000	0.149	0	01:34	0	0.407	0.0
MH18_(19-608-STM)-S	JUNCTION	0.000	0.000	0	00:00	0	0	0.0
MH19_(19-608-STM)	JUNCTION	0.000	0.032	0	02:10	0	0.431	0.0
MH19_(19-608-STM)-S	JUNCTION	0.037	0.037	0	01:30	0.0694	0.0694	-0.0
MH2_(19-608-STM)	JUNCTION	0.000	0.012	0	01:30	0	0.0499	0.0
MH2_(19-608-STM)-S	JUNCTION	0.033	0.033	0	01:30	0.0604	0.0604	-0.2
MH20_(19-608-STM)	JUNCTION	0.000	0.034	0	02:01	0	0.454	0.0
MH20_(19-608-STM)-S	JUNCTION	0.000	0.031	0	01:30	0	0.04	-0.0
MH21_(19-608-STM)	JUNCTION	0.000	0.034	0	02:01	0	0.454	0.0
MH21_(19-608-STM)-S	JUNCTION	0.000	0.021	0	01:30	0	0.0177	0.2
MH22_(19-608-STM)	JUNCTION	0.000	0.034	0	02:01	0	0.454	0.0
MH23_(19-608-STM)	JUNCTION	0.000	0.007	0	01:30	0	0.0385	0.0
MH23_(19-608-STM)-S	JUNCTION	0.065	0.065	0	01:30	0.121	0.121	-0.0
MH24_(19-608-STM)	JUNCTION	0.000	0.015	0	01:30	0	0.0679	0.4
MH24_(19-608-STM)-S	JUNCTION	0.000	0.058	0	01:30	2.47e-05	0.0824	-1.1
MH25_(19-608-STM)	JUNCTION	0.000	0.050	0	01:33	0	0.12	-0.2
MH25_(19-608-STM)-2	JUNCTION	0.000	0.016	0	01:54	0	0.121	-0.0
MH25_(19-608-STM)-S	JUNCTION	0.000	0.047	0	01:30	0	0.0539	2.5
MH26_(19-608-STM)	JUNCTION	0.000	0.091	0	01:31	0	0.333	0.0
MH3_(19-608-STM)	JUNCTION	0.000	0.014	0	01:31	0	0.0549	-0.0
MH3_(19-608-STM)-S	JUNCTION	0.000	0.012	0	01:30	0	0.0134	0.0
MH4_(19-608-STM)	JUNCTION	0.000	0.015	0	01:31	0	0.0577	-0.0
MH4_(19-608-STM)-S	JUNCTION	0.000	0.010	0	01:30	0	0.00849	-0.6
MH5_(19-608-STM)	JUNCTION	0.000	0.017	0	01:32	0	0.0596	-0.0
MH5_(19-608-STM)-S	JUNCTION	0.000	0.008	0	01:31	0	0.00572	1.2
MH6_(19-608-STM)	JUNCTION	0.000	0.049	0	01:32	0	0.158	-0.0
MH6_(19-608-STM)-S	JUNCTION	0.000	0.043	0	01:32	0	0.0348	0.2
MH7_(19-608-STM)	JUNCTION	0.000	0.003	0	01:30	0	0.00984	0.0
MH7_(19-608-STM)-S	JUNCTION	0.010	0.026	0	01:30	0.0181	0.0351	0.0
MH8_(19-608-STM)	JUNCTION	0.000	0.027	0	01:30	0	0.0859	0.0
MH8_(19-608-STM)-S	JUNCTION	0.049	0.070	0	01:30	0.09	0.115	-0.2
MH9_(19-608-STM)	JUNCTION	0.000	0.030	0	01:31	0	0.0943	-0.0
MH9_(19-608-STM)-S	JUNCTION	0.000	0.044	0	01:30	0	0.0395	0.3
TANK-IN-1_(19-608-STM)-S	JUNCTION	0.000	0.000	0	00:00	0	0	
TANK-OUT_(19-608-STM)	JUNCTION	0.000	0.029	0	02:14	0	0.402	-0.
J9_COM	OUTFALL	0.114	0.274	0	01:36	0.198	1.35	0.0
SU-pond	STORAGE	0.000	0.000	0	04:10	0.000513	0.000513	0.4
TANK-IN-1_(19-608-STM)	STORAGE	0.000	0.149	0	01:34	0	0.407	-0

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Node Surcharge Summary
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No nodes were surcharged.

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Node Flooding Summary
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No nodes were flooded.

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Storage Volume Summary
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Storage Unit	Average Volume 1000 m3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 m3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maxi Outf
SU-pond	0.000	0	0	0	0.001	0	0 04:39	0.
TANK-IN-1_(19-608-STM)	0.041	2	0	0	0.209	9	0 02:14	

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Outfall Loading Summary
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Outfall Node	Flow Freq Pcnt	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr
J9_COM	99.97	0.022	0.274	1.351
System	99.97	0.022	0.274	1.351

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Link Flow Summary
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Link	Type	Maximum |Flow| CMS	Time of Max Occurrence days hr:min	Maximum |Veloc| m/sec	Max/ Full Flow	Max/ Full Depth
C1	CONDUIT	0.023	0 01:32	0.87	0.07	0.22
C10	CHANNEL	0.000	0 00:00	0.00	0.00	0.10
C12	CONDUIT	0.070	0 01:32	0.85	0.06	0.52
C13	CONDUIT	0.195	0 01:33	1.39	0.24	0.36
C16	CHANNEL	0.016	0 01:30	0.36	0.00	0.10
C17	CONDUIT	0.091	0 01:32	1.53	0.21	0.32
C1-S	CHANNEL	0.027	0 01:31	0.26	0.00	0.08
C1-S7	CONDUIT	0.050	0 01:30	1.26	0.16	0.58
C2	CONDUIT	0.006	0 01:31	0.57	0.03	0.11
C2-S	CHANNEL	0.042	0 01:30	0.31	0.00	0.10
C3	CONDUIT	0.019	0 01:33	0.86	0.09	0.20
C3-S	CHANNEL	0.048	0 01:31	0.39	0.01	0.09
C4	CONDUIT	0.081	0 01:31	1.62	0.13	0.28
C4-S	CHANNEL	0.080	0 01:30	0.59	0.01	0.09
C5	CONDUIT	0.125	0 01:34	1.02	0.15	0.33

C5-S	CHANNEL	0.045	0	01:31	0.18	0.00	0.13	
C6	CONDUIT	0.242	0	01:35	1.60	0.29	0.37	
C6-S	CHANNEL	0.008	0	01:30	0.05	0.00	0.12	
C7	CONDUIT	0.244	0	01:36	1.42	0.13	0.25	
C7-S	CHANNEL	0.000	0	00:00	0.00	0.00	0.03	
C8	CONDUIT	0.244	0	01:36	1.48	0.12	0.24	
C9	CONDUIT	0.069	0	01:31	1.98	0.16	0.27	
Pipe_-_(115)_(19-608-STM)	CONDUIT	0.000	0	00:00	0.00	0.00	0.00	
Pipe_-_(62)_(19-608-STM)	CONDUIT	0.005	0	01:32	0.63	0.06	0.17	
Pipe_-_(62)_(19-608-STM)-S	CHANNEL	0.013	0	01:30	0.29	0.00	0.10	
Pipe_-_(63)_(19-608-STM)	CONDUIT	0.012	0	01:31	0.66	0.03	0.11	
Pipe_-_(63)_(19-608-STM)-S	CHANNEL	0.012	0	01:30	0.35	0.00	0.09	
Pipe_-_(64)_(19-608-STM)	CONDUIT	0.014	0	01:31	0.68	0.03	0.12	
Pipe_-_(64)_(19-608-STM)-S	CHANNEL	0.010	0	01:30	0.43	0.00	0.07	
Pipe_-_(65)_(19-608-STM)	CONDUIT	0.015	0	01:32	0.71	0.04	0.13	
Pipe_-_(65)_(19-608-STM)-S	CHANNEL	0.008	0	01:31	0.47	0.00	0.06	
Pipe_-_(66)_(1)_(19-608-STM)	CONDUIT	0.016	0	01:31	0.87	0.11	0.22	
Pipe_-_(66)_(1)_(19-608-STM)-S	CHANNEL	0.012	0	01:30	0.14	0.01	0.14	
Pipe_-_(67)_(19-608-STM)	CONDUIT	0.042	0	01:32	0.96	0.14	0.26	
Pipe_-_(67)_(19-608-STM)-S	CHANNEL	0.027	0	01:33	0.36	0.01	0.15	
Pipe_-_(69)_(19-608-STM)	CONDUIT	0.149	0	01:34	1.26	0.19	0.31	
Pipe_-_(69)_(19-608-STM)-S	CHANNEL	0.000	0	00:00	0.00	0.00	0.09	
Pipe_-_(70)_(19-608-STM)	CONDUIT	0.149	0	01:34	1.23	0.19	0.37	
Pipe_-_(70)_(19-608-STM)-S	CHANNEL	0.000	0	00:00	0.00	0.00	0.00	
Pipe_-_(71)_(19-608-STM)	CONDUIT	0.017	0	01:32	0.75	0.04	0.13	
Pipe_-_(71)_(19-608-STM)-S	CHANNEL	0.006	0	01:32	0.19	0.00	0.08	
Pipe_-_(72)_(19-608-STM)	CONDUIT	0.049	0	01:32	0.93	0.08	0.21	
Pipe_-_(72)_(19-608-STM)-S	CHANNEL	0.040	0	01:32	0.50	0.00	0.13	
Pipe_-_(73)_(1)_(19-608-STM)	CONDUIT	0.101	0	01:35	1.20	0.17	0.28	
Pipe_-_(73)_(1)_(19-608-STM)-S	CHANNEL	0.015	0	01:39	0.08	0.01	0.21	
Pipe_-_(73)_(19-608-STM)	CONDUIT	0.058	0	01:32	0.98	0.10	0.23	
Pipe_-_(73)_(19-608-STM)-S	CHANNEL	0.049	0	01:32	0.37	0.01	0.19	
Pipe_-_(74)_(19-608-STM)	CONDUIT	0.003	0	01:31	0.65	0.02	0.10	
Pipe_-_(74)_(19-608-STM)-S	CHANNEL	0.022	0	01:30	0.30	0.00	0.13	
Pipe_-_(75)_(1)_(19-608-STM)	CONDUIT	0.030	0	01:31	1.00	0.13	0.25	
Pipe_-_(75)_(1)_(19-608-STM)-S	CHANNEL	0.037	0	01:31	0.49	0.01	0.13	
Pipe_-_(75)_(19-608-STM)	CONDUIT	0.026	0	01:31	0.96	0.11	0.23	
Pipe_-_(75)_(19-608-STM)-S	CHANNEL	0.044	0	01:30	0.40	0.01	0.16	
Pipe_-_(76)_(19-608-STM)	CONDUIT	0.007	0	01:30	0.96	0.04	0.09	
Pipe_-_(76)_(19-608-STM)-S	CHANNEL	0.058	0	01:30	0.58	0.01	0.15	
Pipe_-_(77)_(19-608-STM)	CONDUIT	0.015	0	01:30	0.19	0.00	0.18	
Pipe_-_(77)_(19-608-STM)-S	CHANNEL	0.047	0	01:30	0.40	0.01	0.18	
Pipe_-_(78)_(19-608-STM)	CONDUIT	0.016	0	01:54	0.77	0.08	0.19	
Pipe_-_(79)_(19-608-STM)	CONDUIT	0.029	0	02:15	0.91	0.09	0.21	
Pipe_-_(80)_(19-608-STM)	CONDUIT	0.032	0	02:10	0.91	0.10	0.22	
Pipe_-_(80)_(19-608-STM)-S	CHANNEL	0.031	0	01:30	0.50	0.00	0.12	
Pipe_-_(81)_(19-608-STM)	CONDUIT	0.034	0	02:01	0.92	0.11	0.23	
Pipe_-_(81)_(19-608-STM)-S	CHANNEL	0.021	0	01:30	0.37	0.00	0.11	
Pipe_-_(82)_(19-608-STM)	CONDUIT	0.034	0	02:01	0.91	0.10	0.23	
Pipe_-_(82)_(19-608-STM)-S	CHANNEL	0.021	0	01:31	0.50	0.00	0.10	
Pipe_-_(83)_(19-608-STM)	CONDUIT	0.034	0	02:01	0.89	0.11	0.23	
Pipe_-_(85)_(19-608-STM)	CONDUIT	0.007	0	01:30	1.00	0.03	0.11	
Pipe_-_(85)_(19-608-STM)-S	CHANNEL	0.041	0	01:30	0.44	0.01	0.17	
Pipe_-_(86)_(19-608-STM)	CONDUIT	0.017	0	01:32	0.86	0.07	0.19	
Pipe_-_(86)_(19-608-STM)-S	CHANNEL	0.020	0	01:32	0.17	0.02	0.16	
OR1	ORIFICE	0.029	0	02:14			1.00	
OR2	ORIFICE	0.016	0	01:54			1.00	
J-S1minor-IC	WEIR	0.070	0	01:31			0.42	
J-S7minor-IC	WEIR	0.041	0	01:31			0.13	
W4	WEIR	0.000	0	00:00			0.00	
J1_COM-IC	DUMMY	0.006	0	01:30				
J2_COM-IC	DUMMY	0.014	0	01:31				
J3_COM-IC	DUMMY	0.004	0	01:31				
J4_COM-IC	DUMMY	0.012	0	01:30				

J5_COM-IC	DUMMY	0.012	0	01:31
J6_COM-IC	DUMMY	0.053	0	01:36
J7_COM-IC	DUMMY	0.003	0	01:30
J8_COM-IC	DUMMY	0.000	0	00:00
MH1_(19-608-STM)-IC	DUMMY	0.005	0	01:30
MH10_(19-608-STM)-IC	DUMMY	0.008	0	01:32
MH11_(19-608-STM)-IC	DUMMY	0.049	0	01:36
MH12_(19-608-STM)-IC	DUMMY	0.009	0	01:37
MH13_(19-608-STM)-IC	DUMMY	0.007	0	01:30
MH15_(19-608-STM)-IC	DUMMY	0.011	0	01:32
MH16_(19-608-STM)-IC	DUMMY	0.009	0	01:33
MH17_(19-608-STM)-IC	DUMMY	0.016	0	01:30
MH18_(19-608-STM)-IC	DUMMY	0.000	0	00:00
MH19_(19-608-STM)-IC	DUMMY	0.006	0	01:30
MH2_(19-608-STM)-IC	DUMMY	0.007	0	01:30
MH20_(19-608-STM)-IC	DUMMY	0.009	0	01:30
MH21_(19-608-STM)-IC	DUMMY	0.000	0	00:00
MH23_(19-608-STM)-IC	DUMMY	0.007	0	01:30
MH24_(19-608-STM)-IC	DUMMY	0.008	0	01:30
MH25_(19-608-STM)-IC	DUMMY	0.036	0	01:33
MH3_(19-608-STM)-IC	DUMMY	0.002	0	01:30
MH4_(19-608-STM)-IC	DUMMY	0.002	0	01:31
MH5_(19-608-STM)-IC	DUMMY	0.002	0	01:32
MH6_(19-608-STM)-IC	DUMMY	0.003	0	01:32
MH7_(19-608-STM)-IC	DUMMY	0.003	0	01:30
MH8_(19-608-STM)-IC	DUMMY	0.024	0	01:30
MH9_(19-608-STM)-IC	DUMMY	0.004	0	01:31
TANK-IN-1_(19-608-STM)-IC	DUMMY	0.000	0	00:00

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Flow Classification Summary
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	Adjusted	Fraction of Time in Flow Class								
Conduit	/Actual Length	Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl
C1	1.00	0.00	0.77	0.00	0.21	0.02	0.00	0.00	0.96	0.00
C10	1.00	0.04	0.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C12	1.00	0.00	0.00	0.00	0.99	0.00	0.00	0.00	0.00	1.00
C13	1.00	0.00	0.00	0.00	0.81	0.19	0.00	0.00	0.79	0.00
C16	1.00	0.48	0.09	0.00	0.42	0.00	0.00	0.00	0.99	0.00
C17	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
C1-S	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.99	0.00
C1-S7	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
C2	1.00	0.04	0.00	0.00	0.00	0.00	0.00	0.96	0.00	0.00
C2-S	1.00	0.00	0.00	0.00	0.98	0.02	0.00	0.00	0.97	0.00
C3	1.00	0.04	0.00	0.00	0.00	0.00	0.00	0.96	0.00	0.00
C3-S	1.00	0.00	0.00	0.00	0.01	0.99	0.00	0.00	0.00	0.00
C4	1.00	0.00	0.00	0.00	0.81	0.19	0.00	0.00	0.99	0.00
C4-S	1.00	0.00	0.00	0.00	0.01	0.99	0.00	0.00	0.00	0.00
C5	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.54	0.00
C5-S	1.00	0.00	0.10	0.00	0.90	0.00	0.00	0.00	0.99	0.00
C6	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
C6-S	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.99	0.00
C7	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
C7-S	1.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C8	1.00	0.01	0.00	0.00	0.77	0.22	0.00	0.00	0.59	0.00
C9	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe_-_(115)_(19-608-STM)	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pipe_-_(62)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe_-_(62)_(19-608-STM)-S	1.00	0.42	0.05	0.00	0.48	0.05	0.00	0.00	0.01	0.00

Pipe_-_(63)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(63)_(19-608-STM)-S	1.00	0.46	0.00	0.00	0.37	0.17	0.00	0.00	0.00	0.00	
Pipe_-_(64)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(64)_(19-608-STM)-S	1.00	0.79	0.00	0.00	0.04	0.17	0.00	0.00	0.00	0.00	
Pipe_-_(65)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(65)_(19-608-STM)-S	1.00	0.83	0.00	0.00	0.08	0.09	0.00	0.00	0.01	0.00	
Pipe_-_(66)_(1)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(66)_(1)_(19-608-STM)-S	1.00	0.47	0.05	0.00	0.48	0.00	0.00	0.00	0.01	0.00	
Pipe_-_(67)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(67)_(19-608-STM)-S	1.00	0.53	0.06	0.00	0.29	0.11	0.00	0.00	0.03	0.00	
Pipe_-_(69)_(19-608-STM)	1.00	0.00	0.00	0.00	0.09	0.00	0.00	0.90	0.03	0.00	
Pipe_-_(69)_(19-608-STM)-S	1.00	0.62	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Pipe_-_(70)_(19-608-STM)	1.00	0.00	0.00	0.00	0.17	0.00	0.00	0.83	0.02	0.00	
Pipe_-_(70)_(19-608-STM)-S	1.00	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Pipe_-_(71)_(19-608-STM)	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	
Pipe_-_(71)_(19-608-STM)-S	1.00	0.86	0.06	0.00	0.08	0.00	0.00	0.00	0.95	0.00	
Pipe_-_(72)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(72)_(19-608-STM)-S	1.00	0.47	0.39	0.00	0.13	0.02	0.00	0.00	0.95	0.00	
Pipe_-_(73)_(1)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(73)_(1)_(19-608-STM)-S	1.00	0.00	0.61	0.00	0.38	0.00	0.00	0.00	0.95	0.00	
Pipe_-_(73)_(19-608-STM)	1.00	0.00	0.00	0.00	0.04	0.00	0.00	0.96	0.01	0.00	
Pipe_-_(73)_(19-608-STM)-S	1.00	0.00	0.47	0.00	0.50	0.03	0.00	0.00	0.94	0.00	
Pipe_-_(74)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(74)_(19-608-STM)-S	1.00	0.44	0.11	0.00	0.39	0.06	0.00	0.00	0.93	0.00	
Pipe_-_(75)_(1)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(75)_(1)_(19-608-STM)-S	1.00	0.80	0.00	0.00	0.06	0.14	0.00	0.00	0.00	0.00	
Pipe_-_(75)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(75)_(19-608-STM)-S	1.00	0.51	0.00	0.00	0.36	0.13	0.00	0.00	0.02	0.00	
Pipe_-_(76)_(19-608-STM)	1.00	0.00	0.00	0.00	0.66	0.34	0.00	0.00	0.00	0.00	
Pipe_-_(76)_(19-608-STM)-S	1.00	0.35	0.00	0.00	0.40	0.25	0.00	0.00	0.02	0.00	
Pipe_-_(77)_(19-608-STM)	1.00	0.00	0.00	0.00	0.23	0.00	0.00	0.76	0.19	0.00	
Pipe_-_(77)_(19-608-STM)-S	1.00	0.01	0.75	0.00	0.23	0.01	0.00	0.00	0.94	0.00	
Pipe_-_(78)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(79)_(19-608-STM)	1.00	0.03	0.00	0.00	0.00	0.00	0.00	0.97	0.00	0.00	
Pipe_-_(80)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(80)_(19-608-STM)-S	1.00	0.39	0.00	0.00	0.37	0.24	0.00	0.00	0.01	0.00	
Pipe_-_(81)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(81)_(19-608-STM)-S	1.00	0.01	0.76	0.00	0.21	0.02	0.00	0.00	0.87	0.00	
Pipe_-_(82)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(82)_(19-608-STM)-S	1.00	0.00	0.04	0.00	0.83	0.13	0.00	0.00	0.85	0.00	
Pipe_-_(83)_(19-608-STM)	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	
Pipe_-_(85)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(85)_(19-608-STM)-S	1.00	0.46	0.00	0.00	0.39	0.15	0.00	0.00	0.04	0.00	
Pipe_-_(86)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(86)_(19-608-STM)-S	1.00	0.59	0.18	0.00	0.23	0.00	0.00	0.00	0.83	0.00	

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Conduit Surcharge Summary
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No conduits were surcharged.

Analysis begun on: Thu May 14 22:53:58 2020
Analysis ended on: Thu May 14 22:54:00 2020
Total elapsed time: 00:00:02

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.013)

WARNING 10: crest elevation raised to downstream invert for regulator Link J-S1minor-IC
WARNING 10: crest elevation raised to downstream invert for regulator Link J-S7minor-IC
WARNING 02: maximum depth increased for Node J-S1minor
WARNING 02: maximum depth increased for Node J-S7minor
WARNING 02: maximum depth increased for Node FROG_POND

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Element Count
****
Number of rain gages 9
Number of subcatchments ... 26
Number of nodes 76
Number of links 107
Number of pollutants 0
Number of land uses 0

****
Raingage Summary
****

Name	Data Source	Data Type	Recording Interval
25mm	25mm	INTENSITY	10 min.
Chicago_24h_100yr	Chicago_24h_100yr_COM	INTENSITY	5 min.
Chicago_24h_2yr	Chicago_24h_2yr_COM	INTENSITY	5 min.
Chicago_4h_100year_COM	Chicago_4h_100year_COM	INTENSITY	5 min.
Chicago_4h_10year_COM	Chicago_4h_10year_COM	INTENSITY	5 min.
Chicago_4h_25year_COM	Chicago_4h_25year_COM	INTENSITY	5 min.
Chicago_4h_2yr_COM	Chicago_4h_2yr_COM	INTENSITY	5 min.
Chicago_4h_50year_COM	Chicago_4h_50year_COM	INTENSITY	5 min.
Chicago_4h_5year_COM	Chicago_4h_5year_COM	INTENSITY	5 min.

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Subcatchment Summary
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Name	Area	Width	%Imperv	%Slope	Rain Gage	Outlet
S1	6.45	258.01	0.00	0.5000	Chicago_4h_10year_COM	FROG_POND
S10	0.13	19.74	65.00	0.5000	Chicago_4h_10year_COM	MH1_(19-608
S11	0.12	21.65	65.00	1.0000	Chicago_4h_10year_COM	MH7_(19-608
S12	0.13	12.76	0.00	0.5000	Chicago_4h_10year_COM	MH24_(19-60
S13	0.58	63.76	65.00	0.5000	Chicago_4h_10year_COM	MH8_(19-608
S14	0.36	33.72	65.00	0.5000	Chicago_4h_10year_COM	MH17_(19-60
S15	0.30	30.12	65.00	0.5000	Chicago_4h_10year_COM	MH10_(19-60
S16	0.13	34.53	65.00	0.5000	Chicago_4h_10year_COM	MH16_(19-60
S17	0.06	20.83	65.00	0.5000	Chicago_4h_10year_COM	MH12_(19-60
S18	0.45	44.77	65.00	0.4000	Chicago_4h_10year_COM	MH19_(19-60
S19	0.78	43.28	65.00	0.5000	Chicago_4h_10year_COM	MH23_(19-60
S20	0.09	18.70	65.00	0.5000	Chicago_4h_10year_COM	EX_MH1-S
S3	0.60	83.61	50.45	1.5000	Chicago_4h_10year_COM	EX_STM_MH4-
S4_2	1.49	99.55	20.00	1.5000	Chicago_4h_10year_COM	EX_STM_MH-5
S5_2	8.19	818.53	10.00	1.5000	Chicago_4h_10year_COM	J9_COM
S6	0.16	16.02	0.00	0.5000	Chicago_4h_10year_COM	MH15_(19-60
S6_ROW1	0.50	135.26	70.00	1.8000	Chicago_4h_10year_COM	EX_STM_MH1-
S6_ROW2	0.36	36.43	70.00	1.8000	Chicago_4h_10year_COM	EX_STM_MH2-
S6_ROW3	0.37	36.57	70.00	1.8000	Chicago_4h_10year_COM	EX_STM_MH3-
S6_ROW4	0.36	36.03	70.00	1.8000	Chicago_4h_10year_COM	EX_STM_MH4-
S6_ROW5	0.37	37.28	70.00	1.8000	Chicago_4h_10year_COM	EX_MH1-S

S6_ROW6	0.42	84.54	25.00	1.0000	Chicago_4h_10year_COM EX_STM_MH-5
S6_ROW7	0.45	89.84	25.00	1.0000	Chicago_4h_10year_COM EX_STM_MH6-
S7	2.51	100.40	3.00	1.0000	Chicago_4h_10year_COM J-S7minor
S8	0.39	38.91	65.00	0.5000	Chicago_4h_10year_COM MH2_(19-608
S9	0.56	27.89	65.00	1.5000	Chicago_4h_10year_COM MH13_(19-60

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Node Summary
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Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
Curb	JUNCTION	189.75	0.30	0.0	
DICB_(19-608-STM)	JUNCTION	188.79	3.21	0.0	
EX_MH1	JUNCTION	185.47	3.17	0.0	
EX_MH1-S	JUNCTION	188.64	0.30	0.0	
EX_STM_MH1	JUNCTION	191.70	2.25	0.0	
EX_STM_MH1-S	JUNCTION	193.95	0.30	0.0	
EX_STM_MH2	JUNCTION	191.00	2.00	0.0	
EX_STM_MH2-S	JUNCTION	193.00	0.30	0.0	
EX_STM_MH3	JUNCTION	190.09	2.41	0.0	
EX_STM_MH3-S	JUNCTION	192.50	0.30	0.0	
EX_STM_MH4	JUNCTION	187.61	3.20	0.0	
EX_STM_MH4-S	JUNCTION	190.81	0.30	0.0	
EX_STM_MH5	JUNCTION	184.77	2.53	0.0	
EX_STM_MH-5-S	JUNCTION	187.30	0.30	0.0	
EX_STM_MH6	JUNCTION	184.03	3.57	0.0	
EX_STM_MH6-S	JUNCTION	187.60	0.30	0.0	
EX_STM_MH7	JUNCTION	183.40	4.22	0.0	
EX_STM_MH7-S	JUNCTION	187.62	0.30	0.0	
J-S1	JUNCTION	185.39	2.61	0.0	
J-S1minor	JUNCTION	187.66	1.04	0.0	
J-S7	JUNCTION	189.40	2.60	0.0	
J-S7minor	JUNCTION	191.55	1.10	0.0	
MH1_(19-608-STM)	JUNCTION	189.24	2.79	0.0	
MH1_(19-608-STM)-S	JUNCTION	192.03	0.30	0.0	
MH10_(19-608-STM)	JUNCTION	187.51	3.29	0.0	
MH10_(19-608-STM)-S	JUNCTION	190.80	0.30	0.0	
MH11_(19-608-STM)	JUNCTION	187.27	3.31	0.0	
MH11_(19-608-STM)-S	JUNCTION	190.58	0.30	0.0	
MH12_(19-608-STM)	JUNCTION	186.90	3.69	0.0	
MH12_(19-608-STM)-S	JUNCTION	190.60	0.30	0.0	
MH13_(19-608-STM)	JUNCTION	188.98	2.63	0.0	
MH13_(19-608-STM)-S	JUNCTION	191.61	0.30	0.0	
MH15_(19-608-STM)	JUNCTION	187.58	3.34	0.0	
MH15_(19-608-STM)-S	JUNCTION	190.92	0.30	0.0	
MH16_(19-608-STM)	JUNCTION	187.31	3.60	0.0	
MH16_(19-608-STM)-S	JUNCTION	190.91	0.30	0.0	
MH17_(19-608-STM)	JUNCTION	187.78	3.16	0.0	
MH17_(19-608-STM)-S	JUNCTION	190.95	0.30	0.0	
MH18_(19-608-STM)	JUNCTION	186.75	3.93	0.0	
MH18_(19-608-STM)-S	JUNCTION	190.68	0.30	0.0	
MH19_(19-608-STM)	JUNCTION	186.12	3.32	0.0	
MH19_(19-608-STM)-S	JUNCTION	189.45	0.30	0.0	
MH2_(19-608-STM)	JUNCTION	188.54	3.85	0.0	
MH2_(19-608-STM)-S	JUNCTION	192.39	0.30	0.0	
MH20_(19-608-STM)	JUNCTION	185.96	3.19	0.0	
MH20_(19-608-STM)-S	JUNCTION	189.15	0.30	0.0	
MH21_(19-608-STM)	JUNCTION	185.83	3.18	0.0	
MH21_(19-608-STM)-S	JUNCTION	189.01	0.30	0.0	
MH22_(19-608-STM)	JUNCTION	185.74	2.79	0.0	
MH23_(19-608-STM)	JUNCTION	187.49	2.87	0.0	
MH23_(19-608-STM)-S	JUNCTION	190.35	0.30	0.0	

MH24_(19-608-STM)	JUNCTION	187.43	2.78	0.0
MH24_(19-608-STM)-S	JUNCTION	190.22	0.30	0.0
MH25_(19-608-STM)	JUNCTION	186.80	2.82	0.0
MH25_(19-608-STM)-2	JUNCTION	186.80	2.82	0.0
MH25_(19-608-STM)-S	JUNCTION	189.62	0.30	0.0
MH26_(19-608-STM)	JUNCTION	186.23	3.52	0.0
MH3_(19-608-STM)	JUNCTION	188.26	3.94	0.0
MH3_(19-608-STM)-S	JUNCTION	192.20	0.30	0.0
MH4_(19-608-STM)	JUNCTION	188.15	3.85	0.0
MH4_(19-608-STM)-S	JUNCTION	192.00	0.30	0.0
MH5_(19-608-STM)	JUNCTION	187.83	3.46	0.0
MH5_(19-608-STM)-S	JUNCTION	191.29	0.30	0.0
MH6_(19-608-STM)	JUNCTION	187.57	3.35	0.0
MH6_(19-608-STM)-S	JUNCTION	190.92	0.30	0.0
MH7_(19-608-STM)	JUNCTION	188.70	3.04	0.0
MH7_(19-608-STM)-S	JUNCTION	191.74	0.30	0.0
MH8_(19-608-STM)	JUNCTION	188.26	3.09	0.0
MH8_(19-608-STM)-S	JUNCTION	191.35	0.30	0.0
MH9_(19-608-STM)	JUNCTION	188.00	3.12	0.0
MH9_(19-608-STM)-S	JUNCTION	191.13	0.30	0.0
TANK-IN-1_(19-608-STM)-S	JUNCTION	191.42	0.30	0.0
TANK-OUT_(19-608-STM)	JUNCTION	186.56	4.84	0.0
J9_COM	OUTFALL	183.10	1.05	0.0
FROG_POND	STORAGE	191.00	1.50	0.0
STM_TANK	STORAGE	186.56	4.86	0.0

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Link Summary
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Name	From Node	To Node	Type	Length	%Slope	Roughness
C1	EX_STM_MH3	J-S7	CONDUIT	45.9	1.5026	0.0130
C10	Curb	MH25_(19-608-STM)-S	CONDUIT	5.9	2.1213	0.014
C12	J-S1minor	J-S1	CONDUIT	16.1	14.2534	0.0130
C13	J-S1	EX_STM_MH5	CONDUIT	114.8	0.5400	0.0130
C16	MH1_(19-608-STM)-S	MH7_(19-608-STM)-S	CONDUIT	39.8	0.7286	0.01
C17	MH26_(19-608-STM)	EX_MH1	CONDUIT	52.7	1.0048	0.0130
C1-S	EX_STM_MH3-S	EX_STM_MH4-S	CONDUIT	102.1	1.6559	0.0140
C1-S7	J-S7minor	J-S7	CONDUIT	19.1	10.5425	0.0130
C2	EX_STM_MH1	EX_STM_MH2	CONDUIT	119.1	0.5039	0.0130
C2-S	EX_STM_MH1-S	EX_STM_MH2-S	CONDUIT	112.5	0.8445	0.0140
C3	EX_STM_MH2	EX_STM_MH3	CONDUIT	120.9	0.6284	0.0130
C3-S	EX_STM_MH2-S	EX_STM_MH3-S	CONDUIT	123.5	0.4048	0.0140
C4	EX_STM_MH4	MH26_(19-608-STM)	CONDUIT	67.5	2.0448	0.0130
C4-S	EX_STM_MH4-S	EX_MH1-S	CONDUIT	132.8	1.6340	0.0140
C5	EX_MH1	J-S1	CONDUIT	14.7	0.5443	0.0130
C5-S	EX_MH1-S	EX_STM_MH-5-S	CONDUIT	132.1	1.0144	0.0140
C6	EX_STM_MH5	EX_STM_MH6	CONDUIT	110.5	0.5700	0.0130
C6-S	EX_STM_MH-5-S	EX_STM_MH6-S	CONDUIT	119.3	-0.2514	0.0140
C7	EX_STM_MH6	EX_STM_MH7	CONDUIT	120.8	0.4389	0.0130
C7-S	EX_STM_MH7-S	EX_STM_MH6-S	CONDUIT	118.6	0.0177	0.0140
C8	EX_STM_MH7	J9_COM	CONDUIT	58.1	0.5162	0.0130
C9	J-S7	EX_STM_MH4	CONDUIT	73.4	2.3410	0.0130
Pipe_-_(115)_(19-608-STM)	DICB_(19-608-STM)	MH2_(19-608-STM)	CONDUIT	4.9	2.0077	
Pipe_-_(62)_(19-608-STM)	MH1_(19-608-STM)	MH2_(19-608-STM)	CONDUIT	80.4	0.4999	
Pipe_-_(62)_(19-608-STM)-S	MH2_(19-608-STM)-S	MH1_(19-608-STM)-S	CONDUIT	80.4	0.45	
Pipe_-_(63)_(19-608-STM)	MH2_(19-608-STM)	MH3_(19-608-STM)	CONDUIT	38.0	0.4947	
Pipe_-_(63)_(19-608-STM)-S	MH2_(19-608-STM)-S	MH3_(19-608-STM)-S	CONDUIT	38.0	0.50	
Pipe_-_(64)_(19-608-STM)	MH3_(19-608-STM)	MH4_(19-608-STM)	CONDUIT	13.3	0.5032	
Pipe_-_(64)_(19-608-STM)-S	MH3_(19-608-STM)-S	MH4_(19-608-STM)-S	CONDUIT	13.3	1.51	
Pipe_-_(65)_(19-608-STM)	MH4_(19-608-STM)	MH5_(19-608-STM)	CONDUIT	47.5	0.4990	
Pipe_-_(65)_(19-608-STM)-S	MH4_(19-608-STM)-S	MH5_(19-608-STM)-S	CONDUIT	50.5	1.40	
Pipe_-_(66)_(1)_(19-608-STM)	MH17_(19-608-STM)	MH16_(19-608-STM)	CONDUIT	64.3	0.49	

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Pipe_-_(66)_(1)_(19-608-STM)-S MH17_(19-608-STM)-S MH16_(19-608-STM)-S CONDUIT           67.1
Pipe_-_(67)_(19-608-STM) MH16_(19-608-STM) MH12_(19-608-STM) CONDUIT           36.8    0.4997
Pipe_-_(67)_(19-608-STM)-S MH16_(19-608-STM)-S MH12_(19-608-STM)-S CONDUIT           42.4    0.
Pipe_-_(69)_(19-608-STM) MH12_(19-608-STM) MH18_(19-608-STM) CONDUIT           15.5    0.4983
Pipe_-_(69)_(19-608-STM)-S MH18_(19-608-STM)-S MH12_(19-608-STM)-S CONDUIT           18.2    0.
Pipe_-_(70)_(19-608-STM) MH18_(19-608-STM) STM_TANK         CONDUIT           7.6    0.5001
Pipe_-_(70)_(19-608-STM)-S TANK-IN-1_(19-608-STM)-S MH18_(19-608-STM)-S CONDUIT            8.6
Pipe_-_(71)_(19-608-STM) MH5_(19-608-STM) MH6_(19-608-STM) CONDUIT           37.1    0.5013
Pipe_-_(71)_(19-608-STM)-S MH5_(19-608-STM)-S MH6_(19-608-STM)-S CONDUIT           35.3    1.05
Pipe_-_(72)_(19-608-STM) MH6_(19-608-STM) MH10_(19-608-STM) CONDUIT           7.7    0.5078
Pipe_-_(72)_(19-608-STM)-S MH6_(19-608-STM)-S MH10_(19-608-STM)-S CONDUIT           3.1    3.6
Pipe_-_(73)_(1)_(19-608-STM) MH11_(19-608-STM) MH12_(19-608-STM) CONDUIT           57.4    0.50
Pipe_-_(73)_(1)_(19-608-STM)-S MH12_(19-608-STM)-S MH11_(19-608-STM)-S CONDUIT           58.5
Pipe_-_(73)_(19-608-STM) MH10_(19-608-STM) MH11_(19-608-STM) CONDUIT           44.9    0.4984
Pipe_-_(73)_(19-608-STM)-S MH10_(19-608-STM)-S MH11_(19-608-STM)-S CONDUIT           46.3    0.
Pipe_-_(74)_(19-608-STM) MH7_(19-608-STM) MH8_(19-608-STM) CONDUIT           28.7    0.9999
Pipe_-_(74)_(19-608-STM)-S MH7_(19-608-STM)-S MH8_(19-608-STM)-S CONDUIT           30.1    1.28
Pipe_-_(75)_(1)_(19-608-STM) MH9_(19-608-STM) MH6_(19-608-STM) CONDUIT           41.7    0.5007
Pipe_-_(75)_(1)_(19-608-STM)-S MH9_(19-608-STM)-S MH6_(19-608-STM)-S CONDUIT           46.1
Pipe_-_(75)_(19-608-STM) MH8_(19-608-STM) MH9_(19-608-STM) CONDUIT           48.0    0.4981
Pipe_-_(75)_(19-608-STM)-S MH8_(19-608-STM)-S MH9_(19-608-STM)-S CONDUIT           49.6    0.45
Pipe_-_(76)_(19-608-STM) MH23_(19-608-STM) MH24_(19-608-STM) CONDUIT           10.6    0.4988
Pipe_-_(76)_(19-608-STM)-S MH23_(19-608-STM)-S MH24_(19-608-STM)-S CONDUIT           10.6    1.
Pipe_-_(77)_(19-608-STM)-S MH24_(19-608-STM)-S MH25_(19-608-STM)-S CONDUIT          109.5    0.
Pipe_-_(78)_(19-608-STM) MH25_(19-608-STM)-2 MH26_(19-608-STM) CONDUIT           20.1    0.5172
Pipe_-_(79)_(19-608-STM) TANK-OUT_(19-608-STM) MH19_(19-608-STM) CONDUIT           95.1    0.40
Pipe_-_(80)_(19-608-STM) MH19_(19-608-STM) MH20_(19-608-STM) CONDUIT           25.9    0.4008
Pipe_-_(80)_(19-608-STM)-S MH19_(19-608-STM)-S MH20_(19-608-STM)-S CONDUIT           24.5    1.
Pipe_-_(81)_(19-608-STM) MH20_(19-608-STM) MH21_(19-608-STM) CONDUIT           26.2    0.3963
Pipe_-_(81)_(19-608-STM)-S MH20_(19-608-STM)-S MH21_(19-608-STM)-S CONDUIT           26.2    0.
Pipe_-_(82)_(19-608-STM) MH21_(19-608-STM) MH22_(19-608-STM) CONDUIT           14.2    0.4007
Pipe_-_(82)_(19-608-STM)-S MH21_(19-608-STM)-S EX_MH1-S         CONDUIT           38.3    0.965
Pipe_-_(83)_(19-608-STM) MH22_(19-608-STM) EX_MH1           CONDUIT          11.3    0.3880
Pipe_-_(85)_(19-608-STM) MH13_(19-608-STM) MH15_(19-608-STM) CONDUIT           88.0    1.4995
Pipe_-_(85)_(19-608-STM)-S MH13_(19-608-STM)-S MH15_(19-608-STM)-S CONDUIT           91.4    0.
Pipe_-_(86)_(19-608-STM) MH15_(19-608-STM) MH16_(19-608-STM) CONDUIT           38.8    0.5023
Pipe_-_(86)_(19-608-STM)-S MH15_(19-608-STM)-S MH16_(19-608-STM)-S CONDUIT           38.0    0.
STORAGE_PIPE     MH24_(19-608-STM) MH25_(19-608-STM) CONDUIT          109.5    0.5461    0.0130
OR1              STM_TANK         TANK-OUT_(19-608-STM) ORIFICE
OR2              MH25_(19-608-STM) MH25_(19-608-STM)-2 ORIFICE
J-S1minor-IC     J-S1minor        EX_MH1-S         WEIR
J-S7minor-IC     J-S7minor        EX_STM_MH3-S     WEIR
W4               FROG_POND        DICB_(19-608-STM) WEIR
J1_COM-IC        EX_STM_MH1-S     EX_STM_MH1       OUTLET
J2_COM-IC        EX_STM_MH2-S     EX_STM_MH2       OUTLET
J3_COM-IC        EX_STM_MH3-S     EX_STM_MH3       OUTLET
J4_COM-IC        EX_STM_MH4-S     EX_STM_MH4       OUTLET
J5_COM-IC        EX_MH1-S         EX_MH1           OUTLET
J6_COM-IC        EX_STM_MH-5-S    EX_STM_MH5       OUTLET
J7_COM-IC        EX_STM_MH6-S     EX_STM_MH6       OUTLET
J8_COM-IC        EX_STM_MH7-S     EX_STM_MH7       OUTLET
MH1_(19-608-STM)-IC MH1_(19-608-STM)-S MH1_(19-608-STM) OUTLET
MH10_(19-608-STM)-IC MH10_(19-608-STM)-S MH10_(19-608-STM) OUTLET
MH11_(19-608-STM)-IC MH11_(19-608-STM)-S MH11_(19-608-STM) OUTLET
MH12_(19-608-STM)-IC MH12_(19-608-STM)-S MH12_(19-608-STM) OUTLET
MH13_(19-608-STM)-IC MH13_(19-608-STM)-S MH13_(19-608-STM) OUTLET
MH15_(19-608-STM)-IC MH15_(19-608-STM)-S MH15_(19-608-STM) OUTLET
MH16_(19-608-STM)-IC MH16_(19-608-STM)-S MH16_(19-608-STM) OUTLET
MH17_(19-608-STM)-IC MH17_(19-608-STM)-S MH17_(19-608-STM) OUTLET
MH18_(19-608-STM)-IC MH18_(19-608-STM)-S MH18_(19-608-STM) OUTLET
MH19_(19-608-STM)-IC MH19_(19-608-STM)-S MH19_(19-608-STM) OUTLET
MH2_(19-608-STM)-IC MH2_(19-608-STM)-S MH2_(19-608-STM) OUTLET
MH20_(19-608-STM)-IC MH20_(19-608-STM)-S MH20_(19-608-STM) OUTLET
MH21_(19-608-STM)-IC MH21_(19-608-STM)-S MH21_(19-608-STM) OUTLET
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MH23_(19-608-STM)-IC MH23_(19-608-STM)-S MH23_(19-608-STM) OUTLET
MH24_(19-608-STM)-IC MH24_(19-608-STM)-S MH24_(19-608-STM) OUTLET
MH25_(19-608-STM)-IC MH25_(19-608-STM)-S MH25_(19-608-STM) OUTLET
MH3_(19-608-STM)-IC MH3_(19-608-STM)-S MH3_(19-608-STM) OUTLET
MH4_(19-608-STM)-IC MH4_(19-608-STM)-S MH4_(19-608-STM) OUTLET
MH5_(19-608-STM)-IC MH5_(19-608-STM)-S MH5_(19-608-STM) OUTLET
MH6_(19-608-STM)-IC MH6_(19-608-STM)-S MH6_(19-608-STM) OUTLET
MH7_(19-608-STM)-IC MH7_(19-608-STM)-S MH7_(19-608-STM) OUTLET
MH8_(19-608-STM)-IC MH8_(19-608-STM)-S MH8_(19-608-STM) OUTLET
MH9_(19-608-STM)-IC MH9_(19-608-STM)-S MH9_(19-608-STM) OUTLET
TANK-IN-1_(19-608-STM)-IC TANK-IN-1_(19-608-STM)-S STM_TANK OUTLET

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Cross Section Summary
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Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
C1	CIRCULAR	0.45	0.16	0.11	0.45	1	0.35
C10	full-7m	0.30	2.98	0.16	22.00	1	9.17
C12	CIRCULAR	0.45	0.16	0.11	0.45	1	1.08
C13	CIRCULAR	0.75	0.44	0.19	0.75	1	0.82
C16	full-7m	0.30	2.98	0.16	22.00	1	5.38
C17	CIRCULAR	0.53	0.22	0.13	0.53	1	0.43
C1-S	full-11m	0.30	4.26	0.20	26.00	1	13.51
C1-S7	CIRCULAR	0.30	0.07	0.07	0.30	1	0.31
C2	CIRCULAR	0.45	0.16	0.11	0.45	1	0.20
C2-S	full-11m	0.30	4.26	0.20	26.00	1	9.65
C3	CIRCULAR	0.45	0.16	0.11	0.45	1	0.23
C3-S	full-11m	0.30	4.26	0.20	26.00	1	6.68
C4	CIRCULAR	0.53	0.22	0.13	0.53	1	0.62
C4-S	full-11m	0.30	4.26	0.20	26.00	1	13.42
C5	CIRCULAR	0.75	0.44	0.19	0.75	1	0.82
C5-S	full-11m	0.30	4.26	0.20	26.00	1	10.57
C6	CIRCULAR	0.75	0.44	0.19	0.75	1	0.84
C6-S	full-11m	0.30	4.26	0.20	26.00	1	5.26
C7	CIRCULAR	1.05	0.87	0.26	1.05	1	1.81
C7-S	full-11m	0.30	4.26	0.20	26.00	1	1.40
C8	CIRCULAR	1.05	0.87	0.26	1.05	1	1.96
C9	CIRCULAR	0.45	0.16	0.11	0.45	1	0.44
Pipe_-_(115)_(19-608-STM)	CIRCULAR	0.45	0.16	0.11	0.45	1	0.4
Pipe_-_(62)_(19-608-STM)	CIRCULAR	0.30	0.07	0.07	0.30	1	0.08
Pipe_-_(62)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	4.
Pipe_-_(63)_(19-608-STM)	CIRCULAR	0.60	0.28	0.15	0.60	1	0.43
Pipe_-_(63)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	4.
Pipe_-_(64)_(19-608-STM)	CIRCULAR	0.60	0.28	0.15	0.60	1	0.44
Pipe_-_(64)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	7.
Pipe_-_(65)_(19-608-STM)	CIRCULAR	0.60	0.28	0.15	0.60	1	0.43
Pipe_-_(65)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	7.
Pipe_-_(66)_(1)_(19-608-STM)	CIRCULAR	0.38	0.11	0.09	0.38	1	
Pipe_-_(66)_(1)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	
Pipe_-_(67)_(19-608-STM)	CIRCULAR	0.53	0.22	0.13	0.53	1	0.30
Pipe_-_(67)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	5.
Pipe_-_(69)_(19-608-STM)	CIRCULAR	0.75	0.44	0.19	0.75	1	0.79
Pipe_-_(69)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	4.
Pipe_-_(70)_(19-608-STM)	CIRCULAR	0.75	0.44	0.19	0.75	1	0.79
Pipe_-_(70)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	18.
Pipe_-_(71)_(19-608-STM)	CIRCULAR	0.60	0.28	0.15	0.60	1	0.43
Pipe_-_(71)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	6.
Pipe_-_(72)_(19-608-STM)	CIRCULAR	0.68	0.36	0.17	0.68	1	0.60
Pipe_-_(72)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	12.
Pipe_-_(73)_(1)_(19-608-STM)	CIRCULAR	0.68	0.36	0.17	0.68	1	
Pipe_-_(73)_(1)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	

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Pipe_-_(73)_(19-608-STM) CIRCULAR             0.68     0.36     0.17     0.68        1     0.59
Pipe_-_(73)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1      4.
Pipe_-_(74)_(19-608-STM) CIRCULAR             0.30     0.07     0.07     0.30        1     0.11
Pipe_-_(74)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1      7.
Pipe_-_(75)_(1)_(19-608-STM) CIRCULAR             0.45     0.16     0.11     0.45        1
Pipe_-_(75)_(1)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1
Pipe_-_(75)_(19-608-STM) CIRCULAR             0.45     0.16     0.11     0.45        1     0.24
Pipe_-_(75)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1      4.
Pipe_-_(76)_(19-608-STM) CIRCULAR             0.45     0.16     0.11     0.45        1     0.20
Pipe_-_(76)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1      7.
Pipe_-_(77)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1      4.
Pipe_-_(78)_(19-608-STM) CIRCULAR             0.45     0.16     0.11     0.45        1     0.21
Pipe_-_(79)_(19-608-STM) CIRCULAR             0.53     0.22     0.13     0.53        1     0.32
Pipe_-_(80)_(19-608-STM) CIRCULAR             0.53     0.22     0.13     0.53        1     0.32
Pipe_-_(80)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1      6.
Pipe_-_(81)_(19-608-STM) CIRCULAR             0.53     0.22     0.13     0.53        1     0.32
Pipe_-_(81)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1      4.
Pipe_-_(82)_(19-608-STM) CIRCULAR             0.53     0.22     0.13     0.53        1     0.32
Pipe_-_(82)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1      6.
Pipe_-_(83)_(19-608-STM) CIRCULAR             0.53     0.22     0.13     0.53        1     0.32
Pipe_-_(85)_(19-608-STM) CIRCULAR             0.38     0.11     0.09     0.38        1     0.25
Pipe_-_(85)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1      5.
Pipe_-_(86)_(19-608-STM) CIRCULAR             0.45     0.16     0.11     0.45        1     0.24
Pipe_-_(86)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1      1.
STORAGE_PIPE     RECT_CLOSED          1.20     2.16     0.36     1.80        1     6.21


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Transect Summary
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Transect full-11m
Area:
            0.0015     0.0062     0.0139     0.0248     0.0387
            0.0542     0.0697     0.0852     0.1007     0.1162
            0.1317     0.1472     0.1627     0.1782     0.1937
            0.2092     0.2246     0.2401     0.2556     0.2711
            0.2866     0.3021     0.3176     0.3331     0.3486
            0.3645     0.3813     0.3989     0.4173     0.4366
            0.4568     0.4777     0.4996     0.5223     0.5458
            0.5701     0.5954     0.6214     0.6483     0.6761
            0.7046     0.7341     0.7644     0.7955     0.8275
            0.8603     0.8939     0.9285     0.9638     1.0000
Hrad:
            0.0147     0.0293     0.0440     0.0587     0.0733
            0.1026     0.1317     0.1608     0.1898     0.2188
            0.2477     0.2766     0.3053     0.3341     0.3627
            0.3913     0.4198     0.4483     0.4767     0.5051
            0.5334     0.5616     0.5898     0.6179     0.6459
            0.6735     0.6991     0.7228     0.7447     0.7651
            0.7841     0.8017     0.8182     0.8337     0.8482
            0.8618     0.8747     0.8869     0.8985     0.9095
            0.9200     0.9301     0.9398     0.9492     0.9582
            0.9670     0.9755     0.9839     0.9920     1.0000
Width:
            0.0846     0.1692     0.2538     0.3385     0.4231
            0.4231     0.4231     0.4231     0.4231     0.4231
            0.4231     0.4231     0.4231     0.4231     0.4231
            0.4231     0.4231     0.4231     0.4231     0.4231
            0.4231     0.4231     0.4231     0.4231     0.4231
            0.4462     0.4692     0.4923     0.5154     0.5385
            0.5615     0.5846     0.6077     0.6308     0.6538
            0.6769     0.7000     0.7231     0.7462     0.7692
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0.7923 0.8154 0.8385 0.8615 0.8846
0.9077 0.9308 0.9538 0.9769 1.0000

Transect full-7m
Area:
0.0006 0.0024 0.0054 0.0097 0.0151
0.0217 0.0296 0.0387 0.0489 0.0604
0.0731 0.0869 0.1010 0.1151 0.1292
0.1433 0.1574 0.1715 0.1856 0.1997
0.2138 0.2279 0.2419 0.2560 0.2701
0.2848 0.3007 0.3179 0.3362 0.3557
0.3764 0.3984 0.4215 0.4459 0.4715
0.4983 0.5262 0.5554 0.5858 0.6174
0.6503 0.6843 0.7195 0.7560 0.7936
0.8325 0.8726 0.9138 0.9563 1.0000
Hrad:
0.0182 0.0364 0.0546 0.0728 0.0910
0.1092 0.1274 0.1456 0.1638 0.1820
0.2002 0.2243 0.2602 0.2960 0.3317
0.3673 0.4028 0.4381 0.4733 0.5084
0.5434 0.5783 0.6131 0.6477 0.6822
0.7157 0.7452 0.7713 0.7942 0.8145
0.8325 0.8484 0.8626 0.8754 0.8869
0.8974 0.9070 0.9160 0.9243 0.9322
0.9397 0.9469 0.9539 0.9607 0.9673
0.9739 0.9805 0.9870 0.9935 1.0000
Width:
0.0273 0.0545 0.0818 0.1091 0.1364
0.1636 0.1909 0.2182 0.2455 0.2727
0.3000 0.3182 0.3182 0.3182 0.3182
0.3182 0.3182 0.3182 0.3182 0.3182
0.3182 0.3182 0.3182 0.3182 0.3182
0.3455 0.3727 0.4000 0.4273 0.4545
0.4818 0.5091 0.5364 0.5636 0.5909
0.6182 0.6455 0.6727 0.7000 0.7273
0.7545 0.7818 0.8091 0.8364 0.8636
0.8909 0.9182 0.9455 0.9727 1.0000

Transect full-8.5m
Area:
0.0021 0.0086 0.0192 0.0333 0.0475
0.0618 0.0760 0.0903 0.1046 0.1188
0.1331 0.1473 0.1616 0.1758 0.1901
0.2044 0.2186 0.2329 0.2471 0.2614
0.2757 0.2899 0.3042 0.3184 0.3327
0.3474 0.3632 0.3799 0.3977 0.4164
0.4361 0.4569 0.4786 0.5013 0.5250
0.5497 0.5754 0.6021 0.6298 0.6585
0.6881 0.7188 0.7505 0.7831 0.8168
0.8515 0.8871 0.9237 0.9614 1.0000
Hrad:
0.0157 0.0314 0.0470 0.0731 0.1043
0.1354 0.1664 0.1974 0.2282 0.2590
0.2897 0.3202 0.3508 0.3812 0.4115
0.4418 0.4720 0.5021 0.5321 0.5620
0.5918 0.6216 0.6513 0.6809 0.7104
0.7394 0.7655 0.7890 0.8102 0.8293
0.8465 0.8620 0.8760 0.8886 0.9000
0.9104 0.9199 0.9286 0.9366 0.9440
0.9509 0.9574 0.9635 0.9693 0.9748
0.9801 0.9853 0.9903 0.9952 1.0000
Width:
0.1093 0.2186 0.3280 0.3644 0.3644
0.3644 0.3644 0.3644 0.3644 0.3644

0.3644	0.3644	0.3644	0.3644	0.3644
0.3644	0.3644	0.3644	0.3644	0.3644
0.3644	0.3644	0.3644	0.3644	0.3644
0.3898	0.4153	0.4407	0.4661	0.4915
0.5169	0.5424	0.5678	0.5932	0.6186
0.6441	0.6695	0.6949	0.7203	0.7458
0.7712	0.7966	0.8220	0.8475	0.8729
0.8983	0.9237	0.9492	0.9746	1.0000

****
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
****

****
Analysis Options
****
Flow Units ..... CMS
Process Models:
  Rainfall/Runoff ..... YES
  RDII ..... NO
  Snowmelt ..... NO
  Groundwater ..... NO
  Flow Routing ..... YES
  Ponding Allowed ..... YES
  Water Quality ..... NO
Infiltration Method ..... CURVE_NUMBER
Flow Routing Method ..... DYNWAVE
Surcharge Method ..... EXTRAN
Starting Date 04/29/2020 00:00:00
Ending Date 04/30/2020 00:00:00
Antecedent Dry Days 0.0
Report Time Step 00:01:00
Wet Time Step 00:01:00
Dry Time Step 00:01:00
Routing Time Step ..... 5.00 sec
Variable Time Step ..... YES
Maximum Trials 8
Number of Threads 6
Head Tolerance ..... 0.001500 m

**********	Volume	Depth
Runoff Quantity Continuity	hectare-m	mm
**********	---------	-------
Total Precipitation	1.457	55.384
Evaporation Loss	0.000	0.000
Infiltration Loss	0.878	33.371
Surface Runoff	0.545	20.716
Final Storage	0.034	1.310
Continuity Error (%)	-0.024	

**********	Volume	Volume
Flow Routing Continuity	hectare-m	10^6 ltr
**********	---------	---------
Dry Weather Inflow	0.000	0.000
Wet Weather Inflow	0.545	5.448
Groundwater Inflow	0.000	0.000
RDII Inflow	0.000	0.000
External Inflow	0.000	0.000
External Outflow	0.533	5.327

Flooding Loss 0.000 0.000
Evaporation Loss 0.000 0.000
Exfiltration Loss 0.000 0.000
Initial Stored Volume 0.000 0.000
Final Stored Volume 0.012 0.119
Continuity Error (%) 0.038

****
Highest Continuity Errors
****
Node MH18_(19-608-STM)-S (1.57%)

****
Time-Step Critical Elements
****
Link Pipe_-_(115)_(19-608-STM) (44.10%)
Link Pipe_-_(70)_(19-608-STM) (11.22%)
Link Pipe_-_(72)_(19-608-STM) (1.94%)
Link Pipe_-_(72)_(19-608-STM)-S (1.04%)

****
Highest Flow Instability Indexes
****
Link C12 (11)
Link C1-S7 (5)

****
Routing Time Step Summary
****
Minimum Time Step : 0.50 sec
Average Time Step : 3.37 sec
Maximum Time Step : 5.00 sec
Percent in Steady State : -0.00
Average Iterations per Step : 2.00
Percent Not Converging : 0.00

****
Subcatchment Runoff Summary
****

Subcatchment	Total Precip mm	Total Runon mm	Total Evap mm	Total Infil mm	Imperv Runoff mm	Perv Runoff mm	Tot Runo
S1	55.38	0.00	0.00	45.32	0.00	8.81	8.
S10	55.38	0.00	0.00	13.91	35.05	5.03	40.
S11	55.38	0.00	0.00	13.72	35.06	5.22	40.
S12	55.38	0.00	0.00	42.56	0.00	11.57	11.
S13	55.38	0.00	0.00	14.07	35.05	4.87	39.
S14	55.38	0.00	0.00	14.16	35.05	4.79	39.
S15	55.38	0.00	0.00	14.12	35.05	4.82	39.
S16	55.38	0.00	0.00	13.72	35.06	5.22	40.
S17	55.38	0.00	0.00	13.66	35.07	5.29	40.
S18	55.38	0.00	0.00	14.19	35.05	4.76	39.
S19	55.38	0.00	0.00	14.51	35.04	4.44	39.
S20	55.38	0.00	0.00	13.81	35.06	5.13	40.
S3	55.38	0.00	0.00	19.64	27.22	7.18	34.
S4_2	55.38	0.00	0.00	33.33	10.79	9.97	20.

S5_2	55.38	0.00	0.00	36.95	5.40	11.77	17.
S6	55.38	0.00	0.00	42.56	0.00	11.57	11.
S6_ROW1	55.38	0.00	0.00	11.61	37.78	4.63	42.
S6_ROW2	55.38	0.00	0.00	11.81	37.75	4.43	42.
S6_ROW3	55.38	0.00	0.00	11.81	37.75	4.43	42.
S6_ROW4	55.38	0.00	0.00	11.81	37.75	4.43	42.
S6_ROW5	55.38	0.00	0.00	11.81	37.75	4.43	42.
S6_ROW6	55.38	0.00	0.00	26.43	13.49	14.16	27.
S6_ROW7	55.38	0.00	0.00	26.43	13.49	14.16	27.
S7	55.38	0.00	0.00	42.78	1.62	9.72	11.
S8	55.38	0.00	0.00	14.12	35.05	4.82	39.
S9	55.38	0.00	0.00	14.21	35.04	4.74	39.

****
Node Depth Summary
****

Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
Curb	JUNCTION	0.00	0.00	189.75	0 00:00	0.00
DICB_(19-608-STM)	JUNCTION	0.04	0.11	188.90	0 03:36	0.11
EX_MH1	JUNCTION	0.11	0.40	185.87	0 01:28	0.40
EX_MH1-S	JUNCTION	0.00	0.05	188.69	0 01:27	0.05
EX_STM_MH1	JUNCTION	0.01	0.07	191.77	0 01:26	0.07
EX_STM_MH1-S	JUNCTION	0.00	0.04	193.99	0 01:25	0.04
EX_STM_MH2	JUNCTION	0.01	0.14	191.14	0 01:27	0.14
EX_STM_MH2-S	JUNCTION	0.01	0.05	193.05	0 01:26	0.05
EX_STM_MH3	JUNCTION	0.01	0.12	190.21	0 01:28	0.12
EX_STM_MH3-S	JUNCTION	0.00	0.03	192.53	0 01:27	0.03
EX_STM_MH4	JUNCTION	0.03	0.20	187.81	0 01:28	0.20
EX_STM_MH4-S	JUNCTION	0.01	0.05	190.86	0 01:25	0.05
EX_STM_MH5	JUNCTION	0.12	0.58	185.35	0 01:31	0.58
EX_STM_MH-5-S	JUNCTION	0.02	0.11	187.41	0 01:31	0.11
EX_STM_MH6	JUNCTION	0.11	0.49	184.52	0 01:32	0.49
EX_STM_MH6-S	JUNCTION	0.01	0.03	187.63	0 01:26	0.03
EX_STM_MH7	JUNCTION	0.11	0.49	183.89	0 01:32	0.48
EX_STM_MH7-S	JUNCTION	0.00	0.00	187.62	0 01:37	0.00
J-S1	JUNCTION	0.11	0.41	185.80	0 01:27	0.41
J-S1minor	JUNCTION	0.04	0.48	188.14	0 01:27	0.47
J-S7	JUNCTION	0.03	0.20	189.60	0 01:28	0.20
J-S7minor	JUNCTION	0.07	0.64	192.19	0 01:25	0.64
MH1_(19-608-STM)	JUNCTION	0.01	0.06	189.30	0 01:27	0.06
MH1_(19-608-STM)-S	JUNCTION	0.00	0.05	192.08	0 01:26	0.05
MH10_(19-608-STM)	JUNCTION	0.13	0.43	187.94	0 04:09	0.43
MH10_(19-608-STM)-S	JUNCTION	0.01	0.08	190.88	0 01:27	0.08
MH11_(19-608-STM)	JUNCTION	0.22	0.67	187.94	0 04:09	0.67
MH11_(19-608-STM)-S	JUNCTION	0.02	0.12	190.70	0 01:32	0.12
MH12_(19-608-STM)	JUNCTION	0.40	1.03	187.94	0 04:10	1.03
MH12_(19-608-STM)-S	JUNCTION	0.01	0.10	190.70	0 01:31	0.10
MH13_(19-608-STM)	JUNCTION	0.01	0.06	189.04	0 01:26	0.06
MH13_(19-608-STM)-S	JUNCTION	0.01	0.06	191.67	0 01:25	0.06
MH15_(19-608-STM)	JUNCTION	0.09	0.36	187.94	0 04:10	0.36
MH15_(19-608-STM)-S	JUNCTION	0.01	0.09	191.01	0 01:28	0.09
MH16_(19-608-STM)	JUNCTION	0.19	0.63	187.94	0 04:10	0.63
MH16_(19-608-STM)-S	JUNCTION	0.00	0.06	190.97	0 01:29	0.06
MH17_(19-608-STM)	JUNCTION	0.03	0.15	187.94	0 04:09	0.15
MH17_(19-608-STM)-S	JUNCTION	0.01	0.07	191.02	0 01:25	0.07
MH18_(19-608-STM)	JUNCTION	0.48	1.19	187.94	0 04:10	1.19
MH18_(19-608-STM)-S	JUNCTION	0.00	0.03	190.70	0 01:30	0.03
MH19_(19-608-STM)	JUNCTION	0.09	0.16	186.29	0 04:00	0.16

MH19_(19-608-STM)-S	JUNCTION	0.01	0.06	189.50	0	01:25	0.06
MH2_(19-608-STM)	JUNCTION	0.05	0.14	188.68	0	03:22	0.14
MH2_(19-608-STM)-S	JUNCTION	0.00	0.05	192.44	0	01:25	0.05
MH20_(19-608-STM)	JUNCTION	0.10	0.17	186.13	0	04:00	0.17
MH20_(19-608-STM)-S	JUNCTION	0.00	0.06	189.21	0	01:25	0.06
MH21_(19-608-STM)	JUNCTION	0.10	0.17	186.00	0	04:00	0.17
MH21_(19-608-STM)-S	JUNCTION	0.00	0.05	189.06	0	01:26	0.05
MH22_(19-608-STM)	JUNCTION	0.10	0.17	185.91	0	04:00	0.17
MH23_(19-608-STM)	JUNCTION	0.04	0.35	187.83	0	02:07	0.35
MH23_(19-608-STM)-S	JUNCTION	0.01	0.06	190.42	0	01:25	0.06
MH24_(19-608-STM)	JUNCTION	0.04	0.40	187.83	0	02:07	0.40
MH24_(19-608-STM)-S	JUNCTION	0.01	0.07	190.28	0	01:26	0.07
MH25_(19-608-STM)	JUNCTION	0.22	1.03	187.83	0	02:08	1.03
MH25_(19-608-STM)-2	JUNCTION	0.04	0.11	186.91	0	02:08	0.11
MH25_(19-608-STM)-S	JUNCTION	0.02	0.10	189.72	0	01:30	0.10
MH26_(19-608-STM)	JUNCTION	0.05	0.28	186.51	0	01:29	0.28
MH3_(19-608-STM)	JUNCTION	0.05	0.14	188.41	0	03:21	0.14
MH3_(19-608-STM)-S	JUNCTION	0.00	0.04	192.24	0	01:25	0.04
MH4_(19-608-STM)	JUNCTION	0.05	0.14	188.29	0	03:19	0.14
MH4_(19-608-STM)-S	JUNCTION	0.00	0.04	192.04	0	01:26	0.04
MH5_(19-608-STM)	JUNCTION	0.05	0.13	187.96	0	03:18	0.13
MH5_(19-608-STM)-S	JUNCTION	0.00	0.03	191.33	0	01:28	0.03
MH6_(19-608-STM)	JUNCTION	0.11	0.37	187.94	0	04:09	0.37
MH6_(19-608-STM)-S	JUNCTION	0.00	0.05	190.97	0	01:27	0.05
MH7_(19-608-STM)	JUNCTION	0.01	0.04	188.74	0	01:26	0.04
MH7_(19-608-STM)-S	JUNCTION	0.00	0.05	191.79	0	01:26	0.05
MH8_(19-608-STM)	JUNCTION	0.02	0.19	188.45	0	01:25	0.18
MH8_(19-608-STM)-S	JUNCTION	0.01	0.08	191.43	0	01:25	0.08
MH9_(19-608-STM)	JUNCTION	0.02	0.20	188.20	0	01:26	0.20
MH9_(19-608-STM)-S	JUNCTION	0.00	0.08	191.20	0	01:26	0.08
TANK-IN-1_(19-608-STM)-S	JUNCTION	0.00	0.00	191.42	0	00:00	0.00
TANK-OUT_(19-608-STM)	JUNCTION	0.09	0.16	186.72	0	04:11	0.16
J9_COM	OUTFALL	0.11	0.44	183.54	0	01:32	0.44
FROG_POND	STORAGE	0.98	1.17	192.17	0	03:36	1.17
STM_TANK	STORAGE	0.60	1.38	187.94	0	04:10	1.38

****
Node Inflow Summary
****

Node	Type	Maximum Lateral Inflow CMS	Maximum Total Inflow CMS	Time of Max Occurrence days hr:min		Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Fl Balan Err Perce
Curb	JUNCTION	0.000	0.000	0	00:00	0	0	0.0
DICB_(19-608-STM)	JUNCTION	0.000	0.042	0	03:36	0	0.459	0.0
EX_MH1	JUNCTION	0.000	0.286	0	01:29	0	2.71	0.0
EX_MH1-S	JUNCTION	0.147	0.496	0	01:25	0.195	0.713	-0.1
EX_STM_MH1	JUNCTION	0.000	0.014	0	01:25	0	0.0252	-0.0
EX_STM_MH1-S	JUNCTION	0.168	0.168	0	01:25	0.212	0.212	-0.2
EX_STM_MH2	JUNCTION	0.000	0.046	0	01:26	0	0.111	-0.0
EX_STM_MH2-S	JUNCTION	0.117	0.265	0	01:25	0.154	0.341	0.2
EX_STM_MH3	JUNCTION	0.000	0.053	0	01:27	0	0.124	-0.0
EX_STM_MH3-S	JUNCTION	0.117	0.259	0	01:25	0.154	0.408	0.0
EX_STM_MH4	JUNCTION	0.000	0.193	0	01:28	0	0.725	-0.0
EX_STM_MH4-S	JUNCTION	0.260	0.351	0	01:25	0.359	0.505	-0.0
EX_STM_MH5	JUNCTION	0.000	0.725	0	01:30	0	3.89	0.0
EX_STM_MH-5-S	JUNCTION	0.195	0.393	0	01:25	0.427	0.777	0.6
EX_STM_MH6	JUNCTION	0.000	0.725	0	01:31	0	3.92	-0.0
EX_STM_MH6-S	JUNCTION	0.056	0.056	0	01:25	0.124	0.124	-0.1
EX_STM_MH7	JUNCTION	0.000	0.725	0	01:32	0	3.92	-0.0

EX_STM_MH7-S	JUNCTION	0.000	0.000	0	01:26	0	0.000416	6.3
J-S1	JUNCTION	0.000	0.455	0	01:28	0	3.12	0.0
J-S1minor	JUNCTION	0.000	0.175	0	01:27	0	0.411	-0.0
J-S7	JUNCTION	0.000	0.169	0	01:27	0	0.658	0.0
J-S7minor	JUNCTION	0.037	0.120	0	01:25	0.285	0.534	-0.0
MH1_(19-608-STM)	JUNCTION	0.000	0.008	0	01:26	0	0.033	0.0
MH1_(19-608-STM)-S	JUNCTION	0.037	0.081	0	01:25	0.0514	0.103	0.1
MH10_(19-608-STM)	JUNCTION	0.000	0.142	0	01:27	0	0.847	0.0
MH10_(19-608-STM)-S	JUNCTION	0.082	0.217	0	01:27	0.12	0.276	-0.3
MH11_(19-608-STM)	JUNCTION	0.000	0.297	0	01:31	0	1.13	0.1
MH11_(19-608-STM)-S	JUNCTION	0.000	0.197	0	01:30	0	0.29	0.3
MH12_(19-608-STM)	JUNCTION	0.000	0.443	0	01:29	0	1.52	-0.1
MH12_(19-608-STM)-S	JUNCTION	0.019	0.115	0	01:28	0.0252	0.16	0.3
MH13_(19-608-STM)	JUNCTION	0.000	0.014	0	01:25	0	0.0548	0.4
MH13_(19-608-STM)-S	JUNCTION	0.147	0.147	0	01:25	0.222	0.222	-0.5
MH15_(19-608-STM)	JUNCTION	0.000	0.048	0	01:28	0	0.148	-0.0
MH15_(19-608-STM)-S	JUNCTION	0.002	0.123	0	01:25	0.0185	0.187	0.7
MH16_(19-608-STM)	JUNCTION	0.000	0.103	0	01:27	0	0.301	0.3
MH16_(19-608-STM)-S	JUNCTION	0.040	0.121	0	01:26	0.0528	0.192	0.0
MH17_(19-608-STM)	JUNCTION	0.000	0.045	0	01:25	0	0.0963	0.3
MH17_(19-608-STM)-S	JUNCTION	0.096	0.096	0	01:25	0.142	0.142	-0.5
MH18_(19-608-STM)	JUNCTION	0.000	0.445	0	01:30	0	1.52	-0.0
MH18_(19-608-STM)-S	JUNCTION	0.000	0.008	0	01:28	0	0.00165	1.5
MH19_(19-608-STM)	JUNCTION	0.000	0.058	0	04:00	0	1.56	0.0
MH19_(19-608-STM)-S	JUNCTION	0.119	0.119	0	01:25	0.178	0.178	-0.0
MH2_(19-608-STM)	JUNCTION	0.000	0.046	0	03:22	0	0.547	0.0
MH2_(19-608-STM)-S	JUNCTION	0.106	0.106	0	01:25	0.155	0.155	-0.1
MH20_(19-608-STM)	JUNCTION	0.000	0.060	0	04:00	0	1.61	0.0
MH20_(19-608-STM)-S	JUNCTION	0.000	0.108	0	01:25	0	0.132	-0.0
MH21_(19-608-STM)	JUNCTION	0.000	0.060	0	04:00	0	1.61	0.0
MH21_(19-608-STM)-S	JUNCTION	0.000	0.089	0	01:25	0	0.0807	-0.0
MH22_(19-608-STM)	JUNCTION	0.000	0.060	0	04:00	0	1.61	-0.0
MH23_(19-608-STM)	JUNCTION	0.000	0.015	0	01:25	0	0.061	-0.0
MH23_(19-608-STM)-S	JUNCTION	0.180	0.180	0	01:25	0.307	0.307	-0.0
MH24_(19-608-STM)	JUNCTION	0.000	0.103	0	01:33	0	0.187	0.1
MH24_(19-608-STM)-S	JUNCTION	0.001	0.164	0	01:25	0.0148	0.261	-0.5
MH25_(19-608-STM)	JUNCTION	0.000	0.134	0	01:29	0	0.385	-0.0
MH25_(19-608-STM)-2	JUNCTION	0.000	0.026	0	02:08	0	0.322	0.0
MH25_(19-608-STM)-S	JUNCTION	0.000	0.131	0	01:26	0	0.2	0.9
MH26_(19-608-STM)	JUNCTION	0.000	0.209	0	01:28	0	1.05	0.0
MH3_(19-608-STM)	JUNCTION	0.000	0.047	0	03:21	0	0.558	0.0
MH3_(19-608-STM)-S	JUNCTION	0.000	0.042	0	01:25	0	0.0484	0.0
MH4_(19-608-STM)	JUNCTION	0.000	0.047	0	03:19	0	0.566	0.0
MH4_(19-608-STM)-S	JUNCTION	0.000	0.039	0	01:26	0	0.0374	-0.3
MH5_(19-608-STM)	JUNCTION	0.000	0.047	0	03:18	0	0.572	-0.0
MH5_(19-608-STM)-S	JUNCTION	0.000	0.035	0	01:26	0	0.0293	0.5
MH6_(19-608-STM)	JUNCTION	0.000	0.117	0	01:26	0	0.788	0.0
MH6_(19-608-STM)-S	JUNCTION	0.000	0.166	0	01:26	0	0.169	0.1
MH7_(19-608-STM)	JUNCTION	0.000	0.004	0	01:26	0	0.0175	0.0
MH7_(19-608-STM)-S	JUNCTION	0.036	0.091	0	01:25	0.0471	0.117	0.0
MH8_(19-608-STM)	JUNCTION	0.000	0.075	0	01:25	0	0.18	0.3
MH8_(19-608-STM)-S	JUNCTION	0.161	0.237	0	01:25	0.232	0.331	-0.1
MH9_(19-608-STM)	JUNCTION	0.000	0.087	0	01:25	0	0.203	-0.0
MH9_(19-608-STM)-S	JUNCTION	0.000	0.160	0	01:25	0	0.169	0.1
TANK-IN-1_(19-608-STM)-S	JUNCTION	0.000	0.000	0	00:00	0	0	
TANK-OUT_(19-608-STM)	JUNCTION	0.000	0.056	0	04:10	0	1.52	0.
J9_COM	OUTFALL	0.397	0.884	0	01:30	1.4	5.33	0.0
FROG_POND	STORAGE	0.042	0.042	0	03:30	0.568	0.568	0.0
STM_TANK	STORAGE	0.000	0.445	0	01:30	0	1.52	-0.0

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Node Surcharge Summary
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Surcharging occurs when water rises above the top of the highest conduit.

Node	Type	Hours Surcharged	Max. Height Above Crown Meters	Min. Depth Below Rim Meters
MH12_(19-608-STM)	JUNCTION	4.12	0.284	2.660
MH16_(19-608-STM)	JUNCTION	1.95	0.100	2.971
MH18_(19-608-STM)	JUNCTION	4.59	0.360	2.738
STM_TANK	STORAGE	5.22	0.478	3.482

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Node Flooding Summary
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No nodes were flooded.

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Storage Volume Summary
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Storage Unit	Average Volume 1000 m3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 m3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maxi Outf
FROG_POND	0.107	58	0	0	0.135	73	0 03:36	0.
STM_TANK	0.281	12	0	0	0.649	28	0 04:10	0.

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Outfall Loading Summary
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Outfall Node	Flow Freq Pcnt	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr
J9_COM	99.99	0.102	0.884	5.327
System	99.99	0.102	0.884	5.327

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Link Flow Summary
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Link	Type	Maximum |Flow| CMS	Time of Max Occurrence days hr:min	Maximum |Veloc| m/sec	Max/ Full Flow	Max/ Full Depth
C1	CONDUIT	0.053	0 01:28	1.05	0.15	0.36
C10	CHANNEL	0.000	0 00:00	0.00	0.00	0.16
C12	CONDUIT	0.175	0 01:27	1.12	0.16	0.96
C13	CONDUIT	0.463	0 01:28	1.63	0.57	0.65
C16	CHANNEL	0.062	0 01:26	0.51	0.01	0.17
C17	CONDUIT	0.208	0 01:29	1.89	0.48	0.51
C1-S	CHANNEL	0.129	0 01:27	0.50	0.01	0.13
C1-S7	CONDUIT	0.117	0 01:25	2.17	0.37	0.71

C2	CONDUIT	0.012	0	01:26	0.70	0.06	0.16
C2-S	CHANNEL	0.149	0	01:25	0.50	0.02	0.15
C3	CONDUIT	0.043	0	01:28	1.09	0.19	0.30
C3-S	CHANNEL	0.168	0	01:26	0.57	0.03	0.14
C4	CONDUIT	0.193	0	01:28	2.05	0.31	0.45
C4-S	CHANNEL	0.291	0	01:26	0.89	0.02	0.15
C5	CONDUIT	0.286	0	01:29	1.21	0.35	0.54
C5-S	CHANNEL	0.239	0	01:27	0.40	0.02	0.25
C6	CONDUIT	0.719	0	01:31	2.06	0.86	0.74
C6-S	CHANNEL	0.024	0	01:26	0.06	0.00	0.22
C7	CONDUIT	0.725	0	01:32	1.90	0.40	0.45
C7-S	CHANNEL	0.000	0	01:26	0.02	0.00	0.04
C8	CONDUIT	0.725	0	01:32	1.97	0.37	0.44
C9	CONDUIT	0.168	0	01:28	2.50	0.39	0.44
Pipe_-_(115)_(19-608-STM)	CONDUIT	0.042	0	03:36	1.58	0.09	0.22
Pipe_-_(62)_(19-608-STM)	CONDUIT	0.008	0	01:27	0.72	0.10	0.21
Pipe_-_(62)_(19-608-STM)-S	CHANNEL	0.045	0	01:25	0.39	0.01	0.16
Pipe_-_(63)_(19-608-STM)	CONDUIT	0.046	0	03:22	0.97	0.11	0.23
Pipe_-_(63)_(19-608-STM)-S	CHANNEL	0.042	0	01:25	0.49	0.01	0.14
Pipe_-_(64)_(19-608-STM)	CONDUIT	0.047	0	03:21	0.95	0.11	0.23
Pipe_-_(64)_(19-608-STM)-S	CHANNEL	0.039	0	01:26	0.60	0.00	0.12
Pipe_-_(65)_(19-608-STM)	CONDUIT	0.047	0	03:20	0.98	0.11	0.23
Pipe_-_(65)_(19-608-STM)-S	CHANNEL	0.035	0	01:26	0.62	0.00	0.12
Pipe_-_(66)_(1)_(19-608-STM)	CONDUIT	0.045	0	01:26	1.16	0.30	0.71
Pipe_-_(66)_(1)_(19-608-STM)-S	CHANNEL	0.042	0	01:26	0.21	0.03	0.21
Pipe_-_(67)_(19-608-STM)	CONDUIT	0.103	0	01:28	1.20	0.34	1.00
Pipe_-_(67)_(19-608-STM)-S	CHANNEL	0.100	0	01:29	0.43	0.02	0.27
Pipe_-_(69)_(19-608-STM)	CONDUIT	0.443	0	01:30	1.64	0.56	1.00
Pipe_-_(69)_(19-608-STM)-S	CHANNEL	0.008	0	01:28	0.06	0.00	0.22
Pipe_-_(70)_(19-608-STM)	CONDUIT	0.445	0	01:30	1.63	0.57	1.00
Pipe_-_(70)_(19-608-STM)-S	CHANNEL	0.000	0	00:00	0.00	0.00	0.05
Pipe_-_(71)_(19-608-STM)	CONDUIT	0.047	0	03:18	0.80	0.11	0.36
Pipe_-_(71)_(19-608-STM)-S	CHANNEL	0.029	0	01:28	0.32	0.00	0.14
Pipe_-_(72)_(19-608-STM)	CONDUIT	0.117	0	01:26	1.14	0.19	0.58
Pipe_-_(72)_(19-608-STM)-S	CHANNEL	0.159	0	01:27	0.74	0.01	0.22
Pipe_-_(73)_(1)_(19-608-STM)	CONDUIT	0.297	0	01:31	1.43	0.50	1.00
Pipe_-_(73)_(1)_(19-608-STM)-S	CHANNEL	0.046	0	01:35	0.09	0.04	0.38
Pipe_-_(73)_(19-608-STM)	CONDUIT	0.144	0	01:27	1.11	0.24	0.80
Pipe_-_(73)_(19-608-STM)-S	CHANNEL	0.190	0	01:27	0.49	0.04	0.33
Pipe_-_(74)_(19-608-STM)	CONDUIT	0.004	0	01:26	0.75	0.04	0.13
Pipe_-_(74)_(19-608-STM)-S	CHANNEL	0.084	0	01:26	0.44	0.01	0.21
Pipe_-_(75)_(1)_(19-608-STM)	CONDUIT	0.086	0	01:26	1.32	0.36	0.43
Pipe_-_(75)_(1)_(19-608-STM)-S	CHANNEL	0.140	0	01:26	0.70	0.03	0.21
Pipe_-_(75)_(19-608-STM)	CONDUIT	0.076	0	01:25	1.26	0.32	0.40
Pipe_-_(75)_(19-608-STM)-S	CHANNEL	0.160	0	01:25	0.57	0.04	0.25
Pipe_-_(76)_(19-608-STM)	CONDUIT	0.015	0	01:25	1.19	0.07	0.83
Pipe_-_(76)_(19-608-STM)-S	CHANNEL	0.164	0	01:25	0.76	0.02	0.22
Pipe_-_(77)_(19-608-STM)-S	CHANNEL	0.131	0	01:26	0.52	0.03	0.27
Pipe_-_(78)_(19-608-STM)	CONDUIT	0.026	0	02:08	0.89	0.13	0.24
Pipe_-_(79)_(19-608-STM)	CONDUIT	0.056	0	04:11	1.10	0.17	0.29
Pipe_-_(80)_(19-608-STM)	CONDUIT	0.058	0	04:00	1.07	0.18	0.30
Pipe_-_(80)_(19-608-STM)-S	CHANNEL	0.108	0	01:25	0.64	0.02	0.19
Pipe_-_(81)_(19-608-STM)	CONDUIT	0.060	0	04:00	1.07	0.19	0.30
Pipe_-_(81)_(19-608-STM)-S	CHANNEL	0.089	0	01:25	0.54	0.02	0.19
Pipe_-_(82)_(19-608-STM)	CONDUIT	0.060	0	04:00	1.05	0.19	0.31
Pipe_-_(82)_(19-608-STM)-S	CHANNEL	0.085	0	01:26	0.69	0.01	0.17
Pipe_-_(83)_(19-608-STM)	CONDUIT	0.060	0	04:00	1.03	0.19	0.32
Pipe_-_(85)_(19-608-STM)	CONDUIT	0.013	0	01:26	1.20	0.05	0.41
Pipe_-_(85)_(19-608-STM)-S	CHANNEL	0.123	0	01:25	0.54	0.02	0.24
Pipe_-_(86)_(19-608-STM)	CONDUIT	0.048	0	01:28	1.11	0.20	0.89
Pipe_-_(86)_(19-608-STM)-S	CHANNEL	0.061	0	01:28	0.23	0.06	0.24
STORAGE_PIPE	CONDUIT	0.084	0	01:33	0.19	0.01	0.58
OR1	ORIFICE	0.056	0	04:10			1.00
OR2	ORIFICE	0.026	0	02:08			1.00

J-S1minor-IC	WEIR	0.175	0	01:27		0.77
J-S7minor-IC	WEIR	0.098	0	01:27		0.22
W4	WEIR	0.042	0	03:36		0.35
J1_COM-IC	DUMMY	0.014	0	01:25		
J2_COM-IC	DUMMY	0.034	0	01:26		
J3_COM-IC	DUMMY	0.010	0	01:27		
J4_COM-IC	DUMMY	0.027	0	01:25		
J5_COM-IC	DUMMY	0.037	0	01:27		
J6_COM-IC	DUMMY	0.283	0	01:31		
J7_COM-IC	DUMMY	0.006	0	01:26		
J8_COM-IC	DUMMY	0.000	0	01:37		
MH1_(19-608-STM)-IC	DUMMY	0.008	0	01:26		
MH10_(19-608-STM)-IC	DUMMY	0.026	0	01:27		
MH11_(19-608-STM)-IC	DUMMY	0.181	0	01:32		
MH12_(19-608-STM)-IC	DUMMY	0.056	0	01:31		
MH13_(19-608-STM)-IC	DUMMY	0.014	0	01:25		
MH15_(19-608-STM)-IC	DUMMY	0.038	0	01:28		
MH16_(19-608-STM)-IC	DUMMY	0.015	0	01:29		
MH17_(19-608-STM)-IC	DUMMY	0.045	0	01:25		
MH18_(19-608-STM)-IC	DUMMY	0.002	0	01:30		
MH19_(19-608-STM)-IC	DUMMY	0.009	0	01:25		
MH2_(19-608-STM)-IC	DUMMY	0.012	0	01:25		
MH20_(19-608-STM)-IC	DUMMY	0.016	0	01:25		
MH21_(19-608-STM)-IC	DUMMY	0.001	0	01:26		
MH23_(19-608-STM)-IC	DUMMY	0.015	0	01:25		
MH24_(19-608-STM)-IC	DUMMY	0.019	0	01:26		
MH25_(19-608-STM)-IC	DUMMY	0.108	0	01:30		
MH3_(19-608-STM)-IC	DUMMY	0.003	0	01:26		
MH4_(19-608-STM)-IC	DUMMY	0.003	0	01:26		
MH5_(19-608-STM)-IC	DUMMY	0.003	0	01:28		
MH6_(19-608-STM)-IC	DUMMY	0.004	0	01:27		
MH7_(19-608-STM)-IC	DUMMY	0.004	0	01:26		
MH8_(19-608-STM)-IC	DUMMY	0.071	0	01:25		
MH9_(19-608-STM)-IC	DUMMY	0.012	0	01:26		
TANK-IN-1_(19-608-STM)-IC	DUMMY	0.000	0	00:00		

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Flow Classification Summary
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	Adjusted	Fraction of Time in Flow Class								
Conduit	/Actual Length	Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl
C1	1.00	0.00	0.63	0.00	0.37	0.00	0.00	0.00	0.97	0.00
C10	1.00	0.02	0.98	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C12	1.00	0.00	0.00	0.00	0.99	0.00	0.00	0.00	0.00	1.00
C13	1.00	0.00	0.00	0.00	0.52	0.48	0.00	0.00	0.55	0.00
C16	1.00	0.43	0.06	0.00	0.47	0.04	0.00	0.00	0.18	0.00
C17	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
C1-S	1.00	0.00	0.00	0.00	0.99	0.01	0.00	0.00	1.00	0.00
C1-S7	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
C2	1.00	0.02	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00
C2-S	1.00	0.00	0.00	0.00	0.99	0.01	0.00	0.00	0.97	0.00
C3	1.00	0.02	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00
C3-S	1.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00	0.00	0.00
C4	1.00	0.00	0.00	0.00	0.45	0.55	0.00	0.00	0.99	0.00
C4-S	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.01	0.00
C5	1.00	0.00	0.00	0.00	0.68	0.32	0.00	0.00	0.22	0.00
C5-S	1.00	0.00	0.08	0.00	0.92	0.00	0.00	0.00	1.00	0.00
C6	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
C6-S	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00

C7	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
C7-S	1.00	0.00	0.94	0.00	0.05	0.00	0.00	0.00	0.92	0.00	
C8	1.00	0.00	0.00	0.00	0.38	0.61	0.00	0.00	0.36	0.00	
C9	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(115)_(19-608-STM)	1.00	0.12	0.00	0.00	0.00	0.00	0.00	0.88	0.00	0.00	
Pipe_-_(62)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(62)_(19-608-STM)-S	1.00	0.31	0.02	0.00	0.58	0.09	0.00	0.00	0.03	0.00	
Pipe_-_(63)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(63)_(19-608-STM)-S	1.00	0.33	0.00	0.00	0.51	0.17	0.00	0.00	0.00	0.00	
Pipe_-_(64)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(64)_(19-608-STM)-S	1.00	0.68	0.00	0.00	0.07	0.25	0.00	0.00	0.01	0.00	
Pipe_-_(65)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(65)_(19-608-STM)-S	1.00	0.75	0.00	0.00	0.03	0.22	0.00	0.00	0.01	0.00	
Pipe_-_(66)_(1)_(19-608-STM)	1.00	0.00	0.00	0.00	0.38	0.00	0.00	0.62	0.12	0.00	
Pipe_-_(66)_(1)_(19-608-STM)-S	1.00	0.35	0.01	0.00	0.64	0.00	0.00	0.00	0.03	0.00	
Pipe_-_(67)_(19-608-STM)	1.00	0.00	0.00	0.00	0.49	0.00	0.00	0.51	0.04	0.00	
Pipe_-_(67)_(19-608-STM)-S	1.00	0.53	0.03	0.00	0.38	0.06	0.00	0.00	0.08	0.00	
Pipe_-_(69)_(19-608-STM)	1.00	0.00	0.00	0.00	0.55	0.00	0.00	0.45	0.02	0.00	
Pipe_-_(69)_(19-608-STM)-S	1.00	0.60	0.36	0.00	0.04	0.00	0.00	0.00	0.93	0.00	
Pipe_-_(70)_(19-608-STM)	1.00	0.00	0.00	0.00	0.57	0.00	0.00	0.43	0.01	0.00	
Pipe_-_(70)_(19-608-STM)-S	1.00	0.96	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Pipe_-_(71)_(19-608-STM)	1.00	0.00	0.00	0.00	0.30	0.00	0.00	0.70	0.16	0.00	
Pipe_-_(71)_(19-608-STM)-S	1.00	0.75	0.03	0.00	0.22	0.00	0.00	0.00	0.96	0.00	
Pipe_-_(72)_(19-608-STM)	1.00	0.00	0.00	0.00	0.35	0.00	0.00	0.65	0.00	0.00	
Pipe_-_(72)_(19-608-STM)-S	1.00	0.34	0.41	0.00	0.21	0.04	0.00	0.00	0.97	0.00	
Pipe_-_(73)_(1)_(19-608-STM)	1.00	0.00	0.00	0.00	0.52	0.00	0.00	0.48	0.06	0.00	
Pipe_-_(73)_(1)_(19-608-STM)-S	1.00	0.00	0.60	0.00	0.40	0.00	0.00	0.00	0.94	0.00	
Pipe_-_(73)_(19-608-STM)	1.00	0.00	0.00	0.00	0.45	0.00	0.00	0.55	0.06	0.00	
Pipe_-_(73)_(19-608-STM)-S	1.00	0.00	0.34	0.00	0.64	0.02	0.00	0.00	0.95	0.00	
Pipe_-_(74)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(74)_(19-608-STM)-S	1.00	0.35	0.14	0.00	0.49	0.01	0.00	0.00	0.97	0.00	
Pipe_-_(75)_(1)_(19-608-STM)	1.00	0.00	0.00	0.00	0.18	0.01	0.00	0.81	0.08	0.00	
Pipe_-_(75)_(1)_(19-608-STM)-S	1.00	0.69	0.00	0.00	0.07	0.24	0.00	0.00	0.00	0.00	
Pipe_-_(75)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.01	0.00	0.99	0.00	0.00	
Pipe_-_(75)_(19-608-STM)-S	1.00	0.38	0.00	0.00	0.53	0.09	0.00	0.00	0.03	0.00	
Pipe_-_(76)_(19-608-STM)	1.00	0.00	0.00	0.00	0.67	0.33	0.00	0.00	0.01	0.00	
Pipe_-_(76)_(19-608-STM)-S	1.00	0.17	0.00	0.00	0.39	0.44	0.00	0.00	0.12	0.00	
Pipe_-_(77)_(19-608-STM)-S	1.00	0.00	0.50	0.00	0.49	0.01	0.00	0.00	0.94	0.00	
Pipe_-_(78)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(79)_(19-608-STM)	1.00	0.02	0.00	0.00	0.00	0.00	0.00	0.98	0.00	0.00	
Pipe_-_(80)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(80)_(19-608-STM)-S	1.00	0.28	0.00	0.00	0.36	0.36	0.00	0.00	0.02	0.00	
Pipe_-_(81)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(81)_(19-608-STM)-S	1.00	0.01	0.65	0.00	0.33	0.01	0.00	0.00	0.83	0.00	
Pipe_-_(82)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	
Pipe_-_(82)_(19-608-STM)-S	1.00	0.00	0.02	0.00	0.73	0.26	0.00	0.00	0.11	0.00	
Pipe_-_(83)_(19-608-STM)	1.00	0.00	0.00	0.00	0.01	0.00	0.00	0.99	0.00	0.00	
Pipe_-_(85)_(19-608-STM)	1.00	0.00	0.00	0.00	0.30	0.02	0.00	0.68	0.17	0.00	
Pipe_-_(85)_(19-608-STM)-S	1.00	0.23	0.00	0.00	0.74	0.03	0.00	0.00	0.95	0.00	
Pipe_-_(86)_(19-608-STM)	1.00	0.00	0.00	0.00	0.41	0.01	0.00	0.58	0.05	0.00	
Pipe_-_(86)_(19-608-STM)-S	1.00	0.48	0.03	0.00	0.50	0.00	0.00	0.00	0.02	0.00	
STORAGE_PIPE	1.00	0.00	0.00	0.00	0.44	0.00	0.00	0.56	0.15	0.00	

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Conduit Surcharge Summary
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Conduit	Hours Full: Both Ends	Hours Full: Upstream	Hours Full: Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
C12	0.01	0.06	0.01	0.01	0.01

C1-S7	0.01	0.39	0.01	0.01	0.01
Pipe_-_(66)_(1)_(19-608-STM)	0.01	0.01	1.95	0.01	0.01
Pipe_-_(67)_(19-608-STM)	1.95	1.95	4.12	0.01	0.01
Pipe_-_(69)_(19-608-STM)	4.12	4.12	4.59	0.01	0.01
Pipe_-_(70)_(19-608-STM)	5.03	5.03	5.22	0.01	0.01
Pipe_-_(73)_(1)_(19-608-STM)	0.01	0.01	4.12	0.01	0.01
Pipe_-_(86)_(19-608-STM)	0.01	0.01	1.95	0.01	0.01

Analysis begun on: Fri May 15 16:09:03 2020
Analysis ended on: Fri May 15 16:09:06 2020
Total elapsed time: 00:00:03

EPA STORM WATER MANAGEMENT MODEL - VERSION 5.1 (Build 5.1.013)

WARNING 10: crest elevation raised to downstream invert for regulator Link J-S1minor-IC
WARNING 10: crest elevation raised to downstream invert for regulator Link J-S7minor-IC
WARNING 02: maximum depth increased for Node J-S1minor
WARNING 02: maximum depth increased for Node J-S7minor
WARNING 02: maximum depth increased for Node FROG_POND

****
Element Count
****
Number of rain gages 9
Number of subcatchments ... 26
Number of nodes 76
Number of links 107
Number of pollutants 0
Number of land uses 0

****
Raingage Summary
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Name	Data Source	Data Type	Recording Interval
25mm	25mm	INTENSITY	10 min.
Chicago_24h_100yr	Chicago_24h_100yr_COM	INTENSITY	5 min.
Chicago_24h_2yr	Chicago_24h_2yr_COM	INTENSITY	5 min.
Chicago_4h_100year_COM	Chicago_4h_100year_COM	INTENSITY	5 min.
Chicago_4h_10year_COM	Chicago_4h_10year_COM	INTENSITY	5 min.
Chicago_4h_25year_COM	Chicago_4h_25year_COM	INTENSITY	5 min.
Chicago_4h_2yr_COM	Chicago_4h_2yr_COM	INTENSITY	5 min.
Chicago_4h_50year_COM	Chicago_4h_50year_COM	INTENSITY	5 min.
Chicago_4h_5year_COM	Chicago_4h_5year_COM	INTENSITY	5 min.

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Subcatchment Summary
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Name	Area	Width	%Imperv	%Slope	Rain Gage	Outlet
S1	6.45	258.01	0.00	0.5000	Chicago_4h_100year_COM	FROG_POND
S10	0.13	19.74	65.00	0.5000	Chicago_4h_100year_COM	MH1_(19-60
S11	0.12	21.65	65.00	1.0000	Chicago_4h_100year_COM	MH7_(19-60
S12	0.13	12.76	0.00	0.5000	Chicago_4h_100year_COM	MH24_(19-6
S13	0.58	63.76	65.00	0.5000	Chicago_4h_100year_COM	MH8_(19-60
S14	0.36	33.72	65.00	0.5000	Chicago_4h_100year_COM	MH17_(19-6
S15	0.30	30.12	65.00	0.5000	Chicago_4h_100year_COM	MH10_(19-6
S16	0.13	34.53	65.00	0.5000	Chicago_4h_100year_COM	MH16_(19-6
S17	0.06	20.83	65.00	0.5000	Chicago_4h_100year_COM	MH12_(19-6
S18	0.45	44.77	65.00	0.4000	Chicago_4h_100year_COM	MH19_(19-6
S19	0.78	43.28	65.00	0.5000	Chicago_4h_100year_COM	MH23_(19-6
S20	0.09	18.70	65.00	0.5000	Chicago_4h_100year_COM	EX_MH1-S
S3	0.60	83.61	50.45	1.5000	Chicago_4h_100year_COM	EX_STM_MH4
S4_2	1.49	99.55	20.00	1.5000	Chicago_4h_100year_COM	EX_STM_MH-
S5_2	8.19	818.53	10.00	1.5000	Chicago_4h_100year_COM	J9_COM
S6	0.16	16.02	0.00	0.5000	Chicago_4h_100year_COM	MH15_(19-6
S6_ROW1	0.50	135.26	70.00	1.8000	Chicago_4h_100year_COM	EX_STM_MH1
S6_ROW2	0.36	36.43	70.00	1.8000	Chicago_4h_100year_COM	EX_STM_MH2
S6_ROW3	0.37	36.57	70.00	1.8000	Chicago_4h_100year_COM	EX_STM_MH3
S6_ROW4	0.36	36.03	70.00	1.8000	Chicago_4h_100year_COM	EX_STM_MH4
S6_ROW5	0.37	37.28	70.00	1.8000	Chicago_4h_100year_COM	EX_MH1-S

S6_ROW6	0.42	84.54	25.00	1.0000	Chicago_4h_100year_COM EX_STM_MH-
S6_ROW7	0.45	89.84	25.00	1.0000	Chicago_4h_100year_COM EX_STM_MH6
S7	2.51	100.40	3.00	1.0000	Chicago_4h_100year_COM J-S7minor
S8	0.39	38.91	65.00	0.5000	Chicago_4h_100year_COM MH2_(19-60
S9	0.56	27.89	65.00	1.5000	Chicago_4h_100year_COM MH13_(19-6

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Node Summary
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Name	Type	Invert Elev.	Max. Depth	Ponded Area	External Inflow
Curb	JUNCTION	189.75	0.30	0.0	
DICB_(19-608-STM)	JUNCTION	188.79	3.21	0.0	
EX_MH1	JUNCTION	185.47	3.17	0.0	
EX_MH1-S	JUNCTION	188.64	0.30	0.0	
EX_STM_MH1	JUNCTION	191.70	2.25	0.0	
EX_STM_MH1-S	JUNCTION	193.95	0.30	0.0	
EX_STM_MH2	JUNCTION	191.00	2.00	0.0	
EX_STM_MH2-S	JUNCTION	193.00	0.30	0.0	
EX_STM_MH3	JUNCTION	190.09	2.41	0.0	
EX_STM_MH3-S	JUNCTION	192.50	0.30	0.0	
EX_STM_MH4	JUNCTION	187.61	3.20	0.0	
EX_STM_MH4-S	JUNCTION	190.81	0.30	0.0	
EX_STM_MH5	JUNCTION	184.77	2.53	0.0	
EX_STM_MH-5-S	JUNCTION	187.30	0.30	0.0	
EX_STM_MH6	JUNCTION	184.03	3.57	0.0	
EX_STM_MH6-S	JUNCTION	187.60	0.30	0.0	
EX_STM_MH7	JUNCTION	183.40	4.22	0.0	
EX_STM_MH7-S	JUNCTION	187.62	0.30	0.0	
J-S1	JUNCTION	185.39	2.61	0.0	
J-S1minor	JUNCTION	187.66	1.04	0.0	
J-S7	JUNCTION	189.40	2.60	0.0	
J-S7minor	JUNCTION	191.55	1.10	0.0	
MH1_(19-608-STM)	JUNCTION	189.24	2.79	0.0	
MH1_(19-608-STM)-S	JUNCTION	192.03	0.30	0.0	
MH10_(19-608-STM)	JUNCTION	187.51	3.29	0.0	
MH10_(19-608-STM)-S	JUNCTION	190.80	0.30	0.0	
MH11_(19-608-STM)	JUNCTION	187.27	3.31	0.0	
MH11_(19-608-STM)-S	JUNCTION	190.58	0.30	0.0	
MH12_(19-608-STM)	JUNCTION	186.90	3.69	0.0	
MH12_(19-608-STM)-S	JUNCTION	190.60	0.30	0.0	
MH13_(19-608-STM)	JUNCTION	188.98	2.63	0.0	
MH13_(19-608-STM)-S	JUNCTION	191.61	0.30	0.0	
MH15_(19-608-STM)	JUNCTION	187.58	3.34	0.0	
MH15_(19-608-STM)-S	JUNCTION	190.92	0.30	0.0	
MH16_(19-608-STM)	JUNCTION	187.31	3.60	0.0	
MH16_(19-608-STM)-S	JUNCTION	190.91	0.30	0.0	
MH17_(19-608-STM)	JUNCTION	187.78	3.16	0.0	
MH17_(19-608-STM)-S	JUNCTION	190.95	0.30	0.0	
MH18_(19-608-STM)	JUNCTION	186.75	3.93	0.0	
MH18_(19-608-STM)-S	JUNCTION	190.68	0.30	0.0	
MH19_(19-608-STM)	JUNCTION	186.12	3.32	0.0	
MH19_(19-608-STM)-S	JUNCTION	189.45	0.30	0.0	
MH2_(19-608-STM)	JUNCTION	188.54	3.85	0.0	
MH2_(19-608-STM)-S	JUNCTION	192.39	0.30	0.0	
MH20_(19-608-STM)	JUNCTION	185.96	3.19	0.0	
MH20_(19-608-STM)-S	JUNCTION	189.15	0.30	0.0	
MH21_(19-608-STM)	JUNCTION	185.83	3.18	0.0	
MH21_(19-608-STM)-S	JUNCTION	189.01	0.30	0.0	
MH22_(19-608-STM)	JUNCTION	185.74	2.79	0.0	
MH23_(19-608-STM)	JUNCTION	187.49	2.87	0.0	
MH23_(19-608-STM)-S	JUNCTION	190.35	0.30	0.0	

MH24_(19-608-STM)	JUNCTION	187.43	2.78	0.0
MH24_(19-608-STM)-S	JUNCTION	190.22	0.30	0.0
MH25_(19-608-STM)	JUNCTION	186.80	2.82	0.0
MH25_(19-608-STM)-2	JUNCTION	186.80	2.82	0.0
MH25_(19-608-STM)-S	JUNCTION	189.62	0.30	0.0
MH26_(19-608-STM)	JUNCTION	186.23	3.52	0.0
MH3_(19-608-STM)	JUNCTION	188.26	3.94	0.0
MH3_(19-608-STM)-S	JUNCTION	192.20	0.30	0.0
MH4_(19-608-STM)	JUNCTION	188.15	3.85	0.0
MH4_(19-608-STM)-S	JUNCTION	192.00	0.30	0.0
MH5_(19-608-STM)	JUNCTION	187.83	3.46	0.0
MH5_(19-608-STM)-S	JUNCTION	191.29	0.30	0.0
MH6_(19-608-STM)	JUNCTION	187.57	3.35	0.0
MH6_(19-608-STM)-S	JUNCTION	190.92	0.30	0.0
MH7_(19-608-STM)	JUNCTION	188.70	3.04	0.0
MH7_(19-608-STM)-S	JUNCTION	191.74	0.30	0.0
MH8_(19-608-STM)	JUNCTION	188.26	3.09	0.0
MH8_(19-608-STM)-S	JUNCTION	191.35	0.30	0.0
MH9_(19-608-STM)	JUNCTION	188.00	3.12	0.0
MH9_(19-608-STM)-S	JUNCTION	191.13	0.30	0.0
TANK-IN-1_(19-608-STM)-S	JUNCTION	191.42	0.30	0.0
TANK-OUT_(19-608-STM)	JUNCTION	186.56	4.84	0.0
J9_COM	OUTFALL	183.10	1.05	0.0
FROG_POND	STORAGE	191.00	1.50	0.0
STM_TANK	STORAGE	186.56	4.86	0.0

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Link Summary
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Name	From Node	To Node	Type	Length	%Slope	Roughness
C1	EX_STM_MH3	J-S7	CONDUIT	45.9	1.5026	0.0130
C10	Curb	MH25_(19-608-STM)-S	CONDUIT	5.9	2.1213	0.014
C12	J-S1minor	J-S1	CONDUIT	16.1	14.2534	0.0130
C13	J-S1	EX_STM_MH5	CONDUIT	114.8	0.5400	0.0130
C16	MH1_(19-608-STM)-S	MH7_(19-608-STM)-S	CONDUIT	39.8	0.7286	0.01
C17	MH26_(19-608-STM)	EX_MH1	CONDUIT	52.7	1.0048	0.0130
C1-S	EX_STM_MH3-S	EX_STM_MH4-S	CONDUIT	102.1	1.6559	0.0140
C1-S7	J-S7minor	J-S7	CONDUIT	19.1	10.5425	0.0130
C2	EX_STM_MH1	EX_STM_MH2	CONDUIT	119.1	0.5039	0.0130
C2-S	EX_STM_MH1-S	EX_STM_MH2-S	CONDUIT	112.5	0.8445	0.0140
C3	EX_STM_MH2	EX_STM_MH3	CONDUIT	120.9	0.6284	0.0130
C3-S	EX_STM_MH2-S	EX_STM_MH3-S	CONDUIT	123.5	0.4048	0.0140
C4	EX_STM_MH4	MH26_(19-608-STM)	CONDUIT	67.5	2.0448	0.0130
C4-S	EX_STM_MH4-S	EX_MH1-S	CONDUIT	132.8	1.6340	0.0140
C5	EX_MH1	J-S1	CONDUIT	14.7	0.5443	0.0130
C5-S	EX_MH1-S	EX_STM_MH-5-S	CONDUIT	132.1	1.0144	0.0140
C6	EX_STM_MH5	EX_STM_MH6	CONDUIT	110.5	0.5700	0.0130
C6-S	EX_STM_MH-5-S	EX_STM_MH6-S	CONDUIT	119.3	-0.2514	0.0140
C7	EX_STM_MH6	EX_STM_MH7	CONDUIT	120.8	0.4389	0.0130
C7-S	EX_STM_MH7-S	EX_STM_MH6-S	CONDUIT	118.6	0.0177	0.0140
C8	EX_STM_MH7	J9_COM	CONDUIT	58.1	0.5162	0.0130
C9	J-S7	EX_STM_MH4	CONDUIT	73.4	2.3410	0.0130
Pipe_-_(115)_(19-608-STM)	DICB_(19-608-STM)	MH2_(19-608-STM)	CONDUIT	4.9	2.0077	
Pipe_-_(62)_(19-608-STM)	MH1_(19-608-STM)	MH2_(19-608-STM)	CONDUIT	80.4	0.4999	
Pipe_-_(62)_(19-608-STM)-S	MH2_(19-608-STM)-S	MH1_(19-608-STM)-S	CONDUIT	80.4	0.45	
Pipe_-_(63)_(19-608-STM)	MH2_(19-608-STM)	MH3_(19-608-STM)	CONDUIT	38.0	0.4947	
Pipe_-_(63)_(19-608-STM)-S	MH2_(19-608-STM)-S	MH3_(19-608-STM)-S	CONDUIT	38.0	0.50	
Pipe_-_(64)_(19-608-STM)	MH3_(19-608-STM)	MH4_(19-608-STM)	CONDUIT	13.3	0.5032	
Pipe_-_(64)_(19-608-STM)-S	MH3_(19-608-STM)-S	MH4_(19-608-STM)-S	CONDUIT	13.3	1.51	
Pipe_-_(65)_(19-608-STM)	MH4_(19-608-STM)	MH5_(19-608-STM)	CONDUIT	47.5	0.4990	
Pipe_-_(65)_(19-608-STM)-S	MH4_(19-608-STM)-S	MH5_(19-608-STM)-S	CONDUIT	50.5	1.40	
Pipe_-_(66)_(1)_(19-608-STM)	MH17_(19-608-STM)	MH16_(19-608-STM)	CONDUIT	64.3	0.49	

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Pipe_-_(66)_(1)_(19-608-STM)-S MH17_(19-608-STM)-S MH16_(19-608-STM)-S CONDUIT           67.1
Pipe_-_(67)_(19-608-STM) MH16_(19-608-STM) MH12_(19-608-STM) CONDUIT           36.8    0.4997
Pipe_-_(67)_(19-608-STM)-S MH16_(19-608-STM)-S MH12_(19-608-STM)-S CONDUIT           42.4    0.
Pipe_-_(69)_(19-608-STM) MH12_(19-608-STM) MH18_(19-608-STM) CONDUIT           15.5    0.4983
Pipe_-_(69)_(19-608-STM)-S MH18_(19-608-STM)-S MH12_(19-608-STM)-S CONDUIT           18.2    0.
Pipe_-_(70)_(19-608-STM) MH18_(19-608-STM) STM_TANK         CONDUIT           7.6    0.5001
Pipe_-_(70)_(19-608-STM)-S TANK-IN-1_(19-608-STM)-S MH18_(19-608-STM)-S CONDUIT            8.6
Pipe_-_(71)_(19-608-STM) MH5_(19-608-STM) MH6_(19-608-STM) CONDUIT           37.1    0.5013
Pipe_-_(71)_(19-608-STM)-S MH5_(19-608-STM)-S MH6_(19-608-STM)-S CONDUIT           35.3    1.05
Pipe_-_(72)_(19-608-STM) MH6_(19-608-STM) MH10_(19-608-STM) CONDUIT           7.7    0.5078
Pipe_-_(72)_(19-608-STM)-S MH6_(19-608-STM)-S MH10_(19-608-STM)-S CONDUIT           3.1    3.6
Pipe_-_(73)_(1)_(19-608-STM) MH11_(19-608-STM) MH12_(19-608-STM) CONDUIT           57.4    0.50
Pipe_-_(73)_(1)_(19-608-STM)-S MH12_(19-608-STM)-S MH11_(19-608-STM)-S CONDUIT           58.5
Pipe_-_(73)_(19-608-STM) MH10_(19-608-STM) MH11_(19-608-STM) CONDUIT           44.9    0.4984
Pipe_-_(73)_(19-608-STM)-S MH10_(19-608-STM)-S MH11_(19-608-STM)-S CONDUIT           46.3    0.
Pipe_-_(74)_(19-608-STM) MH7_(19-608-STM) MH8_(19-608-STM) CONDUIT           28.7    0.9999
Pipe_-_(74)_(19-608-STM)-S MH7_(19-608-STM)-S MH8_(19-608-STM)-S CONDUIT           30.1    1.28
Pipe_-_(75)_(1)_(19-608-STM) MH9_(19-608-STM) MH6_(19-608-STM) CONDUIT           41.7    0.5007
Pipe_-_(75)_(1)_(19-608-STM)-S MH9_(19-608-STM)-S MH6_(19-608-STM)-S CONDUIT           46.1
Pipe_-_(75)_(19-608-STM) MH8_(19-608-STM) MH9_(19-608-STM) CONDUIT           48.0    0.4981
Pipe_-_(75)_(19-608-STM)-S MH8_(19-608-STM)-S MH9_(19-608-STM)-S CONDUIT           49.6    0.45
Pipe_-_(76)_(19-608-STM) MH23_(19-608-STM) MH24_(19-608-STM) CONDUIT           10.6    0.4988
Pipe_-_(76)_(19-608-STM)-S MH23_(19-608-STM)-S MH24_(19-608-STM)-S CONDUIT           10.6    1.
Pipe_-_(77)_(19-608-STM)-S MH24_(19-608-STM)-S MH25_(19-608-STM)-S CONDUIT          109.5    0.
Pipe_-_(78)_(19-608-STM) MH25_(19-608-STM)-2 MH26_(19-608-STM) CONDUIT           20.1    0.5172
Pipe_-_(79)_(19-608-STM) TANK-OUT_(19-608-STM) MH19_(19-608-STM) CONDUIT           95.1    0.40
Pipe_-_(80)_(19-608-STM) MH19_(19-608-STM) MH20_(19-608-STM) CONDUIT           25.9    0.4008
Pipe_-_(80)_(19-608-STM)-S MH19_(19-608-STM)-S MH20_(19-608-STM)-S CONDUIT           24.5    1.
Pipe_-_(81)_(19-608-STM) MH20_(19-608-STM) MH21_(19-608-STM) CONDUIT           26.2    0.3963
Pipe_-_(81)_(19-608-STM)-S MH20_(19-608-STM)-S MH21_(19-608-STM)-S CONDUIT           26.2    0.
Pipe_-_(82)_(19-608-STM) MH21_(19-608-STM) MH22_(19-608-STM) CONDUIT           14.2    0.4007
Pipe_-_(82)_(19-608-STM)-S MH21_(19-608-STM)-S EX_MH1-S         CONDUIT           38.3    0.965
Pipe_-_(83)_(19-608-STM) MH22_(19-608-STM) EX_MH1           CONDUIT          11.3    0.3880
Pipe_-_(85)_(19-608-STM) MH13_(19-608-STM) MH15_(19-608-STM) CONDUIT           88.0    1.4995
Pipe_-_(85)_(19-608-STM)-S MH13_(19-608-STM)-S MH15_(19-608-STM)-S CONDUIT           91.4    0.
Pipe_-_(86)_(19-608-STM) MH15_(19-608-STM) MH16_(19-608-STM) CONDUIT           38.8    0.5023
Pipe_-_(86)_(19-608-STM)-S MH15_(19-608-STM)-S MH16_(19-608-STM)-S CONDUIT           38.0    0.
STORAGE_PIPE     MH24_(19-608-STM) MH25_(19-608-STM) CONDUIT          109.5    0.5461    0.0130
OR1              STM_TANK         TANK-OUT_(19-608-STM) ORIFICE
OR2              MH25_(19-608-STM) MH25_(19-608-STM)-2 ORIFICE
J-S1minor-IC     J-S1minor        EX_MH1-S         WEIR
J-S7minor-IC     J-S7minor        EX_STM_MH3-S     WEIR
W4               FROG_POND        DICB_(19-608-STM) WEIR
J1_COM-IC        EX_STM_MH1-S     EX_STM_MH1       OUTLET
J2_COM-IC        EX_STM_MH2-S     EX_STM_MH2       OUTLET
J3_COM-IC        EX_STM_MH3-S     EX_STM_MH3       OUTLET
J4_COM-IC        EX_STM_MH4-S     EX_STM_MH4       OUTLET
J5_COM-IC        EX_MH1-S         EX_MH1           OUTLET
J6_COM-IC        EX_STM_MH-5-S    EX_STM_MH5       OUTLET
J7_COM-IC        EX_STM_MH6-S     EX_STM_MH6       OUTLET
J8_COM-IC        EX_STM_MH7-S     EX_STM_MH7       OUTLET
MH1_(19-608-STM)-IC MH1_(19-608-STM)-S MH1_(19-608-STM) OUTLET
MH10_(19-608-STM)-IC MH10_(19-608-STM)-S MH10_(19-608-STM) OUTLET
MH11_(19-608-STM)-IC MH11_(19-608-STM)-S MH11_(19-608-STM) OUTLET
MH12_(19-608-STM)-IC MH12_(19-608-STM)-S MH12_(19-608-STM) OUTLET
MH13_(19-608-STM)-IC MH13_(19-608-STM)-S MH13_(19-608-STM) OUTLET
MH15_(19-608-STM)-IC MH15_(19-608-STM)-S MH15_(19-608-STM) OUTLET
MH16_(19-608-STM)-IC MH16_(19-608-STM)-S MH16_(19-608-STM) OUTLET
MH17_(19-608-STM)-IC MH17_(19-608-STM)-S MH17_(19-608-STM) OUTLET
MH18_(19-608-STM)-IC MH18_(19-608-STM)-S MH18_(19-608-STM) OUTLET
MH19_(19-608-STM)-IC MH19_(19-608-STM)-S MH19_(19-608-STM) OUTLET
MH2_(19-608-STM)-IC MH2_(19-608-STM)-S MH2_(19-608-STM) OUTLET
MH20_(19-608-STM)-IC MH20_(19-608-STM)-S MH20_(19-608-STM) OUTLET
MH21_(19-608-STM)-IC MH21_(19-608-STM)-S MH21_(19-608-STM) OUTLET
```

MH23_(19-608-STM)-IC MH23_(19-608-STM)-S MH23_(19-608-STM) OUTLET
MH24_(19-608-STM)-IC MH24_(19-608-STM)-S MH24_(19-608-STM) OUTLET
MH25_(19-608-STM)-IC MH25_(19-608-STM)-S MH25_(19-608-STM) OUTLET
MH3_(19-608-STM)-IC MH3_(19-608-STM)-S MH3_(19-608-STM) OUTLET
MH4_(19-608-STM)-IC MH4_(19-608-STM)-S MH4_(19-608-STM) OUTLET
MH5_(19-608-STM)-IC MH5_(19-608-STM)-S MH5_(19-608-STM) OUTLET
MH6_(19-608-STM)-IC MH6_(19-608-STM)-S MH6_(19-608-STM) OUTLET
MH7_(19-608-STM)-IC MH7_(19-608-STM)-S MH7_(19-608-STM) OUTLET
MH8_(19-608-STM)-IC MH8_(19-608-STM)-S MH8_(19-608-STM) OUTLET
MH9_(19-608-STM)-IC MH9_(19-608-STM)-S MH9_(19-608-STM) OUTLET
TANK-IN-1_(19-608-STM)-IC TANK-IN-1_(19-608-STM)-S STM_TANK OUTLET

****
Cross Section Summary
****

Conduit	Shape	Full Depth	Full Area	Hyd. Rad.	Max. Width	No. of Barrels	Full Flow
C1	CIRCULAR	0.45	0.16	0.11	0.45	1	0.35
C10	full-7m	0.30	2.98	0.16	22.00	1	9.17
C12	CIRCULAR	0.45	0.16	0.11	0.45	1	1.08
C13	CIRCULAR	0.75	0.44	0.19	0.75	1	0.82
C16	full-7m	0.30	2.98	0.16	22.00	1	5.38
C17	CIRCULAR	0.53	0.22	0.13	0.53	1	0.43
C1-S	full-11m	0.30	4.26	0.20	26.00	1	13.51
C1-S7	CIRCULAR	0.30	0.07	0.07	0.30	1	0.31
C2	CIRCULAR	0.45	0.16	0.11	0.45	1	0.20
C2-S	full-11m	0.30	4.26	0.20	26.00	1	9.65
C3	CIRCULAR	0.45	0.16	0.11	0.45	1	0.23
C3-S	full-11m	0.30	4.26	0.20	26.00	1	6.68
C4	CIRCULAR	0.53	0.22	0.13	0.53	1	0.62
C4-S	full-11m	0.30	4.26	0.20	26.00	1	13.42
C5	CIRCULAR	0.75	0.44	0.19	0.75	1	0.82
C5-S	full-11m	0.30	4.26	0.20	26.00	1	10.57
C6	CIRCULAR	0.75	0.44	0.19	0.75	1	0.84
C6-S	full-11m	0.30	4.26	0.20	26.00	1	5.26
C7	CIRCULAR	1.05	0.87	0.26	1.05	1	1.81
C7-S	full-11m	0.30	4.26	0.20	26.00	1	1.40
C8	CIRCULAR	1.05	0.87	0.26	1.05	1	1.96
C9	CIRCULAR	0.45	0.16	0.11	0.45	1	0.44
Pipe_-_(115)_(19-608-STM)	CIRCULAR	0.45	0.16	0.11	0.45	1	0.4
Pipe_-_(62)_(19-608-STM)	CIRCULAR	0.30	0.07	0.07	0.30	1	0.08
Pipe_-_(62)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	4.
Pipe_-_(63)_(19-608-STM)	CIRCULAR	0.60	0.28	0.15	0.60	1	0.43
Pipe_-_(63)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	4.
Pipe_-_(64)_(19-608-STM)	CIRCULAR	0.60	0.28	0.15	0.60	1	0.44
Pipe_-_(64)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	7.
Pipe_-_(65)_(19-608-STM)	CIRCULAR	0.60	0.28	0.15	0.60	1	0.43
Pipe_-_(65)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	7.
Pipe_-_(66)_(1)_(19-608-STM)	CIRCULAR	0.38	0.11	0.09	0.38	1	
Pipe_-_(66)_(1)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	
Pipe_-_(67)_(19-608-STM)	CIRCULAR	0.53	0.22	0.13	0.53	1	0.30
Pipe_-_(67)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	5.
Pipe_-_(69)_(19-608-STM)	CIRCULAR	0.75	0.44	0.19	0.75	1	0.79
Pipe_-_(69)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	4.
Pipe_-_(70)_(19-608-STM)	CIRCULAR	0.75	0.44	0.19	0.75	1	0.79
Pipe_-_(70)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	18.
Pipe_-_(71)_(19-608-STM)	CIRCULAR	0.60	0.28	0.15	0.60	1	0.43
Pipe_-_(71)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	6.
Pipe_-_(72)_(19-608-STM)	CIRCULAR	0.68	0.36	0.17	0.68	1	0.60
Pipe_-_(72)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	12.
Pipe_-_(73)_(1)_(19-608-STM)	CIRCULAR	0.68	0.36	0.17	0.68	1	
Pipe_-_(73)_(1)_(19-608-STM)-S	full-7m	0.30	2.98	0.16	22.00	1	

```
Pipe_-_(73)_(19-608-STM) CIRCULAR             0.68     0.36     0.17     0.68        1     0.59
Pipe_-_(73)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1      4.
Pipe_-_(74)_(19-608-STM) CIRCULAR             0.30     0.07     0.07     0.30        1     0.11
Pipe_-_(74)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1      7.
Pipe_-_(75)_(1)_(19-608-STM) CIRCULAR             0.45     0.16     0.11     0.45        1
Pipe_-_(75)_(1)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1
Pipe_-_(75)_(19-608-STM) CIRCULAR             0.45     0.16     0.11     0.45        1     0.24
Pipe_-_(75)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1      4.
Pipe_-_(76)_(19-608-STM) CIRCULAR             0.45     0.16     0.11     0.45        1     0.20
Pipe_-_(76)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1      7.
Pipe_-_(77)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1      4.
Pipe_-_(78)_(19-608-STM) CIRCULAR             0.45     0.16     0.11     0.45        1     0.21
Pipe_-_(79)_(19-608-STM) CIRCULAR             0.53     0.22     0.13     0.53        1     0.32
Pipe_-_(80)_(19-608-STM) CIRCULAR             0.53     0.22     0.13     0.53        1     0.32
Pipe_-_(80)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1      6.
Pipe_-_(81)_(19-608-STM) CIRCULAR             0.53     0.22     0.13     0.53        1     0.32
Pipe_-_(81)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1      4.
Pipe_-_(82)_(19-608-STM) CIRCULAR             0.53     0.22     0.13     0.53        1     0.32
Pipe_-_(82)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1      6.
Pipe_-_(83)_(19-608-STM) CIRCULAR             0.53     0.22     0.13     0.53        1     0.32
Pipe_-_(85)_(19-608-STM) CIRCULAR             0.38     0.11     0.09     0.38        1     0.25
Pipe_-_(85)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1      5.
Pipe_-_(86)_(19-608-STM) CIRCULAR             0.45     0.16     0.11     0.45        1     0.24
Pipe_-_(86)_(19-608-STM)-S full-7m              0.30     2.98     0.16    22.00        1      1.
STORAGE_PIPE     RECT_CLOSED          1.20     2.16     0.36     1.80        1     6.21


****************
Transect Summary
****************

Transect full-11m
Area:
            0.0015     0.0062     0.0139     0.0248     0.0387
            0.0542     0.0697     0.0852     0.1007     0.1162
            0.1317     0.1472     0.1627     0.1782     0.1937
            0.2092     0.2246     0.2401     0.2556     0.2711
            0.2866     0.3021     0.3176     0.3331     0.3486
            0.3645     0.3813     0.3989     0.4173     0.4366
            0.4568     0.4777     0.4996     0.5223     0.5458
            0.5701     0.5954     0.6214     0.6483     0.6761
            0.7046     0.7341     0.7644     0.7955     0.8275
            0.8603     0.8939     0.9285     0.9638     1.0000
Hrad:
            0.0147     0.0293     0.0440     0.0587     0.0733
            0.1026     0.1317     0.1608     0.1898     0.2188
            0.2477     0.2766     0.3053     0.3341     0.3627
            0.3913     0.4198     0.4483     0.4767     0.5051
            0.5334     0.5616     0.5898     0.6179     0.6459
            0.6735     0.6991     0.7228     0.7447     0.7651
            0.7841     0.8017     0.8182     0.8337     0.8482
            0.8618     0.8747     0.8869     0.8985     0.9095
            0.9200     0.9301     0.9398     0.9492     0.9582
            0.9670     0.9755     0.9839     0.9920     1.0000
Width:
            0.0846     0.1692     0.2538     0.3385     0.4231
            0.4231     0.4231     0.4231     0.4231     0.4231
            0.4231     0.4231     0.4231     0.4231     0.4231
            0.4231     0.4231     0.4231     0.4231     0.4231
            0.4231     0.4231     0.4231     0.4231     0.4231
            0.4462     0.4692     0.4923     0.5154     0.5385
            0.5615     0.5846     0.6077     0.6308     0.6538
            0.6769     0.7000     0.7231     0.7462     0.7692
```

0.7923 0.8154 0.8385 0.8615 0.8846
0.9077 0.9308 0.9538 0.9769 1.0000

Transect full-7m
Area:
0.0006 0.0024 0.0054 0.0097 0.0151
0.0217 0.0296 0.0387 0.0489 0.0604
0.0731 0.0869 0.1010 0.1151 0.1292
0.1433 0.1574 0.1715 0.1856 0.1997
0.2138 0.2279 0.2419 0.2560 0.2701
0.2848 0.3007 0.3179 0.3362 0.3557
0.3764 0.3984 0.4215 0.4459 0.4715
0.4983 0.5262 0.5554 0.5858 0.6174
0.6503 0.6843 0.7195 0.7560 0.7936
0.8325 0.8726 0.9138 0.9563 1.0000
Hrad:
0.0182 0.0364 0.0546 0.0728 0.0910
0.1092 0.1274 0.1456 0.1638 0.1820
0.2002 0.2243 0.2602 0.2960 0.3317
0.3673 0.4028 0.4381 0.4733 0.5084
0.5434 0.5783 0.6131 0.6477 0.6822
0.7157 0.7452 0.7713 0.7942 0.8145
0.8325 0.8484 0.8626 0.8754 0.8869
0.8974 0.9070 0.9160 0.9243 0.9322
0.9397 0.9469 0.9539 0.9607 0.9673
0.9739 0.9805 0.9870 0.9935 1.0000
Width:
0.0273 0.0545 0.0818 0.1091 0.1364
0.1636 0.1909 0.2182 0.2455 0.2727
0.3000 0.3182 0.3182 0.3182 0.3182
0.3182 0.3182 0.3182 0.3182 0.3182
0.3182 0.3182 0.3182 0.3182 0.3182
0.3455 0.3727 0.4000 0.4273 0.4545
0.4818 0.5091 0.5364 0.5636 0.5909
0.6182 0.6455 0.6727 0.7000 0.7273
0.7545 0.7818 0.8091 0.8364 0.8636
0.8909 0.9182 0.9455 0.9727 1.0000

Transect full-8.5m
Area:
0.0021 0.0086 0.0192 0.0333 0.0475
0.0618 0.0760 0.0903 0.1046 0.1188
0.1331 0.1473 0.1616 0.1758 0.1901
0.2044 0.2186 0.2329 0.2471 0.2614
0.2757 0.2899 0.3042 0.3184 0.3327
0.3474 0.3632 0.3799 0.3977 0.4164
0.4361 0.4569 0.4786 0.5013 0.5250
0.5497 0.5754 0.6021 0.6298 0.6585
0.6881 0.7188 0.7505 0.7831 0.8168
0.8515 0.8871 0.9237 0.9614 1.0000
Hrad:
0.0157 0.0314 0.0470 0.0731 0.1043
0.1354 0.1664 0.1974 0.2282 0.2590
0.2897 0.3202 0.3508 0.3812 0.4115
0.4418 0.4720 0.5021 0.5321 0.5620
0.5918 0.6216 0.6513 0.6809 0.7104
0.7394 0.7655 0.7890 0.8102 0.8293
0.8465 0.8620 0.8760 0.8886 0.9000
0.9104 0.9199 0.9286 0.9366 0.9440
0.9509 0.9574 0.9635 0.9693 0.9748
0.9801 0.9853 0.9903 0.9952 1.0000
Width:
0.1093 0.2186 0.3280 0.3644 0.3644
0.3644 0.3644 0.3644 0.3644 0.3644

0.3644	0.3644	0.3644	0.3644	0.3644
0.3644	0.3644	0.3644	0.3644	0.3644
0.3644	0.3644	0.3644	0.3644	0.3644
0.3898	0.4153	0.4407	0.4661	0.4915
0.5169	0.5424	0.5678	0.5932	0.6186
0.6441	0.6695	0.6949	0.7203	0.7458
0.7712	0.7966	0.8220	0.8475	0.8729
0.8983	0.9237	0.9492	0.9746	1.0000

****
NOTE: The summary statistics displayed in this report are
based on results found at every computational time step,
not just on results from each reporting time step.
****

****
Analysis Options
****
Flow Units ..... CMS
Process Models:
  Rainfall/Runoff ..... YES
  RDII ..... NO
  Snowmelt ..... NO
  Groundwater ..... NO
  Flow Routing ..... YES
  Ponding Allowed ..... YES
  Water Quality ..... NO
Infiltration Method ..... CURVE_NUMBER
Flow Routing Method ..... DYNWAVE
Surcharge Method ..... EXTRAN
Starting Date 04/29/2020 00:00:00
Ending Date 04/30/2020 00:00:00
Antecedent Dry Days 0.0
Report Time Step 00:01:00
Wet Time Step 00:01:00
Dry Time Step 00:01:00
Routing Time Step ..... 5.00 sec
Variable Time Step ..... YES
Maximum Trials 8
Number of Threads 6
Head Tolerance ..... 0.001500 m

**********	Volume	Depth
Runoff Quantity Continuity	hectare-m	mm
**********	---------	-------
Total Precipitation	2.090	79.436
Evaporation Loss	0.000	0.000
Infiltration Loss	1.061	40.340
Surface Runoff	0.995	37.804
Final Storage	0.035	1.313
Continuity Error (%)	-0.026	

**********	Volume	Volume
Flow Routing Continuity	hectare-m	10^6 ltr
**********	---------	---------
Dry Weather Inflow	0.000	0.000
Wet Weather Inflow	0.994	9.944
Groundwater Inflow	0.000	0.000
RDII Inflow	0.000	0.000
External Inflow	0.000	0.000
External Outflow	0.983	9.829

Flooding Loss	0.000	0.000
Evaporation Loss	0.000	0.000
Exfiltration Loss	0.000	0.000
Initial Stored Volume	0.000	0.000
Final Stored Volume	0.012	0.121
Continuity Error (%)	-0.067	

****
Time-Step Critical Elements
****
Link Pipe_-_(115)_(19-608-STM) (32.71%)
Link Pipe_-_(83)_(19-608-STM) (22.65%)
Link Pipe_-_(70)_(19-608-STM) (5.50%)
Link Pipe_-_(72)_(19-608-STM) (4.95%)
Link Pipe_-_(72)_(19-608-STM)-S (1.15%)

****
Highest Flow Instability Indexes
****
Link Pipe_-_(115)_(19-608-STM) (22)
Link Pipe_-_(63)_(19-608-STM) (20)
Link Pipe_-_(64)_(19-608-STM) (13)
Link Pipe_-_(70)_(19-608-STM) (10)
Link Pipe_-_(69)_(19-608-STM) (7)

****
Routing Time Step Summary
****

Minimum Time Step	:	0.50 sec
Average Time Step	:	3.45 sec
Maximum Time Step	:	5.00 sec
Percent in Steady State	:	-0.00
Average Iterations per Step	:	2.17
Percent Not Converging	:	1.79

****
Subcatchment Runoff Summary
****

Subcatchment	Total Precip mm	Total Runon mm	Total Evap mm	Total Infil mm	Imperv Runoff mm	Perv Runoff mm	Tot Runo
S1	79.44	0.00	0.00	55.22	0.00	22.95	22.
S10	79.44	0.00	0.00	16.76	50.71	10.60	61.
S11	79.44	0.00	0.00	16.55	50.72	10.82	61.
S12	79.44	0.00	0.00	51.32	0.00	26.87	26.
S13	79.44	0.00	0.00	16.95	50.70	10.42	61.
S14	79.44	0.00	0.00	17.04	50.69	10.32	61.
S15	79.44	0.00	0.00	17.00	50.69	10.36	61.
S16	79.44	0.00	0.00	16.55	50.72	10.82	61.
S17	79.44	0.00	0.00	16.48	50.73	10.89	61.
S18	79.44	0.00	0.00	17.08	50.69	10.28	60.
S19	79.44	0.00	0.00	17.47	50.68	9.90	60.
S20	79.44	0.00	0.00	16.65	50.71	10.72	61.
S3	79.44	0.00	0.00	23.66	39.37	15.07	54.
S4_2	79.44	0.00	0.00	40.14	15.61	22.41	38.
S5_2	79.44	0.00	0.00	44.48	7.81	25.89	33.
S6	79.44	0.00	0.00	51.32	0.00	26.87	26.

S6_ROW1	79.44	0.00	0.00	14.00	54.64	9.46	64.
S6_ROW2	79.44	0.00	0.00	14.23	54.61	9.22	63.
S6_ROW3	79.44	0.00	0.00	14.23	54.61	9.22	63.
S6_ROW4	79.44	0.00	0.00	14.23	54.61	9.22	63.
S6_ROW5	79.44	0.00	0.00	14.23	54.61	9.22	63.
S6_ROW6	79.44	0.00	0.00	30.86	19.52	27.78	47.
S6_ROW7	79.44	0.00	0.00	30.86	19.52	27.78	47.
S7	79.44	0.00	0.00	51.82	2.34	24.00	26.
S8	79.44	0.00	0.00	17.00	50.69	10.36	61.
S9	79.44	0.00	0.00	17.10	50.69	10.26	60.

****
Node Depth Summary
****

Node	Type	Average Depth Meters	Maximum Depth Meters	Maximum HGL Meters	Time of Max Occurrence days hr:min	Reported Max Depth Meters
Curb	JUNCTION	0.00	0.00	189.75	0 00:00	0.00
DICB_(19-608-STM)	JUNCTION	0.17	1.04	189.83	0 04:16	1.04
EX_MH1	JUNCTION	0.16	1.18	186.65	0 01:31	1.05
EX_MH1-S	JUNCTION	0.01	0.06	188.70	0 01:26	0.06
EX_STM_MH1	JUNCTION	0.01	0.09	191.79	0 01:26	0.09
EX_STM_MH1-S	JUNCTION	0.01	0.05	194.00	0 01:25	0.05
EX_STM_MH2	JUNCTION	0.02	0.17	191.17	0 01:27	0.17
EX_STM_MH2-S	JUNCTION	0.01	0.06	193.06	0 01:25	0.06
EX_STM_MH3	JUNCTION	0.02	0.15	190.24	0 01:27	0.15
EX_STM_MH3-S	JUNCTION	0.00	0.04	192.54	0 01:26	0.04
EX_STM_MH4	JUNCTION	0.04	0.25	187.86	0 01:27	0.25
EX_STM_MH4-S	JUNCTION	0.01	0.06	190.87	0 01:25	0.06
EX_STM_MH5	JUNCTION	0.18	2.07	186.84	0 01:27	1.28
EX_STM_MH-5-S	JUNCTION	0.03	0.15	187.45	0 01:31	0.15
EX_STM_MH6	JUNCTION	0.16	0.63	184.66	0 01:32	0.62
EX_STM_MH6-S	JUNCTION	0.01	0.03	187.63	0 01:30	0.03
EX_STM_MH7	JUNCTION	0.15	0.62	184.02	0 01:32	0.62
EX_STM_MH7-S	JUNCTION	0.00	0.00	187.62	0 01:43	0.00
J-S1	JUNCTION	0.15	1.28	186.67	0 01:32	1.13
J-S1minor	JUNCTION	0.05	0.56	188.22	0 01:24	0.47
J-S7	JUNCTION	0.05	0.25	189.65	0 01:27	0.25
J-S7minor	JUNCTION	0.12	0.99	192.54	0 01:25	0.99
MH1_(19-608-STM)	JUNCTION	0.06	0.58	189.82	0 04:16	0.57
MH1_(19-608-STM)-S	JUNCTION	0.01	0.06	192.08	0 01:25	0.06
MH10_(19-608-STM)	JUNCTION	0.71	2.27	189.78	0 04:21	2.27
MH10_(19-608-STM)-S	JUNCTION	0.01	0.09	190.89	0 01:26	0.09
MH11_(19-608-STM)	JUNCTION	0.85	2.51	189.78	0 04:22	2.51
MH11_(19-608-STM)-S	JUNCTION	0.02	0.17	190.75	0 01:31	0.17
MH12_(19-608-STM)	JUNCTION	1.07	2.86	189.77	0 04:23	2.86
MH12_(19-608-STM)-S	JUNCTION	0.01	0.15	190.75	0 01:32	0.15
MH13_(19-608-STM)	JUNCTION	0.10	0.79	189.77	0 04:24	0.79
MH13_(19-608-STM)-S	JUNCTION	0.01	0.07	191.68	0 01:25	0.07
MH15_(19-608-STM)	JUNCTION	0.66	2.18	189.77	0 04:24	2.18
MH15_(19-608-STM)-S	JUNCTION	0.01	0.10	191.02	0 01:26	0.10
MH16_(19-608-STM)	JUNCTION	0.82	2.45	189.77	0 04:24	2.45
MH16_(19-608-STM)-S	JUNCTION	0.01	0.07	190.98	0 01:27	0.07
MH17_(19-608-STM)	JUNCTION	0.55	1.98	189.77	0 04:24	1.98
MH17_(19-608-STM)-S	JUNCTION	0.01	0.08	191.03	0 01:25	0.08
MH18_(19-608-STM)	JUNCTION	1.17	3.02	189.77	0 04:24	3.02
MH18_(19-608-STM)-S	JUNCTION	0.00	0.07	190.75	0 01:32	0.07
MH19_(19-608-STM)	JUNCTION	0.13	0.25	186.37	0 01:32	0.24
MH19_(19-608-STM)-S	JUNCTION	0.01	0.06	189.51	0 01:25	0.06
MH2_(19-608-STM)	JUNCTION	0.25	1.28	189.81	0 04:16	1.28

MH2_(19-608-STM)-S	JUNCTION	0.01	0.06	192.45	0	01:25	0.06
MH20_(19-608-STM)	JUNCTION	0.13	0.43	186.39	0	01:31	0.42
MH20_(19-608-STM)-S	JUNCTION	0.01	0.07	189.22	0	01:25	0.07
MH21_(19-608-STM)	JUNCTION	0.14	0.88	186.71	0	01:31	0.52
MH21_(19-608-STM)-S	JUNCTION	0.01	0.06	189.07	0	01:25	0.06
MH22_(19-608-STM)	JUNCTION	0.14	0.93	186.67	0	01:33	0.69
MH23_(19-608-STM)	JUNCTION	0.18	1.05	188.54	0	02:19	1.05
MH23_(19-608-STM)-S	JUNCTION	0.01	0.07	190.43	0	01:25	0.07
MH24_(19-608-STM)	JUNCTION	0.19	1.10	188.54	0	02:19	1.10
MH24_(19-608-STM)-S	JUNCTION	0.01	0.08	190.30	0	01:25	0.08
MH25_(19-608-STM)	JUNCTION	0.38	1.73	188.54	0	02:19	1.73
MH25_(19-608-STM)-2	JUNCTION	0.04	0.13	186.93	0	02:19	0.13
MH25_(19-608-STM)-S	JUNCTION	0.02	0.12	189.74	0	01:29	0.12
MH26_(19-608-STM)	JUNCTION	0.07	0.35	186.58	0	01:28	0.35
MH3_(19-608-STM)	JUNCTION	0.35	1.54	189.81	0	04:19	1.54
MH3_(19-608-STM)-S	JUNCTION	0.00	0.04	192.24	0	01:25	0.04
MH4_(19-608-STM)	JUNCTION	0.40	1.65	189.80	0	04:19	1.65
MH4_(19-608-STM)-S	JUNCTION	0.00	0.04	192.04	0	01:26	0.04
MH5_(19-608-STM)	JUNCTION	0.54	1.96	189.79	0	04:19	1.96
MH5_(19-608-STM)-S	JUNCTION	0.00	0.04	191.33	0	01:27	0.04
MH6_(19-608-STM)	JUNCTION	0.68	2.21	189.78	0	04:21	2.21
MH6_(19-608-STM)-S	JUNCTION	0.01	0.06	190.98	0	01:26	0.06
MH7_(19-608-STM)	JUNCTION	0.18	1.08	189.78	0	04:21	1.08
MH7_(19-608-STM)-S	JUNCTION	0.01	0.06	191.80	0	01:25	0.06
MH8_(19-608-STM)	JUNCTION	0.34	1.52	189.78	0	04:22	1.52
MH8_(19-608-STM)-S	JUNCTION	0.01	0.09	191.44	0	01:25	0.09
MH9_(19-608-STM)	JUNCTION	0.46	1.78	189.78	0	04:21	1.78
MH9_(19-608-STM)-S	JUNCTION	0.01	0.09	191.21	0	01:25	0.09
TANK-IN-1_(19-608-STM)-S	JUNCTION	0.00	0.00	191.42	0	00:00	0.00
TANK-OUT_(19-608-STM)	JUNCTION	0.12	0.20	186.76	0	04:25	0.20
J9_COM	OUTFALL	0.15	0.55	183.65	0	01:33	0.55
FROG_POND	STORAGE	1.01	1.26	192.26	0	02:39	1.26
STM_TANK	STORAGE	1.30	3.20	189.76	0	04:24	3.20

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Node Inflow Summary
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Node	Type	Maximum Lateral Inflow CMS	Maximum Total Inflow CMS	Time of Max Occurrence days	hr:min	Lateral Inflow Volume 10^6 ltr	Total Inflow Volume 10^6 ltr	Fl Balan Err Perce
Curb	JUNCTION	0.000	0.000	0	00:00	0	0	0.0
DICB_(19-608-STM)	JUNCTION	0.000	0.111	0	02:39	0	1.37	0.0
EX_MH1	JUNCTION	0.000	0.421	0	01:33	0	5.03	0.0
EX_MH1-S	JUNCTION	0.215	0.794	0	01:25	0.295	1.16	-0.1
EX_STM_MH1	JUNCTION	0.000	0.019	0	01:25	0	0.0378	-0.0
EX_STM_MH1-S	JUNCTION	0.247	0.247	0	01:25	0.321	0.321	-0.1
EX_STM_MH2	JUNCTION	0.000	0.071	0	01:26	0	0.159	-0.0
EX_STM_MH2-S	JUNCTION	0.170	0.391	0	01:25	0.232	0.516	0.1
EX_STM_MH3	JUNCTION	0.000	0.082	0	01:27	0	0.18	-0.0
EX_STM_MH3-S	JUNCTION	0.171	0.412	0	01:25	0.233	0.627	0.0
EX_STM_MH4	JUNCTION	0.000	0.274	0	01:27	0	1.28	-0.0
EX_STM_MH4-S	JUNCTION	0.379	0.579	0	01:25	0.557	0.822	-0.0
EX_STM_MH5	JUNCTION	0.000	1.071	0	01:31	0	7.02	-0.0
EX_STM_MH-5-S	JUNCTION	0.293	0.675	0	01:25	0.767	1.41	0.3
EX_STM_MH6	JUNCTION	0.000	1.081	0	01:31	0	7.07	-0.0
EX_STM_MH6-S	JUNCTION	0.088	0.088	0	01:25	0.212	0.212	-0.1
EX_STM_MH7	JUNCTION	0.000	1.068	0	01:32	0	7.07	0.0
EX_STM_MH7-S	JUNCTION	0.000	0.001	0	01:30	0	0.00229	5.3
J-S1	JUNCTION	0.000	0.773	0	01:26	0	5.63	0.0

J-S1minor	JUNCTION	0.000	0.252	0	01:26	0	0.599	-0.0
J-S7	JUNCTION	0.000	0.234	0	01:27	0	1.18	0.0
J-S7minor	JUNCTION	0.058	0.182	0	01:25	0.661	1	-0.0
MH1_(19-608-STM)	JUNCTION	0.000	0.010	0	01:25	0	0.0433	0.2
MH1_(19-608-STM)-S	JUNCTION	0.055	0.123	0	01:25	0.0786	0.166	0.1
MH10_(19-608-STM)	JUNCTION	0.000	0.227	0	01:26	0	1.92	-0.0
MH10_(19-608-STM)-S	JUNCTION	0.121	0.338	0	01:26	0.184	0.47	-0.1
MH11_(19-608-STM)	JUNCTION	0.000	0.435	0	01:27	0	2.43	0.0
MH11_(19-608-STM)-S	JUNCTION	0.000	0.322	0	01:29	0	0.52	0.1
MH12_(19-608-STM)	JUNCTION	0.000	0.654	0	01:27	0	3.01	-0.1
MH12_(19-608-STM)-S	JUNCTION	0.028	0.202	0	01:26	0.0385	0.289	0.2
MH13_(19-608-STM)	JUNCTION	0.000	0.022	0	01:25	0	0.0707	0.5
MH13_(19-608-STM)-S	JUNCTION	0.219	0.219	0	01:25	0.34	0.34	-0.3
MH15_(19-608-STM)	JUNCTION	0.000	0.084	0	01:26	0	0.214	-0.1
MH15_(19-608-STM)-S	JUNCTION	0.005	0.187	0	01:25	0.043	0.314	0.4
MH16_(19-608-STM)	JUNCTION	0.000	0.177	0	01:26	0	0.434	-0.0
MH16_(19-608-STM)-S	JUNCTION	0.059	0.198	0	01:25	0.0807	0.333	0.0
MH17_(19-608-STM)	JUNCTION	0.000	0.072	0	01:25	0	0.136	0.8
MH17_(19-608-STM)-S	JUNCTION	0.142	0.142	0	01:25	0.218	0.218	-0.3
MH18_(19-608-STM)	JUNCTION	0.000	0.658	0	01:28	0	3.02	-0.1
MH18_(19-608-STM)-S	JUNCTION	0.000	0.025	0	01:27	0	0.00773	0.7
MH19_(19-608-STM)	JUNCTION	0.000	0.090	0	04:00	0	3.07	0.0
MH19_(19-608-STM)-S	JUNCTION	0.177	0.177	0	01:25	0.273	0.273	-0.0
MH2_(19-608-STM)	JUNCTION	0.000	0.118	0	02:32	0	1.48	0.0
MH2_(19-608-STM)-S	JUNCTION	0.157	0.157	0	01:25	0.237	0.237	-0.1
MH20_(19-608-STM)	JUNCTION	0.000	0.093	0	04:00	0	3.14	0.0
MH20_(19-608-STM)-S	JUNCTION	0.000	0.160	0	01:25	0	0.215	-0.0
MH21_(19-608-STM)	JUNCTION	0.000	0.105	0	01:31	0	3.15	-0.0
MH21_(19-608-STM)-S	JUNCTION	0.000	0.128	0	01:25	0	0.143	-0.0
MH22_(19-608-STM)	JUNCTION	0.000	0.120	0	01:34	0	3.15	-0.0
MH23_(19-608-STM)	JUNCTION	0.000	0.022	0	01:25	0	0.0784	-0.5
MH23_(19-608-STM)-S	JUNCTION	0.274	0.274	0	01:25	0.472	0.472	-0.0
MH24_(19-608-STM)	JUNCTION	0.000	0.185	0	01:29	0	0.236	0.2
MH24_(19-608-STM)-S	JUNCTION	0.004	0.251	0	01:25	0.0343	0.428	-0.2
MH25_(19-608-STM)	JUNCTION	0.000	0.206	0	01:27	0	0.577	-0.5
MH25_(19-608-STM)-2	JUNCTION	0.000	0.035	0	02:19	0	0.509	-0.0
MH25_(19-608-STM)-S	JUNCTION	0.000	0.205	0	01:25	0	0.343	0.4
MH26_(19-608-STM)	JUNCTION	0.000	0.294	0	01:27	0	1.79	0.0
MH3_(19-608-STM)	JUNCTION	0.000	0.118	0	02:44	0	1.5	-0.0
MH3_(19-608-STM)-S	JUNCTION	0.000	0.066	0	01:25	0	0.0813	0.0
MH4_(19-608-STM)	JUNCTION	0.000	0.119	0	02:44	0	1.51	0.0
MH4_(19-608-STM)-S	JUNCTION	0.000	0.061	0	01:25	0	0.0666	-0.2
MH5_(19-608-STM)	JUNCTION	0.000	0.119	0	02:44	0	1.52	-0.0
MH5_(19-608-STM)-S	JUNCTION	0.000	0.057	0	01:26	0	0.0545	0.3
MH6_(19-608-STM)	JUNCTION	0.000	0.178	0	01:26	0	1.83	-0.0
MH6_(19-608-STM)-S	JUNCTION	0.000	0.255	0	01:26	0	0.304	0.0
MH7_(19-608-STM)	JUNCTION	0.000	0.005	0	01:25	0	0.0225	0.0
MH7_(19-608-STM)-S	JUNCTION	0.052	0.144	0	01:25	0.0719	0.194	0.0
MH8_(19-608-STM)	JUNCTION	0.000	0.125	0	01:25	0	0.253	0.5
MH8_(19-608-STM)-S	JUNCTION	0.237	0.363	0	01:25	0.354	0.526	-0.0
MH9_(19-608-STM)	JUNCTION	0.000	0.144	0	01:25	0	0.288	-0.1
MH9_(19-608-STM)-S	JUNCTION	0.000	0.237	0	01:25	0	0.296	0.0
TANK-IN-1_(19-608-STM)-S	JUNCTION	0.000	0.000	0	00:00	0	0	
TANK-OUT_(19-608-STM)	JUNCTION	0.000	0.088	0	04:24	0	3.01	-0.
J9_COM	OUTFALL	0.627	1.476	0	01:35	2.76	9.83	0.0
FROG_POND	STORAGE	0.111	0.111	0	02:35	1.48	1.48	0.0
STM_TANK	STORAGE	0.000	0.658	0	01:28	0	3.02	-0.0

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Node Surcharge Summary
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Surcharging occurs when water rises above the top of the highest conduit.

Node	Type	Hours Surcharged	Max. Height Above Crown Meters	Min. Depth Below Rim Meters
EX_MH1	JUNCTION	0.09	0.422	1.993
EX_STM_MH5	JUNCTION	0.23	1.321	0.459
J-S1	JUNCTION	0.12	0.528	1.332
MH1_(19-608-STM)	JUNCTION	2.25	0.275	2.211
MH10_(19-608-STM)	JUNCTION	7.18	1.575	1.020
MH11_(19-608-STM)	JUNCTION	8.06	1.813	0.802
MH12_(19-608-STM)	JUNCTION	9.14	2.113	0.831
MH13_(19-608-STM)	JUNCTION	2.94	0.414	1.842
MH15_(19-608-STM)	JUNCTION	7.78	1.734	1.152
MH16_(19-608-STM)	JUNCTION	8.47	1.929	1.142
MH17_(19-608-STM)	JUNCTION	7.33	1.608	1.181
MH18_(19-608-STM)	JUNCTION	9.41	2.188	0.910
MH2_(19-608-STM)	JUNCTION	4.00	0.677	2.577
MH21_(19-608-STM)	JUNCTION	0.01	0.330	2.299
MH22_(19-608-STM)	JUNCTION	0.05	0.378	1.854
MH23_(19-608-STM)	JUNCTION	2.52	0.602	1.814
MH25_(19-608-STM)	JUNCTION	2.08	0.503	1.088
MH3_(19-608-STM)	JUNCTION	4.66	0.855	2.397
MH4_(19-608-STM)	JUNCTION	5.18	1.002	2.200
MH5_(19-608-STM)	JUNCTION	6.13	1.279	1.501
MH6_(19-608-STM)	JUNCTION	7.02	1.538	1.134
MH7_(19-608-STM)	JUNCTION	4.43	0.783	1.953
MH8_(19-608-STM)	JUNCTION	5.44	1.070	1.567
MH9_(19-608-STM)	JUNCTION	6.25	1.309	1.343
STM_TANK	STORAGE	9.84	2.304	1.656

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Node Flooding Summary
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No nodes were flooded.

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Storage Volume Summary
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Storage Unit	Average Volume 1000 m3	Avg Pcnt Full	Evap Pcnt Loss	Exfil Pcnt Loss	Maximum Volume 1000 m3	Max Pcnt Full	Time of Max Occurrence days hr:min	Maxi Outf
FROG_POND	0.112	61	0	0	0.147	79	0 02:39	0.
STM_TANK	0.613	27	0	0	1.509	66	0 04:24	0.

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Outfall Loading Summary
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Outfall Node	Flow Freq Pcnt	Avg Flow CMS	Max Flow CMS	Total Volume 10^6 ltr
J9_COM	99.99	0.192	1.476	9.829
System	99.99	0.192	1.476	9.829

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Link Flow Summary
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Link	Type	Maximum |Flow| CMS	Time of Max Occurrence days	hr:min	Maximum |Veloc| m/sec	Max/ Full Flow	Max/ Full Depth
C1	CONDUIT	0.082	0	01:27	1.23	0.23	0.44
C10	CHANNEL	0.000	0	00:00	0.00	0.00	0.20
C12	CONDUIT	0.415	0	01:24	2.61	0.39	1.00
C13	CONDUIT	0.657	0	01:26	1.72	0.80	1.00
C16	CHANNEL	0.099	0	01:25	0.57	0.02	0.20
C17	CONDUIT	0.303	0	01:29	2.02	0.70	0.83
C1-S	CHANNEL	0.249	0	01:26	0.67	0.02	0.16
C1-S7	CONDUIT	0.152	0	01:26	2.70	0.49	0.75
C2	CONDUIT	0.017	0	01:26	0.77	0.08	0.19
C2-S	CHANNEL	0.221	0	01:25	0.56	0.02	0.18
C3	CONDUIT	0.067	0	01:27	1.22	0.29	0.38
C3-S	CHANNEL	0.270	0	01:26	0.67	0.04	0.17
C4	CONDUIT	0.274	0	01:27	2.22	0.45	0.56
C4-S	CHANNEL	0.488	0	01:25	1.07	0.04	0.19
C5	CONDUIT	0.419	0	01:33	1.32	0.51	1.00
C5-S	CHANNEL	0.420	0	01:26	0.50	0.04	0.34
C6	CONDUIT	1.072	0	01:31	2.52	1.28	0.92
C6-S	CHANNEL	0.044	0	01:30	0.06	0.01	0.31
C7	CONDUIT	1.067	0	01:32	2.08	0.59	0.57
C7-S	CHANNEL	0.001	0	01:30	0.03	0.00	0.06
C8	CONDUIT	1.069	0	01:33	2.16	0.54	0.56
C9	CONDUIT	0.234	0	01:27	2.71	0.54	0.53
Pipe_-_(115)_(19-608-STM)	CONDUIT	0.110	0	02:35	1.96	0.23	1.00
Pipe_-_(62)_(19-608-STM)	CONDUIT	0.010	0	01:27	0.76	0.12	1.00
Pipe_-_(62)_(19-608-STM)-S	CHANNEL	0.069	0	01:25	0.43	0.02	0.19
Pipe_-_(63)_(19-608-STM)	CONDUIT	0.117	0	02:44	1.22	0.27	1.00
Pipe_-_(63)_(19-608-STM)-S	CHANNEL	0.066	0	01:25	0.54	0.01	0.16
Pipe_-_(64)_(19-608-STM)	CONDUIT	0.118	0	02:44	1.03	0.27	1.00
Pipe_-_(64)_(19-608-STM)-S	CHANNEL	0.061	0	01:25	0.67	0.01	0.14
Pipe_-_(65)_(19-608-STM)	CONDUIT	0.119	0	02:44	0.86	0.27	1.00
Pipe_-_(65)_(19-608-STM)-S	CHANNEL	0.057	0	01:26	0.67	0.01	0.14
Pipe_-_(66)_(1)_(19-608-STM)	CONDUIT	0.070	0	01:25	1.32	0.48	1.00
Pipe_-_(66)_(1)_(19-608-STM)-S	CHANNEL	0.067	0	01:25	0.24	0.04	0.25
Pipe_-_(67)_(19-608-STM)	CONDUIT	0.176	0	01:26	1.26	0.58	1.00
Pipe_-_(67)_(19-608-STM)-S	CHANNEL	0.157	0	01:27	0.45	0.03	0.35
Pipe_-_(69)_(19-608-STM)	CONDUIT	0.653	0	01:28	1.73	0.83	1.00
Pipe_-_(69)_(19-608-STM)-S	CHANNEL	0.025	0	01:27	0.08	0.01	0.37
Pipe_-_(70)_(19-608-STM)	CONDUIT	0.658	0	01:28	1.84	0.84	1.00
Pipe_-_(70)_(19-608-STM)-S	CHANNEL	0.000	0	00:00	0.00	0.00	0.12
Pipe_-_(71)_(19-608-STM)	CONDUIT	0.119	0	02:44	0.73	0.27	1.00
Pipe_-_(71)_(19-608-STM)-S	CHANNEL	0.049	0	01:27	0.37	0.01	0.17
Pipe_-_(72)_(19-608-STM)	CONDUIT	0.177	0	01:26	1.14	0.30	1.00
Pipe_-_(72)_(19-608-STM)-S	CHANNEL	0.247	0	01:26	0.85	0.02	0.25
Pipe_-_(73)_(1)_(19-608-STM)	CONDUIT	0.433	0	01:28	1.45	0.73	1.00
Pipe_-_(73)_(1)_(19-608-STM)-S	CHANNEL	0.082	0	01:33	0.11	0.07	0.53
Pipe_-_(73)_(19-608-STM)	CONDUIT	0.226	0	01:26	1.11	0.38	1.00
Pipe_-_(73)_(19-608-STM)-S	CHANNEL	0.286	0	01:26	0.56	0.07	0.42
Pipe_-_(74)_(19-608-STM)	CONDUIT	0.005	0	01:26	0.77	0.04	1.00
Pipe_-_(74)_(19-608-STM)-S	CHANNEL	0.134	0	01:25	0.51	0.02	0.24
Pipe_-_(75)_(1)_(19-608-STM)	CONDUIT	0.142	0	01:26	1.48	0.59	1.00
Pipe_-_(75)_(1)_(19-608-STM)-S	CHANNEL	0.213	0	01:26	0.80	0.05	0.24
Pipe_-_(75)_(19-608-STM)	CONDUIT	0.125	0	01:25	1.38	0.53	1.00
Pipe_-_(75)_(19-608-STM)-S	CHANNEL	0.237	0	01:25	0.66	0.06	0.29

Pipe_-_(76)_(19-608-STM)	CONDUIT	0.023	0	01:25	1.31	0.11	1.00	
Pipe_-_(76)_(19-608-STM)-S	CHANNEL	0.250	0	01:25	0.86	0.04	0.26	
Pipe_-_(77)_(19-608-STM)-S	CHANNEL	0.205	0	01:25	0.55	0.04	0.32	
Pipe_-_(78)_(19-608-STM)	CONDUIT	0.035	0	02:19	0.96	0.17	0.28	
Pipe_-_(79)_(19-608-STM)	CONDUIT	0.088	0	04:25	1.24	0.27	0.36	
Pipe_-_(80)_(19-608-STM)	CONDUIT	0.090	0	04:00	1.20	0.28	0.57	
Pipe_-_(80)_(19-608-STM)-S	CHANNEL	0.160	0	01:25	0.72	0.02	0.22	
Pipe_-_(81)_(19-608-STM)	CONDUIT	0.104	0	01:31	1.20	0.32	0.90	
Pipe_-_(81)_(19-608-STM)-S	CHANNEL	0.128	0	01:25	0.60	0.03	0.22	
Pipe_-_(82)_(19-608-STM)	CONDUIT	0.120	0	01:34	1.18	0.37	1.00	
Pipe_-_(82)_(19-608-STM)-S	CHANNEL	0.125	0	01:25	0.72	0.02	0.20	
Pipe_-_(83)_(19-608-STM)	CONDUIT	0.122	0	01:35	1.16	0.38	1.00	
Pipe_-_(85)_(19-608-STM)	CONDUIT	0.022	0	01:25	1.29	0.09	1.00	
Pipe_-_(85)_(19-608-STM)-S	CHANNEL	0.186	0	01:25	0.57	0.03	0.28	
Pipe_-_(86)_(19-608-STM)	CONDUIT	0.083	0	01:27	1.10	0.35	1.00	
Pipe_-_(86)_(19-608-STM)-S	CHANNEL	0.096	0	01:27	0.28	0.09	0.28	
STORAGE_PIPE	CONDUIT	0.146	0	01:29	0.20	0.02	0.96	
OR1	ORIFICE	0.088	0	04:24			1.00	
OR2	ORIFICE	0.035	0	02:19			1.00	
J-S1minor-IC	WEIR	0.252	0	01:26			0.97	
J-S7minor-IC	WEIR	0.139	0	01:26			0.28	
W4	WEIR	0.111	0	02:39			0.51	
J1_COM-IC	DUMMY	0.019	0	01:25				
J2_COM-IC	DUMMY	0.055	0	01:25				
J3_COM-IC	DUMMY	0.016	0	01:26				
J4_COM-IC	DUMMY	0.044	0	01:25				
J5_COM-IC	DUMMY	0.064	0	01:26				
J6_COM-IC	DUMMY	0.487	0	01:31				
J7_COM-IC	DUMMY	0.009	0	01:30				
J8_COM-IC	DUMMY	0.001	0	01:43				
MH1_(19-608-STM)-IC	DUMMY	0.010	0	01:25				
MH10_(19-608-STM)-IC	DUMMY	0.050	0	01:26				
MH11_(19-608-STM)-IC	DUMMY	0.265	0	01:31				
MH12_(19-608-STM)-IC	DUMMY	0.062	0	01:32				
MH13_(19-608-STM)-IC	DUMMY	0.022	0	01:25				
MH15_(19-608-STM)-IC	DUMMY	0.064	0	01:26				
MH16_(19-608-STM)-IC	DUMMY	0.030	0	01:27				
MH17_(19-608-STM)-IC	DUMMY	0.072	0	01:25				
MH18_(19-608-STM)-IC	DUMMY	0.011	0	01:32				
MH19_(19-608-STM)-IC	DUMMY	0.015	0	01:25				
MH2_(19-608-STM)-IC	DUMMY	0.014	0	01:25				
MH20_(19-608-STM)-IC	DUMMY	0.029	0	01:25				
MH21_(19-608-STM)-IC	DUMMY	0.002	0	01:25				
MH23_(19-608-STM)-IC	DUMMY	0.022	0	01:25				
MH24_(19-608-STM)-IC	DUMMY	0.026	0	01:25				
MH25_(19-608-STM)-IC	DUMMY	0.165	0	01:29				
MH3_(19-608-STM)-IC	DUMMY	0.004	0	01:25				
MH4_(19-608-STM)-IC	DUMMY	0.004	0	01:26				
MH5_(19-608-STM)-IC	DUMMY	0.004	0	01:27				
MH6_(19-608-STM)-IC	DUMMY	0.006	0	01:26				
MH7_(19-608-STM)-IC	DUMMY	0.005	0	01:25				
MH8_(19-608-STM)-IC	DUMMY	0.121	0	01:25				
MH9_(19-608-STM)-IC	DUMMY	0.019	0	01:25				
TANK-IN-1_(19-608-STM)-IC	DUMMY	0.000	0	00:00				

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Flow Classification Summary
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Conduit	Adjusted /Actual Length	Fraction of Time in Flow Class: Dry	Up Dry	Down Dry	Sub Crit	Sup Crit	Up Crit	Down Crit	Norm Ltd	Inlet Ctrl

C1	1.00	0.00	0.69	0.00	0.31	0.00	0.00	0.00	0.98	0.00
C10	1.00	0.01	0.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C12	1.00	0.00	0.00	0.00	0.99	0.00	0.00	0.00	0.00	1.00
C13	1.00	0.00	0.00	0.00	0.47	0.53	0.00	0.00	0.37	0.00
C16	1.00	0.48	0.07	0.00	0.42	0.04	0.00	0.00	0.18	0.00
C17	1.00	0.00	0.00	0.00	0.02	0.00	0.00	0.98	0.00	0.00
C1-S	1.00	0.00	0.00	0.00	0.98	0.02	0.00	0.00	1.00	0.00
C1-S7	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
C2	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
C2-S	1.00	0.00	0.00	0.00	0.99	0.01	0.00	0.00	0.98	0.00
C3	1.00	0.01	0.00	0.00	0.00	0.00	0.00	0.99	0.00	0.00
C3-S	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00
C4	1.00	0.00	0.00	0.00	0.53	0.47	0.00	0.00	0.99	0.00
C4-S	1.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00	0.01	0.00
C5	1.00	0.00	0.00	0.00	0.60	0.40	0.00	0.00	0.04	0.00
C5-S	1.00	0.00	0.08	0.00	0.92	0.00	0.00	0.00	1.00	0.00
C6	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
C6-S	1.00	0.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	0.00
C7	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
C7-S	1.00	0.00	0.86	0.00	0.14	0.00	0.00	0.00	0.90	0.00
C8	1.00	0.00	0.00	0.00	0.27	0.72	0.00	0.00	0.19	0.00
C9	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe_-_(115)_(19-608-STM)	1.00	0.10	0.00	0.00	0.27	0.02	0.00	0.61	0.00	0.00
Pipe_-_(62)_(19-608-STM)	1.00	0.00	0.00	0.00	0.27	0.00	0.00	0.73	0.06	0.00
Pipe_-_(62)_(19-608-STM)-S	1.00	0.33	0.02	0.00	0.60	0.05	0.00	0.00	0.04	0.00
Pipe_-_(63)_(19-608-STM)	1.00	0.00	0.00	0.00	0.37	0.00	0.00	0.62	0.02	0.00
Pipe_-_(63)_(19-608-STM)-S	1.00	0.35	0.00	0.00	0.55	0.10	0.00	0.00	0.00	0.00
Pipe_-_(64)_(19-608-STM)	1.00	0.00	0.00	0.00	0.41	0.00	0.00	0.58	0.01	0.00
Pipe_-_(64)_(19-608-STM)-S	1.00	0.70	0.00	0.00	0.04	0.26	0.00	0.00	0.01	0.00
Pipe_-_(65)_(19-608-STM)	1.00	0.00	0.00	0.00	0.49	0.00	0.00	0.51	0.04	0.00
Pipe_-_(65)_(19-608-STM)-S	1.00	0.74	0.00	0.00	0.02	0.24	0.00	0.00	0.02	0.00
Pipe_-_(66)_(1)_(19-608-STM)	1.00	0.00	0.00	0.00	0.56	0.01	0.00	0.43	0.06	0.00
Pipe_-_(66)_(1)_(19-608-STM)-S	1.00	0.38	0.01	0.00	0.61	0.00	0.00	0.00	0.07	0.00
Pipe_-_(67)_(19-608-STM)	1.00	0.00	0.00	0.00	0.62	0.00	0.00	0.38	0.03	0.00
Pipe_-_(67)_(19-608-STM)-S	1.00	0.58	0.04	0.00	0.36	0.03	0.00	0.00	0.13	0.00
Pipe_-_(69)_(19-608-STM)	1.00	0.00	0.00	0.00	0.66	0.00	0.00	0.34	0.02	0.00
Pipe_-_(69)_(19-608-STM)-S	1.00	0.64	0.29	0.00	0.07	0.00	0.00	0.00	0.93	0.00
Pipe_-_(70)_(19-608-STM)	1.00	0.00	0.00	0.00	0.68	0.00	0.00	0.32	0.01	0.00
Pipe_-_(70)_(19-608-STM)-S	1.00	0.93	0.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Pipe_-_(71)_(19-608-STM)	1.00	0.00	0.00	0.00	0.56	0.00	0.00	0.44	0.04	0.00
Pipe_-_(71)_(19-608-STM)-S	1.00	0.74	0.01	0.00	0.24	0.00	0.00	0.00	0.97	0.00
Pipe_-_(72)_(19-608-STM)	1.00	0.00	0.00	0.00	0.57	0.00	0.00	0.43	0.01	0.00
Pipe_-_(72)_(19-608-STM)-S	1.00	0.37	0.37	0.00	0.18	0.08	0.00	0.00	0.98	0.00
Pipe_-_(73)_(1)_(19-608-STM)	1.00	0.00	0.00	0.00	0.64	0.00	0.00	0.36	0.05	0.00
Pipe_-_(73)_(1)_(19-608-STM)-S	1.00	0.00	0.64	0.00	0.36	0.00	0.00	0.00	0.93	0.00
Pipe_-_(73)_(19-608-STM)	1.00	0.00	0.00	0.00	0.60	0.00	0.00	0.39	0.04	0.00
Pipe_-_(73)_(19-608-STM)-S	1.00	0.00	0.37	0.00	0.62	0.01	0.00	0.00	0.96	0.00
Pipe_-_(74)_(19-608-STM)	1.00	0.00	0.00	0.00	0.38	0.00	0.00	0.61	0.05	0.00
Pipe_-_(74)_(19-608-STM)-S	1.00	0.38	0.18	0.00	0.44	0.01	0.00	0.00	0.98	0.00
Pipe_-_(75)_(1)_(19-608-STM)	1.00	0.00	0.00	0.00	0.51	0.00	0.00	0.49	0.03	0.00
Pipe_-_(75)_(1)_(19-608-STM)-S	1.00	0.71	0.00	0.00	0.05	0.24	0.00	0.00	0.00	0.00
Pipe_-_(75)_(19-608-STM)	1.00	0.00	0.00	0.00	0.47	0.02	0.00	0.50	0.04	0.00
Pipe_-_(75)_(19-608-STM)-S	1.00	0.41	0.00	0.00	0.54	0.05	0.00	0.00	0.05	0.00
Pipe_-_(76)_(19-608-STM)	1.00	0.00	0.00	0.00	0.78	0.22	0.00	0.00	0.01	0.00
Pipe_-_(76)_(19-608-STM)-S	1.00	0.17	0.00	0.00	0.44	0.39	0.00	0.00	0.87	0.00
Pipe_-_(77)_(19-608-STM)-S	1.00	0.00	0.53	0.00	0.45	0.01	0.00	0.00	0.96	0.00
Pipe_-_(78)_(19-608-STM)	1.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.00	0.00
Pipe_-_(79)_(19-608-STM)	1.00	0.01	0.00	0.00	0.01	0.00	0.00	0.98	0.00	0.00
Pipe_-_(80)_(19-608-STM)	1.00	0.00	0.00	0.00	0.02	0.00	0.00	0.98	0.00	0.00
Pipe_-_(80)_(19-608-STM)-S	1.00	0.29	0.00	0.00	0.39	0.32	0.00	0.00	0.03	0.00
Pipe_-_(81)_(19-608-STM)	1.00	0.00	0.00	0.00	0.02	0.00	0.00	0.97	0.00	0.00
Pipe_-_(81)_(19-608-STM)-S	1.00	0.00	0.69	0.00	0.28	0.02	0.00	0.00	0.83	0.00
Pipe_-_(82)_(19-608-STM)	1.00	0.00	0.00	0.00	0.03	0.00	0.00	0.97	0.00	0.00

Pipe_-_(82)_(19-608-STM)-S	1.00	0.00	0.01	0.00	0.65	0.33	0.00	0.00	0.07	0.00	
Pipe_-_(83)_(19-608-STM)	1.00	0.00	0.00	0.00	0.03	0.00	0.00	0.97	0.00	0.00	
Pipe_-_(85)_(19-608-STM)	1.00	0.00	0.00	0.00	0.53	0.02	0.00	0.45	0.21	0.00	
Pipe_-_(85)_(19-608-STM)-S	1.00	0.24	0.00	0.00	0.74	0.02	0.00	0.00	0.96	0.00	
Pipe_-_(86)_(19-608-STM)	1.00	0.00	0.00	0.00	0.59	0.00	0.00	0.41	0.03	0.00	
Pipe_-_(86)_(19-608-STM)-S	1.00	0.51	0.02	0.00	0.46	0.00	0.00	0.00	0.02	0.00	
STORAGE_PIPE	1.00	0.00	0.00	0.00	0.44	0.00	0.00	0.56	0.14	0.00	

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Conduit Surcharge Summary
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Conduit	Hours Full: Both Ends	Hours Full: Upstream	Hours Full: Dnstream	Hours Above Full Normal Flow	Hours Capacity Limited
C12	0.04	0.06	0.25	0.01	0.01
C13	0.11	0.11	0.23	0.01	0.01
C17	0.01	0.01	0.09	0.01	0.01
C1-S7	0.01	2.01	0.01	0.01	0.01
C5	0.10	0.10	0.11	0.01	0.02
C6	0.01	0.23	0.01	0.25	0.01
Pipe_-_(115)_(19-608-STM)	3.66	3.66	4.00	0.01	0.01
Pipe_-_(62)_(19-608-STM)	2.25	2.25	4.00	0.01	0.01
Pipe_-_(63)_(19-608-STM)	4.00	4.00	4.66	0.01	0.01
Pipe_-_(64)_(19-608-STM)	4.96	4.96	5.18	0.01	0.01
Pipe_-_(65)_(19-608-STM)	5.35	5.35	6.13	0.01	0.01
Pipe_-_(66)_(1)_(19-608-STM)	7.33	7.33	8.47	0.01	0.01
Pipe_-_(67)_(19-608-STM)	8.47	8.47	9.14	0.01	0.01
Pipe_-_(69)_(19-608-STM)	9.14	9.14	9.41	0.01	0.01
Pipe_-_(70)_(19-608-STM)	9.70	9.71	9.84	0.01	0.07
Pipe_-_(71)_(19-608-STM)	6.40	6.40	7.02	0.01	0.01
Pipe_-_(72)_(19-608-STM)	7.02	7.02	7.18	0.01	0.01
Pipe_-_(73)_(1)_(19-608-STM)	8.14	8.14	9.14	0.01	0.01
Pipe_-_(73)_(19-608-STM)	7.25	7.25	8.06	0.01	0.01
Pipe_-_(74)_(19-608-STM)	4.43	4.43	5.44	0.01	0.01
Pipe_-_(75)_(1)_(19-608-STM)	6.31	6.31	7.02	0.01	0.01
Pipe_-_(75)_(19-608-STM)	5.44	5.44	6.25	0.01	0.01
Pipe_-_(76)_(19-608-STM)	2.52	2.52	2.71	0.01	0.01
Pipe_-_(81)_(19-608-STM)	0.01	0.01	0.01	0.01	0.01
Pipe_-_(82)_(19-608-STM)	0.02	0.02	0.05	0.01	0.01
Pipe_-_(83)_(19-608-STM)	0.08	0.08	0.10	0.01	0.01
Pipe_-_(85)_(19-608-STM)	2.94	2.94	7.78	0.01	0.01
Pipe_-_(86)_(19-608-STM)	7.78	7.78	8.47	0.01	0.01
STORAGE_PIPE	0.01	0.01	2.08	0.01	0.01

Analysis begun on: Fri May 15 16:08:05 2020
Analysis ended on: Fri May 15 16:08:08 2020
Total elapsed time: 00:00:03

PROPOSED MINOR SYSTEM FLOW SUMMARY

2yr										
Name	Invert Elev. (m)	Rim Elev. (m)	Depth (m)	Max. Depth (m)	Max. HGL (m)	Max. Total Inflow (m^3/s)	Min. Freeboard (m)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4	187.61	190.81	3.2	0.16	187.77	0.118	3.04	4.703	1.493	0.025
EX_MH1	185.47	188.64	3.17	0.3	185.77	0.185	2.87	15.758	4.318	0.012
EX_STM_MH5	184.77	187.3	2.53	0.38	185.15	0.397	2.15	17.674	4.722	0.022

5yr										
Name	Invert Elev. (m)	Rim Elev. (m)	Depth (m)	Max. Depth (m)	Max. HGL (m)	Max. Total Inflow (m^3/s)	Min. Freeboard (m)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4	187.61	190.81	3.2	0.18	187.79	0.157	3.02	4.703	1.493	0.033
EX_MH1	185.47	188.64	3.17	0.35	185.82	0.233	2.82	15.758	4.318	0.015
EX_STM_MH5	184.77	187.3	2.53	0.47	185.24	0.556	2.06	17.674	4.722	0.031

10yr										
Name	Invert Elev. (m)	Rim Elev. (m)	Depth (m)	Max. Depth (m)	Max. HGL (m)	Max. Total Inflow (m^3/s)	Min. Freeboard (m)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4	187.61	190.81	3.2	0.2	187.81	0.193	3	4.703	1.493	0.041
EX_MH1	185.47	188.64	3.17	0.4	185.87	0.286	2.77	15.758	4.318	0.018
EX_STM_MH5	184.77	187.3	2.53	0.58	185.35	0.725	1.95	17.674	4.722	0.041

25yr										
Name	Invert Elev. (m)	Rim Elev. (m)	Depth (m)	Max. Depth (m)	Max. HGL (m)	Max. Total Inflow (m^3/s)	Min. Freeboard (m)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4	187.61	190.81	3.2	0.22	187.83	0.226	2.98	4.703	1.493	0.048
EX_MH1	185.47	188.64	3.17	0.44	185.91	0.331	2.73	15.758	4.318	0.021
EX_STM_MH5	184.77	187.3	2.53	0.71	185.48	0.861	1.82	17.674	4.722	0.049

50yr										
Name	Invert Elev. (m)	Rim Elev. (m)	Depth (m)	Max. Depth (m)	Max. HGL (m)	Max. Total Inflow (m^3/s)	Min. Freeboard (m)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4	187.61	190.81	3.2	0.24	187.85	0.256	2.96	4.703	1.493	0.054
EX_MH1	185.47	188.64	3.17	0.55	186.02	0.375	2.62	15.758	4.318	0.024
EX_STM_MH5	184.77	187.3	2.53	1.97	186.74	0.976	0.565	17.674	4.722	0.055
100yr										
Name	Invert Elev. (m)	Rim Elev. (m)	Depth (m)	Max. Depth (m)	Max. HGL (m)	Max. Total Inflow (m^3/s)	Min. Freeboard (m)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4	187.61	190.81	3.2	0.25	187.86	0.274	2.95	4.703	1.493	0.058
EX_MH1	185.47	188.64	3.17	1.18	186.65	0.421	1.993	15.758	4.318	0.027
EX_STM_MH5	184.77	187.3	2.53	2.07	186.84	1.071	0.459	17.674	4.722	0.061

PROPOSED MINOR SYSTEM FLOW SUMMARY

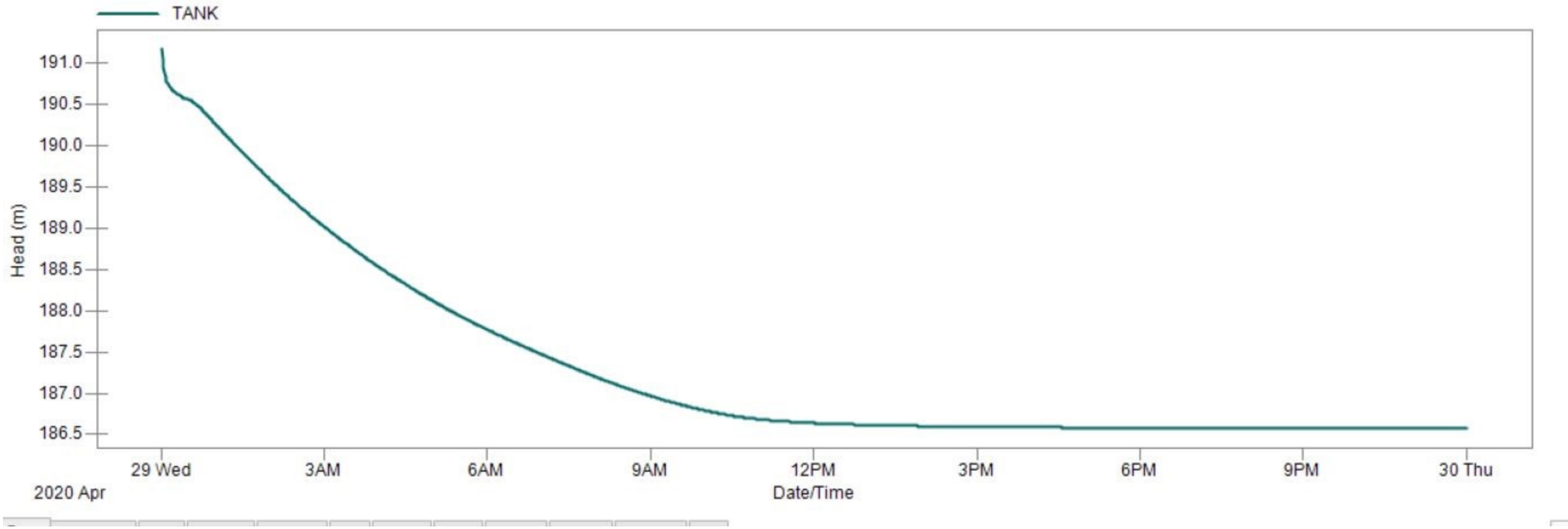
2yr										
Name	Invert Elev. (m)	Rim Elev. (m)	Depth (m)	Max. Depth (m)	Max. HGL (m)	Max. Total Inflow (m^3/s)	Min. Freeboard (m)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4	187.61	190.81	3.2	0.16	187.77	0.118	3.04	4.703	1.493	0.025
EX_MH1	185.47	188.64	3.17	0.3	185.77	0.185	2.87	15.758	4.318	0.012
EX_STM_MH5	184.77	187.3	2.53	0.38	185.15	0.397	2.15	17.674	4.722	0.022

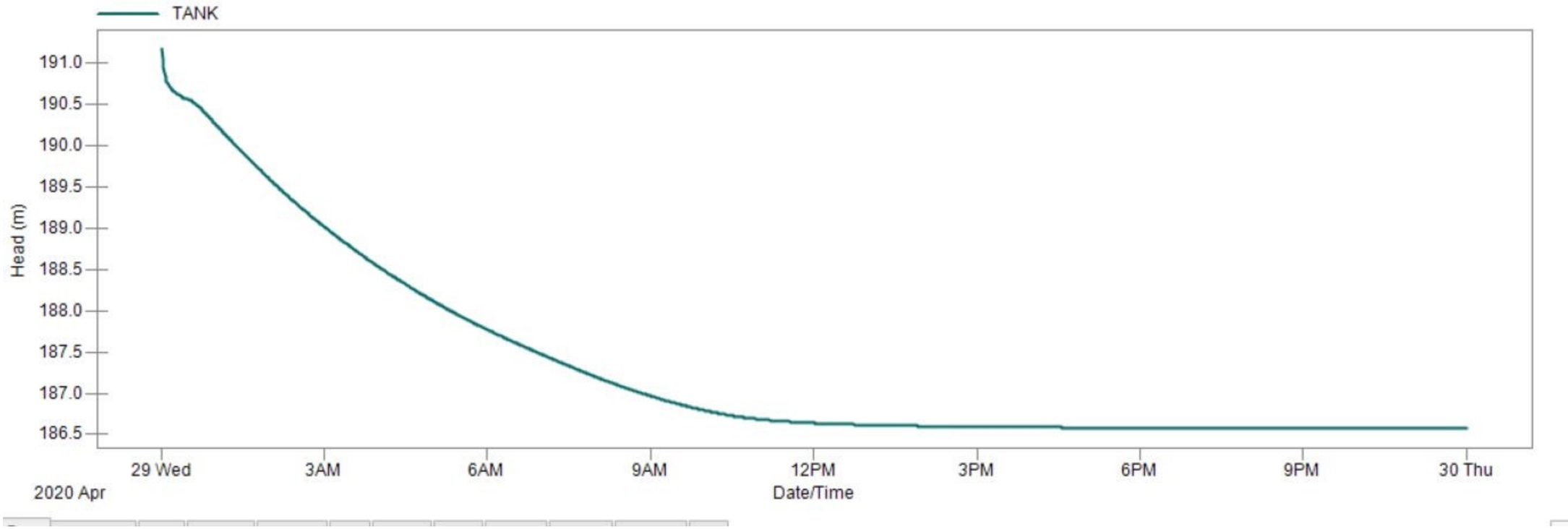
5yr										
Name	Invert Elev. (m)	Rim Elev. (m)	Depth (m)	Max. Depth (m)	Max. HGL (m)	Max. Total Inflow (m^3/s)	Min. Freeboard (m)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4	187.61	190.81	3.2	0.18	187.79	0.157	3.02	4.703	1.493	0.033
EX_MH1	185.47	188.64	3.17	0.35	185.82	0.233	2.82	15.758	4.318	0.015
EX_STM_MH5	184.77	187.3	2.53	0.47	185.24	0.556	2.06	17.674	4.722	0.031

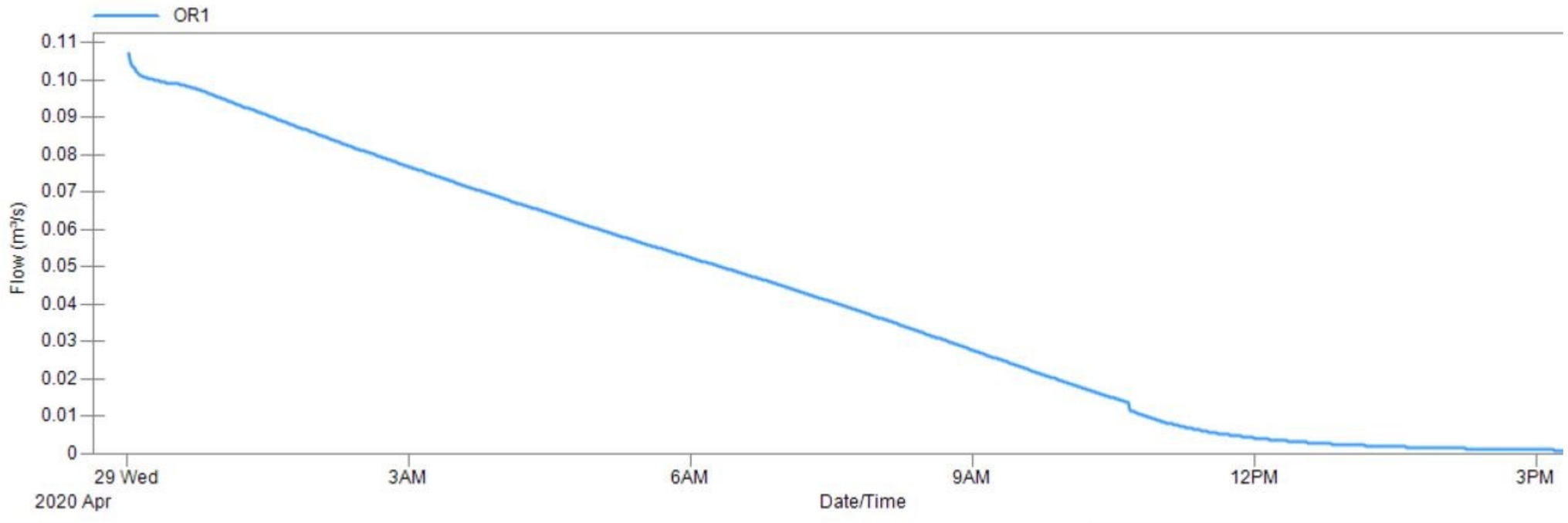
10yr										
Name	Invert Elev. (m)	Rim Elev. (m)	Depth (m)	Max. Depth (m)	Max. HGL (m)	Max. Total Inflow (m^3/s)	Min. Freeboard (m)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4	187.61	190.81	3.2	0.2	187.81	0.193	3	4.703	1.493	0.041
EX_MH1	185.47	188.64	3.17	0.4	185.87	0.286	2.77	15.758	4.318	0.018
EX_STM_MH5	184.77	187.3	2.53	0.58	185.35	0.725	1.95	17.674	4.722	0.041

25yr										
Name	Invert Elev. (m)	Rim Elev. (m)	Depth (m)	Max. Depth (m)	Max. HGL (m)	Max. Total Inflow (m^3/s)	Min. Freeboard (m)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4	187.61	190.81	3.2	0.22	187.83	0.226	2.98	4.703	1.493	0.048
EX_MH1	185.47	188.64	3.17	0.44	185.91	0.331	2.73	15.758	4.318	0.021
EX_STM_MH5	184.77	187.3	2.53	0.71	185.48	0.861	1.82	17.674	4.722	0.049

50yr										
Name	Invert Elev. (m)	Rim Elev. (m)	Depth (m)	Max. Depth (m)	Max. HGL (m)	Max. Total Inflow (m^3/s)	Min. Freeboard (m)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4	187.61	190.81	3.2	0.24	187.85	0.256	2.96	4.703	1.493	0.054
EX_MH1	185.47	188.64	3.17	0.55	186.02	0.375	2.62	15.758	4.318	0.024
EX_STM_MH5	184.77	187.3	2.53	1.97	186.74	0.976	0.565	17.674	4.722	0.055
100yr										
Name	Invert Elev. (m)	Rim Elev. (m)	Depth (m)	Max. Depth (m)	Max. HGL (m)	Max. Total Inflow (m^3/s)	Min. Freeboard (m)	Contributing Area (ha)	Contributing Imp. Area (ha)	Max. Unit Flow ($m^3/s/ha$)
EX_STM_MH4	187.61	190.81	3.2	0.25	187.86	0.274	2.95	4.703	1.493	0.058
EX_MH1	185.47	188.64	3.17	1.18	186.65	0.421	1.993	15.758	4.318	0.027
EX_STM_MH5	184.77	187.3	2.53	2.07	186.84	1.071	0.459	17.674	4.722	0.061


TANK
191.0
190.5
190.0
189.5
189.0
188.5
188.0
187.5
187.0
186.5
Head (m)
29 Wed
3AM
6AM
9AM
12PM
3PM
6PM
9PM
30 Thu
2020 Apr
Date/Time


TANK
191.0
190.5
190.0
189.5
189.0
188.5
188.0
187.5
187.0
186.5
Head (m)
29 Wed
3AM
6AM
9AM
12PM
3PM
6PM
9PM
30 Thu
2020 Apr
Date/Time


OR1
0.11
0.10
0.09
0.08
0.07
0.06
0.05
0.04
0.03
0.02
0.01
0
Flow (m³/s)
29 Wed
2020 Apr
3AM
6AM
9AM
12PM
3PM
Date/Time

APPENDIX B

DRAWINGS

- Drawing 1 – Site Grading
- Drawing 2 – Grading Cross Sections
- Drawing 2A – Grading Cross Sections
- Drawing 3 – Site Servicing
- Drawing 4 – ROW Cross Sections
- Drawing 5A – Existing Storm Drainage
- Drawing 5 – Storm Drainage
- Drawing 6 – Sanitary Drainage

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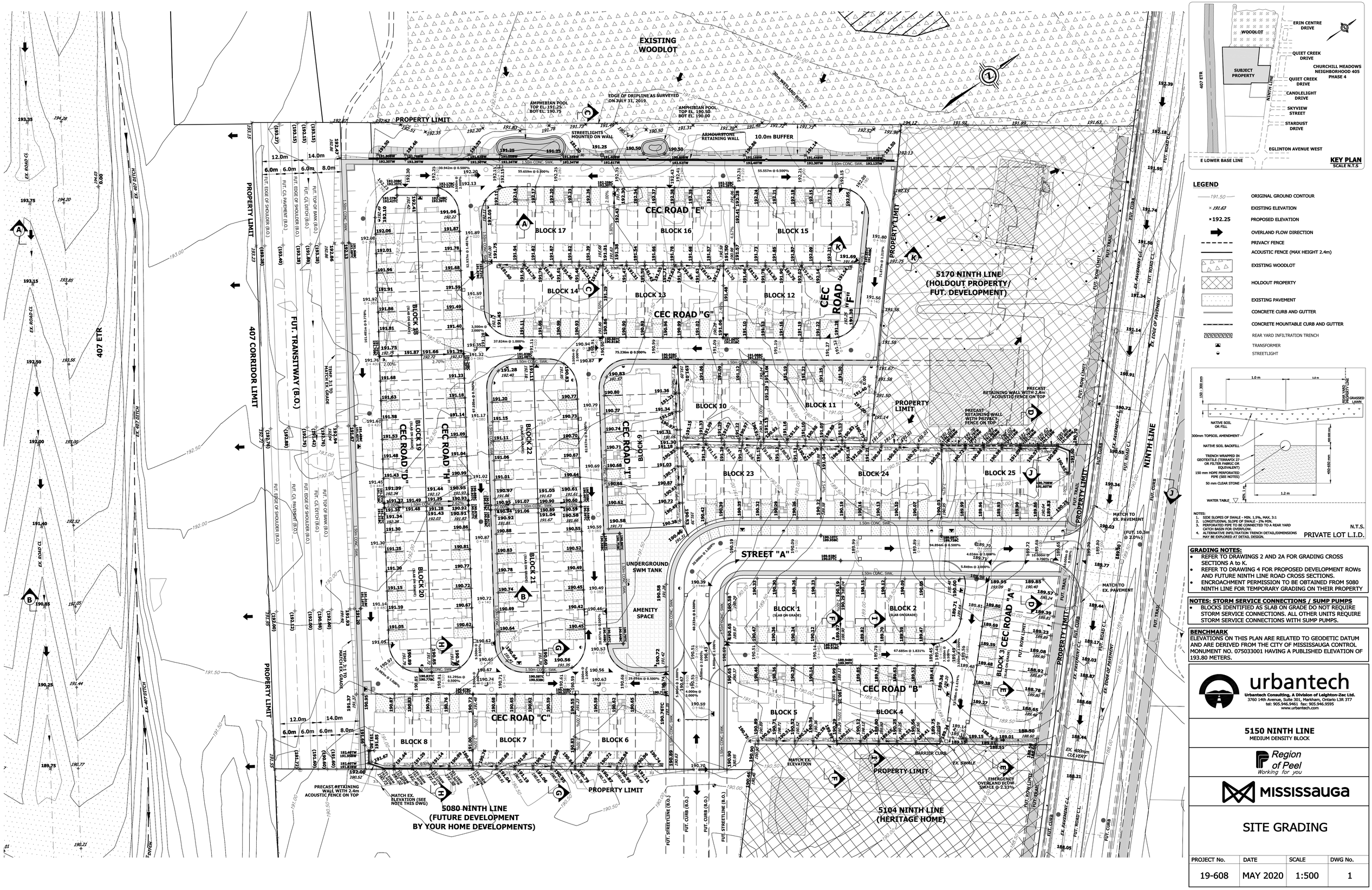

LEGEND

- 191.50 — ORIGINAL GROUND CONTOUR
- ×191.67 — EXISTING ELEVATION
- ×192.25 — PROPOSED ELEVATION
- OVERLAND FLOW DIRECTION
- PRIVACY FENCE
- ACOUSTIC FENCE (MAX HEIGHT 2.4m)
- EXISTING WOODLOT
- HOLDOUT PROPERTY
- EXISTING PAVEMENT
- CONCRETE CURB AND GUTTER
- CONCRETE MOUNTABLE CURB AND GUTTER
- REAR YARD INFILTRATION TRENCH
- TRANSFORMER
- STREETLIGHT

NOTES:
1. SIDE SLOPES OF SWALE - MIN. 1.5%, MAX. 3:1
2. LONGITUDINAL SLOPE OF SWALE - 2% MIN.
3. PERFORATED PIPE TO BE CONNECTED TO A REAR YARD CATCH BASIN FOR OVERFLOW.
4. ALTERNATIVE INFILTRATION TRENCH DETAIL/DIMENSIONS MAY BE EXPLORED AT DETAIL DESIGN.

N.T.S.

PRIVATE LOT L.I.D.

GRADING NOTES:
- REFER TO DRAWINGS 2 AND 2A FOR GRADING CROSS SECTIONS A to K.
- REFER TO DRAWING 4 FOR PROPOSED DEVELOPMENT ROWs AND FUTURE NINTH LINE ROAD CROSS SECTIONS.
- ENCROACHMENT PERMISSION TO BE OBTAINED FROM 5080 NINTH LINE FOR TEMPORARY GRADING ON THEIR PROPERTY

NOTES: STORM SERVICE CONNECTIONS / SUMP PUMPS
- BLOCKS IDENTIFIED AS SLAB ON GRADE DO NOT REQUIRE STORM SERVICE CONNECTIONS. ALL OTHER UNITS REQUIRE STORM SERVICE CONNECTIONS WITH SUMP PUMPS.

BENCHMARK
ELEVATIONS ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE CITY OF MISSISSAUGA CONTROL MONUMENT NO. 075033001 HAVING A PUBLISHED ELEVATION OF 193.80 METERS.

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5150 NINTH LINE
MEDIUM DENSITY BLOCK

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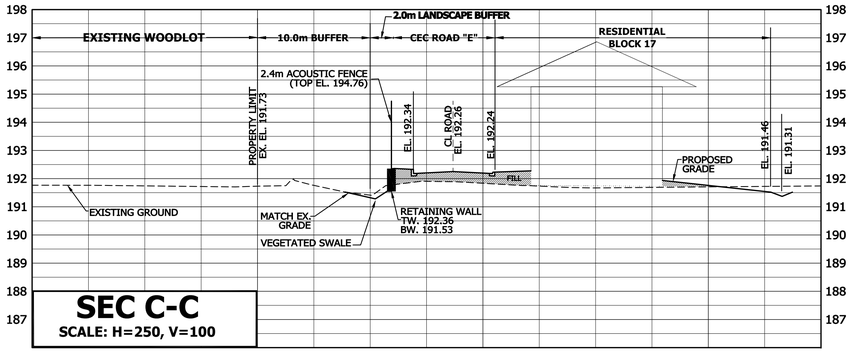
MISSISSAUGA

SITE GRADING

PROJECT No.	DATE	SCALE	DWG No.
19-608	MAY 2020	1:500	1



SEC C-C
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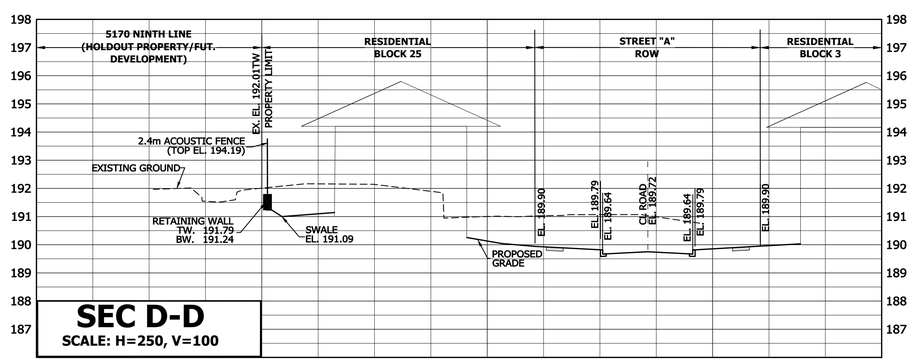

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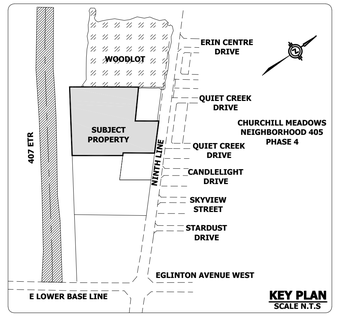
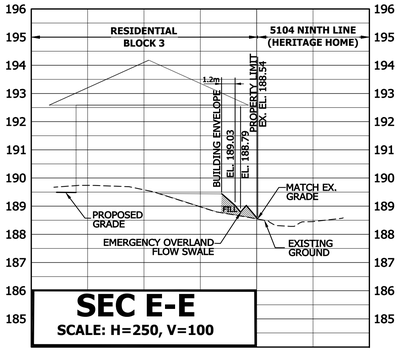


KEY PLAN
SCALE N.T.S



SEC E-E
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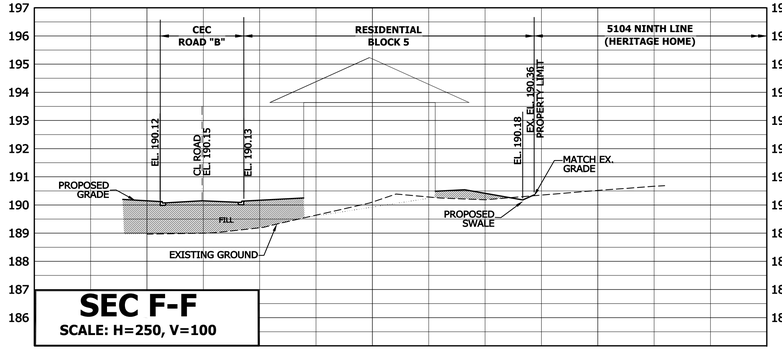

SEC F-F
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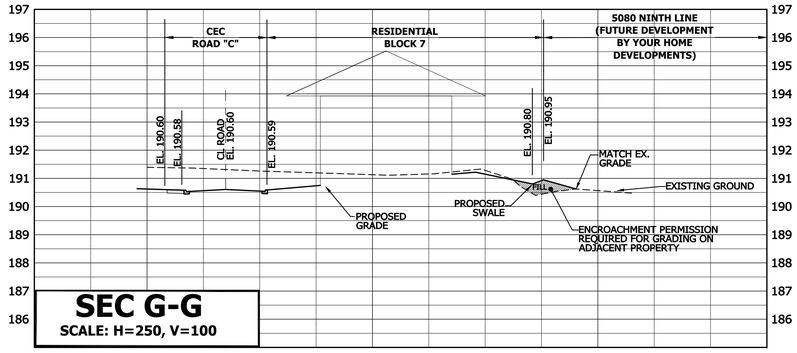

SEC G-G
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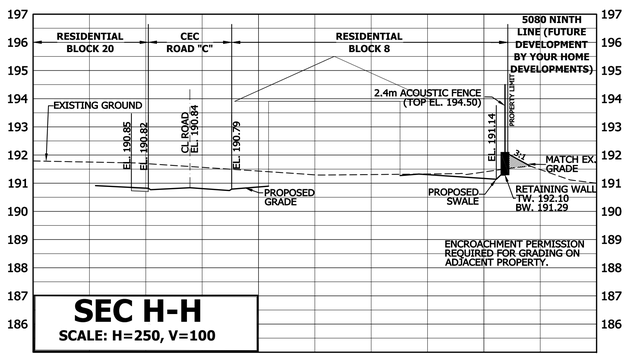

SEC H-H
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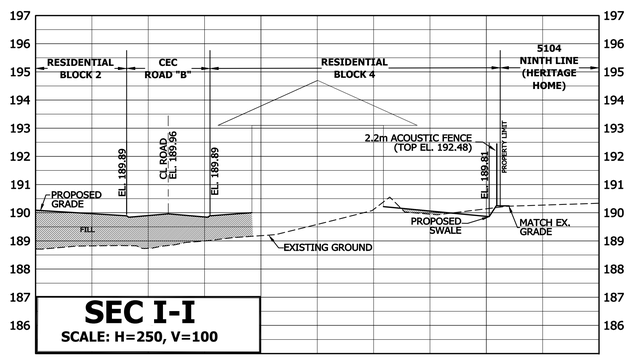

SEC I-I
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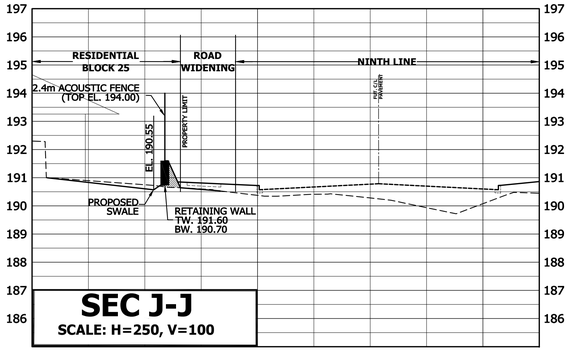

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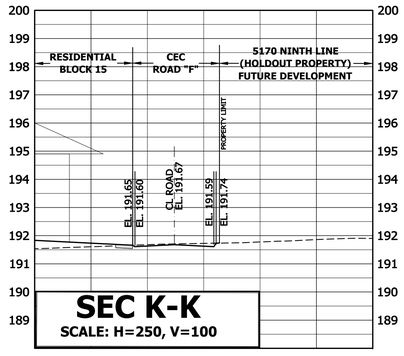

SEC K-K
SCALE: H=250, V=100

NOTES:

* REFER TO DRAWING 1 FOR LOCATIONS OF CROSS SECTIONS

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MEDIUM DENSITY BLOCK

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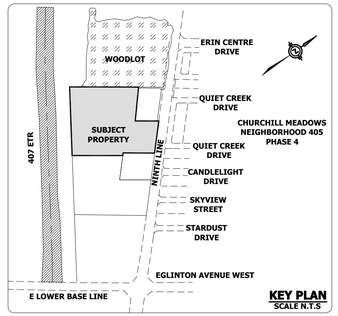
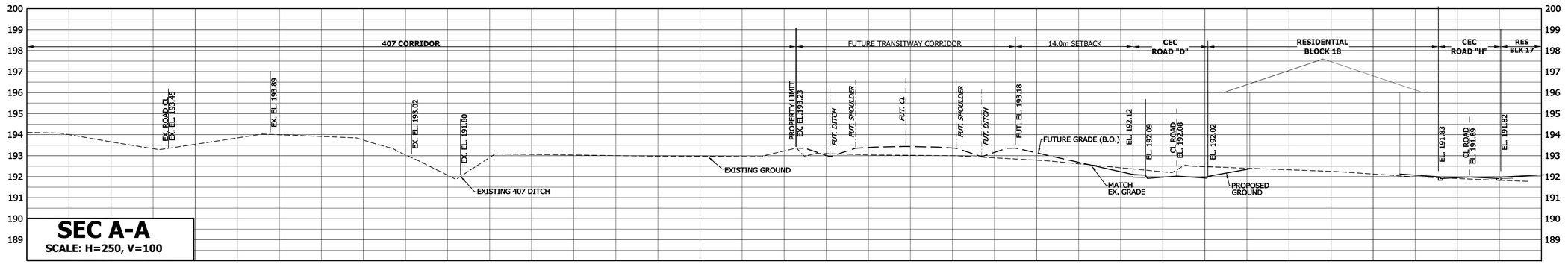
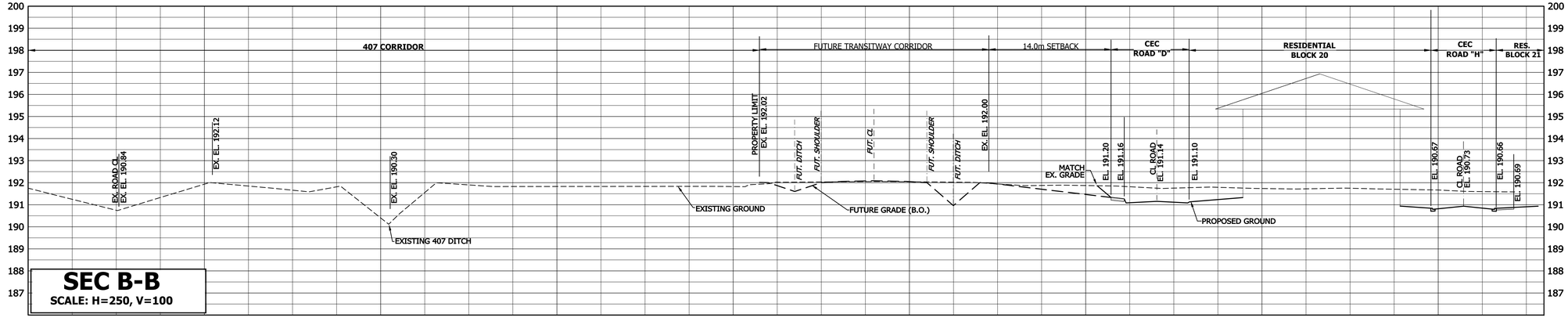
GRADING SECTIONS C-C TO K-K

PROJECT No.	DATE	SCALE	DWG No.
19-608	MAY 2020	AS SHOWN	2A







NOTES:

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GRADING SECTIONS A-A AND B-B

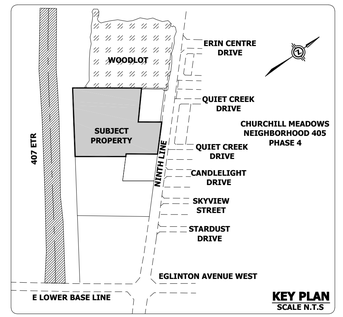
PROJECT No.	DATE	SCALE	DWG No.
19-608	MAY 2020	AS SHOWN	2

SANITARY STRUCTURE TABLE

MH	T/G	INVERTS
MH 0T	187.30	NW185.61
MH 1A	192.10	SW188.21
MH 1T	187.63	NW185.38 SE185.41
MH 2A	192.33	NE187.84 SW187.81
MH 2T	187.66	SE185.18 NW185.15
MH 3A	192.22	NE187.41 SE187.32
MH 3T	0.00	SE184.81 NW184.76
MH 4A	192.03	NW187.26 SE187.23
MH 4T	188.20	NE184.27 SE184.33
MH 5A	191.34	NW186.99 SE186.96 NE187.24
MH 5T	187.74	SW184.22 NW184.16
MH 6A	190.91	NW186.68 SE186.65
MH 6T	189.71	SW184.73 NW183.81 SE183.84
MH 7A	190.96	NW186.38 NE186.29 SW186.32
MH 7T	191.80	SE183.36 NW183.33
MH 8A	192.08	SE188.91
MH 8T	192.73	SE182.88 NW182.85
MH 9A	191.76	NW187.95 SE187.92
MH 9T	192.88	SE182.78
MH 10A	187.66	NW186.59 NE186.50
MH 11A	190.62	NW186.11 NE186.08 NW186.17
MH 12A	191.37	SW187.53
MH 13A	190.94	NE186.87 SE186.78 SW186.87
MH 14A	190.84	NW186.74 SE186.71
MH 15A	190.61	NW186.47 SE186.44
MH 16A	190.73	SW185.97 NE185.94
MH 17A	190.53	SW185.85 NW185.76
MH 18A	190.29	SE185.58 N185.55
MH 19A	190.19	S185.48 NE185.45
MH 20A	189.77	SW185.03 NE185.00 SE185.41
MH 21A	190.56	NE187.04
MH 22A	189.57	SE185.71 NW185.68 SW185.77
MH 23A	189.30	NW186.01
MH 24A	189.97	SE185.56 NW185.53
MH126	191.17	NE187.12 SW187.09

STORM STRUCTURE TABLE

MH	T/G	INVERTS
45° BEND	188.02	S187.43 NE187.38
DICB	191.25	SE188.79
EX. MH 1	188.47	SW185.70
MH1	192.03	SW189.24
MH2	192.39	NE188.84 SW188.54 NW188.69
MH3	192.20	NE188.35 SE188.26
MH4	189.14	NW188.20 SE188.15
MH5	191.29	NW187.91 NE187.83
MH6	190.92	SW187.64 SE187.57 NE187.79
MH7	191.74	SE188.70
MH8	191.35	NW188.41 SW188.26
MH9	191.13	NE188.02 SW188.00
MH10	190.80	NW187.53 SE187.51
MH11	190.58	NW187.29 SE187.27
MH12	190.60	SW187.13 NE186.91 NW186.98
MH13	189.09	SE188.98
MH15	188.96	NW187.66 NE187.58
MH16	190.91	NW187.46 NE187.31 SW187.39
MH17	190.95	SE187.79
MH18	190.68	SW186.83 NW186.75
MH19	189.45	SW186.18 SE186.12
MH20	189.15	NW186.02 NE185.96
MH21	188.45	SW185.86 N185.83
MH22	188.53	S185.77 NE185.74
MH23	190.35	N187.49
MH25	189.62	SW186.83 NE186.80
MH26	189.68	SW186.70
TANK-IN-1	N/A	SE186.71
TANK-OUT	N/A	NE186.56

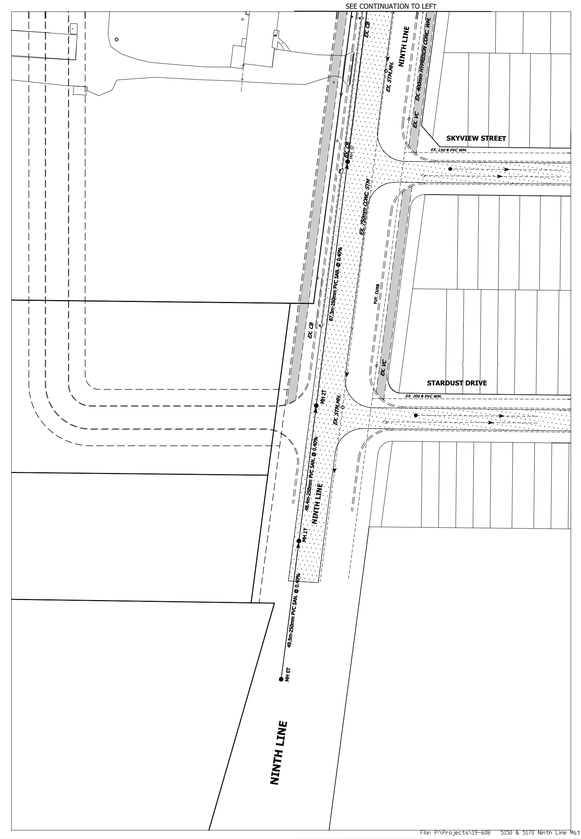


KEY PLAN
SCALE N.T.S

LEGEND

- HOLDOUT PROPERTY
- WOODLOT
- PROPOSED STORM SEWER AND MANHOLE
- PROPOSED SANITARY SEWER AND MANHOLE
- EXISTING STORM SEWER AND MANHOLE
- EXISTING SANITARY SEWER AND MANHOLE
- REAR YARD INFILTRATION TRENCH
- SINGLE CATCHBASIN
- DOUBLE CATCHBASIN
- HYDRANT & VALVE
- VALVE AND BOX
- CHECK VALVE IN CHAMBER
- TRANSFORMER
- STREETLIGHT
- BELL PEDESTAL
- GLB — BELL GRADE-LEVEL BOX
- BC — BELL CSP
- RC — ROGERS CSP
- ROGERS PEDESTAL
- HPED — EX. HYDRO PEDESTAL
- HW — EX. HANDWELL
- GLC — EX. GROUND LEVEL CHAMBER
- HP — EX. HYDRO POLE
- LS — EX. LIGHT STANDARD
- TL — EX. TRAFFIC LIGHT
- WV — EX. WATER VALVE
- WMH — EX. WATER MANHOLE

MATCHLINE
SEE CONTINUATION TO LEFT



UNDERGROUND STORMWATER TANK

- TOTAL STORAGE VOLUME = 2290m³
- TANK AREA = 835m²
- TANK HEIGHT = 2.75m (MINIMUM COVER =1.2m)
- INVERT IN = 186.71m
- INVERT OUT = 186.56m
- OUTLET ORIFICE: DIA = 150mm, INV. 186.56m

NOTES: STORM SERVICE CONNECTIONS / SUMP PUMPS

- BLOCKS IDENTIFIED AS SLAB ON GRADE DO NOT REQUIRE STORM SERVICE CONNECTIONS. ALL OTHER UNITS REQUIRE STORM SERVICE CONNECTIONS WITH SUMP PUMPS.

BENCHMARK

ELEVATIONS ON THIS PLAN ARE RELATED TO GEODETIC DATUM AND ARE DERIVED FROM THE CITY OF MISSISSAUGA CONTROL MONUMENT NO. 075033001 HAVING A PUBLISHED ELEVATION OF 193.80 METERS.

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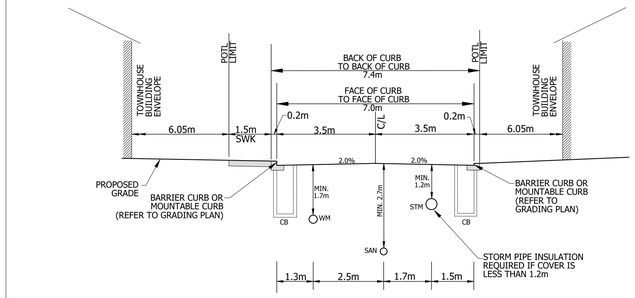
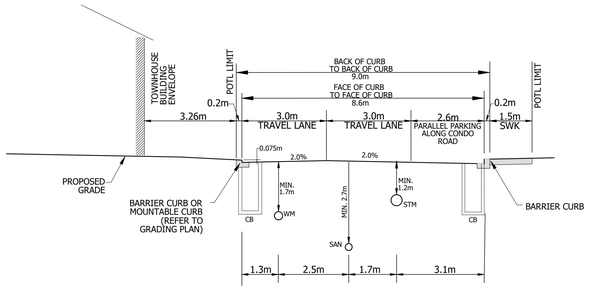
SITE SERVICING

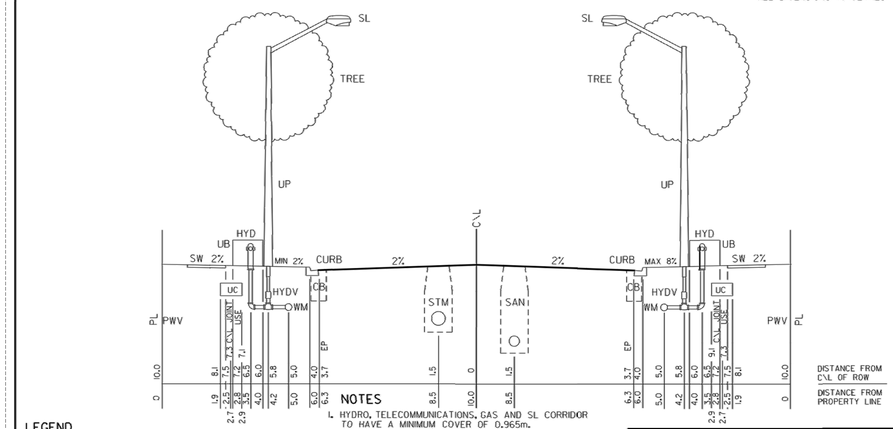
PROJECT No.	DATE	SCALE	DWG No.
19-608	MAY 2020	1:1000	3



TYPICAL 7.0m PAVEMENT ROAD CROSS SECTION



TYPICAL PRIVATE LANEWAY CROSS SECTION (WITH ON STREET PARKING)



LEGEND

EP - EDGE OF PAVEMENT
CB - CATCH BASIN
CURB - CURB OR CURB AND GUTTER
C/L - CENTRELINE
GAS - GAS MAIN
HYD - FIRE HYDRANT
HYDV - FIRE HYDRANT VALVE
PWV - PRIVATE WATER VALVE
PL - PROPERTY LINE
SL - STREETLIGHT
SW - SIDEWALK
SAN - SANITARY SEWER
STM - STORM SEWER
UB - UTILITY BOX (HYDRO,TELECOMMUNICATIONS)
UC - UTILITY CORRIDOR (HYDRO,TELECOMM,GAS,SL)
UP - UTILITY POLE
WM - WATERMAIN

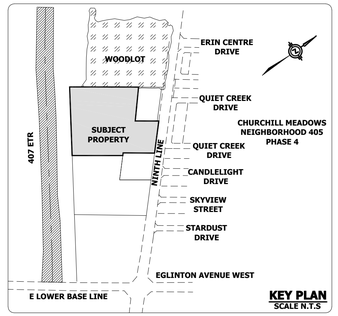
NOTES

1. HYDRO, TELECOMMUNICATIONS, GAS AND SL CORRIDOR TO HAVE A MINIMUM COVER OF 0.965m.
2. WATERMAIN TO HAVE A MINIMUM COVER OF 1.7m.
3. IF UTILITIES CANNOT BE INSTALLED ACCORDING TO THIS STANDARD THEY ARE TO BE INSTALLED AS CLOSE AS POSSIBLE TO THE PRESCRIBED LOCATION SUBJECT TO THE APPROVAL OF THE TRANSPORTATION AND WORKS DEPARTMENT OF THE CITY OF MISSISSAUGA.
4. A 0.4m - 0.6m CLEARANCE MUST BE MAINTAINED BETWEEN CABLES AND HYDRANTS.
5. A 0.3m CLEARANCE MUST BE MAINTAINED BETWEEN WATERMAINS AND UTILITY POLES.
6. ROAD WIDTH IS MEASURED FROM FACE OF CURB TO FACE OF CURB AS DEFINED ON OPSD STD. 600.040 CURB & GUTTER. PAVEMENT WIDTH IS MEASURED FROM EDGE OF PAVEMENT (EP) TO EDGE OF PAVEMENT (EP).
7. FOR LOCATION OF GAS MAIN WITHIN UTILITY CORRIDOR REFER TO STD. 22M.280

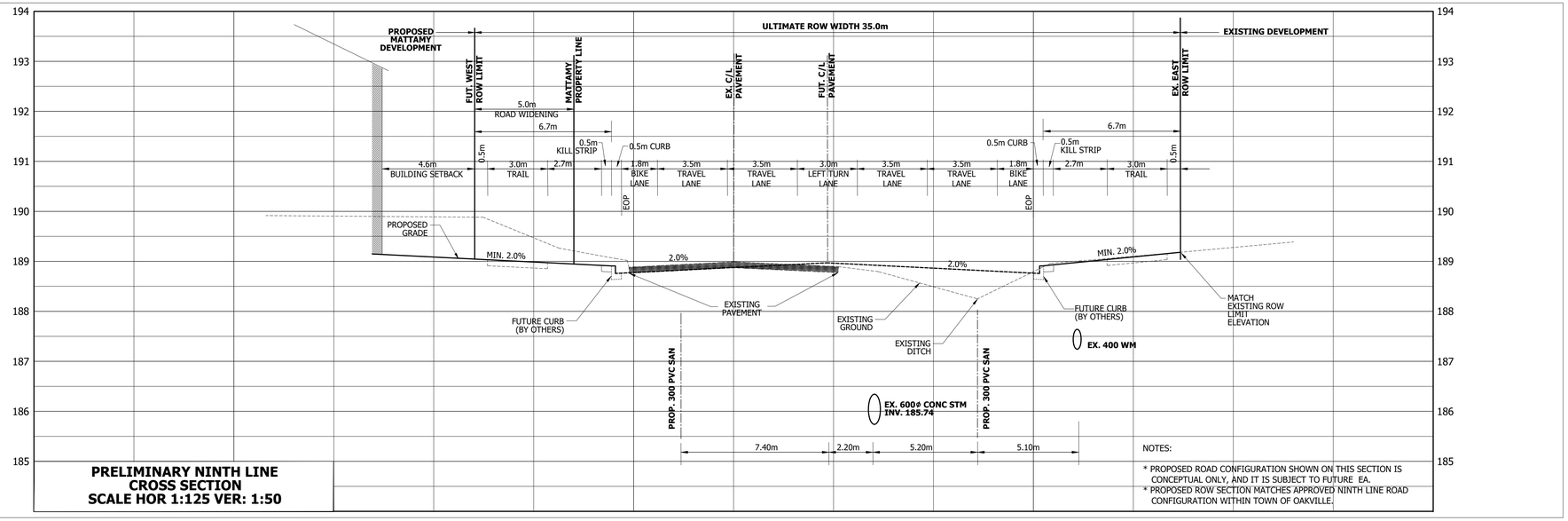
MISSISSAUGA

STANDARD LOCAL RESIDENTIAL ROAD 8.0m ROAD ON 20m ROW

EFF. DATE	2002-01-01	SCALE	N.T.S.
REV. 7	2015-06-05	STANDARD No.	22M.070



KEY PLAN
SCALE N.T.S



PRELIMINARY NINTH LINE CROSS SECTION SCALE HOR 1:125 VER: 1:50

NOTES:

* PROPOSED ROAD CONFIGURATION SHOWN ON THIS SECTION IS CONCEPTUAL ONLY, AND IT IS SUBJECT TO FUTURE EA.
* PROPOSED ROW SECTION MATCHES APPROVED NINTH LINE ROAD CONFIGURATION WITHIN TOWN OF OAKVILLE.

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5150 NINTH LINE
MEDIUM DENSITY BLOCK

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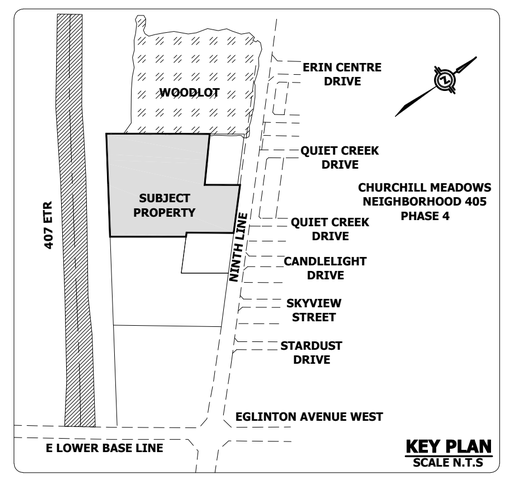
ROW CROSS SECTIONS

PROJECT No.	DATE	SCALE	DWG No.
19-608	MAY 2020	1:100	4



LEGEND

- PHASE 2 DEVELOPMENT (SUBJECT TO MTO TRANSITWAY CORRIDOR EA)
- HOLDOUT PROPERTY
- WOODLOT
- 247.00 EXISTING GROUND CONTOUR AND ELEVATION
- PROPOSED STORM SEWER AND MANHOLE
- EXISTING STORM SEWER AND MANHOLE
- SINGLE/REARLOT CATCHBASIN
- DOUBLE CATCHBASIN
- 0.75Ha / 0.50 DRAINAGE AREA (ha) FOR MINOR SYSTEM (10 YEAR) FLOW / RUNOFF COEFFICIENT
- MINOR SYSTEM DRAINAGE AREA BOUNDARY
- PUBLIC ROW MINOR SYSTEM DRAINAGE AREA BOUNDARY
- EXISTING DRAINAGE AREA BOUNDARY
- OVERLAND FLOW ROUTE
- REAR YARD INFILTRATION TRENCH

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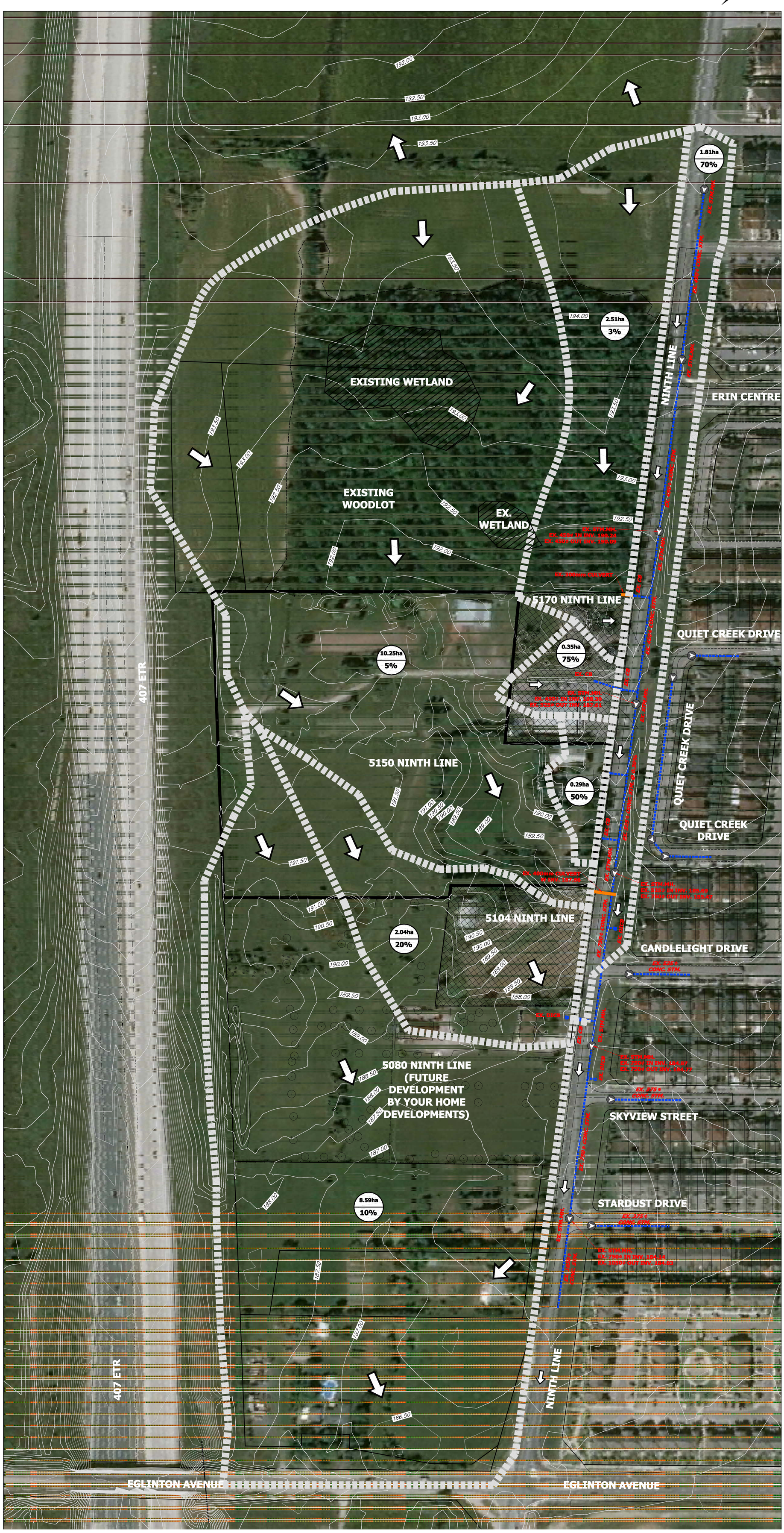
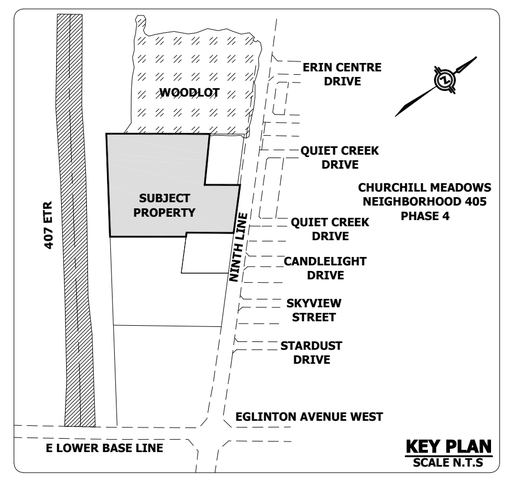
STORM DRAINAGE PLAN

PROJECT No.	DATE	SCALE	DWG No.
19-608	OCT. 2019	1:1000	5





LEGEND

- SUBJECT PROPERTY
- NON-PARTICIPATING LAND OWNERS
- WETLAND
- 256.00 — EXISTING CONTOUR
- 2.50ha / 50% — DRAINAGE AREA (ha) / IMPERVIOUSNESS
- EXISTING STORM SEWER AND MANHOLE
- EXISTING OVERLAND FLOW DIRECTION
- EXISTING DRAINAGE BOUNDARY

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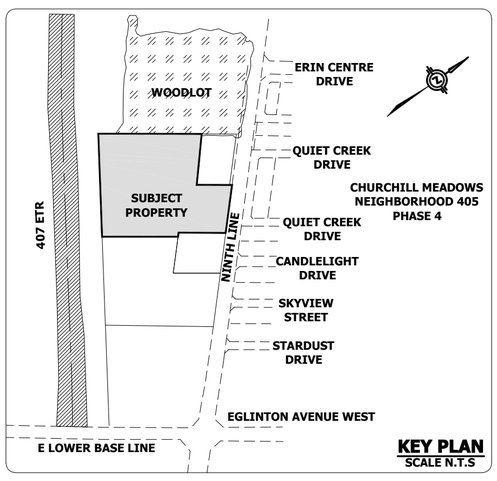
EXISTING STORM DRAINAGE

PROJECT No.	DATE	SCALE	DWG No.
19-608	OCT. 2019	1:1250	5A

File: P:\Projects\19-608 5150 & 5170 Ninth Line Mattamy\Reports\FSR\Drawings & Figures\DWG 5A_Existing Storm Drainage.dwg - Revised by <SRIEMER> : Thu, Oct 24 2019 - 11:54am

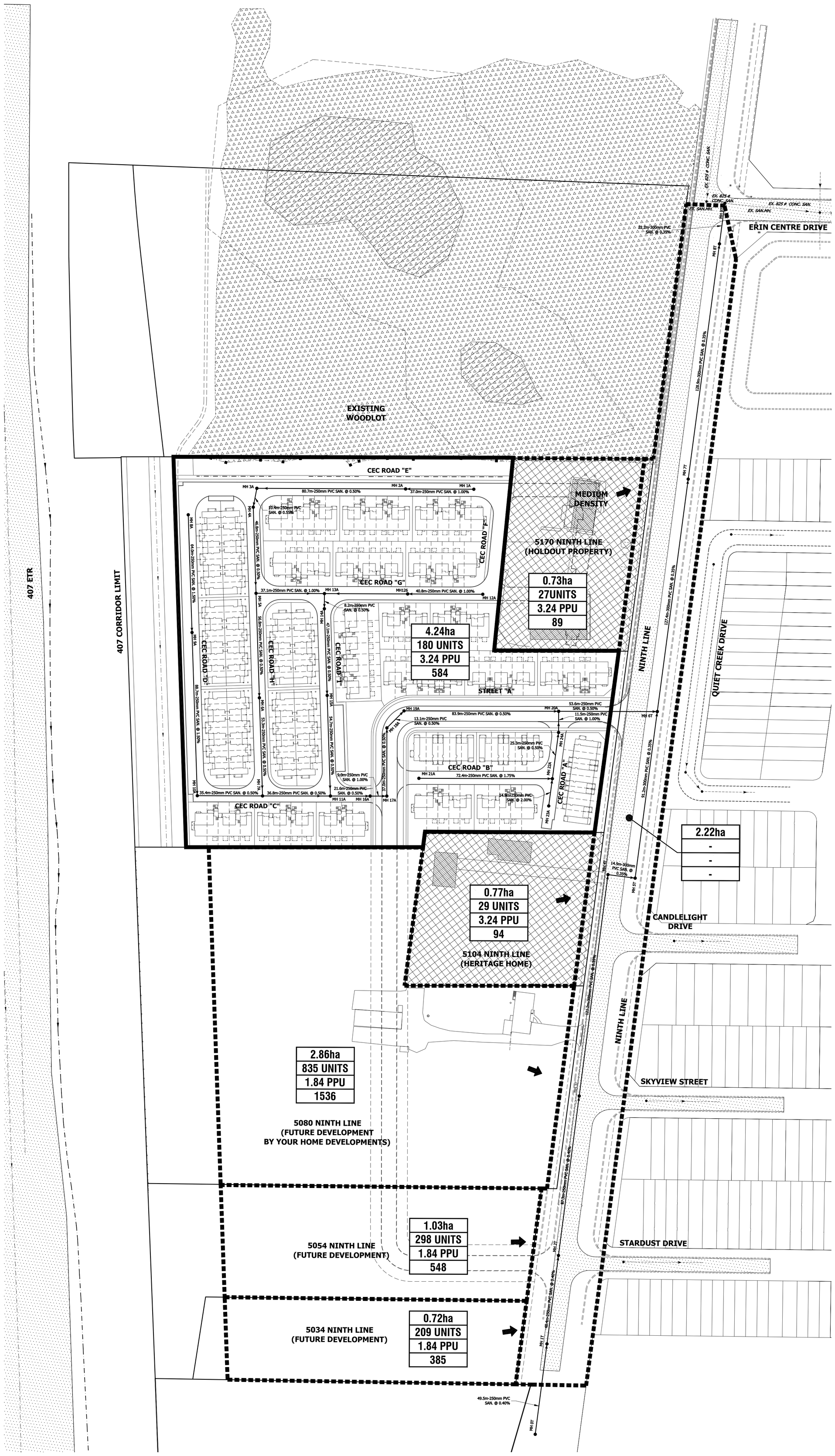


KEY PLAN
SCALE N.T.S

LEGEND

- PHASE 2 DEVELOPMENT (SUBJECT TO MTO TRANSITWAY CORRIDOR EA)
- HOLDOUT PROPERTY
- WOODLOT
- FUTURE SANITARY DRAINAGE DIRECTION
- SANITARY MANHOLE AND FLOW DIRECTION ARROW
- EXISTING SANITARY SEWER
- SANITARY DRAINAGE AREA BOUNDARY
- EXTERNAL SANITARY DRAINAGE AREA BOUNDARY

0.73ha	SANITARY DRAINAGE AREA (HECTARES)
27UNITS	NUMBER OF PROPOSED UNITS
3.24 PPU	DENSITY (PEOPLE PER UNIT)
89	POPULATION



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SANITARY DRAINAGE PLAN

PROJECT No.	DATE	SCALE	DWG No.
19-608	OCT. 2019	1:1000	6

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