City of Saratoga Springs

Storm Drain Capital Facilities Plan

Project No. 305-17-04

Prepared by:

BOWEN COLLINS & ASSOCIATES
Celebrating 20 Years

June 2018

Saratoga Springs Storm Drain Impact Fee Facilities Plan

Prepared for:

CITY OF

SARATOGA SPRINGS

Prepared by:

BOWEN COLLINS & ASSOCIATES

Celebrating 20 Years

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June 2018

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Figure Reference Note: Some figure numbers are appended with an A, B, C, etc. These denote varying map extents when the entire City cannot be shown on a single page. Text references generally only refer to the main figure number without the appended A, B, C, etc. For example, the in-text reference "See Figure 6-1" refers simultaneously to Figures 6-1A, 6-1B, and 6-1C.

CHAPTER 1
INTRODUCTION AND BACKGROUND

INTRODUCTION

The City of Saratoga Springs has retained Bowen Collins & Associates (BC&A) to prepare a master plan for the City's storm drain collection system. The primary purpose of this Storm Drain Facilities Plan is to provide recommended improvements to resolve existing and projected future deficiencies in the City of Saratoga Springs storm drain collection system based on the City's adopted General Plan. This report will also serve as a starting point for an Impact Fee Facilities Plan in accordance with the new requirements of State law.

SCOPE OF SERVICES

The general scope of this project involved a thorough analysis of City of Saratoga Spring's storm drain system and its ability to meet the present and future storm drain needs of its residents. As part of this project, BC&A completed the following tasks:

Task 1.1: Collected and reviewed existing information pertinent to the City's storm drain system.

Task 1.2: Updated the City's storm drain computer model utilizing the Autodesk Storm and Sanitary Analysis computer program and used it to analyze the system for deficiencies and predict the effectiveness of planned projects (See Task 1.3) to resolve deficiencies identified and accommodate the needs of future development.

Task 1.3: Performed system analyses to identify the most cost effective improvements that will resolve the deficiencies identified in Task 1.2.

Task 1.4: Updated the documented existing facilities in the Impact Fee Facilities Plan (separate document) using data provided by the City.

Task 1.5: Developed a Capital Facilities Plan that can be used by City Personnel for budgeting and planning purposes.

Task 1.6: Prepared for and attended progress meetings to coordinate the plans with City personnel.

- September 25, 2017
- September 26, 2017
- November 30, 2017

Task 1.7: Prepared a Capital Facilities Plan (CFP) report (this document) to summarize the results of the study.

Task 1.8: Coordinated with the City to obtain and address comments from stakeholders and affected entities (received following the open house held 5/22/18) prior to final adoption of the plans.

Task 2.1: Developed an Impact Fee Facilities Plan (IFFP) based on data obtained and produced in the development of the CFP. This IFFP is based on a subset of recommended projects identified in the CFP eligible for impact fees within the next 10 years in accordance with state law.

Task 2.2: Assessed surplus capacity available in existing facilities based on actual costs and in accordance with state law.

Task 2.3: Documented the results of Tasks 2.1 and 2.2 and provided a written certification of the IFFP in accordance with the requirements of Utah Code 11-36a.

Task 3.1: Conducted an Impact Fee Analysis (IFA) based on the data obtained and produced in the development of the IFFP. Historic costs have been included to calculate a buy-in fee for existing infrastructure and future costs will be used for the Impact Fee Facilities Plans projects. Coordination with City personnel, and support to the City for interfacing with stakeholders is included in Task 1.8.

This document is a working document. Some of the recommended improvements identified in this report are based on the assumption that development and/or potential annexation will occur in a certain manner. If future growth or development patterns change significantly from those assumed and documented in this report, the recommendations may need to be revised.

AUTHORIZATION

Saratoga Springs contracted the services of BC&A to prepare this Storm Drain Capital Facilities Plan on May 30, 2017. The initial draft CFP and the associated report were completed October 2017. The final plan was completed in June 2018.

PROJECT STAFF

The project work was performed by the BC&A team members listed below. Team member's roles on the project are also listed. The project was completed in BC&A's Draper, Utah office. Questions may be addressed to Keith Larson, Project Manager at (801) 495-2224.

Keith Larson	Project Manager
Justin Dietrich	Staff Engineer

RELATED PUBLICATIONS

This CFP is designed to work in conjunction with other Saratoga Springs publications related to storm drain infrastructure in their combined ability to provide insight and direction to City personnel and other interested parties. The following is a list of publications especially relevant to storm drain infrastructure within the City.

Saratoga Springs Impact Fee Facilities Plan. This document is being created in conjunction with this CFP and it identifies demands placed upon City facilities by future development and evaluates how these demands will be met by the City. Draft versions of the new impact fee facilities plan (as well as the 2015 version) is available by link at the City's website at http://www.saratogaspringscity.com/298/Capital-Facilities-Plans-Impact-Fees. This is also the webpage at which the final versions are planned to be published.

Saratoga Springs Impact Fee Analysis. This document is being created in conjunction with this CFP and it calculates the maximum impact fees that may be assessed to new development in accordance with the Impact Fee Act (Utah Code 11-36a-101 et seq). Draft versions of the new impact fee facilities plan (as well as the 2015 version) is available by link at the City's website at http://www.saratogaspringscity.com/298/Capital-Facilities-Plans-Impact-Fees. This is also the webpage at which the final versions are planned to be published.

Technical Specifications and Drawings for City of Saratoga Springs Utah. This document contains design and construction standard information for storm drain infrastructure. As of the writing of this CFP, the latest edition is the August 30, 2017 edition. This document is currently available by link at the City's website at http://www.saratogaspringscity.com/266/Standards-Specifications.

Saratoga Springs Storm Drainage Hydrology Guidelines. This document is currently in draft form. When it is published, it will contain supplemental clarification and direction for hydrologic evaluations of areas within or upstream of the City.

City of Saratoga Springs Storm Water Management Program Plan (2014). This document describes various aspects of the City's Storm Water Management Program, which purpose is to limit the discharge of pollutants from Saratoga Springs' storm drain system. This includes information regarding Phase II MS4 storm water regulations. This document is currently available by link at the City's website at http://www.saratogaspringscity.com/352/Storm-Water.

CHAPTER 2
EXISTING SYSTEM DESCRIPTION

SERVICE AREA

The City of Saratoga Springs, which first incorporated in 1997, is bounded to the west by the Lake Mountain and Eagle Mountain City and to the east and northeast by Utah Lake and Lehi City. Figure 2-1 shows the approximate planning extent of Saratoga Springs along with the City's major collection system components. The topography of the majority of the City slopes west to east toward either Utah Lake or the Jordan River. For the purposes of this report, it has been assumed that the future service area of the City's storm drain system will be limited to the annexation boundaries of the City.

STORM DRAINAGE PIPES

Table 2-1 lists the recorded length of pipes in the City's collection system as documented in the City's GIS database as of October 2017.

Table 2-1
Saratoga Springs Storm Drain Pipe Lengths

Diameter (in)	Length (ft)	Length (mi)
12	22,836	4.32
15	117,624	22.28
18	73,759	13.97
24	58,675	11.11
30	19,796	3.75
36	9,757	1.85
42	29	0.01
48	9,053	1.71
54	4,780	0.91
60	150	0.03
72	0	0.00
84	239	0.05
96	0	0.00
118	178	0.03
Total	**316,876**	**60.02**

DETENTION BASINS

There are approximately 76 detention facilities in the existing storm drain system according the City's GIS database. The primary purpose of the detention facilities is to capture and store peak storm water flows during large precipitation events. The storm water is then slowly released

downstream at more manageable flow rates. Table 2-2 lists the existing detention basins in Saratoga Springs.

Each detention basin has been given a designation as either a regional or a local facility. BC&A staff analyzed the existing system and consulted with City personnel to identify 25 detention basins that function as regional facilities. These are improvements that benefit large areas of the City, which areas typically include multiple developments. The remaining detention basins have been identified as local facilities and are project-specific improvements that serve much smaller areas such as a single development or portion of development. Table 2-2 provides available data for local facilities. Table 2-3 provides available and estimated data for regional facilities.

Those facilities that have been identified as regional facilities are an important part of the City's overall storm water conveyance strategy and have been included in the computer model that is being used to analyze the system. For these detention facilities, Saratoga Springs personnel provided outlet size, orifice size (where applicable) and a Digital Elevation Model (DEM) of the detention basin. BC&A staff developed stage-storage curves from the DEM's to estimate the maximum storage capacity. Those detention basins that function as local facilities are project specific improvements and as such were not included in the computer model.

Table 2-2
Local Detention Basins

Facility ID from City Database	Infrastructure Owner	Surface Improvements Owner	Address	Location Description	Location
413	City	City	332 W Landview Dr	-	40d 19' 55.85'' N 111d 54' 28.12'' W
419	City	Unlisted	Village Pkwy/Village Court Rd	-	40d 18' 34.90'' N 111d 53' 43.31'' W
435	Boyer	Boyer	689 N Redwood Rd	-	40d 22' 29.08'' N 111d 55' 03.86'' W
436	Murphys	Murphys	1534 N Commerce Dr	Back lot	40d 23' 27.62'' N 111d 54' 57.33'' W
437	Auto Zone	Auto Zone	1536 N Redwood Rd	Lot	40d 23' 24.52'' N 111d 54' 57.32'' W
438	Unlisted	Unlisted	Unlisted	-	40d 23' 19.23'' N 111d 55' 00.78'' W
439	CFT Development	CFT Development	1413 N Redwood Rd	Strip front Panda	40d 23' 18.88'' N 111d 55' 00.70'' W
440	Unlisted	Unlisted	Unlisted	-	40d 23' 18.88'' N 111d 55' 00.63'' W
441	Unlisted	Unlisted	Unlisted	-	40d 23' 18.61'' N 111d 55' 00.56'' W
442	Unlisted	Unlisted	Unlisted	-	40d 23' 19.06'' N 111d 55' 00.58'' W
443	Unlisted	Unlisted	Unlisted	-	40d 23' 19.06'' N 111d 55' 00.52'' W
444	Unlisted	Unlisted	Unlisted	-	40d 23' 18.57'' N 111d 55' 00.49'' W
445	Cyprus C.U.	Cyprus C.U.	74 W Crossroads Blvd	Front Strip	40d 23' 15.71'' N 111d 55' 04.79'' W
455	BRP - Sparks (tractor)	BRP - Sparks (tractor)	1303 N Exchange Dr	-	40d 23' 07.14'' N 111d 55' 22.75'' W
456	Seargeant Ct	Seargeant Ct	Condor Rd	SE Bend	40d 23' 28.95'' N 111d 55' 05.13'' W
457	Unlisted	Unlisted	Pavillion Cr	Behind houses	40d 21' 01.48'' N 111d 54' 25.67'' W
533	Church	Church	49 W Tanner Ln	-	40d 20' 26.70'' N 111d 54' 59.50'' W
4114	City	Saratoga Hills HOA	Redwood Rd/Grandview Blvd	SE Corner	40d 20' 15.63'' N 111d 54' 58.27'' W
4115	City	Unlisted	Gardenview Ct/Grandview Blvd	NE Corner	40d 20' 10.66'' N 111d 55' 06.77'' W
4116	City	Saratoga Hills HOA	Hiiside Dr/Parkside Dr	N Corner	40d 20' 21.53'' N 111d 55' 18.15'' W
4117	City	City	756 N Devonshire Dr	-	40d 22' 32.46'' N 111d 54' 42.63'' W

Facility ID from City Database	Infrastructure Owner	Surface Improvements Owner	Address	Location Description	Location
4118	Riverbend Condos	Riverbend Condos	River Bend Rd	-	40d 22' 59.39'' N 111d 54' 41.52'' W
4122	Church	Church	587 S Saratoga Dr	Front	40d 21' 06.92'' N 111d 54' 12.19'' W
4123	City	Unlisted	2211 E Lakeview Dr	Shoreline Park	40d 21' 39.83'' N 111d 51' 47.27'' W
4124	Loch Lomond HOA	Loch Lomond HOA	Hawthorne St	NW	40d 21' 50.68'' N 111d 51' 56.67'' W
4125	Loch Lomond HOA	Loch Lomond HOA	Hawthorne St	NW	40d 21' 47.56'' N 111d 51' 56.81'' W
4126	Gables	Gables	Venetian Way	-	40d 23' 18.82'' N 111d 54' 35.69'' W
4127	JDH town center	JDH town center	87 E Commerce Dr	Behind McDonald's	40d 23' 17.48'' N 111d 54' 48.04'' W
4135	Unlisted	Lake View Terrace HOA	Redwoord Rd/Lake View Terrace Rd	-	40d 19' 59.31'' N 111d 54' 47.40'' W
4137	City	HOA	Shorewood Dr/Cottage Cv	NW	40d 19' 12.49'' N 111d 53' 40.31'' W
4138	City	HOA	Shorewood Dr/Cottage Cv	SW	40d 19' 11.29'' N 111d 53' 39.02'' W
4139	City	HOA	Shorewood Dr/Lakewood	-	40d 19' 08.25'' N 111d 53' 38.85'' W
4141	Church	Church	2101 N Providence Dr	S of parking lot	40d 23' 52.69'' N 111d 56' 01.04'' W
4142	Unlisted	Unlisted	Unlisted	-	40d 19' 57.67'' N 111d 55' 27.58'' W
4143	City	City	Prividence Dr	S of parking lot	40d 23' 59.32'' N 111d 55' 58.81'' W
4146	Summer Village	Summer Village	Sunshine Dr/Summer Village Rd	-	40d 23' 19.05'' N 111d 54' 42.35'' W
4147	Gables	Gables	Venetian Way	-	40d 23' 22.44'' N 111d 54' 44.71'' W
4148	JDH town center	JDH town center	87 E Commerc Dr	Behind Del Taco	40d 23' 17.54'' N 111d 54' 51.01'' W
4149	Town storage	Town storage	2148 N Stagecoach Dr	Behind storage	40d 24' 05.40'' N 111d 54' 56.35'' W

Facility ID from City Database	Infrastructure Owner	Surface Improvements Owner	Address	Location Description	Location
4151	Jordan River condos	Jordan River condos	Jordan Cove Ln	Behind lots	40d 23' 06.17'' N 111d 54' 27.93'' W
4152	Jordan River condos	Jordan River condos	Riverside Dr	Behind Clubhouse	40d 23' 03.17'' N 111d 54' 31.62'' W
4156	City	City	Lindsey St	Triton Park	40d 22' 04.87'' N 111d 55' 47.89'' W
4158	ASD	ASD	273 W Aspen Hills Blvd	Back Field	40d 23' 30.59'' N 111d 55' 15.90'' W
4160	IHC	IHC	354 W Crossroads Blvd	Field	40d 23' 16.99'' N 111d 55' 25.68'' W
4161	River Heights	River Heights	Cordoba Dr	SE Bend	40d 23' 24.68'' N 111d 54' 35.30'' W
4162	Jordan Ridge condos	Jordan Ridge Condos	Jordan Ridge Blvd/Riverside Dr	-	40d 23' 01.08'' N 111d 54' 37.53'' W
4163	City	Unlisted	400 N	SE Corner	40d 22' 11.50'' N 111d 55' 24.06'' W
4164	ASD	ASD	264 N 750 W	NE Corner	40d 22' 03.77'' N 111d 55' 55.36'' W
4165	City	Unlisted	400 N/Carlton Ave	SW	40d 22' 08.55'' N 111d 55' 34.19'' W
4166	City	Hillside Ridge HOA	Hillside Dr	NE Corner	40d 20' 23.88'' N 111d 54' 59.76'' W
4167	ASD	Unlisted	Swainson Ave	-	40d 18' 27.26'' N 111d 53' 42.24'' W
4168	ASD	City	Swainson Ave	Btwn parking lots	40d 18' 24.60'' N 111d 53' 40.18'' W

Table 2-3
Regional Detention Basin Characteristics

Facility ID from City Database	Outlet	Outlet Elevation	Rim Elevation	Required Active Volume [AF]	Infrastructure Owner	Surface Improvements Owner	Address	Location Description	Location
414	8"	4632.9	4634.4	4.2	City	City	1237 Pondside Dr	-	Pondside Dr & Meadow Crest Way
415	20"	4659	4660.4	2.3	City	City	Swainson Ave/Wildlife Blvd	-	Swainson Ave & Wildlife Blvd
417	18"	4592.8	4601.56	1.8	City	City	Redwood Rd/Wildlife Blvd	-	Wildlife Blvd & Redwood Rd
418	18"	4590.1	4592.03	0.9	City	Unlisted	Redwood Rd/Village Pkwy	-	Village Pkwy & Redwood Rd
4110	5"	4725.7	4727.4	0	City	HOA	Stillwater Dr/Shadow Ridge Dr	-	Honeysuckle Ct & Stillwater Dr
4111	15"	4599.8	4607.36	2.7	City	HOA	Redwood Rd/Stillwater Dr	-	Summerhill Dr & Stillwater Dr
4112	12"	4596.8	4602.78	2.2	City	City	Maverick Rd	-	Maverick Rd & 2390 S
4113	30"	4708.1	4708.15	0	City	City	Ring Rd/Weatherby Dr	Israel Park	Weatherby Dr & Ring Rd
4119	15"	4508.99	4512.64	3.3	Aldara Apartments	Aldara Apartments	1312 N Commerce Dr	SE Corner	Commerce Dr & 1200 N
4120	20"	4628.7	4631.69	1.5	City	City	Buffalo Dr	Sunrise Park	Buffalo Dr & Red Fox Lane
4121	20"	4628.6	4631.83	1.8	City	City	Buffalo Dr	Sunrise Park	Buffalo Dr & Red Fox Lane
4128	6"	4629.51	4629.74	10.7	City	City	Ginger Pl	-	Peppermint Ct & Tuscany Dr

Facility ID from City Database	Outlet	Outlet Elevation	Rim Elevation	Required Active Volume [AF]	Infrastructure Owner	Surface Improvements Owner	Address	Location Description	Location
4129	4"	4619.48	4626.47	1.5	Hillcrest condos	Unlisted	Ridge Rd	-	Hillcrest Condominiums
4130	4"	4638.3	4645.96	2.9	City	HH HOA	Redwood Rd/Harvest Hills Blvd	-	Harvest Hills Blvd & Redwood Rd
4131	15"	4727.2	4730.2	0.5	City	City	Granary Way/Harvest Hills Blvd	-	Harvest Hills Blvd & Granary Way
4132	8"	4725.8	4730.41	4.5	City	Fox Hollow HOA	Village Pkwy/Day Lilly Dr	-	Waymond Park & Village Pkwy
4133	8"	4592.8	4597.21	1	City	Stillwater HOA	Periwinkle Cir	-	Wildflower Dr & Redwood Rd
4134	20"	4723.6	4730.4	2.5	City	Unlisted	Wildlife Blvd	-	Rock Creek Way & Village Pkwy
4140	6"	4820.37	4822.6	1.7	City	Unlisted	Kollman Ln	-	Above Fox Hollow N1
4144	10"	4660	4670	1.7	City	City	Talus Ridge/Foothill Blvd	Talus A Park	Tallus Ridge Bottom
4145	36"	4903	4940	2.6	Unlisted	Unlisted	Ruger Rd	Up Toward Mtn (West)	Israel Canyon
4150	12"	4743	4750	2	City	HH HOA	Orchard Way	-	Orchard Way & Apple Ave
4153	15"	4571.7	4571.8	0	City	City	400 N	Neptune Park (SW)	540 W & 400 N
4154	21"	4536.8	4542	5.2	ASD	ASD	400 N/Thunder Blvd	SW	200 W & 400 N
4155	5"	4575.52	4576.36	0.9	City	City	Lindsey St	Triton Park	610 W & 335 N

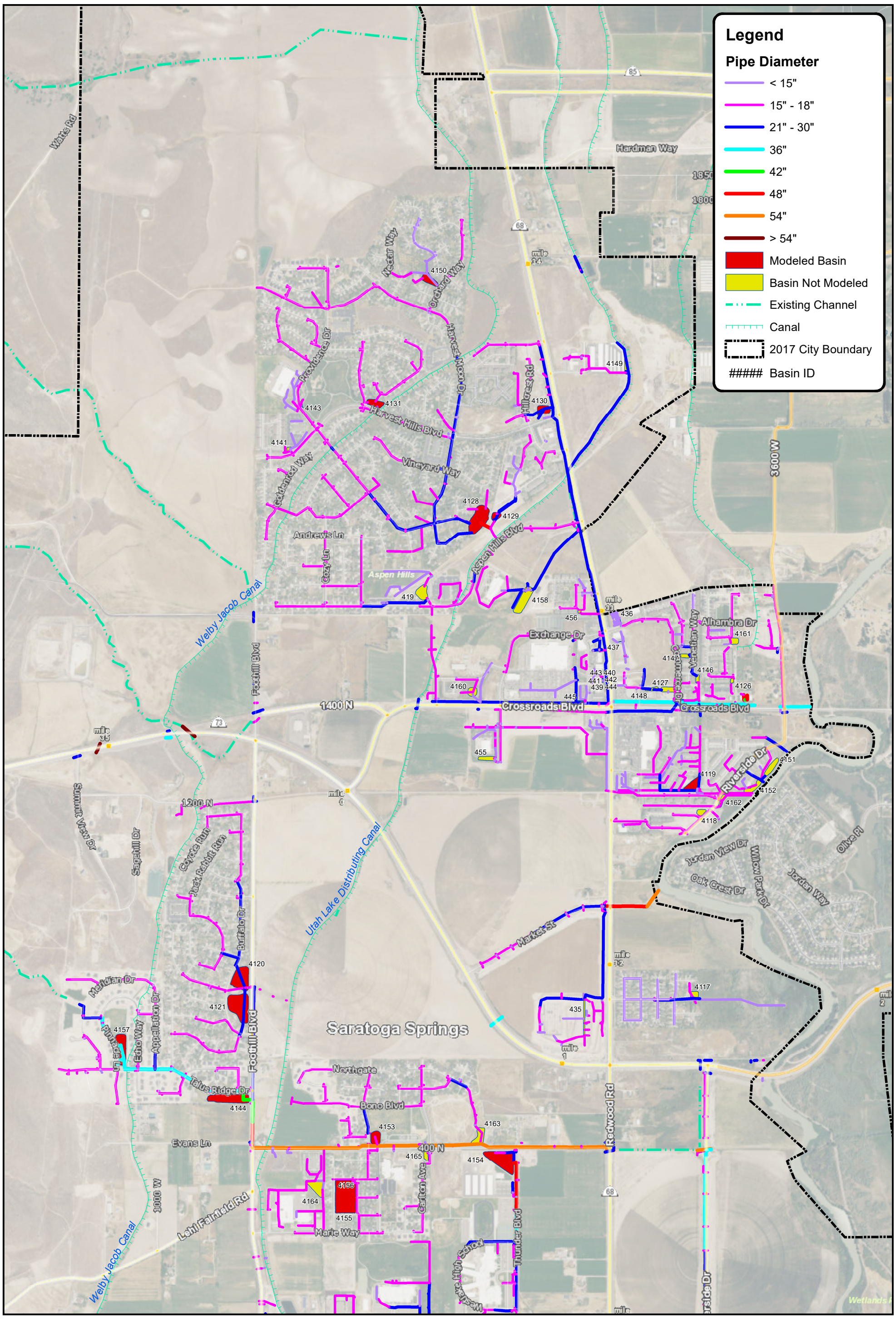
NATURAL CHANNELS

There are many ephemeral drainages that convey runoff from the Lake Mountains and other upland areas to Utah Lake and the Jordan River within the City (See Figure 2-1). For the purposes of this study, it is expected these drainages will be preserved and will continue to be used for conveyance purposes in the Saratoga Springs storm drain system. Separate City policy will govern whether future development is allowed to pipe these drainages. Natural channels that are required to be preserved as part of the drainage system have been identified in Chapter 6 (see Figure 6-1).

There are likely other small, unmapped drainage infrastructure that have not been identified in Chapter 6. Adjacent development may be required to preserve such drainages as needed to ensure adequate drainage capacity now, even if such drainages are expected to become obsolete at buildout.

OPEN CHANNELS

In addition to the natural tributary channels identified above, the City uses manmade open channels in some locations to convey storm water. This includes canals and ditches as shown in Figure 2-1. While some of these channels will eventually be replaced with pipelines, others will be maintained as part of the drainage system as identified in Chapter 6. In the case of channels and drainages to be replaced, it is important that they be maintained until all corresponding new facilities have been constructed and commissioned.



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SARATOGA SPRINGS
STORM DRAIN CAPITAL FACILITIES PLAN

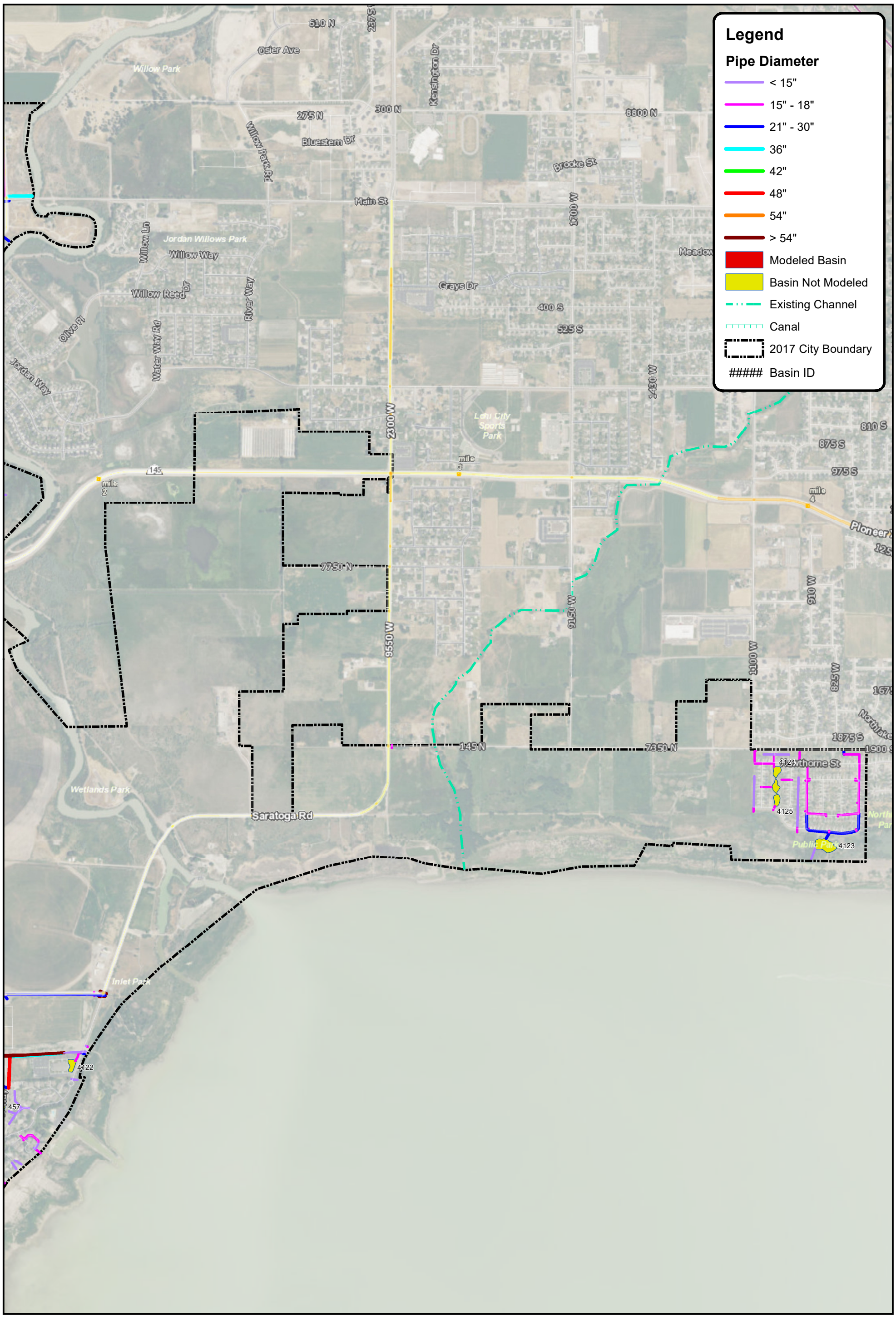
EXISTING STORM DRAIN COLLECTION AND DETENTION SYSTEM

NORTH:

SCALE: 0 325 650 1,300 Feet

FIGURE NO. 2-1A

P:\Saratoga Springs\305-17-04 2017 Storm Drain Capital Facilities Plan, IFFP & IFA Update\4.0 GIS\Figure 2-1_CFP.mxd jdietrich 6/25/2018



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SARATOGA SPRINGS
STORM DRAIN CAPITAL FACILITIES PLAN

EXISTING STORM DRAIN COLLECTION AND DETENTION SYSTEM

NORTH:

SCALE: 0 325 650 1,300 Feet

FIGURE NO. 2-1B

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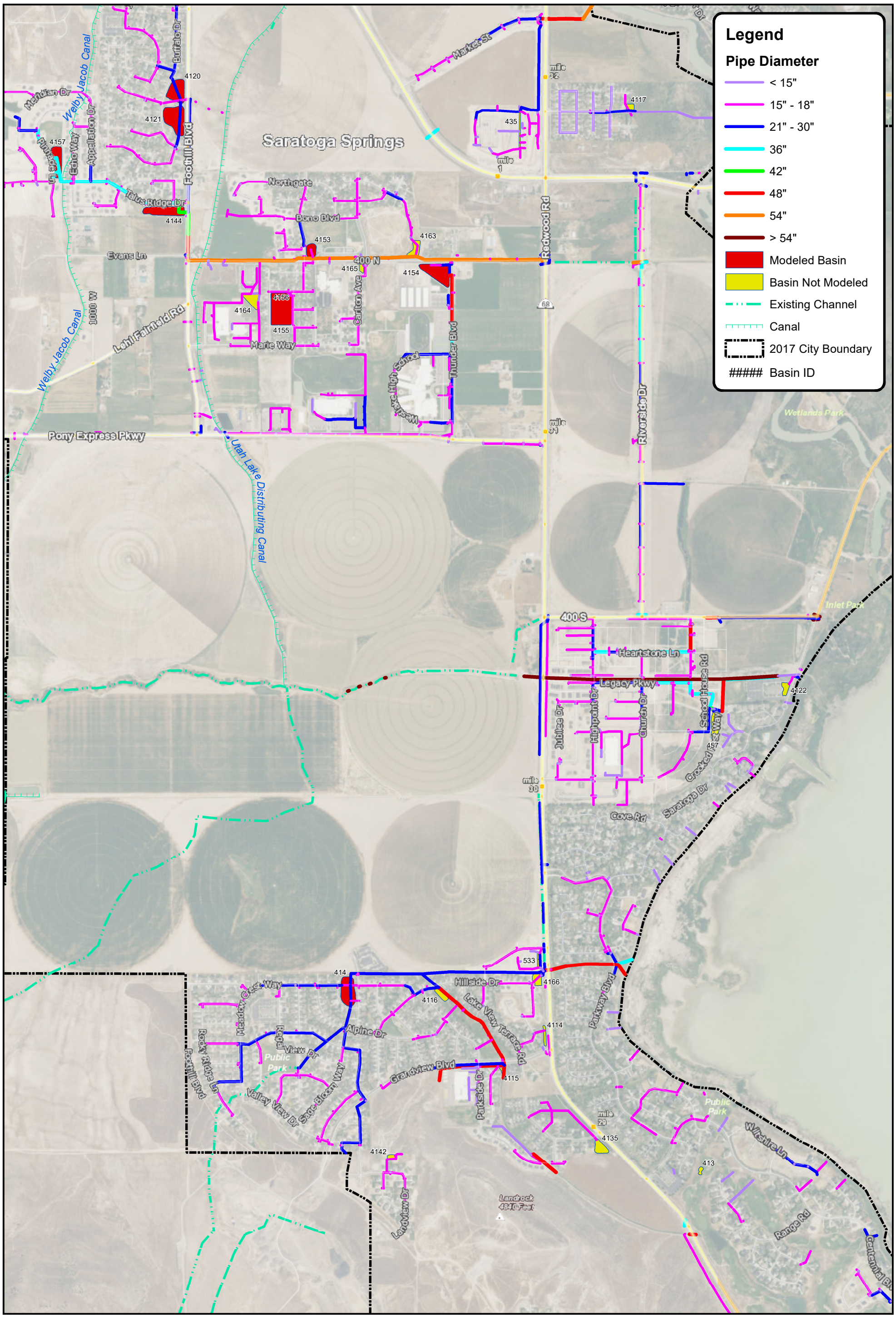

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SARATOGA SPRINGS
STORM DRAIN CAPITAL FACILITIES PLAN

EXISTING STORM DRAIN COLLECTION AND DETENTION SYSTEM

NORTH:

SCALE: 0 325 650 1,300 Feet

FIGURE NO. 2-1C

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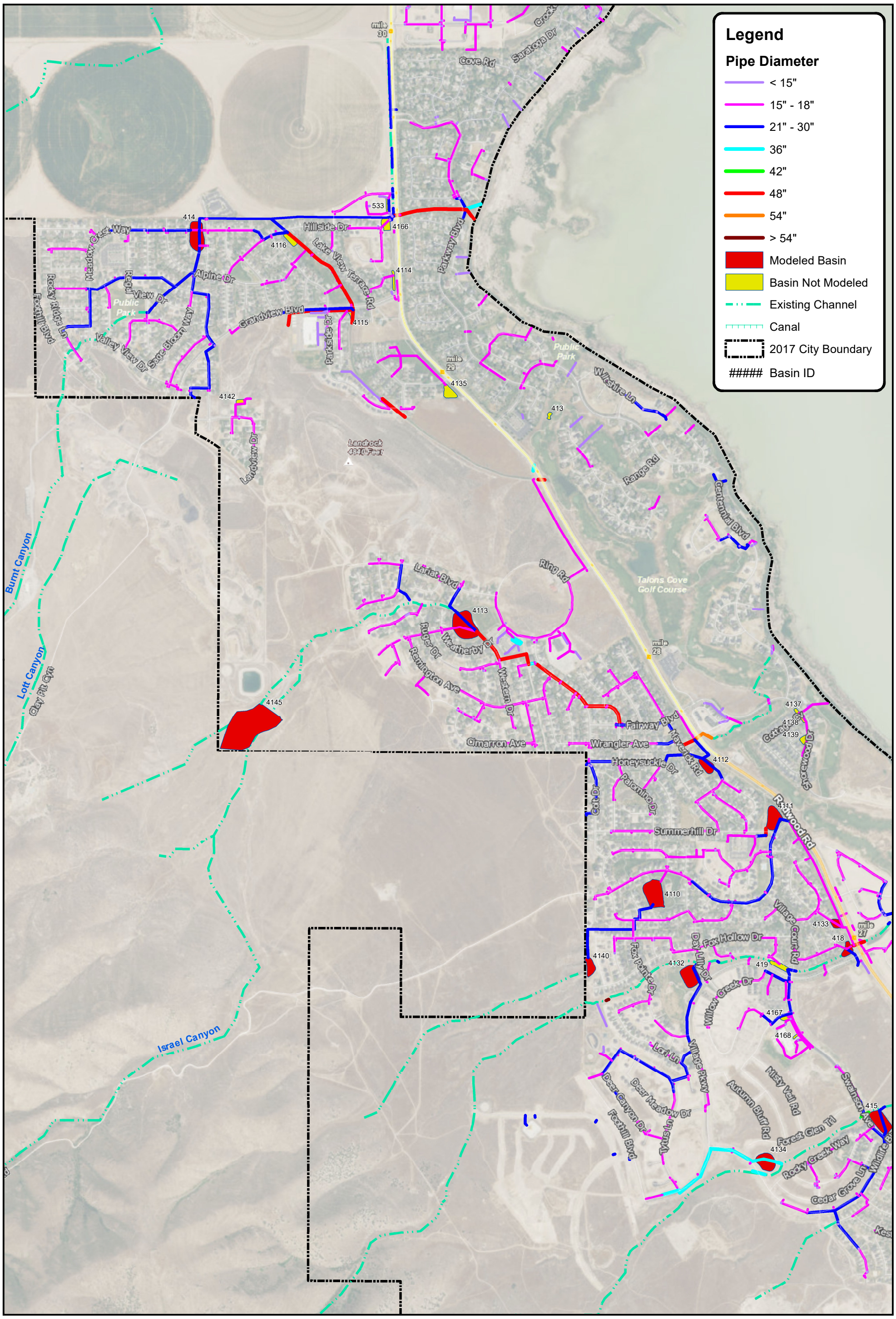

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SARATOGA SPRINGS
STORM DRAIN CAPITAL FACILITIES PLAN

EXISTING STORM DRAIN COLLECTION AND DETENTION SYSTEM

NORTH:

SCALE: 0 325 650 1,300 Feet

FIGURE NO. 2-1D

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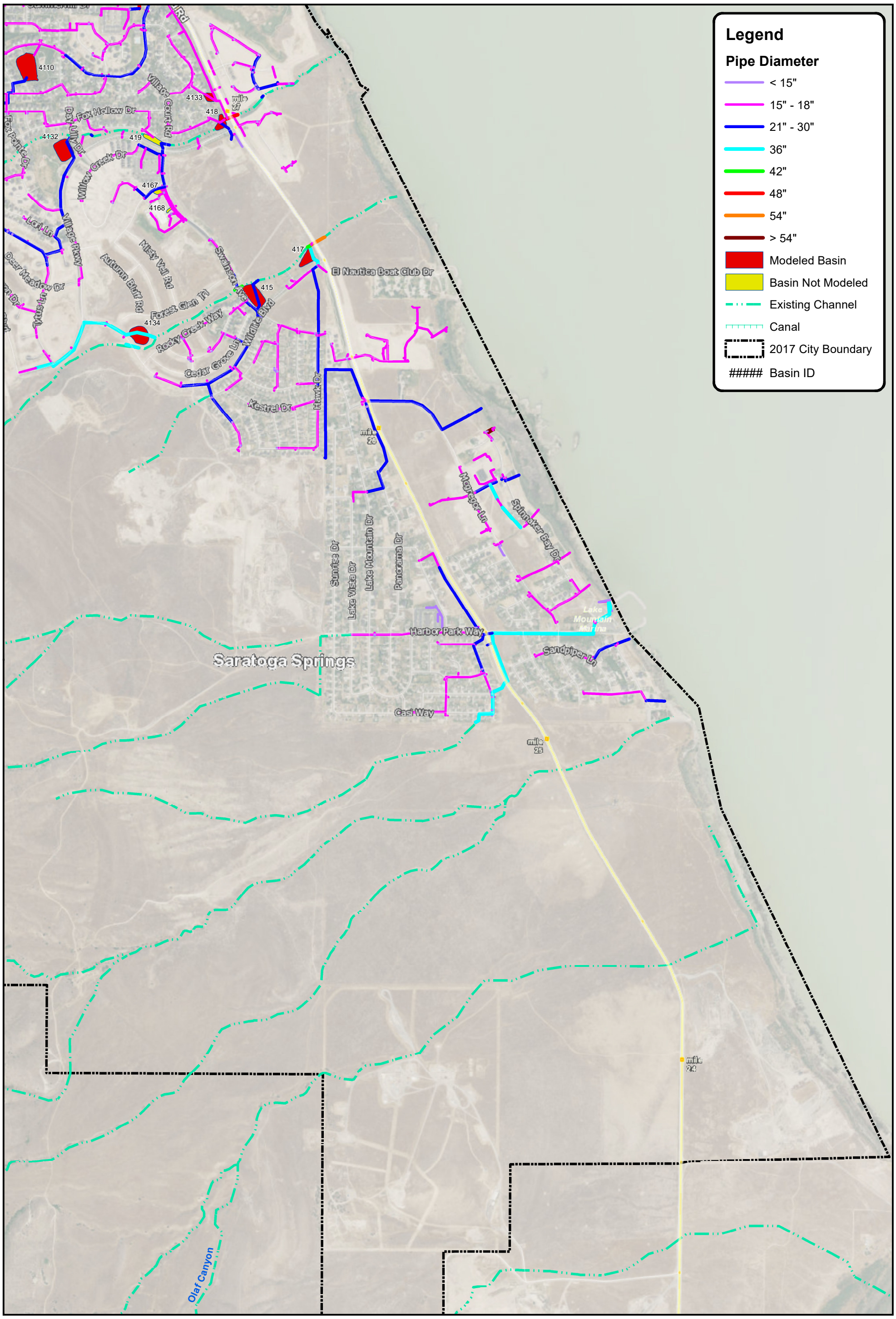

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Celebrating 20 Years

SARATOGA SPRINGS
STORM DRAIN CAPITAL FACILITIES PLAN

EXISTING STORM DRAIN COLLECTION AND DETENTION SYSTEM

NORTH:

SCALE: 0 325 650 1,300 Feet

FIGURE NO. 2-1E

P:\Saratoga Springs\305-17-04 2017 Storm Drain Capital Facilities Plan, IFFP & IFA Update\4.0 GIS\Figure 2-1_CFP.mxd jdietrich 6/25/2018

CHAPTER 3
HYDROLOGIC ANALYSIS

To evaluate the capacity of the Saratoga Springs storm drain system, it is necessary to perform both a hydrologic and hydraulic analysis. The hydrologic analysis estimates the storm water runoff volume and peak discharges generated by a design cloudburst event. The hydraulic analysis evaluates the capacity of storm drain facilities to convey the predicted storm water discharges through the City. The purpose of this chapter is to document the hydrologic analysis performed for Saratoga Springs.

A hydrologic computer model of the study area was developed in Autodesk Storm and Sanitary Analysis 2017 (ASSA), version 11.1.55.1. The hydrologic model development process includes delineating drainage basins, estimating hydrologic parameters, developing a design storm, and calibrating the model. Each of these steps is described below.

DRAINAGE BASIN DELINEATION

The first step in developing a computer hydrologic model is to delineate drainage basins and subbasins. This involves dividing the overall service area into smaller areas based on topography and the drainage system. This is done for two reasons. First, it allows each area to be analyzed on a smaller scale to evaluate land use and development patterns more accurately. Second, it yields runoff projections that are distributed aerially across the service area, which is an important requirement when evaluating the capacity of individual facilities.

Topographic mapping, aerial photography, and an existing storm drainage system inventory (provided by the City) were used to delineate drainage basins and subbasin boundaries in the study area. Subbasin boundaries associated with the hydrologic model are shown on Figure A-1 in Appendix A.

HYDROLOGIC MODEL PARAMETERS

The next step in developing the ASSA computer model is to define a set of hydrologic model parameters to be used for each subbasin. Hydrologic parameters represent the physical characteristics of each subbasin to be used in the calculation of potential runoff. Required hydrologic parameters will vary depending on the method of calculation selected for the model. For this study, the hydrologic calculation method is as follows:

- ***Hydrology Method.*** In the ASSA software, there are multiple options for the hydrology method, including the EPA SWMM method and HEC-1 method, among others. Many of these methodologies could be used to produce accurate results. Based on BC&A's familiarity and experience with the several methods, the HEC-1 method was used for this study.
- ***Unit Hydrograph Method.*** The SCS Unit Hydrograph was used in the hydrologic model to convert rainfall to runoff.
- ***Loss Method.*** The SCS Curve Number method with the average antecedent condition was used in the ASSA model to calculate infiltration losses (see NRCS TR-55 publication for additional information). This method requires the input of a composite Curve Number and the percent impervious for each subbasin.

These methods were selected because they are commonly used by professionals in the industry and have been shown to produce accurate results in neighboring communities. These methodologies are also consistent with the Saratoga Springs standards for hydrologic method.

Required hydrologic parameters for this approach are as follows (see Appendix B for a documentation of computer model input parameters organized by subbasin):

- ***Lag Time.*** Lag time is the time interval between the center of mass of the excess rainfall and the peak runoff rate. This parameter was adjusted for existing conditions during the calibration process for some subbasins. See *Model Calibration* for a more detailed description.
- ***Composite Curve Number.*** A Curve Number is single parameter that can be used to represent land use and soil type in an area. A composite Curve Number was estimated for each subbasin based on soil type. The hydrologic soil type was obtained from the NRCS SSURGO dataset. The Curve Numbers selected are based on the SCS TR-55 publication based on natural conditions and in accordance with the City's standards for composite curve number determination. Figure A-2 in Appendix A shows a soils map for Saratoga Springs and the surrounding area. The Curve Number was adjusted for some sights based on model calibration. See *Model Calibration* below for a more detailed description.

- ***Directly-Connected Impervious Area.*** The amount of directly connected impervious area for existing conditions was estimated using NAIP aerial imagery. Each subbasin was analyzed and the estimated directly connected impervious area was recorded. This includes the directly connected impervious area within each developed lot (e.g. rooftops, driveways, etc.), along with impervious area associated with roadways. The amount of directly connected impervious area was also estimated for full build-out conditions. For areas that are currently undeveloped, the Land Use Plan was used in conjunction with the values shown in Table 3-1 to estimate the imperviousness for future conditions. The values in Table 3-1 were developed based on values obtained from analysis of existing Saratoga Springs development and past analysis completed in other similar cities.

Table 3-1
Average Imperviousness Based on Land Use

General Plan Land Use Type *	Directly Connected Imperviousness (Percent)
Low Density Residential	27%
Medium Density Residential	33%
High Density Residential	60%
Commercial and Business	85%
Industrial	72%
Agriculture	15%
Road	95%
Rural Residential	15%
Planned Community	60%

* Some of the City's 17 land use types from the General Plan have been grouped according to hydrologic similarity for convenience.

DESIGN STORM PARAMETERS

With the hydrologic parameters of each subbasin defined, the next step in the modeling process is to select a design storm. The design storm defines how much precipitation falls and at what rate for a projected precipitation event. In the model, the design storm is applied to each subbasin to see how much runoff is generated from the basin during the precipitation event. The following criteria were used to define the design storm for this study, are commonly used by professionals in the industry, and have been shown to produce accurate results in neighboring communities:

Storm Distribution and Duration

Cloudburst rainfall events in Utah typically have durations ranging from a few minutes to three hours. Storms producing general rainfall over longer periods are rare, and are typically associated with slower-moving tropical storm remnants. The following design storms and duration were used for sizing drainage and storm water facilities.

- ***5-Year, 3-Hour Storm (Storm Event Volume = 0.82 inches):*** Used to present treatment capacity information for storm drain water quality/treatment facilities.
- ***10-Year, 3-Hour Storm (Storm Event Volume = 0.98 inches):*** Used to evaluate storm drain pipeline facilities.
- ***100-Year, 3-Hour Storm (Storm Event Volume = 1.74 inches):*** Used to evaluate storm drain facilities such as bridges, culverts, channels, detention basins, and other conveyance facilities where public health and safety are a concern. See also *Storm Selection for Detention Basins* below.

- ***Storm Distribution:*** Used Modified Farmer Fletcher for all storm return periods. The Farmer-Fletcher distribution is widely accepted and utilized along the Wasatch Front as it was created and calibrated based on local Utah data.

It should be noted that the utilized design storms capture the critical elements of shorter duration storms that often control when subbasins have short times of concentration. Utilized design storm distributions are shown in Table 3-2.

Storm Selection for Detention Basins

The design storm frequency selection for most detention basins is the 100-year storm. This is because the 100-year runoff is typically routed through detention basins (even if conveyed overland). However, in some cases where a clear overland flood route directly to the Jordan River or Utah Lake exists and is utilized for the 100-year runoff, only the piped 10-year runoff is routed through the detention basins. Therefore, in those cases the selected design storm frequency is the 10-year storm.

Table 3-2
Design Storms

Time (min)	5-Year Precipitation (inches)	10-Year Precipitation (inches)	100-Year Precipitation (inches)	Time (min)	5-Year Precipitation (inches)	10-Year Precipitation (inches)	100-Year Precipitation (inches)
0	0.0000	0.0000	0.0000	95	0.0071	0.0067	0.0058
5	0.0071	0.0067	0.0058	100	0.0071	0.0067	0.0058
10	0.0071	0.0067	0.0058	105	0.0071	0.0067	0.0058
15	0.0071	0.0067	0.0058	110	0.0071	0.0067	0.0058
20	0.0071	0.0067	0.0058	115	0.0071	0.0067	0.0058
25	0.0071	0.0067	0.0058	120	0.0071	0.0067	0.0058
30	0.0071	0.0067	0.0058	125	0.0071	0.0067	0.0058
35	0.1853	0.2337	0.4560	130	0.0071	0.0067	0.0058
40	0.1463	0.1845	0.3600	135	0.0071	0.0067	0.0058
45	0.1021	0.1287	0.2512	140	0.0071	0.0067	0.0058
50	0.0650	0.0820	0.1600	145	0.0071	0.0067	0.0058
55	0.0390	0.0492	0.0960	150	0.0071	0.0067	0.0058
60	0.0299	0.0377	0.0736	155	0.0071	0.0067	0.0058
65	0.0221	0.0279	0.0544	160	0.0071	0.0067	0.0058
70	0.0169	0.0213	0.0416	165	0.0071	0.0067	0.0058
75	0.0130	0.0164	0.0320	170	0.0071	0.0067	0.0058
80	0.0117	0.0148	0.0288	175	0.0071	0.0067	0.0058
85	0.0104	0.0131	0.0256	180	0.0071	0.0067	0.0058
90	0.0084	0.0107	0.0208	Total	0.8200	0.9800	1.7400

MODEL CALIBRATION

The final step in the hydrologic modeling process is model calibration. In general, calibration of a hydrologic model of an urban area refers to the process of adjusting parameters to achieve results consistent with available reference information in nearby areas rather than adjusting for actual measured discharge observations in the study area.

Calibration Target Range

The rainfall-runoff model generally produces peak runoff rates that range from 0.25 cfs/ac to 0.32 cfs/ac runoff for quarter-acre subdivision lots. This falls within the expected calibration target range for runoff on a quarter acre subdivision lot during a 25-year design storm. A few areas of the City do produce runoff below 0.25 cfs/ac, but these areas tend to have less slope. These flatter areas tend to drain more slowly, have a longer time of concentration, and produce less runoff.

CN Values

In some instances, the simulated peak runoff initially exceeded the calibration range. In these instances, the CN Value for the subbasin was examined and adjusted as required by model results. These adjustments typically occurred in areas where the soil map indicated the underlying soil was Type C or D soil (CN value 79 or 84), indicating low infiltration and high runoff potential. However, once an area develops, the pervious portion of the development area is usually landscaped with sod, mulch or other materials that have higher infiltration rates and lower runoff potential. Runoff is typically only generated from the impervious portion of the developed area during a 10-year storm event. Therefore, in some of these areas the CN Value was set to 61 to reflect little or no runoff from the pervious area of the development.

Lag Time

Worksheet 3 in TR-55 was initially used to estimate the time of concentration and lag time. The Lag Time was further adjusted for some subbasins during the calibration process to adjust the peak runoff to be within, or closer to, the calibration target range described above. See Appendix B for computer model input used, including lag time.

Existing Inlet Capacity Issues

The collective assumption was made that there are enough existing storm water inlets in each subbasin to collect runoff from a 10-year design storm event. Such an assumption is standard for a study at this level of detail. In areas of new development, inlet capacity should be closely reviewed during design to make sure this is the case. In existing areas where ponding or local flooding occurs, the inlet capacity should be evaluated and additional inlets should be added if necessary.

CHAPTER 4
HYDRAULIC ANALYSIS

As discussed in the previous chapter, evaluation of the Saratoga Springs storm drain system requires both a hydrologic and hydraulic analysis. The hydrologic analysis estimates to the storm water runoff volume and peak discharges generated by a design cloudburst event. The hydraulic analysis evaluates the capacity of storm drain facilities to convey the predicted storm water discharges through the City. The purpose of this chapter is to document the hydraulic analysis performed for Saratoga Springs.

A hydraulic computer model of the study area was developed in Autodesk Storm and Sanitary Analysis (ASSA). There are two major types of data required to create a hydraulic model of a storm drain system, geometric data, and flow data.

GEOMETRIC MODEL DEVELOPMENT

Geometric data consists of all information in the model needed to represent the physical characteristics of the system, including pipelines, open channels, and detention basins.

Pipes

Information on the physical characteristics of the pipes included in the model was collected and assembled by Saratoga Springs personnel, including the diameter, length, and location of each pipe to be included in the computer model. A basic framework for the model was developed using Saratoga Springs geographic information system (GIS) records. In cases where pipe invert information was not available in GIS, the invert elevation was estimated based on surface elevation.

The scope of this storm drain facilities plan included a hydraulic analysis of only the system level storm drain improvements in the City. The storm drain trunk lines that were evaluated in this model were coordinated with Saratoga Springs City and generally exclude project level pipes and those with diameters under 18 inches and pipes that serve only small areas.

Open Channels

The open channels evaluated in the study are based on data shown on USGS Quadrangle maps and input from Saratoga Springs City personnel. Estimates of channel slope were made based on available digital topographic data provided by the State of Utah's Automated Geographic Reference Center (AGRC). There was no detailed survey of the open channels for this study, so the exact capacity of the channels at all locations was not calculated. The actual channel capacity and improvements to each channel will need to be evaluated during the development planning process in those areas.

Detention Basins

Saratoga Springs personnel provided outlet size, orifice size, and a Digital Elevation Model (DEM) for each the detention basin modeled. See Chapter 2 for a list of the existing regional detention basins. Future detention basins were modeled in ASSA using a design stage-storage curve and an outlet that released the design flow rate.

FLOW MODEL DEVELOPMENT

The second type of data required by the hydraulic model is storm drain runoff. Hydrologic parameters were estimated and a design storm was developed as described in Chapter 3. Subbasin runoff was usually applied to the hydraulic system near the upstream side of the drainage area.

CHAPTER 5
SYSTEM EVALUATION

With the development and calibration of hydrologic and hydraulic storm drain models, it is possible to simulate storm drain system operating conditions for both present and future conditions. The purpose of this chapter is to document the hydraulic performance of the collection system and identify potential hydraulic deficiencies.

EVALUATION CRITERIA AND LEVEL OF SERVICE

To evaluate the performance of the system, it is necessary to first define the required level of service for the various components of the system. There is no minimum State standard for storm drain as there are with other utilities. Every city desires to protect their residents and infrastructure from flooding and attempts to balance the cost of storm drainage improvements with the amount of flow in the streets. The evaluation criteria for this study were provided by Saratoga City personnel at the beginning of this study and are documented below. The level of service provided by Saratoga City is consistent with the level of service provided by neighboring cities.

Allowable Runoff

Current City policy requires that runoff from developed properties be limited in accordance with available capacity in downstream infrastructure. Runoff conveyed in City systems may not exceed 0.2 cfs/acre and may be limited as low as the historic runoff for the pre-developed condition (almost always less than 0.2 cfs/acre) if limiting runoff is needed due to capacity restrictions in downstream infrastructure. Each subbasin has been assigned the highest possible release rate (not to exceed 0.2 cfs/acre) that preserves the integrity of downstream infrastructure. The maximum allowable release for each subbasin is documented in Appendix D, Figure D-1.

It should be noted that some areas of the City are located adjacent to Utah Lake or the Jordan River. In these areas, runoff is not limited to a specific release rate since independent local drainage facilities (instead of system-wide planned facilities) are to be used to convey runoff. These areas are indicated on Figure D-1 in Appendix D as areas requiring “local drainage only”. It should also be noted that the storm facilities within these areas are still required to meet all Saratoga Springs standards, including the requirement to provide safe flood routing and protection for the 100-year design storm, which may still require detention depending on development layout, location, and whether there is a clear overland flow route directly to the lake or the river.

Storm Drain Pipelines

Storm drain pipelines are generally designed to convey the 10-year storm event at full pipe capacity. Storm drain pipes are also not to be smaller than 15 inches in diameter. In the event that storm water discharge is greater than the 10-year event, the pipes will pressurize and eventually flood in the streets. It is important to note that roadways become the major storm

water conveyance facility during storms that are larger than the 10-year design event, and should be designed to convey flows up to the 100-year event.

The exception to this is for pipelines that have replaced natural drainages and convey drainage from Lake Mountain or any other upland areas. In these cases, the pipelines are designed to convey the 100-year storm event.

Open Channels

All open channels should be designed to convey the 100-year event with at least 2 feet of freeboard. This includes all manmade channels and enhancements to natural channels. Open channels should also have adequate erosion protection for 100-year peak velocities. If velocities are less than or equal to 4 feet per second (ft/s), the channel may be stabilized with vegetation if acceptable to the design engineer. However, if the 100-year peak velocity in a channel is greater than 4 ft/s, then armoring will be required. The type of armoring will be determined by the design engineer at detailed design; this plan assumes armored channels to require rip-rap armoring, but concrete lining or other armoring may be required. Open channel design should consider maintenance and safety issues.

Culverts

All culverts on reaches of open channel should be designed to convey the 100-year event with at least 18-inches of freeboard at the road crossing.

Detention Basins

Detention facilities need to have capacity for the design storm (see *Design Storm Parameters* in Chapter 3) with at least one foot of freeboard, and be designed to safely direct potential overflow toward secondary conveyance facilities, such as a right-of-way or open channel, and away from private property and areas of potential property damage. Release rates for local detention basins need to be limited as described above in *Allowable Runoff*. Release rates for regional detention basins have been optimized to minimize cost between improvements at the detention basins and downstream conveyance facilities.

Table 5-1
Evaluation Criteria Summary

Type	Evaluation Criteria
Allowable Runoff	Between historic runoff and 0.2 cfs per acre based on the capacity of downstream infrastructure
Pipelines	Minor: 10-year design storm Major: 100-year design storm
Open Channels	100-year design storm with at least 2 feet freeboard and armoring
Detention Basins	100-year design storm with at least 1 foot freeboard; release rate per *Allowable Runoff*

Note: See the detailed descriptions above and related City publications for more detailed discussion of City storm drain Standards.

CONVEYANCE SYSTEM ANALYSIS

With the additional growth projected for Saratoga Springs, it is expected that a number of projects will need to be constructed to meet build-out conditions in the City. Where existing facilities exist, much of the new growth can be accommodated through available excess capacity. In a few areas, some existing pipelines and detention basins will need to be replaced or modified. Where facilities do not currently exist, additional new pipelines and detention basins will need to be constructed to service new growth. Because of the extent of the improvements required to meet future growth, discussion of these improvements has been divided into a separate section. Chapter 6 discusses conceptual improvements that are proposed to serve continued growth in Saratoga Springs.

CHAPTER 6
BUILDOUT SYSTEM IMPROVEMENTS

The hydraulic model was used to evaluate various alternatives for meeting the required level of service under projected future conditions. Previous master plan alternatives and new alternatives proposed as part of this capital facilities plan were analyzed and the preferred conveyance alternatives were selected based on the most cost-effective approach of meeting the required level of service. Proposed sizes for pipes have been included in this report and are based on estimated peak runoff and estimated pipe slopes. Final sizing to meet peak runoff will need to be verified as part of final design for each individual project. Proposed sizes of and discharge rates from detention basins are based on minimizing the total cost of improvements.

RECOMMENDED IMPROVEMENTS

Figure 6-1 shows the location of improvements proposed to meet the needs future growth in Saratoga Springs. For organization purposes, each project has been given a unique project identification (project ID). The project ID is consists of three parts: XXYZ. The first part, XX, indicates the type of project where:

- "D" is for detention basins
- "C" is for culvert
- "P" is for pipe
- "OC" is for open channel
- "M" is for miscellaneous projects

The middle part, Y, indicates if the project is located in the northern ("N"), southern ("S"), or eastern ("E") portion of the City. This has been done for the reader's convenience in locating the projects; there is no separate "north", "south", or "east" service area for the purpose of impact fees or otherwise. The last part, Z, is a number assigned to the project. Thus "PN2" is a pipe project in the north with the number 2 assigned.

Table 6-1 summarizes all of the projects, ordered by project number. This table also includes a brief description of each project. As shown in Tables 6-2 and 6-3, these same projects are shown with expected project costs in 2017 dollars. Table 6-2 includes short-term projects (next 10 years) and Table 6-3 includes long-term projects (beyond 10 years). Detailed cost estimate information for each project is located in Appendix C.

Projects were selected as "short term" projects based on the need for them in order to serve areas expected to develop within the next 10 years. These projects are shown in conjunction with areas of expected growth on Figure 6-2.

Table 6-1
Capital Facility Plan Projects (Continued on next pages)

Project ID	Project Name	Description	Approximate Size *	Design Flow / Discharge (cfs)	Design Volume (AF)
CN1	Mountain View Corridor 5	Install culvert under future Mountain View Corridor	6' x 4' Box	116	–
CN2	Foothill Blvd 6	Install culvert under future Foothill Blvd	36" dia	34	–
CN3	Foothill Blvd & Tickville Wash	Install culvert under future Foothill Blvd	10' x 9' Box	706	–
CN4	Mountain View Corridor 1	Install culvert under future Mountain View Corridor	36" dia	40	–
CN5	Mountain View Corridor 2	Install culvert under future Mountain View Corridor	36" dia	40	–
CN6	Saratoga Parkway 1	Saratoga Parkway 1	8' x 4' Box	160	–
CN7	Saratoga Parkway 2	Saratoga Parkway 2	6' x 4' Box	108	–
CN8	Mountain View Corridor 3	Install culvert under future Mountain View Corridor	42" dia	60	–
CS1	Redwood Road & Little Canyon	Upsize existing culvert at Redwood Road	10' x 6' Box	395	–
CS2	Redwood Road & Olaf Canyon	Upsize existing culvert at Redwood Road	8' x 5' Box	241	–
CS3	Redwood Road 1	Upsize existing culvert at Redwood Road	8' x 5' Box	197	–
CS4	Bonneville Dr. & Olaf Canyon	Install culvert under future Bonneville Dr	8' x 4' Box	154	–
CS5	Bonneville Dr. & Limekiln Canyon	Install culvert under future Bonneville Dr	42" dia	64	–
CS6	Foothill Blvd 1	Install culvert under future Foothill Blvd	6' x 4' Box	122	–
CS7	Foothill Blvd 2	Install culvert under future Foothill Blvd	33" dia	31	–
CS8	Foothill Blvd & Clark Canyon	Install culvert under future Foothill Blvd	6' x 4' Box	107	–

Project ID	Project Name	Description	Approximate Size *	Design Flow / Discharge (cfs)	Design Volume (AF)
CS9	Foothill Blvd 3	Install culvert under future Foothill Blvd	36" dia	43	–
CS10	Foothill Blvd 4	Install culvert under future Foothill Blvd	30" dia	26	–
CS11	Foothill Blvd & Israel Canyon	Install culvert under future Foothill Blvd	6' x 4' Box	131	–
CS12	Planned Collector 2	Install culvert under future planned collector	6' x 4' Box	122	–
CS13	Foothill Blvd & Harbor Parkway	Install culvert under future Foothill Blvd	36" dia	35	–
CS14	Foothill Blvd 5	Install culvert under future Foothill Blvd	6' x 4' Box	107	–
CS15	Planned Collector 1	Install culvert under future planned collector	6' x 4' Box	107	–
CS16	Planned Collector 2	Install culvert under future planned collector	6' x 4' Box	104	–
DN1	Clay Pit Regional Detention	New pond to replace the detention currently provided by the clay pits	2 acres	36	8
DN3	Mountain View Corridor 1 (New)	Regional Detention to limit flow to capacity of downstream infrastructure	6 acres	103	26
DS1	Harbor Parkway	New Pond to limit flow to capacity of existing pipe	2 acres	18	9
M1	Pollution Control Outfall Treatment	New treatment devices to be added at all City outfalls	See Table 6-4		–
OCN1	Clay Pit Reroute	New channel to redirect flow from Basins UL148 and UL146 to UL134	4' wide	38	–
OCS1	Village Parkway & Redwood Road	Improve existing channel to Utah Lake with Riprap and Vegetation as Required	4' wide	109	–
OCS2	Clark Canyon	Improve existing channel to Utah Lake with Riprap and Vegetation as Required	4' wide	151	–
OCS3	Limekiln Canyon	Improve existing channel to Utah Lake with Riprap and Vegetation as Required	5' wide	198	–
OCS4	Fox Hollow Reroute	New channel to redirect flow to Fox Hollow open channel (which will remove the need for the temporary detention basin)	4' wide	29	–

Project ID	Project Name	Description	Approximate Size *	Design Flow / Discharge (cfs)	Design Volume (AF)
OCS5	Harbor Parkway Reroute	New channel to redirect flow to Harbor Parkway collection	4' wide	108	–
PE1	Pioneer Crossing parallel	Install new pipe to serve area around Pioneer Crossing	30'' dia	11	–
PE2A	East side service 1	New pipe for future development	30'' dia	28	–
PE2B	East side service 2	New pipe for future development	48'' dia	58	–
PE3	Saratoga Road 6	New pipe for future development	30'' dia	27	–
PE4A	Saratoga Road 1	New pipe for future development	24'' dia	6	–
PE4B	Saratoga Road 2	New pipe for future development	30'' dia	12	–
PE4C	Saratoga Road 3	New pipe for future development	30'' dia	18	–
PE5A	Saratoga Road 4	New pipe for future development	24'' dia	9	–
PE5B	Saratoga Road 5	New pipe for future development	24'' dia	9	–
PE6	2300 West (Lehi) 3	New pipe for future development (parallel to Lehi City outfall on the east side)	24'' dia	11	–
PE7	2300 West (Lehi) 1	New pipe for future development (parallel to Lehi City outfall on the west side)	36'' dia	21	–
PN2a	Redwood Rd. Near Grandview Blvd	New pipe for future and existing development	24'' dia	30	–
PN2b	Redwood Rd. Near Grandview Blvd	New pipe for future and existing development	24'' dia	30	–
PN3a	Fairfield Road	New pipe for future development	24'' dia	15	–
PN3b	800 West (Fairfield to 400 N)	New pipe for future development	30'' dia	32	–
PN6d	Conveyance south of Market Street	New pipe for future development	24'' dia	32	–
PN6e	Pioneer Crossing to Market Street	New pipe for future development	24'' dia	19	–
PN8a	1200 N 1	New pipe for future development	42'' dia	116	–
PN8b	1200 N 2	New pipe for future development	42'' dia	123	–

Project ID	Project Name	Description	Approximate Size *	Design Flow / Discharge (cfs)	Design Volume (AF)
PN8c	Redwood Rd. (1200 N to Market)	New pipe for future development	48'' dia	144	–
PN10	Pioneer Crossing (DN3 to 1200 N)	New pipe for future development	42'' dia	103	–
PN11	1200 North 3	New pipe for future development	18'' dia	8	–
PN12	Harvest Hills to Jordan River	New pipe to provide additional outfall to Jordan River	30'' dia	82	–
PN16	1900 North/Redwood Rd	Tie end of existing 24" pipe into nearby parallel 24" pipe	24'' dia	28	–
PN18b	SR-73 2	New pipe to complete outfall to Jordan River	36'' dia	56	–
PN19	Extension of line near storage units	New pipe for future development	24'' dia	10	–
PN21a	400 South 1	New pipe in old canal alignment for new outfall to Utah Lake	36'' dia	76	–
PN22	Clay Pit Outfall	New pipe across highway to provide outfall for new clay pit regional detention	30'' dia	36	
PN23	1400 N Line Extension	New Pipe for Future Development	15'' dia	10	–
PS1	Harbor Parkway	New pipe to connect new basin to existing pipe	15'' dia	18	–

Jordan River and Utah Lake Outfalls Notes: The majority of City drainages outfall to Jordan River or Utah Lake. New projects shall be constructed such that the outfall invert elevations are as follows:

- Outfalls to the Jordan River shall have invert elevations no lower than the normal water surface elevation of the river.
- Outfalls to Utah Lake shall have invert elevations no lower than the compromise elevation of the lake.

Approximate Sizing Notes*: Master plan sizing is based on simplified design conditions. Detailed design sizing should be independently calculated. Basic Master plan assumptions are as follows.

- Approximate pipeline sizing is based on average slope as measured using ground surface contours.
- Approximate culvert sizing is based on inlet control with box culverts for design flows over 100 cfs.
- Approximate detention sizing assumes an average active depth of 5 feet.
- Approximate open channel sizing assumes a width to depth ratio of 2:1, uses available DTM for approximating channel slope, and assumes a manning roughness coefficient of 0.035 (rip rap). The reported width is the bottom width of a 2:1 trapezoidal channel.

Table 6-2
Capital Facility Plan and Estimated Costs – Short-Term Projects (within next 10 years)

Project ID	Project Name	Total Estimated Cost (2017 dollars)
CN1	Mountain View Corridor 5	$78,700
CN8	Mountain View Corridor 3	$78,700
CS12	Planned Collector 2	$78,700
CS3	Redwood Road 1	$157,400
DN3	Mountain View Corridor 1 (New)	$2,083,700
DS1	Harbor Parkway	$734,800
M1	Pollution Control Outfall Treatment	$250,000
OCS1	Village Parkway & Redwood Road	$452,700
OCS2	Clark Canyon	$287,100
OCS3	Limekiln Canyon	$540,200
OCS5	Harbor Parkway Reroute	$234,400
PE4A	Saratoga Road 1	$75,800
PE4C	Saratoga Road 3	$311,800
PE5A	Saratoga Road 4	$136,100
PE5B	Saratoga Road 5	$58,400
PE6	2300 West (Lehi) 3	$291,300
PE7	2300 West (Lehi) 1	$687,800

Project ID	Project Name	Total Estimated Cost (2017 dollars)
PN10	Pioneer Crossing (DN3 to 1200 N)	$355,800
PN11	1200 North 3	$132,200
PN12	Harvest Hills to Jordan River	$893,400
PN16	1900 North/Redwood Rd	$4,000
PN18b	SR-73 2	$72,900
PN19	Extension of line near storage units	$148,300
PN22	Clay Pit Outfall	$160,300
PN23	1400 N Line Extension	$194,800
PN2a	Redwood Rd. Near Grandview Blvd	$0
PN2b	Redwood Rd. Near Grandview Blvd	$580,700
PN3b	800 West (Fairfield to 400 N)	$224,100
PN6e	Pioneer Crossing to Market Street	$423,600
PN8a	1200 N 1	$359,600
PN8b	1200 N 2	$1,038,800
PN8c	Redwood Rd. (1200 N to Market)	$561,100
PS1	Harbor Parkway	$86,300
Total		**$11,773,500**

PROJECT PRIORITIZATION

It should be noted that new development is the primary reason that these projects are needed. As a result, the priority of projects to be completed within the short-term window is dependent upon upcoming development location and construction timing. Therefore, the prioritization and timing of these projects may be expedited or deferred accordingly. The exception to this is project M1 (See *Pollution Control and Outfall Treatment* below).

Table 6-3
Capital Facility Plan and Estimated Costs – Long-Term Projects (beyond next 10 years)

Project ID	Project Name	Total Estimated Cost (2017 dollars)
CN2	Foothill Blvd 6	$78,700
CN3	Foothill Blvd & Tickville Wash	$472,300
CN4	Mountain View Corridor 1	$78,700
CN5	Mountain View Corridor 2	$78,700
CN6	Saratoga Parkway 1	$157,400
CN7	Saratoga Parkway 2	$78,700
CS1	Redwood Road & Little Canyon	$314,900
CS10	Foothill Blvd 4	$78,700
CS11	Foothill Blvd & Israel Canyon	$157,400
CS13	Foothill Blvd & Harbor Parkway	$78,700
CS14	Foothill Blvd 5	$78,700
CS15	Planned Collector 1	$78,700
CS16	Planned Collector 2	$78,700
CS2	Redwood Road & Olaf Canyon	$157,400
CS4	Bonneville Dr. & Olaf Canyon	$157,400
CS5	Bonneville Dr. & Limekiln Canyon	$78,700
CS6	Foothill Blvd 1	$78,700
CS7	Foothill Blvd 2	$78,700
CS8	Foothill Blvd & Clark Canyon	$78,700
CS9	Foothill Blvd 3	$78,700
DN1	Clay Pit Regional Detention	$700,600
M1	Pollution Control Outfall Treatment	$2,750,000
OCN1	Clay Pit Reroute	$179,100
OCS4	Fox Hollow Reroute	$58,800
PE1	Pioneer Crossing parallel	$690,400
PE2A	East side service 1	$243,000
PE2B	East side service 2	$829,500
PE3	Saratoga Road 6	$426,200
PE4B	Saratoga Road 2	$414,700
PN21a	400 South 1	$452,200
PN3a	Fairfield Road	$344,400
PN6d	Conveyance south of Market Street	$202,200
Total		**$9,809,700**

POLLUTION CONTROL AND OUTFALL TREATMENT

The City has supplied a record of all City outfalls that indicates whether the outfall is fitted with a water quality device. It is the City's intention to provide treatment for all outfalls not already protected by upstream treatment devices.

Therefore, Project M1, *Pollution Control Outfall Treatment*, is included within this CFP to add treatment to the City's outfalls where needed. The size and scope of adding these devices will vary from outfall to outfall and location to location. Outfalls that may require additional

treatment have been identified in Figure 6-3. Rough costs associated with adding treatment to these outfalls has been included in Table 6-4 below for budgeting purposes.

It is recommended that city personnel conduct an in-field audit of each identified outfall as part of the creation of a prioritization plan to assist in the execution of Project M1. Such an investigation is required to determine the proper type and location of new treatment. For example, instead of treating at the outfall, it may be more effective to treat at multiple locations upstream.

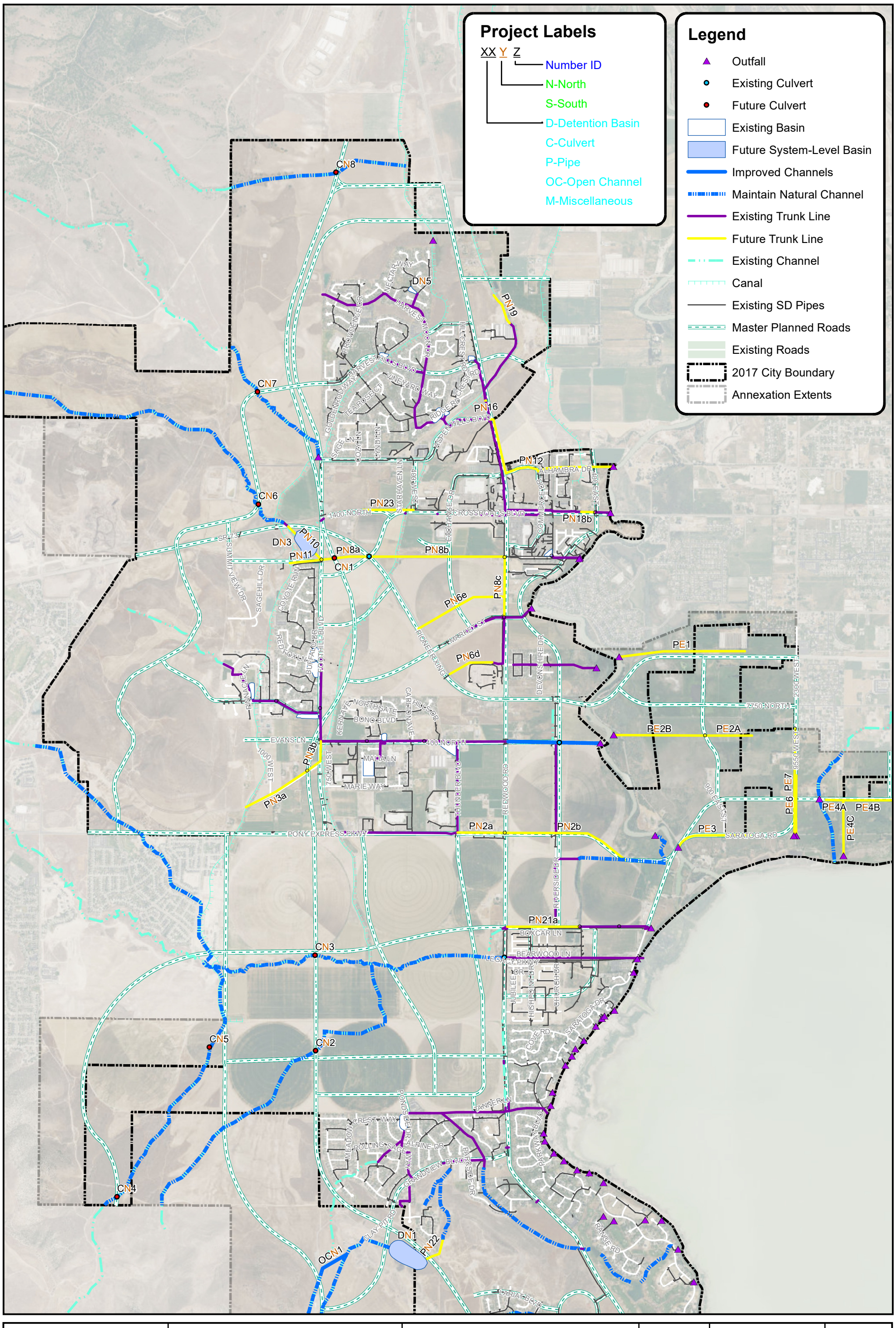
Table 6-4
Capital Facility Plan Project M1 – Pollution Control Outfall Treatment

Outfall Facility ID from City Database	Design Treatment Flow (cfs)	Design Bypass Flow (cfs)	Total Estimated Cost (2017 dollars)
45288	205	219	$150,000
45300	58	96	$100,000
45330	97	153	$100,000
45354	66	66	$100,000
45356	74	151	$100,000
45396	28	52	$50,000
45398	5	5	$50,000
45702	56	56	$100,000
45756	75	126	$100,000
43 Misc. Minor Outfalls	-	-	$2,150,000
Total			**$3,000,000**

OPERATIONAL MODIFICATIONS

During the modeling process there were a few locations where recommended changes in operational activities were identified. While these changes will not likely require any significant capital investment, they are an important part of the system's overall performance and should be implemented in the field in the near future. Operational changes are primarily associated with allowable outflow on existing detention basins. The following list shows the location and operational change that should be made. These updates may require physically changing the orifice plate at a basin or may simply require adjustment of control gates depending on how each basin was constructed.

- D3 (610 W & 335 N) – Upsize Orifice from 5" to 12"
- D12 (Pondside Dr. & Meadowcrest Way) – Upsize Orifice from 8" to 18"
- D1 (200 W & 400 N) – Downsize Orifice from 24" to 21"
- D15 (Summerhill Dr. & Stillwater Dr.) – Downsize Orifice from 15" to 8"
- D21 (Weatherby Dr. & Ring Rd.) – Downsize Orifice from 48" to 30"



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SARATOGA SPRINGS
STORM DRAIN CAPITAL FACILITIES PLAN

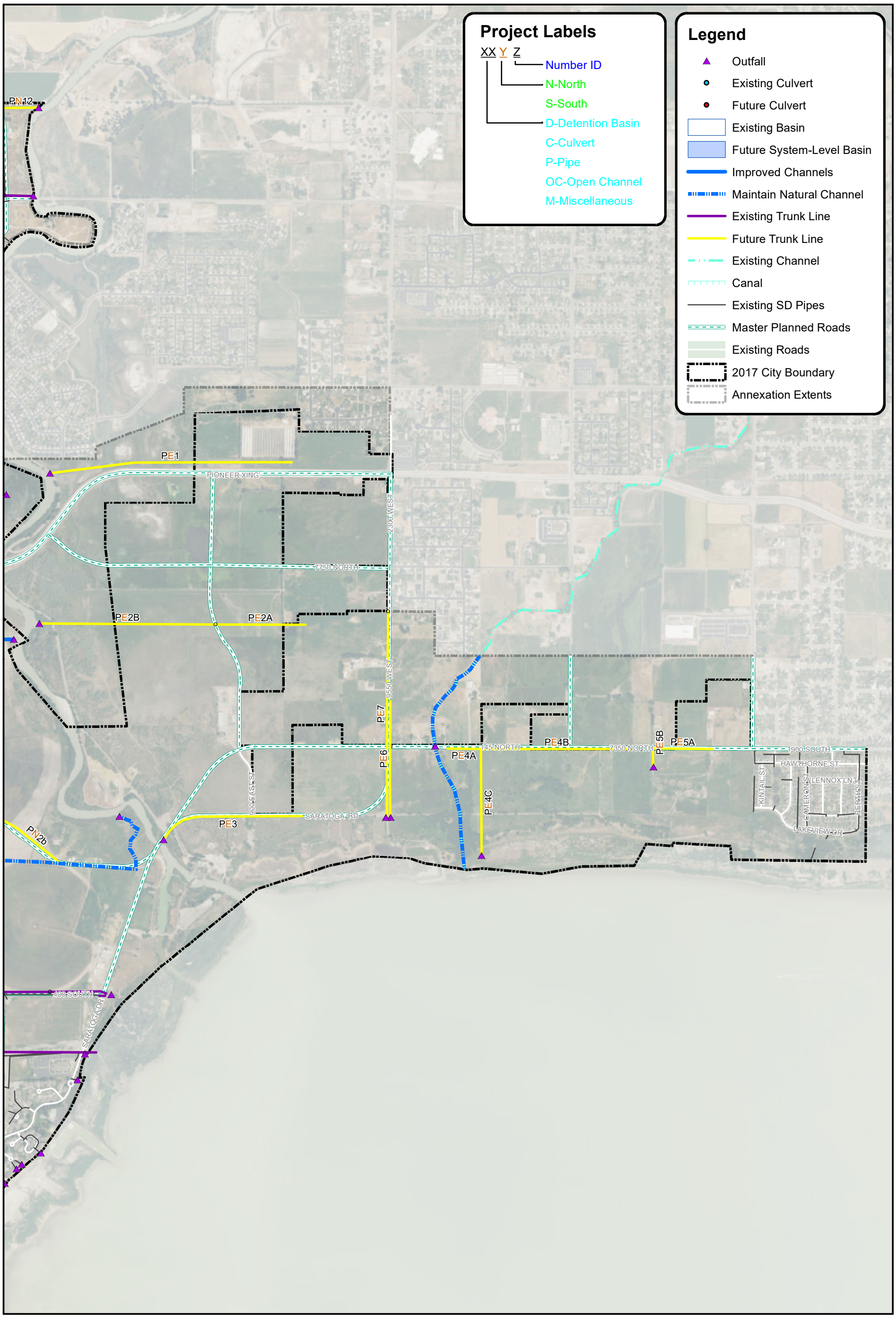
PROPOSED STORM DRAIN PROJECTS

NORTH:

SCALE: 0 625 1,250 2,500 Feet

FIGURE NO. 6-1A

P:\Saratoga Springs\305-17-04 2017 Storm Drain Capital Facilities Plan, IFFP & IFA Update\4.0 GIS\Figure 6-1_CFP.mxd jdietrich 6/25/2018



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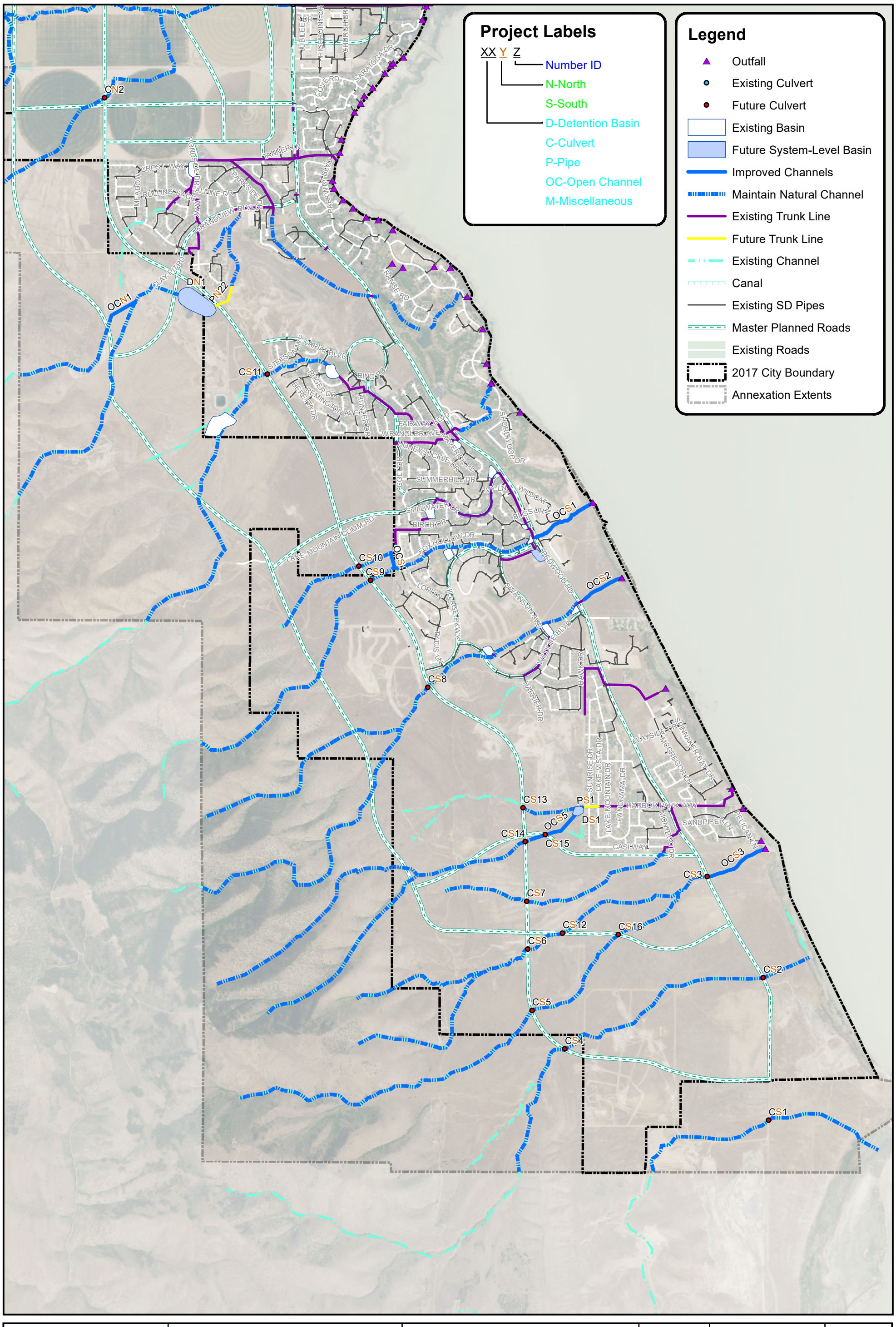
PROPOSED STORM DRAIN PROJECTS

NORTH:

SCALE: 0 330 660 1,320 Feet

FIGURE NO. 6-1B

P:\Saratoga Springs\305-17-04 2017 Storm Drain Capital Facilities Plan, IFFP & IFA Update\4.0 GIS\Figure 6-1_CFP.mxd jdietrich 6/25/2018



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STORM DRAIN CAPITAL FACILITIES PLAN

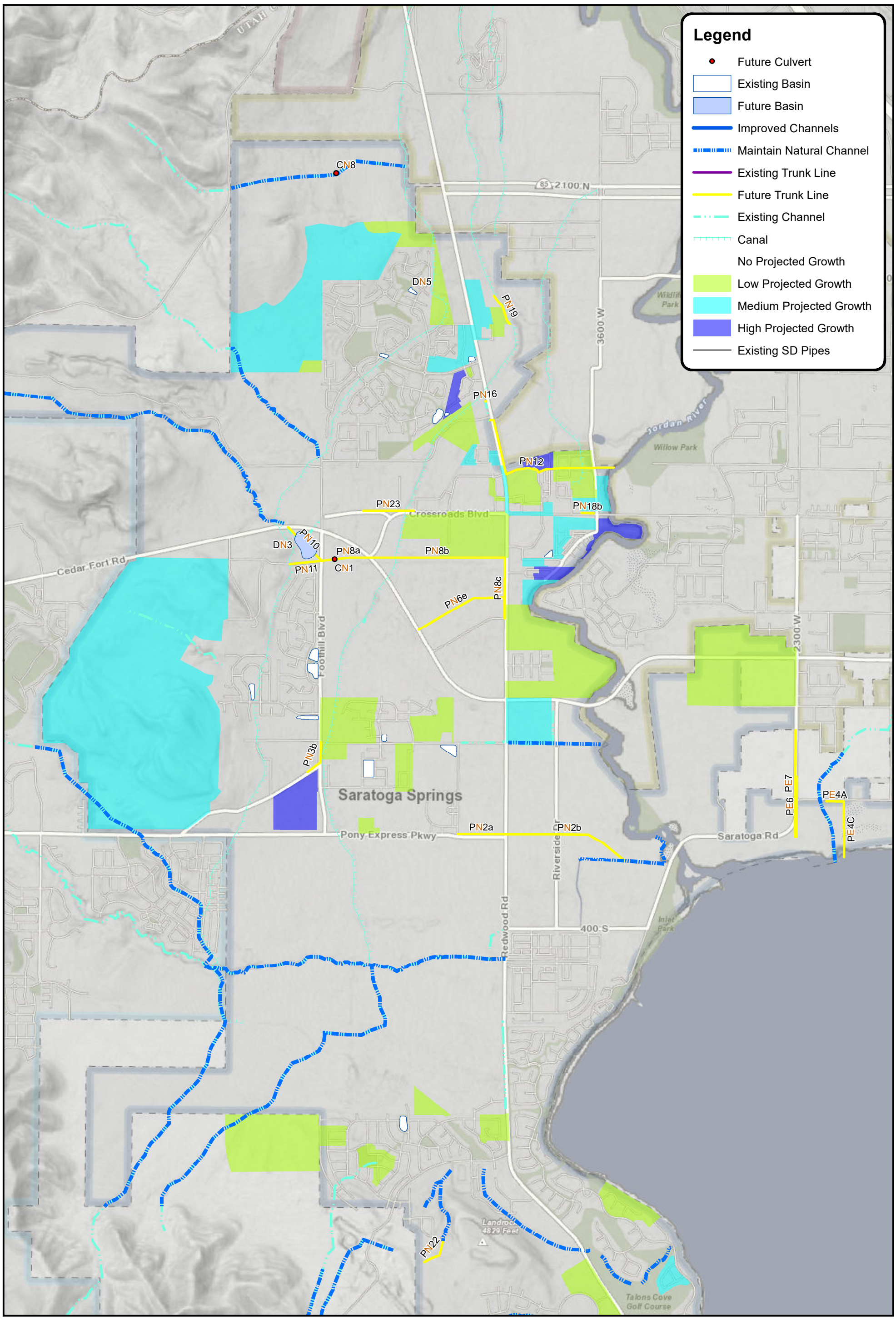
PROPOSED STORM DRAIN PROJECTS

NORTH:

SCALE: 0 625 1,250 2,500 Feet

FIGURE NO. 6-1C

P:\Saratoga Springs\305-17-04 2017 Storm Drain Capital Facilities Plan, IFFP & IFA Update\4.0 GIS\Figure 6-1_CFP.mxd jdietrich 6/25/2018



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SARATOGA SPRINGS
STORM DRAIN CAPITAL FACILITIES PLAN

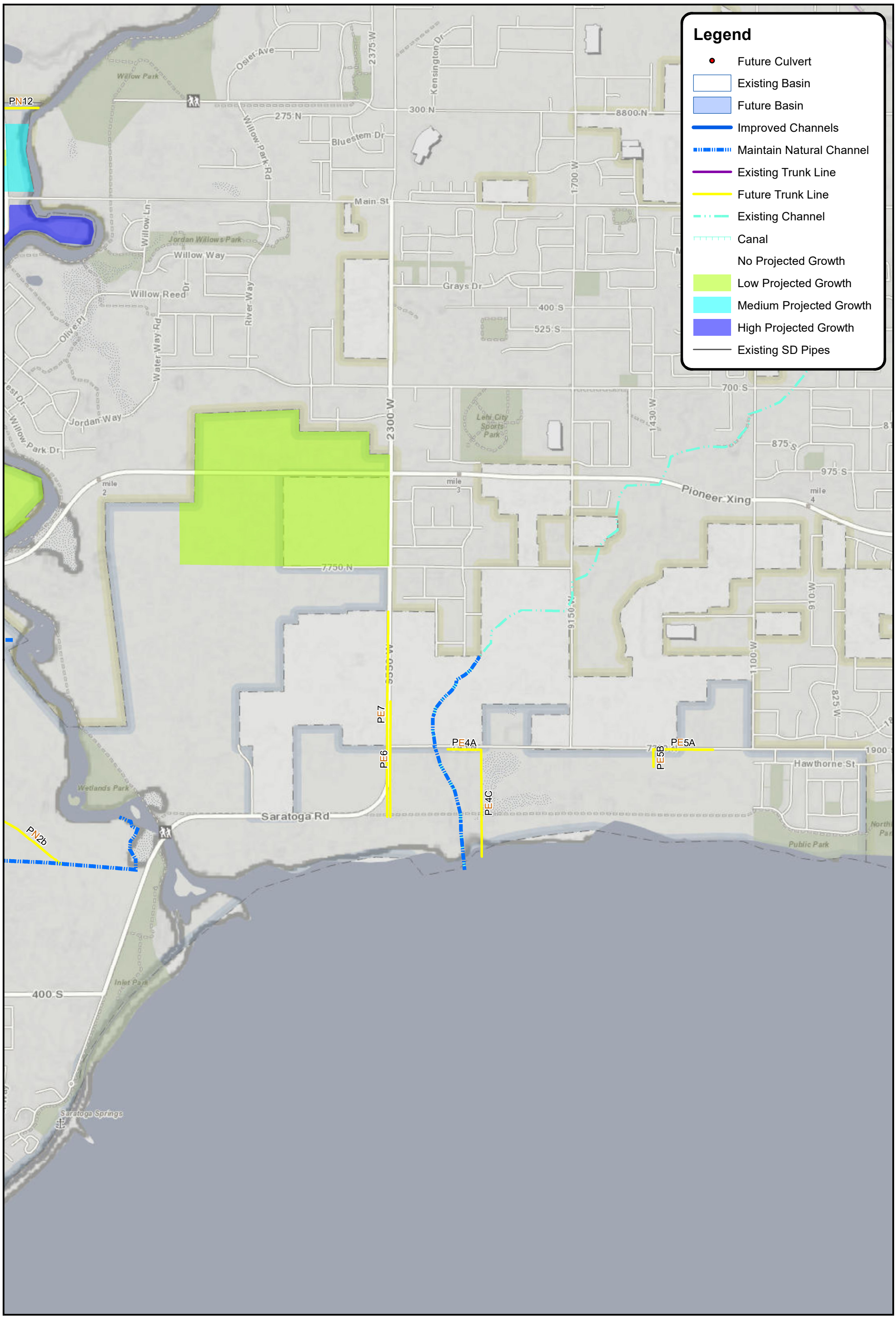
SHORT TERM GROWTH AND PROJECTS (NEXT 10 YEARS)

NORTH:

SCALE: 0 625 1,250 2,500 Feet

FIGURE NO. 6-2A

P:\Saratoga Springs\305-17-04 2017 Storm Drain Capital Facilities Plan, IFFP & IFA Update\4.0 GIS\Figure 6-2_CFP.mxd jdietrich 6/26/2018



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STORM DRAIN CAPITAL FACILITIES PLAN

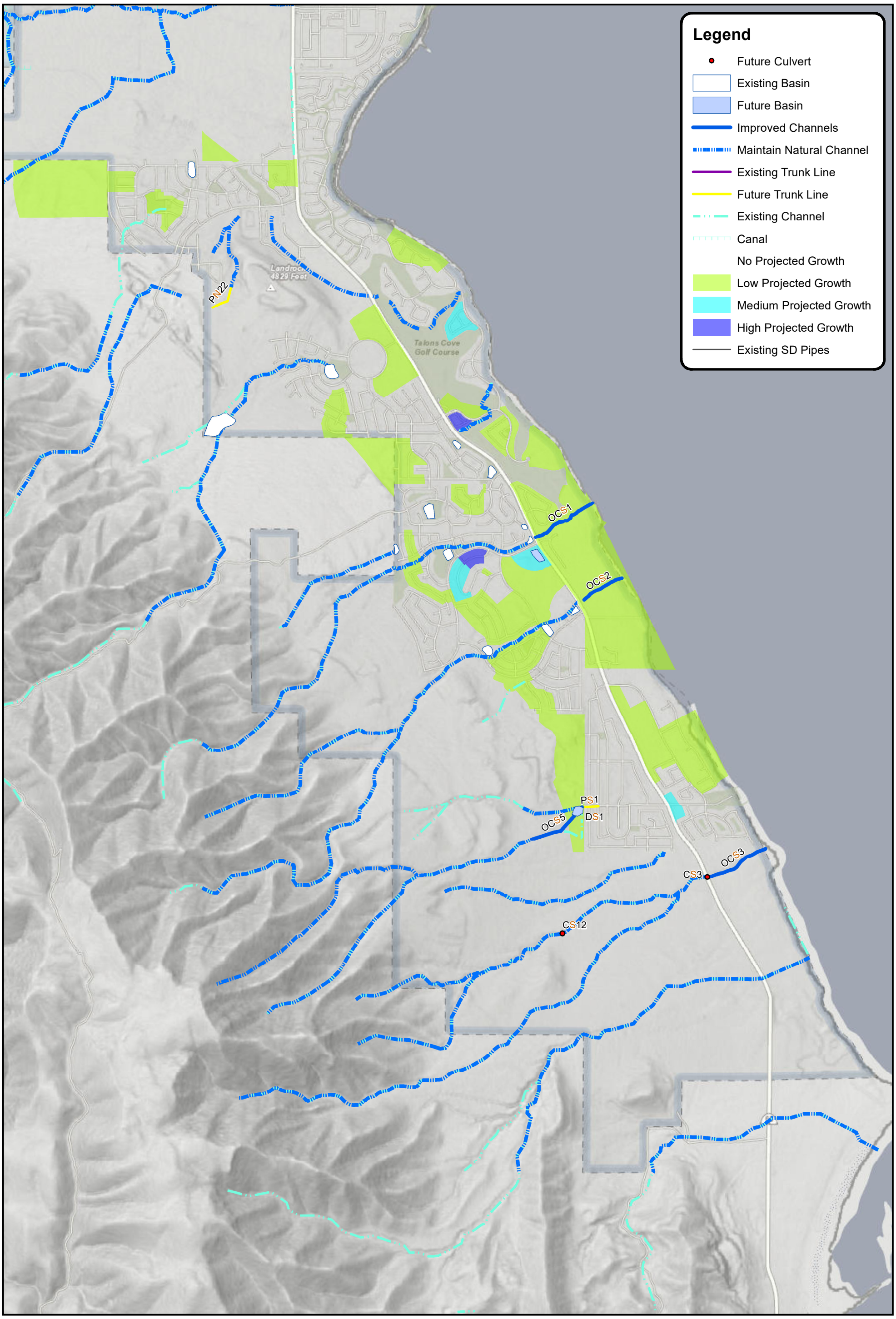
SHORT TERM GROWTH AND PROJECTS (NEXT 10 YEARS)

NORTH:

SCALE: 0 330 660 1,320 Feet

FIGURE NO. 6-2B

P:\Saratoga Springs\305-17-04 2017 Storm Drain Capital Facilities Plan, IFFP & IFA Update\4.0 GIS\Figure 6-2_CFP.mxd jdietrich 6/26/2018



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STORM DRAIN CAPITAL FACILITIES PLAN

SHORT TERM GROWTH AND PROJECTS (NEXT 10 YEARS)

NORTH:

SCALE: 0 625 1,250 2,500 Feet

FIGURE NO. 6-2C

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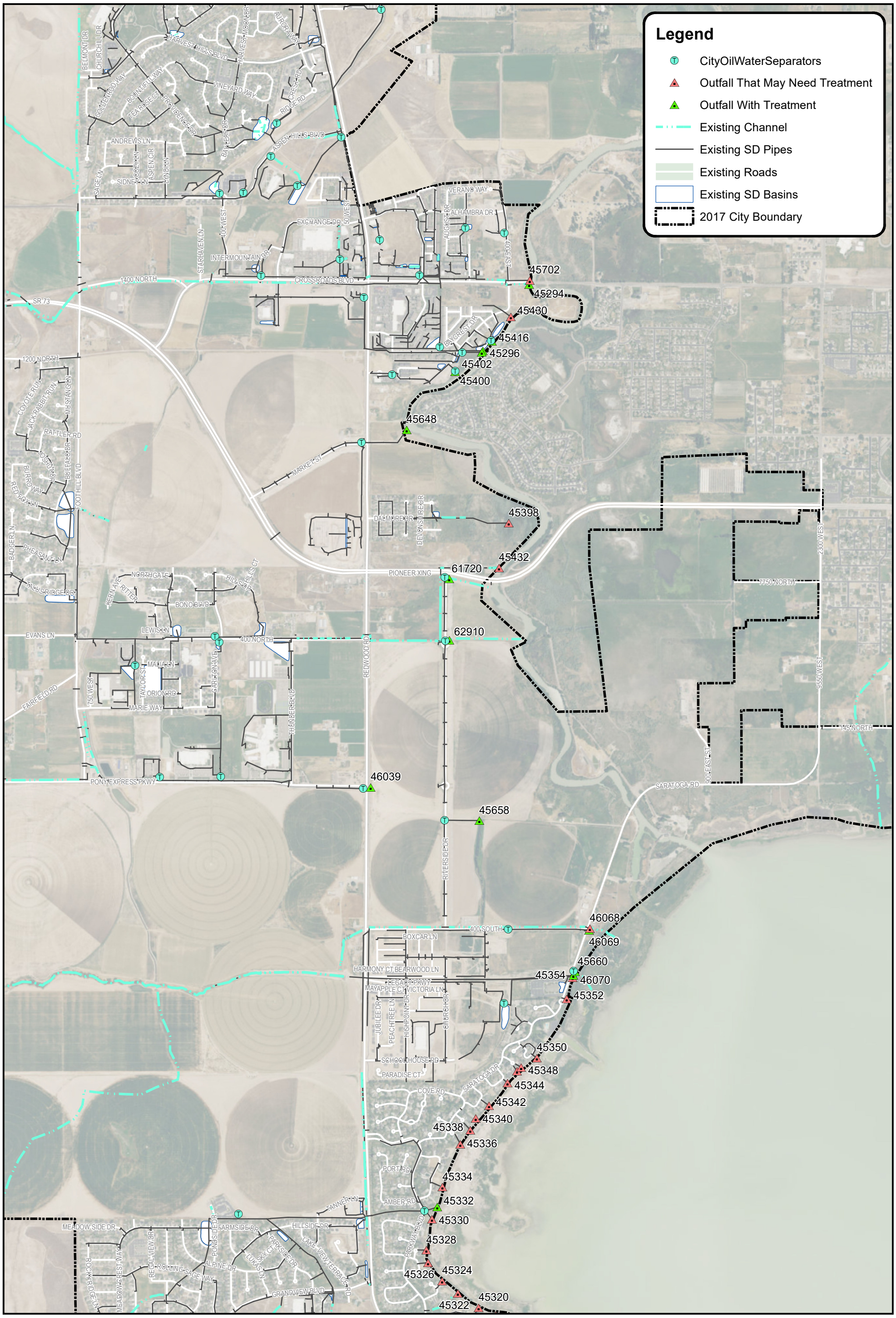

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STORM DRAIN CAPITAL FACILITIES PLAN

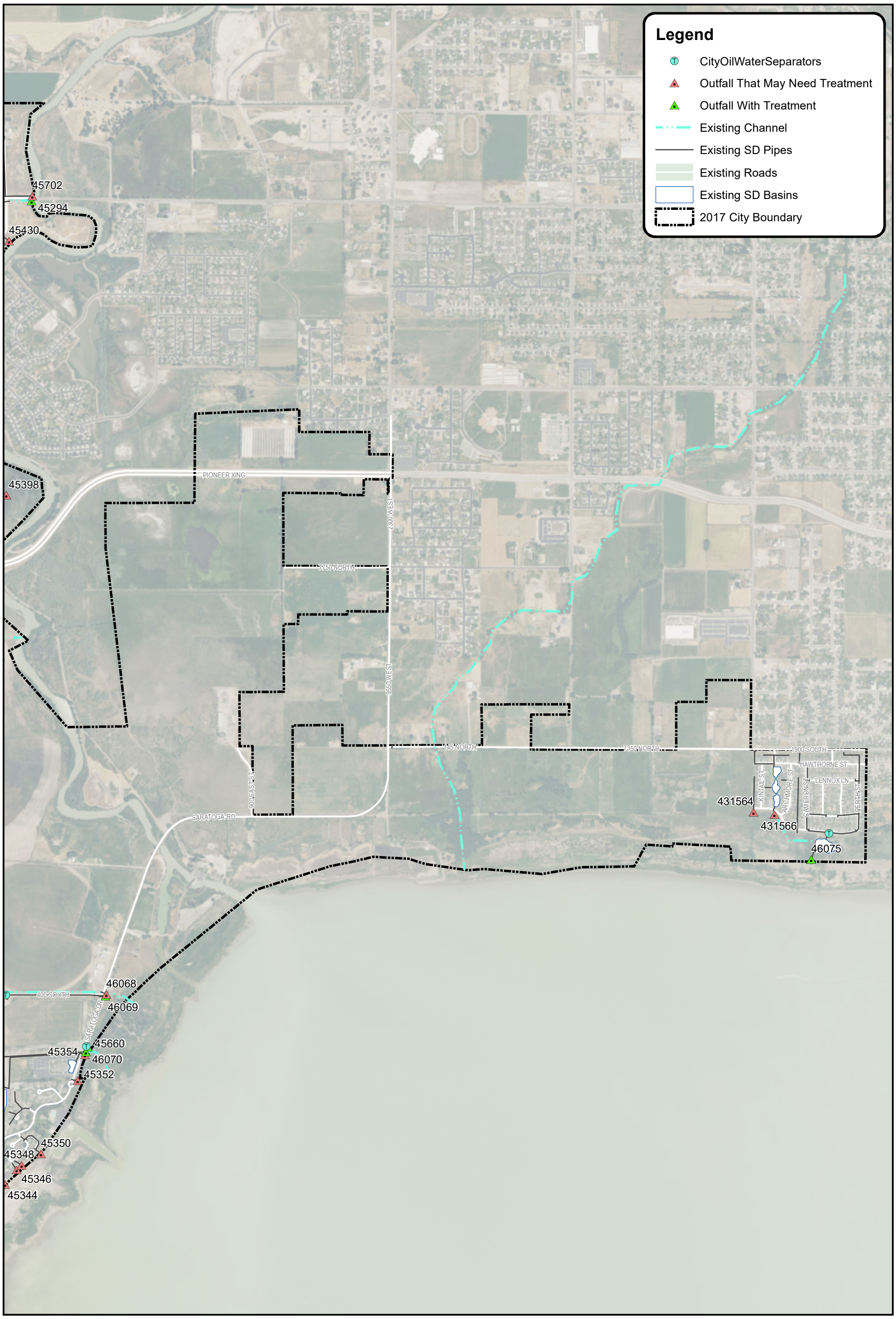
PROJECT M1
POLUTION CONTROL
OUTFALL TREATMENT

NORTH:

SCALE: 0 405 810 1,620 Feet

FIGURE NO. 6-3A

P:\Saratoga Springs\305-17-04 2017 Storm Drain Capital Facilities Plan, IFFP & IFA Update\4.0 GIS\Figure 6-3_CFP.mxd jdietrich 6/19/2018



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STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT M1
POLUTION CONTROL
OUTFALL TREATMENT

NORTH:

SCALE: 0 330 660 1,320 Feet

FIGURE NO.
6-3B

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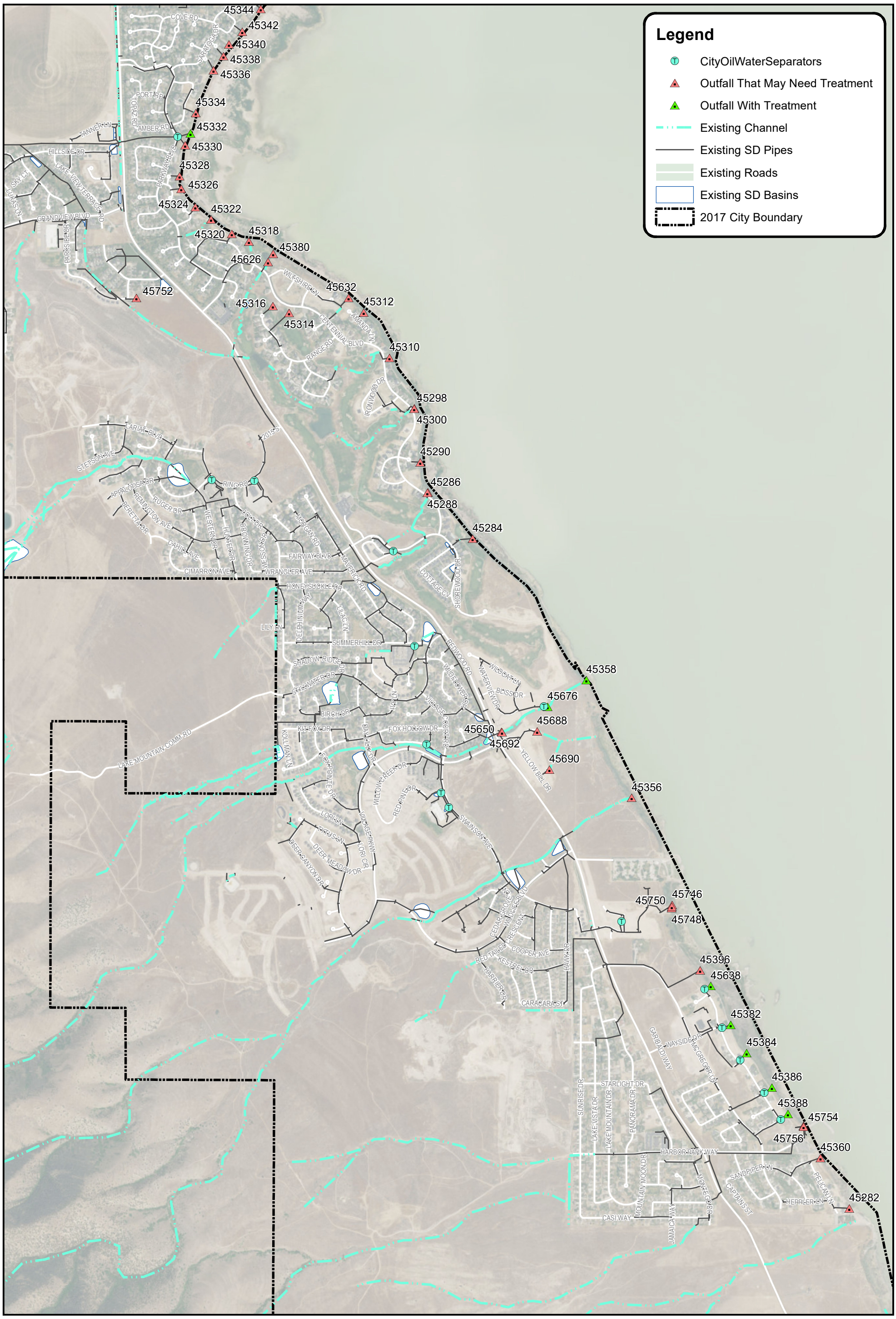

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STORM DRAIN CAPITAL FACILITIES PLAN

PROJECT M1
POLUTION CONTROL
OUTFALL TREATMENT

NORTH:
NORTH

SCALE:
0 405 810 1,620 Feet

FIGURE NO.
6-3C

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CHAPTER 7
AREAS OF ADDITIONAL INTEREST AND PLANNING

The City and BC&A have identified some areas of current or imminent development that have undergone additional planning and coordination. Some areas are also subject to special circumstances related to contractual obligation, historic flow patterns, etc. This section of the CFP provides brief descriptions of these circumstances. More detailed information can be obtained from the City.

WILDFLOWER DEVELOPMENT

The Wildflower development is a new development in the advanced stages of planning and design that will be constructed west of the current Harvest Hills development (Subbasins PR050 and PR060). There are several mountain drainages that currently cross this development. The submitted Wildflower Drainage Plan provide for the capture and conveyance of these mountain drainages in their storm drain system. This system conveys both subbasins to the Welby Jacob Canal in two different outfalls (shown on Figure 6-1). The rates of discharge into the canal is governed by an agreement between the Wildflower Development and the canal company. According to City records, the agreement allows 5 cfs to be discharged at the north outfall and 12.1 cfs to be discharged at the south outfall. (The text of the agreement is available in Appendix K of the approved Wildflower Master Utility Report.) The development will need to provide significant detention to achieve these rates of discharge in the 100-year storm event.

For additional information, please see the latest Wildflower drainage report and the review memos on the development produced by BC&A between April and August 2017.

PLANNED UDOT MOUNTAIN VIEW CORRIDOR

The Utah Department of Transportation (UDOT) is currently in the design stage of a segment of the Mountain View Corridor (MVC) that will enter the City from the North and terminate at Crossroads Blvd. This segment crosses through the middle of the Wildflower development and affects the same drainage subbasins (PR050 and PR060). BC&A contacted Lochner and Associates, the design consultant for UDOT, in October 2017 to determine UDOT's plans for drainage in and surrounding MVC and was able to determine the following.

- Runoff generated within the MVC right of way will be conveyed to UDOT detention basins near MVC that outfall to UDOTs existing storm drain system along Pioneer Crossing. This existing storm drain system discharges to a ditch near the Posey Sanitary Sewer Lift Station that outfalls to the Jordan River. Therefore, the City has no responsibility for runoff generated by MVC.
- Offsite drainage coming from the western subbasins (PR050 and PR060) will be captured at the western edge of the MVC ROW in a cutoff ditch and conveyed south (in the case of PR050) and north (in the case of PR060) and discharged into the Welby Jacob Canal (which is the current point of discharge of these drainages). Depending on the timing of MVC construction and the construction of the Wildflower development, the cutoff ditches may or may not be needed. At buildout, the Wildflower development will

intercept these offsite flows, and release them to the canal at a detained rate (see *Wildflower Development* above).

In accordance with this information, it appears no additional special planning by the City is necessary to accommodate MVC or the offsite flows it will affect. (With that said, it should be noted that, at the appropriate stages of planning approval, UDOT should still submit drainage plans to the City for review and comment.)

FOX HOLLOW DEVELOPMENT

The Fox Hollow development consists of several phases, some of which are already at or near buildout, and others are still in the planning phases. Phases of this development are located on either side of Village Parkway, west of Redwood Road. This development has existing detention facilities which were found to be insufficient to accommodate runoff from future upstream phases as currently planned. BC&A assisted the City in addressing these deficiencies and finding a solution that will not overwhelm existing facilities, but that can accommodate future growth. The main actions to be taken are summarized in the list below. A detailed discussion of this area, and the solution accepted by the developer and the City can be found in the technical memo produced by BC&A and last updated on June 7, 2017.

- A new detention basin is to be constructed by the developer on the southwest corner of Village Parkway and Redwood Road and some existing drainage infrastructure is to be intercepted to route flow to the new basin.
- The existing detention basin on the northwest corner of Village Parkway and Redwood Road is to be modified in that the overflow rim elevation is to be lowered about 12 inches to accommodate a higher release rate in the design storm event.
- Because the existing detention facility located to the west of Fox Hollow Phase N1 (existing) is planned by the developer to be abandoned in favor of development in the area, the natural drainage that flows to that detention basin is to be intercepted and rerouted down through the Fox Hollows development. A system level, open channel project has been identified and included within the CFP (project OCS4) to accomplish this task. (Note: The other improvements mentioned above are not system level improvements, but are project level improvements and thus have not been identified as capital improvement projects within this CFP.)
- One other item of note is that Fox Hollows Phase N12 has the option of discharging to the northeast or to the southeast of that phase of development. However, if discharge is to the northeast, facilities only have capacity to convey 0.05 cfs per acre peak discharge. If the phase discharges to the southeast, downstream facilities have capacity to convey 0.20 cfs per acre peak discharge.

THE SPRINGS DEVELOPMENT (POTENTIALLY KNOWN AS WILDFLOWER WEST)

The latest information available to the City and BC&A indicates that the same development group that owns Wildflower now owns, or will soon own, a significant portion of subbasin PR040, historically known as The Springs development. This development has also been called

Wildflower West but a final name is apparently still undecided. Whatever the name of this development, a few items must be noted as follows.

The drainage facilities currently serving the historic runoff from this subbasin (and the upstream mountain subbasin that drains through it) are undersized. This CFP (as well as the last CFP) has identified improvement projects (e.g. CN6, DN3, PN10, PN8a, PN8b, PN8c) necessary to serve this area but these projects, like all others, will be accommodated as funding allows and may not be completed in full for many years. Therefore, this development, if it develops before these projects are completed, will be required to detain to discharge rates that can be accommodated by existing downstream infrastructure. Because the capacity of the series of small ditches and pipes along Crossroads Blvd that serves this area is unknown, the allowable release rate from the Springs development is also unknown. It will be the developer's responsibility to determine an allowable release rate that will fit within existing facilities as part of his drainage report and request for community plan approval. Alternatively, it may be possible for the developer to expedite the construction of identified CFP projects so that the detention requirement within the development can be less restrictive.

POTENTIAL RETENTION REQUIREMENTS

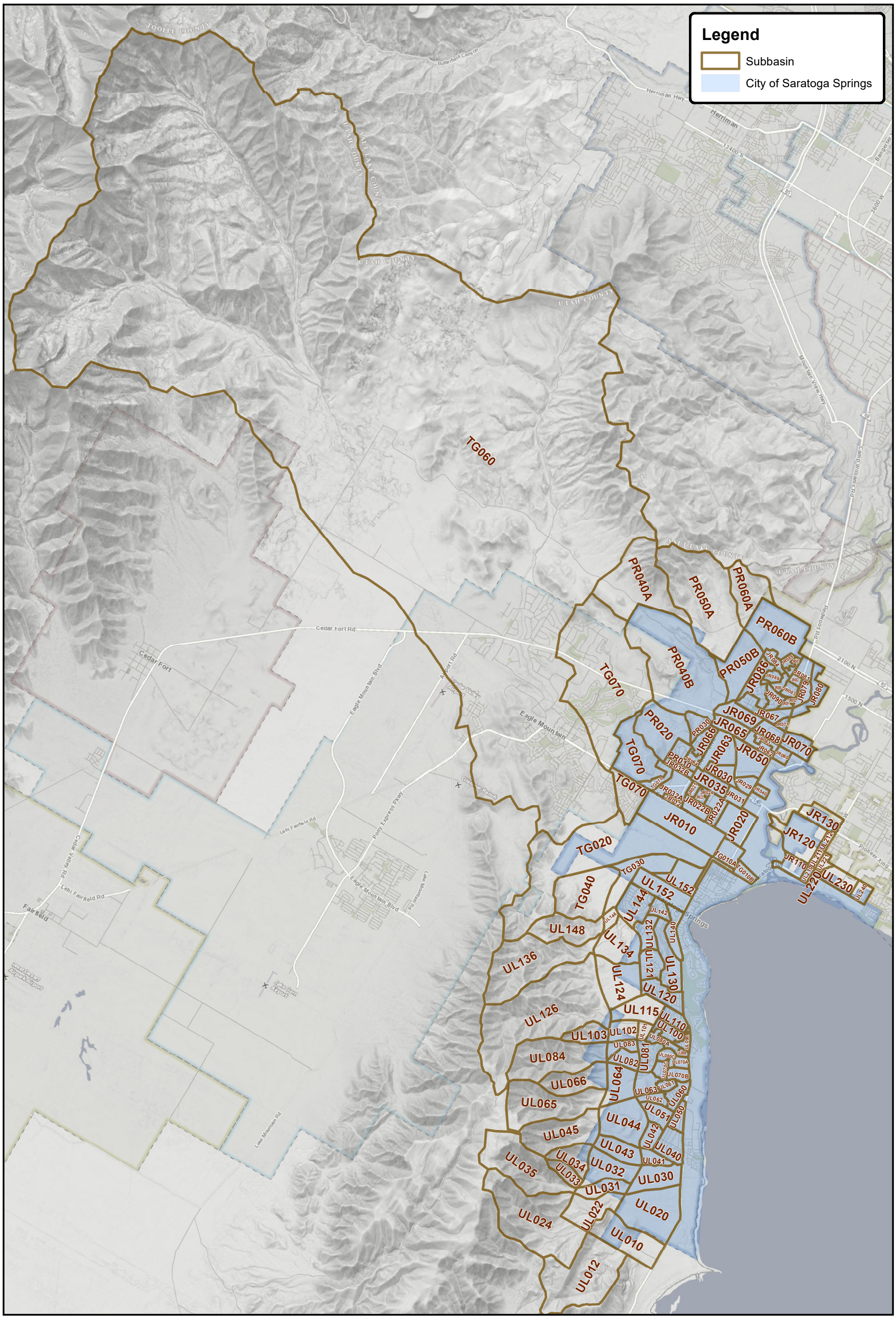
Recently, there has been much discussion regarding potential changes to the MS4 permit that would require retention of the 90th percentile storm event on site. While the City anticipates these changes to eventually be adopted, the analysis resulting in this CFP has not been amended to accommodate these potential requirements. It adheres to current, adopted standards. However, regardless of whether the potential requirements are enacted, the conclusions and data presented in this CFP are still applicable as described below.

With regard to conveyance capacities, the potential requirement will not affect pipe, channel, treatment, or other conveyance sizing because release rates from detention basins (and corresponding peak flow rates in the system) would not change under the potential requirements.

Conversely, the potential requirements could affect the total storage volume needed at detention sites for some storm events. However, it is expected that future City policy will dictate the antecedent design condition to be based on filled retention prior to the design storm event. In other words, designers will be required to assume that, prior to the design storm event, a smaller storm event will have filled and used the retention portion of the storage structure. Therefore, the detention portion of the basin will have the same volume as presented and concluded within this CFP. Thus, while additional storage volume will be added at local detention sites for retention at the detailed design stage, the volumes presented herein for regional detention will would still be representative of the detention volume required.

In conclusion, no significant changes to the overall plan are expected as part of potential future changes to the MS4 permit.

APPENDIX A
HYDROLOGIC DATA



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SARATOGA SPRINGS
STORM DRAIN CAPITAL FACILITIES PLAN

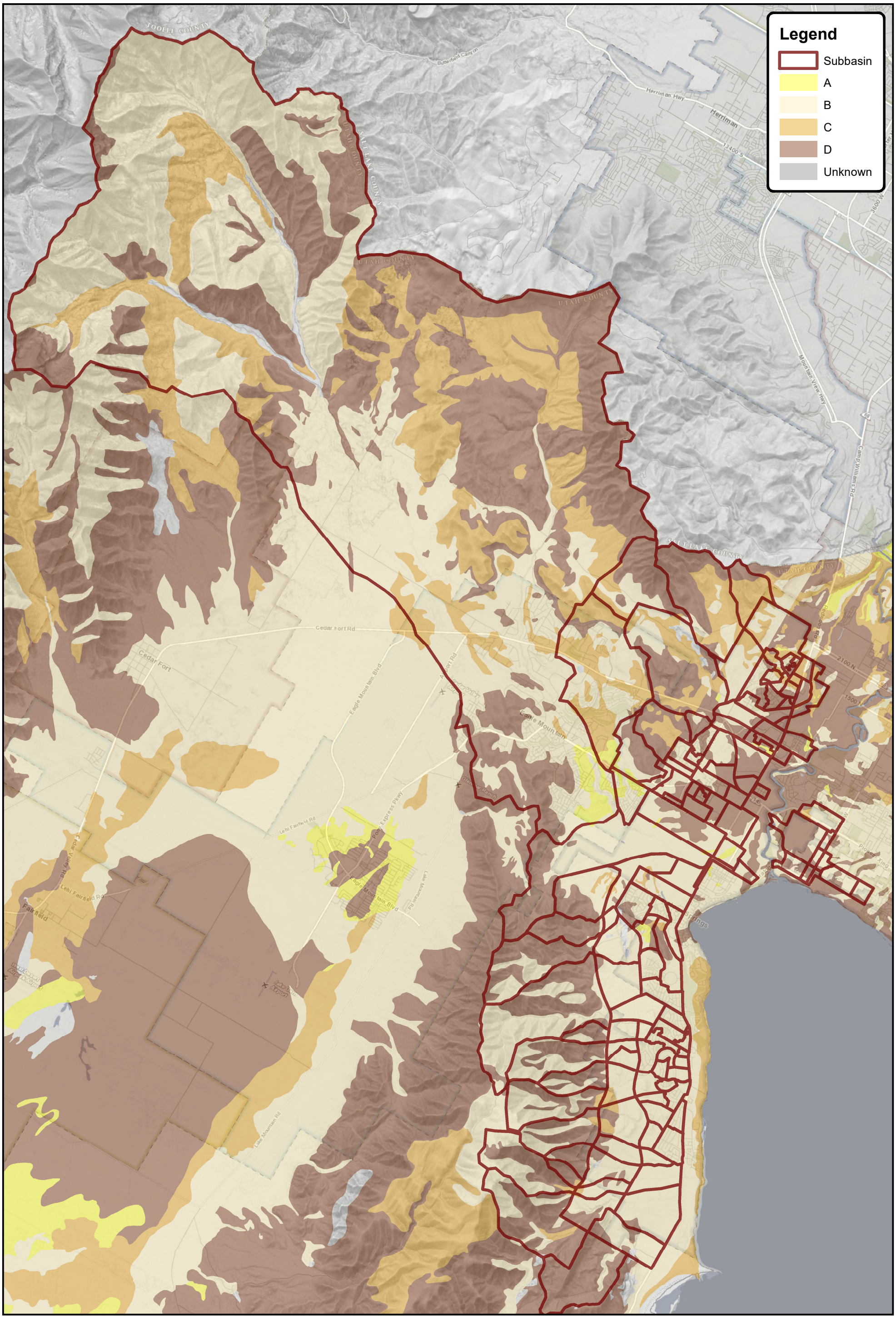
SUBBASIN BOUNDARIES

NORTH:

SCALE: 0 1,950 3,900 7,800 Feet

FIGURE NO. A-1

P:\Saratoga Springs\305-17-04 2017 Storm Drain Capital Facilities Plan, IFFP & IFA Update\4.0 GIS\Master SD Map_2017.mxd jdietrich 10/23/2017



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SARATOGA SPRINGS
STORM DRAIN CAPITAL FACILITIES PLAN

HYDROLOGIC SOIL GROUP

NORTH:

SCALE: 0 1,950 3,900 7,800 Feet

FIGURE NO. A-2

P:\Saratoga Springs\305-17-04 2017 Storm Drain Capital Facilities Plan, IFFP & IFA Update\4.0 GIS\Master SD Map_2017.mxd jdietrich 10/19/2017

APPENDIX B
ASSA INPUT AND OUTPUT

FULL BUILD-OUT CONDITION - NORTH
10-YEAR STORM

Project Description

File Name	Saratoga North Buildout_SD_v3.1.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	HEC-1
HEC-1 unit hydrograph method	SCS Dimensionless
HEC-1 loss method	SCS Curve Number
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Jan 01, 2012	00:00:00
End Analysis On	Jan 01, 2012	23:55:00
Start Reporting On	Jan 01, 2012	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:01:00	days hh:mm:ss
Reporting Time Step	0 00:01:00	days hh:mm:ss
Routing Time Step	15	seconds

Number of Elements

	Qty
Rain Gages	5
Subbasins	52
Nodes	236
Junctions	173
Outfalls	12
Flow Diversions	0
Inlets	0
Storage Nodes	51
Links	235
Channels	7
Pipes	174
Pumps	0
Orifices	10
Weirs	1
Outlets	43
Pollutants	0
Land Uses	0

Subbasin Summary

SN	Subbasin ID	Area (ac)	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)
1	JR010	432.85	0.96	0.58	249.76	259.66
2	JR012	19.12	0.96	0.40	7.73	11.76
3	JR020	195.62	0.96	0.82	160.61	185.03
4	JR022A	84.02	0.96	0.70	58.90	36.35
5	JR022B	74.64	0.96	0.70	52.32	32.28
6	JR023	24.06	0.96	0.33	7.82	10.32
7	JR024	9.50	0.96	0.52	4.91	6.80
8	JR025	23.83	0.96	0.80	18.95	17.99
9	JR029	49.77	0.96	0.58	28.97	28.63
10	JR030	94.11	0.96	0.58	54.30	62.80
11	JR031	57.94	0.96	0.70	40.73	48.82
12	JR032A	112.28	0.96	0.23	25.94	38.62
13	JR032B	40.60	0.96	0.24	9.78	13.20
14	JR035	103.97	0.96	0.26	27.03	35.22
15	JR040	26.23	0.96	0.41	10.70	15.07
16	JR050	182.62	0.96	0.58	106.29	105.01
17	JR060	39.27	0.96	0.76	29.73	45.81
18	JR061	32.26	0.96	0.74	23.90	33.58
19	JR062	55.28	0.96	0.74	41.02	57.56
20	JR063	158.71	0.96	0.58	91.58	123.94
21	JR064A	27.36	0.96	0.30	8.15	12.43
22	JR064B	83.17	0.96	0.25	20.54	25.62
23	JR065	94.86	0.96	0.77	73.04	104.61
24	JR066	81.90	0.96	0.27	22.03	27.29
25	JR067	119.96	0.96	0.39	46.18	51.72
26	JR068	78.41	0.96	0.81	63.82	87.30
27	JR069	123.21	0.96	0.78	95.98	137.58
28	JR070	109.91	0.96	0.70	76.50	88.02
29	JR071	16.88	0.96	0.39	6.50	7.29
30	JR079	55.29	0.96	0.82	45.34	56.90
31	JR080	113.40	0.96	0.82	92.87	118.75
32	JR081	55.94	0.96	0.82	45.76	58.57
33	JR082	20.20	0.96	0.82	16.54	23.70
34	JR083	36.82	0.96	0.70	25.89	37.04
35	JR084	47.23	0.96	0.24	11.33	13.58
36	JR085	25.52	0.96	0.32	8.09	13.12
37	JR086	138.78	0.96	0.35	48.02	67.56
38	JR087	23.81	0.96	0.35	8.31	11.59
39	JR088	37.93	0.96	0.29	10.96	18.53
40	JR089	33.28	0.96	0.26	8.65	13.43
41	JR090	58.55	0.96	0.34	19.79	29.48
42	JR091	18.12	0.96	0.57	10.40	15.39
43	JR092	8.80	0.96	0.85	7.46	8.19
44	PR020	371.05	0.96	0.27	101.30	123.44
45	PR030	78.69	0.96	0.29	22.98	27.64
46	PR040	2000.99	0.96	0.18	354.17	182.29
47	PR050	1368.43	0.96	0.10	134.11	79.21
48	PR060	721.99	0.96	0.26	188.44	151.29
49	TG010A	99.51	0.96	0.82	81.70	94.12
50	TG010B	80.05	0.96	0.82	65.72	75.72
51	TG070	72.36	0.96	0.23	16.72	24.90
52	WildflowerPlatA	2.85	0.96	0.24	0.69	1.45

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	J0018-0	Junction	4545.56	4548.66	0.00	4551.76	0.00	6.00	4546.15	0.00	2.51	0 00:00	0.00	0.00
2	J0018-1	Junction	4540.09	4544.49	0.00	4548.89	0.00	6.00	4540.70	0.00	3.79	0 00:00	0.00	0.00
3	J0019-0	Junction	4545.76	4549.66	0.00	4553.56	0.00	6.00	4546.99	0.00	2.67	0 00:00	0.00	0.00
4	J0020-1	Junction	4535.12	4539.32	0.00	4543.52	0.00	6.00	4535.73	0.00	3.59	0 00:00	0.00	0.00
5	J0021-1	Junction	4530.51	4534.61	0.00	4538.71	0.00	6.00	4532.49	0.00	2.12	0 00:00	0.00	0.00
6	J0023-0	Junction	4530.35	4533.90	0.00	4537.45	0.00	7.12	4532.46	0.00	1.44	0 00:00	0.00	0.00
7	J0026-1	Junction	4546.71	4549.51	0.00	4552.31	0.00	6.00	4547.76	0.00	8.95	0 00:00	0.00	0.00
8	J0038-0	Junction	4544.91	4550.35	0.00	4550.35	0.00	29.00	4546.29	0.00	4.06	0 00:00	0.00	0.00
9	J0040-0	Junction	4554.09	4558.54	0.00	4562.99	0.00	14.00	4555.27	0.00	3.27	0 00:00	0.00	0.00
10	J0040-1	Junction	4553.18	4557.73	0.00	4562.28	0.00	14.00	4554.33	0.00	3.40	0 00:00	0.00	0.00
11	J0041-0	Junction	4551.21	4555.41	0.00	4559.61	0.00	14.00	4552.38	0.00	3.03	0 00:00	0.00	0.00
12	J0041-1	Junction	4550.28	4555.41	0.00	4567.89	0.00	14.00	4551.45	0.00	3.96	0 00:00	0.00	0.00
13	J0043-0	Junction	4558.86	4564.71	0.00	4570.56	0.00	14.00	4560.45	0.00	4.26	0 00:00	0.00	0.00
14	J0043-1	Junction	4558.42	4563.42	0.00	4568.42	0.00	14.00	4559.50	0.00	3.92	0 00:00	0.00	0.00
15	J0044-1	Junction	4556.59	4561.79	0.00	4566.99	0.00	14.00	4557.65	0.00	4.14	0 00:00	0.00	0.00
16	J0048-0	Junction	4560.70	4566.85	0.00	4579.38	0.00	14.00	4561.82	0.00	5.03	0 00:00	0.00	0.00
17	J0050-0	Junction	4579.17	4587.57	0.00	4595.97	0.00	29.85	4584.71	0.00	2.86	0 00:00	0.00	0.00
18	J0050-1	Junction	4579.09	4587.64	0.00	4596.19	0.00	57.81	4580.93	0.00	6.71	0 00:00	0.00	0.00
19	J0051-1	Junction	4576.60	4581.55	0.00	4586.50	0.00	0.00	4576.60	0.00	4.95	0 00:00	0.00	0.00
20	J0052-1	Junction	4571.48	4575.05	0.00	4578.62	0.00	0.00	4571.48	0.00	3.57	0 00:00	0.00	0.00
21	J0054-1	Junction	4561.20	4566.85	0.00	4572.50	0.00	14.00	4562.39	0.00	4.46	0 00:00	0.00	0.00
22	J0071-0	Junction	4585.38	4589.48	0.00	4593.58	0.00	11.89	4586.77	0.00	2.71	0 00:00	0.00	0.00
23	J0071-1	Junction	4585.32	4588.92	0.00	4592.52	0.00	13.46	4586.05	0.00	2.87	0 00:00	0.00	0.00
24	J0073-0	Junction	4605.89	4616.51	0.00	4627.14	0.00	0.00	4605.89	0.00	10.62	0 00:00	0.00	0.00
25	J0073-1	Junction	4605.36	4612.03	0.00	4618.70	0.00	0.00	4605.36	0.00	6.67	0 00:00	0.00	0.00
26	J0074-0	Junction	4609.03	4618.78	0.00	4628.53	0.00	15.00	4610.51	0.00	8.27	0 00:00	0.00	0.00
27	J0074-1	Junction	4608.13	4617.03	0.00	4625.93	0.00	15.00	4609.32	0.00	7.71	0 00:00	0.00	0.00
28	J0075-1	Junction	4605.98	4617.53	0.00	4629.08	0.00	28.00	4607.23	0.00	10.30	0 00:00	0.00	0.00
29	J0076-0	Junction	4609.87	4618.92	0.00	4627.97	0.00	15.18	4611.84	0.00	7.08	0 00:00	0.00	0.00
30	J0077-0	Junction	4610.90	4619.15	0.00	4627.40	0.00	15.00	4614.19	0.00	4.96	0 00:00	0.00	0.00
31	J0078-0	Junction	4612.12	4620.37	0.00	4628.62	0.00	15.00	4616.77	0.00	3.60	0 00:00	0.00	0.00
32	J0079-0	Junction	4613.74	4621.69	0.00	4629.64	0.00	15.01	4617.26	0.00	4.43	0 00:00	0.00	0.00
33	J0080-0	Junction	4614.73	4619.33	0.00	4623.93	0.00	15.00	4618.87	0.00	0.46	0 00:00	0.00	0.00
34	J0080-1	Junction	4614.29	4620.14	0.00	4625.99	0.00	15.00	4618.02	0.00	2.12	0 00:00	0.00	0.00
35	J0084-0	Junction	4532.69	4542.04	0.00	4551.39	0.00	17.83	4534.64	0.00	7.40	0 00:00	0.00	0.00
36	J0086-0	Junction	4534.15	4542.55	0.00	4542.55	0.00	17.83	4535.54	0.00	7.01	0 00:00	0.00	0.00
37	J0086-1	Junction	4533.20	4541.65	0.00	4550.10	0.00	17.83	4534.88	0.00	6.77	0 00:00	0.00	0.00
38	J0108-1	Junction	4586.74	4593.41	0.00	4600.08	0.00	0.00	4586.74	0.00	6.67	0 00:00	0.00	0.00
39	J0109-1	Junction	4586.99	4593.23	0.00	4599.90	0.00	11.77	4587.32	0.00	9.67	0 00:00	0.00	0.00
40	J0110-1	Junction	4585.43	4590.68	0.00	4597.35	0.00	11.77	4587.31	0.00	8.12	0 00:00	0.00	0.00
41	J0125-0	Junction	4626.22	4632.02	0.00	4637.82	0.00	13.00	4626.94	0.00	5.08	0 00:00	0.00	0.00
42	J0125-1	Junction	4617.41	4622.06	0.00	4626.71	0.00	13.00	4618.42	0.00	3.64	0 00:00	0.00	0.00
43	J0126-0	Junction	4632.19	4638.49	0.00	4644.79	0.00	11.00	4632.94	0.00	5.55	0 00:00	0.00	0.00
44	J0126-1	Junction	4629.13	4634.00	0.00	4657.46	0.00	13.00	4630.19	0.00	3.81	0 00:00	0.00	0.00
45	J0127-0	Junction	4606.32	4617.37	0.00	4628.42	0.00	0.00	4606.32	0.00	11.05	0 00:00	0.00	0.00
46	J0129-0	Junction	4615.74	4620.29	0.00	4624.84	0.00	13.00	4616.48	0.00	3.81	0 00:00	0.00	0.00
47	J421012	Junction	4582.55	4590.95	0.00	4599.35	0.00	28.00	4584.19	0.00	6.76	0 00:00	0.00	0.00
48	J421015	Junction	4596.75	4601.15	0.00	4605.55	0.00	11.77	4598.07	0.00	3.08	0 00:00	0.00	0.00
49	J421016	Junction	4601.71	4610.26	0.00	4618.81	0.00	11.77	4602.85	0.00	7.41	0 00:00	0.00	0.00
50	J421017	Junction	4605.36	4614.06	0.00	4622.76	0.00	11.77	4607.55	0.00	6.51	0 00:00	0.00	0.00
51	J421018	Junction	4608.21	4614.81	0.00	4621.41	0.00	11.77	4609.16	0.00	5.65	0 00:00	0.00	0.00
52	J421019	Junction	4610.44	4615.14	0.00	4619.84	0.00	11.77	4611.52	0.00	3.62	0 00:00	0.00	0.00
53	J421185	Junction	4731.42	4749.37	0.00	4767.32	0.00	19.09	4732.97	0.00	16.40	0 00:00	0.00	0.00
54	J421186	Junction	4730.77	4747.62	0.00	4764.47	0.00	7.10	4732.13	0.00	15.49	0 00:00	0.00	0.00
55	J421187	Junction	4730.20	4746.45	0.00	4762.70	0.00	7.09	4731.57	0.00	14.88	0 00:00	0.00	0.00
56	J421188	Junction	4729.81	4745.66	0.00	4761.51	0.00	7.09	4731.02	0.00	14.64	0 00:00	0.00	0.00
57	J421189	Junction	4728.22	4739.47	0.00	4750.72	0.00	19.04	4729.13	0.00	10.34	0 00:00	0.00	0.00
58	J421190	Junction	4716.50	4729.05	0.00	4741.60	0.00	19.04	4717.74	0.00	11.31	0 00:00	0.00	0.00
59	J421191	Junction	4713.49	4725.79	0.00	4738.09	0.00	19.04	4714.30	0.00	11.49	0 00:00	0.00	0.00
60	J421192	Junction	4703.92	4713.42	0.00	4722.92	0.00	19.04	4704.76	0.00	8.66	0 00:00	0.00	0.00
61	J421193	Junction	4694.15	4701.55	0.00	4708.95	0.00	19.04	4694.99	0.00	6.56	0 00:00	0.00	0.00
62	J421194	Junction	4687.36	4694.76	0.00	4702.16	0.00	31.63	4688.60	0.00	6.16	0 00:00	0.00	0.00
63	J421195	Junction	4670.77	4676.77	0.00	4682.77	0.00	31.63	4672.13	0.00	4.64	0 00:00	0.00	0.00
64	J421196	Junction	4663.74	4670.24	0.00	4676.74	0.00	31.63	4665.39	0.00	4.85	0 00:00	0.00	0.00
65	J421197	Junction	4733.85	4743.45	0.00	4753.05	0.00	5.71	4734.77	0.00	8.68	0 00:00	0.00	0.00
66	J421200	Junction	4733.33	4743.58	0.00	4753.83	0.00	5.63	4734.43	0.00	9.15	0 00:00	0.00	0.00
67	J421201	Junction	4732.57	4746.07	0.00	4759.57	0.00	5.62	4733.49	0.00	12.58	0 00:00	0.00	0.00
68	J4244	Junction	4522.27	4528.57	0.00	4534.87	0.00	56.01	4524.73	0.00	3.84	0 00:00	0.00	0.00
69	J4245	Junction	4616.24	4622.54	0.00	4628.84	0.00	11.77	4616.99	0.00	5.55	0 00:00	0.00	0.00
70	J42450	Junction	4546.90	4554.75	0.00	4562.60	0.00	111.28	4549.00	0.00	5.75	0 00:00	0.00	0.00
71	J42451	Junction	4552.23	4560.13	0.00	4568.03	0.00	111.28	4554.63	0.00	5.50	0 00:00	0.00	0.00
72	J42452	Junction	4557.88	4566.58	0.00	4575.28	0.00	111.28	4560.38	0.00	6.20	0 00:00	0.00	0.00
73	J42453	Junction	4559.93	4570.43	0.00	4580.93	0.00	93.28	4562.53	0.00	7.90	0 00:00	0.00	0.00
74	J42454	Junction	4568.24	4570.99	0.00	4573.74	0.00	9.53	4568.71	0.00	2.28	0 00:00	0.00	0.00
75	J4249	Junction	4522.92	4529.59	0.00	4529.59	0.00	56.02	4527.17	0.00	2.42	0 00:00	0.00	0.00
76	J42554	Junction	4531.50	4542.18	0.00	4542.18	0.00	136.59	4534.26	0.00	7.92	0 00:00	0.00	0.00
77	J4260	Junction	4523.15	4529.55	0.00	4535.95	0.00	56.02	4525.52	0.00	4.03	0 00:00	0.00	0.00
78	J4262	Junction	4523.56	4529.96	0.00	4536.36	0.00	56.02	4527.91	0.00	2.05	0 00:00	0.00	0.00
79	J4263	Junction	4524.03	4530.03	0.00	4536.03	0.00	56.02	4529.98	0.00	0.05	0 00:00	0.00	0.00
80	J4264	Junction	4524.56	4531.56	0.00	4538.56	0.00	35.05	4530.94	0.00	0.62	0 00:00	0.00	0.00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
81	J4265	Junction	4524.66	4532.76	0.00	4540.86	0.00	35.02	4531.21	0.00	1.55	0 00:00	0.00	0.00
82	J4267	Junction	4526.93	4533.08	0.00	4539.23	0.00	35.02	4533.84	0.76	0.00	0 00:00	0.00	0.00
83	J4272	Junction	4547.81	4553.01	0.00	4558.21	0.00	14.01	4549.22	0.00	3.79	0 00:00	0.00	0.00
84	J4278	Junction	4547.22	4551.82	0.00	4556.42	0.00	14.00	4548.51	0.00	3.31	0 00:00	0.00	0.00
85	J4287	Junction	4566.95	4570.85	0.00	4574.75	0.00	14.01	4568.08	0.00	2.77	0 00:00	0.00	0.00
86	J42877	Junction	4500.54	4509.34	0.00	4509.34	0.00	5.00	4506.66	0.00	2.68	0 00:00	0.00	0.00
87	J4288	Junction	4565.39	4569.39	0.00	4573.39	0.00	14.00	4566.41	0.00	2.98	0 00:00	0.00	0.00
88	J42886	Junction	4502.98	4506.60	0.00	4513.27	0.00	12.65	4504.25	0.00	2.35	0 00:00	0.00	0.00
89	J42887	Junction	4628.69	4635.94	0.00	4643.19	0.00	41.27	4631.72	0.00	4.22	0 00:00	0.00	0.00
90	J42888	Junction	4631.26	4638.76	0.00	4646.76	0.00	41.36	4633.31	0.00	5.45	0 00:00	0.00	0.00
91	J4289	Junction	4539.19	4545.39	0.00	4551.59	0.00	29.00	4540.32	0.00	5.07	0 00:00	0.00	0.00
92	J42890	Junction	4637.18	4645.63	0.00	4654.08	0.00	131.39	4638.85	0.00	6.78	0 00:00	0.00	0.00
93	J42891	Junction	4638.52	4645.92	0.00	4653.32	0.00	37.14	4640.32	0.00	5.60	0 00:00	0.00	0.00
94	J42893	Junction	4496.93	4500.63	0.00	4504.33	0.00	12.65	4498.16	0.00	2.47	0 00:00	0.00	0.00
95	J42901	Junction	4655.25	4661.05	0.00	4666.85	0.00	37.15	4656.85	0.00	4.20	0 00:00	0.00	0.00
96	J42903	Junction	4651.21	4656.91	0.00	4662.61	0.00	37.15	4652.75	0.00	4.16	0 00:00	0.00	0.00
97	J42904	Junction	4646.81	4652.41	0.00	4658.01	0.00	37.15	4648.98	0.00	3.43	0 00:00	0.00	0.00
98	J42905	Junction	4645.67	4651.87	0.00	4658.07	0.00	37.14	4648.24	0.00	3.63	0 00:00	0.00	0.00
99	J42906	Junction	4644.64	4651.14	0.00	4657.64	0.00	37.14	4646.79	0.00	4.35	0 00:00	0.00	0.00
100	J42907	Junction	4643.68	4650.23	0.00	4656.78	0.00	37.14	4645.54	0.00	4.69	0 00:00	0.00	0.00
101	J42908	Junction	4642.03	4649.63	0.00	4657.23	0.00	37.14	4643.73	0.00	5.90	0 00:00	0.00	0.00
102	J42958	Junction	4715.39	4728.89	0.00	4742.39	0.00	6.41	4716.38	0.00	12.51	0 00:00	0.00	0.00
103	J42959	Junction	4715.17	4726.62	0.00	4738.07	0.00	6.41	4715.71	0.00	10.91	0 00:00	0.00	0.00
104	J42960	Junction	4699.92	4706.62	0.00	4713.32	0.00	6.41	4700.49	0.00	6.13	0 00:00	0.00	0.00
105	J42961	Junction	4683.98	4689.48	0.00	4694.98	0.00	6.41	4684.54	0.00	4.94	0 00:00	0.00	0.00
106	J42962	Junction	4673.12	4679.32	0.00	4685.52	0.00	6.41	4673.67	0.00	5.65	0 00:00	0.00	0.00
107	J42963	Junction	4662.65	4668.65	0.00	4674.65	0.00	6.42	4663.26	0.00	5.39	0 00:00	0.00	0.00
108	J42964	Junction	4660.16	4667.46	0.00	4674.76	0.00	37.15	4661.78	0.00	5.68	0 00:00	0.00	0.00
109	J42992	Junction	4570.69	4575.49	0.00	4590.00	0.00	3.65	4571.53	0.00	3.96	0 00:00	0.00	0.00
110	J42993	Junction	4569.84	4574.59	0.00	4579.34	0.00	9.55	4571.10	0.00	3.49	0 00:00	0.00	0.00
111	J42997	Junction	4568.40	4572.55	0.00	4576.70	0.00	9.54	4569.82	0.00	2.73	0 00:00	0.00	0.00
112	J42998	Junction	4568.05	4573.15	0.00	4578.25	0.00	9.52	4569.69	0.00	3.46	0 00:00	0.00	0.00
113	J431143	Junction	4739.37	4742.94	0.00	4770.00	0.00	5.06	4739.91	0.00	3.03	0 00:00	0.00	0.00
114	J441117-0	Junction	4617.87	4629.52	0.00	4636.19	0.00	10.78	4618.63	0.00	10.89	0 00:00	0.00	0.00
115	J441211-0	Junction	4626.54	4631.04	0.00	4635.54	0.00	41.27	4628.51	0.00	2.53	0 00:00	0.00	0.00
116	J441211-1	Junction	4623.61	4630.28	0.00	4636.95	0.00	41.23	4627.11	0.00	3.17	0 00:00	0.00	0.00
117	J441317-0	Junction	4717.08	4727.19	0.00	4737.29	0.00	6.41	4717.91	0.00	9.28	0 00:00	0.00	0.00
118	J441759-0	Junction	4508.14	4517.96	0.00	4524.63	0.00	9.65	4509.15	0.00	8.81	0 00:00	0.00	0.00
119	J4466-1	Junction	4520.95	4529.97	0.00	4536.64	0.00	56.01	4522.89	0.00	7.08	0 00:00	0.00	0.00
120	JJR060.01-0	Junction	4586.22	4592.89	0.00	4599.56	0.00	6.00	4586.45	0.00	9.77	0 00:00	0.00	0.00
121	JJR060.01-1	Junction	4561.00	4568.67	0.00	4575.34	0.00	6.00	4561.24	0.00	10.76	0 00:00	0.00	0.00
122	JJR060.02-0	Junction	4611.44	4618.11	0.00	4624.78	0.00	6.00	4611.66	0.00	9.78	0 00:00	0.00	0.00
123	JJR060.02-1	Junction	4586.88	4593.55	0.00	4600.22	0.00	6.00	4587.38	0.00	9.50	0 00:00	0.00	0.00
124	JJR062.01-0	Junction	4648.54	4655.21	0.00	4661.88	0.00	0.00	4648.54	0.00	10.00	0 00:00	0.00	0.00
125	JJR062.01-1	Junction	4611.92	4618.59	0.00	4625.26	0.00	0.00	4611.92	0.00	10.00	0 00:00	0.00	0.00
126	JJR062.02-1	Junction	4648.89	4655.56	0.00	4662.23	0.00	0.00	4648.89	0.00	6.67	0 00:00	0.00	0.00
127	JJR062.03-0	Junction	4689.20	4695.87	0.00	4702.54	0.00	103.04	4691.38	0.00	12.28	0 00:00	0.00	0.00
128	JJR062.04-1	Junction	4697.75	4704.42	0.00	4711.09	0.00	103.00	4700.27	0.00	4.68	0 00:00	0.00	0.00
129	Jun-148	Junction	4568.49	4578.00	0.00	4578.00	0.00	87.23	4570.53	0.00	7.47	0 00:00	0.00	0.00
130	Jun-149	Junction	4716.00	4726.00	0.00	4726.00	0.00	45.60	4717.28	0.00	8.72	0 00:00	0.00	0.00
131	Jun-150	Junction	4605.00	4615.00	0.00	4617.00	0.00	83.23	4606.79	0.00	8.21	0 00:00	0.00	0.00
132	Jun-151	Junction	4515.73	4523.73	0.00	4523.73	0.00	136.59	4517.98	0.00	5.75	0 00:00	0.00	0.00
133	Jun-159	Junction	4694.00	4701.00	0.00	0.00	0.00	8.00	4694.71	0.00	6.29	0 00:00	0.00	0.00
134	Jun-171	Junction	4730.00	4736.00	4731.00	4736.00	0.00	5.00	4730.73	0.00	5.27	0 00:00	0.00	0.00
135	Jun-173	Junction	4571.00	4577.00	4572.00	4585.00	0.00	0.00	4572.00	0.00	84.50	0 00:00	0.00	0.00
136	Jun-174	Junction	4557.00	4563.00	4557.00	4563.00	0.00	0.00	4557.00	0.00	6.00	0 00:00	0.00	0.00
137	Jun-179	Junction	4643.71	4650.00	4643.71	0.00	0.00	4.01	4644.13	0.00	5.87	0 00:00	0.00	0.00
138	Jun-180	Junction	4664.65	4670.00	4664.65	0.00	0.00	4.00	4665.36	0.00	4.64	0 00:00	0.00	0.00
139	Jun-181	Junction	4664.20	4670.00	4664.20	0.00	0.00	4.02	4664.71	0.00	5.29	0 00:00	0.00	0.00
140	Jun-182	Junction	4636.96	4641.46	4636.96	4641.46	0.00	4.00	4637.46	0.00	4.00	0 00:00	0.00	0.00
141	Jun-183	Junction	4634.42	4638.52	4634.42	4638.52	0.00	4.02	4634.80	0.00	3.72	0 00:00	0.00	0.00
142	Jun-185	Junction	4529.00	4534.00	4529.00	4534.00	0.00	3.00	4529.51	0.00	4.49	0 00:00	0.00	0.00
143	Jun-188	Junction	4529.68	4534.18	1236.00	4542.00	0.00	7.40	4532.42	0.00	1.76	0 00:00	0.00	0.00
144	Jun-190	Junction	4543.09	4549.89	0.00	4555.69	0.00	29.00	4544.51	0.00	5.38	0 00:00	0.00	0.00
145	Jun-191	Junction	4573.00	4577.00	4574.00	4590.00	0.00	22.90	4594.87	0.00	69.63	0 00:00	0.00	0.00
146	Jun-196	Junction	4660.00	4666.00	4660.00	4666.00	0.00	116.00	4662.52	0.00	3.48	0 00:00	0.00	0.00
147	Jun-198	Junction	4507.00	4513.00	4507.00	4513.00	0.00	12.65	4507.84	0.00	5.16	0 00:00	0.00	0.00
148	Jun-213	Junction	4560.00	4564.00	4561.00	4566.00	0.00	57.70	4565.72	0.00	8.28	0 00:00	0.00	0.00
149	Jun-214	Junction	4545.00	4556.00	4550.00	4556.00	0.00	57.26	4547.19	0.00	8.81	0 00:00	0.00	0.00
150	Jun-216	Junction	4502.00	4517.00	4499.00	4519.00	0.00	176.07	4505.94	0.00	11.06	0 00:00	0.00	0.00
151	Jun-218	Junction	4620.00	4623.00	4617.00	4623.00	0.00	26.37	4620.83	0.00	2.17	0 00:00	0.00	0.00
152	Jun-219	Junction	4608.00	4616.00	4610.00	4616.00	0.00	26.36	4609.56	0.00	6.44	0 00:00	0.00	0.00
153	Jun-220	Junction	4675.00	4681.00	4675.00	4681.00	0.00	8.22	4675.45	0.00	5.55	0 00:00	0.00	0.00
154	Jun-241	Junction	4627.00	4635.00	4623.00	4635.00	0.00	10.97	4628.24	0.00	6.76	0 00:00	0.00	0.00
155	Jun-247	Junction	4533.50	4542.00	4538.00	4544.00	0.00	34.00	4535.45	0.00	6.55	0 00:00	0.00	0.00
156	Jun-250	Junction	4568.00	4574.00	0.00	0.00	0.00	14.00	4569.48	0.00	4.52	0 00:00	0.00	0.00
157	Jun-251	Junction	4624.00	4630.00	4624.00	4630.00	0.00	123.08	4626.98	0.00	3.02	0 00:00	0.00	0.00
158	Jun-252	Junction	4529.00	4534.00	0.00	0.00	0.00	128.16	4531.72	0.00	23.78	0 00:00	0.00	0.00
159	Jun-253	Junction	4618.00	4624.00	2937.00	4622.00	0.00	57.31	4619.98	0.00	4.02	0 00:00	0.00	0.00
160	Jun-255	Junction	4842.66	6.00	0.00	0.00	0.00	1.00	4842.85	0.00	1.31	0 00:00	0.00	0.00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
161	Jun-256	Junction	4546.00	4552.00	4547.00	4552.00	0.00	16.00	4547.42	0.00	4.58	0 00:00	0.00	0.00
162	Jun-257	Junction	4527.00	4532.00	4528.00	4534.00	0.00	14.00	4528.11	0.00	3.89	0 00:00	0.00	0.00
163	Jun-258	Junction	4539.00	4544.00	4540.00	4544.00	0.00	9.00	4539.73	0.00	4.27	0 00:00	0.00	0.00
164	Jun-259	Junction	4503.00	4509.00	4503.00	4509.00	0.00	176.55	4505.52	0.00	3.48	0 00:00	0.00	0.00
165	Jun-260	Junction	4507.00	4512.00	4508.00	4512.00	0.00	40.00	4514.10	0.00	0.90	0 00:00	0.00	0.00
166	Jun-261	Junction	4535.00	4546.00	4542.00	4546.00	0.00	36.00	4536.51	0.00	9.49	0 00:00	0.00	0.00
167	Jun-262	Junction	4516.02	4527.00	4523.00	4527.00	0.00	36.05	4518.42	0.00	8.58	0 00:00	0.00	0.00
168	Jun-263	Junction	4504.06	4514.00	4510.00	4516.00	0.00	111.70	4507.79	0.00	6.21	0 00:00	0.00	0.00
169	Jun-264	Junction	4522.00	4526.00	4522.00	4550.00	0.00	18.85	4550.00	24.00	0.00	0 01:43	0.32	6.00
170	Jun-265	Junction	4618.00	4621.00	4618.00	4630.00	0.00	5.00	4619.19	0.00	1.81	0 00:00	0.00	0.00
171	Jun-266	Junction	4556.00	4562.00	4557.00	4564.00	0.00	16.59	4556.93	0.00	5.07	0 00:00	0.00	0.00
172	Jun-267	Junction	4597.00	4602.00	4598.00	8000.00	0.00	18.76	5307.22	705.22	0.00	0 00:00	0.00	0.00
173	Jun-268	Junction	4515.00	4521.00	4516.00	4523.00	0.00	25.96	4517.10	0.00	3.90	0 00:00	0.00	0.00
174	J441761-1	Outfall	4491.44					12.65	4492.61					
175	Jun-152	Outfall	4492.00					176.46	4494.50					
176	Jun-175	Outfall	4503.00					0.00	4503.00					
177	Jun-187	Outfall	4509.00					56.00	4510.87					
178	Jun-215	Outfall	4506.00					82.67	4508.19					
179	Jun-217	Outfall	4493.00					176.02	4496.64					
180	Jun-221	Outfall	4496.13					110.26	4499.34					
181	Out-32	Outfall	4495.03					5.02	4495.89					
182	Out-33	Outfall	0.00					0.00	0.00					
183	Out-34	Outfall	4726.00					5.00	4726.72					
184	Out-35	Outfall	4719.00					12.00	4719.00					
185	Out-36	Outfall	4512.00					25.40	4513.89					
186	SN-HHPa	Storage Node	4727.60	2.40	0.00		20.00	13.43	4729.35				0.00	1435.00
187	SN-JR010	Storage Node	4586.00	5606.00	0.00		0.00	259.66	4594.14				0.00	0.00
188	SN-JR020	Storage Node	4517.00	4530.00	0.00		0.00	185.03	4523.73				0.00	0.00
189	SN-JR031	Storage Node	4554.00	4564.00	0.00		0.00	48.82	4558.82				0.00	0.00
190	SN-JR032	Storage Node	4660.00	4670.00	0.00		0.00	13.20	4663.49				0.00	0.00
191	SN-JR035	Storage Node	4558.00	4568.00	0.00		0.00	35.21	4562.00				0.00	0.00
192	SN-JR050	Storage Node	4620.00	4630.00	0.00		0.00	62.80	4625.35				0.00	0.00
193	SN-JR061	Storage Node	4632.00	4646.00	0.00		0.00	33.58	4636.65				0.00	0.00
194	SN-JR063	Storage Node	4552.00	4560.00	0.00		0.00	123.94	4558.11				0.00	0.00
195	SN-JR065	Storage Node	4660.00	4670.00	0.00		0.00	137.58	4666.59				0.00	0.00
196	SN-JR065a	Storage Node	4690.00	4698.00	0.00		0.00	104.61	4695.86				0.00	0.00
197	SN-JR068	Storage Node	4632.00	4646.00	0.00		0.00	87.30	4637.46				0.00	0.00
198	SN-JR070	Storage Node	4565.00	4575.00	0.00		0.00	88.02	4570.52				0.00	0.00
199	SN-JR071	Storage Node	4509.40	4519.40	0.00		0.00	45.81	4512.57				0.00	0.00
200	SN-JR079	Storage Node	4635.00	4645.00	0.00		0.00	56.90	4640.09				0.00	0.00
201	SN-JR080	Storage Node	4690.00	4700.00	0.00		0.00	0.00	4690.00				0.00	0.00
202	SN-JR081	Storage Node	4536.80	4542.00	0.00		20.00	39.73	4539.94				0.00	0.00
203	SN-JR082	Storage Node	4685.00	4695.00	0.00		0.00	23.70	4689.24				0.00	0.00
204	SN-JR083	Storage Node	4685.00	4695.00	0.00		0.00	37.04	4689.51				0.00	0.00
205	SN-JR084	Storage Node	4743.00	4750.00	0.00		20.00	24.06	4745.21				0.00	0.00
206	SN-JR085	Storage Node	4685.00	4695.00	0.00		0.00	15.39	4690.76				0.00	0.00
207	SN-JR086	Storage Node	4618.80	4629.60	0.00		20.00	130.65	4627.06				0.00	0.00
208	SN-PR020	Storage Node	4720.00	4730.00	0.00		0.00	25.62	4723.60				0.00	0.00
209	SN-PR021	Storage Node	4618.00	4625.00	0.00		0.00	45.60	4621.89				0.00	0.00
210	SN-PR022	Storage Node	4628.60	3.20	0.00		20.00	15.50	4630.41				0.00	1435.00
211	SN-PR023	Storage Node	4628.60	3.00	0.00		20.00	27.29	4630.47				0.00	1435.00
212	SN-PR024	Storage Node	4573.00	4583.00	4574.00		0.00	17.99	4577.27				0.00	0.00
213	SN-PR025	Storage Node	4573.00	4576.40	0.00		20.00	10.31	4574.39				0.00	0.00
214	SN-PR026	Storage Node	4568.20	3.20	0.00		20.00	0.00	4568.20				0.00	0.00
215	SN-PR030	Storage Node	4710.00	4720.00	0.00		0.00	27.64	4714.24				0.00	0.00
216	SN-PR040	Storage Node	4720.00	4735.00	0.00		0.00	158.45	4726.54				0.00	0.00
217	SN-PR050	Storage Node	4750.00	4770.00	0.00		0.00	77.86	4756.87				0.00	0.00
218	SN-PR060	Storage Node	5410.00	5450.00	0.00		0.00	151.29	5418.30				0.00	0.00
219	Stor-34	Storage Node	4632.00	4646.00	0.00		0.00	51.72	4636.67				0.00	0.00
220	Stor-41	Storage Node	4620.00	4630.00	0.00		0.00	105.01	4626.20				0.00	0.00
221	Stor-43	Storage Node	4505.00	4515.00	0.00		0.00	15.07	4508.79				0.00	0.00
222	Stor-44	Storage Node	4720.00	4730.00	0.00		0.00	123.44	4725.87				0.00	0.00
223	Stor-45	Storage Node	4700.00	15.00	0.00		0.00	38.61	4704.05				0.00	1413.00
224	Stor-46	Storage Node	5000.00	15.00	0.00		0.00	8.19	5003.77				0.00	1433.00
225	Stor-47	Storage Node	4730.00	15.00	0.00		0.00	182.28	4734.95				0.00	1411.00
226	Stor-48	Storage Node	4760.00	15.00	0.00		0.00	79.21	4763.25				0.00	1415.00
227	Stor-49	Storage Node	4842.66	4850.66	0.00		0.00	1.45	4845.76				0.00	0.00
228	Stor-50	Storage Node	4570.00	8.00	0.00		0.00	7.29	4573.46				0.00	1433.00
229	Stor-51	Storage Node	4529.00	4535.00	0.00		0.00	28.63	4533.66				0.00	0.00
230	Stor-53	Storage Node	4527.00	4550.00	0.00		0.00	94.12	4532.79				0.00	0.00
231	Stor-54	Storage Node	4621.00	4650.00	1.00		0.00	58.57	4626.31				0.00	0.00
232	Stor-55	Storage Node	4585.00	4595.00	1.00		0.00	136.00	4592.29				0.00	0.00
233	Stor-56	Storage Node	4680.00	4690.00	4681.00		0.00	24.90	4684.02				0.00	0.00
234	Stor-57	Storage Node	4632.00	4646.00	0.00		0.00	57.56	4637.07				0.00	0.00
235	Stor-58	Storage Node	4600.00	4616.00	4601.00		0.00	32.28	4604.91				0.00	0.00
236	Stor-59	Storage Node	4605.00	4615.00	4606.00		0.00	11.76	4608.69				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
1	0017	Pipe	JJR062.04-1	JJR062.03-0	176.86	4697.95	4696.66	0.7300	7.000	0.0130	103.04	545.59	0.19	10.26	2.19	0.31	0.00	Calculated
2	0028	Pipe	J0018-0	J0018-1	263.14	4545.56	4540.09	2.0800	2.000	0.0130	6.00	32.62	0.18	7.56	0.60	0.30	0.00	Calculated
3	0029	Pipe	J0019-0	J0018-0	186.77	4545.76	4545.56	0.1100	2.000	0.0130	6.00	7.40	0.81	3.59	1.05	0.53	0.00	Calculated
4	0030	Pipe	J0018-1	J0020-1	262.46	4540.09	4535.12	1.8900	2.000	0.0130	6.00	31.13	0.19	7.40	0.61	0.30	0.00	Calculated
5	0031	Pipe	J0020-1	J0021-1	269.53	4535.12	4530.51	1.7100	2.000	0.0130	6.00	29.59	0.20	5.89	1.30	0.65	0.00	Calculated
6	0033	Pipe	J0023-0	Jun-188	80.87	4530.35	4529.68	0.8300	2.000	0.0130	7.40	20.59	0.36	6.84	2.00	1.00	56.00	SURCHARGED
7	0034	Pipe	J0021-1	J0023-0	4.79	4530.51	4530.35	3.3400	2.000	0.0130	7.12	41.35	0.17	5.08	1.99	1.00	0.00	Calculated
8	0037	Pipe	J0026-1	J0019-0	168.42	4546.71	4545.76	0.5600	1.500	0.0130	6.00	7.89	0.76	4.16	1.14	0.76	0.00	Calculated
9	0055	Pipe	J0040-0	J0040-1	58.28	4554.09	4553.18	1.5600	2.000	0.0130	14.00	28.27	0.50	7.37	1.17	0.58	0.00	Calculated
10	0056	Pipe	J0041-0	J0041-1	54.09	4551.21	4550.28	1.7200	2.000	0.0130	14.00	29.66	0.47	7.35	1.17	0.58	0.00	Calculated
11	0057	Pipe	J0040-1	J0041-0	158.86	4553.18	4551.21	1.2400	2.000	0.0130	14.00	25.19	0.56	7.42	1.16	0.58	0.00	Calculated
12	0058	Pipe	J0043-0	J0043-1	92.04	4558.86	4558.42	0.4800	2.000	0.0130	14.00	15.64	0.90	5.66	1.47	0.73	0.00	Calculated
13	0059	Pipe	J0043-1	J0044-1	112.20	4558.42	4556.59	1.6300	2.000	0.0130	14.00	28.89	0.48	8.17	1.07	0.54	0.00	Calculated
14	0062	Pipe	J0044-1	J0040-0	157.82	4556.59	4554.09	1.5800	2.000	0.0130	14.00	28.47	0.49	7.73	1.12	0.56	0.00	Calculated
15	0063	Pipe	J0048-0	J0043-0	109.88	4560.70	4558.86	1.6700	2.000	0.0130	14.00	29.27	0.48	6.18	1.36	0.68	0.00	Calculated
16	0065	Pipe	J0050-0	J0050-1	136.09	4579.17	4579.09	0.0600	2.000	0.0130	29.85	5.48	5.44	9.61	1.93	0.96	0.00	> CAPACITY
17	0067	Pipe	J0051-1	J0052-1	376.17	4576.60	4571.48	1.3600	2.000	0.0130	0.00	26.39	0.00	0.00	0.00	0.00	0.00	Calculated
18	0068	Pipe	J421012	J0050-1	170.12	4582.55	4579.09	2.0300	2.000	0.0130	28.00	32.26	0.87	10.84	1.74	0.87	0.00	Calculated
19	0071	Pipe	J0071-0	J0071-1	6.93	4585.38	4585.32	0.8700	1.500	0.0130	13.46	9.77	1.38	11.55	1.04	0.69	0.00	> CAPACITY
20	0073	Pipe	J0073-0	J0073-1	213.71	4605.89	4605.36	0.2500	2.000	0.0130	0.00	11.27	0.00	0.00	0.00	0.00	0.00	Calculated
21	0074	Pipe	J0074-0	J0074-1	128.38	4609.03	4608.13	0.7000	2.000	0.0130	15.00	18.94	0.79	6.34	1.41	0.70	0.00	Calculated
22	0075	Pipe	J0074-1	J0075-1	166.80	4608.13	4605.98	1.2900	2.000	0.0130	15.00	25.68	0.58	8.98	1.22	0.61	0.00	Calculated
23	0076	Pipe	J0076-0	J0074-0	244.01	4609.87	4609.03	0.3400	2.000	0.0130	15.00	13.27	1.13	5.24	1.72	0.86	0.00	> CAPACITY
24	0077	Pipe	J0077-0	J0076-0	295.53	4610.90	4609.87	0.3500	2.000	0.0130	15.18	13.36	1.14	4.90	1.98	0.99	0.00	> CAPACITY
25	0078	Pipe	J0078-0	J0077-0	319.34	4612.12	4610.90	0.3800	2.000	0.0130	15.00	13.98	1.07	4.78	2.00	1.00	147.00	SURCHARGED
26	0079	Pipe	J0079-0	J0078-0	370.85	4613.74	4612.12	0.4400	2.000	0.0130	15.00	14.95	1.00	4.89	2.00	1.00	162.00	SURCHARGED
27	0082	Pipe	J0080-0	J0080-1	95.64	4614.73	4614.29	0.4600	2.000	0.0130	15.00	15.34	0.98	4.88	2.00	1.00	159.00	SURCHARGED
28	0083	Pipe	J0080-1	J0079-0	98.40	4614.29	4613.74	0.5600	2.000	0.0130	15.01	16.91	0.89	5.07	2.00	1.00	159.00	SURCHARGED
29	0084	Pipe	J0084-0	J42554	46.28	4532.69	4532.00	1.4900	2.000	0.0130	17.84	27.62	0.65	8.15	1.97	0.99	0.00	Calculated
30	0086	Pipe	J0086-0	J0086-1	37.43	4534.15	4533.20	2.5400	2.000	0.0130	17.83	36.04	0.49	7.39	1.52	0.76	0.00	Calculated
31	0087	Pipe	J0086-1	J0084-0	23.45	4533.20	4532.69	2.1700	2.000	0.0130	17.83	33.36	0.53	7.21	1.81	0.91	0.00	Calculated
32	0108	Pipe	J0073-1	J0108-1	415.01	4605.36	4586.74	4.4900	2.000	0.0130	0.00	47.92	0.00	0.00	0.00	0.00	0.00	Calculated
33	0125	Pipe	J0125-0	J0125-1	204.43	4626.22	4617.41	4.3100	2.000	0.0130	13.00	46.96	0.28	10.02	0.86	0.43	0.00	Calculated
34	0126	Pipe	J0126-0	J0126-1	91.91	4632.19	4629.13	3.3300	2.000	0.0130	11.00	41.28	0.27	8.33	0.90	0.45	0.00	Calculated
35	0127	Pipe	J0127-0	J0073-0	76.24	4606.32	4605.89	0.5600	2.000	0.0130	0.00	16.99	0.00	0.00	0.00	0.00	0.00	Calculated
36	0128	Pipe	J0126-1	J0125-0	222.85	4629.13	4626.22	1.3100	2.000	0.0130	13.00	25.85	0.50	8.15	1.03	0.52	0.00	Calculated
37	0129	Pipe	J0129-0	J0075-1	253.34	4615.74	4605.98	3.8500	2.000	0.0130	13.00	44.40	0.29	9.75	1.00	0.50	0.00	Calculated
38	0130	Pipe	J0125-1	J0129-0	90.94	4617.41	4615.74	1.8400	2.000	0.0130	13.00	30.66	0.42	9.87	0.87	0.44	0.00	Calculated
39	0135	Pipe	JJR062.01-1	JJR060.02-0	14.72	4613.99	4612.85	7.7400	3.000	0.0130	0.00	572.59	0.00	0.00	0.00	0.00	0.00	Calculated
40	0137	Pipe	JJR062.02-1	JJR062.01-0	6.37	4650.17	4648.97	18.8400	2.000	0.0130	0.00	98.19	0.00	0.00	0.00	0.00	0.00	Calculated
41	0138	Pipe	JJR060.02-1	JJR060.01-0	12.15	4586.88	4586.22	5.4300	3.000	0.0130	6.00	479.55	0.01	3.58	0.36	0.12	0.00	Calculated
42	0142	Pipe	J421185	J421186	174.95	4731.42	4730.77	0.3700	1.500	0.0130	7.10	6.40	1.11	4.09	1.43	0.95	0.00	> CAPACITY
43	0143	Pipe	J421186	J421187	106.52	4730.77	4730.20	0.5400	1.500	0.0130	7.09	7.68	0.92	4.22	1.36	0.91	0.00	Calculated
44	0144	Pipe	J421187	J421188	86.44	4730.20	4729.81	0.4500	1.500	0.0130	7.09	7.06	1.00	4.41	1.29	0.86	0.00	> CAPACITY
45	0145	Pipe	J421189	J421190	156.03	4728.22	4716.50	7.5100	1.500	0.0130	19.04	28.79	0.66	14.05	1.07	0.72	0.00	Calculated
46	0146	Pipe	J421188	J421189	310.44	4729.81	4728.22	0.5100	1.500	0.0130	7.09	7.52	0.94	5.43	1.06	0.71	0.00	Calculated
47	0147	Pipe	J421190	J421191	154.82	4716.50	4713.49	1.9400	2.000	0.0130	19.04	31.54	0.60	11.74	1.03	0.51	0.00	Calculated
48	0148	Pipe	J421191	J421192	129.29	4713.49	4703.92	7.4000	2.000	0.0130	19.04	61.55	0.31	15.58	0.82	0.41	0.00	Calculated
49	0149	Pipe	J421192	J421193	153.14	4703.92	4694.15	6.3800	2.000	0.0130	19.04	57.14	0.33	15.21	0.84	0.42	0.00	Calculated
50	0150	Pipe	J421193	J421194	111.47	4694.15	4687.36	6.0900	2.000	0.0130	19.03	55.83	0.34	12.44	1.01	0.51	0.00	Calculated
51	0151	Pipe	J421194	J421195	396.51	4687.36	4670.77	4.1800	2.000	0.0130	31.63	46.27	0.68	14.60	1.30	0.65	0.00	Calculated
52	0152	Pipe	J421196	J42964	133.55	4663.74	4660.16	2.6800	2.000	0.0130	31.63	37.04	0.85	11.55	1.63	0.82	0.00	Calculated
53	0153	Pipe	J421195	J421196	194.50	4670.77	4663.74	3.6100	2.000	0.0130	31.63	43.01	0.74	12.47	1.51	0.75	0.00	Calculated
54	0155	Pipe	J431143	J421197	42.33	4739.37	4736.80	6.0700	1.250	0.0130	5.06	15.92	0.32	10.68	0.51	0.41	0.00	Calculated
55	0156	Pipe	J421197	J421200	41.53	4733.85	4733.33	1.2500	1.500	0.0130	5.63	11.75	0.48	4.46	1.01	0.67	0.00	Calculated
56	0157	Pipe	J421200	J421201	182.31	4733.33	4732.57	0.4200	1.500	0.0130	5.62	6.78	0.83	4.54	1.01	0.67	0.00	Calculated
57	0158	Pipe	J421201	J421185	171.69	4732.57	4731.42	0.6700	1.500	0.0130	5.62	8.60	0.65	5.24	1.21	0.81	0.00	Calculated
58	0167	Pipe	J441211-1	SN-JR086	133.29	4623.61	4618.80	3.6100	2.500	0.0130	40.96	77.92	0.53	8.97	2.50	1.00	259.00	SURCHARGED

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
59	0168	Pipe	J421015	J0109-1	552.12	4596.75	4586.99	1.7700	1.500	0.0130	11.77	13.97	0.84	12.03	0.82	0.55	0.00	Calculated
60	0169	Pipe	J0110-1	J0071-0	14.91	4585.43	4585.38	0.3400	1.500	0.0130	11.89	6.08	1.96	6.84	1.44	0.96	0.00	> CAPACITY
61	0170	Pipe	J0071-1	J0050-0	12.52	4585.32	4579.17	49.1200	1.500	0.0130	14.18	73.62	0.19	10.84	1.11	0.74	0.00	Calculated
62	0171	Pipe	J0108-1	J421012	69.63	4586.74	4582.55	6.0200	2.000	0.0130	0.00	55.49	0.00	0.00	0.82	0.41	0.00	Calculated
63	0172	Pipe	J42450	J42554	948.50	4546.90	4531.50	1.6200	4.500	0.0130	111.27	250.57	0.44	12.91	2.43	0.54	0.00	Calculated
64	0179	Pipe	J0054-1	J0048-0	19.46	4561.20	4560.70	2.5700	2.000	0.0130	14.00	36.26	0.39	7.44	1.16	0.58	0.00	Calculated
65	220	Pipe	J42890	SN-JR086	626.30	4637.18	4618.80	2.9300	4.000	0.0130	90.03	246.07	0.37	10.05	2.84	0.71	0.00	Calculated
66	386	Pipe	J42451	J42450	386.84	4552.23	4546.90	1.3800	4.500	0.0130	111.28	230.83	0.48	13.99	2.25	0.50	0.00	Calculated
67	1325	Pipe	J42554	Jun-151	1324.86	4531.50	4515.73	1.1900	4.500	0.0130	136.59	214.55	0.64	15.02	2.50	0.56	0.00	Calculated
68	4453	Pipe	J421017	J421016	322.70	4605.36	4601.71	1.1300	1.500	0.0130	11.77	11.17	1.05	7.35	1.32	0.88	0.00	> CAPACITY
69	4455	Pipe	J4260	J4244	14.44	4523.15	4522.27	6.0900	3.000	0.0130	56.01	164.65	0.34	9.18	2.42	0.81	0.00	Calculated
70	4456	Pipe	J4249	J4260	130.28	4522.92	4523.15	-0.1800	3.000	0.0130	56.02	28.02	2.00	8.40	2.68	0.89	0.00	> CAPACITY
71	4466	Pipe	J4244	J4466-1	154.26	4522.27	4520.95	0.8600	3.000	0.0130	56.01	61.70	0.91	10.08	2.20	0.73	0.00	Calculated
72	4469	Pipe	J4289	J4267	587.24	4539.19	4526.93	2.0900	3.000	0.0130	29.00	96.37	0.30	8.11	2.06	0.69	0.00	Calculated
73	441117	Pipe	J441117-0	J4245	144.04	4617.87	4616.24	1.1300	4.000	0.0130	10.78	152.81	0.07	6.52	0.76	0.19	0.00	Calculated
74	441118	Pipe	J4245	J421019	106.25	4616.24	4610.44	5.4600	1.500	0.0130	11.77	24.54	0.48	10.41	0.92	0.61	0.00	Calculated
75	441173	Pipe	J42888	J42887	125.82	4631.26	4628.69	2.0400	2.500	0.0130	41.27	58.62	0.70	9.17	2.28	0.91	0.00	Calculated
76	441175	Pipe	J42890	J42888	305.22	4636.68	4631.26	1.7800	2.500	0.0130	41.36	57.12	0.72	10.94	1.86	0.74	0.00	Calculated
77	441176	Pipe	J42891	J42890	64.25	4638.52	4637.18	2.0900	2.500	0.0130	37.16	59.24	0.63	10.97	1.73	0.69	0.00	Calculated
78	441182	Pipe	J42901	J42903	204.98	4655.25	4651.21	1.9700	2.500	0.0130	37.15	57.58	0.65	11.44	1.57	0.63	0.00	Calculated
79	441183	Pipe	J42903	J42904	197.78	4651.21	4646.81	2.2200	2.500	0.0130	37.15	61.18	0.61	9.76	1.85	0.74	0.00	Calculated
80	441184	Pipe	J42904	J42905	45.56	4646.81	4645.67	2.5000	2.500	0.0130	37.14	64.88	0.57	7.91	2.33	0.93	0.00	Calculated
81	441185	Pipe	J42905	J42906	118.84	4645.67	4644.64	0.8700	2.500	0.0130	37.14	38.19	0.97	7.81	2.32	0.93	0.00	Calculated
82	441186	Pipe	J42906	J42907	87.78	4644.64	4643.68	1.0900	2.500	0.0130	37.14	42.89	0.87	8.81	2.00	0.80	0.00	Calculated
83	441187	Pipe	J42907	J42908	106.21	4643.68	4642.03	1.5500	2.500	0.0130	37.14	51.12	0.73	9.93	1.78	0.71	0.00	Calculated
84	441193	Pipe	J42908	J42891	209.09	4642.03	4638.52	1.6800	2.500	0.0130	37.14	53.14	0.70	10.20	1.75	0.70	0.00	Calculated
85	441211	Pipe	J441211-0	J441211-1	199.60	4626.54	4623.61	1.4700	2.500	0.0130	41.23	49.70	0.83	11.02	2.09	0.84	0.00	Calculated
86	441212	Pipe	J42887	J441211-0	235.01	4628.69	4626.54	0.9100	2.500	0.0130	41.27	39.23	1.05	9.02	2.23	0.89	0.00	> CAPACITY
87	441262	Pipe	J421018	J421017	47.33	4608.21	4605.36	6.0200	1.500	0.0130	11.77	25.78	0.46	8.46	1.22	0.82	0.00	Calculated
88	441263	Pipe	J421019	J421018	99.23	4610.44	4608.21	2.2500	1.500	0.0130	11.77	15.75	0.75	9.17	1.02	0.68	0.00	Calculated
89	441294	Pipe	J42992	J42993	232.54	4570.69	4569.84	0.3700	1.500	0.0130	3.65	6.35	0.57	3.63	0.99	0.66	0.00	Calculated
90	441307	Pipe	J42998	J42454	137.51	4568.05	4568.24	-0.1400	2.000	0.0130	9.53	8.41	1.13	5.69	1.05	0.53	0.00	> CAPACITY
91	441317	Pipe	J441317-0	J42958	74.76	4717.08	4715.39	2.2600	1.250	0.0130	6.41	9.71	0.66	6.70	0.91	0.73	0.00	Calculated
92	441318	Pipe	J42958	J42959	46.91	4715.39	4715.17	0.4700	2.000	0.0130	6.41	15.49	0.41	4.39	0.94	0.47	0.00	Calculated
93	441684	Pipe	J42959	J42960	297.62	4715.17	4699.92	5.1200	1.500	0.0130	6.41	23.78	0.27	10.88	0.55	0.37	0.00	Calculated
94	441685	Pipe	J42960	J42961	367.15	4699.92	4683.98	4.3400	1.500	0.0130	6.41	21.89	0.29	10.63	0.56	0.37	0.00	Calculated
95	441686	Pipe	J42961	J42962	226.41	4683.98	4673.12	4.8000	1.500	0.0130	6.41	23.01	0.28	10.92	0.55	0.37	0.00	Calculated
96	441687	Pipe	J42962	J42963	213.27	4673.12	4662.65	4.9100	1.500	0.0130	6.42	23.27	0.28	10.75	0.57	0.38	0.00	Calculated
97	441688	Pipe	J42963	J42964	59.90	4662.65	4660.16	4.1600	1.500	0.0130	6.40	21.42	0.30	5.90	1.03	0.69	0.00	Calculated
98	441689	Pipe	J42964	J42901	270.52	4660.16	4655.25	1.8200	2.500	0.0130	37.15	55.26	0.67	11.13	1.61	0.64	0.00	Calculated
99	441719	Pipe	J4262	J4249	49.27	4523.56	4522.92	1.3000	3.000	0.0130	56.02	76.02	0.74	7.93	3.00	1.00	208.00	SURCHARGED
100	441720	Pipe	J4263	J4262	227.17	4524.03	4523.56	0.2100	3.000	0.0130	56.02	30.34	1.85	7.93	3.00	1.00	208.00	SURCHARGED
101	441721	Pipe	J4264	J4263	266.50	4524.56	4524.03	0.2000	3.000	0.0130	35.02	29.74	1.18	4.95	3.00	1.00	218.00	SURCHARGED
102	441722	Pipe	J4265	J4264	28.63	4524.66	4524.56	0.3500	3.000	0.0130	35.05	39.42	0.89	4.96	3.00	1.00	218.00	SURCHARGED
103	441723	Pipe	J4267	J4265	345.00	4526.93	4524.66	0.6600	3.000	0.0130	35.02	54.10	0.65	5.00	3.00	1.00	184.00	SURCHARGED
104	441727	Pipe	J0041-1	J4272	222.91	4550.28	4547.81	1.1100	2.000	0.0130	14.01	23.81	0.59	6.54	1.29	0.65	0.00	Calculated
105	441731	Pipe	J4272	J4278	77.89	4547.81	4547.22	0.7600	2.000	0.0130	14.00	19.69	0.71	6.21	1.35	0.68	0.00	Calculated
106	441732	Pipe	J4278	J0038-0	286.27	4547.22	4544.91	0.8100	2.000	0.0130	14.00	20.32	0.69	6.30	1.34	0.67	0.00	Calculated
107	441739	Pipe	J0052-1	J4287	338.50	4571.48	4566.95	1.3400	2.000	0.0130	0.00	26.17	0.00	0.00	0.57	0.28	0.00	Calculated
108	441740	Pipe	J4287	J4288	112.77	4566.95	4565.39	1.3800	2.000	0.0130	14.00	26.61	0.53	8.10	1.08	0.54	0.00	Calculated
109	441759	Pipe	J441759-0	Jun-198	26.35	4508.14	4507.00	4.3300	1.250	0.0130	9.65	13.44	0.72	9.95	0.92	0.74	0.00	Calculated
110	441760	Pipe	J42886	J42893	400.52	4502.98	4496.93	1.5100	1.500	0.0130	12.65	12.91	0.98	8.05	1.25	0.83	0.00	Calculated
111	441761	Pipe	J42893	J441761-1	341.40	4496.93	4491.44	1.6100	1.500	0.0130	12.65	13.32	0.95	8.34	1.20	0.80	0.00	Calculated
112	441792	Pipe	J421016	J421015	310.72	4601.71	4596.75	1.6000	1.500	0.0130	11.77	13.27	0.89	7.66	1.23	0.82	0.00	Calculated
113	441802	Pipe	J4288	J0054-1	263.95	4565.39	4561.20	1.5900	2.000	0.0130	14.00	28.50	0.49	7.86	1.11	0.55	0.00	Calculated
114	441896	Pipe	J42452	J42451	491.53	4557.88	4552.23	1.1500	4.500	0.0130	111.28	210.83	0.53	12.59	2.45	0.54	0.00	Calculated
115	441897	Pipe	J42453	J42452	244.03	4559.93	4557.88	0.8400	4.500	0.0130	93.28	180.24	0.52	10.34	2.55	0.57	0.00	Calculated
116	441900	Pipe	J42454	J42453	67.10	4568.24	4559.93	12.3800	2.000	0.0130	9.53	79.61	0.12	4.68	1.23	0.62	0.00	Calculated

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
117	441901	Pipe	J42997	J42998	38.07	4568.40	4568.05	0.9200	2.000	0.0130	9.52	21.69	0.44	3.70	1.53	0.76	0.00	Calculated
118	441902	Pipe	J42993	J42997	392.75	4569.84	4568.40	0.3700	2.000	0.0130	9.54	13.70	0.70	4.27	1.34	0.67	0.00	Calculated
119	Link-100	Pipe	Jun-150	Jun-148	1438.38	4605.00	4568.49	2.5400	3.500	0.0130	83.23	160.29	0.52	15.44	1.92	0.55	0.00	Calculated
120	Link-101	Pipe	Jun-148	J42453	400.38	4568.49	4559.93	2.1400	3.500	0.0130	87.22	147.11	0.59	12.95	2.32	0.66	0.00	Calculated
121	Link-112	Pipe	Jun-171	Out-34	1392.43	4716.00	4726.00	-0.7200	3.500	0.0130	5.00	53.92	0.09	3.49	0.72	0.21	0.00	Calculated
122	Link-114	Pipe	Jun-173	Jun-174	2333.27	4654.00	4557.00	4.1600	2.500	0.0130	0.00	83.63	0.00	0.00	0.00	0.00	0.00	Calculated
123	Link-115	Pipe	Jun-174	Jun-175	1718.75	4557.00	4503.00	3.1400	2.500	0.0130	0.00	72.70	0.00	0.00	0.00	0.00	0.00	Calculated
124	Link-119	Pipe	Jun-180	Jun-181	54.60	4664.65	4664.20	0.8200	1.500	0.0130	4.02	9.54	0.42	6.10	0.61	0.41	0.00	Calculated
125	Link-120	Pipe	Jun-181	Jun-179	756.57	4664.20	4643.71	2.7100	1.500	0.0130	4.01	17.29	0.23	8.70	0.46	0.31	0.00	Calculated
126	Link-121	Pipe	Jun-179	Jun-182	194.97	4643.71	4636.96	3.4600	2.000	0.0130	4.00	42.09	0.10	7.39	0.46	0.23	0.00	Calculated
127	Link-122	Pipe	Jun-182	Jun-183	114.54	4636.96	4634.42	2.2200	2.000	0.0130	4.02	33.69	0.12	8.02	0.44	0.22	0.00	Calculated
128	Link-123	Pipe	Jun-183	J0126-0	31.28	4634.42	4632.19	7.1300	2.000	0.0130	4.02	60.40	0.07	8.96	0.56	0.28	0.00	Calculated
129	Link-125	Pipe	Jun-185	Jun-198	1316.51	4529.00	4507.00	1.6700	1.500	0.0130	3.05	13.58	0.22	7.11	0.66	0.44	0.00	Calculated
130	Link-128	Pipe	J4466-1	Jun-187	856.39	4520.95	4509.00	1.4000	3.000	0.0130	56.00	78.79	0.71	11.84	1.90	0.63	0.00	Calculated
131	Link-133	Pipe	Jun-190	J4289	340.14	4543.09	4539.19	1.1500	3.000	0.0130	29.00	71.42	0.41	10.15	1.27	0.42	0.00	Calculated
132	Link-136	Pipe	Jun-191	Jun-173	1357.65	4662.00	4654.00	0.5900	2.500	0.0130	0.00	31.49	0.00	0.00	0.00	0.00	0.00	Calculated
133	Link-137	Pipe	J0038-0	Jun-190	87.57	4544.91	4543.09	2.0800	3.000	0.0150	29.00	83.33	0.35	8.95	1.40	0.47	0.00	Calculated
134	Link-141	Pipe	J421185	J421189	688.27	4731.42	4728.22	0.4600	2.000	0.0150	11.96	13.37	0.89	5.90	1.23	0.62	0.00	Calculated
135	Link-148	Pipe	Jun-198	J42886	77.02	4507.00	4502.98	5.2200	1.500	0.0130	12.65	24.00	0.53	9.60	1.05	0.70	0.00	Calculated
136	Link-152	Pipe	JJR062.03-0	Jun-196	1357.37	4689.20	4660.00	2.1500	3.500	0.0130	103.00	147.56	0.70	15.57	2.34	0.67	0.00	Calculated
137	Link-153	Pipe	Jun-159	Jun-196	920.30	4694.00	4660.00	3.6900	1.500	0.0150	8.00	17.50	0.46	8.66	1.11	0.74	0.00	Calculated
138	Link-157	Pipe	J0050-1	Jun-213	1545.78	4579.09	4560.00	1.2300	3.000	0.0150	44.50	64.24	0.69	7.83	2.42	0.81	0.00	Calculated
139	Link-158	Pipe	Jun-213	Jun-214	1590.15	4560.00	4545.00	0.9400	3.000	0.0150	57.26	56.14	1.02	10.14	2.36	0.79	0.00	> CAPACITY
140	Link-160	Pipe	Jun-220	Jun-218	1770.03	4675.00	4620.00	3.1100	2.000	0.0130	4.40	39.88	0.11	7.34	0.64	0.32	0.00	Calculated
141	Link-161	Pipe	Jun-218	Jun-219	867.09	4620.00	4608.00	1.3800	2.500	0.0150	9.96	41.82	0.24	4.30	1.20	0.48	0.00	Calculated
142	Link-165	Pipe	J0050-1	Jun-213	1545.78	4579.09	4572.00	0.4600	2.000	0.0150	13.19	13.28	0.99	5.03	1.57	0.79	0.00	Calculated
143	Link-166	Pipe	Jun-213	Jun-214	1590.15	4572.00	4550.00	1.3800	2.000	0.0150	0.00	23.06	0.00	0.00	0.00	0.00	0.00	Calculated
144	Link-169	Pipe	Jun-214	Jun-215	1487.51	4545.00	4506.00	2.6200	3.000	0.0150	82.67	93.60	0.88	14.94	1.71	0.73	0.00	Calculated
145	Link-171	Pipe	Jun-216	Jun-217	1095.61	4502.00	4493.00	0.8200	4.500	0.0130	176.02	178.23	0.99	12.34	3.79	0.84	0.00	Calculated
146	Link-172	Pipe	Jun-220	Jun-218	1770.03	4675.00	4617.00	3.2800	2.000	0.0150	3.81	34.56	0.11	6.37	0.64	0.32	0.00	Calculated
147	Link-173	Pipe	Jun-218	Jun-219	867.09	4617.00	4610.00	0.8100	2.000	0.0150	7.47	21.06	0.35	6.09	0.83	0.41	0.00	Calculated
148	Link-174	Pipe	Jun-218	Jun-219	867.09	4617.00	4610.00	0.8100	2.500	0.0150	8.93	38.18	0.23	6.30	0.83	0.33	0.00	Calculated
149	Link-176	Pipe	Jun-219	Jun-150	226.55	4608.00	4605.00	1.3200	2.500	0.0150	26.35	40.91	0.64	7.88	1.67	0.67	0.00	Calculated
150	Link-206	Pipe	Jun-250	J4287	113.67	4568.00	4566.95	0.9200	2.000	0.0150	14.01	18.84	0.74	6.49	1.31	0.65	0.00	Calculated
151	Link-208	Pipe	J0075-1	J421012	780.87	4605.98	4582.55	3.0000	2.000	0.0130	28.00	39.19	0.71	11.59	1.45	0.72	0.00	Calculated
152	Link-209	Pipe	Jun-196	Jun-251	1481.92	4660.00	4624.00	2.4300	3.500	0.0150	116.08	135.90	0.85	14.38	2.75	0.78	0.00	Calculated
153	Link-210	Pipe	Jun-247	Jun-216	1392.08	4533.50	4502.00	2.2600	2.000	0.0130	34.18	34.03	1.00	14.60	1.87	0.94	0.00	> CAPACITY
154	Link-211	Pipe	Jun-241	Jun-253	1446.36	4627.00	4618.00	0.6200	2.000	0.0150	10.96	15.47	0.71	4.10	1.60	0.80	0.00	Calculated
155	Link-213	Pipe	Jun-188	J4267	61.41	4529.68	4526.93	4.4800	2.000	0.0150	7.41	41.49	0.18	7.26	2.00	1.00	69.00	SURCHARGED
156	Link-214	Pipe	Jun-252	Jun-216	1659.49	4529.00	4502.00	1.6300	4.000	0.0150	128.12	158.79	0.81	11.57	3.33	0.83	0.00	Calculated
157	Link-215	Pipe	Jun-251	Jun-252	3794.28	4624.00	4552.00	1.9000	3.500	0.0150	123.16	120.11	1.03	14.27	3.12	0.89	0.00	> CAPACITY
158	Link-216	Pipe	J42877	Out-32	2577.64	4500.54	4495.03	0.2100	1.500	0.0130	5.02	4.86	1.03	3.36	1.18	0.79	0.00	> CAPACITY
159	Link-217	Pipe	Jun-253	Jun-150	932.17	4618.00	4605.00	1.3900	3.500	0.0150	57.30	102.97	0.56	10.89	1.88	0.54	0.00	Calculated
160	Link-221	Pipe	Jun-255	J421197	1394.54	0.00	4733.85	-339.4600	1.500	0.0130	1.00	29.34	0.03	2.96	0.55	0.37	0.00	Calculated
161	Link-222	Pipe	Jun-256	Jun-247	1818.80	4546.00	4533.50	0.6900	2.000	0.0130	16.00	18.75	0.85	6.40	1.58	0.79	0.00	Calculated
162	Link-223	Pipe	Jun-257	Jun-216	2307.09	4527.00	4502.00	1.0800	2.000	0.0130	14.00	23.55	0.59	8.08	1.56	0.78	0.00	Calculated
163	Link-224	Pipe	Jun-258	Jun-257	599.36	4539.00	4527.00	2.0000	2.000	0.0130	9.02	32.01	0.28	7.85	0.92	0.46	0.00	Calculated
164	Link-226	Pipe	Jun-260	Jun-259	1534.40	4512.00	4503.00	0.5900	3.000	0.0130	40.23	51.08	0.79	8.93	2.26	0.75	0.00	Calculated
165	Link-227	Pipe	Jun-261	Jun-262	1483.80	4535.00	4516.02	1.2800	3.000	0.0130	36.05	75.44	0.48	10.35	1.50	0.57	0.00	Calculated
166	Link-228	Pipe	Jun-262	Jun-263	1287.99	4516.02	4504.06	0.9300	3.500	0.0130	79.26	96.95	0.82	9.22	2.49	0.84	0.00	Calculated
167	Link-229	Pipe	Jun-263	Jun-221	1293.68	4504.06	4496.13	0.6100	4.000	0.0130	110.26	112.46	0.98	9.96	3.47	0.87	0.00	Calculated
168	Link-230	Pipe	Jun-264	Jun-268	1621.69	4522.00	4515.00	0.4300	2.000	0.0130	17.39	14.86	1.17	6.15	2.00	1.00	75.00	SURCHARGED
169	Link-231	Pipe	Jun-265	J0080-0	1485.54	4618.00	4614.73	0.2200	2.000	0.0150	5.00	9.20	0.54	3.11	1.53	0.76	0.00	Calculated
170	Link-232	Pipe	Jun-267	Jun-266	3253.91	4597.00	4556.00	1.2600	1.500	0.0130	16.59	11.79	1.41	10.86	1.21	0.81	0.00	> CAPACITY
171	Link-233	Pipe	Jun-266	SN-JR081	2342.14	4556.00	4536.80	0.8200	2.000	0.0130	3.50	20.48	0.17	3.94	1.46	0.73	0.00	Calculated
172	Link-234	Pipe	Jun-268	Out-36	658.21	4515.00	4512.00	0.4600	2.500	0.0130	25.40	27.69	0.92	6.05	1.99	0.80	0.00	Calculated
173	Link-235	Pipe	Jun-266	Jun-268	3632.73	4556.00	4515.00	1.1300	2.000	0.0130	10.53	24.03	0.44	6.43	1.46	0.73	0.00	Calculated
174	Link-98	Pipe	Jun-149	SN-PR021	3027.70	4716.00	4618.00	3.2400	3.000	0.0130	45.60	120.00	0.38	11.72	2.14	0.71	0.00	Calculated

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
175	0110	Channel	J0109-1	J0110-1	63.57	4586.99	4585.43	2.4500	10.000	0.0320	11.77	6785.30	0.00	0.90	1.11	0.11	0.00	
176	JR060.01	Channel	JJR060.01-0	JJR060.01-1	1048.41	4586.22	4562.00	2.3100	10.000	0.0320	6.00	6583.46	0.00	2.56	0.22	0.02	0.00	
177	JR060.02	Channel	JJR060.02-0	JJR060.02-1	911.67	4611.44	4586.88	2.6900	10.000	0.0320	6.00	7109.32	0.00	2.28	0.36	0.04	0.00	
178	JR062.01	Channel	JJR062.01-0	JJR062.01-1	1359.47	4648.54	4611.92	2.6900	10.000	0.0320	0.00	7108.98	0.00	0.00	0.00	0.00	0.00	
179	Link-103	Channel	Jun-151	Jun-259	1565.80	4515.73	4503.00	0.8100	5.000	0.0320	136.55	817.99	0.17	4.71	2.38	0.48	0.00	
180	Link-134	Channel	JJR060.01-1	J0026-1	711.24	4561.00	4546.71	2.0100	10.000	0.0320	6.00	6139.61	0.00	1.76	0.64	0.06	0.00	
181	Link-225	Channel	Jun-259	Jun-152	1289.32	4503.00	4492.00	0.8500	5.000	0.0320	176.46	837.95	0.21	5.60	2.51	0.50	0.00	
182	O-200W	Orifice	SN-JR081	J0086-0		4536.80	4534.15		1.750		17.83							
183	O-540W	Orifice	SN-PR026	J42453		4568.20	4559.93		1.250		0.00							
184	O-610W	Orifice	SN-PR025	J42992		4573.00	4570.69		1.000		3.65							
185	O-Comm	Orifice	SN-JR071	J441759-0		4509.40	4508.14		1.250		9.65							
186	O-HHPark	Orifice	SN-HHPa	J441317-0		4727.60	4717.08		1.250		6.41							
187	O-Orch	Orifice	SN-JR084	J431143		4743.00	4739.37		1.000		5.06							
188	O-Pepp	Orifice	SN-JR086	J441117-0		4618.80	4617.87		1.000		10.78							
189	Orifice-27	Orifice	SN-JR085	J4245		4685.00	4616.24		0.330		1.00							
190	O-SMPN	Orifice	SN-PR023	Jun-241		4628.60	4627.00		1.670		10.97							
191	O-SMPS	Orifice	SN-PR022	SN-PR023		4628.60	4628.60		1.667		5.13							
192	OUT-JR010	Outlet	SN-JR010	Jun-261		4586.00	4535.00				36.00							
193	OUT-JR020	Outlet	SN-JR020	Jun-260		4517.00	4507.00				40.00							
194	OUT-JR032	Outlet	SN-JR032	Jun-253		4660.00	4618.00				8.00							
195	OUT-JR050	Outlet	SN-JR050	Jun-258		4620.00	4539.00				9.00							
196	OUT-JR062	Outlet	SN-JR068	J0038-0		4632.00	4544.91				15.00							
197	OUT-JR063	Outlet	SN-JR063	Jun-256		4552.00	4546.00				16.00							
198	OUT-JR070	Outlet	SN-JR070	J4263		4565.00	4524.03				21.00							
199	OUT-JR080	Outlet	SN-JR080	J0080-0		4690.00	4614.73				0.00							
200	OUT-JR082	Outlet	SN-JR079	J0080-0		4635.00	4614.73				10.00							
201	Outlet-100	Outlet	Stor-45	Jun-218		4700.00	4620.00				18.19							
202	Outlet-101	Outlet	Stor-46	J0126-1		5000.00	4629.13				2.00							
203	Outlet-102	Outlet	Stor-57	Jun-252		4632.00	4529.00				5.00							
204	Outlet-103	Outlet	Stor-47	SN-PR040		4730.00	4720.00				158.45							
205	Outlet-104	Outlet	Stor-48	SN-PR050		4760.00	4750.00				77.86							
206	Outlet-105	Outlet	SN-JR065a	Jun-251		4690.00	4624.00				5.00							
207	Outlet-106	Outlet	Stor-49	Jun-255		4842.66	4842.66				1.00							
208	Outlet-107	Outlet	Stor-50	Jun-250		4570.00	4568.00				4.00							
209	Outlet-108	Outlet	Stor-51	Jun-257		4529.00	4527.00				5.00							
210	Outlet-109	Outlet	SN-PR021	Jun-253		4618.00	4618.00				38.66							
211	Outlet-111	Outlet	Stor-53	Jun-264		4527.00	4522.00				18.85							
212	Outlet-112	Outlet	Stor-54	Jun-265		4621.00	4618.00				5.00							
213	Outlet-113	Outlet	Stor-55	Jun-191		4585.00	4573.00				22.90							
214	Outlet-114	Outlet	Stor-56	Jun-220		4680.00	4675.00				8.22							
215	Outlet-115	Outlet	Stor-58	Jun-267		4600.00	4597.00				14.77							
216	Outlet-116	Outlet	Stor-59	Jun-267		4605.00	4597.00				4.00							
217	Outlet-117	Outlet	SN-PR024	Jun-148		4573.00	4568.49				4.00							
218	Outlet-84	Outlet	SN-JR082	Jun-180		4685.00	4664.65				4.00							
219	Outlet-86	Outlet	Stor-57	Jun-251		4632.00	4624.00				2.00							
220	Outlet-87	Outlet	Stor-34	J0050-0		4632.00	4579.17				18.00							
221	Outlet-90	Outlet	SN-JR031	J42554		4554.00	4531.50				11.76							
222	Outlet-91	Outlet	SN-JR035	J42452		4558.00	4557.88				18.00							
223	Outlet-92	Outlet	SN-JR065a	Jun-196		4690.00	4660.00				5.00							
224	Outlet-93	Outlet	Stor-41	Jun-247		4620.00	4533.50				18.00							
225	Outlet-95	Outlet	SN-JR083	J0126-0		4685.00	4632.19				7.00							
226	Outlet-96	Outlet	SN-JR065	JJR060.02-0		4660.00	4611.44				6.00							
227	Outlet-97	Outlet	Stor-43	J42877		4505.00	4500.54				5.00							
228	Outlet-98	Outlet	Stor-44	Jun-149		4720.00	4716.00				28.00							
229	Outlet-99	Outlet	SN-JR061	Jun-185		4632.00	4529.00				3.00							
230	OUT-PR020	Outlet	SN-PR020	Jun-149		4720.00	4716.00				17.60							
231	OUT-PR030	Outlet	SN-PR030	Jun-159		4710.00	4694.00				8.00							
232	OUT-PR040	Outlet	SN-PR040	JJR062.04-1		4720.00	4697.75				103.00							

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
233	OUT-PR050	Outlet	SN-PR050	Out-35		4750.00	4719.00				12.00							
234	OUT-PR060	Outlet	SN-PR060	Jun-171		5410.00	4730.00				5.00							
235	Weir-01	Weir	SN-JR086	Out-33		4618.80	0.00				0.00							

FULL BUILD-OUT CONDITION - NORTH
100-YEAR STORM

Project Description

File Name	Saratoga North Buildout_SD_v3.1.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	HEC-1
HEC-1 unit hydrograph method	SCS Dimensionless
HEC-1 loss method	SCS Curve Number
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Jan 01, 2012	00:00:00
End Analysis On	Jan 01, 2012	23:55:00
Start Reporting On	Jan 01, 2012	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:01:00	days hh:mm:ss
Reporting Time Step	0 00:01:00	days hh:mm:ss
Routing Time Step	15	seconds

Number of Elements

	Qty
Rain Gages	5
Subbasins	52
Nodes	236
Junctions	173
Outfalls	12
Flow Diversions	0
Inlets	0
Storage Nodes	51
Links	235
Channels	7
Pipes	174
Pumps	0
Orifices	10
Weirs	1
Outlets	43
Pollutants	0
Land Uses	0

Subbasin Summary

SN	Subbasin ID	Area (ac)	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)
1	JR010	432.85	1.72	1.07	462.72	513.89
2	JR012	19.12	1.72	0.76	14.44	23.14
3	JR020	195.62	1.72	1.50	293.43	367.40
4	JR022A	84.02	1.72	1.32	110.65	73.77
5	JR022B	74.64	1.72	1.32	98.22	65.51
6	JR023	24.06	1.72	0.74	17.90	24.69
7	JR024	9.50	1.72	1.04	9.85	14.50
8	JR025	23.83	1.72	1.46	34.89	35.98
9	JR029	49.77	1.72	1.11	55.44	58.54
10	JR030	94.11	1.72	1.08	101.82	125.22
11	JR031	57.94	1.72	1.32	76.65	99.51
12	JR032A	112.28	1.72	0.43	48.17	75.84
13	JR032B	40.60	1.72	0.52	21.27	27.62
14	JR035	103.97	1.72	0.56	57.91	73.55
15	JR040	26.23	1.72	0.87	22.85	33.70
16	JR050	182.62	1.72	1.11	203.44	214.74
17	JR060	39.27	1.72	1.40	55.14	91.72
18	JR061	32.26	1.72	1.36	43.90	66.49
19	JR062	55.28	1.72	1.36	75.29	113.98
20	JR063	158.71	1.72	1.05	166.02	242.99
21	JR064A	27.36	1.72	0.54	14.78	24.41
22	JR064B	83.17	1.72	0.57	47.16	57.72
23	JR065	94.86	1.72	1.40	133.18	206.39
24	JR066	81.90	1.72	0.55	44.97	55.47
25	JR067	119.96	1.72	0.76	91.65	105.77
26	JR068	78.41	1.72	1.49	117.06	174.42
27	JR069	123.21	1.72	1.40	172.25	269.93
28	JR070	109.91	1.72	1.30	142.34	176.43
29	JR071	16.88	1.72	0.76	12.90	14.90
30	JR079	55.29	1.72	1.50	82.71	112.73
31	JR080	113.40	1.72	1.49	168.85	234.50
32	JR081	55.94	1.72	1.49	83.29	115.66
33	JR082	20.20	1.72	1.49	30.06	46.74
34	JR083	36.82	1.72	1.30	47.80	73.44
35	JR084	47.23	1.72	0.51	24.23	28.37
36	JR085	25.52	1.72	0.61	15.44	25.83
37	JR086	138.78	1.72	0.66	92.01	133.46
38	JR087	23.81	1.72	0.72	17.22	24.06
39	JR088	37.93	1.72	0.54	20.56	36.43
40	JR089	33.28	1.72	0.49	16.34	26.38
41	JR090	58.55	1.72	0.76	44.21	66.86
42	JR091	18.12	1.72	1.13	20.38	32.10
43	JR092	8.80	1.72	1.54	13.59	16.26
44	PR020	371.05	1.72	0.63	234.50	289.17
45	PR030	78.69	1.72	0.66	52.09	63.81
46	PR040	2000.99	1.72	0.44	886.44	474.24
47	PR050	1368.43	1.72	0.30	411.90	243.64
48	PR060	721.99	1.72	0.57	410.81	336.65
49	TG010A	99.51	1.72	1.50	149.16	186.88
50	TG010B	80.05	1.72	1.50	120.07	150.35
51	TG070	72.36	1.72	0.43	31.04	48.90
52	WildflowerPlatA	2.85	1.72	0.52	1.48	2.87

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	J0018-0	Junction	4545.56	4548.66	0.00	4551.76	0.00	6.00	4546.15	0.00	2.51	0 00:00	0.00	0.00
2	J0018-1	Junction	4540.09	4544.49	0.00	4548.89	0.00	6.00	4540.70	0.00	3.79	0 00:00	0.00	0.00
3	J0019-0	Junction	4545.76	4549.66	0.00	4553.56	0.00	6.00	4546.99	0.00	2.67	0 00:00	0.00	0.00
4	J0020-1	Junction	4535.12	4539.32	0.00	4543.52	0.00	6.00	4535.73	0.00	3.59	0 00:00	0.00	0.00
5	J0021-1	Junction	4530.51	4534.61	0.00	4538.71	0.00	6.00	4532.49	0.00	2.12	0 00:00	0.00	0.00
6	J0023-0	Junction	4530.35	4533.90	0.00	4537.45	0.00	6.64	4532.47	0.00	1.43	0 00:00	0.00	0.00
7	J0026-1	Junction	4546.71	4549.51	0.00	4552.31	0.00	6.00	4547.76	0.00	8.95	0 00:00	0.00	0.00
8	J0038-0	Junction	4544.91	4550.35	0.00	4550.35	0.00	29.00	4546.29	0.00	4.06	0 00:00	0.00	0.00
9	J0040-0	Junction	4554.09	4558.54	0.00	4562.99	0.00	14.00	4555.27	0.00	3.27	0 00:00	0.00	0.00
10	J0040-1	Junction	4553.18	4557.73	0.00	4562.28	0.00	14.00	4554.33	0.00	3.40	0 00:00	0.00	0.00
11	J0041-0	Junction	4551.21	4555.41	0.00	4559.61	0.00	14.00	4552.38	0.00	3.03	0 00:00	0.00	0.00
12	J0041-1	Junction	4550.28	4555.41	0.00	4567.89	0.00	14.00	4551.45	0.00	3.96	0 00:00	0.00	0.00
13	J0043-0	Junction	4558.86	4564.71	0.00	4570.56	0.00	14.00	4560.45	0.00	4.26	0 00:00	0.00	0.00
14	J0043-1	Junction	4558.42	4563.42	0.00	4568.42	0.00	14.00	4559.50	0.00	3.92	0 00:00	0.00	0.00
15	J0044-1	Junction	4556.59	4561.79	0.00	4566.99	0.00	14.00	4557.65	0.00	4.14	0 00:00	0.00	0.00
16	J0048-0	Junction	4560.70	4566.85	0.00	4579.38	0.00	14.00	4561.82	0.00	5.03	0 00:00	0.00	0.00
17	J0050-0	Junction	4579.17	4587.57	0.00	4595.97	0.00	31.65	4585.19	0.00	2.38	0 00:00	0.00	0.00
18	J0050-1	Junction	4579.09	4587.64	0.00	4596.19	0.00	59.65	4580.98	0.00	6.66	0 00:00	0.00	0.00
19	J0051-1	Junction	4576.60	4581.55	0.00	4586.50	0.00	0.00	4576.60	0.00	4.95	0 00:00	0.00	0.00
20	J0052-1	Junction	4571.48	4575.05	0.00	4578.62	0.00	0.00	4571.48	0.00	3.57	0 00:00	0.00	0.00
21	J0054-1	Junction	4561.20	4566.85	0.00	4572.50	0.00	14.00	4562.39	0.00	4.46	0 00:00	0.00	0.00
22	J0071-0	Junction	4585.38	4589.48	0.00	4593.58	0.00	13.65	4586.85	0.00	2.63	0 00:00	0.00	0.00
23	J0071-1	Junction	4585.32	4588.92	0.00	4592.52	0.00	14.95	4586.16	0.00	2.76	0 00:00	0.00	0.00
24	J0073-0	Junction	4605.89	4616.51	0.00	4627.14	0.00	0.00	4605.89	0.00	10.62	0 00:00	0.00	0.00
25	J0073-1	Junction	4605.36	4612.03	0.00	4618.70	0.00	0.00	4605.36	0.00	6.67	0 00:00	0.00	0.00
26	J0074-0	Junction	4609.03	4618.78	0.00	4628.53	0.00	15.00	4610.51	0.00	8.27	0 00:00	0.00	0.00
27	J0074-1	Junction	4608.13	4617.03	0.00	4625.93	0.00	15.00	4609.32	0.00	7.71	0 00:00	0.00	0.00
28	J0075-1	Junction	4605.98	4617.53	0.00	4629.08	0.00	28.00	4607.23	0.00	10.30	0 00:00	0.00	0.00
29	J0076-0	Junction	4609.87	4618.92	0.00	4627.97	0.00	15.25	4611.84	0.00	7.08	0 00:00	0.00	0.00
30	J0077-0	Junction	4610.90	4619.15	0.00	4627.40	0.00	15.09	4614.64	0.00	4.51	0 00:00	0.00	0.00
31	J0078-0	Junction	4612.12	4620.37	0.00	4628.62	0.00	15.10	4617.14	0.00	3.23	0 00:00	0.00	0.00
32	J0079-0	Junction	4613.74	4621.69	0.00	4629.64	0.00	15.05	4617.88	0.00	3.81	0 00:00	0.00	0.00
33	J0080-0	Junction	4614.73	4619.33	0.00	4623.93	0.00	15.00	4619.70	0.37	0.00	0 00:00	0.00	0.00
34	J0080-1	Junction	4614.29	4620.14	0.00	4625.99	0.00	15.01	4619.00	0.00	1.14	0 00:00	0.00	0.00
35	J0084-0	Junction	4532.69	4542.04	0.00	4551.39	0.00	24.12	4535.53	0.00	6.51	0 00:00	0.00	0.00
36	J0086-0	Junction	4534.15	4542.55	0.00	4542.55	0.00	24.10	4537.10	0.00	5.45	0 00:00	0.00	0.00
37	J0086-1	Junction	4533.20	4541.65	0.00	4550.10	0.00	24.11	4536.25	0.00	5.40	0 00:00	0.00	0.00
38	J0108-1	Junction	4586.74	4593.41	0.00	4600.08	0.00	0.00	4586.74	0.00	6.67	0 00:00	0.00	0.00
39	J0109-1	Junction	4586.99	4593.23	0.00	4599.90	0.00	13.65	4587.51	0.00	9.48	0 00:00	0.00	0.00
40	J0110-1	Junction	4585.43	4590.68	0.00	4597.35	0.00	13.65	4587.50	0.00	7.93	0 00:00	0.00	0.00
41	J0125-0	Junction	4626.22	4632.02	0.00	4637.82	0.00	13.00	4626.94	0.00	5.08	0 00:00	0.00	0.00
42	J0125-1	Junction	4617.41	4622.06	0.00	4626.71	0.00	13.00	4618.42	0.00	3.64	0 00:00	0.00	0.00
43	J0126-0	Junction	4632.19	4638.49	0.00	4644.79	0.00	11.00	4632.94	0.00	5.55	0 00:00	0.00	0.00
44	J0126-1	Junction	4629.13	4634.00	0.00	4657.46	0.00	13.00	4630.19	0.00	3.81	0 00:00	0.00	0.00
45	J0127-0	Junction	4606.32	4617.37	0.00	4628.42	0.00	0.00	4606.32	0.00	11.05	0 00:00	0.00	0.00
46	J0129-0	Junction	4615.74	4620.29	0.00	4624.84	0.00	13.00	4616.48	0.00	3.81	0 00:00	0.00	0.00
47	J421012	Junction	4582.55	4590.95	0.00	4599.35	0.00	28.00	4584.20	0.00	6.75	0 00:00	0.00	0.00
48	J421015	Junction	4596.75	4601.15	0.00	4605.55	0.00	13.65	4605.55	4.40	0.00	0 03:15	0.00	0.00
49	J421016	Junction	4601.71	4610.26	0.00	4618.81	0.00	13.65	4608.57	0.00	1.69	0 00:00	0.00	0.00
50	J421017	Junction	4605.36	4614.06	0.00	4622.76	0.00	13.65	4612.68	0.00	1.38	0 00:00	0.00	0.00
51	J421018	Junction	4608.21	4614.81	0.00	4621.41	0.00	13.65	4613.93	0.00	0.88	0 00:00	0.00	0.00
52	J421019	Junction	4610.44	4615.14	0.00	4619.84	0.00	13.65	4616.06	0.92	0.00	0 00:00	0.00	0.00
53	J421185	Junction	4731.42	4749.37	0.00	4767.32	0.00	32.18	4745.79	0.00	3.58	0 00:00	0.00	0.00
54	J421186	Junction	4730.77	4747.62	0.00	4764.47	0.00	10.96	4744.21	0.00	3.41	0 00:00	0.00	0.00
55	J421187	Junction	4730.20	4746.45	0.00	4762.70	0.00	10.90	4743.42	0.00	3.03	0 00:00	0.00	0.00
56	J421188	Junction	4729.81	4745.66	0.00	4761.51	0.00	10.90	4741.49	0.00	4.17	0 00:00	0.00	0.00
57	J421189	Junction	4728.22	4739.47	0.00	4750.72	0.00	32.18	4742.48	3.01	0.00	0 00:00	0.00	0.00
58	J421190	Junction	4716.50	4729.05	0.00	4741.60	0.00	32.17	4723.54	0.00	5.51	0 00:00	0.00	0.00
59	J421191	Junction	4713.49	4725.79	0.00	4738.09	0.00	32.06	4714.74	0.00	11.05	0 00:00	0.00	0.00
60	J421192	Junction	4703.92	4713.42	0.00	4722.92	0.00	32.00	4709.40	0.00	4.02	0 00:00	0.00	0.00
61	J421193	Junction	4694.15	4701.55	0.00	4708.95	0.00	32.00	4708.95	7.40	0.00	0 02:49	0.00	0.00
62	J421194	Junction	4687.36	4694.76	0.00	4702.16	0.00	56.64	4702.16	7.40	0.00	0 02:55	1.92	21.00
63	J421195	Junction	4670.77	4676.77	0.00	4682.77	0.00	48.97	4682.77	6.00	0.00	0 03:02	2.95	27.00
64	J421196	Junction	4663.74	4670.24	0.00	4676.74	0.00	48.97	4676.74	6.50	0.00	0 03:01	0.00	0.00
65	J421197	Junction	4733.85	4743.45	0.00	4753.05	0.00	7.39	4748.88	5.43	0.00	0 00:00	0.00	0.00
66	J421200	Junction	4733.33	4743.58	0.00	4753.83	0.00	8.79	4751.89	8.31	0.00	0 00:00	0.00	0.00
67	J421201	Junction	4732.57	4746.07	0.00	4759.57	0.00	8.78	4747.81	1.74	0.00	0 00:00	0.00	0.00
68	J4244	Junction	4522.27	4528.57	0.00	4534.87	0.00	56.00	4524.73	0.00	3.84	0 00:00	0.00	0.00
69	J4245	Junction	4616.24	4622.54	0.00	4628.84	0.00	13.73	4618.27	0.00	4.27	0 00:00	0.00	0.00
70	J42450	Junction	4546.90	4554.75	0.00	4562.60	0.00	126.24	4549.16	0.00	5.59	0 00:00	0.00	0.00
71	J42451	Junction	4552.23	4560.13	0.00	4568.03	0.00	126.23	4554.83	0.00	5.30	0 00:00	0.00	0.00
72	J42452	Junction	4557.88	4566.58	0.00	4575.28	0.00	126.23	4560.59	0.00	5.99	0 00:00	0.00	0.00
73	J42453	Junction	4559.93	4570.43	0.00	4580.93	0.00	108.22	4562.80	0.00	7.63	0 00:00	0.00	0.00
74	J42454	Junction	4568.24	4570.99	0.00	4573.74	0.00	17.59	4568.89	0.00	2.10	0 00:00	0.00	0.00
75	J4249	Junction	4522.92	4529.59	0.00	4529.59	0.00	56.01	4527.13	0.00	2.46	0 00:00	0.00	0.00
76	J42554	Junction	4531.50	4542.18	0.00	4542.18	0.00	155.91	4534.53	0.00	7.65	0 00:00	0.00	0.00
77	J4260	Junction	4523.15	4529.55	0.00	4535.95	0.00	56.01	4525.52	0.00	4.03	0 00:00	0.00	0.00
78	J4262	Junction	4523.56	4529.96	0.00	4536.36	0.00	56.01	4527.90	0.00	2.06	0 00:00	0.00	0.00
79	J4263	Junction	4524.03	4530.03	0.00	4536.03	0.00	56.01	4529.98	0.00	0.05	0 00:00	0.00	0.00
80	J4264	Junction	4524.56	4531.56	0.00	4538.56	0.00	35.04	4530.96	0.00	0.60	0 00:00	0.00	0.00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
81	J4265	Junction	4524.66	4532.76	0.00	4540.86	0.00	35.01	4531.21	0.00	1.55	0 00:00	0.00	0.00
82	J4267	Junction	4526.93	4533.08	0.00	4539.23	0.00	35.01	4534.04	0.96	0.00	0 00:00	0.00	0.00
83	J4272	Junction	4547.81	4553.01	0.00	4558.21	0.00	14.01	4549.22	0.00	3.79	0 00:00	0.00	0.00
84	J4278	Junction	4547.22	4551.82	0.00	4556.42	0.00	14.00	4548.51	0.00	3.31	0 00:00	0.00	0.00
85	J4287	Junction	4566.95	4570.85	0.00	4574.75	0.00	14.01	4568.08	0.00	2.77	0 00:00	0.00	0.00
86	J42877	Junction	4500.54	4509.34	0.00	4509.34	0.00	5.00	4503.49	0.00	5.85	0 00:00	0.00	0.00
87	J4288	Junction	4565.39	4569.39	0.00	4573.39	0.00	14.00	4566.41	0.00	2.98	0 00:00	0.00	0.00
88	J42886	Junction	4502.98	4506.60	0.00	4513.27	0.00	14.48	4508.59	1.99	0.00	0 00:00	0.00	0.00
89	J42887	Junction	4628.69	4635.94	0.00	4643.19	0.00	48.07	4637.61	1.67	0.00	0 00:00	0.00	0.00
90	J42888	Junction	4631.26	4638.76	0.00	4646.76	0.00	48.07	4642.09	3.33	0.00	0 00:00	0.00	0.00
91	J4289	Junction	4539.19	4545.39	0.00	4551.59	0.00	29.01	4540.32	0.00	5.07	0 00:00	0.00	0.00
92	J42890	Junction	4637.18	4645.63	0.00	4654.08	0.00	249.80	4640.68	0.00	4.95	0 00:00	0.00	0.00
93	J42891	Junction	4638.52	4645.92	0.00	4653.32	0.00	54.73	4643.03	0.00	2.89	0 00:00	0.00	0.00
94	J42893	Junction	4496.93	4500.63	0.00	4504.33	0.00	14.48	4504.33	3.70	0.00	0 03:04	0.00	0.00
95	J42901	Junction	4655.25	4661.05	0.00	4666.85	0.00	54.73	4666.80	5.75	0.00	0 00:00	0.00	0.00
96	J42903	Junction	4651.21	4656.91	0.00	4662.61	0.00	54.73	4662.34	5.43	0.00	0 00:00	0.00	0.00
97	J42904	Junction	4646.81	4652.41	0.00	4658.01	0.00	54.73	4657.98	5.57	0.00	0 00:00	0.00	0.00
98	J42905	Junction	4645.67	4651.87	0.00	4658.07	0.00	54.73	4656.25	4.38	0.00	0 00:00	0.00	0.00
99	J42906	Junction	4644.64	4651.14	0.00	4657.64	0.00	54.73	4653.16	2.02	0.00	0 00:00	0.00	0.00
100	J42907	Junction	4643.68	4650.23	0.00	4656.78	0.00	54.73	4650.77	0.54	0.00	0 00:00	0.00	0.00
101	J42908	Junction	4642.03	4649.63	0.00	4657.23	0.00	54.73	4650.19	0.56	0.00	0 00:00	0.00	0.00
102	J42958	Junction	4715.39	4728.89	0.00	4742.39	0.00	22.16	4723.90	0.00	4.99	0 00:00	0.00	0.00
103	J42959	Junction	4715.17	4726.62	0.00	4738.07	0.00	22.16	4723.47	0.00	3.15	0 00:00	0.00	0.00
104	J42960	Junction	4699.92	4706.62	0.00	4713.32	0.00	22.35	4713.32	6.70	0.00	0 03:01	0.00	0.00
105	J42961	Junction	4683.98	4689.48	0.00	4694.98	0.00	22.38	4694.98	5.50	0.00	0 03:01	0.00	0.00
106	J42962	Junction	4673.12	4679.32	0.00	4685.52	0.00	20.45	4685.52	6.20	0.00	0 03:01	0.00	0.00
107	J42963	Junction	4662.65	4668.65	0.00	4674.65	0.00	20.45	4674.65	6.00	0.00	0 02:50	0.19	7.00
108	J42964	Junction	4660.16	4667.46	0.00	4674.76	0.00	54.72	4672.69	5.23	0.00	0 00:00	0.00	0.00
109	J42992	Junction	4570.69	4575.49	0.00	4590.00	0.00	5.49	4573.98	0.00	1.51	0 00:00	0.00	0.00
110	J42993	Junction	4569.84	4574.59	0.00	4579.34	0.00	17.59	4577.27	2.68	0.00	0 00:00	0.00	0.00
111	J42997	Junction	4568.40	4572.55	0.00	4576.70	0.00	17.59	4574.24	1.69	0.00	0 00:00	0.00	0.00
112	J42998	Junction	4568.05	4573.15	0.00	4578.25	0.00	17.60	4573.01	0.00	0.14	0 00:00	0.00	0.00
113	J431143	Junction	4739.37	4742.94	0.00	4770.00	0.00	6.29	4745.56	2.62	0.00	0 00:00	0.00	0.00
114	J441117-0	Junction	4617.87	4629.52	0.00	4636.19	0.00	12.48	4618.70	0.00	10.82	0 00:00	0.00	0.00
115	J441211-0	Junction	4626.54	4631.04	0.00	4635.54	0.00	48.07	4632.83	1.79	0.00	0 00:00	0.00	0.00
116	J441211-1	Junction	4623.61	4630.28	0.00	4636.95	0.00	47.91	4631.03	0.75	0.00	0 00:00	0.00	0.00
117	J441317-0	Junction	4717.08	4727.19	0.00	4737.29	0.00	22.16	4731.06	3.87	0.00	0 00:00	0.00	0.00
118	J441759-0	Junction	4508.14	4517.96	0.00	4524.63	0.00	12.24	4511.61	0.00	6.35	0 00:00	0.00	0.00
119	J4466-1	Junction	4520.95	4529.97	0.00	4536.64	0.00	56.00	4522.89	0.00	7.08	0 00:00	0.00	0.00
120	JJR060.01-0	Junction	4586.22	4592.89	0.00	4599.56	0.00	6.00	4586.45	0.00	9.77	0 00:00	0.00	0.00
121	JJR060.01-1	Junction	4561.00	4568.67	0.00	4575.34	0.00	6.00	4561.24	0.00	10.76	0 00:00	0.00	0.00
122	JJR060.02-0	Junction	4611.44	4618.11	0.00	4624.78	0.00	6.00	4611.66	0.00	9.78	0 00:00	0.00	0.00
123	JJR060.02-1	Junction	4586.88	4593.55	0.00	4600.22	0.00	6.00	4587.38	0.00	9.50	0 00:00	0.00	0.00
124	JJR062.01-0	Junction	4648.54	4655.21	0.00	4661.88	0.00	0.00	4648.54	0.00	10.00	0 00:00	0.00	0.00
125	JJR062.01-1	Junction	4611.92	4618.59	0.00	4625.26	0.00	0.00	4611.92	0.00	10.00	0 00:00	0.00	0.00
126	JJR062.02-1	Junction	4648.89	4655.56	0.00	4662.23	0.00	0.00	4648.89	0.00	6.67	0 00:00	0.00	0.00
127	JJR062.03-0	Junction	4689.20	4695.87	0.00	4702.54	0.00	103.05	4691.38	0.00	12.28	0 00:00	0.00	0.00
128	JJR062.04-1	Junction	4697.75	4704.42	0.00	4711.09	0.00	103.00	4700.27	0.00	4.68	0 00:00	0.00	0.00
129	Jun-148	Junction	4568.49	4578.00	0.00	4578.00	0.00	97.84	4570.71	0.00	7.29	0 00:00	0.00	0.00
130	Jun-149	Junction	4716.00	4726.00	0.00	4726.00	0.00	46.00	4717.29	0.00	8.71	0 00:00	0.00	0.00
131	Jun-150	Junction	4605.00	4615.00	0.00	4617.00	0.00	93.84	4606.92	0.00	8.08	0 00:00	0.00	0.00
132	Jun-151	Junction	4515.73	4523.73	0.00	4523.73	0.00	155.91	4518.12	0.00	5.61	0 00:00	0.00	0.00
133	Jun-159	Junction	4694.00	4701.00	0.00	0.00	0.00	8.00	4694.71	0.00	6.29	0 00:00	0.00	0.00
134	Jun-171	Junction	4730.00	4736.00	4731.00	4736.00	0.00	5.00	4730.73	0.00	5.27	0 00:00	0.00	0.00
135	Jun-173	Junction	4571.00	4577.00	4572.00	4585.00	0.00	0.00	4572.00	0.00	84.50	0 00:00	0.00	0.00
136	Jun-174	Junction	4557.00	4563.00	4557.00	4563.00	0.00	0.00	4557.00	0.00	6.00	0 00:00	0.00	0.00
137	Jun-179	Junction	4643.71	4650.00	4643.71	0.00	0.00	4.01	4644.13	0.00	5.87	0 00:00	0.00	0.00
138	Jun-180	Junction	4664.65	4670.00	4664.65	0.00	0.00	4.00	4665.36	0.00	4.64	0 00:00	0.00	0.00
139	Jun-181	Junction	4664.20	4670.00	4664.20	0.00	0.00	4.03	4664.71	0.00	5.29	0 00:00	0.00	0.00
140	Jun-182	Junction	4636.96	4641.46	4636.96	4641.46	0.00	4.00	4637.46	0.00	4.00	0 00:00	0.00	0.00
141	Jun-183	Junction	4634.42	4638.52	4634.42	4638.52	0.00	4.02	4634.80	0.00	3.72	0 00:00	0.00	0.00
142	Jun-185	Junction	4529.00	4534.00	4529.00	4534.00	0.00	3.00	4529.51	0.00	4.49	0 00:00	0.00	0.00
143	Jun-188	Junction	4529.68	4534.18	1236.00	4542.00	0.00	6.82	4532.42	0.00	1.76	0 00:00	0.00	0.00
144	Jun-190	Junction	4543.09	4549.89	0.00	4555.69	0.00	29.00	4544.51	0.00	5.38	0 00:00	0.00	0.00
145	Jun-191	Junction	4573.00	4577.00	4574.00	4590.00	0.00	22.97	4593.33	0.00	71.17	0 00:00	0.00	0.00
146	Jun-196	Junction	4660.00	4666.00	4660.00	4666.00	0.00	116.00	4662.52	0.00	3.48	0 00:00	0.00	0.00
147	Jun-198	Junction	4507.00	4513.00	4507.00	4513.00	0.00	15.23	4510.64	0.00	2.36	0 00:00	0.00	0.00
148	Jun-213	Junction	4560.00	4564.00	4561.00	4566.00	0.00	59.65	4567.17	0.00	6.83	0 00:00	0.00	0.00
149	Jun-214	Junction	4545.00	4556.00	4550.00	4556.00	0.00	59.60	4547.19	0.00	8.81	0 00:00	0.00	0.00
150	Jun-216	Junction	4502.00	4517.00	4499.00	4519.00	0.00	176.09	4505.94	0.00	11.06	0 00:00	0.00	0.00
151	Jun-218	Junction	4620.00	4623.00	4617.00	4623.00	0.00	31.21	4620.91	0.00	2.09	0 00:00	0.00	0.00
152	Jun-219	Junction	4608.00	4616.00	4610.00	4616.00	0.00	31.20	4609.77	0.00	6.23	0 00:00	0.00	0.00
153	Jun-220	Junction	4675.00	4681.00	4675.00	4681.00	0.00	9.50	4675.48	0.00	5.52	0 00:00	0.00	0.00
154	Jun-241	Junction	4627.00	4635.00	4623.00	4635.00	0.00	15.54	4628.65	0.00	6.35	0 00:00	0.00	0.00
155	Jun-247	Junction	4533.50	4542.00	4538.00	4544.00	0.00	34.00	4535.45	0.00	6.55	0 00:00	0.00	0.00
156	Jun-250	Junction	4568.00	4574.00	0.00	0.00	0.00	14.00	4569.48	0.00	4.52	0 00:00	0.00	0.00
157	Jun-251	Junction	4624.00	4630.00	4624.00	4630.00	0.00	123.20	4626.98	0.00	3.02	0 00:00	0.00	0.00
158	Jun-252	Junction	4529.00	4534.00	0.00	0.00	0.00	128.18	4531.72	0.00	23.78	0 00:00	0.00	0.00
159	Jun-253	Junction	4618.00	4624.00	2937.00	4622.00	0.00	63.45	4620.15	0.00	3.85	0 00:00	0.00	0.00
160	Jun-255	Junction	4842.66	6.00	0.00	0.00	0.00	1.00	4842.85	0.00	1.31	0 00:00	0.00	0.00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
161	Jun-256	Junction	4546.00	4552.00	4547.00	4552.00	0.00	16.00	4547.42	0.00	4.58	0 00:00	0.00	0.00
162	Jun-257	Junction	4527.00	4532.00	4528.00	4534.00	0.00	14.01	4528.11	0.00	3.89	0 00:00	0.00	0.00
163	Jun-258	Junction	4539.00	4544.00	4540.00	4544.00	0.00	9.00	4539.74	0.00	4.26	0 00:00	0.00	0.00
164	Jun-259	Junction	4503.00	4509.00	4503.00	4509.00	0.00	195.90	4505.65	0.00	3.35	0 00:00	0.00	0.00
165	Jun-260	Junction	4507.00	4512.00	4508.00	4512.00	0.00	40.00	4514.12	0.00	0.88	0 00:00	0.00	0.00
166	Jun-261	Junction	4535.00	4546.00	4542.00	4546.00	0.00	36.00	4536.51	0.00	9.49	0 00:00	0.00	0.00
167	Jun-262	Junction	4516.02	4527.00	4523.00	4527.00	0.00	36.46	4518.42	0.00	8.58	0 00:00	0.00	0.00
168	Jun-263	Junction	4504.06	4514.00	4510.00	4516.00	0.00	185.81	4516.00	2.00	0.00	0 03:06	9.53	24.00
169	Jun-264	Junction	4522.00	4526.00	4522.00	4550.00	0.00	20.00	4550.00	24.00	0.00	0 05:44	0.72	12.00
170	Jun-265	Junction	4618.00	4621.00	4618.00	4630.00	0.00	5.00	4619.19	0.00	1.81	0 00:00	0.00	0.00
171	Jun-266	Junction	4556.00	4562.00	4557.00	4564.00	0.00	16.93	4556.95	0.00	5.05	0 00:00	0.00	0.00
172	Jun-267	Junction	4597.00	4602.00	4598.00	8000.00	0.00	19.00	5327.02	725.02	0.00	0 00:00	0.00	0.00
173	Jun-268	Junction	4515.00	4521.00	4516.00	4523.00	0.00	26.42	4517.14	0.00	3.86	0 00:00	0.00	0.00
174	J441761-1	Outfall	4491.44					14.48	4492.94					
175	Jun-152	Outfall	4492.00					195.89	4494.63					
176	Jun-175	Outfall	4503.00					0.00	4503.00					
177	Jun-187	Outfall	4509.00					56.00	4510.87					
178	Jun-215	Outfall	4506.00					82.67	4508.19					
179	Jun-217	Outfall	4493.00					176.02	4496.64					
180	Jun-221	Outfall	4496.13					147.92	4500.13					
181	Out-32	Outfall	4495.03					5.01	4495.89					
182	Out-33	Outfall	0.00					107.07	0.00					
183	Out-34	Outfall	4726.00					5.00	4726.72					
184	Out-35	Outfall	4719.00					12.00	4719.00					
185	Out-36	Outfall	4512.00					25.81	4513.91					
186	SN-HHPa	Storage Node	4727.60	2.40	0.00		20.00	26.38	4742.51				0.07	1435.00
187	SN-JR010	Storage Node	4586.00	5606.00	0.00		0.00	513.89	4596.84				0.00	0.00
188	SN-JR020	Storage Node	4517.00	4530.00	0.00		0.00	367.39	4525.94				0.00	0.00
189	SN-JR031	Storage Node	4554.00	4564.00	0.00		0.00	99.51	4559.99				0.00	0.00
190	SN-JR032	Storage Node	4660.00	4670.00	0.00		0.00	27.62	4664.26				0.00	0.00
191	SN-JR035	Storage Node	4558.00	4568.00	0.00		0.00	73.55	4563.21				0.00	0.00
192	SN-JR050	Storage Node	4620.00	4630.00	0.00		0.00	125.22	4626.65				0.00	0.00
193	SN-JR061	Storage Node	4632.00	4646.00	0.00		0.00	66.49	4637.47				0.00	0.00
194	SN-JR063	Storage Node	4552.00	4560.00	0.00		0.00	242.99	4559.69				0.00	0.00
195	SN-JR065	Storage Node	4660.00	4670.00	0.00		0.00	269.93	4668.07				0.00	0.00
196	SN-JR065a	Storage Node	4690.00	4698.00	0.00		0.00	206.39	4697.28				0.00	0.00
197	SN-JR068	Storage Node	4632.00	4646.00	0.00		0.00	174.42	4638.84				0.00	0.00
198	SN-JR070	Storage Node	4565.00	4575.00	0.00		0.00	176.43	4572.10				0.00	0.00
199	SN-JR071	Storage Node	4509.40	4519.40	0.00		0.00	91.71	4515.17				0.00	0.00
200	SN-JR079	Storage Node	4635.00	4645.00	0.00		0.00	112.73	4641.23				0.00	0.00
201	SN-JR080	Storage Node	4690.00	4700.00	0.00		0.00	0.00	4690.00				0.00	0.00
202	SN-JR081	Storage Node	4536.80	4542.00	0.00		20.00	77.21	4541.81				0.00	0.00
203	SN-JR082	Storage Node	4685.00	4695.00	0.00		0.00	46.73	4689.94				0.00	0.00
204	SN-JR083	Storage Node	4685.00	4695.00	0.00		0.00	73.44	4690.41				0.00	0.00
205	SN-JR084	Storage Node	4743.00	4750.00	0.00		20.00	48.10	4746.14				0.00	0.00
206	SN-JR085	Storage Node	4685.00	4695.00	0.00		0.00	32.10	4693.48				0.00	0.00
207	SN-JR086	Storage Node	4618.80	4629.60	0.00		20.00	248.89	4629.70				0.02	108.00
208	SN-PR020	Storage Node	4720.00	4730.00	0.00		0.00	57.72	4724.84				0.00	0.00
209	SN-PR021	Storage Node	4618.00	4625.00	0.00		0.00	46.00	4622.44				0.00	0.00
210	SN-PR022	Storage Node	4628.60	3.20	0.00		20.00	29.60	4631.26				0.00	1435.00
211	SN-PR023	Storage Node	4628.60	3.00	0.00		20.00	55.47	4631.51				0.00	1435.00
212	SN-PR024	Storage Node	4573.00	4583.00	4574.00		0.00	35.98	4578.05				0.00	0.00
213	SN-PR025	Storage Node	4573.00	4576.40	0.00		20.00	24.69	4575.51				0.00	0.00
214	SN-PR026	Storage Node	4568.20	3.20	0.00		20.00	0.00	4568.20				0.00	0.00
215	SN-PR030	Storage Node	4710.00	4720.00	0.00		0.00	63.81	4715.43				0.00	0.00
216	SN-PR040	Storage Node	4720.00	4735.00	0.00		0.00	160.00	4730.15				0.00	0.00
217	SN-PR050	Storage Node	4750.00	4770.00	0.00		0.00	108.00	4760.73				0.00	0.00
218	SN-PR060	Storage Node	5410.00	5450.00	0.00		0.00	336.65	5421.07				0.00	0.00
219	Stor-34	Storage Node	4632.00	4646.00	0.00		0.00	105.77	4638.07				0.00	0.00
220	Stor-41	Storage Node	4620.00	4630.00	0.00		0.00	214.73	4628.10				0.00	0.00
221	Stor-43	Storage Node	4505.00	4515.00	0.00		0.00	33.70	4509.56				0.00	0.00
222	Stor-44	Storage Node	4720.00	4730.00	0.00		0.00	289.17	4728.36				0.00	0.00
223	Stor-45	Storage Node	4700.00	15.00	0.00		0.00	75.84	4704.93				0.00	1435.00
224	Stor-46	Storage Node	5000.00	15.00	0.00		0.00	16.26	5004.25				0.00	1312.00
225	Stor-47	Storage Node	4730.00	15.00	0.00		0.00	474.24	4740.96				0.00	1424.00
226	Stor-48	Storage Node	4760.00	15.00	0.00		0.00	243.64	4767.70				0.00	742.00
227	Stor-49	Storage Node	4842.66	4850.66	0.00		0.00	2.87	4845.95				0.00	0.00
228	Stor-50	Storage Node	4570.00	8.00	0.00		0.00	14.90	4574.02				0.00	1312.00
229	Stor-51	Storage Node	4529.00	4535.00	0.00		0.00	58.54	4534.66				0.00	0.00
230	Stor-53	Storage Node	4527.00	4550.00	0.00		0.00	186.88	4534.33				0.00	0.00
231	Stor-54	Storage Node	4621.00	4650.00	1.00		0.00	115.66	4627.42				0.00	0.00
232	Stor-55	Storage Node	4585.00	4595.00	1.00		0.00	251.75	4593.30				0.00	0.00
233	Stor-56	Storage Node	4680.00	4690.00	4681.00		0.00	48.90	4684.73				0.00	0.00
234	Stor-57	Storage Node	4632.00	4646.00	0.00		0.00	113.98	4638.16				0.00	0.00
235	Stor-58	Storage Node	4600.00	4616.00	4601.00		0.00	65.51	4606.30				0.00	0.00
236	Stor-59	Storage Node	4605.00	4615.00	4606.00		0.00	23.14	4609.23				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
1	0017	Pipe	JJR062.04-1	JJR062.03-0	176.86	4697.95	4696.66	0.7300	7.000	0.0130	103.05	545.59	0.19	10.94	2.19	0.31	0.00	Calculated
2	0028	Pipe	J0018-0	J0018-1	263.14	4545.56	4540.09	2.0800	2.000	0.0130	6.00	32.62	0.18	7.56	0.60	0.30	0.00	Calculated
3	0029	Pipe	J0019-0	J0018-0	186.77	4545.76	4545.56	0.1100	2.000	0.0130	6.00	7.40	0.81	3.59	1.05	0.53	0.00	Calculated
4	0030	Pipe	J0018-1	J0020-1	262.46	4540.09	4535.12	1.8900	2.000	0.0130	6.00	31.13	0.19	7.40	0.61	0.30	0.00	Calculated
5	0031	Pipe	J0020-1	J0021-1	269.53	4535.12	4530.51	1.7100	2.000	0.0130	6.00	29.59	0.20	5.89	1.30	0.65	0.00	Calculated
6	0033	Pipe	J0023-0	Jun-188	80.87	4530.35	4529.68	0.8300	2.000	0.0130	6.82	20.59	0.33	6.84	2.00	1.00	46.00	SURCHARGED
7	0034	Pipe	J0021-1	J0023-0	4.79	4530.51	4530.35	3.3400	2.000	0.0130	6.64	41.35	0.16	5.08	1.99	1.00	0.00	Calculated
8	0037	Pipe	J0026-1	J0019-0	168.42	4546.71	4545.76	0.5600	1.500	0.0130	6.00	7.89	0.76	4.16	1.14	0.76	0.00	Calculated
9	0055	Pipe	J0040-0	J0040-1	58.28	4554.09	4553.18	1.5600	2.000	0.0130	14.00	28.27	0.50	7.37	1.17	0.58	0.00	Calculated
10	0056	Pipe	J0041-0	J0041-1	54.09	4551.21	4550.28	1.7200	2.000	0.0130	14.00	29.66	0.47	7.35	1.17	0.58	0.00	Calculated
11	0057	Pipe	J0040-1	J0041-0	158.86	4553.18	4551.21	1.2400	2.000	0.0130	14.00	25.19	0.56	7.42	1.16	0.58	0.00	Calculated
12	0058	Pipe	J0043-0	J0043-1	92.04	4558.86	4558.42	0.4800	2.000	0.0130	14.00	15.64	0.90	5.66	1.47	0.73	0.00	Calculated
13	0059	Pipe	J0043-1	J0044-1	112.20	4558.42	4556.59	1.6300	2.000	0.0130	14.00	28.89	0.48	8.17	1.07	0.54	0.00	Calculated
14	0062	Pipe	J0044-1	J0040-0	157.82	4556.59	4554.09	1.5800	2.000	0.0130	14.00	28.47	0.49	7.73	1.12	0.56	0.00	Calculated
15	0063	Pipe	J0048-0	J0043-0	109.88	4560.70	4558.86	1.6700	2.000	0.0130	14.00	29.27	0.48	6.18	1.36	0.68	0.00	Calculated
16	0065	Pipe	J0050-0	J0050-1	136.09	4579.17	4579.09	0.0600	2.000	0.0130	31.65	5.48	5.77	10.16	1.94	0.97	0.00	> CAPACITY
17	0067	Pipe	J0051-1	J0052-1	376.17	4576.60	4571.48	1.3600	2.000	0.0130	0.00	26.39	0.00	0.00	0.00	0.00	0.00	Calculated
18	0068	Pipe	J421012	J0050-1	170.12	4582.55	4579.09	2.0300	2.000	0.0130	28.16	32.26	0.87	10.83	1.77	0.88	0.00	Calculated
19	0071	Pipe	J0071-0	J0071-1	6.93	4585.38	4585.32	0.8700	1.500	0.0130	14.95	9.77	1.53	12.27	1.12	0.74	0.00	> CAPACITY
20	0073	Pipe	J0073-0	J0073-1	213.71	4605.89	4605.36	0.2500	2.000	0.0130	0.00	11.27	0.00	0.00	0.00	0.00	0.00	Calculated
21	0074	Pipe	J0074-0	J0074-1	128.38	4609.03	4608.13	0.7000	2.000	0.0130	15.00	18.94	0.79	6.34	1.41	0.70	0.00	Calculated
22	0075	Pipe	J0074-1	J0075-1	166.80	4608.13	4605.98	1.2900	2.000	0.0130	15.00	25.68	0.58	9.06	1.22	0.61	0.00	Calculated
23	0076	Pipe	J0076-0	J0074-0	244.01	4609.87	4609.03	0.3400	2.000	0.0130	15.00	13.27	1.13	5.25	1.72	0.86	0.00	> CAPACITY
24	0077	Pipe	J0077-0	J0076-0	295.53	4610.90	4609.87	0.3500	2.000	0.0130	15.25	13.36	1.14	4.92	1.98	0.99	0.00	> CAPACITY
25	0078	Pipe	J0078-0	J0077-0	319.34	4612.12	4610.90	0.3800	2.000	0.0130	15.09	13.98	1.08	4.80	2.00	1.00	384.00	SURCHARGED
26	0079	Pipe	J0079-0	J0078-0	370.85	4613.74	4612.12	0.4400	2.000	0.0130	15.10	14.95	1.01	4.90	2.00	1.00	398.00	SURCHARGED
27	0082	Pipe	J0080-0	J0080-1	95.64	4614.73	4614.29	0.4600	2.000	0.0130	15.01	15.34	0.98	4.90	2.00	1.00	396.00	SURCHARGED
28	0083	Pipe	J0080-1	J0079-0	98.40	4614.29	4613.74	0.5600	2.000	0.0130	15.05	16.91	0.89	5.07	2.00	1.00	396.00	SURCHARGED
29	0084	Pipe	J0084-0	J42554	46.28	4532.69	4532.00	1.4900	2.000	0.0130	24.11	27.62	0.87	8.11	2.00	1.00	162.00	SURCHARGED
30	0086	Pipe	J0086-0	J0086-1	37.43	4534.15	4533.20	2.5400	2.000	0.0130	24.11	36.04	0.67	7.67	2.00	1.00	133.00	SURCHARGED
31	0087	Pipe	J0086-1	J0084-0	23.45	4533.20	4532.69	2.1700	2.000	0.0130	24.12	33.36	0.72	7.68	2.00	1.00	152.00	SURCHARGED
32	0108	Pipe	J0073-1	J0108-1	415.01	4605.36	4586.74	4.4900	2.000	0.0130	0.00	47.92	0.00	0.00	0.00	0.00	0.00	Calculated
33	0125	Pipe	J0125-0	J0125-1	204.43	4626.22	4617.41	4.3100	2.000	0.0130	13.00	46.96	0.28	10.02	0.86	0.43	0.00	Calculated
34	0126	Pipe	J0126-0	J0126-1	91.91	4632.19	4629.13	3.3300	2.000	0.0130	11.00	41.28	0.27	8.33	0.90	0.45	0.00	Calculated
35	0127	Pipe	J0127-0	J0073-0	76.24	4606.32	4605.89	0.5600	2.000	0.0130	0.00	16.99	0.00	0.00	0.00	0.00	0.00	Calculated
36	0128	Pipe	J0126-1	J0125-0	222.85	4629.13	4626.22	1.3100	2.000	0.0130	13.00	25.85	0.50	8.15	1.03	0.52	0.00	Calculated
37	0129	Pipe	J0129-0	J0075-1	253.34	4615.74	4605.98	3.8500	2.000	0.0130	13.00	44.40	0.29	10.18	1.00	0.50	0.00	Calculated
38	0130	Pipe	J0125-1	J0129-0	90.94	4617.41	4615.74	1.8400	2.000	0.0130	13.00	30.66	0.42	9.87	0.87	0.44	0.00	Calculated
39	0135	Pipe	JJR062.01-1	JJR060.02-0	14.72	4613.99	4612.85	7.7400	3.000	0.0130	0.00	572.59	0.00	0.00	0.00	0.00	0.00	Calculated
40	0137	Pipe	JJR062.02-1	JJR062.01-0	6.37	4650.17	4648.97	18.8400	2.000	0.0130	0.00	98.19	0.00	0.00	0.00	0.00	0.00	Calculated
41	0138	Pipe	JJR060.02-1	JJR060.01-0	12.15	4586.88	4586.22	5.4300	3.000	0.0130	6.00	479.55	0.01	3.54	0.36	0.12	0.00	Calculated
42	0142	Pipe	J421185	J421186	174.95	4731.42	4730.77	0.3700	1.500	0.0130	10.96	6.40	1.71	6.20	1.50	1.00	47.00	SURCHARGED
43	0143	Pipe	J421186	J421187	106.52	4730.77	4730.20	0.5400	1.500	0.0130	10.90	7.68	1.42	6.17	1.50	1.00	45.00	SURCHARGED
44	0144	Pipe	J421187	J421188	86.44	4730.20	4729.81	0.4500	1.500	0.0130	10.90	7.06	1.54	6.17	1.50	1.00	41.00	SURCHARGED
45	0145	Pipe	J421189	J421190	156.03	4728.22	4716.50	7.5100	1.500	0.0130	32.17	28.79	1.12	18.21	1.50	1.00	26.00	SURCHARGED
46	0146	Pipe	J421188	J421189	310.44	4729.81	4728.22	0.5100	1.500	0.0130	10.90	7.52	1.45	6.17	1.50	1.00	26.00	SURCHARGED
47	0147	Pipe	J421190	J421191	154.82	4716.50	4713.49	1.9400	2.000	0.0130	32.06	31.54	1.02	12.68	1.63	0.81	0.00	> CAPACITY
48	0148	Pipe	J421191	J421192	129.29	4713.49	4703.92	7.4000	2.000	0.0130	32.00	61.55	0.52	17.71	1.63	0.81	0.00	Calculated
49	0149	Pipe	J421192	J421193	153.14	4703.92	4694.15	6.3800	2.000	0.0130	32.00	57.14	0.56	16.59	2.00	1.00	17.00	SURCHARGED
50	0150	Pipe	J421193	J421194	111.47	4694.15	4687.36	6.0900	2.000	0.0130	32.00	55.83	0.57	14.22	2.00	1.00	30.00	SURCHARGED
51	0151	Pipe	J421194	J421195	396.51	4687.36	4670.77	4.1800	2.000	0.0130	48.97	46.27	1.06	15.59	2.00	1.00	34.00	SURCHARGED
52	0152	Pipe	J421196	J42964	133.55	4663.74	4660.16	2.6800	2.000	0.0130	48.97	37.04	1.32	15.59	2.00	1.00	36.00	SURCHARGED
53	0153	Pipe	J421195	J421196	194.50	4670.77	4663.74	3.6100	2.000	0.0130	48.97	43.01	1.14	15.59	2.00	1.00	37.00	SURCHARGED
54	0155	Pipe	J431143	J421197	42.33	4739.37	4736.80	6.0700	1.250	0.0130	6.39	15.92	0.40	11.23	1.25	1.00	17.00	SURCHARGED
55	0156	Pipe	J421197	J421200	41.53	4733.85	4733.33	1.2500	1.500	0.0130	8.79	11.75	0.75	4.97	1.50	1.00	56.00	SURCHARGED
56	0157	Pipe	J421200	J421201	182.31	4733.33	4732.57	0.4200	1.500	0.0130	8.78	6.78	1.30	4.97	1.50	1.00	51.00	SURCHARGED
57	0158	Pipe	J421201	J421185	171.69	4732.57	4731.42	0.6700	1.500	0.0130	8.78	8.60	1.02	5.78	1.50	1.00	50.00	SURCHARGED
58	0167	Pipe	J441211-1	SN-JR086	133.29	4623.61	4618.80	3.6100	2.500	0.0130	47.42	77.92	0.61	10.33	2.50	1.00	595.00	SURCHARGED

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
59	0168	Pipe	J421015	J0109-1	552.12	4596.75	4586.99	1.7700	1.500	0.0130	13.65	13.97	0.98	12.03	1.01	0.67	0.00	Calculated
60	0169	Pipe	J0110-1	J0071-0	14.91	4585.43	4585.38	0.3400	1.500	0.0130	13.65	6.08	2.24	7.81	1.48	0.99	0.00	> CAPACITY
61	0170	Pipe	J0071-1	J0050-0	12.52	4585.32	4579.17	49.1200	1.500	0.0130	16.29	73.62	0.22	12.14	1.17	0.78	0.00	Calculated
62	0171	Pipe	J0108-1	J421012	69.63	4586.74	4582.55	6.0200	2.000	0.0130	0.00	55.49	0.00	0.00	0.83	0.41	0.00	Calculated
63	0172	Pipe	J42450	J42554	948.50	4546.90	4531.50	1.6200	4.500	0.0130	126.26	250.57	0.50	13.21	2.63	0.58	0.00	Calculated
64	0179	Pipe	J0054-1	J0048-0	19.46	4561.20	4560.70	2.5700	2.000	0.0130	14.00	36.26	0.39	7.44	1.16	0.58	0.00	Calculated
65	220	Pipe	J42890	SN-JR086	626.30	4637.18	4618.80	2.9300	4.000	0.0130	203.43	246.07	0.83	16.70	3.75	0.94	0.00	Calculated
66	386	Pipe	J42451	J42450	386.84	4552.23	4546.90	1.3800	4.500	0.0130	126.24	230.83	0.55	14.39	2.43	0.54	0.00	Calculated
67	1325	Pipe	J42554	Jun-151	1324.86	4531.50	4515.73	1.1900	4.500	0.0130	155.91	214.55	0.73	15.56	2.71	0.60	0.00	Calculated
68	4453	Pipe	J421017	J421016	322.70	4605.36	4601.71	1.1300	1.500	0.0130	13.65	11.17	1.22	7.72	1.50	1.00	463.00	SURCHARGED
69	4455	Pipe	J4260	J4244	14.44	4523.15	4522.27	6.0900	3.000	0.0130	56.00	164.65	0.34	9.18	2.42	0.81	0.00	Calculated
70	4456	Pipe	J4249	J4260	130.28	4522.92	4523.15	-0.1800	3.000	0.0130	56.01	28.02	2.00	8.40	2.68	0.89	0.00	> CAPACITY
71	4466	Pipe	J4244	J4466-1	154.26	4522.27	4520.95	0.8600	3.000	0.0130	56.00	61.70	0.91	10.08	2.20	0.73	0.00	Calculated
72	4469	Pipe	J4289	J4267	587.24	4539.19	4526.93	2.0900	3.000	0.0130	29.00	96.37	0.30	8.86	2.06	0.69	0.00	Calculated
73	441117	Pipe	J441117-0	J4245	144.04	4617.87	4616.24	1.1300	4.000	0.0130	12.54	152.81	0.08	6.69	1.40	0.35	0.00	Calculated
74	441118	Pipe	J4245	J421019	106.25	4616.24	4610.44	5.4600	1.500	0.0130	13.65	24.54	0.56	10.47	1.50	1.00	174.00	SURCHARGED
75	441173	Pipe	J42888	J42887	125.82	4631.26	4628.69	2.0400	2.500	0.0130	48.07	58.62	0.82	9.79	2.50	1.00	51.00	SURCHARGED
76	441175	Pipe	J42890	J42888	305.22	4636.68	4631.26	1.7800	2.500	0.0130	48.07	57.12	0.84	11.07	2.50	1.00	24.00	SURCHARGED
77	441176	Pipe	J42891	J42890	64.25	4638.52	4637.18	2.0900	2.500	0.0130	54.73	59.24	0.92	11.69	2.50	1.00	24.00	SURCHARGED
78	441182	Pipe	J42901	J42903	204.98	4655.25	4651.21	1.9700	2.500	0.0130	54.73	57.58	0.95	11.59	2.50	1.00	35.00	SURCHARGED
79	441183	Pipe	J42903	J42904	197.78	4651.21	4646.81	2.2200	2.500	0.0130	54.73	61.18	0.89	11.15	2.50	1.00	38.00	SURCHARGED
80	441184	Pipe	J42904	J42905	45.56	4646.81	4645.67	2.5000	2.500	0.0130	54.73	64.88	0.84	11.15	2.50	1.00	46.00	SURCHARGED
81	441185	Pipe	J42905	J42906	118.84	4645.67	4644.64	0.8700	2.500	0.0130	54.73	38.19	1.43	11.15	2.50	1.00	45.00	SURCHARGED
82	441186	Pipe	J42906	J42907	87.78	4644.64	4643.68	1.0900	2.500	0.0130	54.73	42.89	1.28	11.15	2.50	1.00	35.00	SURCHARGED
83	441187	Pipe	J42907	J42908	106.21	4643.68	4642.03	1.5500	2.500	0.0130	54.73	51.12	1.07	11.15	2.50	1.00	31.00	SURCHARGED
84	441193	Pipe	J42908	J42891	209.09	4642.03	4638.52	1.6800	2.500	0.0130	54.73	53.14	1.03	11.15	2.50	1.00	30.00	SURCHARGED
85	441211	Pipe	J441211-0	J441211-1	199.60	4626.54	4623.61	1.4700	2.500	0.0130	47.91	49.70	0.96	11.33	2.50	1.00	262.00	SURCHARGED
86	441212	Pipe	J42887	J441211-0	235.01	4628.69	4626.54	0.9100	2.500	0.0130	48.07	39.23	1.23	9.93	2.50	1.00	55.00	SURCHARGED
87	441262	Pipe	J421018	J421017	47.33	4608.21	4605.36	6.0200	1.500	0.0130	13.65	25.78	0.53	8.48	1.50	1.00	410.00	SURCHARGED
88	441263	Pipe	J421019	J421018	99.23	4610.44	4608.21	2.2500	1.500	0.0130	13.65	15.75	0.87	9.19	1.50	1.00	390.00	SURCHARGED
89	441294	Pipe	J42992	J42993	232.54	4570.69	4569.84	0.3700	1.500	0.0130	5.49	6.35	0.86	4.17	1.50	1.00	26.00	SURCHARGED
90	441307	Pipe	J42998	J42454	137.51	4568.05	4568.24	-0.1400	2.000	0.0130	17.59	8.41	2.09	7.97	1.32	0.66	0.00	> CAPACITY
91	441317	Pipe	J441317-0	J42958	74.76	4717.08	4715.39	2.2600	1.250	0.0130	22.16	9.71	2.28	18.06	1.25	1.00	20.00	SURCHARGED
92	441318	Pipe	J42958	J42959	46.91	4715.39	4715.17	0.4700	2.000	0.0130	22.16	15.49	1.43	7.33	2.00	1.00	3.00	SURCHARGED
93	441684	Pipe	J42959	J42960	297.62	4715.17	4699.92	5.1200	1.500	0.0130	22.35	23.78	0.94	14.45	1.50	1.00	4.00	SURCHARGED
94	441685	Pipe	J42960	J42961	367.15	4699.92	4683.98	4.3400	1.500	0.0130	22.38	21.89	1.02	13.81	1.50	1.00	6.00	SURCHARGED
95	441686	Pipe	J42961	J42962	226.41	4683.98	4673.12	4.8000	1.500	0.0130	20.45	23.01	0.89	12.67	1.50	1.00	8.00	SURCHARGED
96	441687	Pipe	J42962	J42963	213.27	4673.12	4662.65	4.9100	1.500	0.0130	20.45	23.27	0.88	11.57	1.50	1.00	13.00	SURCHARGED
97	441688	Pipe	J42963	J42964	59.90	4662.65	4660.16	4.1600	1.500	0.0130	18.10	21.42	0.84	10.24	1.50	1.00	32.00	SURCHARGED
98	441689	Pipe	J42964	J42901	270.52	4660.16	4655.25	1.8200	2.500	0.0130	54.73	55.26	0.99	11.48	2.50	1.00	33.00	SURCHARGED
99	441719	Pipe	J4262	J4249	49.27	4523.56	4522.92	1.3000	3.000	0.0130	56.01	76.02	0.74	7.92	3.00	1.00	347.00	SURCHARGED
100	441720	Pipe	J4263	J4262	227.17	4524.03	4523.56	0.2100	3.000	0.0130	56.01	30.34	1.85	7.92	3.00	1.00	347.00	SURCHARGED
101	441721	Pipe	J4264	J4263	266.50	4524.56	4524.03	0.2000	3.000	0.0130	35.01	29.74	1.18	4.95	3.00	1.00	383.00	SURCHARGED
102	441722	Pipe	J4265	J4264	28.63	4524.66	4524.56	0.3500	3.000	0.0130	35.04	39.42	0.89	4.96	3.00	1.00	382.00	SURCHARGED
103	441723	Pipe	J4267	J4265	345.00	4526.93	4524.66	0.6600	3.000	0.0130	35.01	54.10	0.65	5.10	3.00	1.00	101.00	SURCHARGED
104	441727	Pipe	J0041-1	J4272	222.91	4550.28	4547.81	1.1100	2.000	0.0130	14.01	23.81	0.59	6.55	1.29	0.65	0.00	Calculated
105	441731	Pipe	J4272	J4278	77.89	4547.81	4547.22	0.7600	2.000	0.0130	14.00	19.69	0.71	6.21	1.35	0.68	0.00	Calculated
106	441732	Pipe	J4278	J0038-0	286.27	4547.22	4544.91	0.8100	2.000	0.0130	14.00	20.32	0.69	7.32	1.34	0.67	0.00	Calculated
107	441739	Pipe	J0052-1	J4287	338.50	4571.48	4566.95	1.3400	2.000	0.0130	0.00	26.17	0.00	0.00	0.57	0.28	0.00	Calculated
108	441740	Pipe	J4287	J4288	112.77	4566.95	4565.39	1.3800	2.000	0.0130	14.00	26.61	0.53	8.07	1.08	0.54	0.00	Calculated
109	441759	Pipe	J441759-0	Jun-198	26.35	4508.14	4507.00	4.3300	1.250	0.0130	12.23	13.44	0.91	10.23	1.25	1.00	169.00	SURCHARGED
110	441760	Pipe	J42886	J42893	400.52	4502.98	4496.93	1.5100	1.500	0.0130	14.48	12.91	1.12	8.19	1.50	1.00	189.00	SURCHARGED
111	441761	Pipe	J42893	J441761-1	341.40	4496.93	4491.44	1.6100	1.500	0.0130	14.48	13.32	1.09	8.44	1.50	1.00	179.00	SURCHARGED
112	441792	Pipe	J421016	J421015	310.72	4601.71	4596.75	1.6000	1.500	0.0130	13.65	13.27	1.03	7.72	1.50	1.00	463.00	SURCHARGED
113	441802	Pipe	J4288	J0054-1	263.95	4565.39	4561.20	1.5900	2.000	0.0130	14.00	28.50	0.49	7.86	1.11	0.55	0.00	Calculated
114	441896	Pipe	J42452	J42451	491.53	4557.88	4552.23	1.1500	4.500	0.0130	126.23	210.83	0.60	12.91	2.66	0.59	0.00	Calculated
115	441897	Pipe	J42453	J42452	244.03	4559.93	4557.88	0.8400	4.500	0.0130	108.23	180.24	0.60	10.44	2.79	0.62	0.00	Calculated
116	441900	Pipe	J42454	J42453	67.10	4568.24	4559.93	12.3800	2.000	0.0130	17.59	79.61	0.22	7.97	1.32	0.66	0.00	Calculated

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
117	441901	Pipe	J42997	J42998	38.07	4568.40	4568.05	0.9200	2.000	0.0130	17.60	21.69	0.81	5.60	2.00	1.00	20.00	SURCHARGED
118	441902	Pipe	J42993	J42997	392.75	4569.84	4568.40	0.3700	2.000	0.0130	17.59	13.70	1.28	5.60	2.00	1.00	20.00	SURCHARGED
119	Link-100	Pipe	Jun-150	Jun-148	1438.38	4605.00	4568.49	2.5400	3.500	0.0130	93.84	160.29	0.59	15.82	2.07	0.59	0.00	Calculated
120	Link-101	Pipe	Jun-148	J42453	400.38	4568.49	4559.93	2.1400	3.500	0.0130	97.83	147.11	0.67	13.25	2.53	0.72	0.00	Calculated
121	Link-112	Pipe	Jun-171	Out-34	1392.43	4716.00	4726.00	-0.7200	3.500	0.0130	5.00	53.92	0.09	3.49	0.72	0.21	0.00	Calculated
122	Link-114	Pipe	Jun-173	Jun-174	2333.27	4654.00	4557.00	4.1600	2.500	0.0130	0.00	83.63	0.00	0.00	0.00	0.00	0.00	Calculated
123	Link-115	Pipe	Jun-174	Jun-175	1718.75	4557.00	4503.00	3.1400	2.500	0.0130	0.00	72.70	0.00	0.00	0.00	0.00	0.00	Calculated
124	Link-119	Pipe	Jun-180	Jun-181	54.60	4664.65	4664.20	0.8200	1.500	0.0130	4.03	9.54	0.42	6.18	0.61	0.41	0.00	Calculated
125	Link-120	Pipe	Jun-181	Jun-179	756.57	4664.20	4643.71	2.7100	1.500	0.0130	4.01	17.29	0.23	8.73	0.46	0.31	0.00	Calculated
126	Link-121	Pipe	Jun-179	Jun-182	194.97	4643.71	4636.96	3.4600	2.000	0.0130	4.00	42.09	0.10	7.39	0.46	0.23	0.00	Calculated
127	Link-122	Pipe	Jun-182	Jun-183	114.54	4636.96	4634.42	2.2200	2.000	0.0130	4.02	33.69	0.12	8.02	0.44	0.22	0.00	Calculated
128	Link-123	Pipe	Jun-183	J0126-0	31.28	4634.42	4632.19	7.1300	2.000	0.0130	4.02	60.40	0.07	8.96	0.55	0.28	0.00	Calculated
129	Link-125	Pipe	Jun-185	Jun-198	1316.51	4529.00	4507.00	1.6700	1.500	0.0130	3.06	13.58	0.23	7.11	0.99	0.66	0.00	Calculated
130	Link-128	Pipe	J4466-1	Jun-187	856.39	4520.95	4509.00	1.4000	3.000	0.0130	56.00	78.79	0.71	11.84	1.90	0.63	0.00	Calculated
131	Link-133	Pipe	Jun-190	J4289	340.14	4543.09	4539.19	1.1500	3.000	0.0130	29.01	71.42	0.41	10.15	1.27	0.42	0.00	Calculated
132	Link-136	Pipe	Jun-191	Jun-173	1357.65	4662.00	4654.00	0.5900	2.500	0.0130	0.00	31.49	0.00	0.00	0.00	0.00	0.00	Calculated
133	Link-137	Pipe	J0038-0	Jun-190	87.57	4544.91	4543.09	2.0800	3.000	0.0150	29.00	83.33	0.35	8.95	1.40	0.47	0.00	Calculated
134	Link-141	Pipe	J421185	J421189	688.27	4731.42	4728.22	0.4600	2.000	0.0150	21.28	13.37	1.59	6.77	2.00	1.00	20.00	SURCHARGED
135	Link-148	Pipe	Jun-198	J42886	77.02	4507.00	4502.98	5.2200	1.500	0.0130	14.48	24.00	0.60	9.64	1.50	1.00	155.00	SURCHARGED
136	Link-152	Pipe	JJR062.03-0	Jun-196	1357.37	4689.20	4660.00	2.1500	3.500	0.0130	103.01	147.56	0.70	15.58	2.34	0.67	0.00	Calculated
137	Link-153	Pipe	Jun-159	Jun-196	920.30	4694.00	4660.00	3.6900	1.500	0.0150	8.00	17.50	0.46	8.88	1.11	0.74	0.00	Calculated
138	Link-157	Pipe	J0050-1	Jun-213	1545.78	4579.09	4560.00	1.2300	3.000	0.0150	46.27	64.24	0.72	7.98	2.44	0.81	0.00	Calculated
139	Link-158	Pipe	Jun-213	Jun-214	1590.15	4560.00	4545.00	0.9400	3.000	0.0150	59.60	56.14	1.06	10.15	2.38	0.79	0.00	> CAPACITY
140	Link-160	Pipe	Jun-220	Jun-218	1770.03	4675.00	4620.00	3.1100	2.000	0.0130	5.09	39.88	0.13	8.09	0.70	0.35	0.00	Calculated
141	Link-161	Pipe	Jun-218	Jun-219	867.09	4620.00	4608.00	1.3800	2.500	0.0150	11.84	41.82	0.28	4.42	1.34	0.54	0.00	Calculated
142	Link-165	Pipe	J0050-1	Jun-213	1545.78	4579.09	4572.00	0.4600	2.000	0.0150	13.37	13.28	1.01	5.03	1.60	0.80	0.00	> CAPACITY
143	Link-166	Pipe	Jun-213	Jun-214	1590.15	4572.00	4550.00	1.3800	2.000	0.0150	0.00	23.06	0.00	0.00	0.00	0.00	0.00	Calculated
144	Link-169	Pipe	Jun-214	Jun-215	1487.51	4545.00	4506.00	2.6200	3.000	0.0150	82.67	93.60	0.88	14.94	1.75	0.73	0.00	Calculated
145	Link-171	Pipe	Jun-216	Jun-217	1095.61	4502.00	4493.00	0.8200	4.500	0.0130	176.02	178.23	0.99	12.34	3.79	0.84	0.00	Calculated
146	Link-172	Pipe	Jun-220	Jun-218	1770.03	4675.00	4617.00	3.2800	2.000	0.0150	4.41	34.56	0.13	7.01	0.70	0.35	0.00	Calculated
147	Link-173	Pipe	Jun-218	Jun-219	867.09	4617.00	4610.00	0.8100	2.000	0.0150	8.77	21.06	0.42	6.35	0.91	0.45	0.00	Calculated
148	Link-174	Pipe	Jun-218	Jun-219	867.09	4617.00	4610.00	0.8100	2.500	0.0150	10.59	38.18	0.28	6.60	0.91	0.36	0.00	Calculated
149	Link-176	Pipe	Jun-219	Jun-150	226.55	4608.00	4605.00	1.3200	2.500	0.0150	31.20	40.91	0.76	8.04	1.85	0.74	0.00	Calculated
150	Link-206	Pipe	Jun-250	J4287	113.67	4568.00	4566.95	0.9200	2.000	0.0150	14.01	18.84	0.74	6.47	1.31	0.65	0.00	Calculated
151	Link-208	Pipe	J0075-1	J421012	780.87	4605.98	4582.55	3.0000	2.000	0.0130	28.00	39.19	0.71	11.61	1.45	0.73	0.00	Calculated
152	Link-209	Pipe	Jun-196	Jun-251	1481.92	4660.00	4624.00	2.4300	3.500	0.0150	116.20	135.90	0.86	14.55	2.75	0.79	0.00	Calculated
153	Link-210	Pipe	Jun-247	Jun-216	1392.08	4533.50	4502.00	2.2600	2.000	0.0130	34.06	34.03	1.00	14.60	1.87	0.94	0.00	> CAPACITY
154	Link-211	Pipe	Jun-241	Jun-253	1446.36	4627.00	4618.00	0.6200	2.000	0.0150	15.54	15.47	1.00	5.17	1.82	0.91	0.00	> CAPACITY
155	Link-213	Pipe	Jun-188	J4267	61.41	4529.68	4526.93	4.4800	2.000	0.0150	6.83	41.49	0.16	7.26	2.00	1.00	70.00	SURCHARGED
156	Link-214	Pipe	Jun-252	Jun-216	1659.49	4529.00	4502.00	1.6300	4.000	0.0150	128.14	158.79	0.81	11.58	3.33	0.83	0.00	Calculated
157	Link-215	Pipe	Jun-251	Jun-252	3794.28	4624.00	4552.00	1.9000	3.500	0.0150	123.18	120.11	1.03	14.27	3.12	0.89	0.00	> CAPACITY
158	Link-216	Pipe	J42877	Out-32	2577.64	4500.54	4495.03	0.2100	1.500	0.0130	5.01	4.86	1.03	3.36	1.18	0.79	0.00	> CAPACITY
159	Link-217	Pipe	Jun-253	Jun-150	932.17	4618.00	4605.00	1.3900	3.500	0.0150	63.44	102.97	0.62	11.79	2.01	0.58	0.00	Calculated
160	Link-221	Pipe	Jun-255	J421197	1394.54	0.00	4733.85	-339.4600	1.500	0.0130	1.00	29.34	0.03	3.25	0.84	0.56	0.00	Calculated
161	Link-222	Pipe	Jun-256	Jun-247	1818.80	4546.00	4533.50	0.6900	2.000	0.0130	16.00	18.75	0.85	6.38	1.58	0.79	0.00	Calculated
162	Link-223	Pipe	Jun-257	Jun-216	2307.09	4527.00	4502.00	1.0800	2.000	0.0130	14.00	23.55	0.59	8.08	1.56	0.78	0.00	Calculated
163	Link-224	Pipe	Jun-258	Jun-257	599.36	4539.00	4527.00	2.0000	2.000	0.0130	9.14	32.01	0.29	8.17	0.92	0.46	0.00	Calculated
164	Link-226	Pipe	Jun-260	Jun-259	1534.40	4512.00	4503.00	0.5900	3.000	0.0130	40.42	51.08	0.79	9.52	2.32	0.77	0.00	Calculated
165	Link-227	Pipe	Jun-261	Jun-262	1483.80	4535.00	4516.02	1.2800	3.000	0.0130	36.46	75.44	0.48	10.36	1.67	0.57	0.00	Calculated
166	Link-228	Pipe	Jun-262	Jun-263	1287.99	4516.02	4504.06	0.9300	3.500	0.0130	79.26	96.95	0.82	9.22	2.69	0.84	0.00	Calculated
167	Link-229	Pipe	Jun-263	Jun-221	1293.68	4504.06	4496.13	0.6100	4.000	0.0130	147.92	112.46	1.32	11.77	4.00	1.00	36.00	SURCHARGED
168	Link-230	Pipe	Jun-264	Jun-268	1621.69	4522.00	4515.00	0.4300	2.000	0.0130	17.86	14.86	1.20	6.42	2.00	1.00	207.00	SURCHARGED
169	Link-231	Pipe	Jun-265	J0080-0	1485.54	4618.00	4614.73	0.2200	2.000	0.0150	5.00	9.20	0.54	3.11	1.53	0.76	0.00	Calculated
170	Link-232	Pipe	Jun-267	Jun-266	3253.91	4597.00	4556.00	1.2600	1.500	0.0130	16.93	11.79	1.44	10.99	1.22	0.82	0.00	> CAPACITY
171	Link-233	Pipe	Jun-266	SN-JR081	2342.14	4556.00	4536.80	0.8200	2.000	0.0130	3.51	20.48	0.17	3.94	1.47	0.74	0.00	Calculated
172	Link-234	Pipe	Jun-268	Out-36	658.21	4515.00	4512.00	0.4600	2.500	0.0130	25.81	27.69	0.93	6.05	2.03	0.81	0.00	Calculated
173	Link-235	Pipe	Jun-266	Jun-268	3632.73	4556.00	4515.00	1.1300	2.000	0.0130	10.92	24.03	0.45	6.43	1.47	0.74	0.00	Calculated
174	Link-98	Pipe	Jun-149	SN-PR021	3027.70	4716.00	4618.00	3.2400	3.000	0.0130	46.00	120.00	0.38	12.43	2.14	0.71	0.00	Calculated

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
175	0110	Channel	J0109-1	J0110-1	63.57	4586.99	4585.43	2.4500	10.000	0.0320	13.65	6785.30	0.00	0.92	1.30	0.13	0.00	
176	JR060.01	Channel	JJR060.01-0	JJR060.01-1	1048.41	4586.22	4562.00	2.3100	10.000	0.0320	6.00	6583.46	0.00	2.56	0.22	0.02	0.00	
177	JR060.02	Channel	JJR060.02-0	JJR060.02-1	911.67	4611.44	4586.88	2.6900	10.000	0.0320	6.00	7109.32	0.00	2.18	0.36	0.04	0.00	
178	JR062.01	Channel	JJR062.01-0	JJR062.01-1	1359.47	4648.54	4611.92	2.6900	10.000	0.0320	0.00	7108.98	0.00	0.00	0.00	0.00	0.00	
179	Link-103	Channel	Jun-151	Jun-259	1565.80	4515.73	4503.00	0.8100	5.000	0.0320	155.90	817.99	0.19	4.93	2.52	0.50	0.00	
180	Link-134	Channel	JJR060.01-1	J0026-1	711.24	4561.00	4546.71	2.0100	10.000	0.0320	6.00	6139.61	0.00	1.69	0.64	0.06	0.00	
181	Link-225	Channel	Jun-259	Jun-152	1289.32	4503.00	4492.00	0.8500	5.000	0.0320	195.89	837.95	0.23	5.75	2.64	0.53	0.00	
182	O-200W	Orifice	SN-JR081	J0086-0		4536.80	4534.15		1.750		24.10							
183	O-540W	Orifice	SN-PR026	J42453		4568.20	4559.93		1.250		0.00							
184	O-610W	Orifice	SN-PR025	J42992		4573.00	4570.69		1.000		5.49							
185	O-Comm	Orifice	SN-JR071	J441759-0		4509.40	4508.14		1.250		12.24							
186	O-HHPark	Orifice	SN-HHPa	J441317-0		4727.60	4717.08		1.250		22.16							
187	O-Orch	Orifice	SN-JR084	J431143		4743.00	4739.37		1.000		6.29							
188	O-Pepp	Orifice	SN-JR086	J441117-0		4618.80	4617.87		1.000		12.48							
189	Orifice-27	Orifice	SN-JR085	J4245		4685.00	4616.24		0.330		1.22							
190	O-SMPN	Orifice	SN-PR023	Jun-241		4628.60	4627.00		1.670		15.54							
191	O-SMPS	Orifice	SN-PR022	SN-PR023		4628.60	4628.60		1.667		8.31							
192	OUT-JR010	Outlet	SN-JR010	Jun-261		4586.00	4535.00				36.00							
193	OUT-JR020	Outlet	SN-JR020	Jun-260		4517.00	4507.00				40.00							
194	OUT-JR032	Outlet	SN-JR032	Jun-253		4660.00	4618.00				8.00							
195	OUT-JR050	Outlet	SN-JR050	Jun-258		4620.00	4539.00				9.00							
196	OUT-JR062	Outlet	SN-JR068	J0038-0		4632.00	4544.91				15.00							
197	OUT-JR063	Outlet	SN-JR063	Jun-256		4552.00	4546.00				16.00							
198	OUT-JR070	Outlet	SN-JR070	J4263		4565.00	4524.03				21.00							
199	OUT-JR080	Outlet	SN-JR080	J0080-0		4690.00	4614.73				0.00							
200	OUT-JR082	Outlet	SN-JR079	J0080-0		4635.00	4614.73				10.00							
201	Outlet-100	Outlet	Stor-45	Jun-218		4700.00	4620.00				21.73							
202	Outlet-101	Outlet	Stor-46	J0126-1		5000.00	4629.13				2.00							
203	Outlet-102	Outlet	Stor-57	Jun-252		4632.00	4529.00				5.00							
204	Outlet-103	Outlet	Stor-47	SN-PR040		4730.00	4720.00				160.00							
205	Outlet-104	Outlet	Stor-48	SN-PR050		4760.00	4750.00				108.00							
206	Outlet-105	Outlet	SN-JR065a	Jun-251		4690.00	4624.00				5.00							
207	Outlet-106	Outlet	Stor-49	Jun-255		4842.66	4842.66				1.00							
208	Outlet-107	Outlet	Stor-50	Jun-250		4570.00	4568.00				4.00							
209	Outlet-108	Outlet	Stor-51	Jun-257		4529.00	4527.00				5.00							
210	Outlet-109	Outlet	SN-PR021	Jun-253		4618.00	4618.00				43.12							
211	Outlet-111	Outlet	Stor-53	Jun-264		4527.00	4522.00				20.00							
212	Outlet-112	Outlet	Stor-54	Jun-265		4621.00	4618.00				5.00							
213	Outlet-113	Outlet	Stor-55	Jun-191		4585.00	4573.00				22.97							
214	Outlet-114	Outlet	Stor-56	Jun-220		4680.00	4675.00				9.50							
215	Outlet-115	Outlet	Stor-58	Jun-267		4600.00	4597.00				15.00							
216	Outlet-116	Outlet	Stor-59	Jun-267		4605.00	4597.00				4.00							
217	Outlet-117	Outlet	SN-PR024	Jun-148		4573.00	4568.49				4.00							
218	Outlet-84	Outlet	SN-JR082	Jun-180		4685.00	4664.65				4.00							
219	Outlet-86	Outlet	Stor-57	Jun-251		4632.00	4624.00				2.00							
220	Outlet-87	Outlet	Stor-34	J0050-0		4632.00	4579.17				18.00							
221	Outlet-90	Outlet	SN-JR031	J42554		4554.00	4531.50				12.00							
222	Outlet-91	Outlet	SN-JR035	J42452		4558.00	4557.88				18.00							
223	Outlet-92	Outlet	SN-JR065a	Jun-196		4690.00	4660.00				5.00							
224	Outlet-93	Outlet	Stor-41	Jun-247		4620.00	4533.50				18.00							
225	Outlet-95	Outlet	SN-JR083	J0126-0		4685.00	4632.19				7.00							
226	Outlet-96	Outlet	SN-JR065	JJR060.02-0		4660.00	4611.44				6.00							
227	Outlet-97	Outlet	Stor-43	J42877		4505.00	4500.54				5.00							
228	Outlet-98	Outlet	Stor-44	Jun-149		4720.00	4716.00				28.00							
229	Outlet-99	Outlet	SN-JR061	Jun-185		4632.00	4529.00				3.00							
230	OUT-PR020	Outlet	SN-PR020	Jun-149		4720.00	4716.00				18.00							
231	OUT-PR030	Outlet	SN-PR030	Jun-159		4710.00	4694.00				8.00							
232	OUT-PR040	Outlet	SN-PR040	JJR062.04-1		4720.00	4697.75				103.00							

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
233	OUT-PR050	Outlet	SN-PR050	Out-35		4750.00	4719.00				12.00							
234	OUT-PR060	Outlet	SN-PR060	Jun-171		5410.00	4730.00				5.00							
235	Weir-01	Weir	SN-JR086	Out-33		4618.80	0.00				107.07							

FULL BUILD-OUT CONDITION - TICKVILLE
10-YEAR STORM

Project Description

File Name	Saratoga Tickville Buildout_SD_v3.1.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	HEC-1
HEC-1 unit hydrograph method	SCS Dimensionless
HEC-1 loss method	SCS Curve Number
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Jan 01, 2012	00:00:00
End Analysis On	Jan 01, 2012	16:00:00
Start Reporting On	Jan 01, 2012	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	4
Subbasins	8
Nodes	29
Junctions	19
Outfalls	2
Flow Diversions	0
Inlets	0
Storage Nodes	8
Links	27
Channels	17
Pipes	2
Pumps	0
Orifices	0
Weirs	0
Outlets	8
Pollutants	0
Land Uses	0

Subbasin Summary

SN	Subbasin ID	Area (ac)	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)
1	JR010	427.25	0.96	0.24	102.54	102.10
2	TG010	183.33	0.96	0.58	105.78	96.83
3	TG020	1565.56	0.96	0.28	436.79	188.88
4	TG030	266.78	0.96	0.49	130.72	155.75
5	TG040	466.81	0.96	0.11	49.48	41.94
6	TG060	40567.11	0.96	0.01	405.67	82.96
7	TG070	2288.50	0.96	0.10	219.70	94.04
8	UL152	159.64	0.96	0.24	38.31	33.93

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	J0016-0	Junction	4535.00	4546.00	4546.00	4546.00	0.00	283.59	4538.10	0.00	7.90	0 00:00	0.00	0.00
2	JTG010.02-0	Junction	4502.15	4513.18	0.00	4513.18	0.00	283.26	4505.71	0.00	7.47	0 00:00	0.00	0.00
3	JTG010.03-1	Junction	4501.58	4509.72	0.00	4516.39	0.00	283.02	4504.61	0.00	6.97	0 00:00	0.00	0.00
4	JTG010.04-0	Junction	4537.00	4546.00	4537.00	4550.00	0.00	279.89	4540.69	0.00	6.31	0 00:00	0.00	0.00
5	JTG010.05-0	Junction	4591.30	4597.97	0.00	4604.64	0.00	264.07	4593.61	0.00	7.69	0 00:00	0.00	0.00
6	JTG010.08-1	Junction	4669.46	4676.13	0.00	4682.80	0.00	75.57	4671.44	0.00	8.02	0 00:00	0.00	0.00
7	JTG020.01-1	Junction	4652.00	4658.67	0.00	4665.34	0.00	197.58	4654.01	0.00	7.99	0 00:00	0.00	0.00
8	JTG020.02-0	Junction	5929.34	5936.01	0.00	5942.68	0.00	0.00	5929.34	0.00	10.00	0 00:00	0.00	0.00
9	JTG020.02-1	Junction	4708.14	4714.81	0.00	4721.48	0.00	39.00	4708.87	0.00	9.27	0 00:00	0.00	0.00
10	JTG030.05-0	Junction	4693.33	4700.00	0.00	4706.67	0.00	29.37	4693.98	0.00	9.35	0 00:00	0.00	0.00
11	JTG030.05-1	Junction	4619.53	4626.20	0.00	4632.87	0.00	45.01	4620.50	0.00	9.03	0 00:00	0.00	0.00
12	JTG040.0-0	Junction	4960.00	4966.00	0.00	6.00	0.00	29.42	4960.46	0.00	9.54	0 00:00	0.00	0.00
13	JTG070.01-1	Junction	4652.71	4659.38	0.00	4666.05	0.00	160.77	4655.66	0.00	7.05	0 00:00	0.00	0.00
14	JTG070.02-1	Junction	4735.62	4742.29	0.00	4748.96	0.00	166.75	4737.32	0.00	8.30	0 00:00	0.00	0.00
15	JTG070.03-1	Junction	5142.62	5149.29	0.00	5155.96	0.00	164.00	5144.12	0.00	8.50	0 00:00	0.00	0.00
16	Jun-193	Junction	4664.00	4670.00	4664.00	4670.00	0.00	45.05	4664.74	0.00	9.26	0 00:00	0.00	0.00
17	Jun-197	Junction	6952.33	6962.33	0.00	0.00	0.00	82.96	6953.27	0.00	9.06	0 00:00	0.00	0.00
18	Jun-198	Junction	4545.00	4551.00	4545.00	4553.00	0.00	29.35	4545.96	0.00	9.04	0 00:00	0.00	0.00
19	Jun-199	Junction	4655.00	4662.00	0.00	4665.00	0.00	20.56	4655.66	0.00	9.34	0 00:00	0.00	0.00
20	JTG010.01-1	Outfall	4500.00					283.01	4502.89					
21	Out-28	Outfall	4500.00					66.00	4500.00					
22	SN-TG010	Storage Node	4563.00	4573.00	0.00		0.00	96.80	4569.11				0.00	0.00
23	SN-TG030	Storage Node	4714.00	4724.00	0.00		0.00	155.62	4720.86				0.00	0.00
24	SN-TG040	Storage Node	4980.00	4990.00	0.00		0.00	41.94	4984.00				0.00	0.00
25	SN-TG070	Storage Node	5163.00	5173.00	0.00		0.00	94.04	5170.37				0.00	0.00
26	Stor-41	Storage Node	5940.00	5960.00	0.00		0.00	188.88	5949.63				0.00	0.00
27	Stor-42	Storage Node	4555.00	4561.00	0.00		0.00	33.93	4558.48				0.00	0.00
28	Stor-43	Storage Node	4666.00	4690.00	0.00		0.00	15.83	4666.00				0.00	0.00
29	Stor-44	Storage Node	4540.00	4560.00	0.00		0.00	102.02	4544.44				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
1	0016	Pipe	J0016-0	JTG010.02-0	3728.94	4535.00	4502.15	0.8800	8.376	0.0130	283.26	967.61	0.29	13.87	3.33	0.40	0.00	Calculated
2	0161	Pipe	JTG010.04-0	J0016-0	332.15	4537.00	4535.00	0.6000	9.000	0.0130	283.59	968.92	0.29	12.92	3.39	0.38	0.00	Calculated
3	Link-141	Channel	Jun-193	JTG030.05-1	1874.04	4664.00	4619.53	2.3700	10.000	0.0320	45.01	6672.32	0.01	4.54	0.86	0.09	0.00	
4	Link-145	Channel	JTG020.01-1	JTG010.05-0	4527.12	4652.00	4591.30	1.3400	10.000	0.0320	196.47	5015.52	0.04	6.35	2.16	0.22	0.00	
5	Link-147	Channel	Jun-197	JTG010.08-1	77127.60	6952.33	4669.46	2.9600	10.000	0.0320	75.57	7451.93	0.01	7.63	1.21	0.12	0.00	
6	Link-148	Channel	Jun-198	JTG010.04-0	1953.04	4545.00	4537.00	0.4100	10.000	0.0320	29.27	2772.19	0.01	1.21	2.01	0.20	0.00	
7	Link-149	Channel	Stor-43	JTG010.08-1	1649.73	4666.00	4669.46	-0.2100	10.000	0.0320	15.83	1983.65	0.01	1.37	0.99	0.10	0.00	
8	TG010.01	Channel	JTG010.03-1	JTG010.01-1	222.25	4501.58	4500.00	0.7100	10.000	0.0320	283.01	3652.08	0.08	6.00	2.96	0.30	0.00	
9	TG010.02	Channel	JTG010.02-0	JTG010.03-1	184.83	4502.15	4501.58	0.3100	10.000	0.0320	283.02	2405.38	0.12	5.18	3.29	0.33	0.00	
10	TG010.04	Channel	JTG010.05-0	JTG010.04-0	3846.91	4591.30	4537.00	1.4100	10.000	0.0320	262.30	5146.08	0.05	5.49	3.00	0.30	0.00	
11	TG010.07	Channel	JTG020.01-1	JTG070.01-1	320.00	4652.00	4652.71	-0.2200	10.000	0.0320	158.68	2040.27	0.08	4.29	2.48	0.25	0.00	
12	TG010.08	Channel	JTG070.01-1	Jun-199	705.67	4652.71	4655.00	-0.3200	10.000	0.0320	13.36	2467.46	0.01	1.70	1.80	0.18	0.00	
13	TG020.01	Channel	JTG020.02-1	JTG020.01-1	3032.22	4708.14	4652.00	1.8500	10.000	0.0320	39.00	5893.71	0.01	4.37	1.37	0.14	0.00	
14	TG020.02	Channel	JTG020.02-0	JTG020.02-1	12794.68	5929.34	4708.14	9.5400	10.000	0.0320	0.00	13381.71	0.00	0.00	0.37	0.04	0.00	
15	TG030.02	Channel	JTG030.05-1	JTG010.05-0	3085.88	4619.53	4591.30	0.9100	10.000	0.0320	44.83	4142.85	0.01	3.05	1.54	0.15	0.00	
16	TG030.05	Channel	JTG030.05-0	Jun-193	1891.32	4693.33	4664.00	1.5500	10.000	0.0320	29.05	5393.95	0.01	3.68	0.69	0.07	0.00	
17	TG040.01	Channel	JTG040.0-0	JTG030.05-0	5331.65	4959.53	4693.33	4.9900	10.000	0.0320	29.37	9687.00	0.00	5.80	0.55	0.06	0.00	
18	TG070.01	Channel	JTG070.02-1	JTG070.01-1	5099.54	4735.62	4652.71	1.6300	10.000	0.0320	160.73	5522.95	0.03	5.21	2.32	0.23	0.00	
19	TG070.02	Channel	JTG070.03-1	JTG070.02-1	14437.34	5142.62	4735.62	2.8200	10.000	0.0320	166.75	7272.55	0.02	9.21	1.59	0.16	0.00	
20	Outlet-94	Outlet	Stor-41	JTG020.02-1		5940.00	4708.14				39.00							
21	Outlet-95	Outlet	Stor-42	Jun-198		4555.00	4545.00				29.35							
22	Outlet-96	Outlet	Stor-43	Jun-199		4666.00	4655.00				20.56							
23	Outlet-97	Outlet	Stor-44	JTG010.04-0		4540.00	4537.00				75.45							
24	OUT-TG010	Outlet	SN-TG010	Out-28		4563.00	4500.00				66.00							
25	OUT-TG030	Outlet	SN-TG030	Jun-193		4714.00	4664.00				16.00							
26	OUT-TG040	Outlet	SN-TG040	JTG040.0-0		4980.00	4960.00				29.42							
27	OUT-TG070	Outlet	SN-TG070	JTG070.03-1		5163.00	5142.62				164.00							

FULL BUILD-OUT CONDITION - TICKVILLE
100-YEAR STORM

Project Description

File Name	Saratoga Tickville Buildout_SD_v3.1.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	HEC-1
HEC-1 unit hydrograph method	SCS Dimensionless
HEC-1 loss method	SCS Curve Number
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Jan 01, 2012	00:00:00
End Analysis On	Jan 01, 2012	16:00:00
Start Reporting On	Jan 01, 2012	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	4
Subbasins	8
Nodes	29
Junctions	19
Outfalls	2
Flow Diversions	0
Inlets	0
Storage Nodes	8
Links	27
Channels	17
Pipes	2
Pumps	0
Orifices	0
Weirs	0
Outlets	8
Pollutants	0
Land Uses	0

Subbasin Summary

SN	Subbasin ID	Area (ac)	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)
1	JR010	427.25	1.72	0.50	214.05	212.46
2	TG010	183.33	1.72	1.04	190.30	188.99
3	TG020	1565.56	1.72	0.55	856.36	387.55
4	TG030	266.78	1.72	0.89	237.70	304.50
5	TG040	466.81	1.72	0.27	127.44	101.70
6	TG060	40567.11	1.72	0.11	4584.08	978.55
7	TG070	2288.50	1.72	0.23	533.22	228.52
8	UL152	159.64	1.72	0.44	69.76	66.10

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	J0016-0	Junction	4535.00	4546.00	4546.00	4546.00	0.00	428.41	4538.92	0.00	7.08	0 00:00	0.00	0.00
2	JTG010.02-0	Junction	4502.15	4513.18	0.00	4513.18	0.00	428.41	4506.52	0.00	6.66	0 00:00	0.00	0.00
3	JTG010.03-1	Junction	4501.58	4509.72	0.00	4516.39	0.00	428.41	4505.36	0.00	6.22	0 00:00	0.00	0.00
4	JTG010.04-0	Junction	4537.00	4546.00	4537.00	4550.00	0.00	419.18	4541.70	0.00	5.30	0 00:00	0.00	0.00
5	JTG010.05-0	Junction	4591.30	4597.97	0.00	4604.64	0.00	413.63	4594.25	0.00	7.05	0 00:00	0.00	0.00
6	JTG010.08-1	Junction	4669.46	4676.13	0.00	4682.80	0.00	937.61	4679.53	0.07	0.00	0 00:00	0.00	0.00
7	JTG020.01-1	Junction	4652.00	4658.67	0.00	4665.34	0.00	357.59	4654.77	0.00	7.23	0 00:00	0.00	0.00
8	JTG020.02-0	Junction	5929.34	5936.01	0.00	5942.68	0.00	0.00	5929.34	0.00	10.00	0 00:00	0.00	0.00
9	JTG020.02-1	Junction	4708.14	4714.81	0.00	4721.48	0.00	39.00	4708.87	0.00	9.27	0 00:00	0.00	0.00
10	JTG030.05-0	Junction	4693.33	4700.00	0.00	4706.67	0.00	34.00	4694.04	0.00	9.29	0 00:00	0.00	0.00
11	JTG030.05-1	Junction	4619.53	4626.20	0.00	4632.87	0.00	50.00	4620.57	0.00	8.96	0 00:00	0.00	0.00
12	JTG040.0-0	Junction	4960.00	4966.00	0.00	6.00	0.00	34.00	4960.50	0.00	9.50	0 00:00	0.00	0.00
13	JTG070.01-1	Junction	4652.71	4659.38	0.00	4666.05	0.00	318.67	4656.77	0.00	5.94	0 00:00	0.00	0.00
14	JTG070.02-1	Junction	4735.62	4742.29	0.00	4748.96	0.00	168.29	4737.34	0.00	8.28	0 00:00	0.00	0.00
15	JTG070.03-1	Junction	5142.62	5149.29	0.00	5155.96	0.00	164.00	5144.13	0.00	8.49	0 00:00	0.00	0.00
16	Jun-193	Junction	4664.00	4670.00	4664.00	4670.00	0.00	50.00	4664.79	0.00	9.21	0 00:00	0.00	0.00
17	Jun-197	Junction	6952.33	6962.33	0.00	0.00	0.00	978.54	6956.05	0.00	6.28	0 00:00	0.00	0.00
18	Jun-198	Junction	4545.00	4551.00	4545.00	4553.00	0.00	32.00	4546.01	0.00	8.99	0 00:00	0.00	0.00
19	Jun-199	Junction	4655.00	4662.00	0.00	4665.00	0.00	309.93	4658.74	0.00	6.26	0 00:00	0.00	0.00
20	JTG010.01-1	Outfall	4500.00					428.41	4503.59					
21	Out-28	Outfall	4500.00					66.00	4500.00					
22	SN-TG010	Storage Node	4563.00	4573.00	0.00		0.00	188.90	4570.52				0.00	0.00
23	SN-TG030	Storage Node	4714.00	4724.00	0.00		0.00	304.32	4722.71				0.00	0.00
24	SN-TG040	Storage Node	4980.00	4990.00	0.00		0.00	101.69	4986.02				0.00	0.00
25	SN-TG070	Storage Node	5163.00	5173.00	0.00		0.00	228.51	5169.77				0.00	0.00
26	Stor-41	Storage Node	5940.00	5960.00	0.00		0.00	387.55	5953.49				0.00	0.00
27	Stor-42	Storage Node	4555.00	4561.00	0.00		0.00	66.08	4559.80				0.00	0.00
28	Stor-43	Storage Node	4666.00	4690.00	0.00		0.00	309.93	4666.07				0.00	0.00
29	Stor-44	Storage Node	4540.00	4560.00	0.00		0.00	212.39	4546.72				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
1	0016	Pipe	J0016-0	JTG010.02-0	3728.94	4535.00	4502.15	0.8800	8.376	0.0130	428.41	967.61	0.44	15.76	4.14	0.49	0.00	Calculated
2	0161	Pipe	JTG010.04-0	J0016-0	332.15	4537.00	4535.00	0.6000	9.000	0.0130	428.41	968.92	0.44	14.25	4.31	0.48	0.00	Calculated
3	Link-141	Channel	Jun-193	JTG030.05-1	1874.04	4664.00	4619.53	2.3700	10.000	0.0320	50.00	6672.32	0.01	4.68	0.91	0.09	0.00	
4	Link-145	Channel	JTG020.01-1	JTG010.05-0	4527.12	4652.00	4591.30	1.3400	10.000	0.0320	357.54	5015.52	0.07	7.96	2.86	0.29	0.00	
5	Link-147	Channel	Jun-197	JTG010.08-1	77127.60	6952.33	4669.46	2.9600	10.000	0.0320	937.61	7451.93	0.13	14.37	6.22	0.62	0.00	
6	Link-148	Channel	Jun-198	JTG010.04-0	1953.04	4545.00	4537.00	0.4100	10.000	0.0320	32.00	2772.19	0.01	1.22	2.71	0.27	0.00	
7	Link-149	Channel	Stor-43	JTG010.08-1	1649.73	4666.00	4669.46	-0.2100	10.000	0.0320	309.93	1983.65	0.16	3.07	5.03	0.50	0.00	
8	TG010.01	Channel	JTG010.03-1	JTG010.01-1	222.25	4501.58	4500.00	0.7100	10.000	0.0320	428.41	3652.08	0.12	6.70	3.68	0.37	0.00	
9	TG010.02	Channel	JTG010.02-0	JTG010.03-1	184.83	4502.15	4501.58	0.3100	10.000	0.0320	428.41	2405.38	0.18	5.80	4.07	0.41	0.00	
10	TG010.04	Channel	JTG010.05-0	JTG010.04-0	3846.91	4591.30	4537.00	1.4100	10.000	0.0320	413.51	5146.08	0.08	6.14	3.82	0.38	0.00	
11	TG010.07	Channel	JTG020.01-1	JTG070.01-1	320.00	4652.00	4652.71	-0.2200	10.000	0.0320	318.59	2040.27	0.16	5.54	3.42	0.34	0.00	
12	TG010.08	Channel	JTG070.01-1	Jun-199	705.67	4652.71	4655.00	-0.3200	10.000	0.0320	309.92	2467.46	0.13	4.47	3.90	0.39	0.00	
13	TG020.01	Channel	JTG020.02-1	JTG020.01-1	3032.22	4708.14	4652.00	1.8500	10.000	0.0320	39.00	5893.71	0.01	4.50	1.75	0.17	0.00	
14	TG020.02	Channel	JTG020.02-0	JTG020.02-1	12794.68	5929.34	4708.14	9.5400	10.000	0.0320	0.00	13381.71	0.00	0.00	0.37	0.04	0.00	
15	TG030.02	Channel	JTG030.05-1	JTG010.05-0	3085.88	4619.53	4591.30	0.9100	10.000	0.0320	50.00	4142.85	0.01	3.17	1.82	0.18	0.00	
16	TG030.05	Channel	JTG030.05-0	Jun-193	1891.32	4693.33	4664.00	1.5500	10.000	0.0320	34.00	5393.95	0.01	3.95	0.75	0.07	0.00	
17	TG040.01	Channel	JTG040.0-0	JTG030.05-0	5331.65	4959.53	4693.33	4.9900	10.000	0.0320	34.00	9687.00	0.00	6.14	0.61	0.06	0.00	
18	TG070.01	Channel	JTG070.02-1	JTG070.01-1	5099.54	4735.62	4652.71	1.6300	10.000	0.0320	164.00	5522.95	0.03	5.73	2.54	0.25	0.00	
19	TG070.02	Channel	JTG070.03-1	JTG070.02-1	14437.34	5142.62	4735.62	2.8200	10.000	0.0320	168.29	7272.55	0.02	9.59	1.60	0.16	0.00	
20	Outlet-94	Outlet	Stor-41	JTG020.02-1		5940.00	4708.14				39.00							
21	Outlet-95	Outlet	Stor-42	Jun-198		4555.00	4545.00				32.00							
22	Outlet-96	Outlet	Stor-43	Jun-199		4666.00	4655.00				309.93							
23	Outlet-97	Outlet	Stor-44	JTG010.04-0		4540.00	4537.00				84.00							
24	OUT-TG010	Outlet	SN-TG010	Out-28		4563.00	4500.00				66.00							
25	OUT-TG030	Outlet	SN-TG030	Jun-193		4714.00	4664.00				16.00							
26	OUT-TG040	Outlet	SN-TG040	JTG040.0-0		4980.00	4960.00				34.00							
27	OUT-TG070	Outlet	SN-TG070	JTG070.03-1		5163.00	5142.62				164.00							

FULL BUILD-OUT CONDITION - SOUTH
10-YEAR STORM

Project Description

File Name	Saratoga South Buildout_SD_v3.1.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	HEC-1
HEC-1 unit hydrograph method	SCS Dimensionless
HEC-1 loss method	SCS Curve Number
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Jan 01, 2012	00:00:00
End Analysis On	Jan 01, 2012	23:55:00
Start Reporting On	Jan 01, 2012	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	6
Subbasins	64
Nodes	316
Junctions	263
Outfalls	11
Flow Diversions	0
Inlets	0
Storage Nodes	42
Links	312
Channels	71
Pipes	197
Pumps	0
Orifices	11
Weirs	0
Outlets	33
Pollutants	0
Land Uses	0

Subbasin Summary

SN	Subbasin ID	Area (ac)	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)
1	UDOT1	17.67	0.96	0.40	7.14	9.09
2	UDOT2	18.76	0.96	0.84	15.76	22.27
3	UDOT3	7.93	0.96	0.84	6.68	9.43
4	UDOT4	28.63	0.96	0.84	24.05	33.97
5	UDOT5	17.33	0.96	0.84	14.59	20.60
6	UL010	358.46	0.96	0.46	165.61	222.39
7	UL012	765.62	0.96	0.03	23.73	9.55
8	UL020	470.76	0.96	0.58	271.63	341.34
9	UL022	242.19	0.96	0.26	62.97	82.30
10	UL024	933.42	0.96	0.01	4.67	3.09
11	UL030	205.10	0.96	0.42	86.76	113.60
12	UL031	123.79	0.96	0.26	32.19	45.30
13	UL032	233.02	0.96	0.24	55.93	72.16
14	UL033	88.85	0.96	0.03	2.75	1.63
15	UL034	156.46	0.96	0.03	4.85	2.91
16	UL035	586.06	0.96	0.00	0.00	0.00
17	UL040	143.49	0.96	0.28	40.03	57.40
18	UL041	67.25	0.96	0.26	17.48	25.05
19	UL042	76.37	0.96	0.24	18.33	26.33
20	UL043	157.01	0.96	0.24	37.68	53.20
21	UL044	321.32	0.96	0.22	71.01	101.95
22	UL045	422.26	0.96	0.00	0.42	0.41
23	UL050	65.15	0.96	0.22	14.40	20.31
24	UL051	97.15	0.96	0.26	25.26	36.61
25	UL060	78.53	0.96	0.27	21.12	29.81
26	UL061	33.56	0.96	0.29	9.67	12.66
27	UL062	51.61	0.96	0.31	15.90	23.21
28	UL063	92.95	0.96	0.29	26.77	39.21
29	UL064	191.89	0.96	0.26	49.89	71.46
30	UL065	557.40	0.96	0.00	0.00	0.00
31	UL066	262.96	0.96	0.00	0.53	0.60
32	UL070A	26.99	0.96	0.36	9.61	13.25
33	UL070B	56.32	0.96	0.36	20.05	27.63
34	UL070C	39.85	0.96	0.36	14.19	19.56
35	UL080A	61.41	0.96	0.40	24.81	31.62
36	UL080B	14.32	0.96	0.40	5.78	7.38
37	UL080C	22.82	0.96	0.40	9.22	11.76
38	UL081	107.65	0.96	0.32	34.12	52.85
39	UL082	84.13	0.96	0.33	27.51	39.94
40	UL083	63.50	0.96	0.32	20.13	29.46
41	UL084	562.59	0.96	0.00	0.00	0.00
42	UL090	29.46	0.96	0.32	9.34	11.90
43	UL100	79.57	0.96	0.32	25.22	29.39
44	UL101	41.98	0.96	0.34	14.15	21.15
45	UL102	110.80	0.96	0.29	31.91	46.74
46	UL103	130.47	0.96	0.01	0.65	0.54
47	UL110	75.22	0.96	0.24	18.05	24.30
48	UL115	179.78	0.96	0.27	48.36	57.62
49	UL120	153.99	0.96	0.32	48.81	68.88
50	UL121	131.78	0.96	0.31	40.59	51.67
51	UL124	295.07	0.96	0.24	70.82	84.44
52	UL126	1502.76	0.96	0.00	0.00	0.00
53	UL130	199.88	0.96	0.56	111.53	122.86
54	UL132	106.78	0.96	0.32	33.85	43.19
55	UL134	275.88	0.96	0.32	87.45	111.55
56	UL136	740.74	0.96	0.01	3.70	2.16
57	UL138	16.92	0.96	0.37	6.33	8.58
58	UL140	102.75	0.96	0.36	36.58	40.84
59	UL142	57.99	0.96	0.30	17.28	20.12
60	UL144	187.32	0.96	0.32	59.38	83.80
61	UL146	43.67	0.96	0.32	13.84	20.26
62	UL148	301.52	0.96	0.01	1.51	1.07
63	UL150	50.72	0.96	0.29	14.61	18.84
64	UL152	201.54	0.96	0.58	116.29	102.83

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	J0004-0	Junction	4525.19	4530.79	0.00	4536.39	0.00	87.82	4527.35	0.00	3.44	0 00:00	0.00	0.00
2	J0006-0	Junction	4578.80	4586.35	0.00	4593.90	0.00	88.38	4580.64	0.00	5.71	0 00:00	0.00	0.00
3	J0011-0	Junction	4586.34	4592.94	0.00	4599.54	0.00	67.06	4588.20	0.00	4.74	0 00:00	0.00	0.00
4	J0012-1	Junction	4587.41	4592.91	0.00	4598.41	0.00	13.97	4588.18	0.00	4.73	0 00:00	0.00	0.00
5	J0014-1	Junction	4721.70	4725.70	0.00	4732.37	0.00	0.00	4721.70	0.00	4.00	0 00:00	0.00	0.00
6	J0131.0	Junction	4591.24	4594.79	0.00	4598.34	0.00	12.90	4592.88	0.00	1.91	0 00:00	0.00	0.00
7	J42112	Junction	4599.43	4605.33	0.00	0.00	0.00	22.46	4601.01	0.00	4.32	0 00:00	0.00	0.00
8	J42117	Junction	4597.20	4602.90	0.00	4608.60	0.00	22.46	4598.13	0.00	4.77	0 00:00	0.00	0.00
9	J42118	Junction	4610.41	4615.21	0.00	0.00	0.00	22.46	4611.52	0.00	3.69	0 00:00	0.00	0.00
10	J42154	Junction	4521.79	4530.29	0.00	4536.96	0.00	94.70	4523.21	0.00	7.08	0 00:00	0.00	0.00
11	J42155	Junction	4525.14	4536.04	0.00	4542.71	0.00	94.70	4527.83	0.00	8.21	0 00:00	0.00	0.00
12	J42156	Junction	4527.51	4540.26	0.00	4546.93	0.00	94.70	4530.28	0.00	9.98	0 00:00	0.00	0.00
13	J42157	Junction	4512.22	4529.67	0.00	4536.34	0.00	107.25	4513.79	0.00	15.88	0 00:00	0.00	0.00
14	J42175	Junction	4688.48	4696.88	0.00	4703.55	0.00	0.00	4688.48	0.00	8.40	0 00:00	0.00	0.00
15	J42176	Junction	4691.51	4699.51	0.00	4706.18	0.00	0.00	4691.51	0.00	8.00	0 00:00	0.00	0.00
16	J42177	Junction	4694.19	4701.99	0.00	4708.66	0.00	0.00	4694.19	0.00	7.80	0 00:00	0.00	0.00
17	J42178	Junction	4703.44	4711.94	0.00	4718.61	0.00	0.00	4703.44	0.00	8.50	0 00:00	0.00	0.00
18	J42180	Junction	4743.73	4755.03	0.00	4761.70	0.00	0.00	4743.73	0.00	11.30	0 00:00	0.00	0.00
19	J42181	Junction	4730.23	4738.33	0.00	4745.00	0.00	0.00	4730.23	0.00	8.10	0 00:00	0.00	0.00
20	J42223	Junction	4530.32	4547.72	0.00	4554.39	0.00	94.70	4532.99	0.00	14.73	0 00:00	0.00	0.00
21	J42224	Junction	4532.48	4548.08	0.00	4554.75	0.00	89.50	4534.78	0.00	13.30	0 00:00	0.00	0.00
22	J4224	Junction	4534.11	4539.51	0.00	4544.91	0.00	32.01	4535.30	0.00	4.21	0 00:00	0.00	0.00
23	J4225	Junction	4537.26	4542.31	0.00	4547.36	0.00	32.02	4539.01	0.00	3.30	0 00:00	0.00	0.00
24	J4226	Junction	4539.66	4544.36	0.00	4549.06	0.00	32.02	4541.32	0.00	3.04	0 00:00	0.00	0.00
25	J42264	Junction	4608.40	4617.30	0.00	4623.97	0.00	29.38	4609.85	0.00	7.45	0 00:00	0.00	0.00
26	J42265	Junction	4616.61	4625.16	0.00	4631.83	0.00	29.38	4617.67	0.00	7.49	0 00:00	0.00	0.00
27	J42266	Junction	4620.24	4630.84	0.00	4637.51	0.00	29.38	4621.65	0.00	9.19	0 00:00	0.00	0.00
28	J42267	Junction	4622.52	4631.27	0.00	4637.94	0.00	29.38	4624.10	0.00	7.17	0 00:00	0.00	0.00
29	J42268	Junction	4630.23	4638.98	0.00	4645.65	0.00	29.39	4631.64	0.00	7.34	0 00:00	0.00	0.00
30	J42269	Junction	4633.51	4641.96	0.00	4648.63	0.00	29.39	4635.02	0.00	6.94	0 00:00	0.00	0.00
31	J42270	Junction	4638.41	4646.21	0.00	4652.88	0.00	29.39	4639.82	0.00	6.39	0 00:00	0.00	0.00
32	J42271	Junction	4646.69	4654.24	0.00	4661.79	0.00	29.39	4647.81	0.00	6.43	0 00:00	0.00	0.00
33	J42273	Junction	4657.67	4666.52	0.00	4673.19	0.00	29.39	4658.79	0.00	7.73	0 00:00	0.00	0.00
34	J42274	Junction	4666.87	4675.87	0.00	4682.54	0.00	29.38	4668.02	0.00	7.85	0 00:00	0.00	0.00
35	J42275	Junction	4670.16	4678.16	0.00	4684.83	0.00	29.38	4671.39	0.00	6.77	0 00:00	0.00	0.00
36	J42277	Junction	4672.54	4680.24	0.00	4686.91	0.00	29.38	4673.94	0.00	6.30	0 00:00	0.00	0.00
37	J42278	Junction	4677.64	4685.14	0.00	4691.81	0.00	29.38	4678.91	0.00	6.23	0 00:00	0.00	0.00
38	J42279	Junction	4682.15	4689.30	0.00	4695.97	0.00	29.39	4683.52	0.00	5.78	0 00:00	0.00	0.00
39	J42280	Junction	4683.00	4690.90	0.00	4697.57	0.00	0.21	4683.52	0.00	7.38	0 00:00	0.00	0.00
40	J42282	Junction	4687.53	4695.98	0.00	4702.65	0.00	0.00	4687.53	0.00	8.45	0 00:00	0.00	0.00
41	J42284	Junction	4589.18	4593.08	0.00	4599.75	0.00	3.54	4589.97	0.00	3.11	0 00:00	0.00	0.00
42	J42285	Junction	4588.82	4592.92	0.00	4599.59	0.00	3.54	4589.67	0.00	3.25	0 00:00	0.00	0.00
43	J42286	Junction	4586.66	4598.71	0.00	4605.38	0.00	3.54	4587.56	0.00	11.15	0 00:00	0.00	0.00
44	J42287	Junction	4587.63	4596.28	0.00	4602.95	0.00	3.54	4588.74	0.00	7.54	0 00:00	0.00	0.00
45	J42302	Junction	4500.54	4509.44	0.00	4518.34	0.00	87.80	4503.40	0.00	6.04	0 00:00	0.00	0.00
46	J42303	Junction	4705.22	4712.12	0.00	4719.02	0.00	13.97	4706.08	0.00	6.04	0 00:00	0.00	0.00
47	J42304	Junction	4686.38	4691.98	0.00	4697.58	0.00	13.97	4687.39	0.00	4.59	0 00:00	0.00	0.00
48	J42305	Junction	4681.18	4687.53	0.00	4693.88	0.00	13.97	4681.91	0.00	5.62	0 00:00	0.00	0.00
49	J42306	Junction	4518.99	4525.39	0.00	4531.79	0.00	87.80	4520.47	0.00	4.92	0 00:00	0.00	0.00
50	J42307	Junction	4545.94	4551.54	0.00	4557.14	0.00	87.85	4547.91	0.00	3.63	0 00:00	0.00	0.00
51	J42308	Junction	4600.22	4608.82	0.00	4617.42	0.00	13.97	4601.16	0.00	7.66	0 00:00	0.00	0.00
52	J42309	Junction	4616.43	4624.03	0.00	4631.63	0.00	13.97	4617.24	0.00	6.79	0 00:00	0.00	0.00
53	J42310	Junction	4636.19	4643.89	0.00	4651.59	0.00	13.97	4637.05	0.00	6.84	0 00:00	0.00	0.00
54	J42311	Junction	4652.14	4657.74	0.00	4663.34	0.00	13.97	4652.89	0.00	4.85	0 00:00	0.00	0.00
55	J42312	Junction	4663.13	4669.03	0.00	4674.93	0.00	13.97	4663.95	0.00	5.08	0 00:00	0.00	0.00
56	J42333	Junction	4610.34	4619.04	0.00	4627.74	0.00	37.89	4611.54	0.00	7.50	0 00:00	0.00	0.00
57	J42334	Junction	4602.31	4610.41	0.00	4618.51	0.00	37.89	4603.90	0.00	6.51	0 00:00	0.00	0.00
58	J42335	Junction	4601.32	4609.92	0.00	4618.52	0.00	37.89	4602.52	0.00	7.40	0 00:00	0.00	0.00
59	J42336	Junction	4595.34	4600.34	0.00	4605.34	0.00	37.89	4596.64	0.00	3.70	0 00:00	0.00	0.00
60	J42337	Junction	4619.90	4626.60	0.00	4633.30	0.00	37.89	4621.00	0.00	5.60	0 00:00	0.00	0.00
61	J42340	Junction	4584.36	4588.76	0.00	4593.16	0.00	37.90	4585.56	0.00	3.20	0 00:00	0.00	0.00
62	J42341	Junction	4590.49	4594.89	0.00	4599.29	0.00	37.89	4592.23	0.00	2.66	0 00:00	0.00	0.00
63	J42346	Junction	4747.50	4757.40	0.00	4767.30	0.00	23.21	4748.28	0.00	9.12	0 00:00	0.00	0.00
64	J42347	Junction	4706.85	4722.55	0.00	4738.25	0.00	23.20	4707.81	0.00	14.74	0 00:00	0.00	0.00
65	J42348	Junction	4677.52	4683.92	0.00	4690.32	0.00	23.19	4678.42	0.00	5.50	0 00:00	0.00	0.00
66	J42349	Junction	4670.58	4676.48	0.00	4682.38	0.00	23.19	4671.67	0.00	4.81	0 00:00	0.00	0.00
67	J42350	Junction	4666.48	4674.28	0.00	4682.08	0.00	23.19	4667.28	0.00	7.00	0 00:00	0.00	0.00
68	J42357	Junction	4670.80	4675.10	0.00	4679.40	0.00	12.90	4671.51	0.00	3.59	0 00:00	0.00	0.00
69	J42358	Junction	4617.19	4622.39	0.00	4627.59	0.00	12.90	4617.83	0.00	4.56	0 00:00	0.00	0.00
70	J42359	Junction	4589.72	4593.12	0.00	4596.52	0.00	12.90	4590.77	0.00	2.35	0 00:00	0.00	0.00
71	J4236	Junction	4546.45	4551.85	0.00	4557.25	0.00	32.04	4547.58	0.00	4.27	0 00:00	0.00	0.00
72	J42363	Junction	4588.99	4592.79	0.00	4596.59	0.00	32.08	4589.95	0.00	2.84	0 00:00	0.00	0.00
73	J42364	Junction	4621.30	4627.60	0.00	4633.90	0.00	12.90	4622.17	0.00	5.43	0 00:00	0.00	0.00
74	J42365	Junction	4812.97	4819.17	0.00	4825.37	0.00	0.00	4812.97	0.00	6.20	0 00:00	0.00	0.00
75	J42366	Junction	4809.24	4818.24	0.00	4827.24	0.00	0.00	4809.24	0.00	9.00	0 00:00	0.00	0.00
76	J42367	Junction	4786.31	4790.81	0.00	4795.31	0.00	0.00	4786.31	0.00	4.50	0 00:00	0.00	0.00
77	J42368	Junction	4758.99	4764.89	0.00	4770.79	0.00	0.00	4758.99	0.00	5.90	0 00:00	0.00	0.00
78	J4237	Junction	4580.68	4585.88	0.00	4591.08	0.00	32.08	4581.66	0.00	4.22	0 00:00	0.00	0.00
79	J42370	Junction	4749.05	4760.55	0.00	4772.05	0.00	0.00	4749.05	0.00	11.50	0 00:00	0.00	0.00
80	J42371	Junction	4745.20	4754.40	0.00	4763.60	0.00	0.00	4745.20	0.00	9.20	0 00:00	0.00	0.00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
81	J42393	Junction	4585.90	4597.47	0.00	4609.04	0.00	81.54	4587.80	0.00	9.67	0 00:00	0.00	0.00
82	J42394	Junction	4586.59	4597.69	0.00	4608.79	0.00	81.54	4588.85	0.00	8.84	0 00:00	0.00	0.00
83	J42402	Junction	4585.83	4595.68	0.00	4605.53	0.00	15.84	4588.58	0.00	7.10	0 00:00	0.00	0.00
84	J42420	Junction	4713.66	4725.36	0.00	4737.06	0.00	23.21	4714.38	0.00	10.98	0 00:00	0.00	0.00
85	J42436	Junction	4689.65	4696.32	0.00	4702.99	0.00	23.19	4693.28	0.00	3.04	0 00:00	0.00	0.00
86	J42440	Junction	4744.06	4754.86	0.00	4765.66	0.00	0.00	4744.06	0.00	10.80	0 00:00	0.00	0.00
87	J42442	Junction	4775.41	4781.21	0.00	4789.41	0.00	15.00	4776.23	0.00	4.98	0 00:00	0.00	0.00
88	J42443	Junction	4713.69	4721.59	0.00	4728.49	0.00	18.02	4714.76	0.00	6.83	0 00:00	0.00	0.00
89	J42458	Junction	4585.91	4597.91	0.00	4609.91	0.00	3.54	4586.90	0.00	11.01	0 00:00	0.00	0.00
90	J42459	Junction	4584.43	4595.48	0.00	4606.53	0.00	3.54	4585.21	0.00	10.27	0 00:00	0.00	0.00
91	J42460	Junction	4582.66	4594.71	0.00	4606.76	0.00	3.54	4583.59	0.00	11.12	0 00:00	0.00	0.00
92	J42461	Junction	4579.30	4590.20	0.00	4601.10	0.00	6.10	4580.18	0.00	10.02	0 00:00	0.00	0.00
93	J42462	Junction	4581.42	4595.62	0.00	4609.82	0.00	6.10	4582.02	0.00	13.60	0 00:00	0.00	0.00
94	J42494	Junction	4599.72	4608.72	0.00	4608.72	0.00	59.83	4608.30	0.00	0.42	0 00:00	0.00	0.00
95	J42495	Junction	4603.33	4612.28	0.00	4621.23	0.00	56.79	4610.51	0.00	1.77	0 00:00	0.00	0.00
96	J42496	Junction	4612.58	4622.18	0.00	4631.78	0.00	57.02	4614.45	0.00	7.73	0 00:00	0.00	0.00
97	J42497	Junction	4632.36	4641.66	0.00	4650.96	0.00	56.95	4633.63	0.00	8.03	0 00:00	0.00	0.00
98	J42498	Junction	4640.79	4649.84	0.00	4658.89	0.00	56.94	4642.24	0.00	7.60	0 00:00	0.00	0.00
99	J42499	Junction	4650.81	4659.71	0.00	4668.61	0.00	56.92	4652.18	0.00	7.53	0 00:00	0.00	0.00
100	J42500	Junction	4652.77	4662.12	0.00	4671.47	0.00	56.96	4654.66	0.00	7.46	0 00:00	0.00	0.00
101	J42516	Junction	4653.02	4664.07	0.00	4675.12	0.00	57.01	4655.58	0.00	8.49	0 00:00	0.00	0.00
102	J42517	Junction	4655.67	4665.42	0.00	4675.17	0.00	56.97	4657.36	0.00	8.06	0 00:00	0.00	0.00
103	J42518	Junction	4656.94	4666.44	0.00	4675.94	0.00	56.95	4658.79	0.00	7.65	0 00:00	0.00	0.00
104	J42519	Junction	4658.11	4667.16	0.00	4676.21	0.00	57.30	4659.96	0.00	7.20	0 00:00	0.00	0.00
105	J42520	Junction	4669.61	4682.46	0.00	4695.31	0.00	59.10	4670.84	0.00	11.62	0 00:00	0.00	0.00
106	J42521	Junction	4670.25	4680.20	0.00	4690.15	0.00	57.04	4672.59	0.00	7.61	0 00:00	0.00	0.00
107	J42522	Junction	4670.60	4680.05	0.00	4689.50	0.00	56.56	4673.18	0.00	6.87	0 00:00	0.00	0.00
108	J42523	Junction	4671.79	4678.79	0.00	4685.79	0.00	56.54	4674.32	0.00	4.47	0 00:00	0.00	0.00
109	J42525	Junction	4672.21	4681.46	0.00	4690.71	0.00	56.54	4675.09	0.00	6.37	0 00:00	0.00	0.00
110	J42526	Junction	4673.18	4681.88	0.00	4690.58	0.00	56.08	4675.99	0.00	5.89	0 00:00	0.00	0.00
111	J42527	Junction	4674.07	4682.32	0.00	4690.57	0.00	56.08	4676.57	0.00	5.75	0 00:00	0.00	0.00
112	J42528	Junction	4678.70	4688.75	0.00	4698.80	0.00	56.08	4680.21	0.00	8.54	0 00:00	0.00	0.00
113	J42529	Junction	4680.22	4686.92	0.00	4693.62	0.00	56.08	4682.15	0.00	4.77	0 00:00	0.00	0.00
114	J42530	Junction	4692.15	4706.20	0.00	4720.25	0.00	56.08	4693.45	0.00	12.75	0 00:00	0.00	0.00
115	J42531	Junction	4693.08	4703.98	0.00	4714.88	0.00	56.08	4695.09	0.00	8.89	0 00:00	0.00	0.00
116	J42532	Junction	4693.66	4702.01	0.00	4710.36	0.00	56.08	4696.08	0.00	5.93	0 00:00	0.00	0.00
117	J42533	Junction	4695.91	4701.91	0.00	4707.91	0.00	56.08	4697.69	0.00	4.22	0 00:00	0.00	0.00
118	J42538	Junction	4595.69	4610.69	0.00	4625.69	0.00	111.74	4597.54	0.00	13.15	0 00:00	0.00	0.00
119	J42540	Junction	4597.65	4612.65	0.00	4627.65	0.00	59.83	4599.49	0.00	13.16	0 00:00	0.00	0.00
120	J42722	Junction	4586.25	4594.25	0.00	4602.25	0.00	124.29	4588.19	0.00	6.06	0 00:00	0.00	0.00
121	J42745	Junction	4755.35	4761.10	0.00	4766.85	0.00	0.00	4755.35	0.00	5.75	0 00:00	0.00	0.00
122	J42746	Junction	4758.90	4764.40	0.00	4769.90	0.00	0.00	4758.90	0.00	5.50	0 00:00	0.00	0.00
123	J42747	Junction	4704.88	4709.53	0.00	4714.18	0.00	0.00	4704.88	0.00	4.65	0 00:00	0.00	0.00
124	J42748	Junction	4703.71	4709.86	0.00	4716.01	0.00	0.00	4703.71	0.00	6.15	0 00:00	0.00	0.00
125	J42788	Junction	4596.35	4603.40	0.00	4610.45	0.00	0.96	4598.61	0.00	4.79	0 00:00	0.00	0.00
126	J42808	Junction	4594.84	4601.49	0.00	4608.34	0.00	12.61	4598.61	0.00	2.88	0 00:00	0.00	0.00
127	J42809	Junction	4594.91	4601.61	0.00	4608.31	0.00	13.52	4598.61	0.00	3.00	0 00:00	0.00	0.00
128	J42810	Junction	4595.00	4600.90	4596.00	4606.80	0.00	20.12	4598.61	0.00	2.29	0 00:00	0.00	0.00
129	J42811	Junction	4595.04	4600.54	0.00	4606.04	0.00	6.46	4598.61	0.00	1.93	0 00:00	0.00	0.00
130	J42812	Junction	4595.09	4601.24	0.00	4607.39	0.00	5.59	4598.61	0.00	2.63	0 00:00	0.00	0.00
131	J42813	Junction	4595.72	4601.42	0.00	4607.12	0.00	1.93	4598.61	0.00	2.81	0 00:00	0.00	0.00
132	J42814	Junction	4595.42	4600.92	0.00	4606.42	0.00	3.46	4598.61	0.00	2.31	0 00:00	0.00	0.00
133	J42815	Junction	4595.33	4601.43	0.00	4607.53	0.00	4.32	4598.61	0.00	2.82	0 00:00	0.00	0.00
134	J42816	Junction	4595.25	4601.25	0.00	4607.25	0.00	5.05	4598.61	0.00	2.64	0 00:00	0.00	0.00
135	J42821	Junction	4619.88	4624.58	0.00	0.00	0.00	22.46	4621.04	0.00	3.54	0 00:00	0.00	0.00
136	J42824	Junction	4645.94	4654.69	0.00	5000.00	0.00	83.80	4662.90	8.21	0.00	0 00:00	0.00	0.00
137	J42833	Junction	4716.01	4720.71	0.00	4725.41	0.00	0.00	4716.01	0.00	4.70	0 00:00	0.00	0.00
138	J42834	Junction	4723.25	4729.80	0.00	4736.35	0.00	0.00	4723.25	0.00	6.55	0 00:00	0.00	0.00
139	J42835	Junction	4742.72	4749.37	0.00	4756.02	0.00	0.00	4742.72	0.00	6.65	0 00:00	0.00	0.00
140	J42836	Junction	4753.59	4759.29	0.00	4764.99	0.00	0.00	4753.59	0.00	5.70	0 00:00	0.00	0.00
141	J42853	Junction	4666.81	4672.06	0.00	5000.00	0.00	0.00	4666.81	0.00	5.25	0 00:00	0.00	0.00
142	J42854	Junction	4651.03	4657.83	0.00	5000.00	0.00	7.41	4663.56	5.73	0.00	0 00:00	0.00	0.00
143	J42855	Junction	4668.88	4674.28	0.00	5000.00	0.00	0.00	4668.88	0.00	5.40	0 00:00	0.00	0.00
144	J42856	Junction	4669.95	4674.45	0.00	5000.00	0.00	0.00	4669.95	0.00	4.50	0 00:00	0.00	0.00
145	J42857	Junction	4678.77	4683.37	0.00	4687.97	0.00	0.00	4678.77	0.00	4.60	0 00:00	0.00	0.00
146	J42858	Junction	4696.01	4701.26	0.00	4706.51	0.00	0.00	4696.01	0.00	5.25	0 00:00	0.00	0.00
147	J42859	Junction	4700.55	4707.90	0.00	4715.25	0.00	0.00	4700.55	0.00	7.35	0 00:00	0.00	0.00
148	J42885	Junction	4616.20	4626.17	0.00	0.00	0.00	22.46	4617.41	0.00	8.76	0 00:00	0.00	0.00
149	J441024-0	Junction	4572.78	4586.00	4575.50	4587.00	0.00	50.06	4575.21	0.00	10.79	0 00:00	0.00	0.00
150	J441024-1	Junction	4572.60	4585.23	0.00	4587.23	0.00	60.16	4574.83	0.00	10.40	0 00:00	0.00	0.00
151	J441032-1	Junction	4592.84	4599.09	0.00	4605.34	0.00	3.54	4593.26	0.00	5.83	0 00:00	0.00	0.00
152	J441557-0	Junction	4693.78	4701.38	0.00	4708.98	0.00	56.08	4696.51	0.00	4.87	0 00:00	0.00	0.00
153	J441560-0	Junction	4696.87	4710.00	0.00	4713.57	0.00	6166.70	4715.44	3.57	0.00	0 13:36	18.86	0.00
154	J441565-1	Junction	4693.98	4708.08	0.00	4722.18	0.00	56.08	4697.19	0.00	10.89	0 00:00	0.00	0.00
155	J441657-0	Junction	4638.41	4643.98	0.00	4647.00	0.00	83.79	4645.25	1.27	0.00	0 00:00	0.00	0.00
156	J441660-0	Junction	4645.74	4654.22	0.00	4660.89	0.00	83.77	4658.22	4.00	0.00	0 00:00	0.00	0.00
157	J441673-1	Junction	4723.25	4729.80	0.00	4736.35	0.00	0.00	4723.25	0.00	6.55	0 00:00	0.00	0.00
158	J441823.0	Junction	4636.38	4643.08	0.00	4649.78	0.00	12.90	4637.12	0.00	5.96	0 00:00	0.00	0.00
159	J44269-1	Junction	4721.40	4727.07	0.00	4733.74	0.00	0.00	4721.40	0.00	10.00	0 00:00	0.00	0.00
160	J44279-1	Junction	4589.18	4592.62	0.00	4599.29	0.00	3.54	4590.12	0.00	2.50	0 00:00	0.00	0.00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
161	J4429-0	Junction	4621.41	4632.89	0.00	4632.89	0.00	22.46	4622.80	0.00	10.09	0 00:00	0.00	0.00
162	J44377-1	Junction	4546.06	4554.75	0.00	4561.42	0.00	40.00	4546.89	0.00	7.86	0 00:00	0.00	0.00
163	J44488-1	Junction	4592.40	4597.30	0.00	4602.20	0.00	37.89	4593.89	0.00	3.41	0 00:00	0.00	0.00
164	J44563-1	Junction	4588.62	4592.48	0.00	4599.15	0.00	3.54	4589.57	0.00	2.91	0 00:00	0.00	0.00
165	J44598-1	Junction	4658.85	4664.25	0.00	4659.65	0.00	23.19	4661.35	0.00	2.90	0 00:00	0.00	0.00
166	J44599-0	Junction	4647.46	4658.96	0.00	4670.46	0.00	11.74	4648.64	0.00	10.32	0 00:00	0.00	0.00
167	J44612-0	Junction	4634.84	4641.34	0.00	4641.84	0.00	34.10	4637.56	0.00	3.78	0 00:00	0.00	0.00
168	J44681.0	Junction	4591.92	4596.82	0.00	4601.72	0.00	15.84	4592.60	0.00	4.22	0 00:00	0.00	0.00
169	JUL010.04-0	Junction	4614.13	4620.80	0.00	4627.47	0.00	190.20	4615.57	0.00	8.56	0 00:00	0.00	0.00
170	JUL010.04-1	Junction	4495.70	4502.37	0.00	4509.04	0.00	186.42	4497.95	0.00	7.75	0 00:00	0.00	0.00
171	JUL010.08-0	Junction	4675.67	4682.34	0.00	4689.01	0.00	192.37	4677.04	0.00	8.63	0 00:00	0.00	0.00
172	JUL010.10-0	Junction	5849.45	5856.12	0.00	5862.79	0.00	9.55	5849.65	0.00	9.80	0 00:00	0.00	0.00
173	JUL010.10-1	Junction	4812.10	4818.77	0.00	4825.44	0.00	222.38	4813.46	0.00	8.64	0 00:00	0.00	0.00
174	JUL020.02-0	Junction	4865.89	4872.56	0.00	4879.23	0.00	135.77	4866.95	0.00	8.94	0 00:00	0.00	0.00
175	JUL020.06-0	Junction	5072.86	5079.53	0.00	5086.20	0.00	44.33	5073.39	0.00	9.47	0 00:00	0.00	0.00
176	JUL020.10-0	Junction	5162.24	5168.91	0.00	5175.58	0.00	44.05	5162.81	0.00	9.43	0 00:00	0.00	0.00
177	JUL020.12-0	Junction	5346.59	5353.26	0.00	5359.93	0.00	0.00	5346.59	0.00	10.00	0 00:00	0.00	0.00
178	JUL030.02-0	Junction	4580.07	4586.74	0.00	4593.41	0.00	104.17	4581.08	0.00	8.99	0 00:00	0.00	0.00
179	JUL030.04-0	Junction	4587.21	4593.88	0.00	4600.55	0.00	104.17	4588.20	0.00	9.01	0 00:00	0.00	0.00
180	JUL030.08-1	Junction	4618.14	4624.81	0.00	4631.48	0.00	104.18	4619.17	0.00	8.97	0 00:00	0.00	0.00
181	JUL030.12-1	Junction	4623.65	4630.32	0.00	4636.99	0.00	104.47	4624.78	0.00	8.87	0 00:00	0.00	0.00
182	JUL030.14-0	Junction	5067.12	5073.79	0.00	5080.46	0.00	43.19	5067.64	0.00	9.48	0 00:00	0.00	0.00
183	JUL030.14-1	Junction	4769.44	4776.11	0.00	4782.78	0.00	42.93	4769.98	0.00	9.46	0 00:00	0.00	0.00
184	JUL030.16-0	Junction	5222.41	5229.08	0.00	5235.75	0.00	2.93	5222.50	0.00	9.91	0 00:00	0.00	0.00
185	JUL031.06-1	Junction	4887.75	4894.42	0.00	4901.09	0.00	61.92	4888.42	0.00	9.33	0 00:00	0.00	0.00
186	JUL031.10-0	Junction	6622.71	6629.38	0.00	6636.05	0.00	0.00	6622.71	0.00	10.00	0 00:00	0.00	0.00
187	JUL031.10-1	Junction	5457.22	5463.89	0.00	5470.56	0.00	21.25	5457.52	0.00	9.70	0 00:00	0.00	0.00
188	JUL033.02-0	Junction	5974.93	5981.60	0.00	5988.27	0.00	1.63	5974.98	0.00	9.95	0 00:00	0.00	0.00
189	JUL033.02-1	Junction	5352.23	5358.90	0.00	5365.57	0.00	1.66	5352.29	0.00	9.94	0 00:00	0.00	0.00
190	JUL034.02-0	Junction	5708.23	5714.90	0.00	5721.57	0.00	2.91	5708.31	0.00	9.92	0 00:00	0.00	0.00
191	JUL040.06-0	Junction	5281.46	5288.13	0.00	5294.80	0.00	58.35	5282.01	0.00	9.45	0 00:00	0.00	0.00
192	JUL041.02-1	Junction	4627.15	4637.63	0.00	4644.30	0.00	37.99	4628.29	0.00	9.34	0 00:00	0.00	0.00
193	JUL041.04-0	Junction	5183.21	5189.88	0.00	5196.55	0.00	0.00	5183.21	0.00	10.00	0 00:00	0.00	0.00
194	JUL041.04-1	Junction	4741.62	4748.29	0.00	4748.29	0.00	38.19	4742.14	0.00	9.48	0 00:00	0.00	0.00
195	JUL045.02-0	Junction	6540.33	6547.00	0.00	6553.67	0.00	0.41	6540.35	0.00	9.98	0 00:00	0.00	0.00
196	JUL065.02-0	Junction	6574.33	6581.00	0.00	6587.67	0.00	0.00	6574.33	0.00	10.00	0 00:00	0.00	0.00
197	JUL066.02-0	Junction	6216.13	6222.80	0.00	6229.47	0.00	0.60	6216.16	0.00	9.97	0 00:00	0.00	0.00
198	JUL070.02-0	Junction	4581.13	4587.80	0.00	4594.47	0.00	81.54	4581.91	0.00	9.22	0 00:00	0.00	0.00
199	JUL070.04-0	Junction	4647.09	4655.74	0.00	4662.41	0.00	70.98	4647.82	0.00	9.27	0 00:00	0.00	0.00
200	JUL070.04-1	Junction	4590.98	4604.49	0.00	4611.16	0.00	70.65	4592.43	0.00	12.06	0 00:00	0.00	0.00
201	JUL070.06-0	Junction	4659.93	4666.60	0.00	4673.27	0.00	58.94	4660.63	0.00	9.30	0 00:00	0.00	0.00
202	JUL070.10-0	Junction	5083.29	5089.96	0.00	5096.63	0.00	34.15	5083.73	0.00	9.56	0 00:00	0.00	0.00
203	JUL070.10-1	Junction	4779.12	4812.06	0.00	4818.73	0.00	46.09	4779.66	0.00	32.40	0 00:00	0.00	0.00
204	JUL070.12-0	Junction	5214.49	5221.16	0.00	5227.83	0.00	34.28	5214.90	0.00	9.59	0 00:00	0.00	0.00
205	JUL070.14-0	Junction	5261.14	5267.81	0.00	5274.48	0.00	0.00	5261.14	0.00	10.00	0 00:00	0.00	0.00
206	JUL080.02-0	Junction	4572.00	4585.13	0.00	4591.80	0.00	66.50	4572.96	0.00	12.17	0 00:00	0.00	0.00
207	JUL080.04-0	Junction	4595.90	4602.57	0.00	4603.24	0.00	38.49	4596.23	0.00	9.67	0 00:00	0.00	0.00
208	JUL080.04-1	Junction	4634.00	4642.69	0.00	4643.36	0.00	34.09	4634.53	0.00	8.16	0 00:00	0.00	0.00
209	JUL080.06-0	Junction	4635.30	4642.00	0.00	4642.31	0.00	18.02	4637.56	0.00	4.44	0 00:00	0.00	0.00
210	JUL080.06-1	Junction	4695.88	4702.55	0.00	4709.22	0.00	18.02	4696.21	0.00	6.34	0 00:00	0.00	0.00
211	JUL080.08-0	Junction	4696.80	4703.47	0.00	4704.14	0.00	18.02	4697.79	0.00	5.68	0 00:00	0.00	0.00
212	JUL080.08-1	Junction	4711.67	4718.34	0.00	4728.90	0.00	18.02	4711.99	0.00	6.35	0 00:00	0.00	0.00
213	JUL080.10-0	Junction	4770.94	4777.61	0.00	4784.28	0.00	15.00	4771.22	0.00	6.39	0 00:00	0.00	0.00
214	JUL080.10-1	Junction	4717.35	4724.02	0.00	4729.69	0.00	18.02	4718.82	0.00	5.20	0 00:00	0.00	0.00
215	JUL080.12-0	Junction	4776.51	4783.18	0.00	4789.85	0.00	15.00	4778.38	0.00	4.80	0 00:00	0.00	0.00
216	JUL080.12-1	Junction	4878.08	4884.75	0.00	4891.42	0.00	13.01	4878.34	0.00	9.74	0 00:00	0.00	0.00
217	JUL080.14-0	Junction	5014.70	5021.37	0.00	5028.04	0.00	3.00	5014.80	0.00	9.90	0 00:00	0.00	0.00
218	JUL080.16-0	Junction	5227.63	5234.30	0.00	5240.97	0.00	3.00	5227.73	0.00	9.90	0 00:00	0.00	0.00
219	JUL084.02-0	Junction	6213.33	6220.00	0.00	6226.67	0.00	0.00	6213.33	0.00	10.00	0 00:00	0.00	0.00
220	JUL100.02-1	Junction	4850.00	4860.00	0.00	4853.00	0.00	2.00	4850.71	0.00	9.29	0 00:00	0.00	0.00
221	JUL100.04-0	Junction	5012.74	5019.41	0.00	5026.08	0.00	6.02	5012.90	0.00	9.84	0 00:00	0.00	0.00
222	JUL100.06-0	Junction	5193.10	5199.77	0.00	5206.44	0.00	0.54	5193.14	0.00	9.96	0 00:00	0.00	0.00
223	JUL120.02-0	Junction	4505.93	4512.60	0.00	4519.27	0.00	155.18	4507.56	0.00	8.37	0 00:00	0.00	0.00
224	JUL120.04-0	Junction	4541.49	4548.16	0.00	4554.83	0.00	155.57	4542.88	0.00	8.61	0 00:00	0.00	0.00
225	JUL120.04-1	Junction	4506.91	4513.58	0.00	4520.25	0.00	155.18	4511.52	0.00	10.21	0 00:00	0.00	0.00
226	JUL120.06-0	Junction	4574.18	4580.85	0.00	4587.52	0.00	157.77	4575.61	0.00	8.57	0 00:00	0.00	0.00
227	JUL120.06-1	Junction	4541.09	4547.76	0.00	4554.43	0.00	157.04	4543.50	0.00	7.59	0 00:00	0.00	0.00
228	JUL121.02-0	Junction	4698.77	4710.00	0.00	4712.11	0.00	20514.37	4712.48	0.00	1.29	0 00:00	0.00	0.00
229	JUL121.04-0	Junction	5110.19	5116.86	0.00	5123.53	0.00	0.00	5110.19	0.00	10.00	0 00:00	0.00	0.00
230	JUL121.07-0	Junction	5108.32	5114.99	0.00	5121.66	0.00	0.00	5108.32	0.00	10.00	0 00:00	0.00	0.00
231	JUL121.07-1	Junction	5027.00	5033.67	0.00	5040.34	0.00	0.00	5027.00	0.00	10.00	0 00:00	0.00	0.00
232	JUL126.02-0	Junction	6714.13	6720.80	0.00	6727.47	0.00	0.00	6714.13	0.00	15.87	0 00:00	0.00	0.00
233	JUL130.02-0	Junction	4566.45	4573.12	0.00	4579.79	0.00	59.50	4567.24	0.00	9.21	0 00:00	0.00	0.00
234	JUL130.02-1	Junction	4505.04	4511.71	0.00	4518.38	0.00	59.48	4505.87	0.00	9.17	0 00:00	0.00	0.00
235	JUL130.04-0	Junction	4581.26	4587.93	0.00	4594.60	0.00	59.59	4582.35	0.00	8.91	0 00:00	0.00	0.00
236	JUL130.04-1	Junction	4567.91	4574.58	0.00	4581.25	0.00	59.56	4570.01	0.00	7.90	0 00:00	0.00	0.00
237	JUL130.06-0	Junction	4590.00	4603.44	0.00	4610.11	0.00	58.35	4590.73	0.00	12.71	0 00:00	0.00	0.00
238	JUL130.06-1	Junction	4582.55	4589.22	0.00	4595.89	0.00	59.59	4584.18	0.00	8.37	0 00:00	0.00	0.00
239	JUL130.08-0	Junction	4592.42	4604.78	0.00	4611.45	0.00	58.35	4594.03	0.00	10.75	0 00:00	0.00	0.00
240	JUL130.08-1	Junction	4594.64	4602.65	0.00	4609.32	0.00	38.83	4598.61	0.00	4.04	0 00:00	0.00	0.00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
241	JUL132.02-1	Junction	4760.63	4767.30	0.00	4773.97	0.00	0.00	4760.63	0.00	6.67	0 00:00	0.00	0.00
242	JUL152.02-0	Junction	4550.30	4558.56	0.00	4565.23	0.00	40.00	4552.47	0.00	7.83	0 00:00	0.00	0.00
243	JUL152.02-1	Junction	4547.04	4555.99	0.00	4562.66	0.00	40.00	4548.93	0.00	10.39	0 00:00	0.00	0.00
244	JUL152.04-1	Junction	4551.14	4558.14	0.00	4564.81	0.00	40.00	4553.27	0.00	4.87	0 00:00	0.00	0.00
245	Jun-131	Junction	4559.02	4563.45	0.00	0.00	0.00	28.70	4560.43	0.00	3.02	0 00:00	0.00	0.00
246	Jun-132	Junction	4533.00	4552.17	0.00	4554.00	0.00	51.08	4539.58	0.00	12.59	0 00:00	0.00	0.00
247	Jun-192	Junction	4739.00	4755.00	0.00	4755.00	0.00	13.97	4740.84	0.00	14.16	0 00:00	0.00	0.00
248	Jun-194	Junction	4704.00	6.00	0.00	0.00	0.00	14.93	4704.78	0.00	1.22	0 00:00	0.00	0.00
249	Jun-195	Junction	5000.00	5010.00	0.00	5012.00	0.00	3.16	5000.11	0.00	9.89	0 00:00	0.00	0.00
250	Jun-204	Junction	5010.00	5020.00	0.00	5021.00	0.00	1.07	5010.08	0.00	9.92	0 00:00	0.00	0.00
251	Jun-206	Junction	4795.00	4805.00	4796.00	4807.00	0.00	28.34	4795.40	0.00	9.60	0 00:00	0.00	0.00
252	Jun-208	Junction	4880.00	4887.00	4881.00	4898.00	0.00	81.00	4888.98	0.00	9.02	0 00:00	0.00	0.00
253	Jun-210	Junction	4635.00	4642.09	0.00	4644.00	0.00	28.33	4635.87	0.00	6.22	0 00:00	0.00	0.00
254	Jun-211	Junction	4646.72	4658.00	0.00	4650.00	0.00	28.34	4647.84	0.00	10.16	0 00:00	0.00	0.00
255	Jun-212	Junction	4636.03	4646.00	0.00	4649.00	0.00	10.35	4636.68	0.00	9.32	0 00:00	0.00	0.00
256	Jun-214	Junction	4825.00	4835.00	0.00	5000.00	0.00	4.00	4825.37	0.00	9.63	0 00:00	0.00	0.00
257	Jun-216	Junction	4579.44	4590.84	0.00	4592.00	0.00	12.23	4584.06	0.00	6.78	0 00:00	0.00	0.00
258	Jun-217	Junction	4678.00	4685.00	0.00	4700.00	0.00	28.39	4678.88	0.00	6.12	0 00:00	0.00	0.00
259	Jun-218	Junction	4580.35	4590.35	0.00	4592.00	0.00	12.23	4584.18	0.00	6.17	0 00:00	0.00	0.00
260	Jun-219	Junction	4849.00	4855.00	4849.00	4862.00	0.00	15.00	4849.27	0.00	9.73	0 00:00	0.00	0.00
261	Jun-220	Junction	4642.00	4648.00	4642.00	4648.00	0.00	39.78	4643.35	0.00	4.65	0 00:00	0.00	0.00
262	Jun-221	Junction	4597.20	4602.90	0.00	4608.60	0.00	0.51	4598.61	0.00	4.29	0 00:00	0.00	0.00
263	UL024.02-0	Junction	7100.00	7106.67	0.00	7113.34	0.00	3.09	7100.08	0.00	9.92	0 00:00	0.00	0.00
264	J0008-1	Outfall	4494.53					87.68	4494.53					
265	J42797	Outfall	4520.54					32.00	4521.68					
266	J44298-1	Outfall	4498.50					107.25	4499.90					
267	J44325-1	Outfall	4502.46					59.47	4503.26					
268	JUL010.02-1	Outfall	4491.00					178.74	4493.21					
269	JUL020.02-1	Outfall	4490.00					135.54	4491.06					
270	JUL030.02-1	Outfall	4501.37					104.16	4502.38					
271	JUL070.02-1	Outfall	4500.32					81.53	4501.10					
272	JUL080.02-1	Outfall	4493.46					91.78	4494.42					
273	JUL120.02-1	Outfall	4504.59					155.18	4506.10					
274	Out-28	Outfall	0.00					8.58	0.00					
275	JUL040.04-1	Storage Node	4745.00	4755.00	0.00		0.00	73.83	4749.42				0.00	0.00
276	Jun-205	Storage Node	4820.00	4850.00	0.00		0.00	33.00	4823.73				0.00	0.00
277	SN-UL020	Storage Node	4886.00	4900.00	0.00		0.00	341.33	4893.47				0.00	0.00
278	SN-UL022	Storage Node	5183.00	5193.00	0.00		0.00	82.30	5187.55				0.00	0.00
279	SN-UL030	Storage Node	4908.00	4918.00	0.00		0.00	113.60	4913.31				0.00	0.00
280	SN-UL031	Storage Node	5478.00	5488.00	0.00		0.00	45.30	5482.18				0.00	0.00
281	SN-UL032	Storage Node	5088.00	5098.00	0.00		0.00	72.15	5092.36				0.00	0.00
282	SN-UL041	Storage Node	4762.00	4772.00	0.00		0.00	0.00	4762.00				0.00	0.00
283	SN-UL043	Storage Node	5204.00	5214.00	0.00		0.00	0.00	5204.00				0.00	0.00
284	SN-UL044	Storage Node	5302.00	5312.00	0.00		0.00	101.94	5306.52				0.00	0.00
285	SN-UL051	Storage Node	4691.00	4701.00	0.00		0.00	36.61	4695.23				0.00	0.00
286	SN-UL060	Storage Node	4592.80	4.40	0.00		20.00	29.81	4595.18				0.00	1435.00
287	SN-UL060B	Storage Node	4654.40	5.80	0.00		20.00	48.10	4656.42				0.00	1435.00
288	SN-UL063	Storage Node	4788.10	10.90	0.00		20.00	39.21	4790.20				0.00	1435.00
289	SN-UL064	Storage Node	5235.00	5245.00	0.00		0.00	71.46	5239.46				0.00	0.00
290	SN-UL070	Storage Node	4680.00	4690.00	0.00		0.00	27.63	4683.89				0.00	0.00
291	SN-UL080B	Storage Node	4578.58	4587.00	0.00		20.00	50.07	4580.18				0.00	0.00
292	SN-UL081	Storage Node	4723.60	6.80	0.00		20.00	52.85	4727.04				0.00	1435.00
293	SN-UL082	Storage Node	4899.00	4909.00	0.00		0.00	39.94	4903.74				0.00	0.00
294	SN-UL083	Storage Node	5248.00	5258.00	0.00		0.00	29.46	5252.49				0.00	0.00
295	SN-UL090	Storage Node	4592.80	4.40	0.00		20.00	11.90	4595.41				0.00	1435.00
296	SN-UL100A	Storage Node	4599.80	4607.20	0.00		20.00	29.33	4604.28				0.00	0.00
297	SN-UL100B	Storage Node	4723.40	4724.40	0.00		20.00	0.00	4723.40				0.00	0.00
298	SN-UL101	Storage Node	5033.00	5043.00	0.00		0.00	21.15	5037.26				0.00	0.00
299	SN-UL102	Storage Node	5033.00	5043.00	0.00		0.00	46.74	5037.84				0.00	0.00
300	SN-UL110	Storage Node	4597.00	4602.60	0.00		20.00	36.40	4600.69				0.00	0.00
301	SN-UL115	Storage Node	5033.00	5043.00	0.00		0.00	57.62	5037.97				0.00	0.00
302	SN-UL121	Storage Node	4718.00	4728.00	0.00		0.00	0.00	4718.00				0.00	0.00
303	SN--UL121	Storage Node	4702.20	4712.20	0.00		20.00	189.21	4708.83				0.00	0.00
304	SN-UL124	Storage Node	4893.00	4903.50	0.00		0.00	0.00	4893.00				0.00	0.00
305	SN-UL124B	Storage Node	5047.00	5057.00	0.00		0.00	84.44	5054.25				0.00	0.00
306	SN-UL130	Storage Node	4612.00	4622.00	0.00		0.00	122.86	4618.33				0.00	0.00
307	SN-UL134	Storage Node	4825.00	4500.00	0.00		0.00	111.55	4830.64				0.00	1419.00
308	SN-UL140	Storage Node	4577.00	4587.00	0.00		0.00	40.84	4580.82				0.00	0.00
309	SN-UL144	Storage Node	4625.00	4634.40	0.00		20.00	83.79	4632.40				0.00	0.00
310	Stor-39	Storage Node	4680.00	10.00	0.00		0.00	68.88	4681.89				0.00	1417.00
311	Stor-39·1	Storage Node	4830.00	4838.00	0.00		0.00	20.26	4834.09				0.00	0.00
312	Stor-41	Storage Node	4745.00	4755.00	0.00		0.00	78.25	4749.52				0.00	0.00
313	Stor-45	Storage Node	4636.03	15.00	0.00		0.00	43.19	4640.70				0.00	1428.00
314	Stor-48	Storage Node	4587.00	4595.00	0.00		20.00	53.13	4588.30				0.00	0.00
315	Stor-49	Storage Node	4760.00	4770.00	0.00		0.00	26.33	4760.43				0.00	0.00
316	Stor-50	Storage Node	4555.00	4565.00	0.00		0.00	102.83	4560.63				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
1	0001	Pipe	J42306	J42302	251.32	4518.99	4500.54	7.3400	3.000	0.0130	87.80	180.72	0.49	16.66	2.15	0.72	0.00	Calculated
2	0002	Pipe	J44488-1	J42341	61.97	4592.40	4590.49	3.0800	3.000	0.0130	37.89	117.10	0.32	9.80	1.61	0.54	0.00	Calculated
3	0004	Pipe	J0004-0	J42306	174.71	4525.19	4518.99	3.5500	3.000	0.0130	87.80	125.65	0.70	19.58	1.82	0.61	0.00	Calculated
4	0005	Pipe	J42307	J0004-0	648.84	4545.94	4525.19	3.2000	3.000	0.0130	87.82	119.28	0.74	16.91	2.07	0.69	0.00	Calculated
5	0006	Pipe	J0006-0	J42307	858.65	4578.80	4545.94	3.8300	3.000	0.0130	87.85	130.48	0.67	18.57	1.90	0.63	0.00	Calculated
6	0007	Pipe	J42340	J0006-0	150.67	4584.36	4578.80	3.6900	3.000	0.0130	37.89	128.13	0.30	12.58	1.44	0.48	0.00	Calculated
7	0008	Pipe	J42302	J0008-1	199.41	4500.54	4496.64	1.9600	3.000	0.0130	87.68	93.28	0.94	13.69	2.57	0.86	0.00	Calculated
8	0009	Pipe	J42341	J42340	613.10	4590.49	4584.36	1.0000	3.000	0.0130	37.90	66.69	0.57	11.03	1.47	0.49	0.00	Calculated
9	0011	Pipe	J0011-0	J0006-0	162.63	4586.34	4578.80	4.6400	2.500	0.0130	64.93	88.32	0.74	17.38	1.75	0.73	0.00	Calculated
10	0013	Pipe	J42308	J0012-1	307.90	4600.22	4587.41	4.1600	1.500	0.0130	13.97	21.43	0.65	13.40	0.86	0.57	0.00	Calculated
11	0131	Pipe	J0131.0	J42359	454.58	4591.24	4589.72	0.3300	2.000	0.0130	12.90	13.08	0.99	5.77	1.35	0.67	0.00	Calculated
12	0132	Pipe	J42358	J0131.0	387.78	4617.19	4591.24	6.6900	2.000	0.0130	12.90	58.52	0.22	7.60	1.14	0.57	0.00	Calculated
13	0134	Pipe	J42359	J42363	77.73	4589.72	4588.99	0.9400	2.500	0.0130	12.91	39.75	0.32	9.01	1.00	0.40	0.00	Calculated
14	0139	Pipe	J42824	J441660-0	4.34	4645.94	4645.74	4.6100	2.000	0.0130	83.77	48.56	1.72	26.66	2.00	1.00	23.00	SURCHARGED
15	0165	Pipe	JUL120.04-1	JUL120.02-0	60.27	4506.91	4505.93	1.6300	5.000	0.0130	155.18	418.86	0.37	8.28	3.12	0.62	0.00	Calculated
16	0166	Pipe	JUL120.06-1	JUL120.04-0	64.47	4541.09	4541.49	-0.6200	2.500	0.0130	155.57	289.13	0.54	6.58	1.90	0.76	0.00	Calculated
17	0173	Pipe	J0012-1	J0011-0	6.43	4587.41	4586.34	16.6400	2.500	0.0130	13.97	167.32	0.08	11.53	1.19	0.49	0.00	Calculated
18	0176	Pipe	J44377-1	J42224	34.11	4546.06	4532.48	39.8100	2.000	0.0130	40.00	142.74	0.28	21.83	1.42	0.71	0.00	Calculated
19	0182	Pipe	J44269-1	J0014-1	357.60	4721.40	4721.70	-0.0800	1.500	0.0130	0.00	3.04	0.00	0.00	0.00	0.00	0.00	Calculated
20	0183	Pipe	J42533	J441565-1	49.88	4695.91	4693.98	3.8700	4.000	0.0130	56.08	282.55	0.20	6.80	2.50	0.62	0.00	Calculated
21	0191	Pipe	SN-UL110	J44681.0	101.15	4597.00	4591.92	5.0200	1.000	0.0130	8.93	7.98	1.12	12.69	0.84	0.84	0.00	> CAPACITY
22	4442	Pipe	JUL130.08-0	JUL130.06-0	96.06	4592.42	4590.00	2.5200	4.000	0.0130	58.35	227.99	0.26	19.11	1.17	0.29	0.00	Calculated
23	4449	Pipe	J42393	JUL070.02-0	232.19	4585.90	4581.00	2.1100	4.500	0.0130	81.54	281.86	0.29	20.47	1.34	0.30	0.00	Calculated
24	4489	Pipe	J42118	J42112	399.04	4610.41	4599.43	2.7500	2.000	0.0130	22.46	37.53	0.60	9.99	1.35	0.67	0.00	Calculated
25	4490	Pipe	J42112	J42117	330.31	4599.43	4597.20	0.6800	2.500	0.0130	22.46	33.70	0.67	9.13	1.25	0.50	0.00	Calculated
26	44174	Pipe	J42420	J42347	45.63	4713.66	4706.85	14.9200	2.500	0.0130	23.20	158.46	0.15	15.94	0.84	0.34	0.00	Calculated
27	44175	Pipe	J42346	J42420	424.20	4747.50	4713.66	7.9800	2.500	0.0130	23.21	115.85	0.20	18.61	0.75	0.30	0.00	Calculated
28	44177	Pipe	J42436	J42348	293.89	4692.40	4677.52	5.0600	2.500	0.0130	23.19	92.29	0.25	14.81	0.89	0.36	0.00	Calculated
29	44178	Pipe	J42347	J42436	398.35	4706.85	4692.40	3.6300	2.500	0.0130	23.19	78.12	0.30	13.57	0.95	0.38	0.00	Calculated
30	44181	Pipe	JUL100.02-1	Jun-219	698.24	4850.00	4849.00	0.1400	2.000	0.0130	2.01	8.56	0.23	4.13	0.48	0.24	0.00	Calculated
31	44182	Pipe	J42365	J42366	223.60	4812.97	4809.24	1.6700	2.000	0.0130	0.00	29.22	0.00	0.00	0.00	0.00	0.00	Calculated
32	44183	Pipe	J42366	J42367	346.57	4809.24	4786.31	6.6200	2.000	0.0130	0.00	58.19	0.00	0.00	0.00	0.00	0.00	Calculated
33	44184	Pipe	J42368	J42370	153.82	4758.99	4749.05	6.4600	2.000	0.0130	0.00	57.51	0.00	0.00	0.00	0.00	0.00	Calculated
34	44185	Pipe	J42367	J42368	353.16	4786.31	4758.99	7.7400	2.000	0.0130	0.00	62.92	0.00	0.00	0.00	0.00	0.00	Calculated
35	44186	Pipe	JUL080.12-0	J42442	29.30	4777.64	4775.41	7.6100	2.500	0.0130	15.00	113.16	0.13	11.39	0.78	0.31	0.00	Calculated
36	44187	Pipe	J42442	JUL080.10-0	51.22	4775.41	4773.28	4.1600	2.500	0.0130	15.00	83.64	0.18	11.64	0.77	0.31	0.00	Calculated
37	44236	Pipe	J42223	J42156	262.90	4530.32	4527.51	1.0700	4.000	0.0130	94.70	148.51	0.64	10.41	2.72	0.68	0.00	Calculated
38	44237	Pipe	J42156	J42155	254.58	4527.51	4525.14	0.9300	4.000	0.0130	94.70	138.59	0.68	10.35	2.73	0.68	0.00	Calculated
39	44238	Pipe	J42155	J42154	394.76	4525.14	4521.79	0.8500	4.000	0.0130	94.70	132.32	0.72	14.57	2.05	0.51	0.00	Calculated
40	44268	Pipe	J42180	J42181	179.46	4743.73	4730.23	7.5200	2.500	0.0130	0.00	112.50	0.00	0.00	0.00	0.00	0.00	Calculated
41	44269	Pipe	J42181	J44269-1	56.95	4730.23	4721.40	15.5000	2.500	0.0130	0.00	161.51	0.00	0.00	0.00	0.00	0.00	Calculated
42	44275	Pipe	J0014-1	J42178	196.83	4721.70	4703.44	9.2800	1.500	0.0130	0.00	31.99	0.00	0.00	0.00	0.00	0.00	Calculated
43	44276	Pipe	J42178	J42177	144.52	4703.44	4694.19	6.4000	1.500	0.0130	0.00	26.58	0.00	0.00	0.00	0.00	0.00	Calculated
44	44277	Pipe	J42177	J42176	64.41	4694.19	4691.51	4.1600	1.500	0.0130	0.00	21.43	0.00	0.00	0.00	0.00	0.00	Calculated
45	44278	Pipe	J42176	J42175	144.48	4691.51	4688.48	2.1000	1.500	0.0130	0.00	15.21	0.00	0.00	0.00	0.00	0.00	Calculated
46	44279	Pipe	J441032-1	J44279-1	134.87	4592.84	4589.20	2.7000	2.000	0.0130	3.54	37.16	0.10	3.84	0.67	0.33	0.00	Calculated
47	44298	Pipe	J42157	J44298-1	171.98	4512.22	4498.50	7.9800	4.000	0.0130	107.25	405.72	0.26	25.16	1.49	0.37	0.00	Calculated
48	44299	Pipe	J42154	J42157	88.84	4521.79	4512.22	10.7700	4.000	0.0130	94.70	471.45	0.20	22.78	1.48	0.37	0.00	Calculated
49	44333	Pipe	J42224	J42223	76.69	4532.48	4530.32	2.8200	4.000	0.0130	89.51	241.07	0.37	11.10	2.48	0.62	0.00	Calculated
50	44375	Pipe	JUL152.04-1	JUL152.02-0	76.70	4551.14	4550.30	1.1000	3.000	0.0130	40.00	69.80	0.57	11.58	2.15	0.72	0.00	Calculated
51	44377	Pipe	JUL152.02-1	J44377-1	76.96	4547.04	4546.06	1.2700	2.500	0.0130	40.00	46.29	0.86	14.63	1.36	0.55	0.00	Calculated
52	44455	Pipe	J42265	J42264	120.43	4616.61	4608.40	6.8200	2.000	0.0130	29.38	59.07	0.50	14.48	1.25	0.63	0.00	Calculated
53	44458	Pipe	J42175	J42282	60.29	4688.48	4687.53	1.5800	1.500	0.0130	0.00	13.19	0.00	0.00	0.00	0.00	0.00	Calculated
54	44459	Pipe	J42304	J42305	77.04	4686.38	4681.18	6.7500	1.250	0.0130	13.97	16.78	0.83	14.12	0.94	0.75	0.00	Calculated
55	44460	Pipe	J42303	J42304	260.84	4705.22	4686.38	7.2200	1.250	0.0130	13.97	17.36	0.80	14.24	0.93	0.75	0.00	Calculated
56	44461	Pipe	J42309	J42308	286.81	4616.43	4600.22	5.6500	1.500	0.0130	13.97	24.97	0.56	13.09	0.87	0.58	0.00	Calculated
57	44462	Pipe	J42310	J42309	390.20	4636.19	4616.43	5.0600	1.500	0.0130	13.97	23.64	0.59	13.88	0.83	0.55	0.00	Calculated
58	44463	Pipe	J42311	J42310	212.12	4652.14	4636.19	7.5200	1.500	0.0130	13.97	28.80	0.49	14.51	0.80	0.54	0.00	Calculated

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
59	44464	Pipe	J42312	J42311	173.46	4663.13	4652.14	6.3400	1.500	0.0130	13.97	26.44	0.53	14.64	0.80	0.53	0.00	Calculated
60	44465	Pipe	J42305	J42312	220.69	4681.18	4663.13	8.1800	1.500	0.0130	13.97	30.04	0.47	15.18	0.77	0.52	0.00	Calculated
61	44471	Pipe	J42266	J42265	101.03	4620.24	4616.61	3.5900	2.000	0.0130	29.38	42.88	0.69	14.44	1.23	0.62	0.00	Calculated
62	44472	Pipe	J42267	J42266	78.65	4622.52	4620.24	2.9000	2.000	0.0130	29.38	38.52	0.76	11.67	1.49	0.75	0.00	Calculated
63	44473	Pipe	J42268	J42267	286.17	4630.23	4622.52	2.6900	2.000	0.0130	29.38	37.13	0.79	11.67	1.49	0.75	0.00	Calculated
64	44474	Pipe	J42269	J42268	113.63	4633.51	4630.23	2.8900	2.000	0.0130	29.39	38.44	0.76	11.95	1.45	0.73	0.00	Calculated
65	44475	Pipe	J42270	J42269	157.43	4638.41	4633.51	3.1100	2.000	0.0130	29.39	39.91	0.74	11.96	1.45	0.73	0.00	Calculated
66	44476	Pipe	J42271	J42270	146.39	4646.69	4638.41	5.6600	2.000	0.0130	29.39	53.80	0.55	14.07	1.25	0.63	0.00	Calculated
67	44486	Pipe	J42333	J42334	261.69	4610.34	4602.31	3.0700	3.000	0.0130	37.89	116.84	0.32	11.74	1.40	0.47	0.00	Calculated
68	44487	Pipe	J42334	J42335	49.00	4602.31	4601.32	2.0200	3.000	0.0130	37.89	94.81	0.40	11.75	1.40	0.47	0.00	Calculated
69	44488	Pipe	J42336	J44488-1	76.23	4595.34	4592.40	3.8600	3.000	0.0130	37.89	130.99	0.29	11.77	1.39	0.46	0.00	Calculated
70	44489	Pipe	J42335	J42336	160.46	4601.32	4595.34	3.7300	3.000	0.0130	37.89	128.76	0.29	13.55	1.25	0.42	0.00	Calculated
71	44490	Pipe	JUL041.02-1	J42337	157.17	4627.15	4619.90	4.6100	3.000	0.0130	37.89	143.25	0.26	15.73	1.12	0.37	0.00	Calculated
72	44491	Pipe	J42337	J42333	200.01	4619.90	4610.34	4.7800	3.000	0.0130	37.89	145.82	0.26	15.19	1.15	0.38	0.00	Calculated
73	44500	Pipe	J42273	J42271	194.14	4657.67	4646.69	5.6600	2.000	0.0130	29.39	53.80	0.55	16.23	1.11	0.56	0.00	Calculated
74	44501	Pipe	J42274	J42273	167.33	4666.87	4657.67	5.5000	2.000	0.0130	29.39	53.05	0.55	15.97	1.13	0.57	0.00	Calculated
75	44502	Pipe	J42275	J42274	48.57	4670.16	4666.87	6.7700	2.000	0.0130	29.38	58.88	0.50	15.09	1.18	0.59	0.00	Calculated
76	44503	Pipe	J42277	J42275	52.50	4672.54	4670.16	4.5300	2.000	0.0130	29.38	48.17	0.61	13.38	1.31	0.66	0.00	Calculated
77	44504	Pipe	J42278	J42277	116.40	4677.64	4672.54	4.3800	2.000	0.0130	29.38	47.35	0.62	13.16	1.33	0.67	0.00	Calculated
78	44505	Pipe	J42279	J42278	125.33	4682.15	4677.64	3.6000	2.000	0.0130	29.38	42.91	0.68	13.35	1.31	0.66	0.00	Calculated
79	44506	Pipe	J42280	J42279	83.40	4683.00	4682.15	1.0200	2.000	0.0130	0.21	22.84	0.01	0.28	0.94	0.47	0.00	Calculated
80	44507	Pipe	J42282	J42280	320.83	4687.53	4683.00	1.4100	2.000	0.0130	0.00	26.88	0.00	0.00	0.26	0.13	0.00	Calculated
81	44548	Pipe	J44279-1	J42284	3.93	4589.20	4589.18	0.5100	1.250	0.0130	3.54	4.61	0.77	3.96	0.85	0.68	0.00	Calculated
82	44549	Pipe	J42284	J42285	29.92	4589.18	4588.82	1.2000	1.250	0.0130	3.54	7.09	0.50	4.17	0.82	0.66	0.00	Calculated
83	44551	Pipe	J42287	J42286	339.89	4587.63	4586.66	0.2900	1.250	0.0130	3.54	3.45	1.03	3.34	1.01	0.81	0.00	> CAPACITY
84	44563	Pipe	J42285	J44563-1	4.04	4588.82	4588.62	4.9500	1.250	0.0130	3.54	14.37	0.25	3.77	0.90	0.72	0.00	Calculated
85	44564	Pipe	J44563-1	J42287	259.33	4588.62	4587.63	0.3800	1.250	0.0130	3.54	3.99	0.89	3.28	1.03	0.82	0.00	Calculated
86	44576	Pipe	J42458	J42459	397.01	4585.91	4584.43	0.3700	1.250	0.0130	3.54	3.94	0.90	3.82	0.88	0.71	0.00	Calculated
87	44577	Pipe	J42286	J42458	161.65	4586.66	4585.91	0.4600	1.250	0.0130	3.54	4.40	0.80	3.55	0.95	0.76	0.00	Calculated
88	44578	Pipe	J42459	J42460	295.67	4584.43	4582.66	0.6000	1.250	0.0130	3.54	5.00	0.71	3.96	0.85	0.68	0.00	Calculated
89	44579	Pipe	J42460	J42462	294.77	4582.66	4581.42	0.4200	1.250	0.0130	3.54	4.19	0.84	4.01	0.84	0.68	0.00	Calculated
90	44591	Pipe	J42394	J42393	33.11	4586.59	4585.90	2.0800	4.500	0.0130	81.54	283.88	0.29	11.33	2.08	0.46	0.00	Calculated
91	44592	Pipe	JUL070.04-1	J42394	29.30	4590.98	4586.59	14.9800	3.500	0.0130	70.61	389.44	0.18	13.66	1.85	0.53	0.00	Calculated
92	44596	Pipe	J42348	J42349	139.92	4677.52	4670.58	4.9600	2.500	0.0130	23.19	91.35	0.25	12.72	0.99	0.40	0.00	Calculated
93	44597	Pipe	J42349	J42350	137.24	4670.58	4666.48	2.9900	2.500	0.0130	23.19	70.90	0.33	16.23	0.94	0.38	0.00	Calculated
94	44598	Pipe	J42350	J44598-1	97.53	4666.48	4648.85	18.0800	2.500	0.0130	23.19	114.73	0.20	13.22	0.97	0.50	0.00	Calculated
95	44599	Pipe	J44599-0	JUL070.04-0	99.31	4647.46	4647.09	0.3700	2.500	0.0130	12.08	25.04	0.48	7.37	0.95	0.38	0.00	Calculated
96	44600	Pipe	J44598-1	SN-UL060B	215.22	4648.85	4654.40	-2.5800	2.500	0.0130	47.95	58.98	0.81	23.30	1.36	0.55	0.00	Calculated
97	44601	Pipe	J42443	JUL080.08-1	37.32	4713.69	4712.70	2.6500	2.500	0.0130	18.02	66.81	0.27	10.10	0.98	0.39	0.00	Calculated
98	44602	Pipe	JUL080.10-1	J42443	45.20	4718.12	4713.69	9.8000	2.500	0.0130	18.02	128.41	0.14	11.52	0.89	0.36	0.00	Calculated
99	44603	Pipe	JUL080.08-0	JUL080.06-1	20.31	4695.94	4695.33	3.0000	2.500	0.0150	18.02	75.66	0.24	17.30	0.66	0.27	0.00	Calculated
100	44609	Pipe	J42370	J42371	80.61	4749.05	4745.20	4.7800	2.500	0.0130	0.00	89.64	0.00	0.00	0.00	0.00	0.00	Calculated
101	44610	Pipe	J42440	J42180	60.80	4744.06	4743.73	0.5400	2.500	0.0130	0.00	30.22	0.00	0.00	0.00	0.00	0.00	Calculated
102	44611	Pipe	J42371	J42440	72.46	4745.20	4744.06	1.5700	2.500	0.0130	0.00	51.45	0.00	0.00	0.00	0.00	0.00	Calculated
103	44612	Pipe	J44612-0	JUL080.04-1	101.80	4634.84	4634.16	0.6700	2.500	0.0150	34.09	29.05	1.17	7.35	2.24	0.90	0.00	> CAPACITY
104	44681	Pipe	J44681.0	J42402	105.85	4591.92	4585.83	5.7500	2.500	0.0130	15.84	98.38	0.16	4.81	1.59	0.64	0.00	Calculated
105	44754	Pipe	J42540	J42538	116.87	4597.65	4595.69	1.6800	4.000	0.0130	59.85	186.02	0.32	13.20	1.83	0.46	0.00	Calculated
106	44803	Pipe	J42531	J42530	133.82	4693.08	4692.15	0.6900	4.000	0.0130	56.08	119.75	0.47	11.42	1.65	0.41	0.00	Calculated
107	44819	Pipe	J42532	J42531	163.01	4693.66	4693.08	0.3600	4.000	0.0130	56.08	85.68	0.65	7.85	2.21	0.55	0.00	Calculated
108	44868	Pipe	J42885	J42118	219.08	4616.20	4610.41	2.6400	2.000	0.0130	22.46	36.78	0.61	11.85	1.16	0.58	0.00	Calculated
109	44869	Pipe	JUL132.02-1	J42746	73.42	4760.58	4758.90	2.2900	2.000	0.0130	0.00	34.73	0.00	0.00	0.00	0.00	0.00	Calculated
110	44870	Pipe	J42746	J42745	58.80	4758.90	4755.35	6.0400	2.000	0.0130	0.00	55.59	0.00	0.00	0.00	0.00	0.00	Calculated
111	44871	Pipe	J42747	J42748	51.61	4704.88	4703.71	2.2700	2.000	0.0130	0.00	34.06	0.00	0.00	0.00	0.00	0.00	Calculated
112	44891	Pipe	J42722	JUL120.06-0	302.46	4586.25	4574.18	3.9900	4.500	0.0130	124.29	392.84	0.32	50.00	1.68	0.37	0.00	Calculated
113	44892	Pipe	J42538	J42722	208.08	4595.69	4586.25	4.5400	4.000	0.0130	111.81	305.95	0.37	19.05	1.89	0.47	0.00	Calculated
114	44893	Pipe	J42402	J42722	309.33	4585.83	4586.25	-0.1400	2.500	0.0130	15.85	15.11	1.05	3.81	2.22	0.89	0.00	> CAPACITY
115	441024	Pipe	J441024-0	J441024-1	45.76	4572.78	4572.60	0.3900	4.000	0.0130	59.89	90.09	0.66	7.91	2.24	0.58	0.00	Calculated
116	441025	Pipe	J441024-1	JUL080.02-0	113.83	4572.60	4572.00	0.5300	4.000	0.0130	62.29	104.29	0.60	13.82	1.43	0.40	0.00	Calculated

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
117	441032	Pipe	J42264	SN-UL100A	310.46	4608.40	4599.80	2.7700	2.000	0.0130	29.33	37.65	0.78	10.21	1.72	0.86	0.00	Calculated
118	441350	Pipe	J42461	J441024-1	287.92	4579.30	4576.75	0.8900	1.500	0.0130	6.10	9.89	0.62	5.76	0.87	0.58	0.00	Calculated
119	441371	Pipe	J42462	J42461	52.39	4581.42	4579.30	4.0500	1.500	0.0130	6.10	21.13	0.29	7.00	0.74	0.49	0.00	Calculated
120	441436	Pipe	J42494	J42540	331.86	4599.72	4597.65	0.6200	2.500	0.0130	59.83	32.39	1.85	13.23	2.17	0.87	0.00	> CAPACITY
121	441437	Pipe	J42495	J42494	61.65	4603.33	4599.72	5.8600	2.500	0.0130	56.79	99.26	0.57	11.57	2.50	1.00	200.00	SURCHARGED
122	441438	Pipe	J42496	J42495	116.23	4612.58	4603.33	7.9600	2.500	0.0130	56.79	115.71	0.49	16.03	2.18	0.87	0.00	Calculated
123	441439	Pipe	J42497	J42496	257.91	4632.36	4612.58	7.6700	2.500	0.0130	57.02	113.59	0.50	20.60	1.55	0.62	0.00	Calculated
124	441440	Pipe	J42498	J42497	109.73	4640.79	4632.36	7.6800	2.500	0.0130	56.95	113.69	0.50	21.03	1.35	0.54	0.00	Calculated
125	441441	Pipe	J42499	J42498	122.16	4650.81	4640.79	8.2000	2.500	0.0130	56.94	117.47	0.48	19.95	1.40	0.56	0.00	Calculated
126	441443	Pipe	J42500	J42499	33.62	4652.77	4650.81	5.8300	2.500	0.0130	56.92	99.04	0.57	16.76	1.63	0.65	0.00	Calculated
127	441444	Pipe	J42516	J42500	164.63	4653.02	4652.77	0.1500	4.000	0.0130	56.96	55.98	1.02	7.94	2.22	0.56	0.00	> CAPACITY
128	441445	Pipe	J42517	J42516	91.67	4655.67	4653.02	2.8900	4.000	0.0130	57.01	244.23	0.23	8.44	2.11	0.53	0.00	Calculated
129	441446	Pipe	J42518	J42517	74.23	4656.94	4655.67	1.7100	4.000	0.0130	56.97	187.89	0.30	10.66	1.76	0.44	0.00	Calculated
130	441447	Pipe	J42519	J42518	46.59	4658.11	4656.94	2.5100	4.000	0.0130	56.95	227.63	0.25	10.05	1.85	0.46	0.00	Calculated
131	441448	Pipe	J42520	J42519	297.76	4669.61	4658.11	3.8600	4.000	0.0130	57.30	282.29	0.20	12.93	1.53	0.38	0.00	Calculated
132	441449	Pipe	J42521	J42520	190.80	4670.25	4669.61	0.3400	4.000	0.0130	59.10	83.19	0.71	11.02	1.77	0.44	0.00	Calculated
133	441450	Pipe	J42522	J42521	68.15	4670.60	4670.25	0.5100	4.000	0.0130	57.04	102.94	0.55	7.13	2.45	0.61	0.00	Calculated
134	441451	Pipe	J42523	J42522	279.34	4671.79	4670.60	0.4300	4.000	0.0130	56.56	93.75	0.60	6.70	2.55	0.64	0.00	Calculated
135	441453	Pipe	J42526	J42525	310.37	4673.18	4672.21	0.3100	4.000	0.0130	56.09	80.30	0.70	5.87	2.84	0.71	0.00	Calculated
136	441454	Pipe	J42525	J42523	168.96	4672.21	4671.79	0.2500	4.000	0.0130	56.54	71.62	0.79	6.26	2.70	0.68	0.00	Calculated
137	441455	Pipe	J42528	J42527	87.74	4678.70	4674.07	5.2800	3.000	0.0130	56.08	153.22	0.37	11.18	2.00	0.67	0.00	Calculated
138	441456	Pipe	J42527	J42526	8.34	4674.07	4673.18	10.6700	3.000	0.0130	56.08	217.89	0.26	8.48	2.65	0.88	0.00	Calculated
139	441457	Pipe	J42529	J42528	156.08	4680.22	4678.70	0.9700	4.000	0.0130	56.08	141.75	0.40	10.86	1.72	0.43	0.00	Calculated
140	441458	Pipe	J42530	J42529	407.26	4692.15	4680.22	2.9300	4.000	0.0130	56.08	245.85	0.23	11.82	1.61	0.40	0.00	Calculated
141	441557	Pipe	J441557-0	J42532	17.99	4693.78	4693.66	0.6700	4.000	0.0130	56.08	117.32	0.48	6.57	2.57	0.64	0.00	Calculated
142	441565	Pipe	J441560-0	SN--UL121	175.84	4696.87	4702.20	-3.0300	4.000	0.0130	189.21	250.09	0.76	29.92	4.00	1.00	235.00	SURCHARGED
143	441566	Pipe	J441565-1	J441557-0	177.41	4693.98	4693.78	0.1100	4.000	0.0130	56.08	48.23	1.16	5.61	2.97	0.74	0.00	> CAPACITY
144	441570	Pipe	Jun-221	J42788	215.43	4597.20	4596.35	0.3900	2.500	0.0130	0.51	25.76	0.02	0.32	1.83	0.73	0.00	Calculated
145	441571	Pipe	J42788	J42813	97.62	4596.35	4595.72	0.6500	2.500	0.0130	0.96	32.95	0.03	0.51	2.38	0.95	0.00	Calculated
146	441585	Pipe	J42809	J42808	104.07	4594.91	4594.84	0.0700	4.000	0.0130	12.61	37.25	0.34	1.50	3.73	0.93	0.00	Calculated
147	441586	Pipe	J42808	JUL130.08-1	194.26	4594.84	4594.64	0.1000	4.000	0.0130	11.99	46.09	0.26	1.32	3.87	0.97	0.00	Calculated
148	441587	Pipe	J42810	J42809	321.57	4595.00	4594.91	0.0300	4.000	0.0130	13.52	24.03	0.56	1.69	3.65	0.91	0.00	Calculated
149	441588	Pipe	J42811	J42810	269.26	4595.04	4595.00	0.0100	4.000	0.0130	6.46	17.51	0.37	1.16	3.59	0.90	0.00	Calculated
150	441589	Pipe	J42812	J42811	58.61	4595.09	4595.04	0.0900	4.000	0.0130	5.59	41.96	0.13	1.06	3.54	0.89	0.00	Calculated
151	441590	Pipe	J42813	J42814	380.68	4595.72	4595.42	0.0800	4.000	0.0130	1.93	40.32	0.05	0.78	3.04	0.76	0.00	Calculated
152	441591	Pipe	J42814	J42815	168.72	4595.42	4595.33	0.0500	4.000	0.0130	3.46	33.18	0.10	0.99	3.24	0.81	0.00	Calculated
153	441592	Pipe	J42815	J42816	117.51	4595.33	4595.25	0.0700	4.000	0.0130	4.32	37.48	0.12	1.07	3.32	0.83	0.00	Calculated
154	441593	Pipe	J42816	J42812	134.40	4595.25	4595.09	0.1200	4.000	0.0130	5.05	49.56	0.10	1.07	3.44	0.86	0.00	Calculated
155	441595	Pipe	J42821	J42885	108.22	4619.88	4616.20	3.4000	2.000	0.0130	22.46	41.72	0.54	11.57	1.19	0.59	0.00	Calculated
156	441606	Pipe	J42833	J42747	161.30	4716.01	4704.88	6.9000	2.000	0.0130	0.00	59.42	0.00	0.00	0.00	0.00	0.00	Calculated
157	441607	Pipe	J42834	J42833	156.83	4723.25	4716.01	4.6200	2.000	0.0130	0.00	48.61	0.00	0.00	0.00	0.00	0.00	Calculated
158	441608	Pipe	J42745	J42836	40.49	4755.35	4753.59	4.3500	2.000	0.0130	0.00	47.17	0.00	0.00	0.00	0.00	0.00	Calculated
159	441609	Pipe	J42836	J42835	277.79	4753.59	4742.72	3.9100	2.000	0.0130	0.00	44.75	0.00	0.00	0.00	0.00	0.00	Calculated
160	441633	Pipe	J42853	J42854	236.15	4666.81	4651.03	6.6800	2.000	0.0130	0.00	58.48	0.00	0.00	1.00	0.50	0.00	Calculated
161	441634	Pipe	J42854	J42824	60.07	4651.03	4645.94	8.4700	2.000	0.0130	7.41	65.85	0.11	2.88	2.00	1.00	16.00	SURCHARGED
162	441638	Pipe	J42858	J42857	294.07	4696.01	4678.77	5.8600	2.000	0.0130	0.00	54.77	0.00	0.00	0.00	0.00	0.00	Calculated
163	441639	Pipe	J42748	J42859	132.28	4703.71	4700.55	2.3900	2.000	0.0130	0.00	34.97	0.00	0.00	0.00	0.00	0.00	Calculated
164	441640	Pipe	J42859	J42858	121.62	4700.55	4696.01	3.7300	2.000	0.0130	0.00	43.71	0.00	0.00	0.00	0.00	0.00	Calculated
165	441662	Pipe	J441660-0	J441657-0	278.01	4645.74	4638.61	2.5600	2.500	0.0130	83.79	65.69	1.28	17.07	2.50	1.00	16.00	SURCHARGED
166	441673	Pipe	J42835	J441673-1	384.26	4742.72	4723.40	5.0300	2.000	0.0130	0.00	50.73	0.00	0.00	0.00	0.00	0.00	Calculated
167	441674	Pipe	J441673-1	J42834	6.19	4723.40	4723.25	2.4200	2.000	0.0130	0.00	35.22	0.00	0.00	0.00	0.00	0.00	Calculated
168	441822	Pipe	J42364	J42358	138.70	4621.30	4617.19	2.9600	2.000	0.0130	12.90	38.94	0.33	11.93	0.75	0.38	0.00	Calculated
169	441823	Pipe	J441823.0	J42364	395.78	4636.38	4621.30	3.8100	2.000	0.0130	12.90	44.16	0.29	10.92	0.80	0.40	0.00	Calculated
170	441866	Pipe	J4224	J42797	406.19	4534.11	4520.54	3.3400	2.500	0.0130	32.00	74.97	0.43	14.29	1.15	0.47	0.00	Calculated
171	441867	Pipe	J4225	J4224	292.91	4537.26	4534.11	1.0800	2.500	0.0130	32.01	42.54	0.75	10.68	1.45	0.59	0.00	Calculated
172	441868	Pipe	J4226	J4225	171.06	4539.66	4537.26	1.4000	2.500	0.0130	32.02	48.58	0.66	8.97	1.69	0.68	0.00	Calculated
173	441869	Pipe	J4236	J4226	170.49	4546.45	4539.66	3.9800	2.500	0.0130	32.02	81.86	0.39	11.36	1.39	0.56	0.00	Calculated
174	441870	Pipe	J42363	J4237	89.88	4588.99	4580.68	9.2500	2.500	0.0130	32.08	124.72	0.26	18.32	0.97	0.39	0.00	Calculated

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
175	441871	Pipe	J4237	J4236	581.40	4580.68	4546.45	5.8900	2.500	0.0130	32.04	99.52	0.32	16.35	1.05	0.42	0.00	Calculated
176	441905	Pipe	J42357	J441823.0	776.29	4670.80	4636.38	4.4300	2.000	0.0130	12.90	47.64	0.27	12.50	0.73	0.36	0.00	Calculated
177	Link-111	Pipe	Jun-192	J42303	414.03	4740.00	4705.22	8.4000	1.250	0.0130	13.97	18.72	0.75	15.80	0.85	0.68	0.00	Calculated
178	Link-140	Pipe	Jun-194	SN-UL110	1878.62	4704.00	4597.00	5.7000	2.000	0.0150	14.93	46.79	0.32	10.97	1.39	0.69	0.00	Calculated
179	Link-142	Pipe	J42855	J42853	248.17	4668.88	4666.81	0.8300	2.000	0.0130	0.00	20.66	0.00	0.00	0.00	0.00	0.00	Calculated
180	Link-144	Pipe	J42856	J42855	44.57	4669.95	4668.88	2.4000	2.000	0.0130	0.00	35.05	0.00	0.00	0.00	0.00	0.00	Calculated
181	Link-146	Pipe	J42857	J42856	163.82	4678.77	4669.95	5.3800	2.000	0.0150	0.00	45.49	0.00	0.00	0.00	0.00	0.00	Calculated
182	Link-161	Pipe	J441657-0	SN-UL144	130.26	4638.41	4625.00	10.2900	2.500	0.0150	83.79	114.06	0.73	17.07	2.50	1.00	8.00	SURCHARGED
183	Link-165	Pipe	J42117	Jun-132	1842.72	4597.20	4533.00	3.4800	2.500	0.0130	22.46	76.56	0.29	9.56	1.71	0.69	0.00	Calculated
184	Link-167	Pipe	SN-UL124	Jun-208	148.53	4894.50	4892.60	1.2800	3.000	0.0130	0.00	75.44	0.00	0.00	0.00	0.00	0.00	Calculated
185	Link-168	Pipe	SN-UL124	Jun-208	154.42	4894.50	4885.12	6.0700	3.000	0.0130	0.00	164.39	0.00	0.00	1.50	0.50	0.00	Calculated
186	Link-169	Pipe	SN-UL124	Jun-208	141.64	4898.50	4885.93	8.8700	3.000	0.0130	0.00	198.70	0.00	0.00	1.42	0.50	0.00	Calculated
187	Link-170	Pipe	Jun-210	JUL130.08-1	1113.69	4635.00	4594.64	3.6200	4.000	0.0130	28.33	273.45	0.10	13.36	2.41	0.60	0.00	Calculated
188	Link-171	Pipe	Jun-211	Jun-210	267.29	4646.72	4635.00	4.3800	2.500	0.0130	28.33	85.89	0.33	15.53	1.00	0.40	0.00	Calculated
189	Link-172	Pipe	Jun-212	JUL130.08-1	1046.14	4636.03	4594.64	3.9600	2.000	0.0130	10.35	45.00	0.23	5.84	1.33	0.66	0.00	Calculated
190	Link-175	Pipe	Jun-216	SN-UL080B	90.76	4579.44	4578.58	0.9500	2.000	0.0150	12.25	19.09	0.64	7.81	1.51	0.76	0.00	Calculated
191	Link-176	Pipe	Jun-217	Jun-220	703.02	4678.00	4642.00	5.1200	3.000	0.0130	28.32	150.93	0.19	11.99	1.11	0.37	0.00	Calculated
192	Link-177	Pipe	Jun-218	Jun-216	134.93	4580.35	4579.44	0.6700	2.000	0.0150	12.23	16.10	0.76	5.04	1.49	1.00	0.00	SURCHARGED
193	Link-180	Pipe	Jun-220	Stor-48	1142.62	4642.00	4587.00	4.8100	2.500	0.0130	40.17	89.99	0.45	22.52	1.06	0.42	0.00	Calculated
194	Link-78	Pipe	Jun-131	Jun-132	1983.31	4559.02	4533.00	1.3100	2.500	0.0130	28.69	46.98	0.61	6.97	1.96	0.78	0.00	Calculated
195	Link-79	Pipe	Jun-132	J42224	22.34	4533.00	4532.48	2.3300	2.000	0.0130	51.08	34.51	1.48	16.26	2.00	1.00	46.00	SURCHARGED
196	Link-89	Pipe	J4429-0	J42821	64.52	4621.41	4619.88	2.3700	2.000	0.0130	22.46	34.84	0.64	10.64	1.27	0.64	0.00	Calculated
197	UL130.08	Pipe	JUL130.08-1	JUL130.08-0	3982.32	4594.64	4592.42	0.0600	4.000	0.0130	38.35	33.92	1.13	4.10	2.79	0.70	0.00	> CAPACITY
198	0014	Channel	J44269-1	SN-UL100B	230.07	4721.40	4723.40	-0.8700	10.000	0.0320	0.00	4038.48	0.00	0.00	0.00	0.00	0.00	
199	0163	Channel	JUL130.06-1	JUL130.04-0	345.73	4582.55	4581.26	0.3700	10.000	0.0320	59.59	2645.81	0.02	3.45	1.36	0.14	0.00	
200	0164	Channel	JUL130.04-1	JUL130.02-0	548.67	4567.91	4566.45	0.2700	10.000	0.0320	59.50	1442.42	0.04	3.60	1.44	0.14	0.00	
201	0174	Channel	JUL080.04-0	SN-UL080B	66.45	4595.90	4578.58	26.0600	10.000	0.0320	38.48	22113.60	0.00	6.65	0.96	0.10	0.00	
202	0175	Channel	JUL121.02-0	J441560-0	79.84	4698.77	4696.87	2.3800	15.000	0.0320	20514.37	16881.80	1.22	50.00	12.94	0.94	0.00	
203	44325	Channel	JUL130.02-1	J44325-1	79.93	4505.04	4502.46	3.2300	10.000	0.0320	59.47	7781.94	0.01	6.31	0.81	0.08	0.00	
204	44617	Channel	JUL080.06-0	J44612-0	26.82	4635.30	4634.84	1.7200	6.000	0.0320	21.82	1879.97	0.01	1.07	2.48	0.42	0.00	
205	Link-147	Channel	JUL100.04-0	JUL080.12-1	1719.35	5012.74	4878.08	7.8300	10.000	0.0320	6.01	12121.89	0.00	2.85	0.21	0.02	0.00	
206	Link-153	Channel	Jun-195	Jun-204	400.02	5000.00	5010.00	-2.5000	10.000	0.0320	1.06	6848.45	0.00	1.18	0.09	0.01	0.00	
207	Link-157	Channel	Jun-195	Jun-205	2694.56	5000.00	4825.00	6.4900	10.000	0.0320	2.99	11038.45	0.00	2.66	0.11	0.01	0.00	
208	Link-162	Channel	Jun-206	Jun-211	1988.02	4795.00	4646.72	7.4600	10.000	0.0320	28.34	11829.43	0.00	3.23	0.76	0.08	0.00	
209	Link-166	Channel	Jun-208	JUL121.02-0	2490.27	4888.00	4698.77	7.6000	10.000	0.0320	99.09	11940.01	0.01	15.51	5.37	0.54	0.00	
210	Link-179	Channel	Jun-219	JUL080.12-0	937.32	4849.00	4776.51	7.7300	6.000	0.0320	15.00	3992.06	0.00	2.03	1.07	0.18	0.00	
211	Link-181	Channel	Jun-214	Jun-205	2506.49	4825.00	4820.00	0.2000	10.000	0.0320	4.00	1934.57	0.00	0.34	2.05	0.20	0.00	
212	UL010.02	Channel	JUL010.04-1	JUL010.02-1	602.83	4495.70	4491.00	0.7800	10.000	0.0320	178.74	3824.59	0.05	5.55	2.23	0.22	0.00	
213	UL010.04	Channel	JUL010.04-0	JUL010.04-1	2983.35	4614.13	4495.70	3.9700	10.000	0.0320	186.42	8630.02	0.02	8.57	1.82	0.18	0.00	
214	UL010.06	Channel	JUL010.08-0	JUL010.04-0	1243.78	4675.67	4614.13	4.9500	10.000	0.0320	190.20	9634.74	0.02	10.72	1.40	0.14	0.00	
215	UL010.08	Channel	JUL010.10-1	JUL010.08-0	2580.17	4812.10	4675.67	5.2900	10.000	0.0320	192.37	9960.10	0.02	11.26	1.36	0.14	0.00	
216	UL010.10	Channel	JUL010.10-0	JUL010.10-1	13317.42	5849.45	4812.10	7.7900	10.000	0.0320	9.28	12088.87	0.00	3.34	0.68	0.07	0.00	
217	UL020.02	Channel	JUL020.02-0	JUL020.02-1	5989.44	4865.89	4490.00	6.2800	10.000	0.0320	135.54	10851.01	0.01	10.59	1.06	0.11	0.00	
218	UL020.06	Channel	JUL020.06-0	JUL020.02-0	3258.08	5072.86	4865.89	6.3500	10.000	0.0320	41.77	10917.06	0.00	4.55	0.79	0.08	0.00	
219	UL020.10	Channel	JUL020.10-0	JUL020.06-0	1432.67	5162.24	5072.86	6.2400	10.000	0.0320	44.33	10818.82	0.00	8.90	0.54	0.05	0.00	
220	UL020.12	Channel	JUL020.12-0	JUL020.10-0	2121.66	5346.59	5162.24	8.6900	10.000	0.0320	0.00	12767.82	0.00	0.00	0.28	0.03	0.00	
221	UL024.02	Channel	UL024.02-0	JUL020.06-0	13152.72	7100.00	5072.86	15.4100	10.000	0.0320	2.59	17004.63	0.00	2.07	0.27	0.03	0.00	
222	UL030.02	Channel	JUL030.02-0	JUL030.02-1	1830.00	4580.07	4501.37	4.3000	10.000	0.0320	104.16	8982.45	0.01	8.55	1.01	0.10	0.00	
223	UL030.04	Channel	JUL030.04-0	JUL030.02-0	140.00	4587.21	4580.07	5.1000	10.000	0.0320	104.17	9781.78	0.01	12.25	1.00	0.10	0.00	
224	UL030.06	Channel	JUL030.08-1	JUL030.04-0	758.01	4618.14	4587.21	4.0800	10.000	0.0320	104.17	8749.55	0.01	8.38	1.03	0.10	0.00	
225	UL030.08	Channel	JUL030.12-1	JUL030.08-1	170.70	4623.65	4618.14	3.2300	10.000	0.0320	104.18	7782.01	0.01	7.65	1.11	0.11	0.00	
226	UL030.12	Channel	JUL030.14-1	JUL030.12-1	2350.79	4769.44	4623.65	6.2000	10.000	0.0320	42.74	10786.73	0.00	4.39	0.83	0.08	0.00	
227	UL030.14	Channel	JUL030.14-0	JUL030.14-1	4235.97	5067.12	4769.44	7.0300	10.000	0.0320	42.93	11482.37	0.00	7.36	0.53	0.05	0.00	
228	UL030.16	Channel	JUL030.16-0	JUL030.14-0	1610.07	5222.41	5067.12	9.6400	10.000	0.0320	2.69	13451.86	0.00	1.49	0.31	0.03	0.00	
229	UL031.02	Channel	JUL031.06-1	JUL030.12-1	4234.97	4887.75	4623.65	6.2400	10.000	0.0320	61.74	10816.63	0.01	6.93	0.90	0.09	0.00	
230	UL031.06	Channel	JUL031.10-1	JUL031.06-1	5099.63	5457.22	4887.75	11.1700	10.000	0.0320	20.92	14474.35	0.00	3.95	0.48	0.05	0.00	
231	UL031.10	Channel	JUL031.10-0	JUL031.10-1	5746.18	6622.71	5457.22	20.2800	10.000	0.0320	0.00	19507.32	0.00	0.00	0.15	0.01	0.00	
232	UL033.01	Channel	JUL033.02-1	JUL030.14-0	2500.15	5352.23	5067.12	11.4000	10.000	0.0320	1.36	14627.03	0.00	0.93	0.29	0.03	0.00	

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
233	UL033.02	Channel	JUL033.02-0	JUL033.02-1	2601.27	5974.93	5352.23	23.9400	10.000	0.0320	1.66	21192.38	0.00	3.57	0.05	0.01	0.00	
234	UL034.02	Channel	JUL034.02-0	JUL030.16-0	2372.14	5708.23	5222.41	20.4800	10.000	0.0320	2.93	19602.01	0.00	3.98	0.08	0.01	0.00	
235	UL040.06	Channel	JUL040.06-0	JUL040.04-1	4948.50	5281.46	4611.85	13.5300	10.000	0.0320	57.48	14261.49	0.00	4.54	2.39	0.24	0.00	
236	UL041.02	Channel	JUL041.04-1	JUL041.02-1	1969.22	4741.62	4627.15	5.8100	10.000	0.0320	37.99	10443.16	0.00	4.21	0.83	0.08	0.00	
237	UL041.04	Channel	JUL041.04-0	JUL041.04-1	4898.39	5183.21	4741.62	9.0200	10.000	0.0320	0.00	13005.17	0.00	0.00	0.26	0.03	0.00	
238	UL045.02	Channel	JUL045.02-0	JUL040.06-0	6044.57	6540.33	5281.46	20.8300	10.000	0.0320	0.27	19767.00	0.00	0.53	0.27	0.03	0.00	
239	UL065.02	Channel	JUL065.02-0	JUL070.14-0	9092.99	6574.33	5261.14	14.4400	10.000	0.0320	0.00	16460.52	0.00	0.00	0.00	0.00	0.00	
240	UL066.02	Channel	JUL066.02-0	JUL070.12-0	5475.30	6216.13	5214.49	18.2900	10.000	0.0320	0.50	18526.14	0.00	0.91	0.21	0.02	0.00	
241	UL070.02	Channel	JUL070.02-0	JUL070.02-1	1259.30	4581.13	4500.32	6.4200	10.000	0.0320	81.53	10972.38	0.01	9.00	0.78	0.08	0.00	
242	UL070.04	Channel	JUL070.04-0	JUL070.04-1	925.09	4647.09	4590.98	6.0700	10.000	0.0320	70.65	10667.46	0.01	5.34	1.09	0.11	0.00	
243	UL070.06	Channel	JUL070.06-0	JUL070.04-0	254.18	4659.93	4647.09	5.0500	10.000	0.0320	58.94	9735.20	0.01	7.22	0.71	0.07	0.00	
244	UL070.08	Channel	JUL070.10-1	JUL070.06-0	1632.52	4779.12	4659.93	7.3000	10.000	0.0320	45.94	11703.71	0.00	6.73	0.62	0.06	0.00	
245	UL070.10	Channel	JUL070.10-0	JUL070.10-1	3787.32	5083.29	4779.12	8.0300	10.000	0.0320	33.99	12275.10	0.00	6.64	0.49	0.05	0.00	
246	UL070.12	Channel	JUL070.12-0	JUL070.10-0	1304.35	5214.49	5083.29	10.0600	10.000	0.0320	34.15	13737.35	0.00	7.61	0.42	0.04	0.00	
247	UL070.14	Channel	JUL070.14-0	JUL070.10-0	1606.64	5261.14	5083.29	11.0700	10.000	0.0320	0.00	14411.22	0.00	0.00	0.22	0.02	0.00	
248	UL080.02	Channel	JUL080.02-0	JUL080.02-1	1930.63	4572.00	4493.46	4.0700	10.000	0.0320	91.78	8736.33	0.01	8.06	0.79	0.10	0.00	
249	UL080.04	Channel	JUL080.04-1	JUL080.04-0	714.39	4634.00	4595.90	5.3300	6.000	0.0320	34.07	3315.10	0.01	7.29	0.43	0.07	0.00	
250	UL080.06	Channel	JUL080.06-1	JUL080.06-0	1080.62	4695.88	4635.30	5.6100	6.000	0.0320	18.02	3398.84	0.01	2.18	1.28	0.21	0.00	
251	UL080.08	Channel	JUL080.08-1	JUL080.08-0	222.77	4711.67	4696.80	6.6800	6.000	0.0320	18.02	3708.76	0.00	2.96	0.66	0.11	0.00	
252	UL080.10	Channel	JUL080.10-0	JUL080.10-1	762.19	4770.94	4717.35	7.0300	6.000	0.0320	14.99	3806.38	0.00	1.45	0.88	0.15	0.00	
253	UL080.12	Channel	JUL080.12-1	Jun-219	425.95	4878.08	4849.00	6.8300	10.000	0.0320	13.00	11317.51	0.00	4.63	0.27	0.03	0.00	
254	UL080.14	Channel	JUL080.14-0	JUL080.12-1	1665.80	5014.70	4878.08	8.2000	10.000	0.0320	3.00	12404.48	0.00	2.05	0.18	0.02	0.00	
255	UL080.16	Channel	JUL080.16-0	JUL080.14-0	2076.56	5227.63	5014.70	10.2500	10.000	0.0320	3.00	13870.09	0.00	2.96	0.10	0.01	0.00	
256	UL084.02	Channel	JUL084.02-0	JUL080.16-0	6970.28	6213.33	5227.63	14.1400	10.000	0.0320	0.00	16288.47	0.00	0.00	0.05	0.00	0.00	
257	UL100.06	Channel	JUL100.06-0	JUL100.04-0	2084.49	5193.10	5012.74	8.6500	10.000	0.0320	0.52	12740.99	0.00	0.53	0.10	0.01	0.00	
258	UL120.02	Channel	JUL120.02-0	JUL120.02-1	57.03	4505.93	4504.59	2.3500	10.000	0.0320	155.18	6639.47	0.02	7.53	1.57	0.16	0.00	
259	UL120.04	Channel	JUL120.04-0	JUL120.04-1	925.42	4541.49	4511.73	3.2200	10.000	0.0320	155.18	7767.48	0.02	8.78	1.38	0.14	0.00	
260	UL120.06	Channel	JUL120.06-0	JUL120.06-1	1129.14	4574.18	4541.09	2.9300	10.000	0.0320	157.04	7414.94	0.02	5.96	1.91	0.19	0.00	
261	UL121.04	Channel	JUL121.04-0	SN-UL124	3799.86	5110.19	4831.56	7.3300	10.000	0.0320	0.00	10355.45	0.00	0.00	0.00	0.00	0.00	
262	UL121.06	Channel	JUL121.07-1	SN-UL124	3124.82	5027.00	4831.56	6.2500	10.000	0.0320	0.00	8969.60	0.00	0.00	0.00	0.00	0.00	
263	UL121.07	Channel	JUL121.07-0	JUL121.07-1	942.14	5108.32	5027.00	8.6300	10.000	0.0320	0.00	12725.47	0.00	0.00	0.00	0.00	0.00	
264	UL126.02	Channel	JUL126.02-0	JUL121.07-1	13758.00	6720.00	5027.00	12.3100	10.000	0.0320	0.00	15194.41	0.00	0.00	0.00	0.00	0.00	
265	UL130.02	Channel	JUL130.02-0	JUL130.02-1	1842.72	4566.45	4505.04	3.3300	10.000	0.0320	59.48	7907.20	0.01	6.35	0.81	0.08	0.00	
266	UL130.04	Channel	JUL130.04-0	JUL130.04-1	1221.65	4581.26	4567.91	1.0900	10.000	0.0320	59.56	4527.94	0.01	2.84	1.59	0.16	0.00	
267	UL130.06	Channel	JUL130.06-0	JUL130.06-1	176.18	4590.00	4582.55	4.2300	10.000	0.0320	58.35	8907.03	0.01	4.03	1.18	0.12	0.00	
268	UL152.02	Channel	JUL152.02-0	JUL152.02-1	1271.91	4550.30	4549.32	0.0800	10.000	0.0320	40.00	1202.31	0.03	2.12	1.46	0.15	0.00	
269	O-Mav	Orifice	SN-UL110	J44681.0		4597.00	4591.92		1.000		6.91							
270	O-Pond	Orifice	SN-UL144	J4429-0		4625.00	4621.41		1.500		22.46							
271	Orifice-27	Orifice	SN--UL121	J42533		4702.20	4695.91		2.500		56.08							
272	Orifice-28	Orifice	Stor-41	JUL041.04-1		4745.00	4741.62		2.320		38.19							
273	O-Rock	Orifice	SN-UL063	JUL070.10-1		4788.10	4779.12		1.670		12.13							
274	O-Still	Orifice	SN-UL100B	J0014-1		4723.40	4721.70		0.420		0.00							
275	O-Summ	Orifice	SN-UL100A	J441032-1		4599.80	4592.84		0.670		3.54							
276	O-Swain	Orifice	SN-UL060B	J44599-0		4654.40	4647.46		1.670		11.74							
277	O-Waym	Orifice	SN-UL081	JUL080.10-1		4723.60	4717.35		0.670		3.06							
278	O-WildF	Orifice	SN-UL090	J42462		4592.80	4581.42		0.670		2.62							
279	O-WildL	Orifice	SN-UL060	J42394		4592.80	4586.59		1.500		11.13							
280	Link-178	Outlet	Stor-48	Jun-218		4587.00	4580.35				5.48							
281	Outlet-100	Outlet	SN-UL101	JUL100.02-1		5033.00	4850.00				2.00							
282	Outlet-106	Outlet	Stor-45	Jun-212		4636.03	4636.03				10.35							
283	Outlet-108	Outlet	Jun-205	Jun-206		4820.00	4795.00				28.34							
284	Outlet-111	Outlet	SN-UL080B	J441024-0		4578.58	4572.78				50.06							
285	Outlet-112	Outlet	Stor-48	Jun-218		4587.00	4580.35				6.75							
286	Outlet-113	Outlet	Stor-49	JUL040.04-1		4760.00	4745.00				26.33							
287	Outlet-114	Outlet	Stor-50	JUL152.04-1		4555.00	4551.14				40.00							
288	Outlet-115	Outlet	SN-UL134	Jun-205		4825.00	4820.00				28.00							
289	Outlet-91	Outlet	SN-UL115	Jun-194		5033.00	4704.00				14.93							
290	Outlet-92	Outlet	Stor-39·1	Jun-214		4830.00	4825.00				4.00							

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
291	Outlet-95	Outlet	Stor-39	J42525		4680.00	4672.21				11.35							
292	Outlet-96	Outlet	Stor-39	J42494		4680.00	4599.72				3.78							
293	Outlet-97	Outlet	Stor-39	J42538		4680.00	4595.69				53.70							
294	OUT-UL020	Outlet	SN-UL020	JUL020.02-0		4886.00	4865.89				94.00							
295	OUT-UL022	Outlet	SN-UL022	JUL020.10-0		5183.00	5162.24				44.05							
296	OUT-UL030	Outlet	SN-UL030	JUL031.06-1		4908.00	4887.75				41.00							
297	OUT-UL031	Outlet	SN-UL031	JUL031.10-1		5478.00	5457.22				21.25							
298	OUT-UL032	Outlet	SN-UL032	JUL030.14-0		5088.00	5067.12				41.49							
299	OUT-UL041	Outlet	SN-UL041	JUL041.04-1		4762.00	4741.62				0.00							
300	OUT-UL043	Outlet	SN-UL043	JUL041.04-0		5204.00	5183.21				0.00							
301	OUT-UL044	Outlet	SN-UL044	JUL040.06-0		5302.00	5281.46				58.35							
302	OUT-UL051	Outlet	SN-UL051	J42357		4691.00	4670.80				12.90							
303	OUT-UL064	Outlet	SN-UL064	JUL070.12-0		5235.00	5214.49				34.28							
304	OUT-UL070	Outlet	SN-UL070	JUL070.06-0		4680.00	4659.93				13.00							
305	OUT-UL082	Outlet	SN-UL082	JUL080.12-1		4899.00	4878.08				4.00							
306	OUT-UL083	Outlet	SN-UL083	JUL080.16-0		5248.00	5227.63				3.00							
307	OUT-UL102	Outlet	SN-UL102	JUL100.04-0		5033.00	5012.74				5.50							
308	OUT-UL121	Outlet	SN-UL121	JUL121.02-0		4718.00	4698.77				0.00							
309	OUT-UL124	Outlet	SN-UL124B	Jun-208		5047.00	4880.00				81.00							
310	OUT-UL130	Outlet	SN-UL130	JUL130.08-0		4612.00	4592.42				20.00							
311	OUT-UL140	Outlet	SN-UL140	Jun-131		4577.00	4559.02				28.70							
312	UL040.02	Outlet	JUL040.04-1	Jun-192		4745.00	4739.00				13.97							

FULL BUILD-OUT CONDITION - SOUTH
100-YEAR STORM

Project Description

File Name	Saratoga South Buildout_SD_v3.1.SPF

Project Options

Flow Units	CFS
Elevation Type	Elevation
Hydrology Method	HEC-1
HEC-1 unit hydrograph method	SCS Dimensionless
HEC-1 loss method	SCS Curve Number
Link Routing Method	Hydrodynamic
Enable Overflow Ponding at Nodes	YES
Skip Steady State Analysis Time Periods	NO

Analysis Options

Start Analysis On	Jan 01, 2012	00:00:00
End Analysis On	Jan 01, 2012	23:55:00
Start Reporting On	Jan 01, 2012	00:00:00
Antecedent Dry Days	0	days
Runoff (Dry Weather) Time Step	0 01:00:00	days hh:mm:ss
Runoff (Wet Weather) Time Step	0 00:05:00	days hh:mm:ss
Reporting Time Step	0 00:05:00	days hh:mm:ss
Routing Time Step	30	seconds

Number of Elements

	Qty
Rain Gages	6
Subbasins	64
Nodes	316
Junctions	263
Outfalls	11
Flow Diversions	0
Inlets	0
Storage Nodes	42
Links	312
Channels	71
Pipes	197
Pumps	0
Orifices	11
Weirs	0
Outlets	33
Pollutants	0
Land Uses	0

Subbasin Summary

SN	Subbasin ID	Area (ac)	Total Rainfall (in)	Total Runoff (in)	Total Runoff Volume (ac-in)	Peak Runoff (cfs)
1	UDOT1	17.67	1.72	0.73	12.86	17.83
2	UDOT2	18.76	1.72	1.55	29.08	45.15
3	UDOT3	7.93	1.72	1.55	12.31	19.11
4	UDOT4	28.63	1.72	1.55	44.37	68.87
5	UDOT5	17.33	1.72	1.55	26.91	41.76
6	UL010	358.46	1.72	0.85	304.69	435.86
7	UL012	765.62	1.72	0.28	214.37	136.10
8	UL020	470.76	1.72	1.04	488.64	668.84
9	UL022	242.19	1.72	0.51	124.48	163.85
10	UL024	933.42	1.72	0.16	151.21	108.55
11	UL030	205.10	1.72	0.76	156.29	222.13
12	UL031	123.79	1.72	0.49	60.04	88.90
13	UL032	233.02	1.72	0.47	108.36	142.96
14	UL033	88.85	1.72	0.28	24.79	27.89
15	UL034	156.46	1.72	0.28	43.81	50.13
16	UL035	586.06	1.72	0.09	55.09	39.19
17	UL040	143.49	1.72	0.51	72.61	112.70
18	UL041	67.25	1.72	0.47	31.67	49.19
19	UL042	76.37	1.72	0.44	33.37	51.70
20	UL043	157.01	1.72	0.46	71.75	104.49
21	UL044	321.32	1.72	0.43	138.81	201.07
22	UL045	422.26	1.72	0.13	53.21	44.44
23	UL050	65.15	1.72	0.40	26.25	39.85
24	UL051	97.15	1.72	0.47	45.76	71.94
25	UL060	78.53	1.72	0.49	38.32	58.47
26	UL061	33.56	1.72	0.52	17.52	24.76
27	UL062	51.61	1.72	0.56	28.75	45.65
28	UL063	92.95	1.72	0.52	48.61	77.09
29	UL064	191.89	1.72	0.49	93.07	140.35
30	UL065	557.40	1.72	0.08	45.15	30.51
31	UL066	262.96	1.72	0.14	37.87	32.29
32	UL070A	26.99	1.72	0.64	17.36	25.97
33	UL070B	56.32	1.72	0.64	36.16	54.15
34	UL070C	39.85	1.72	0.64	25.62	38.34
35	UL080A	61.41	1.72	0.73	44.71	62.00
36	UL080B	14.32	1.72	0.73	10.44	14.47
37	UL080C	22.82	1.72	0.73	16.63	23.06
38	UL081	107.65	1.72	0.57	61.79	103.69
39	UL082	84.13	1.72	0.59	49.72	78.48
40	UL083	63.50	1.72	0.57	36.45	57.94
41	UL084	562.59	1.72	0.09	52.88	37.62
42	UL090	29.46	1.72	0.57	16.91	23.34
43	UL100	79.57	1.72	0.57	45.67	57.37
44	UL101	41.98	1.72	0.61	25.52	41.44
45	UL102	110.80	1.72	0.52	57.95	91.91
46	UL103	130.47	1.72	0.16	21.14	21.69
47	UL110	75.22	1.72	0.44	32.87	47.57
48	UL115	179.78	1.72	0.49	87.73	112.59
49	UL120	153.99	1.72	0.57	88.39	135.13
50	UL121	131.78	1.72	0.56	73.80	101.32
51	UL124	295.07	1.72	0.44	130.13	165.03
52	UL126	1502.76	1.72	0.08	121.72	68.51
53	UL130	199.88	1.72	1.02	204.08	241.27
54	UL132	106.78	1.72	0.61	65.46	86.01
55	UL134	275.88	1.72	0.59	163.32	219.34
56	UL136	740.74	1.72	0.16	120.00	72.97
57	UL138	16.92	1.72	0.68	11.42	16.81
58	UL140	102.75	1.72	0.65	66.38	79.90
59	UL142	57.99	1.72	0.54	31.32	39.28
60	UL144	187.32	1.72	0.59	109.77	164.43
61	UL146	43.67	1.72	0.59	25.59	39.84
62	UL148	301.52	1.72	0.16	48.85	38.55
63	UL150	50.72	1.72	0.53	26.68	36.96
64	UL152	201.54	1.72	1.04	208.79	200.23

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
1	J0004-0	Junction	4525.19	4530.79	0.00	4536.39	0.00	125.54	4536.39	5.60	0.00	0 02:55	0.00	0.00
2	J0006-0	Junction	4578.80	4586.35	0.00	4593.90	0.00	134.53	4593.90	7.55	0.00	0 02:56	0.00	0.00
3	J0011-0	Junction	4586.34	4592.94	0.00	4599.54	0.00	112.90	4598.85	5.91	0.00	0 00:00	0.00	0.00
4	J0012-1	Junction	4587.41	4592.91	0.00	4598.41	0.00	20.02	4598.41	5.50	0.00	0 03:00	3.51	16.00
5	J0014-1	Junction	4721.70	4725.70	0.00	4732.37	0.00	0.00	4721.70	0.00	4.00	0 00:00	0.00	0.00
6	J0131.0	Junction	4591.24	4594.79	0.00	4598.34	0.00	15.00	4593.50	0.00	1.29	0 00:00	0.00	0.00
7	J42112	Junction	4599.43	4605.33	0.00	0.00	0.00	25.00	4601.12	0.00	4.21	0 00:00	0.00	0.00
8	J42117	Junction	4597.20	4602.90	0.00	4608.60	0.00	25.00	4598.18	0.00	4.72	0 00:00	0.00	0.00
9	J42118	Junction	4610.41	4615.21	0.00	0.00	0.00	25.00	4611.60	0.00	3.61	0 00:00	0.00	0.00
10	J42154	Junction	4521.79	4530.29	0.00	4536.96	0.00	117.68	4523.40	0.00	6.89	0 00:00	0.00	0.00
11	J42155	Junction	4525.14	4536.04	0.00	4542.71	0.00	117.68	4528.28	0.00	7.76	0 00:00	0.00	0.00
12	J42156	Junction	4527.51	4540.26	0.00	4546.93	0.00	117.68	4530.84	0.00	9.42	0 00:00	0.00	0.00
13	J42157	Junction	4512.22	4529.67	0.00	4536.34	0.00	152.77	4514.18	0.00	15.49	0 00:00	0.00	0.00
14	J42175	Junction	4688.48	4696.88	0.00	4703.55	0.00	9.33	4703.55	6.67	0.00	0 02:59	0.00	0.00
15	J42176	Junction	4691.51	4699.51	0.00	4706.18	0.00	8.43	4706.18	6.67	0.00	0 03:00	0.00	0.00
16	J42177	Junction	4694.19	4701.99	0.00	4708.66	0.00	4.94	4708.66	6.67	0.00	0 03:01	0.00	0.00
17	J42178	Junction	4703.44	4711.94	0.00	4718.61	0.00	0.80	4703.46	0.00	8.48	0 00:00	0.00	0.00
18	J42180	Junction	4743.73	4755.03	0.00	4761.70	0.00	0.00	4743.73	0.00	11.30	0 00:00	0.00	0.00
19	J42181	Junction	4730.23	4738.33	0.00	4745.00	0.00	0.00	4730.23	0.00	8.10	0 00:00	0.00	0.00
20	J42223	Junction	4530.32	4547.72	0.00	4554.39	0.00	117.68	4533.55	0.00	14.17	0 00:00	0.00	0.00
21	J42224	Junction	4532.48	4548.08	0.00	4554.75	0.00	100.07	4535.03	0.00	13.05	0 00:00	0.00	0.00
22	J4224	Junction	4534.11	4539.51	0.00	4544.91	0.00	51.67	4535.73	0.00	3.78	0 00:00	0.00	0.00
23	J4225	Junction	4537.26	4542.31	0.00	4547.36	0.00	51.67	4545.56	3.25	0.00	0 00:00	0.00	0.00
24	J4226	Junction	4539.66	4544.36	0.00	4549.06	0.00	51.67	4545.66	1.30	0.00	0 00:00	0.00	0.00
25	J42264	Junction	4608.40	4617.30	0.00	4623.97	0.00	42.06	4616.88	0.00	0.42	0 00:00	0.00	0.00
26	J42265	Junction	4616.61	4625.16	0.00	4631.83	0.00	42.45	4622.57	0.00	2.59	0 00:00	0.00	0.00
27	J42266	Junction	4620.24	4630.84	0.00	4637.51	0.00	42.43	4627.30	0.00	3.54	0 00:00	0.00	0.00
28	J42267	Junction	4622.52	4631.27	0.00	4637.94	0.00	42.40	4631.26	0.00	0.01	0 00:00	0.00	0.00
29	J42268	Junction	4630.23	4638.98	0.00	4645.65	0.00	42.36	4641.73	2.75	0.00	0 00:00	0.00	0.00
30	J42269	Junction	4633.51	4641.96	0.00	4648.63	0.00	42.36	4646.70	4.74	0.00	0 00:00	0.00	0.00
31	J42270	Junction	4638.41	4646.21	0.00	4652.88	0.00	44.13	4652.88	6.67	0.00	0 03:19	0.91	24.00
32	J42271	Junction	4646.69	4654.24	0.00	4661.79	0.00	44.13	4661.19	6.95	0.00	0 00:00	0.00	0.00
33	J42273	Junction	4657.67	4666.52	0.00	4673.19	0.00	45.71	4673.19	6.67	0.00	0 02:58	0.00	0.00
34	J42274	Junction	4666.87	4675.87	0.00	4682.54	0.00	45.33	4679.96	4.09	0.00	0 00:00	0.00	0.00
35	J42275	Junction	4670.16	4678.16	0.00	4684.83	0.00	45.46	4683.34	5.18	0.00	0 00:00	0.00	0.00
36	J42277	Junction	4672.54	4680.24	0.00	4686.91	0.00	45.39	4686.51	6.27	0.00	0 00:00	0.00	0.00
37	J42278	Junction	4677.64	4685.14	0.00	4691.81	0.00	45.50	4691.59	6.45	0.00	0 00:00	0.00	0.00
38	J42279	Junction	4682.15	4689.30	0.00	4695.97	0.00	57.39	4695.97	6.67	0.00	0 03:05	2.94	20.00
39	J42280	Junction	4683.00	4690.90	0.00	4697.57	0.00	9.33	4697.57	6.67	0.00	0 02:59	0.00	0.00
40	J42282	Junction	4687.53	4695.98	0.00	4702.65	0.00	9.33	4702.65	6.67	0.00	0 02:59	0.00	0.00
41	J42284	Junction	4589.18	4593.08	0.00	4599.75	0.00	4.14	4590.50	0.00	2.58	0 00:00	0.00	0.00
42	J42285	Junction	4588.82	4592.92	0.00	4599.59	0.00	4.13	4590.33	0.00	2.59	0 00:00	0.00	0.00
43	J42286	Junction	4586.66	4598.71	0.00	4605.38	0.00	4.11	4587.73	0.00	10.98	0 00:00	0.00	0.00
44	J42287	Junction	4587.63	4596.28	0.00	4602.95	0.00	4.11	4589.05	0.00	7.23	0 00:00	0.00	0.00
45	J42302	Junction	4500.54	4509.44	0.00	4518.34	0.00	125.52	4512.45	3.01	0.00	0 00:00	0.00	0.00
46	J42303	Junction	4705.22	4712.12	0.00	4719.02	0.00	17.76	4719.02	6.90	0.00	0 03:58	0.00	0.00
47	J42304	Junction	4686.38	4691.98	0.00	4697.58	0.00	17.76	4692.18	0.20	0.00	0 00:00	0.00	0.00
48	J42305	Junction	4681.18	4687.53	0.00	4693.88	0.00	17.76	4682.03	0.00	5.50	0 00:00	0.00	0.00
49	J42306	Junction	4518.99	4525.39	0.00	4531.79	0.00	125.54	4521.34	0.00	4.05	0 00:00	0.00	0.00
50	J42307	Junction	4545.94	4551.54	0.00	4557.14	0.00	130.29	4557.14	5.60	0.00	0 02:56	0.01	0.00
51	J42308	Junction	4600.22	4608.82	0.00	4617.42	0.00	17.75	4603.07	0.00	5.75	0 00:00	0.00	0.00
52	J42309	Junction	4616.43	4624.03	0.00	4631.63	0.00	17.76	4617.37	0.00	6.66	0 00:00	0.00	0.00
53	J42310	Junction	4636.19	4643.89	0.00	4651.59	0.00	17.76	4637.20	0.00	6.69	0 00:00	0.00	0.00
54	J42311	Junction	4652.14	4657.74	0.00	4663.34	0.00	17.76	4653.01	0.00	4.73	0 00:00	0.00	0.00
55	J42312	Junction	4663.13	4669.03	0.00	4674.93	0.00	17.76	4664.09	0.00	4.94	0 00:00	0.00	0.00
56	J42333	Junction	4610.34	4619.04	0.00	4627.74	0.00	44.87	4611.67	0.00	7.37	0 00:00	0.00	0.00
57	J42334	Junction	4602.31	4610.41	0.00	4618.51	0.00	44.87	4604.08	0.00	6.33	0 00:00	0.00	0.00
58	J42335	Junction	4601.32	4609.92	0.00	4618.52	0.00	44.87	4602.65	0.00	7.27	0 00:00	0.00	0.00
59	J42336	Junction	4595.34	4600.34	0.00	4605.34	0.00	44.87	4596.80	0.00	3.54	0 00:00	0.00	0.00
60	J42337	Junction	4619.90	4626.60	0.00	4633.30	0.00	44.87	4621.11	0.00	5.49	0 00:00	0.00	0.00
61	J42340	Junction	4584.36	4588.76	0.00	4593.16	0.00	44.87	4593.16	4.40	0.00	0 03:04	0.00	0.00
62	J42341	Junction	4590.49	4594.89	0.00	4599.29	0.00	44.87	4592.43	0.00	2.46	0 00:00	0.00	0.00
63	J42346	Junction	4747.50	4757.40	0.00	4767.30	0.00	45.65	4748.63	0.00	8.77	0 00:00	0.00	0.00
64	J42347	Junction	4706.85	4722.55	0.00	4738.25	0.00	45.62	4708.29	0.00	14.26	0 00:00	0.00	0.00
65	J42348	Junction	4677.52	4683.92	0.00	4690.32	0.00	45.59	4678.89	0.00	5.03	0 00:00	0.00	0.00
66	J42349	Junction	4670.58	4676.48	0.00	4682.38	0.00	45.59	4672.26	0.00	4.22	0 00:00	0.00	0.00
67	J42350	Junction	4666.48	4674.28	0.00	4682.08	0.00	45.59	4667.69	0.00	6.59	0 00:00	0.00	0.00
68	J42357	Junction	4670.80	4675.10	0.00	4679.40	0.00	15.00	4671.57	0.00	3.53	0 00:00	0.00	0.00
69	J42358	Junction	4617.19	4622.39	0.00	4627.59	0.00	15.00	4617.88	0.00	4.51	0 00:00	0.00	0.00
70	J42359	Junction	4589.72	4593.12	0.00	4596.52	0.00	15.00	4590.91	0.00	2.21	0 00:00	0.00	0.00
71	J4236	Junction	4546.45	4551.85	0.00	4557.25	0.00	52.45	4548.68	0.00	3.17	0 00:00	0.00	0.00
72	J42363	Junction	4588.99	4592.79	0.00	4596.59	0.00	52.53	4590.30	0.00	2.49	0 00:00	0.00	0.00
73	J42364	Junction	4621.30	4627.60	0.00	4633.90	0.00	15.00	4622.25	0.00	5.35	0 00:00	0.00	0.00
74	J42365	Junction	4812.97	4819.17	0.00	4825.37	0.00	0.00	4812.97	0.00	6.20	0 00:00	0.00	0.00
75	J42366	Junction	4809.24	4818.24	0.00	4827.24	0.00	0.00	4809.24	0.00	9.00	0 00:00	0.00	0.00
76	J42367	Junction	4786.31	4790.81	0.00	4795.31	0.00	0.00	4786.31	0.00	4.50	0 00:00	0.00	0.00
77	J42368	Junction	4758.99	4764.89	0.00	4770.79	0.00	0.00	4758.99	0.00	5.90	0 00:00	0.00	0.00
78	J4237	Junction	4580.68	4585.88	0.00	4591.08	0.00	52.53	4581.97	0.00	3.91	0 00:00	0.00	0.00
79	J42370	Junction	4749.05	4760.55	0.00	4772.05	0.00	0.00	4749.05	0.00	11.50	0 00:00	0.00	0.00
80	J42371	Junction	4745.20	4754.40	0.00	4763.60	0.00	0.00	4745.20	0.00	9.20	0 00:00	0.00	0.00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
81	J42393	Junction	4585.90	4597.47	0.00	4609.04	0.00	150.79	4588.62	0.00	8.85	0 00:00	0.00	0.00
82	J42394	Junction	4586.59	4597.69	0.00	4608.79	0.00	150.79	4589.96	0.00	7.73	0 00:00	0.00	0.00
83	J42402	Junction	4585.83	4595.68	0.00	4605.53	0.00	18.57	4589.06	0.00	6.62	0 00:00	0.00	0.00
84	J42420	Junction	4713.66	4725.36	0.00	4737.06	0.00	45.63	4714.77	0.00	10.59	0 00:00	0.00	0.00
85	J42436	Junction	4689.65	4696.32	0.00	4702.99	0.00	45.59	4693.70	0.00	2.62	0 00:00	0.00	0.00
86	J42440	Junction	4744.06	4754.86	0.00	4765.66	0.00	0.00	4744.06	0.00	10.80	0 00:00	0.00	0.00
87	J42442	Junction	4775.41	4781.21	0.00	4789.41	0.00	59.46	4777.49	0.00	3.72	0 00:00	0.00	0.00
88	J42443	Junction	4713.69	4721.59	0.00	4728.49	0.00	62.95	4716.87	0.00	4.72	0 00:00	0.00	0.00
89	J42458	Junction	4585.91	4597.91	0.00	4609.91	0.00	4.11	4587.08	0.00	10.83	0 00:00	0.00	0.00
90	J42459	Junction	4584.43	4595.48	0.00	4606.53	0.00	4.11	4585.29	0.00	10.19	0 00:00	0.00	0.00
91	J42460	Junction	4582.66	4594.71	0.00	4606.76	0.00	4.11	4583.73	0.00	10.98	0 00:00	0.00	0.00
92	J42461	Junction	4579.30	4590.20	0.00	4601.10	0.00	7.54	4580.32	0.00	9.88	0 00:00	0.00	0.00
93	J42462	Junction	4581.42	4595.62	0.00	4609.82	0.00	7.54	4582.11	0.00	13.51	0 00:00	0.00	0.00
94	J42494	Junction	4599.72	4608.72	0.00	4608.72	0.00	78.03	4608.72	0.00	0.00	0 03:02	2.92	18.00
95	J42495	Junction	4603.33	4612.28	0.00	4621.23	0.00	65.28	4613.55	1.27	0.00	0 00:00	0.00	0.00
96	J42496	Junction	4612.58	4622.18	0.00	4631.78	0.00	65.27	4620.31	0.00	1.87	0 00:00	0.00	0.00
97	J42497	Junction	4632.36	4641.66	0.00	4650.96	0.00	65.30	4633.72	0.00	7.94	0 00:00	0.00	0.00
98	J42498	Junction	4640.79	4649.84	0.00	4658.89	0.00	65.28	4642.38	0.00	7.46	0 00:00	0.00	0.00
99	J42499	Junction	4650.81	4659.71	0.00	4668.61	0.00	65.26	4652.32	0.00	7.39	0 00:00	0.00	0.00
100	J42500	Junction	4652.77	4662.12	0.00	4671.47	0.00	65.33	4654.91	0.00	7.21	0 00:00	0.00	0.00
101	J42516	Junction	4653.02	4664.07	0.00	4675.12	0.00	65.60	4655.87	0.00	8.20	0 00:00	0.00	0.00
102	J42517	Junction	4655.67	4665.42	0.00	4675.17	0.00	65.47	4657.55	0.00	7.87	0 00:00	0.00	0.00
103	J42518	Junction	4656.94	4666.44	0.00	4675.94	0.00	65.48	4658.98	0.00	7.46	0 00:00	0.00	0.00
104	J42519	Junction	4658.11	4667.16	0.00	4676.21	0.00	65.85	4660.15	0.00	7.01	0 00:00	0.00	0.00
105	J42520	Junction	4669.61	4682.46	0.00	4695.31	0.00	68.19	4670.94	0.00	11.52	0 00:00	0.00	0.00
106	J42521	Junction	4670.25	4680.20	0.00	4690.15	0.00	65.66	4672.79	0.00	7.41	0 00:00	0.00	0.00
107	J42522	Junction	4670.60	4680.05	0.00	4689.50	0.00	65.04	4673.42	0.00	6.63	0 00:00	0.00	0.00
108	J42523	Junction	4671.79	4678.79	0.00	4685.79	0.00	65.03	4674.59	0.00	4.20	0 00:00	0.00	0.00
109	J42525	Junction	4672.21	4681.46	0.00	4690.71	0.00	65.15	4675.41	0.00	6.05	0 00:00	0.00	0.00
110	J42526	Junction	4673.18	4681.88	0.00	4690.58	0.00	50.26	4675.77	0.00	6.11	0 00:00	0.00	0.00
111	J42527	Junction	4674.07	4682.32	0.00	4690.57	0.00	50.26	4676.35	0.00	5.97	0 00:00	0.00	0.00
112	J42528	Junction	4678.70	4688.75	0.00	4698.80	0.00	50.26	4680.09	0.00	8.66	0 00:00	0.00	0.00
113	J42529	Junction	4680.22	4686.92	0.00	4693.62	0.00	50.26	4682.02	0.00	4.90	0 00:00	0.00	0.00
114	J42530	Junction	4692.15	4706.20	0.00	4720.25	0.00	50.26	4693.38	0.00	12.82	0 00:00	0.00	0.00
115	J42531	Junction	4693.08	4703.98	0.00	4714.88	0.00	50.26	4694.97	0.00	9.01	0 00:00	0.00	0.00
116	J42532	Junction	4693.66	4702.01	0.00	4710.36	0.00	50.26	4695.93	0.00	6.08	0 00:00	0.00	0.00
117	J42533	Junction	4695.91	4701.91	0.00	4707.91	0.00	50.26	4697.55	0.00	4.36	0 00:00	0.00	0.00
118	J42538	Junction	4595.69	4610.69	0.00	4625.69	0.00	139.04	4597.83	0.00	12.86	0 00:00	0.00	0.00
119	J42540	Junction	4597.65	4612.65	0.00	4627.65	0.00	61.34	4599.57	0.00	13.08	0 00:00	0.00	0.00
120	J42722	Junction	4586.25	4594.25	0.00	4602.25	0.00	153.12	4588.43	0.00	5.82	0 00:00	0.00	0.00
121	J42745	Junction	4755.35	4761.10	0.00	4766.85	0.00	0.00	4755.35	0.00	5.75	0 00:00	0.00	0.00
122	J42746	Junction	4758.90	4764.40	0.00	4769.90	0.00	0.00	4758.90	0.00	5.50	0 00:00	0.00	0.00
123	J42747	Junction	4704.88	4709.53	0.00	4714.18	0.00	0.00	4704.88	0.00	4.65	0 00:00	0.00	0.00
124	J42748	Junction	4703.71	4709.86	0.00	4716.01	0.00	0.00	4703.71	0.00	6.15	0 00:00	0.00	0.00
125	J42788	Junction	4596.35	4603.40	0.00	4610.45	0.00	14.64	4608.34	4.94	0.00	0 00:00	0.00	0.00
126	J42808	Junction	4594.84	4601.49	0.00	4608.34	0.00	35.42	4608.34	6.85	0.00	0 03:13	0.00	0.00
127	J42809	Junction	4594.91	4601.61	0.00	4608.31	0.00	35.39	4608.29	6.68	0.00	0 00:00	0.00	0.00
128	J42810	Junction	4595.00	4600.90	4596.00	4606.80	0.00	39.28	4606.80	5.90	0.00	0 03:12	0.00	0.00
129	J42811	Junction	4595.04	4600.54	0.00	4606.04	0.00	26.05	4606.04	5.50	0.00	0 03:13	0.12	2.00
130	J42812	Junction	4595.09	4601.24	0.00	4607.39	0.00	27.08	4606.97	5.73	0.00	0 00:00	0.00	0.00
131	J42813	Junction	4595.72	4601.42	0.00	4607.12	0.00	27.00	4607.12	5.70	0.00	0 03:13	0.02	0.00
132	J42814	Junction	4595.42	4600.92	0.00	4606.42	0.00	25.10	4606.42	5.50	0.00	0 03:12	0.05	1.00
133	J42815	Junction	4595.33	4601.43	0.00	4607.53	0.00	27.14	4606.94	5.51	0.00	0 00:00	0.00	0.00
134	J42816	Junction	4595.25	4601.25	0.00	4607.25	0.00	27.83	4606.95	5.70	0.00	0 00:00	0.00	0.00
135	J42821	Junction	4619.88	4624.58	0.00	0.00	0.00	25.00	4621.14	0.00	3.44	0 00:00	0.00	0.00
136	J42824	Junction	4645.94	4654.69	0.00	5000.00	0.00	164.42	4684.35	29.66	0.00	0 00:00	0.00	0.00
137	J42833	Junction	4716.01	4720.71	0.00	4725.41	0.00	0.00	4716.01	0.00	4.70	0 00:00	0.00	0.00
138	J42834	Junction	4723.25	4729.80	0.00	4736.35	0.00	0.00	4723.25	0.00	6.55	0 00:00	0.00	0.00
139	J42835	Junction	4742.72	4749.37	0.00	4756.02	0.00	0.00	4742.72	0.00	6.65	0 00:00	0.00	0.00
140	J42836	Junction	4753.59	4759.29	0.00	4764.99	0.00	0.00	4753.59	0.00	5.70	0 00:00	0.00	0.00
141	J42853	Junction	4666.81	4672.06	0.00	5000.00	0.00	11.40	4720.47	48.41	0.00	0 00:00	0.00	0.00
142	J42854	Junction	4651.03	4657.83	0.00	5000.00	0.00	12.93	4684.36	26.53	0.00	0 00:00	0.00	0.00
143	J42855	Junction	4668.88	4674.28	0.00	5000.00	0.00	9.88	4703.79	29.51	0.00	0 00:00	0.00	0.00
144	J42856	Junction	4669.95	4674.45	0.00	5000.00	0.00	9.09	4703.61	29.16	0.00	0 00:00	0.00	0.00
145	J42857	Junction	4678.77	4683.37	0.00	4687.97	0.00	5.13	4687.97	4.60	0.00	0 02:57	0.00	0.00
146	J42858	Junction	4696.01	4701.26	0.00	4706.51	0.00	0.00	4696.01	0.00	5.25	0 00:00	0.00	0.00
147	J42859	Junction	4700.55	4707.90	0.00	4715.25	0.00	0.00	4700.55	0.00	7.35	0 00:00	0.00	0.00
148	J42885	Junction	4616.20	4626.17	0.00	0.00	0.00	25.00	4617.50	0.00	8.67	0 00:00	0.00	0.00
149	J441024-0	Junction	4572.78	4586.00	4575.50	4587.00	0.00	80.04	4576.11	0.00	9.89	0 00:00	0.00	0.00
150	J441024-1	Junction	4572.60	4585.23	0.00	4587.23	0.00	87.56	4575.41	0.00	9.82	0 00:00	0.00	0.00
151	J441032-1	Junction	4592.84	4599.09	0.00	4605.34	0.00	4.11	4593.29	0.00	5.80	0 00:00	0.00	0.00
152	J441557-0	Junction	4693.78	4701.38	0.00	4708.98	0.00	50.26	4696.32	0.00	5.06	0 00:00	0.00	0.00
153	J441560-0	Junction	4696.87	4710.00	0.00	4713.57	0.00	6084.54	4715.44	3.57	0.00	0 22:57	9.90	0.00
154	J441565-1	Junction	4693.98	4708.08	0.00	4722.18	0.00	50.26	4696.97	0.00	11.11	0 00:00	0.00	0.00
155	J441657-0	Junction	4638.41	4643.98	0.00	4647.00	0.00	91.32	4647.00	3.02	0.00	0 02:48	0.00	0.00
156	J441660-0	Junction	4645.74	4654.22	0.00	4660.89	0.00	164.41	4660.89	6.67	0.00	0 03:00	21.42	31.00
157	J441673-1	Junction	4723.25	4729.80	0.00	4736.35	0.00	0.00	4723.25	0.00	6.55	0 00:00	0.00	0.00
158	J441823.0	Junction	4636.38	4643.08	0.00	4649.78	0.00	15.00	4637.18	0.00	5.90	0 00:00	0.00	0.00
159	J44269-1	Junction	4721.40	4727.07	0.00	4733.74	0.00	0.00	4721.40	0.00	10.00	0 00:00	0.00	0.00
160	J44279-1	Junction	4589.18	4592.62	0.00	4599.29	0.00	4.11	4590.60	0.00	2.02	0 00:00	0.00	0.00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
161	J4429-0	Junction	4621.41	4632.89	0.00	4632.89	0.00	25.00	4622.92	0.00	9.97	0 00:00	0.00	0.00
162	J44377-1	Junction	4546.06	4554.75	0.00	4561.42	0.00	40.00	4546.91	0.00	7.84	0 00:00	0.00	0.00
163	J44488-1	Junction	4592.40	4597.30	0.00	4602.20	0.00	44.87	4594.08	0.00	3.22	0 00:00	0.00	0.00
164	J44563-1	Junction	4588.62	4592.48	0.00	4599.15	0.00	4.26	4590.23	0.00	2.25	0 00:00	0.00	0.00
165	J44598-1	Junction	4658.85	4664.25	0.00	4659.65	0.00	45.59	4660.69	0.00	3.56	0 00:00	0.00	0.00
166	J44599-0	Junction	4647.46	4658.96	0.00	4670.46	0.00	17.42	4648.91	0.00	10.05	0 00:00	0.00	0.00
167	J44612-0	Junction	4634.84	4641.34	0.00	4641.84	0.00	86.84	4641.03	0.00	0.31	0 00:00	0.00	0.00
168	J44681.0	Junction	4591.92	4596.82	0.00	4601.72	0.00	18.57	4592.66	0.00	4.16	0 00:00	0.00	0.00
169	JUL010.04-0	Junction	4614.13	4620.80	0.00	4627.47	0.00	394.84	4616.30	0.00	7.83	0 00:00	0.00	0.00
170	JUL010.04-1	Junction	4495.70	4502.37	0.00	4509.04	0.00	388.95	4499.06	0.00	6.64	0 00:00	0.00	0.00
171	JUL010.08-0	Junction	4675.67	4682.34	0.00	4689.01	0.00	396.41	4677.73	0.00	7.94	0 00:00	0.00	0.00
172	JUL010.10-0	Junction	5849.45	5856.12	0.00	5862.79	0.00	136.10	5850.43	0.00	9.02	0 00:00	0.00	0.00
173	JUL010.10-1	Junction	4812.10	4818.77	0.00	4825.44	0.00	436.62	4814.13	0.00	7.97	0 00:00	0.00	0.00
174	JUL020.02-0	Junction	4865.89	4872.56	0.00	4879.23	0.00	241.91	4867.36	0.00	8.53	0 00:00	0.00	0.00
175	JUL020.06-0	Junction	5072.86	5079.53	0.00	5086.20	0.00	154.07	5073.97	0.00	8.89	0 00:00	0.00	0.00
176	JUL020.10-0	Junction	5162.24	5168.91	0.00	5175.58	0.00	48.00	5162.86	0.00	9.38	0 00:00	0.00	0.00
177	JUL020.12-0	Junction	5346.59	5353.26	0.00	5359.93	0.00	0.00	5346.59	0.00	10.00	0 00:00	0.00	0.00
178	JUL030.02-0	Junction	4580.07	4586.74	0.00	4593.41	0.00	197.05	4581.53	0.00	8.54	0 00:00	0.00	0.00
179	JUL030.04-0	Junction	4587.21	4593.88	0.00	4600.55	0.00	197.05	4588.65	0.00	8.56	0 00:00	0.00	0.00
180	JUL030.08-1	Junction	4618.14	4624.81	0.00	4631.48	0.00	197.07	4619.63	0.00	8.51	0 00:00	0.00	0.00
181	JUL030.12-1	Junction	4623.65	4630.32	0.00	4636.99	0.00	198.01	4625.29	0.00	8.36	0 00:00	0.00	0.00
182	JUL030.14-0	Junction	5067.12	5073.79	0.00	5080.46	0.00	122.38	5068.08	0.00	9.04	0 00:00	0.00	0.00
183	JUL030.14-1	Junction	4769.44	4776.11	0.00	4782.78	0.00	120.59	4770.42	0.00	9.02	0 00:00	0.00	0.00
184	JUL030.16-0	Junction	5222.41	5229.08	0.00	5235.75	0.00	49.95	5222.93	0.00	9.48	0 00:00	0.00	0.00
185	JUL031.06-1	Junction	4887.75	4894.42	0.00	4901.09	0.00	104.28	4888.66	0.00	9.09	0 00:00	0.00	0.00
186	JUL031.10-0	Junction	6622.71	6629.38	0.00	6636.05	0.00	39.19	6623.07	0.00	9.64	0 00:00	0.00	0.00
187	JUL031.10-1	Junction	5457.22	5463.89	0.00	5470.56	0.00	63.81	5457.79	0.00	9.43	0 00:00	0.00	0.00
188	JUL033.02-0	Junction	5974.93	5981.60	0.00	5988.27	0.00	27.89	5975.21	0.00	9.72	0 00:00	0.00	0.00
189	JUL033.02-1	Junction	5352.23	5358.90	0.00	5365.57	0.00	27.61	5352.57	0.00	9.66	0 00:00	0.00	0.00
190	JUL034.02-0	Junction	5708.23	5714.90	0.00	5721.57	0.00	50.13	5708.65	0.00	9.58	0 00:00	0.00	0.00
191	JUL040.06-0	Junction	5281.46	5288.13	0.00	5294.80	0.00	107.84	5282.25	0.00	9.21	0 00:00	0.00	0.00
192	JUL041.02-1	Junction	4627.15	4637.63	0.00	4644.30	0.00	44.91	4628.41	0.00	9.22	0 00:00	0.00	0.00
193	JUL041.04-0	Junction	5183.21	5189.88	0.00	5196.55	0.00	0.00	5183.21	0.00	10.00	0 00:00	0.00	0.00
194	JUL041.04-1	Junction	4741.62	4748.29	0.00	4748.29	0.00	44.99	4742.19	0.00	9.43	0 00:00	0.00	0.00
195	JUL045.02-0	Junction	6540.33	6547.00	0.00	6553.67	0.00	44.43	6540.71	0.00	9.62	0 00:00	0.00	0.00
196	JUL065.02-0	Junction	6574.33	6581.00	0.00	6587.67	0.00	30.51	6574.67	0.00	9.66	0 00:00	0.00	0.00
197	JUL066.02-0	Junction	6216.13	6222.80	0.00	6229.47	0.00	32.29	6216.46	0.00	9.67	0 00:00	0.00	0.00
198	JUL070.02-0	Junction	4581.13	4587.80	0.00	4594.47	0.00	150.79	4582.25	0.00	8.88	0 00:00	0.00	0.00
199	JUL070.04-0	Junction	4647.09	4655.74	0.00	4662.41	0.00	135.92	4648.16	0.00	8.93	0 00:00	0.00	0.00
200	JUL070.04-1	Junction	4590.98	4604.49	0.00	4611.16	0.00	135.90	4593.41	0.00	11.08	0 00:00	0.00	0.00
201	JUL070.06-0	Junction	4659.93	4666.60	0.00	4673.27	0.00	119.44	4660.99	0.00	8.94	0 00:00	0.00	0.00
202	JUL070.10-0	Junction	5083.29	5089.96	0.00	5096.63	0.00	89.62	5084.06	0.00	9.23	0 00:00	0.00	0.00
203	JUL070.10-1	Junction	4779.12	4812.06	0.00	4818.73	0.00	106.71	4780.00	0.00	32.06	0 00:00	0.00	0.00
204	JUL070.12-0	Junction	5214.49	5221.16	0.00	5227.83	0.00	69.89	5215.11	0.00	9.38	0 00:00	0.00	0.00
205	JUL070.14-0	Junction	5261.14	5267.81	0.00	5274.48	0.00	29.16	5261.50	0.00	9.64	0 00:00	0.00	0.00
206	JUL080.02-0	Junction	4572.00	4585.13	0.00	4591.80	0.00	109.85	4573.06	0.00	12.07	0 00:00	0.00	0.00
207	JUL080.04-0	Junction	4595.90	4602.57	0.00	4603.24	0.00	62.84	4596.35	0.00	9.55	0 00:00	0.00	0.00
208	JUL080.04-1	Junction	4634.00	4642.69	0.00	4643.36	0.00	62.28	4634.76	0.00	7.93	0 00:00	0.00	0.00
209	JUL080.06-0	Junction	4635.30	4642.00	0.00	4642.31	0.00	62.90	4641.04	0.00	0.96	0 00:00	0.00	0.00
210	JUL080.06-1	Junction	4695.88	4702.55	0.00	4709.22	0.00	62.92	4696.58	0.00	5.97	0 00:00	0.00	0.00
211	JUL080.08-0	Junction	4696.80	4703.47	0.00	4704.14	0.00	62.94	4698.98	0.00	4.49	0 00:00	0.00	0.00
212	JUL080.08-1	Junction	4711.67	4718.34	0.00	4728.90	0.00	62.95	4712.34	0.00	6.00	0 00:00	0.00	0.00
213	JUL080.10-0	Junction	4770.94	4777.61	0.00	4784.28	0.00	59.46	4771.57	0.00	6.04	0 00:00	0.00	0.00
214	JUL080.10-1	Junction	4717.35	4724.02	0.00	4729.69	0.00	63.51	4719.98	0.00	4.04	0 00:00	0.00	0.00
215	JUL080.12-0	Junction	4776.51	4783.18	0.00	4789.85	0.00	60.20	4779.65	0.00	3.53	0 00:00	0.00	0.00
216	JUL080.12-1	Junction	4878.08	4884.75	0.00	4891.42	0.00	58.40	4878.72	0.00	9.36	0 00:00	0.00	0.00
217	JUL080.14-0	Junction	5014.70	5021.37	0.00	5028.04	0.00	39.04	5015.17	0.00	9.53	0 00:00	0.00	0.00
218	JUL080.16-0	Junction	5227.63	5234.30	0.00	5240.97	0.00	39.97	5228.07	0.00	9.56	0 00:00	0.00	0.00
219	JUL084.02-0	Junction	6213.33	6220.00	0.00	6226.67	0.00	37.62	6213.72	0.00	9.61	0 00:00	0.00	0.00
220	JUL100.02-1	Junction	4850.00	4860.00	0.00	4853.00	0.00	2.00	4850.74	0.00	9.26	0 00:00	0.00	0.00
221	JUL100.04-0	Junction	5012.74	5019.41	0.00	5026.08	0.00	26.94	5013.12	0.00	9.62	0 00:00	0.00	0.00
222	JUL100.06-0	Junction	5193.10	5199.77	0.00	5206.44	0.00	21.69	5193.43	0.00	9.67	0 00:00	0.00	0.00
223	JUL120.02-0	Junction	4505.93	4512.60	0.00	4519.27	0.00	218.32	4507.92	0.00	8.01	0 00:00	0.00	0.00
224	JUL120.04-0	Junction	4541.49	4548.16	0.00	4554.83	0.00	218.79	4543.17	0.00	8.32	0 00:00	0.00	0.00
225	JUL120.04-1	Junction	4506.91	4513.58	0.00	4520.25	0.00	218.33	4512.74	0.00	8.99	0 00:00	0.00	0.00
226	JUL120.06-0	Junction	4574.18	4580.85	0.00	4587.52	0.00	221.68	4575.91	0.00	8.27	0 00:00	0.00	0.00
227	JUL120.06-1	Junction	4541.09	4547.76	0.00	4554.43	0.00	220.91	4543.82	0.00	7.27	0 00:00	0.00	0.00
228	JUL121.02-0	Junction	4698.77	4710.00	0.00	4712.11	0.00	20447.63	4712.39	0.00	1.38	0 00:00	0.00	0.00
229	JUL121.04-0	Junction	5110.19	5116.86	0.00	5123.53	0.00	0.00	5110.19	0.00	10.00	0 00:00	0.00	0.00
230	JUL121.07-0	Junction	5108.32	5114.99	0.00	5121.66	0.00	0.00	5108.32	0.00	10.00	0 00:00	0.00	0.00
231	JUL121.07-1	Junction	5027.00	5033.67	0.00	5040.34	0.00	67.23	5027.75	0.00	9.25	0 00:00	0.00	0.00
232	JUL126.02-0	Junction	6714.13	6720.80	0.00	6727.47	0.00	68.51	6720.58	0.00	9.42	0 00:00	0.00	0.00
233	JUL130.02-0	Junction	4566.45	4573.12	0.00	4579.79	0.00	86.92	4567.43	0.00	9.02	0 00:00	0.00	0.00
234	JUL130.02-1	Junction	4505.04	4511.71	0.00	4518.38	0.00	86.45	4506.07	0.00	8.97	0 00:00	0.00	0.00
235	JUL130.04-0	Junction	4581.26	4587.93	0.00	4594.60	0.00	90.52	4582.63	0.00	8.63	0 00:00	0.00	0.00
236	JUL130.04-1	Junction	4567.91	4574.58	0.00	4581.25	0.00	89.09	4570.39	0.00	7.52	0 00:00	0.00	0.00
237	JUL130.06-0	Junction	4590.00	4603.44	0.00	4610.11	0.00	80.98	4590.88	0.00	12.56	0 00:00	0.00	0.00
238	JUL130.06-1	Junction	4582.55	4589.22	0.00	4595.89	0.00	90.51	4584.57	0.00	7.98	0 00:00	0.00	0.00
239	JUL130.08-0	Junction	4592.42	4604.78	0.00	4611.45	0.00	83.87	4594.36	0.00	10.42	0 00:00	0.00	0.00
240	JUL130.08-1	Junction	4594.64	4602.65	0.00	4609.32	0.00	63.86	4609.32	6.67	0.00	0 03:12	0.01	0.00

Node Summary

SN	Element ID	Element Type	Invert Elevation (ft)	Ground/Rim (Max) Elevation (ft)	Initial Water Elevation (ft)	Surcharge Elevation (ft)	Ponded Area (ft²)	Peak Inflow (cfs)	Max HGL Elevation Attained (ft)	Max Surcharge Depth Attained (ft)	Min Freeboard Attained (ft)	Time of Peak Flooding Occurrence (days hh:mm)	Total Flooded Volume (ac-in)	Total Time Flooded (min)
241	JUL132.02-1	Junction	4760.63	4767.30	0.00	4773.97	0.00	0.00	4760.63	0.00	6.67	0 00:00	0.00	0.00
242	JUL152.02-0	Junction	4550.30	4558.56	0.00	4565.23	0.00	40.01	4552.47	0.00	7.83	0 00:00	0.00	0.00
243	JUL152.02-1	Junction	4547.04	4555.99	0.00	4562.66	0.00	40.00	4548.93	0.00	10.39	0 00:00	0.00	0.00
244	JUL152.04-1	Junction	4551.14	4558.14	0.00	4564.81	0.00	40.00	4553.27	0.00	4.87	0 00:00	0.00	0.00
245	Jun-131	Junction	4559.02	4563.45	0.00	0.00	0.00	35.47	4560.64	0.00	2.81	0 00:00	0.00	0.00
246	Jun-132	Junction	4533.00	4552.17	0.00	4554.00	0.00	60.37	4540.16	0.00	12.01	0 00:00	0.00	0.00
247	Jun-192	Junction	4739.00	4755.00	0.00	4755.00	0.00	18.00	4755.00	0.00	0.00	0 09:12	0.00	0.00
248	Jun-194	Junction	4704.00	6.00	0.00	0.00	0.00	15.00	4704.78	0.00	1.22	0 00:00	0.00	0.00
249	Jun-195	Junction	5000.00	5010.00	0.00	5012.00	0.00	105.38	5000.90	0.00	9.10	0 00:00	0.00	0.00
250	Jun-204	Junction	5010.00	5020.00	0.00	5021.00	0.00	38.54	5010.66	0.00	9.34	0 00:00	0.00	0.00
251	Jun-206	Junction	4795.00	4805.00	4796.00	4807.00	0.00	36.00	4795.46	0.00	9.54	0 00:00	0.00	0.00
252	Jun-208	Junction	4880.00	4887.00	4881.00	4898.00	0.00	81.00	4888.98	0.00	9.02	0 00:00	0.00	0.00
253	Jun-210	Junction	4635.00	4642.09	0.00	4644.00	0.00	36.00	4635.98	0.00	6.11	0 00:00	0.00	0.00
254	Jun-211	Junction	4646.72	4658.00	0.00	4650.00	0.00	36.00	4648.03	0.00	9.97	0 00:00	0.00	0.00
255	Jun-212	Junction	4636.03	4646.00	0.00	4649.00	0.00	11.00	4636.70	0.00	9.30	0 00:00	0.00	0.00
256	Jun-214	Junction	4825.00	4835.00	0.00	5000.00	0.00	20.72	4826.99	0.00	8.01	0 00:00	0.00	0.00
257	Jun-216	Junction	4579.44	4590.84	0.00	4592.00	0.00	18.08	4584.06	0.00	6.78	0 00:00	0.00	0.00
258	Jun-217	Junction	4678.00	4685.00	0.00	4700.00	0.00	55.57	4679.26	0.00	5.74	0 00:00	0.00	0.00
259	Jun-218	Junction	4580.35	4590.35	0.00	4592.00	0.00	18.08	4584.94	0.00	5.41	0 00:00	0.00	0.00
260	Jun-219	Junction	4849.00	4855.00	4849.00	4862.00	0.00	60.23	4849.62	0.00	9.38	0 00:00	0.00	0.00
261	Jun-220	Junction	4642.00	4648.00	4642.00	4648.00	0.00	77.81	4644.22	0.00	3.78	0 00:00	0.00	0.00
262	Jun-221	Junction	4597.20	4602.90	0.00	4608.60	0.00	14.66	4608.60	5.70	0.00	0 03:13	0.02	0.00
263	UL024.02-0	Junction	7100.00	7106.67	0.00	7113.34	0.00	108.55	7100.71	0.00	9.29	0 00:00	0.00	0.00
264	J0008-1	Outfall	4494.53					125.52	4494.53					
265	J42797	Outfall	4520.54					51.67	4522.07					
266	J44298-1	Outfall	4498.50					152.78	4500.20					
267	J44325-1	Outfall	4502.46					86.13	4503.45					
268	JUL010.02-1	Outfall	4491.00					377.63	4494.28					
269	JUL020.02-1	Outfall	4490.00					241.22	4491.47					
270	JUL030.02-1	Outfall	4501.37					197.01	4502.82					
271	JUL070.02-1	Outfall	4500.32					150.78	4501.44					
272	JUL080.02-1	Outfall	4493.46					109.71	4494.52					
273	JUL120.02-1	Outfall	4504.59					218.33	4506.41					
274	Out-28	Outfall	0.00					16.81	0.00					
275	JUL040.04-1	Storage Node	4745.00	4755.00	0.00		0.00	117.03	4751.76				0.00	0.00
276	Jun-205	Storage Node	4820.00	4850.00	0.00		0.00	136.80	4826.98				0.00	0.00
277	SN-UL020	Storage Node	4886.00	4900.00	0.00		0.00	668.82	4896.35				0.00	0.00
278	SN-UL022	Storage Node	5183.00	5193.00	0.00		0.00	163.85	5189.09				0.00	0.00
279	SN-UL030	Storage Node	4908.00	4918.00	0.00		0.00	222.13	4914.95				0.00	0.00
280	SN-UL031	Storage Node	5478.00	5488.00	0.00		0.00	88.89	5483.17				0.00	0.00
281	SN-UL032	Storage Node	5088.00	5098.00	0.00		0.00	142.96	5093.76				0.00	0.00
282	SN-UL041	Storage Node	4762.00	4772.00	0.00		0.00	0.00	4762.00				0.00	0.00
283	SN-UL043	Storage Node	5204.00	5214.00	0.00		0.00	0.00	5204.00				0.00	0.00
284	SN-UL044	Storage Node	5302.00	5312.00	0.00		0.00	201.06	5308.10				0.00	0.00
285	SN-UL051	Storage Node	4691.00	4701.00	0.00		0.00	71.94	4696.08				0.00	0.00
286	SN-UL060	Storage Node	4592.80	4.40	0.00		20.00	58.47	4597.07				0.00	1435.00
287	SN-UL060B	Storage Node	4654.40	5.80	0.00		20.00	70.30	4657.84				0.00	1435.00
288	SN-UL063	Storage Node	4788.10	10.90	0.00		20.00	77.09	4791.93				0.00	1435.00
289	SN-UL064	Storage Node	5235.00	5245.00	0.00		0.00	140.34	5240.71				0.00	0.00
290	SN-UL070	Storage Node	4680.00	4690.00	0.00		0.00	54.15	4684.74				0.00	0.00
291	SN-UL080B	Storage Node	4578.58	4587.00	0.00		20.00	80.07	4582.02				0.00	0.00
292	SN-UL081	Storage Node	4723.60	6.80	0.00		20.00	103.69	4729.37				0.00	1435.00
293	SN-UL082	Storage Node	4899.00	4909.00	0.00		0.00	78.48	4904.60				0.00	0.00
294	SN-UL083	Storage Node	5248.00	5258.00	0.00		0.00	57.94	5253.22				0.00	0.00
295	SN-UL090	Storage Node	4592.80	4.40	0.00		20.00	23.34	4597.17				0.00	1435.00
296	SN-UL100A	Storage Node	4599.80	4607.20	0.00		20.00	42.06	4605.74				0.00	0.00
297	SN-UL100B	Storage Node	4723.40	4724.40	0.00		20.00	0.00	4723.40				0.00	0.00
298	SN-UL101	Storage Node	5033.00	5043.00	0.00		0.00	41.44	5037.87				0.00	0.00
299	SN-UL102	Storage Node	5033.00	5043.00	0.00		0.00	91.91	5038.77				0.00	0.00
300	SN-UL110	Storage Node	4597.00	4602.60	0.00		20.00	60.93	4602.46				0.00	0.00
301	SN-UL115	Storage Node	5033.00	5043.00	0.00		0.00	112.59	5039.16				0.00	0.00
302	SN-UL121	Storage Node	4718.00	4728.00	0.00		0.00	0.00	4718.00				0.00	0.00
303	SN--UL121	Storage Node	4702.20	4712.20	0.00		20.00	187.66	4707.77				0.00	0.00
304	SN-UL124	Storage Node	4893.00	4903.50	0.00		0.00	62.15	4895.30				0.00	0.00
305	SN-UL124B	Storage Node	5047.00	5057.00	0.00		0.00	165.02	5054.25				0.00	0.00
306	SN-UL130	Storage Node	4612.00	4622.00	0.00		0.00	241.26	4620.11				0.00	0.00
307	SN-UL134	Storage Node	4825.00	4500.00	0.00		0.00	219.33	4832.31				0.00	1310.00
308	SN-UL140	Storage Node	4577.00	4587.00	0.00		0.00	79.90	4581.92				0.00	0.00
309	SN-UL144	Storage Node	4625.00	4634.40	0.00		20.00	91.32	4633.99				0.00	0.00
310	Stor-39	Storage Node	4680.00	10.00	0.00		0.00	135.12	4683.43				0.00	1435.00
311	Stor-39·1	Storage Node	4830.00	4838.00	0.00		0.00	39.84	4834.75				0.00	0.00
312	Stor-41	Storage Node	4745.00	4755.00	0.00		0.00	153.67	4750.82				0.00	0.00
313	Stor-45	Storage Node	4636.03	15.00	0.00		0.00	86.01	4641.77				0.00	1435.00
314	Stor-48	Storage Node	4587.00	4595.00	0.00		20.00	103.94	4589.50				0.00	0.00
315	Stor-49	Storage Node	4760.00	4770.00	0.00		0.00	51.69	4761.69				0.00	0.00
316	Stor-50	Storage Node	4555.00	4565.00	0.00		0.00	200.23	4562.55				0.00	0.00

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
1	0001	Pipe	J42306	J42302	251.32	4518.99	4500.54	7.3400	3.000	0.0130	125.52	180.72	0.69	18.88	2.67	0.89	0.00	Calculated
2	0002	Pipe	J44488-1	J42341	61.97	4592.40	4590.49	3.0800	3.000	0.0130	44.87	117.10	0.38	10.52	1.81	0.60	0.00	Calculated
3	0004	Pipe	J0004-0	J42306	174.71	4525.19	4518.99	3.5500	3.000	0.0130	125.54	125.65	1.00	19.72	2.67	0.89	0.00	Calculated
4	0005	Pipe	J42307	J0004-0	648.84	4545.94	4525.19	3.2000	3.000	0.0130	125.54	119.28	1.05	17.76	3.00	1.00	25.00	SURCHARGED
5	0006	Pipe	J0006-0	J42307	858.65	4578.80	4545.94	3.8300	3.000	0.0130	130.29	130.48	1.00	19.46	3.00	1.00	23.00	SURCHARGED
6	0007	Pipe	J42340	J0006-0	150.67	4584.36	4578.80	3.6900	3.000	0.0130	50.24	128.13	0.39	13.24	3.00	1.00	10.00	SURCHARGED
7	0008	Pipe	J42302	J0008-1	199.41	4500.54	4496.64	1.9600	3.000	0.0130	125.52	93.28	1.35	17.76	3.00	1.00	34.00	SURCHARGED
8	0009	Pipe	J42341	J42340	613.10	4590.49	4584.36	1.0000	3.000	0.0130	44.87	66.69	0.67	11.40	2.34	0.80	0.00	Calculated
9	0011	Pipe	J0011-0	J0006-0	162.63	4586.34	4578.80	4.6400	2.500	0.0130	112.87	88.32	1.28	22.99	2.50	1.00	23.00	SURCHARGED
10	0013	Pipe	J42308	J0012-1	307.90	4600.22	4587.41	4.1600	1.500	0.0130	17.75	21.43	0.83	14.02	1.38	1.00	1.00	SURCHARGED
11	0131	Pipe	J0131.0	J42359	454.58	4591.24	4589.72	0.3300	2.000	0.0130	15.00	13.08	1.15	5.79	1.59	0.80	0.00	> CAPACITY
12	0132	Pipe	J42358	J0131.0	387.78	4617.19	4591.24	6.6900	2.000	0.0130	15.00	58.52	0.26	7.74	1.35	0.67	0.00	Calculated
13	0134	Pipe	J42359	J42363	77.73	4589.72	4588.99	0.9400	2.500	0.0130	15.02	39.75	0.38	9.51	1.23	0.49	0.00	Calculated
14	0139	Pipe	J42824	J441660-0	4.34	4645.94	4645.74	4.6100	2.000	0.0130	164.41	48.56	3.39	50.00	2.00	1.00	44.00	SURCHARGED
15	0165	Pipe	JUL120.04-1	JUL120.02-0	60.27	4506.91	4505.93	1.6300	5.000	0.0130	218.32	418.86	0.52	10.41	3.49	0.70	0.00	Calculated
16	0166	Pipe	JUL120.06-1	JUL120.04-0	64.47	4541.09	4541.49	-0.6200	2.500	0.0130	218.79	289.13	0.76	8.44	2.09	0.84	0.00	Calculated
17	0173	Pipe	J0012-1	J0011-0	6.43	4587.41	4586.34	16.6400	2.500	0.0130	17.87	167.32	0.11	12.14	2.50	1.00	26.00	SURCHARGED
18	0176	Pipe	J44377-1	J42224	34.11	4546.06	4532.48	39.8100	2.000	0.0130	40.03	142.74	0.28	23.04	1.42	0.71	0.00	Calculated
19	0182	Pipe	J44269-1	J0014-1	357.60	4721.40	4721.70	-0.0800	1.500	0.0130	0.00	3.04	0.00	0.00	0.00	0.00	0.00	Calculated
20	0183	Pipe	J42533	J441565-1	49.88	4695.91	4693.98	3.8700	4.000	0.0130	50.26	282.55	0.18	6.67	2.31	0.58	0.00	Calculated
21	0191	Pipe	SN-UL110	J44681.0	101.15	4597.00	4591.92	5.0200	1.000	0.0130	9.95	7.98	1.25	13.75	0.87	0.87	0.00	> CAPACITY
22	4442	Pipe	JUL130.08-0	JUL130.06-0	96.06	4592.42	4590.00	2.5200	4.000	0.0130	80.98	227.99	0.36	20.48	1.41	0.35	0.00	Calculated
23	4449	Pipe	J42393	JUL070.02-0	232.19	4585.90	4581.00	2.1100	4.500	0.0130	150.79	281.86	0.53	23.32	1.92	0.43	0.00	Calculated
24	4489	Pipe	J42118	J42112	399.04	4610.41	4599.43	2.7500	2.000	0.0130	25.00	37.53	0.67	10.32	1.44	0.72	0.00	Calculated
25	4490	Pipe	J42112	J42117	330.31	4599.43	4597.20	0.6800	2.500	0.0130	25.00	33.70	0.74	9.37	1.34	0.53	0.00	Calculated
26	44174	Pipe	J42420	J42347	45.63	4713.66	4706.85	14.9200	2.500	0.0130	45.62	158.46	0.29	18.08	1.28	0.51	0.00	Calculated
27	44175	Pipe	J42346	J42420	424.20	4747.50	4713.66	7.9800	2.500	0.0130	45.63	115.85	0.39	21.45	1.12	0.45	0.00	Calculated
28	44177	Pipe	J42436	J42348	293.89	4692.40	4677.52	5.0600	2.500	0.0130	45.59	92.29	0.49	17.12	1.33	0.53	0.00	Calculated
29	44178	Pipe	J42347	J42436	398.35	4706.85	4692.40	3.6300	2.500	0.0130	45.59	78.12	0.58	16.01	1.41	0.56	0.00	Calculated
30	44181	Pipe	JUL100.02-1	Jun-219	698.24	4850.00	4849.00	0.1400	2.000	0.0130	2.02	8.56	0.24	4.32	0.65	0.33	0.00	Calculated
31	44182	Pipe	J42365	J42366	223.60	4812.97	4809.24	1.6700	2.000	0.0130	0.00	29.22	0.00	0.00	0.00	0.00	0.00	Calculated
32	44183	Pipe	J42366	J42367	346.57	4809.24	4786.31	6.6200	2.000	0.0130	0.00	58.19	0.00	0.00	0.00	0.00	0.00	Calculated
33	44184	Pipe	J42368	J42370	153.82	4758.99	4749.05	6.4600	2.000	0.0130	0.00	57.51	0.00	0.00	0.00	0.00	0.00	Calculated
34	44185	Pipe	J42367	J42368	353.16	4786.31	4758.99	7.7400	2.000	0.0130	0.00	62.92	0.00	0.00	0.00	0.00	0.00	Calculated
35	44186	Pipe	JUL080.12-0	J42442	29.30	4777.64	4775.41	7.6100	2.500	0.0130	59.46	113.16	0.53	13.85	2.04	0.82	0.00	Calculated
36	44187	Pipe	J42442	JUL080.10-0	51.22	4775.41	4773.28	4.1600	2.500	0.0130	59.46	83.64	0.71	15.56	1.82	0.73	0.00	Calculated
37	44236	Pipe	J42223	J42156	262.90	4530.32	4527.51	1.0700	4.000	0.0130	117.68	148.51	0.79	10.67	3.28	0.82	0.00	Calculated
38	44237	Pipe	J42156	J42155	254.58	4527.51	4525.14	0.9300	4.000	0.0130	117.68	138.59	0.85	10.80	3.23	0.81	0.00	Calculated
39	44238	Pipe	J42155	J42154	394.76	4525.14	4521.79	0.8500	4.000	0.0130	117.68	132.32	0.89	15.12	2.37	0.59	0.00	Calculated
40	44268	Pipe	J42180	J42181	179.46	4743.73	4730.23	7.5200	2.500	0.0130	0.00	112.50	0.00	0.00	0.00	0.00	0.00	Calculated
41	44269	Pipe	J42181	J44269-1	56.95	4730.23	4721.40	15.5000	2.500	0.0130	0.00	161.51	0.00	0.00	0.00	0.00	0.00	Calculated
42	44275	Pipe	J0014-1	J42178	196.83	4721.70	4703.44	9.2800	1.500	0.0130	0.00	31.99	0.00	0.00	0.01	0.01	0.00	Calculated
43	44276	Pipe	J42178	J42177	144.52	4703.44	4694.19	6.4000	1.500	0.0130	0.80	26.58	0.03	0.89	0.76	0.51	0.00	Calculated
44	44277	Pipe	J42177	J42176	64.41	4694.19	4691.51	4.1600	1.500	0.0130	4.94	21.43	0.23	5.12	1.50	1.00	19.00	SURCHARGED
45	44278	Pipe	J42176	J42175	144.48	4691.51	4688.48	2.1000	1.500	0.0130	8.43	15.21	0.55	5.32	1.50	1.00	22.00	SURCHARGED
46	44279	Pipe	J441032-1	J44279-1	134.87	4592.84	4589.20	2.7000	2.000	0.0130	4.11	37.16	0.11	3.85	0.92	0.46	0.00	Calculated
47	44298	Pipe	J42157	J44298-1	171.98	4512.22	4498.50	7.9800	4.000	0.0130	152.78	405.72	0.38	27.27	1.83	0.46	0.00	Calculated
48	44299	Pipe	J42154	J42157	88.84	4521.79	4512.22	10.7700	4.000	0.0130	117.67	471.45	0.25	23.25	1.78	0.45	0.00	Calculated
49	44333	Pipe	J42224	J42223	76.69	4532.48	4530.32	2.8200	4.000	0.0130	100.08	241.07	0.42	11.28	2.85	0.71	0.00	Calculated
50	44375	Pipe	JUL152.04-1	JUL152.02-0	76.70	4551.14	4550.30	1.1000	3.000	0.0130	40.01	69.80	0.57	13.05	2.15	0.72	0.00	Calculated
51	44377	Pipe	JUL152.02-1	J44377-1	76.96	4547.04	4546.06	1.2700	2.500	0.0130	40.00	46.29	0.86	14.64	1.37	0.55	0.00	Calculated
52	44455	Pipe	J42265	J42264	120.43	4616.61	4608.40	6.8200	2.000	0.0130	42.06	59.07	0.71	14.84	2.00	1.00	31.00	SURCHARGED
53	44458	Pipe	J42175	J42282	60.29	4688.48	4687.53	1.5800	1.500	0.0130	9.33	13.19	0.71	6.76	1.50	1.00	23.00	SURCHARGED
54	44459	Pipe	J42304	J42305	77.04	4686.38	4681.18	6.7500	1.250	0.0130	17.76	16.78	1.06	14.47	1.25	1.00	385.00	SURCHARGED
55	44460	Pipe	J42303	J42304	260.84	4705.22	4686.38	7.2200	1.250	0.0130	17.76	17.36	1.02	14.47	1.25	1.00	410.00	SURCHARGED
56	44461	Pipe	J42309	J42308	286.81	4616.43	4600.22	5.6500	1.500	0.0130	17.75	24.97	0.71	13.67	1.03	0.74	0.00	Calculated
57	44462	Pipe	J42310	J42309	390.20	4636.19	4616.43	5.0600	1.500	0.0130	17.76	23.64	0.75	14.57	0.98	0.65	0.00	Calculated
58	44463	Pipe	J42311	J42310	212.12	4652.14	4636.19	7.5200	1.500	0.0130	17.76	28.80	0.62	15.26	0.94	0.63	0.00	Calculated

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
59	44464	Pipe	J42312	J42311	173.46	4663.13	4652.14	6.3400	1.500	0.0130	17.76	26.44	0.67	15.40	0.92	0.62	0.00	Calculated
60	44465	Pipe	J42305	J42312	220.69	4681.18	4663.13	8.1800	1.500	0.0130	17.76	30.04	0.59	15.99	0.90	0.60	0.00	Calculated
61	44471	Pipe	J42266	J42265	101.03	4620.24	4616.61	3.5900	2.000	0.0130	42.45	42.88	0.99	14.74	2.00	1.00	31.00	SURCHARGED
62	44472	Pipe	J42267	J42266	78.65	4622.52	4620.24	2.9000	2.000	0.0130	42.43	38.52	1.10	13.51	2.00	1.00	32.00	SURCHARGED
63	44473	Pipe	J42268	J42267	286.17	4630.23	4622.52	2.6900	2.000	0.0130	42.40	37.13	1.14	13.50	2.00	1.00	34.00	SURCHARGED
64	44474	Pipe	J42269	J42268	113.63	4633.51	4630.23	2.8900	2.000	0.0130	42.36	38.44	1.10	13.48	2.00	1.00	34.00	SURCHARGED
65	44475	Pipe	J42270	J42269	157.43	4638.41	4633.51	3.1100	2.000	0.0130	42.36	39.91	1.06	13.48	2.00	1.00	35.00	SURCHARGED
66	44476	Pipe	J42271	J42270	146.39	4646.69	4638.41	5.6600	2.000	0.0130	44.13	53.80	0.82	14.28	2.00	1.00	33.00	SURCHARGED
67	44486	Pipe	J42333	J42334	261.69	4610.34	4602.31	3.0700	3.000	0.0130	44.87	116.84	0.38	12.15	1.55	0.52	0.00	Calculated
68	44487	Pipe	J42334	J42335	49.00	4602.31	4601.32	2.0200	3.000	0.0130	44.87	94.81	0.47	12.16	1.55	0.52	0.00	Calculated
69	44488	Pipe	J42336	J44488-1	76.23	4595.34	4592.40	3.8600	3.000	0.0130	44.87	130.99	0.34	12.03	1.57	0.52	0.00	Calculated
70	44489	Pipe	J42335	J42336	160.46	4601.32	4595.34	3.7300	3.000	0.0130	44.87	128.76	0.35	13.93	1.40	0.47	0.00	Calculated
71	44490	Pipe	JUL041.02-1	J42337	157.17	4627.15	4619.90	4.6100	3.000	0.0130	44.87	143.25	0.31	16.32	1.24	0.41	0.00	Calculated
72	44491	Pipe	J42337	J42333	200.01	4619.90	4610.34	4.7800	3.000	0.0130	44.87	145.82	0.31	15.74	1.27	0.42	0.00	Calculated
73	44500	Pipe	J42273	J42271	194.14	4657.67	4646.69	5.6600	2.000	0.0130	44.13	53.80	0.82	16.99	2.00	1.00	31.00	SURCHARGED
74	44501	Pipe	J42274	J42273	167.33	4666.87	4657.67	5.5000	2.000	0.0130	45.71	53.05	0.86	17.11	2.00	1.00	30.00	SURCHARGED
75	44502	Pipe	J42275	J42274	48.57	4670.16	4666.87	6.7700	2.000	0.0130	45.33	58.88	0.77	16.06	2.00	1.00	28.00	SURCHARGED
76	44503	Pipe	J42277	J42275	52.50	4672.54	4670.16	4.5300	2.000	0.0130	45.46	48.17	0.94	15.08	2.00	1.00	28.00	SURCHARGED
77	44504	Pipe	J42278	J42277	116.40	4677.64	4672.54	4.3800	2.000	0.0130	45.39	47.35	0.96	14.45	2.00	1.00	29.00	SURCHARGED
78	44505	Pipe	J42279	J42278	125.33	4682.15	4677.64	3.6000	2.000	0.0130	45.50	42.91	1.06	14.64	2.00	1.00	29.00	SURCHARGED
79	44506	Pipe	J42280	J42279	83.40	4683.00	4682.15	1.0200	2.000	0.0130	9.33	22.84	0.41	2.97	2.00	1.00	29.00	SURCHARGED
80	44507	Pipe	J42282	J42280	320.83	4687.53	4683.00	1.4100	2.000	0.0130	9.33	26.88	0.35	3.20	2.00	1.00	24.00	SURCHARGED
81	44548	Pipe	J44279-1	J42284	3.93	4589.20	4589.18	0.5100	1.250	0.0130	4.14	4.61	0.90	3.97	1.25	1.00	74.00	SURCHARGED
82	44549	Pipe	J42284	J42285	29.92	4589.18	4588.82	1.2000	1.250	0.0130	4.13	7.09	0.58	4.17	1.25	1.00	74.00	SURCHARGED
83	44551	Pipe	J42287	J42286	339.89	4587.63	4586.66	0.2900	1.250	0.0130	4.11	3.45	1.19	3.46	1.16	0.93	0.00	> CAPACITY
84	44563	Pipe	J42285	J44563-1	4.04	4588.82	4588.62	4.9500	1.250	0.0130	4.26	14.37	0.30	3.78	1.25	1.00	158.00	SURCHARGED
85	44564	Pipe	J44563-1	J42287	259.33	4588.62	4587.63	0.3800	1.250	0.0130	4.11	3.99	1.03	3.35	1.25	1.00	188.00	SURCHARGED
86	44576	Pipe	J42458	J42459	397.01	4585.91	4584.43	0.3700	1.250	0.0130	4.11	3.94	1.04	3.85	1.02	0.81	0.00	> CAPACITY
87	44577	Pipe	J42286	J42458	161.65	4586.66	4585.91	0.4600	1.250	0.0130	4.11	4.40	0.93	3.58	1.12	0.90	0.00	Calculated
88	44578	Pipe	J42459	J42460	295.67	4584.43	4582.66	0.6000	1.250	0.0130	4.11	5.00	0.82	4.03	0.97	0.77	0.00	Calculated
89	44579	Pipe	J42460	J42462	294.77	4582.66	4581.42	0.4200	1.250	0.0130	4.11	4.19	0.98	4.12	0.95	0.76	0.00	Calculated
90	44591	Pipe	J42394	J42393	33.11	4586.59	4585.90	2.0800	4.500	0.0130	150.79	283.88	0.53	13.17	3.04	0.68	0.00	Calculated
91	44592	Pipe	JUL070.04-1	J42394	29.30	4590.98	4586.59	14.9800	3.500	0.0130	135.77	389.44	0.35	15.92	2.90	0.83	0.00	Calculated
92	44596	Pipe	J42348	J42349	139.92	4677.52	4670.58	4.9600	2.500	0.0130	45.59	91.35	0.50	14.57	1.52	0.61	0.00	Calculated
93	44597	Pipe	J42349	J42350	137.24	4670.58	4666.48	2.9900	2.500	0.0130	45.59	70.90	0.64	15.56	1.44	0.58	0.00	Calculated
94	44598	Pipe	J42350	J44598-1	97.53	4666.48	4648.85	18.0800	2.500	0.0130	45.59	114.73	0.40	14.57	1.52	0.61	0.00	Calculated
95	44599	Pipe	J44599-0	JUL070.04-0	99.31	4647.46	4647.09	0.3700	2.500	0.0130	17.65	25.04	0.71	8.15	1.25	0.50	0.00	Calculated
96	44600	Pipe	J44598-1	SN-UL060B	215.22	4648.85	4654.40	-2.5800	2.500	0.0130	45.57	58.98	0.77	13.05	2.07	0.84	0.00	Calculated
97	44601	Pipe	J42443	JUL080.08-1	37.32	4713.69	4712.70	2.6500	2.500	0.0130	62.95	66.81	0.94	13.69	2.22	0.89	0.00	Calculated
98	44602	Pipe	JUL080.10-1	J42443	45.20	4718.12	4713.69	9.8000	2.500	0.0130	62.95	128.41	0.49	13.86	2.18	0.87	0.00	Calculated
99	44603	Pipe	JUL080.08-0	JUL080.06-1	20.31	4695.94	4695.33	3.0000	2.500	0.0150	62.92	75.66	0.83	21.55	1.44	0.58	0.00	Calculated
100	44609	Pipe	J42370	J42371	80.61	4749.05	4745.20	4.7800	2.500	0.0130	0.00	89.64	0.00	0.00	0.00	0.00	0.00	Calculated
101	44610	Pipe	J42440	J42180	60.80	4744.06	4743.73	0.5400	2.500	0.0130	0.00	30.22	0.00	0.00	0.00	0.00	0.00	Calculated
102	44611	Pipe	J42371	J42440	72.46	4745.20	4744.06	1.5700	2.500	0.0130	0.00	51.45	0.00	0.00	0.00	0.00	0.00	Calculated
103	44612	Pipe	J44612-0	JUL080.04-1	101.80	4634.84	4634.16	0.6700	2.500	0.0150	62.28	29.05	2.14	12.69	2.50	1.00	30.00	SURCHARGED
104	44681	Pipe	J44681.0	J42402	105.85	4591.92	4585.83	5.7500	2.500	0.0130	18.57	98.38	0.19	5.53	1.62	0.65	0.00	Calculated
105	44754	Pipe	J42540	J42538	116.87	4597.65	4595.69	1.6800	4.000	0.0130	61.45	186.02	0.33	12.94	2.03	0.51	0.00	Calculated
106	44803	Pipe	J42531	J42530	133.82	4693.08	4692.15	0.6900	4.000	0.0130	50.26	119.75	0.42	11.08	1.56	0.39	0.00	Calculated
107	44819	Pipe	J42532	J42531	163.01	4693.66	4693.08	0.3600	4.000	0.0130	50.26	85.68	0.59	7.62	2.08	0.52	0.00	Calculated
108	44868	Pipe	J42885	J42118	219.08	4616.20	4610.41	2.6400	2.000	0.0130	25.00	36.78	0.68	12.11	1.25	0.62	0.00	Calculated
109	44869	Pipe	JUL132.02-1	J42746	73.42	4760.58	4758.90	2.2900	2.000	0.0130	0.00	34.73	0.00	0.00	0.00	0.00	0.00	Calculated
110	44870	Pipe	J42746	J42745	58.80	4758.90	4755.35	6.0400	2.000	0.0130	0.00	55.59	0.00	0.00	0.00	0.00	0.00	Calculated
111	44871	Pipe	J42747	J42748	51.61	4704.88	4703.71	2.2700	2.000	0.0130	0.00	34.06	0.00	0.00	0.00	0.00	0.00	Calculated
112	44891	Pipe	J42722	JUL120.06-0	302.46	4586.25	4574.18	3.9900	4.500	0.0130	153.14	392.84	0.39	23.27	1.95	0.43	0.00	Calculated
113	44892	Pipe	J42538	J42722	208.08	4595.69	4586.25	4.5400	4.000	0.0130	139.06	305.95	0.45	20.09	2.16	0.54	0.00	Calculated
114	44893	Pipe	J42402	J42722	309.33	4585.83	4586.25	-0.1400	2.500	0.0130	18.57	15.11	1.23	4.46	2.34	0.94	0.00	> CAPACITY
115	441024	Pipe	J441024-0	J441024-1	45.76	4572.78	4572.60	0.3900	4.000	0.0130	80.04	90.09	0.89	7.91	3.06	0.77	0.00	Calculated
116	441025	Pipe	J441024-1	JUL080.02-0	113.83	4572.60	4572.00	0.5300	4.000	0.0130	87.56	104.29	0.84	15.16	1.88	0.47	0.00	Calculated

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
117	441032	Pipe	J42264	SN-UL100A	310.46	4608.40	4599.80	2.7700	2.000	0.0130	42.06	37.65	1.12	13.39	2.00	1.00	37.00	SURCHARGED
118	441350	Pipe	J42461	J441024-1	287.92	4579.30	4576.75	0.8900	1.500	0.0130	7.53	9.89	0.76	6.01	1.00	0.67	0.00	Calculated
119	441371	Pipe	J42462	J42461	52.39	4581.42	4579.30	4.0500	1.500	0.0130	7.54	21.13	0.36	7.23	0.86	0.57	0.00	Calculated
120	441436	Pipe	J42494	J42540	331.86	4599.72	4597.65	0.6200	2.500	0.0130	61.34	32.39	1.89	13.43	2.21	0.88	0.00	> CAPACITY
121	441437	Pipe	J42495	J42494	61.65	4603.33	4599.72	5.8600	2.500	0.0130	65.28	99.26	0.66	13.30	2.50	1.00	216.00	SURCHARGED
122	441438	Pipe	J42496	J42495	116.23	4612.58	4603.33	7.9600	2.500	0.0130	65.28	115.71	0.56	16.03	2.50	1.00	7.00	SURCHARGED
123	441439	Pipe	J42497	J42496	257.91	4632.36	4612.58	7.6700	2.500	0.0130	65.27	113.59	0.57	20.60	1.93	0.77	0.00	Calculated
124	441440	Pipe	J42498	J42497	109.73	4640.79	4632.36	7.6800	2.500	0.0130	65.30	113.69	0.57	21.64	1.47	0.59	0.00	Calculated
125	441441	Pipe	J42499	J42498	122.16	4650.81	4640.79	8.2000	2.500	0.0130	65.28	117.47	0.56	20.38	1.54	0.62	0.00	Calculated
126	441443	Pipe	J42500	J42499	33.62	4652.77	4650.81	5.8300	2.500	0.0130	65.26	99.04	0.66	17.03	1.80	0.73	0.00	Calculated
127	441444	Pipe	J42516	J42500	164.63	4653.02	4652.77	0.1500	4.000	0.0130	65.33	55.98	1.17	8.01	2.45	0.62	0.00	> CAPACITY
128	441445	Pipe	J42517	J42516	91.67	4655.67	4653.02	2.8900	4.000	0.0130	65.60	244.23	0.27	8.57	2.32	0.59	0.00	Calculated
129	441446	Pipe	J42518	J42517	74.23	4656.94	4655.67	1.7100	4.000	0.0130	65.47	187.89	0.35	10.74	1.93	0.49	0.00	Calculated
130	441447	Pipe	J42519	J42518	46.59	4658.11	4656.94	2.5100	4.000	0.0130	65.48	227.63	0.29	10.20	2.01	0.51	0.00	Calculated
131	441448	Pipe	J42520	J42519	297.76	4669.61	4658.11	3.8600	4.000	0.0130	65.85	282.29	0.23	13.22	1.66	0.42	0.00	Calculated
132	441449	Pipe	J42521	J42520	190.80	4670.25	4669.61	0.3400	4.000	0.0130	68.19	83.19	0.82	11.52	1.90	0.48	0.00	Calculated
133	441450	Pipe	J42522	J42521	68.15	4670.60	4670.25	0.5100	4.000	0.0130	65.66	102.94	0.64	7.44	2.63	0.67	0.00	Calculated
134	441451	Pipe	J42523	J42522	279.34	4671.79	4670.60	0.4300	4.000	0.0130	65.04	93.75	0.69	6.93	2.78	0.70	0.00	Calculated
135	441453	Pipe	J42526	J42525	310.37	4673.18	4672.21	0.3100	4.000	0.0130	50.26	80.30	0.63	5.75	2.75	0.69	0.00	Calculated
136	441454	Pipe	J42525	J42523	168.96	4672.21	4671.79	0.2500	4.000	0.0130	65.03	71.62	0.91	6.45	2.96	0.75	0.00	Calculated
137	441455	Pipe	J42528	J42527	87.74	4678.70	4674.07	5.2800	3.000	0.0130	50.26	153.22	0.33	11.11	1.83	0.61	0.00	Calculated
138	441456	Pipe	J42527	J42526	8.34	4674.07	4673.18	10.6700	3.000	0.0130	50.26	217.89	0.23	8.19	2.43	0.81	0.00	Calculated
139	441457	Pipe	J42529	J42528	156.08	4680.22	4678.70	0.9700	4.000	0.0130	50.26	141.75	0.35	10.73	1.60	0.40	0.00	Calculated
140	441458	Pipe	J42530	J42529	407.26	4692.15	4680.22	2.9300	4.000	0.0130	50.26	245.85	0.20	11.52	1.52	0.38	0.00	Calculated
141	441557	Pipe	J441557-0	J42532	17.99	4693.78	4693.66	0.6700	4.000	0.0130	50.26	117.32	0.43	6.37	2.41	0.60	0.00	Calculated
142	441565	Pipe	J441560-0	SN--UL121	175.84	4696.87	4702.20	-3.0300	4.000	0.0130	187.66	250.09	0.75	50.00	4.00	1.00	240.00	SURCHARGED
143	441566	Pipe	J441565-1	J441557-0	177.41	4693.98	4693.78	0.1100	4.000	0.0130	50.26	48.23	1.04	5.42	2.77	0.69	0.00	> CAPACITY
144	441570	Pipe	Jun-221	J42788	215.43	4597.20	4596.35	0.3900	2.500	0.0130	14.66	25.76	0.57	2.99	2.50	1.00	347.00	SURCHARGED
145	441571	Pipe	J42788	J42813	97.62	4596.35	4595.72	0.6500	2.500	0.0130	14.64	32.95	0.44	2.98	2.50	1.00	354.00	SURCHARGED
146	441585	Pipe	J42809	J42808	104.07	4594.91	4594.84	0.0700	4.000	0.0130	35.42	37.25	0.95	2.82	4.00	1.00	353.00	SURCHARGED
147	441586	Pipe	J42808	JUL130.08-1	194.26	4594.84	4594.64	0.1000	4.000	0.0130	35.45	46.09	0.77	2.82	4.00	1.00	354.00	SURCHARGED
148	441587	Pipe	J42810	J42809	321.57	4595.00	4594.91	0.0300	4.000	0.0130	35.39	24.03	1.47	2.86	4.00	1.00	351.00	SURCHARGED
149	441588	Pipe	J42811	J42810	269.26	4595.04	4595.00	0.0100	4.000	0.0130	26.05	17.51	1.49	2.07	4.00	1.00	350.00	SURCHARGED
150	441589	Pipe	J42812	J42811	58.61	4595.09	4595.04	0.0900	4.000	0.0130	27.08	41.96	0.65	2.15	4.00	1.00	350.00	SURCHARGED
151	441590	Pipe	J42813	J42814	380.68	4595.72	4595.42	0.0800	4.000	0.0130	27.00	40.32	0.67	2.16	4.00	1.00	347.00	SURCHARGED
152	441591	Pipe	J42814	J42815	168.72	4595.42	4595.33	0.0500	4.000	0.0130	25.10	33.18	0.76	2.00	4.00	1.00	348.00	SURCHARGED
153	441592	Pipe	J42815	J42816	117.51	4595.33	4595.25	0.0700	4.000	0.0130	27.14	37.48	0.72	2.16	4.00	1.00	349.00	SURCHARGED
154	441593	Pipe	J42816	J42812	134.40	4595.25	4595.09	0.1200	4.000	0.0130	27.83	49.56	0.56	2.21	4.00	1.00	349.00	SURCHARGED
155	441595	Pipe	J42821	J42885	108.22	4619.88	4616.20	3.4000	2.000	0.0130	25.00	41.72	0.60	11.77	1.28	0.64	0.00	Calculated
156	441606	Pipe	J42833	J42747	161.30	4716.01	4704.88	6.9000	2.000	0.0130	0.00	59.42	0.00	0.00	0.00	0.00	0.00	Calculated
157	441607	Pipe	J42834	J42833	156.83	4723.25	4716.01	4.6200	2.000	0.0130	0.00	48.61	0.00	0.00	0.00	0.00	0.00	Calculated
158	441608	Pipe	J42745	J42836	40.49	4755.35	4753.59	4.3500	2.000	0.0130	0.00	47.17	0.00	0.00	0.00	0.00	0.00	Calculated
159	441609	Pipe	J42836	J42835	277.79	4753.59	4742.72	3.9100	2.000	0.0130	0.00	44.75	0.00	0.00	0.00	0.00	0.00	Calculated
160	441633	Pipe	J42853	J42854	236.15	4666.81	4651.03	6.6800	2.000	0.0130	11.40	58.48	0.19	3.76	2.00	1.00	27.00	SURCHARGED
161	441634	Pipe	J42854	J42824	60.07	4651.03	4645.94	8.4700	2.000	0.0130	12.93	65.85	0.20	4.51	2.00	1.00	38.00	SURCHARGED
162	441638	Pipe	J42858	J42857	294.07	4696.01	4678.77	5.8600	2.000	0.0130	0.00	54.77	0.00	0.00	1.00	0.50	0.00	Calculated
163	441639	Pipe	J42748	J42859	132.28	4703.71	4700.55	2.3900	2.000	0.0130	0.00	34.97	0.00	0.00	0.00	0.00	0.00	Calculated
164	441640	Pipe	J42859	J42858	121.62	4700.55	4696.01	3.7300	2.000	0.0130	0.00	43.71	0.00	0.00	0.00	0.00	0.00	Calculated
165	441662	Pipe	J441660-0	J441657-0	278.01	4645.74	4638.61	2.5600	2.500	0.0130	91.32	65.69	1.39	18.60	2.50	1.00	38.00	SURCHARGED
166	441673	Pipe	J42835	J441673-1	384.26	4742.72	4723.40	5.0300	2.000	0.0130	0.00	50.73	0.00	0.00	0.00	0.00	0.00	Calculated
167	441674	Pipe	J441673-1	J42834	6.19	4723.40	4723.25	2.4200	2.000	0.0130	0.00	35.22	0.00	0.00	0.00	0.00	0.00	Calculated
168	441822	Pipe	J42364	J42358	138.70	4621.30	4617.19	2.9600	2.000	0.0130	15.00	38.94	0.39	12.38	0.82	0.41	0.00	Calculated
169	441823	Pipe	J441823.0	J42364	395.78	4636.38	4621.30	3.8100	2.000	0.0130	15.00	44.16	0.34	11.34	0.88	0.44	0.00	Calculated
170	441866	Pipe	J4224	J42797	406.19	4534.11	4520.54	3.3400	2.500	0.0130	51.67	74.97	0.69	15.90	1.56	0.63	0.00	Calculated
171	441867	Pipe	J4225	J4224	292.91	4537.26	4534.11	1.0800	2.500	0.0130	51.67	42.54	1.21	11.95	2.05	0.82	0.00	> CAPACITY
172	441868	Pipe	J4226	J4225	171.06	4539.66	4537.26	1.4000	2.500	0.0130	51.67	48.58	1.06	10.53	2.50	1.00	19.00	SURCHARGED
173	441869	Pipe	J4236	J4226	170.49	4546.45	4539.66	3.9800	2.500	0.0130	51.67	81.86	0.63	11.61	2.31	0.95	0.00	Calculated
174	441870	Pipe	J42363	J4237	89.88	4588.99	4580.68	9.2500	2.500	0.0130	52.53	124.72	0.42	20.42	1.30	0.52	0.00	Calculated

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
175	441871	Pipe	J4237	J4236	581.40	4580.68	4546.45	5.8900	2.500	0.0130	52.45	99.52	0.53	17.72	1.69	0.70	0.00	Calculated
176	441905	Pipe	J42357	J441823.0	776.29	4670.80	4636.38	4.4300	2.000	0.0130	15.00	47.64	0.31	13.02	0.79	0.39	0.00	Calculated
177	Link-111	Pipe	Jun-192	J42303	414.03	4740.00	4705.22	8.4000	1.250	0.0130	17.76	18.72	0.95	16.13	1.25	1.00	325.00	SURCHARGED
178	Link-140	Pipe	Jun-194	SN-UL110	1878.62	4704.00	4597.00	5.7000	2.000	0.0150	15.00	46.79	0.32	11.47	1.39	0.69	0.00	Calculated
179	Link-142	Pipe	J42855	J42853	248.17	4668.88	4666.81	0.8300	2.000	0.0130	9.88	20.66	0.48	3.43	2.00	1.00	23.00	SURCHARGED
180	Link-144	Pipe	J42856	J42855	44.57	4669.95	4668.88	2.4000	2.000	0.0130	9.09	35.05	0.26	4.91	2.00	1.00	21.00	SURCHARGED
181	Link-146	Pipe	J42857	J42856	163.82	4678.77	4669.95	5.3800	2.000	0.0150	5.62	45.49	0.12	2.74	2.00	1.00	8.00	SURCHARGED
182	Link-161	Pipe	J441657-0	SN-UL144	130.26	4638.41	4625.00	10.2900	2.500	0.0150	91.32	114.06	0.80	18.60	2.50	1.00	37.00	SURCHARGED
183	Link-165	Pipe	J42117	Jun-132	1842.72	4597.20	4533.00	3.4800	2.500	0.0130	25.00	76.56	0.33	9.97	1.74	0.70	0.00	Calculated
184	Link-167	Pipe	SN-UL124	Jun-208	148.53	4894.50	4892.60	1.2800	3.000	0.0130	9.35	75.44	0.12	6.71	0.75	0.25	0.00	Calculated
185	Link-168	Pipe	SN-UL124	Jun-208	154.42	4894.50	4885.12	6.0700	3.000	0.0130	25.28	164.39	0.15	5.36	1.90	0.63	0.00	Calculated
186	Link-169	Pipe	SN-UL124	Jun-208	141.64	4898.50	4885.93	8.8700	3.000	0.0130	0.00	198.70	0.00	0.00	1.42	0.50	0.00	Calculated
187	Link-170	Pipe	Jun-210	JUL130.08-1	1113.69	4635.00	4594.64	3.6200	4.000	0.0130	36.00	273.45	0.13	13.36	2.49	0.62	0.00	Calculated
188	Link-171	Pipe	Jun-211	Jun-210	267.29	4646.72	4635.00	4.3800	2.500	0.0130	36.00	85.89	0.42	16.44	1.14	0.46	0.00	Calculated
189	Link-172	Pipe	Jun-212	JUL130.08-1	1046.14	4636.03	4594.64	3.9600	2.000	0.0130	11.00	45.00	0.24	9.00	1.34	0.67	0.00	Calculated
190	Link-175	Pipe	Jun-216	SN-UL080B	90.76	4579.44	4578.58	0.9500	2.000	0.0150	18.08	19.09	0.95	7.68	2.00	1.00	140.00	SURCHARGED
191	Link-176	Pipe	Jun-217	Jun-220	703.02	4678.00	4642.00	5.1200	3.000	0.0130	55.45	150.93	0.37	14.12	1.72	0.58	0.00	Calculated
192	Link-177	Pipe	Jun-218	Jun-216	134.93	4580.35	4579.44	0.6700	2.000	0.0150	18.08	16.10	1.12	5.75	2.00	1.00	139.00	SURCHARGED
193	Link-180	Pipe	Jun-220	Stor-48	1142.62	4642.00	4587.00	4.8100	2.500	0.0130	78.88	89.99	0.88	24.41	1.73	0.69	0.00	Calculated
194	Link-78	Pipe	Jun-131	Jun-132	1983.31	4559.02	4533.00	1.3100	2.500	0.0130	35.46	46.98	0.75	8.19	2.06	0.82	0.00	Calculated
195	Link-79	Pipe	Jun-132	J42224	22.34	4533.00	4532.48	2.3300	2.000	0.0130	60.37	34.51	1.75	19.22	2.00	1.00	108.00	SURCHARGED
196	Link-89	Pipe	J4429-0	J42821	64.52	4621.41	4619.88	2.3700	2.000	0.0130	25.00	34.84	0.72	10.80	1.38	0.69	0.00	Calculated
197	UL130.08	Pipe	JUL130.08-1	JUL130.08-0	3982.32	4594.64	4592.42	0.0600	4.000	0.0130	63.87	33.92	1.88	6.56	2.97	0.74	0.00	> CAPACITY
198	0014	Channel	J44269-1	SN-UL100B	230.07	4721.40	4723.40	-0.8700	10.000	0.0320	0.00	4038.48	0.00	0.00	0.00	0.00	0.00	
199	0163	Channel	JUL130.06-1	JUL130.04-0	345.73	4582.55	4581.26	0.3700	10.000	0.0320	90.52	2645.81	0.03	4.05	1.68	0.17	0.00	
200	0164	Channel	JUL130.04-1	JUL130.02-0	548.67	4567.91	4566.45	0.2700	10.000	0.0320	86.92	1442.42	0.06	4.29	1.73	0.17	0.00	
201	0174	Channel	JUL080.04-0	SN-UL080B	66.45	4595.90	4578.58	26.0600	10.000	0.0320	62.84	22113.60	0.00	6.75	1.94	0.19	0.00	
202	0175	Channel	JUL121.02-0	J441560-0	79.84	4698.77	4696.87	2.3800	15.000	0.0320	20447.53	16881.80	1.21	50.00	13.07	0.93	0.00	
203	44325	Channel	JUL130.02-1	J44325-1	79.93	4505.04	4502.46	3.2300	10.000	0.0320	86.13	7781.94	0.01	7.10	1.01	0.10	0.00	
204	44617	Channel	JUL080.06-0	J44612-0	26.82	4635.30	4634.84	1.7200	6.000	0.0320	86.53	1879.97	0.05	2.16	5.87	0.98	0.00	
205	Link-147	Channel	JUL100.04-0	JUL080.12-1	1719.35	5012.74	4878.08	7.8300	10.000	0.0320	26.56	12121.89	0.00	5.77	0.47	0.05	0.00	
206	Link-153	Channel	Jun-195	Jun-204	400.02	5000.00	5010.00	-2.5000	10.000	0.0320	38.50	6848.45	0.01	4.66	0.77	0.08	0.00	
207	Link-157	Channel	Jun-195	Jun-205	2694.56	5000.00	4825.00	6.4900	10.000	0.0320	104.85	11038.45	0.01	9.83	1.12	0.11	0.00	
208	Link-162	Channel	Jun-206	Jun-211	1988.02	4795.00	4646.72	7.4600	10.000	0.0320	36.00	11829.43	0.00	3.56	0.89	0.09	0.00	
209	Link-166	Channel	Jun-208	JUL121.02-0	2490.27	4888.00	4698.77	7.6000	10.000	0.0320	99.09	11940.01	0.01	15.51	5.11	0.51	0.00	
210	Link-179	Channel	Jun-219	JUL080.12-0	937.32	4849.00	4776.51	7.7300	6.000	0.0320	60.20	3992.06	0.02	2.37	1.88	0.31	0.00	
211	Link-181	Channel	Jun-214	Jun-205	2506.49	4825.00	4820.00	0.2000	10.000	0.0320	16.72	1934.57	0.01	0.33	4.49	0.45	0.00	
212	UL010.02	Channel	JUL010.04-1	JUL010.02-1	602.83	4495.70	4491.00	0.7800	10.000	0.0320	377.63	3824.59	0.10	6.83	3.32	0.33	0.00	
213	UL010.04	Channel	JUL010.04-0	JUL010.04-1	2983.35	4614.13	4495.70	3.9700	10.000	0.0320	388.95	8630.02	0.05	10.36	2.75	0.28	0.00	
214	UL010.06	Channel	JUL010.08-0	JUL010.04-0	1243.78	4675.67	4614.13	4.9500	10.000	0.0320	394.84	9634.74	0.04	13.31	2.10	0.21	0.00	
215	UL010.08	Channel	JUL010.10-1	JUL010.08-0	2580.17	4812.10	4675.67	5.2900	10.000	0.0320	396.41	9960.10	0.04	13.87	2.04	0.20	0.00	
216	UL010.10	Channel	JUL010.10-0	JUL010.10-1	13317.42	5849.45	4812.10	7.7900	10.000	0.0320	132.65	12088.87	0.01	9.68	1.15	0.12	0.00	
217	UL020.02	Channel	JUL020.02-0	JUL020.02-1	5989.44	4865.89	4490.00	6.2800	10.000	0.0320	241.22	10851.01	0.02	12.72	1.47	0.15	0.00	
218	UL020.06	Channel	JUL020.06-0	JUL020.02-0	3258.08	5072.86	4865.89	6.3500	10.000	0.0320	147.91	10917.06	0.01	9.16	1.29	0.13	0.00	
219	UL020.10	Channel	JUL020.10-0	JUL020.06-0	1432.67	5162.24	5072.86	6.2400	10.000	0.0320	49.00	10818.82	0.00	9.20	0.84	0.08	0.00	
220	UL020.12	Channel	JUL020.12-0	JUL020.10-0	2121.66	5346.59	5162.24	8.6900	10.000	0.0320	0.00	12767.82	0.00	0.00	0.31	0.03	0.00	
221	UL024.02	Channel	UL024.02-0	JUL020.06-0	13152.72	7100.00	5072.86	15.4100	10.000	0.0320	106.07	17004.63	0.01	10.23	0.90	0.09	0.00	
222	UL030.02	Channel	JUL030.02-0	JUL030.02-1	1830.00	4580.07	4501.37	4.3000	10.000	0.0320	197.01	8982.45	0.02	10.47	1.46	0.15	0.00	
223	UL030.04	Channel	JUL030.04-0	JUL030.02-0	140.00	4587.21	4580.07	5.1000	10.000	0.0320	197.05	9781.78	0.02	10.55	1.45	0.14	0.00	
224	UL030.06	Channel	JUL030.08-1	JUL030.04-0	758.01	4618.14	4587.21	4.0800	10.000	0.0320	197.05	8749.55	0.02	10.25	1.48	0.15	0.00	
225	UL030.08	Channel	JUL030.12-1	JUL030.08-1	170.70	4623.65	4618.14	3.2300	10.000	0.0320	197.07	7782.01	0.03	9.29	1.61	0.16	0.00	
226	UL030.12	Channel	JUL030.14-1	JUL030.12-1	2350.79	4769.44	4623.65	6.2000	10.000	0.0320	118.06	10786.73	0.01	7.57	1.29	0.13	0.00	
227	UL030.14	Channel	JUL030.14-0	JUL030.14-1	4235.97	5067.12	4769.44	7.0300	10.000	0.0320	120.59	11482.37	0.01	10.62	0.96	0.10	0.00	
228	UL030.16	Channel	JUL030.16-0	JUL030.14-0	1610.07	5222.41	5067.12	9.6400	10.000	0.0320	49.20	13451.86	0.00	6.00	0.73	0.07	0.00	
229	UL031.02	Channel	JUL031.06-1	JUL030.12-1	4234.97	4887.75	4623.65	6.2400	10.000	0.0320	103.43	10816.63	0.01	7.23	1.26	0.13	0.00	
230	UL031.06	Channel	JUL031.10-1	JUL031.06-1	5099.63	5457.22	4887.75	11.1700	10.000	0.0320	63.28	14474.35	0.00	7.49	0.74	0.07	0.00	
231	UL031.10	Channel	JUL031.10-0	JUL031.10-1	5746.18	6622.71	5457.22	20.2800	10.000	0.0320	38.81	19507.32	0.00	7.64	0.47	0.05	0.00	
232	UL033.01	Channel	JUL033.02-1	JUL030.14-0	2500.15	5352.23	5067.12	11.4000	10.000	0.0320	26.63	14627.03	0.00	3.64	0.65	0.06	0.00	

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
233	UL033.02	Channel	JUL033.02-0	JUL033.02-1	2601.27	5974.93	5352.23	23.9400	10.000	0.0320	27.61	21192.38	0.00	8.86	0.31	0.03	0.00	
234	UL034.02	Channel	JUL034.02-0	JUL030.16-0	2372.14	5708.23	5222.41	20.4800	10.000	0.0320	49.95	19602.01	0.00	9.96	0.46	0.05	0.00	
235	UL040.06	Channel	JUL040.06-0	JUL040.04-1	4948.50	5281.46	4611.85	13.5300	10.000	0.0320	107.41	14261.49	0.01	5.17	3.60	0.36	0.00	
236	UL041.02	Channel	JUL041.04-1	JUL041.02-1	1969.22	4741.62	4627.15	5.8100	10.000	0.0320	44.91	10443.16	0.00	4.63	0.92	0.09	0.00	
237	UL041.04	Channel	JUL041.04-0	JUL041.04-1	4898.39	5183.21	4741.62	9.0200	10.000	0.0320	0.00	13005.17	0.00	0.00	0.28	0.03	0.00	
238	UL045.02	Channel	JUL045.02-0	JUL040.06-0	6044.57	6540.33	5281.46	20.8300	10.000	0.0320	43.84	19767.00	0.00	6.71	0.59	0.06	0.00	
239	UL065.02	Channel	JUL065.02-0	JUL070.14-0	9092.99	6574.33	5261.14	14.4400	10.000	0.0320	29.16	16460.52	0.00	8.04	0.34	0.03	0.00	
240	UL066.02	Channel	JUL066.02-0	JUL070.12-0	5475.30	6216.13	5214.49	18.2900	10.000	0.0320	31.89	18526.14	0.00	6.12	0.48	0.05	0.00	
241	UL070.02	Channel	JUL070.02-0	JUL070.02-1	1259.30	4581.13	4500.32	6.4200	10.000	0.0320	150.78	10972.38	0.01	11.02	1.12	0.11	0.00	
242	UL070.04	Channel	JUL070.04-0	JUL070.04-1	925.09	4647.09	4590.98	6.0700	10.000	0.0320	135.90	10667.46	0.01	5.81	1.75	0.18	0.00	
243	UL070.06	Channel	JUL070.06-0	JUL070.04-0	254.18	4659.93	4647.09	5.0500	10.000	0.0320	119.42	9735.20	0.01	9.25	1.06	0.11	0.00	
244	UL070.08	Channel	JUL070.10-1	JUL070.06-0	1632.52	4779.12	4659.93	7.3000	10.000	0.0320	106.44	11703.71	0.01	9.19	0.97	0.10	0.00	
245	UL070.10	Channel	JUL070.10-0	JUL070.10-1	3787.32	5083.29	4779.12	8.0300	10.000	0.0320	89.17	12275.10	0.01	9.27	0.83	0.08	0.00	
246	UL070.12	Channel	JUL070.12-0	JUL070.10-0	1304.35	5214.49	5083.29	10.0600	10.000	0.0320	69.44	13737.35	0.01	9.38	0.69	0.07	0.00	
247	UL070.14	Channel	JUL070.14-0	JUL070.10-0	1606.64	5261.14	5083.29	11.0700	10.000	0.0320	28.02	14411.22	0.00	4.53	0.56	0.06	0.00	
248	UL080.02	Channel	JUL080.02-0	JUL080.02-1	1930.63	4572.00	4493.46	4.0700	10.000	0.0320	109.71	8736.33	0.01	8.53	1.06	0.11	0.00	
249	UL080.04	Channel	JUL080.04-1	JUL080.04-0	714.39	4634.00	4595.90	5.3300	6.000	0.0320	62.28	3315.10	0.02	9.21	0.60	0.10	0.00	
250	UL080.06	Channel	JUL080.06-1	JUL080.06-0	1080.62	4695.88	4635.30	5.6100	6.000	0.0320	62.90	3398.84	0.02	2.18	3.21	0.53	0.00	
251	UL080.08	Channel	JUL080.08-1	JUL080.08-0	222.77	4711.67	4696.80	6.6800	6.000	0.0320	62.94	3708.76	0.02	3.46	1.42	0.24	0.00	
252	UL080.10	Channel	JUL080.10-0	JUL080.10-1	762.19	4770.94	4717.35	7.0300	6.000	0.0320	59.46	3806.38	0.02	2.84	1.63	0.27	0.00	
253	UL080.12	Channel	JUL080.12-1	Jun-219	425.95	4878.08	4849.00	6.8300	10.000	0.0320	58.22	11317.51	0.01	8.23	0.63	0.06	0.00	
254	UL080.14	Channel	JUL080.14-0	JUL080.12-1	1665.80	5014.70	4878.08	8.2000	10.000	0.0320	38.84	12404.48	0.00	6.34	0.55	0.06	0.00	
255	UL080.16	Channel	JUL080.16-0	JUL080.14-0	2076.56	5227.63	5014.70	10.2500	10.000	0.0320	39.04	13870.09	0.00	7.86	0.46	0.05	0.00	
256	UL084.02	Channel	JUL084.02-0	JUL080.16-0	6970.28	6213.33	5227.63	14.1400	10.000	0.0320	36.97	16288.47	0.00	8.39	0.41	0.04	0.00	
257	UL100.06	Channel	JUL100.06-0	JUL100.04-0	2084.49	5193.10	5012.74	8.6500	10.000	0.0320	21.44	12740.99	0.00	5.72	0.35	0.04	0.00	
258	UL120.02	Channel	JUL120.02-0	JUL120.02-1	57.03	4505.93	4504.59	2.3500	10.000	0.0320	218.33	6639.47	0.03	8.29	1.90	0.19	0.00	
259	UL120.04	Channel	JUL120.04-0	JUL120.04-1	925.42	4541.49	4511.73	3.2200	10.000	0.0320	218.33	7767.48	0.03	9.75	1.68	0.17	0.00	
260	UL120.06	Channel	JUL120.06-0	JUL120.06-1	1129.14	4574.18	4541.09	2.9300	10.000	0.0320	220.91	7414.94	0.03	6.96	2.21	0.22	0.00	
261	UL121.04	Channel	JUL121.04-0	SN-UL124	3799.86	5110.19	4831.56	7.3300	10.000	0.0320	0.00	10355.45	0.00	0.00	1.15	0.11	0.00	
262	UL121.06	Channel	JUL121.07-1	SN-UL124	3124.82	5027.00	4831.56	6.2500	10.000	0.0320	62.15	8969.60	0.01	7.14	1.43	0.14	0.00	
263	UL121.07	Channel	JUL121.07-0	JUL121.07-1	942.14	5108.32	5027.00	8.6300	10.000	0.0320	0.00	12725.47	0.00	0.00	0.38	0.04	0.00	
264	UL126.02	Channel	JUL126.02-0	JUL121.07-1	13758.00	6720.00	5027.00	12.3100	10.000	0.0320	67.23	15194.41	0.00	10.37	0.66	0.07	0.00	
265	UL130.02	Channel	JUL130.02-0	JUL130.02-1	1842.72	4566.45	4505.04	3.3300	10.000	0.0320	86.45	7907.20	0.01	7.20	1.00	0.10	0.00	
266	UL130.04	Channel	JUL130.04-0	JUL130.04-1	1221.65	4581.26	4567.91	1.0900	10.000	0.0320	89.09	4527.94	0.02	3.44	1.92	0.19	0.00	
267	UL130.06	Channel	JUL130.06-0	JUL130.06-1	176.18	4590.00	4582.55	4.2300	10.000	0.0320	80.97	8907.03	0.01	4.35	1.45	0.14	0.00	
268	UL152.02	Channel	JUL152.02-0	JUL152.02-1	1271.91	4550.30	4549.32	0.0800	10.000	0.0320	40.00	1202.31	0.03	2.12	1.46	0.15	0.00	
269	O-Mav	Orifice	SN-UL110	J44681.0		4597.00	4591.92		1.000		8.62							
270	O-Pond	Orifice	SN-UL144	J4429-0		4625.00	4621.41		1.500		25.00							
271	Orifice-27	Orifice	SN--UL121	J42533		4702.20	4695.91		2.500		50.26							
272	Orifice-28	Orifice	Stor-41	JUL041.04-1		4745.00	4741.62		2.320		44.99							
273	O-Rock	Orifice	SN-UL063	JUL070.10-1		4788.10	4779.12		1.670		18.69							
274	O-Still	Orifice	SN-UL100B	J0014-1		4723.40	4721.70		0.420		0.00							
275	O-Summ	Orifice	SN-UL100A	J441032-1		4599.80	4592.84		0.670		4.11							
276	O-Swain	Orifice	SN-UL060B	J44599-0		4654.40	4647.46		1.670		17.42							
277	O-Waym	Orifice	SN-UL081	JUL080.10-1		4723.60	4717.35		0.670		4.05							
278	O-WildF	Orifice	SN-UL090	J42462		4592.80	4581.42		0.670		3.49							
279	O-WildL	Orifice	SN-UL060	J42394		4592.80	4586.59		1.500		16.34							
280	Link-178	Outlet	Stor-48	Jun-218		4587.00	4580.35				8.10							
281	Outlet-100	Outlet	SN-UL101	JUL100.02-1		5033.00	4850.00				2.00							
282	Outlet-106	Outlet	Stor-45	Jun-212		4636.03	4636.03				11.00							
283	Outlet-108	Outlet	Jun-205	Jun-206		4820.00	4795.00				36.00							
284	Outlet-111	Outlet	SN-UL080B	J441024-0		4578.58	4572.78				80.04							
285	Outlet-112	Outlet	Stor-48	Jun-218		4587.00	4580.35				9.97							
286	Outlet-113	Outlet	Stor-49	JUL040.04-1		4760.00	4745.00				51.69							
287	Outlet-114	Outlet	Stor-50	JUL152.04-1		4555.00	4551.14				40.00							
288	Outlet-115	Outlet	SN-UL134	Jun-205		4825.00	4820.00				28.00							
289	Outlet-91	Outlet	SN-UL115	Jun-194		5033.00	4704.00				15.00							
290	Outlet-92	Outlet	Stor-39·1	Jun-214		4830.00	4825.00				4.00							

Link Summary

SN	Element ID	Element Type	From (Inlet) Node	To (Outlet) Node	Length (ft)	Inlet Invert Elevation (ft)	Outlet Invert Elevation (ft)	Average Slope (%)	Diameter or Height (ft)	Manning's Roughness	Peak Flow (cfs)	Design Flow Capacity (cfs)	Peak Flow/ Design Flow Ratio	Peak Flow Velocity (ft/sec)	Peak Flow Depth (ft)	Peak Flow Depth/ Total Depth Ratio	Total Time Surcharged (min)	Reported Condition
291	Outlet-95	Outlet	Stor-39	J42525		4680.00	4672.21				42.96							
292	Outlet-96	Outlet	Stor-39	J42494		4680.00	4599.72				14.32							
293	Outlet-97	Outlet	Stor-39	J42538		4680.00	4595.69				77.71							
294	OUT-UL020	Outlet	SN-UL020	JUL020.02-0		4886.00	4865.89				94.00							
295	OUT-UL022	Outlet	SN-UL022	JUL020.10-0		5183.00	5162.24				48.00							
296	OUT-UL030	Outlet	SN-UL030	JUL031.06-1		4908.00	4887.75				41.00							
297	OUT-UL031	Outlet	SN-UL031	JUL031.10-1		5478.00	5457.22				25.00							
298	OUT-UL032	Outlet	SN-UL032	JUL030.14-0		5088.00	5067.12				47.00							
299	OUT-UL041	Outlet	SN-UL041	JUL041.04-1		4762.00	4741.62				0.00							
300	OUT-UL043	Outlet	SN-UL043	JUL041.04-0		5204.00	5183.21				0.00							
301	OUT-UL044	Outlet	SN-UL044	JUL040.06-0		5302.00	5281.46				64.00							
302	OUT-UL051	Outlet	SN-UL051	J42357		4691.00	4670.80				15.00							
303	OUT-UL064	Outlet	SN-UL064	JUL070.12-0		5235.00	5214.49				38.00							
304	OUT-UL070	Outlet	SN-UL070	JUL070.06-0		4680.00	4659.93				13.00							
305	OUT-UL082	Outlet	SN-UL082	JUL080.12-1		4899.00	4878.08				4.00							
306	OUT-UL083	Outlet	SN-UL083	JUL080.16-0		5248.00	5227.63				3.00							
307	OUT-UL102	Outlet	SN-UL102	JUL100.04-0		5033.00	5012.74				5.50							
308	OUT-UL121	Outlet	SN-UL121	JUL121.02-0		4718.00	4698.77				0.00							
309	OUT-UL124	Outlet	SN-UL124B	Jun-208		5047.00	4880.00				81.00							
310	OUT-UL130	Outlet	SN-UL130	JUL130.08-0		4612.00	4592.42				20.00							
311	OUT-UL140	Outlet	SN-UL140	Jun-131		4577.00	4559.02				35.47							
312	UL040.02	Outlet	JUL040.04-1	Jun-192		4745.00	4739.00				18.00							

APPENDIX C
COST ESTIMATE

Table C-1
Conceptual Cost Estimate - Pipes
Saratoga Springs Storm Drainage Capital Facility Plan

Project ID	Project Name	Pipe Length (ft)	Diameter (in)	Catch Basin / Inlet Box (EA)	Junction Box / Manhole (EA)	Outlet Works (EA)	% of Length in Existing Road	Asphalt Road Repair (yd^2)	Subtotal Cost	Contingency	Engineering, Legal, Admin.	Estimated Project Cost (includes Contingency, Engineering, Admin, and Legal Fees)
	Unit Cost	Varies by Diameter	n/a	$3,100	$4,400	$20,000	n/a	$46	n/a	10%	10%	n/a
PE1	Pioneer Crossing parallel	3613	30	9	12	1	80%	30	$ 575,352	$ 57,535	$ 57,535	$ 690,400
PE2A	East side service 1	1341	30	3	4	0	0%	0	$ 202,513	$ 20,251	$ 20,251	$ 243,000
PE2B	East side service 2	2627	48	6	8	1	0%	0	$ 691,236	$ 69,124	$ 69,124	$ 829,500
PE3	Saratoga Road 6	2192	30	5	7	1	100%	37	$ 355,185	$ 35,518	$ 35,518	$ 426,200
PE4A	Saratoga Road 1	499	24	1	1	0	100%	28	$ 63,179	$ 6,318	$ 6,318	$ 75,800
PE4B	Saratoga Road 2	2271	30	5	7	0	100%	37	$ 345,580	$ 34,558	$ 34,558	$ 414,700
PE4C	Saratoga Road 3	1592	30	3	5	1	0%	0	$ 259,826	$ 25,983	$ 25,983	$ 311,800
PE5A	Saratoga Road 4	891	24	2	2	0	100%	28	$ 113,430	$ 11,343	$ 11,343	$ 136,100
PE5B	Saratoga Road 5	263	24	0	0	1	0%	0	$ 48,661	$ 4,866	$ 4,866	$ 58,400
PE6	2300 West (Lehi) 3	1719	24	4	5	1	80%	22	$ 242,753	$ 24,275	$ 24,275	$ 291,300
PE7	2300 West (Lehi) 1	3054	36	7	10	1	80%	39	$ 573,133	$ 57,313	$ 57,313	$ 687,800
PN2a	Redwood Rd. Near Grandview Blvd	1361	24	3	4	0	60%	17	$ 175,983	$ 17,598	$ 17,598	$ 211,200
PN2b	Redwood Rd. Near Grandview Blvd	3688	24	9	12	0	100%	28	$ 483,926	$ 48,393	$ 48,393	$ 580,700
PN3a	Fairfield Road	2053	24	5	6	1	100%	28	$ 286,964	$ 28,696	$ 28,696	$ 344,400
PN3b	800 West (Fairfield to 400 N)	1036	30	2	3	0	100%	37	$ 186,787	$ 18,679	$ 18,679	$ 224,100
PN6d	Conveyance south of Market	1299	24	3	4	0	0%	0	$ 168,464	$ 16,846	$ 16,846	$ 202,200
PN6e	Pioneer Crossing to Market Street	2704	24	6	9	0	0%	0	$ 352,980	$ 35,298	$ 35,298	$ 423,600

Project ID	Project Name	Pipe Length (ft)	Diameter (in)	Catch Basin / Inlet Box (EA)	Junction Box / Manhole (EA)	Outlet Works (EA)	% of Length in Existing Road	Asphalt Road Repair (yd^2)	Subtotal Cost	Contingency	Engineering, Legal, Admin.	Estimated Project Cost (includes Contingency, Engineering, Admin, and Legal Fees)
	Unit Cost	**Varies by Diameter**	**n/a**	**$3,100**	**$4,400**	**$20,000**	**n/a**	**$46**	**n/a**	**10%**	**10%**	**n/a**
PN8a	1200 N 1	1371	42	3	4	0	100%	60	$ 299,684	$ 29,968	$ 29,968	$ 359,600
PN8b	1200 N 2	3883	42	9	12	1	0%	0	$ 865,705	$ 86,571	$ 86,571	$ 1,038,800
PN8c	Redwood Rd. (1200 N to Market)	1744	48	4	5	1	100%	72	$ 467,575	$ 46,757	$ 46,757	$ 561,100
PN10	Pioneer Crossing (DN3 to 1200 N)	1357	42	3	4	0	80%	48	$ 296,509	$ 29,651	$ 29,651	$ 355,800
PN11	1200 North 3	926	18	2	3	0	0%	0	$ 110,128	$ 11,013	$ 11,013	$ 132,200
PN12	Harvest Hills to Jordan River	4862	30	12	16	0	0%	0	$ 744,480	$ 74,448	$ 74,448	$ 893,400
PN16	1900 North/Redwood Rd	19	24	0	0	0	100%	28	$ 3,348	$ 335	$ 335	$ 4,000
PN18b	SR-73 2	354	36	0	1	0	0%	0	$ 60,755	$ 6,076	$ 6,076	$ 72,900
PN19	Extension of line near storage units	944	24	2	3	0	100%	28	$ 123,612	$ 12,361	$ 12,361	$ 148,300
PN21a	400 South 1	2092	36	5	6	0	100%	49	$ 376,807	$ 37,681	$ 37,681	$ 452,200
PN22	Clay Pit Outfall	892	30	2	2	0	100%	37	$ 133,563	$ 13,356	$ 13,356	$ 160,300
PN23	1400 N Line Extension	1448	15	3	4	0	100%	16	$ 162,320	$ 16,232	$ 16,232	$ 194,800
PS1	Harbor Parkway	470	15	1	1	1	100%	16	$ 71,950	$ 7,195	$ 7,195	$ 86,300
Totals									$ 8,842,386	$ 884,239	$ 884,239	$ 10,610,900

Table C-2
Conceptual Cost Estimate - Culverts
Saratoga Springs Storm Drainage Capital Facility Plan

Project ID	Project Name	Estimated 3'x6' Box Culvert Equivalents in Project	Subtotal Cost	Contingency	Engineering, Legal, Admin.	Estimated Project Cost (includes Contingency, Engineering, Admin, and Legal Fees)
	Unit Cost	**$65,600**	**n/a**	**10%**	**10%**	**n/a**
CN1	Mountain View Corridor 5	1	$ 65,600	$ 6,560	$ 6,560	$ 78,700
CN2	Foothill Blvd 6	1	$ 65,600	$ 6,560	$ 6,560	$ 78,700
CN3	Foothill Blvd & Tickville Wash	6	$ 393,600	$ 39,360	$ 39,360	$ 472,300
CN4	Mountain View Corridor 1	1	$ 65,600	$ 6,560	$ 6,560	$ 78,700
CN5	Mountain View Corridor 2	1	$ 65,600	$ 6,560	$ 6,560	$ 78,700
CN6	Saratoga Parkway 1	2	$ 131,200	$ 13,120	$ 13,120	$ 157,400
CN7	Saratoga Parkway 2	1	$ 65,600	$ 6,560	$ 6,560	$ 78,700
CN8	Mountain View Corridor 3	1	$ 65,600	$ 6,560	$ 6,560	$ 78,700
CS1	Redwood Road & Little Canyon	4	$ 262,400	$ 26,240	$ 26,240	$ 314,900
CS2	Redwood Road & Olaf Canyon	2	$ 131,200	$ 13,120	$ 13,120	$ 157,400
CS3	Redwood Road 1	2	$ 131,200	$ 13,120	$ 13,120	$ 157,400
CS4	Bonneville Dr. & Olaf Canyon	2	$ 131,200	$ 13,120	$ 13,120	$ 157,400
CS5	Bonneville Dr. & Limekiln Canyon	1	$ 65,600	$ 6,560	$ 6,560	$ 78,700
CS6	Foothill Blvd 1	1	$ 65,600	$ 6,560	$ 6,560	$ 78,700
CS7	Foothill Blvd 2	1	$ 65,600	$ 6,560	$ 6,560	$ 78,700
CS8	Foothill Blvd & Clark Canyon	1	$ 65,600	$ 6,560	$ 6,560	$ 78,700
CS9	Foothill Blvd 3	1	$ 65,600	$ 6,560	$ 6,560	$ 78,700
CS10	Foothill Blvd 4	1	$ 65,600	$ 6,560	$ 6,560	$ 78,700
CS11	Foothill Blvd & Israel Canyon	2	$ 131,200	$ 13,120	$ 13,120	$ 157,400
CS12	Planned Collector 2	1	$ 65,600	$ 6,560	$ 6,560	$ 78,700
CS13	Foothill Blvd & Harbor Parkway	1	$ 65,600	$ 6,560	$ 6,560	$ 78,700
CS14	Foothill Blvd 5	1	$ 65,600	$ 6,560	$ 6,560	$ 78,700
CS15	Planned Collector 1	1	$ 65,600	$ 6,560	$ 6,560	$ 78,700
CS16	Planned Collector 2	1	$ 65,600	$ 6,560	$ 6,560	$ 78,700
Total						$ 2,912,100

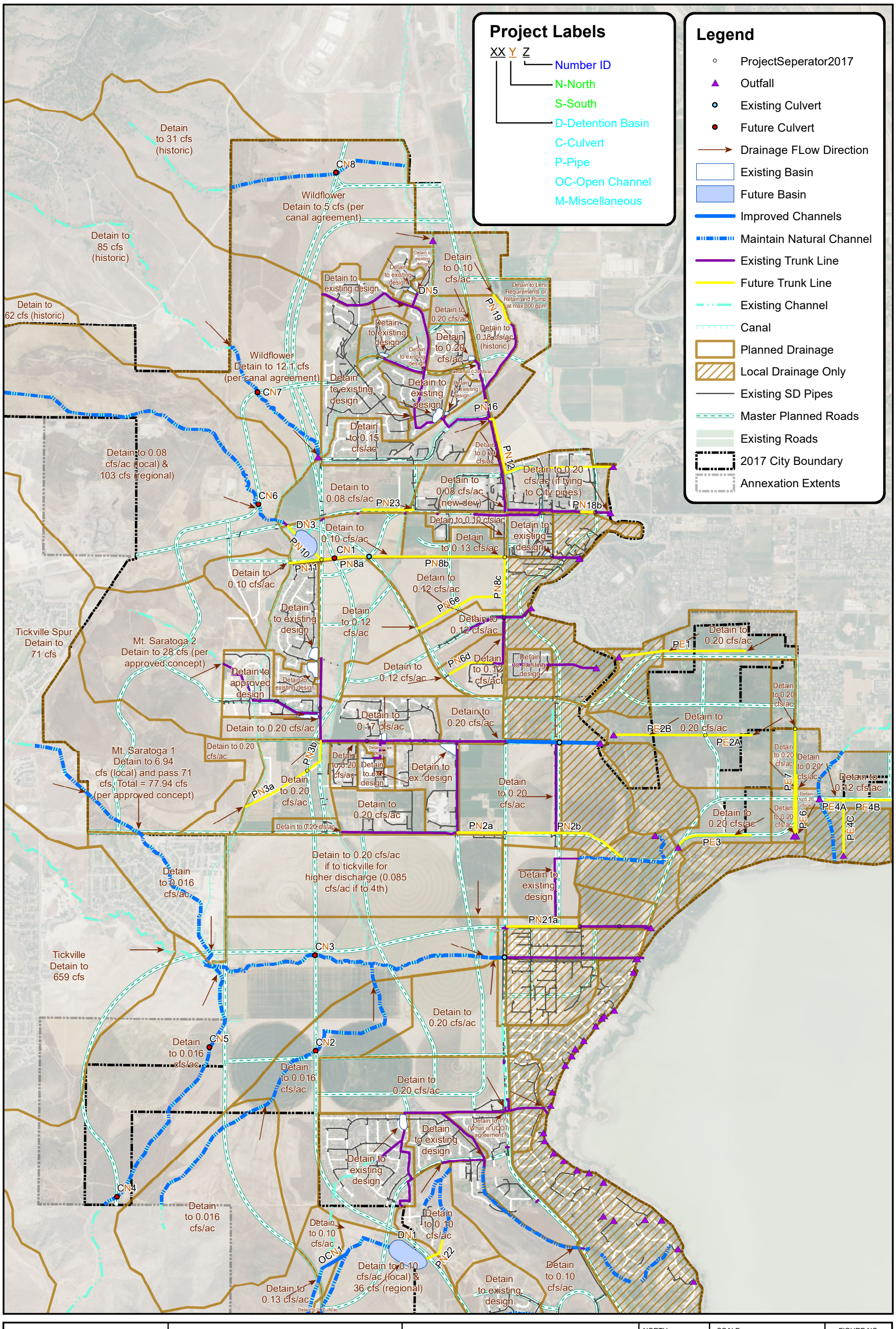
Table C-3
Conceptual Cost Estimate - Improved Channels
Saratoga Springs Storm Drainage Capital Facility Plan

Project ID	Project Name	Channel Length (ft)	Channel estimated bottom width (ft)	Channel Imporvements Excluding Armoring such as Excavation, Permitting, Surface Restoration, etc. ($/LF)	Channel Rip Rap Armoring ($/LF)	Subtotal Cost	Contingency	Engineering, Legal, Admin.	Estimated Project Cost (includes Contingency, Engineering, Admin, and Legal Fees)
	Unit Cost	**n/a**	**n/a**	***width specific***	***width specific***	**n/a**	**10%**	**10%**	**n/a**
OCN1	Clay Pit Reroute	786	4	$ 110	$ 80	$ 149,251	$ 14,925	$ 14,925	$ 179,100
OCS1	Village Parkway & Redwood Road	1986	4	$ 110	$ 80	$ 377,273	$ 37,727	$ 37,727	$ 452,700
OCS2	Clark Canyon	1259	4	$ 110	$ 80	$ 239,266	$ 23,927	$ 23,927	$ 287,100
OCS3	Limekiln Canyon	1895	5	$ 138	$ 100	$ 450,151	$ 45,015	$ 45,015	$ 540,200
OCS4	Fox Hollow Reroute	445	4	$ 110	$ -	$ 48,984	$ 4,898	$ 4,898	$ 58,800
OCS5	Harbor Parkway Reroute	1776	4	$ 110	$ -	$ 195,349	$ 19,535	$ 19,535	$ 234,400

Table C-4
Conceptual Cost Estimate - Detention Basins
Saratoga Springs Storm Drainage Capital Facility Plan

Project ID	Project Name	Volume (acre-ft)	Footprint (acre)	Footprint (ft^2)	Excavation and Hauling (yd^3)	Landscaping (yd^2)	Inlet Apron	Outlet Structure	Emergency Spillway	Land Acquisition (acre)	Subtotal Cost	Contingency	Engineering, Legal, Admin.	Estimated Project Cost (includes Contingency, Engineering, Admin, and Legal Fees)
	Unit Cost	**n/a**	**n/a**	**n/a**	**$15**	**$2**	**$13,100**	**$17,500**	**$5,500**	**$153,200**	**n/a**	**10%**	**10%**	**n/a**
DN1	Clay Pit Regional Detention	8	2	87,120	14,800	9,680	1	1	1	2.0	$ 583,860	$ 58,386	$ 58,386	$ 700,600
DN3	Mountain View Corridor 1 (New)	26	6	261,360	48,200	29,040	1	1	1	6.0	$ 1,736,380	$173,638	$173,638	$ 2,083,700
DS1	Harbor Parkway	9	2	87,120	16,700	9,680	1	1	1	2.0	$ 612,360	$ 61,236	$ 61,236	$ 734,800

APPENDIX D
SUPPLEMENTAL FIGURES



BOWEN COLLINS & ASSOCIATES
Celebrating 20 Years

SARATOGA SPRINGS
STORM DRAIN CAPITAL FACILITIES PLAN

PROPOSED STORM DRAIN PROJECTS W/ ALLOWABLE RELEASES

NORTH:

SCALE: 0 625 1,250 2,500 Feet

FIGURE NO. D-1A

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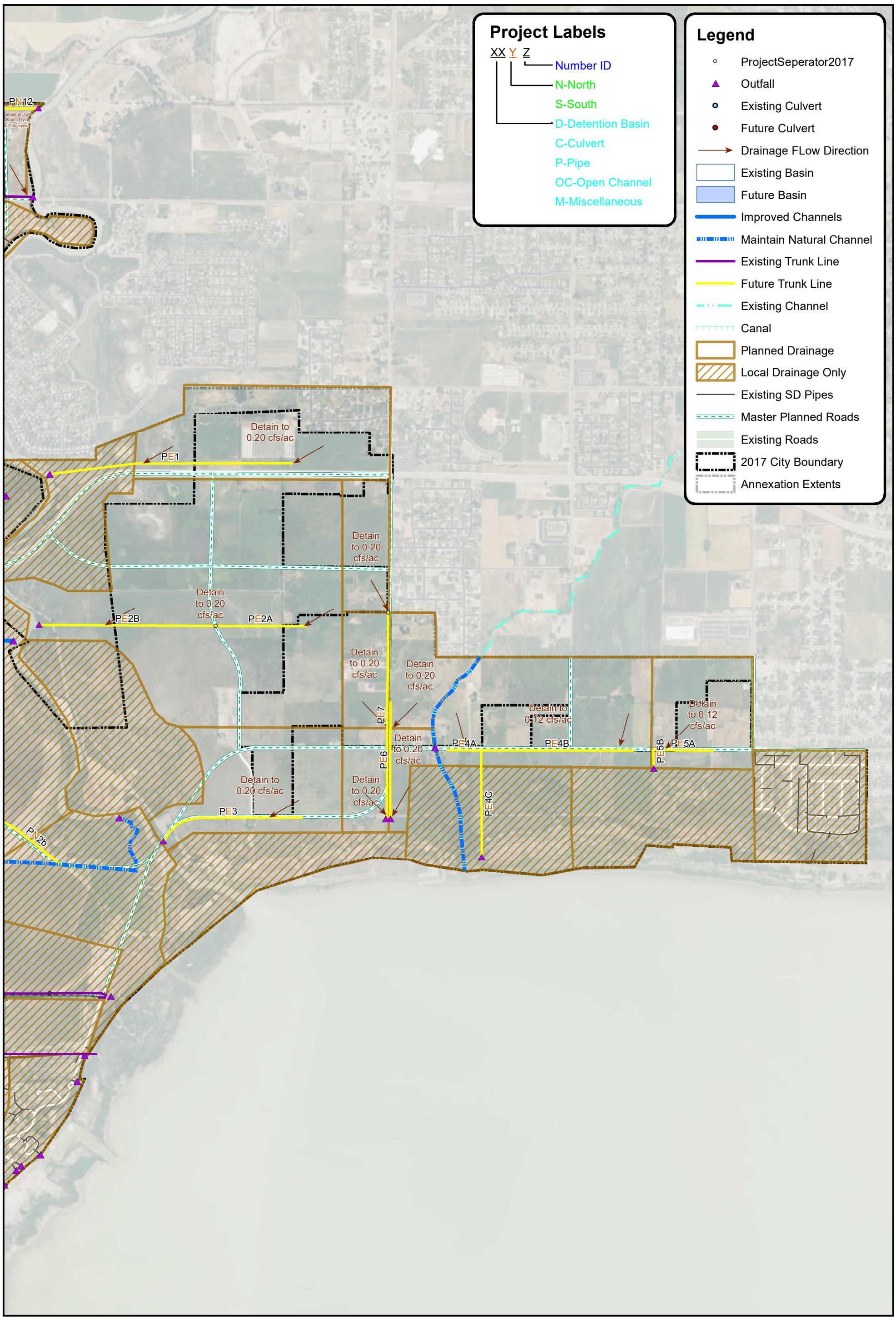

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Celebrating 20 Years

SARATOGA SPRINGS
STORM DRAIN CAPITAL FACILITIES PLAN

PROPOSED STORM DRAIN PROJECTS W/ ALLOWABLE RELEASES

NORTH:

SCALE: 0 330 660 1,320 Feet

FIGURE NO. D-1B

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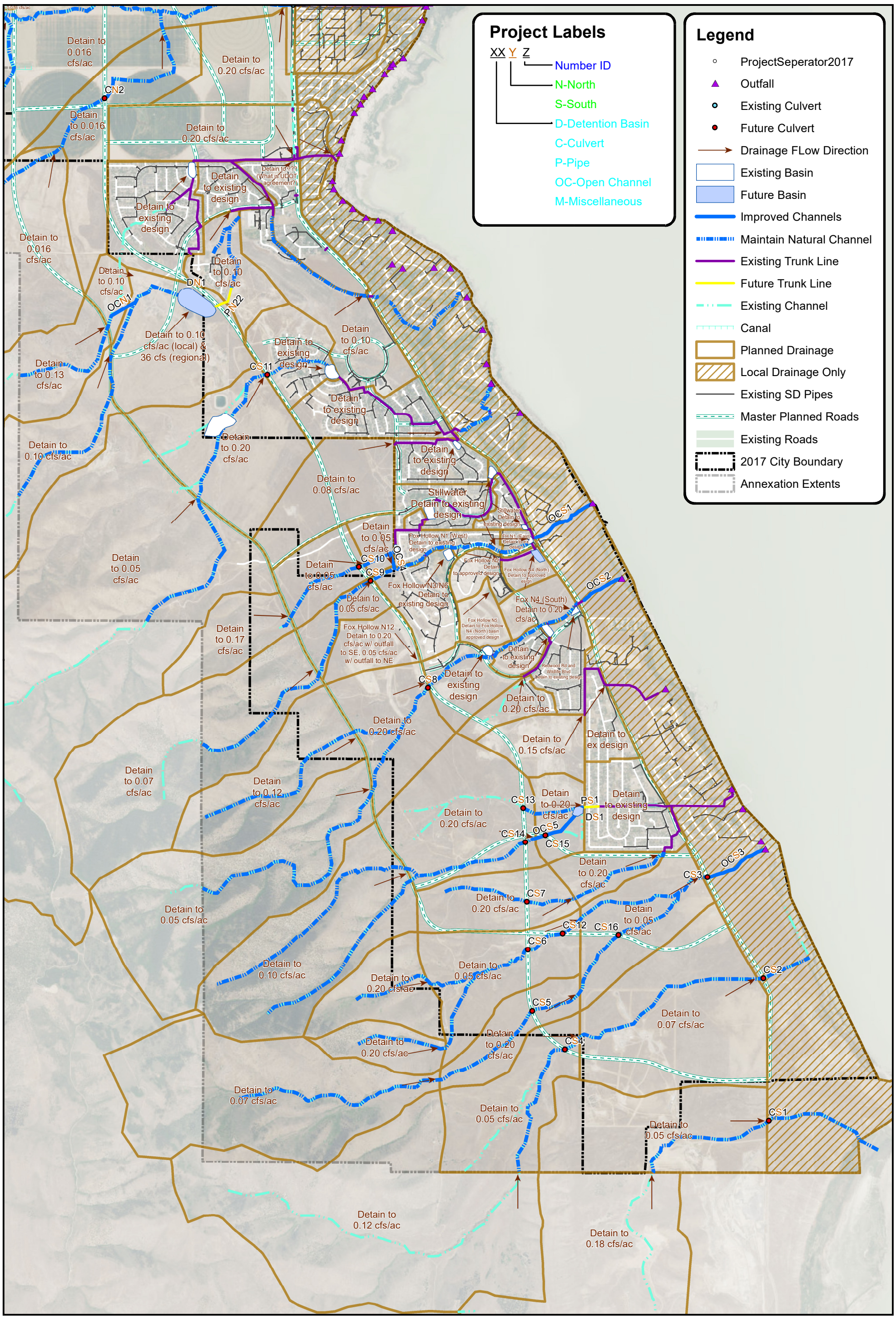

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Celebrating 20 Years

SARATOGA SPRINGS
STORM DRAIN CAPITAL FACILITIES PLAN

PROPOSED STORM DRAIN PROJECTS W/ ALLOWABLE RELEASES

NORTH:

SCALE: 0 625 1,250 2,500 Feet

FIGURE NO. D-1C

P:\Saratoga Springs\305-17-04 2017 Storm Drain Capital Facilities Plan, IFFP & IFA Update\4.0 GIS\Figure D-1_CFP.mxd jdietrich 6/26/2018

APPENDIX E
FOX HOLLOW AREA MEMO

Bowen Collins
& Associates, Inc.
CONSULTING ENGINEERS

TECHNICAL MEMORANDUM

TO:	Shawn Herring/Don Lyster Region Engineering & Surveying 1776 N State St. #110 Orem, UT 84057
COPIES:	Gordon Miner, M.E.M., P.E. City of Saratoga Springs
FROM:	Keith Larson, P.E./Justin Dietrich, E.I.T Bowen Collins and Associates 154 E 1400 S Draper, UT 84020
DATE:	Updated 7 June 2017
SUBJECT:	Fox Hollow Storm Drain Analysis – Revised Concept, Increased Upper Detention

LICENSED PROFESSIONAL ENGINEER
7 JUNE 17
343787
KEITH J.
LARSON
STATE OF UTAH

FOX HOLLOW STORM DRAIN ANALYSIS – REVISED CONCEPT, INCREASED UPPER DETENTION

INTRODUCTION

Region Engineering & Surveying has retained Bowen Collins & Associates (BC&A) to conduct analysis and prepare a technical memorandum regarding storm drainage within the City of Saratoga Springs (the City) with respect to the Fox Hollow Development. BC&A prepared a memorandum regarding the development dated May 5, 2017 that contained recommendations for new storm drain infrastructure within and near the Fox Hollow development to assist the developer in complying with City's requirements. That memorandum was based on generally following the original concept outlined in the City's Master Development Agreement (MDA).

Since the publication of that memorandum, Region Engineering & Surveying has been looking at what will be required to implement the recommendations. Based on analysis of the property identified for a proposed new detention basin just west of Redwood Road, Region has discovered that building the detention basin as proposed will result in a deep and costly excavation. To avoid constructing a basins that is both expensive and difficult to maintain, Region has requested that BC&A look into a revised drainage concept for the area. The purpose of this memorandum is to summarize our analysis of this revised concept.

MODELING APPROACH

Model updates implemented prior the May 5, 2017 memorandum have been documented in that memorandum. In addition to those updates, the following changes were made to the model:

- **Raise the Elevation of the Village Parkway "South" Basin** – The original concept contained in the City's MDA called for two detention basins to be constructed just west of Redwood Road on both the north and south of Village Parkway. These detention basins would be connected by a pipeline and would operate jointly to detain flow coming from

west. The problem with this approach is that the elevation of the property to the south is significantly higher than the property to the north. By operating the basins together, elevations in the South Basin must be limited to the elevations of the North Basins. This puts the useable volume of the South Basin deep in the ground.

To improve the efficient use of volume in the South Basin, it is proposed that operation of the basins be separated. Instead of acting jointly, the South Basin will be placed at a higher elevation and cascade down into the North Basin. While this will require the effective volume of the South Basin to all be above the North Basin, this is more consistent with the topography of the area and also removes an upper limit on the elevation of useable volume in the South Basin. The model has been updated to reflect this concept.

- **Increased Detention in Upper Basins –** There is a consequence to separating the basins. In the original concept, volume in the South Basin was being used to supplement deficiencies in available volume in the North Basin. With the South Basin now being above the North Basin, this cannot occur. To eliminate the volume deficiency in the North Basin, it is proposed that detention in the undeveloped upper areas of Fox Hollow be increased. Originally, these areas were planned to have a release rate of 0.2 cfs/acre. By increasing detention such that the release rate in these areas is reduced to 0.05 cfs/acre, the volume deficiency in the North Basin can be eliminated. The model has been updated to reflect these reduced release rates.

With these enhancements to the model in place, the 100-year design storm was used to analyze existing and proposed detention and major conveyance infrastructure. The major conveyance infrastructure analyzed this way included the main area drainage channel that in part parallels Village Parkway and the 48-inch crossing of Redwood Road. The 25-year design storm was used to verify the capacity of other modeled conveyance pipes such as those along the main drainage path through the Stillwater development. This modeling approach is consistent with Saratoga Springs Standards and Specifications for storm drain analysis and design. It should be noted that the modeled infrastructure includes only the principal infrastructure used to convey storm water through or away from development phases, not the minor infrastructure (e.g. collection pipes and catch basins) that is or will be located within the development phases.

This analysis has produced findings for several key parts of the system. These parts are the detention basin above Stillwater and Fox Hollow N1, the open channel conveyance next to Village Parkway, and the detention basin at the bottom of Fox Hollows (near the Redwood Road and Village Parkway intersection). See Figure 1 for a map of improvements and drainage basins.

FINDINGS

Detention Above Stillwater and Fox Hollows N1

As discussed in the previous memorandum, there is some existing natural detention near Kollman Lane immediately west of Fox Hollow N1. With the proposed changes, this detention will effectively be replaced with detention constructed in association with development in the area above the existing basin. With this new detention in place, this discharge can be rerouted to the Fox Hollow development's main open channel (see the *Open Channel Conveyance next to Village Parkway* section below). Once that occurs, the natural detention near Kollman Lane can be eliminated. It should be emphasized that the Kollman Pond cannot be eliminated until the channel is rerouted to the main drainage channel to the south.

Open Channel Conveyance next to Village Parkway

Storm drainage in this area depends on an open channel that conveys runoff from the undeveloped area west of Fox Hollow N6 and runoff generated in the Fox Hollow development through a couple

cascading detention basins and finally to the main 48-inch outfall which crosses under Redwood Road near the Village Park intersection. This channel is interrupted by 3 road crossings, all of which have 30-inch circular culverts to convey flow.

In the original master plan and for one of the alternatives in the May 5, 2017 memorandum, the lowest of these culverts (at Village Court Road) was identified to be upsized through a future master planned project. However, with the increase in detention in the upper areas of Fox Hollow, all these 30-inch culverts appear to have sufficient capacity to convey the design storm and the Village Court Road culvert no longer needs to be upsized.

Detention at the Bottom of Fox Hollows (near Redwood Road and Village Parkway Intersection)

The most significant analysis was completed with regard to detention at the bottom of the Fox Hollow development. Based on the revised concept of placing the South Basin at a higher elevation than the North Basin, the following improvements are recommended to meet the design requirements of Saratoga Springs:

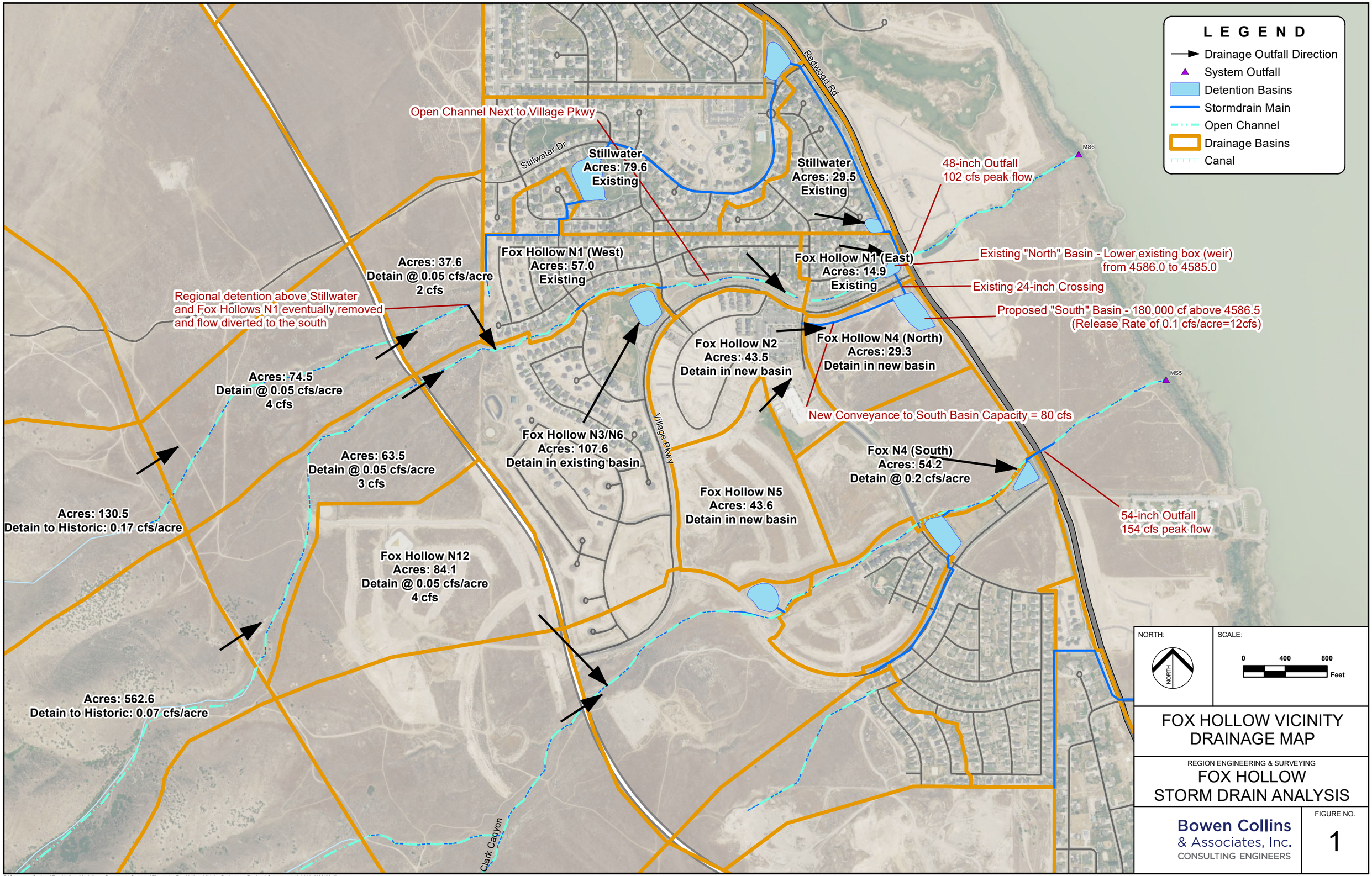
1. A new conveyance channel/pipe will need to be constructed from Fox Hollow N5, N2, and the existing school to the new detention basin. The expectation is that existing infrastructure will be intercepted in Swainson Avenue south of the intersection with Village Parkway, which will convey runoff from these areas as well as Fox Hollow Phase N4 (North) to the new south detention basin. This conveyance will need to be designed for a peak flow of 80 cfs.
2. A new detention basin will need to be constructed near the southwest corner of Village Parkway and Redwood Road. This new South Basin should be designed to operate at elevations above the water surface in the North Basin on the other side of the road. The volume required for this basin is at least 180,000 cubic feet (4.13 AF) of storage. For this basin to operate properly, the requisite storage volume must be situated above 4585.0 ft in elevation. Additionally, all components of the this pond (specifically the outlet facilities and water quality device) must be designed to accommodate 18 inches of potential backwater from the North Pond (maximum elevation during overflow condition is 4586.5 ft). There is no hydraulic limit on the upper elevation for storage, but this elevation will obviously be limited by topography and City depth limitations.
3. Flow out of the South Basin will need to be limited to 12 cfs. This is based on the available capacity in downstream facilities and corresponds to approximately 0.1 cfs/acre. It should be noted that there may be an orifice on the existing 24-inch crossing pipe that connects the South Basin to the north. Survey results are unclear due to some standing water in the crossing pipe, but one survey result indicated an orifice in the manhole on the north side of Village Parkway, through which the 24-inch crossing pipe connects the north and south basins. If there is an orifice in this manhole, or any other flow restriction in the 24-inch crossing, it should be removed.
4. Water quality control will need to be addressed in the design of the South Basin. Because it is now at an higher elevation than the North Basin, it should be possible to install a water quality device to treat the South Basin on its own. Because of the way the basin will be designed, peak discharge from the basin will be 12 cfs in both the 5-year and 100-year storm.
5. The orifice on the North Basin's outlet needs to be removed. The original basin design drawings call for a 13-inch orifice on the basin's 18-inch underdrain outlet pipe. This orifice is too small to convey the runoff now being considered for the basin.
6. The existing detention basin on the northwest corner of Village Parkway and Redwood Road will need to accommodate additional undetained runoff. One option for this would be to

increase its storage volume. However, there is available conveyance capacity downstream of this basin so it is also acceptable to allow higher discharge from this basin, which appears to be much more feasible than increasing storage capacity. To accomodate sufficient discharge from this basin to keep it from overtopping, the crest of the emergency overflow needs to be lowered 12 inches (to elevation 4585.00).

CONCLUSIONS

In summary, the South Basin can be constructed at a higher elevation to detain flow from Phases N4 and N5 of the Fox Hollow development. However, there are some particular design considerations that must be addressed in order to provide adequate drainage for the City's design storm events. This includes reducing the allowable release rate for future properties in Fox Hollow to 0.05 cfs/acre and making some immediate modifications at the existing North Basin. It is our opinion that, with the improvements proposed within this document, the planning changes outlined for the Fox Hollow area can comply with City standards and are feasible solutions to the storm drain needs in the area.

APPENDIX



FOX HOLLOW VICINITY
DRAINAGE MAP

REGION ENGINEERING & SURVEYING

FOX HOLLOW
STORM DRAIN ANALYSIS

Bowen Collins
& Associates, Inc.
CONSULTING ENGINEERS

FIGURE NO.
1

P:\Saratoga Springs\Fox Hollow Modeling - Developer Contract\Figure 1 - Fox Hollow Vicinity Drainage - Revised Concept.mxd bkirk 5/26/2017

APPENDIX F
WATER QUALITY DEVICES LIST

Table F-1
List of Water Quality Devices

Facility ID from City Database	Address	Location Description	Owner
45847	Waterside Dr/Parkway Blvd	NE	City, O.F. 19
45850	Fairway Blve/Chip Shot Loop	O.F. E of fairway on G.C. of Vlg Pkwy E of Redwood	SSD
45853	Aspen Hills Blvd	-	City
45858	Aspen Hills Blvd/Redwood Rd	-	City
45861	Spinnaker Bay Dr	SE Bend, O.F. 41	Unlisted
45864	Spinnaker Bay Dr/Beacon Dr	O.F. 40	Unlisted
45867	Catamaran Way	O.F. 39	Unlisted
45870	Spinnaker Bay Dr/Wayside Dr	O.F. 38	Unlisted
45873	Cottontail Loop	SE of SE bend, O.F. 32	Unlisted
45876	Swainson Ave	NE of school, O.F. 32	Unlisted
45879	1312 N Commerce Dr	-	City O.F. 47
45882	Riverside Dr/Jordan Ridge Blvd	East of intersection	City
45886	264 North 750 West	Back field	ASD, no O.F. #
45889	Riverside Dr/Jordan Cove Ln	Behind lots, adjacent river	City O.F. 36
45892	136 W Crossroads Blvd	East side of parking lot	Walmart
45896	484 W Pony Express Pkwy	SE of parking lot	ASD, no O.F. #
45900	354 W Crossroads Blvd	Field near clinic	IHC
45905	2148 N Stagecoach Dr	Southeast corner of Extra Space Storage Property	0
45909	87 E Commerce Dr	Near McDonald's parking lot	Unlisted
45913	400 North/Carlton Ave	NW	City
45916	Gordoba Dr	Field	Unlisted
45920	1361 N Redwood Rd	South of Wendy's	Unlisted
45924	400 North/Carlton Ave	SW, O.F. at 400 N Redwood	City
45928	3548 S Spinnaker Bay Dr	-	City
45932	Tiger Heron Dr/Heron Hills Ave	NW	City
45935	34 W Market St	-	City
45939	Riverside Dr	South of southernmost roudabout	City
45943	Saratoga Dr	NE of church	City
45946	400 South/School House Rd	NE most lot	City, O.F. 46
45949	41 East 1140 North	-	Riverbend Medical
45953	Ridge Rd	-	Hillcrest Condos
45956	558 W Pony Express Pkwy	East of SE church parking	Church, no O.F. #
45961	Waterview Dr	East of Waterview Dr, O.F. 32	Unlisted
45964	Pavillion Cir	Behind NW most lot	City, O.F. 30

Facility ID from City Database	Address	Location Description	Owner
45968	Aspen Hills Blvd	Near Shay Park	City
45972	Redwood Rd/Pony Express Pkwy	SW, O.F. east of Redwood	City
45976	Alameda Way/400 East	Field	City
45979	Swainson Ave	Sage Hills Elem. Btwn parking lots, O.F. 32	Unlisted
45983	Summerhill Dr/Stillwater Dr	Field	Church
45986	Weatherby Dr/Ring Rd	Near T, O.F. canal to G.C. pond	Church
45990	Aspen Hills Blvd	Near Church	Church
45996	273 W Aspen Hills Blvd	Back field	ASD
45999	Riverbend Rd	East of Riverbend Rd	City O.F. 43
46005	87 E Commerce Dr	Open field	Denny's
46014	Riverside Dr	North roundabout	City
46024	1178 S Pondside Dr	SE of parking lot	Church, O.F. 18
46026	2211 E Lakeview Dr	Shoreline Park, O.F. LL pond	City
46030	163 W Ring Rd	O.F. canal to G.C. pond	Church
46038	Riverside Dr/Pioneer Crossing	SW	City

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