City of Newberg
Stormwater Master Plan

Prepared for
City of Newberg, Oregon
June 2021

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RENEWS: 6/30/21

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- Keith McKinnon, Newberg Engineering – GIS Specialist
- Doug Rux, AICP, Newberg Community Development Director
- Kristen Svicarovich, PE, Newberg Engineering – Associate Engineer

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List of Abbreviations

CIP	capital improvement project
City	City of Newberg
cfs	cubic feet per second
CRRC	Citizen Rate Review Committee
DEQ	Oregon Department of Environmental Quality
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
GIS	geographic information system
HDPE	high density polyethylene
H/H	hydrologic and hydraulic
IDDE	Illicit Discharge Detection and Elimination
LID	low impact development
Master Plan	Stormwater Master Plan
MS4	Municipal Separate Storm Sewer System
NAD83	North American Datum of 1983
NAVD88	North American Vertical Datum of 1988
NGVD29	National Geodetic Vertical Datum of 1929
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resource Conservation Service
Hwy 99W	Oregon Highway 99W
RCP	reinforced concrete pipe
SWMM	Surface Water Management Model
SWMP	Storm Water Master Plan
TMDL	Total Maximum Daily Load
UGB	urban growth boundary
URA	urban reserve area
WQ	water quality

Executive Summary

In 2013, the City of Newberg (City) initiated development of a multi-objective Stormwater Master Plan (Master Plan) to provide a clear understanding of the existing stormwater system and provide a capital improvement project (CIP) program to address deficiencies in the system. The main objectives of this plan were as follows:

- Update the City's stormwater system's hydrologic and hydraulic models to evaluate system capacity.
- Develop an integrated stormwater system capital improvement program to address storm system capacity needs and water quality.
- Evaluate stream channel conditions with respect to erosion and impacts from future development.
- Continue to comply with water quality regulations.
- Review the City's stormwater management program and make recommendations on activities and staffing where applicable.
- Identify implementation priorities and impacts to the program budget.
- Develop a Master Plan document that is useful and easy to read, reference, and update.

This is the 2020 update to that plan that includes:

- Effects of developments since 2013
- Update design criteria to match the 2015 Newberg's Public Works Design & Construction Standards (changed design storm from the 10-year, 24-hour event to the 25-year, 24-hour event)
- Model updates to include more pipes
- Updates to staffing analysis
- Maintenance updates
- New Capital Improvement Plan and Project prioritization

Master Plan Technical Analyses

Development of the Master Plan involved four primary technical analyses to evaluate the stormwater infrastructure and programs.

Stormwater System Capacity Evaluation – Section 3 documents the development of a hydrologic and hydraulic model to simulate rainfall and runoff characteristics within Newberg. The model simulates stormwater flows through pipe networks, drainage ditches, and culverts to identify areas that are over capacity. The model considered both current conditions and the impacts of Capital Improvements on stormwater flows. Stormwater infrastructure capacity concerns are presented in Table 3.7 and shown in figures 3-1 and 3-2.

Maintenance Issues – Surveys of City staff, Cartegraph asset management software records, pipe condition reports, compilation of public complaints, and review of past reports were used to identify additional problem areas within the stormwater infrastructure. The aim was to identify problem areas that would not be identified through hydraulic modeling, such as deteriorating pipes, frequent maintenance concerns, inadequate maintenance access, or underserved areas resulting in flooding. Problem areas are documented in Table 3.8 and figures 3-3 through 3-6.

Maintenance and Program Evaluation – The City's stormwater management program was formed around addressing drainage capacity and flooding problems. Since 2008, the program has shifted to include addressing increased water quality regulations, such as the Total Maximum Daily Load (TMDL) program. Section 4 documents the current maintenance practices and programmatic activities within the City's stormwater management program and provides recommendations for maintenance and program enhancements.

Integrated Management Strategy

The recommendations in sections 5 and 6 present an integrated strategy of programs, projects, and maintenance activities to address stormwater management concerns. Recommendations include allocating city staff budgeted for the stormwater program to support preventative maintenance activities and full implementation of the City's stormwater ordinance, since those staff are currently working on other city projects. Capital Improvement Projects (CIPs) have been developed to address existing conditions flooding problems and replace deteriorating pipe segments. The recommended CIP plan includes specific projects and ongoing programs for annual pipe replacement and water quality retrofits. Section 6 documents the process used in developing the city-wide CIP plan.

Figure ES-1 shows the location of the proposed CIPs. Table ES-1 summarizes the identified CIPs, estimated costs, priority ranking, and an estimated timeline for implementation. Table ES-2 shows other City projects. Detailed cost estimates and scoring information are provided in Appendix D. As described in Section 6, highest priority has been given to projects that address projects that cause widespread, confirmed flooding in large areas of the city or areas likely to cause damage due to prolonged flooding, or geography. Highest priority projects are targeted to be completed in the first 5 years of this Master Plan implementation, while the timing for mid-term and long-term projects will be dependent on available funding. Detailed fact sheets and planning level cost estimates for each CIP can be found in Appendix D.

Table ES-1. Prioritized Improvements		
No.	**Project Name**	**Preliminary Estimated Cost**
Priority 1 Projects (0-5 years)		
C-B	S Center St. Improvements	$2,415,715
C-C	Oxford St. Improvements - Section 1	$177,193
C-C	Oxford St. Improvements - Section 2	$142,677
C-C	Oxford St. Improvements - Section 3	$45,094
C-L	N Edwards St. Improvements	$1,024,049
C-M	E Third St. Improvements	$647,954
C-N	E North St. Improvements	$650,305
C-Q	Wynooski St. Improvements	$309,198
C-U	N Springbrook Rd. Improvements - Section 1	$94,466
C-U	N Springbrook Rd. Improvements - Section 2	$1,030,293
Priority 2 Projects (6-10 years)		
C-A	S Blaine St. Improvements	$104,527
C-D	6th & Blaine St. Improvements	$224,530
C-E	Pinehurst Dr. Improvements	$163,051
C-H	Illinois St. Improvements	$139,183
C-I	Ditch & Pinehurst Dr. Improvements	$283,916
C-P	Crestview Dr. Improvements	$131,819
C-R	2nd St. Crossing	$31,582
C-V	Libra St. Improvements	$220,159
Priority 3 Projects (11-20 years)		
C-F	Crater Ln. Improvements	$10,168
C-G	Partridge Ln. Improvements	$80,980
C-J	Charles St. Improvements	$39,339
C-K	Center St. Improvements	$138,377
C-O	Mountainview Dr. Improvements	$384,725
C-S	E 2nd St. @ River St. Improvements	$121,007
C-T	E 2nd St. @ Ardus St. Improvements	$216,600
C-W	Brutscher St. Improvements	$72,666
Total Recommended Improvement Project Costs		**$9,432,678**

Table ES-2. Other City Projects			
CIP number	**CIP name**	**Source**	**Estimated capital implementation cost total**
A-1	Stream Bank Protection Projects	2013 SWMP	$190,000
A-2	800 Block of NE Wynooski St.	Existing CIP	$300,000
A-3	RR Ditch; N College – N Meridian	Existing CIP	$165,755
A-4	OR240/RR Tracks/Franklin Street	Existing CIP	$109,273
A-5	Stormwater Master Plan Update	City Code	$350,000
A-6	Riverfront Additional piping	Riverfront Master Plan	TBD depending on layout
A-7	Maintenance Activities	Ongoing	$100,000/year

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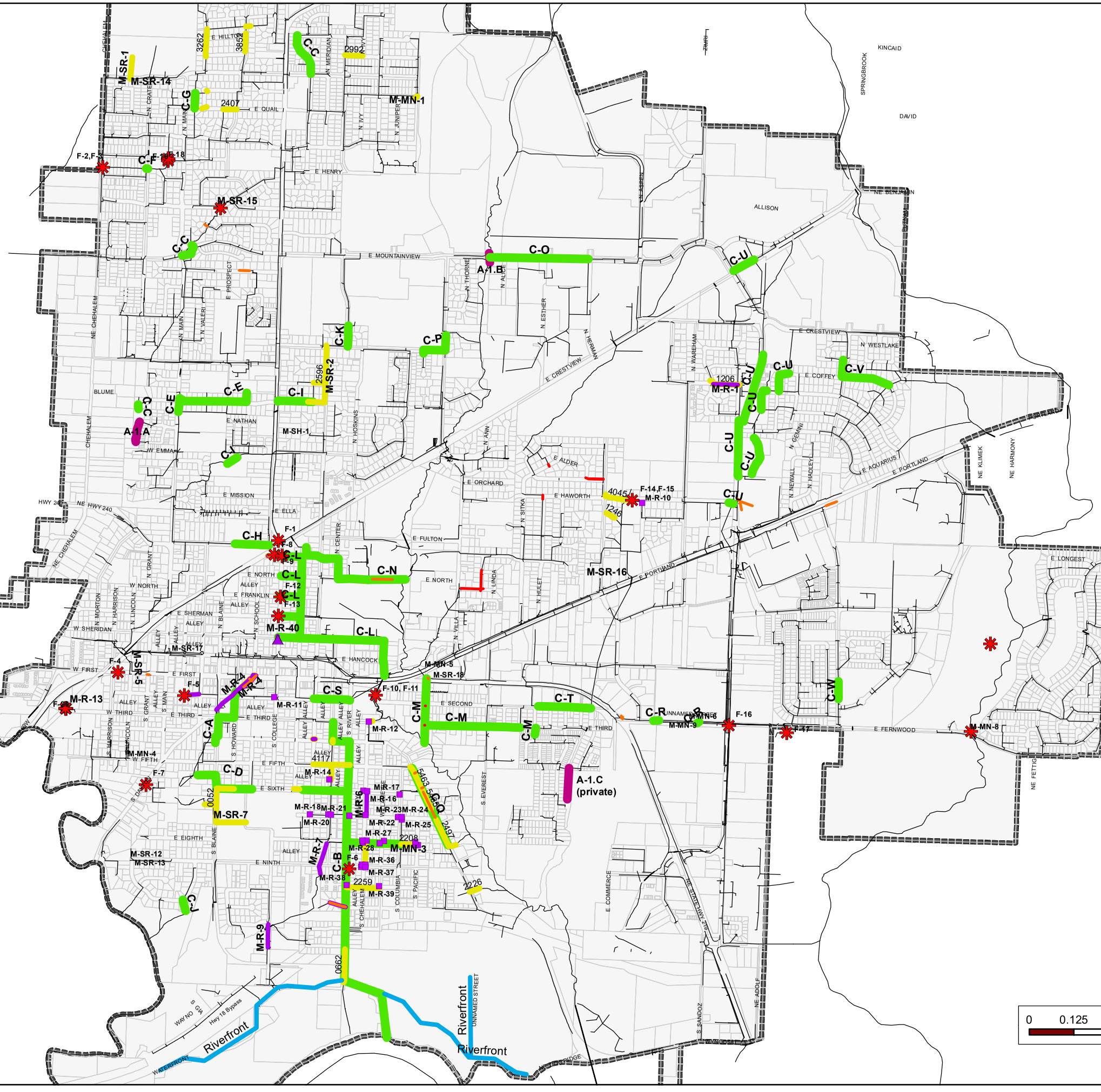
Figure **ES-1**

2020 City of Newberg Stormwater Master Plan

Capital Improvement Plan Overview



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Section 1

Introduction

This Stormwater Master Plan (Master Plan or SWMP) documents the methods and results of stormwater system capacity and stormwater program evaluations for the Newberg study area. The study area for this Master Plan includes land within Newberg's urban growth boundary (UGB) and Yamhill County land upstream of the UGB that drains to tributaries of Chehalem Creek, Hess Creek, and Spring Brook Creek. This section provides a summary of the need for the plan, the plan objectives, a description of the approach for preparing the plan, and a summary of how the plan is organized.

1.1 Need for the Plan

According to Portland State University's Population Research Center, Newberg's population was 24,120 on July 1, 2020. The Newberg Comprehensive Plan projects population to grow to 28,602 in 2025 and 31,336 in 2030. As projected growth continues to fill in the UGB, and the City plans for future expansion into the urban reserve areas, City staff must plan for such development in a way to maintain the character of the community. Stormwater master planning offers one mechanism to anticipate and address infrastructure and programmatic needs in conjunction with development and expansion.

The City will use this Master Plan as a tool to proactively address stormwater management with prioritized stormwater capital improvement projects (CIPs) that work in conjunction with the City's ongoing stormwater program that includes development standards addressing stormwater. This project provides an opportunity to expand upon the City's current planning approach to improve public safety, water quality, and aesthetic benefits while addressing storm drain capacity in several flood-prone areas.

Programmatic recommendations set forth in this plan will also address long-term management requirements under the City's Total Maximum Daily Load (TMDL) program with the Oregon Department of Environmental Quality (DEQ).

1.2 Plan Objectives

This multi-objective Master Plan addresses stormwater quantity control and current stormwater system capacity limitations. In conjunction with the development of the capital improvement program, a summary of recommendations to address water quality and long-term stream stabilization is provided from the 2014 Master Plan in Appendix C. In summary, the main objectives of this plan are as follows:

- update the City's stormwater system hydrologic and hydraulic models to evaluate system capacity
- develop an integrated stormwater system capital improvement program to address storm system capacity needs and water quality
- continue compliance with water quality regulations
- review the City's stormwater management program and make recommendations on activities and staffing where applicable
- identify implementation priorities and impacts to the program budget
- develop a Master Plan document that is useful and easy to read, reference, and update

1.3 Approach

The approach for developing this Master Plan is summarized in the following paragraphs. This approach was developed to meet the City's stormwater management objectives and increase the understanding of the existing stormwater infrastructure. The data collection, evaluation, and improvement strategies were conducted as follows:

1. The 2014 Storm Water Master Plan was used as the base for this update, and portions were updated. Most sections had minor edits to keep the document up to date, such as updating the population estimates. Sections with major updates include:
    a. Evaluation Criteria
    b. Model Results
    c. Figures 3-1 through 3-6 (Known Capacity and Maintenance Problem Areas)
    d. Tables 3-7 (Flooding Problem Areas from Model) & 3-8 (Reported Problem Areas)
    e. Willamette River TMDL
    f. Current Maintenance Activities & Future Recommendations
    g. Development Standards Review
    h. Staffing Analysis
    i. Capital Improvement Program (CIP)
    j. Table 5-1, Figures 5-1 & 5-2 (CIP summary)
    k. Prioritization Criteria and Project Prioritization
    l. Model Updates
    m. Appendix A: Modeled Drainage System Maps
    n. Appendix B: Hydrologic and Hydraulic Modeling Inputs/ Results Tables
    o. Appendix D: CIP fact Sheets
    p. Appendix F: Attributes for Shapefile Submittal by Developments
2. The City's storm drain geographic information system (GIS) data were reviewed.
3. Collected data were used to update the stormwater hydrologic and hydraulic (H/H) model and associated model attributes such as subcatchment drainage areas, land uses, and topography.
4. City staff were interviewed to identify known drainage problem areas.
5. Alternatives were developed for improvements to the stormwater infrastructure.
6. Improvements were evaluated with City staff to determine the best alternatives for incorporation into both the future management program and the City's capital improvement program.
7. Project costs were developed, along with a proposed implementation timeline, consistent with anticipated program funding.
8. The approach was documented in this Master Plan to provide information in a clear and easy–to-use format.

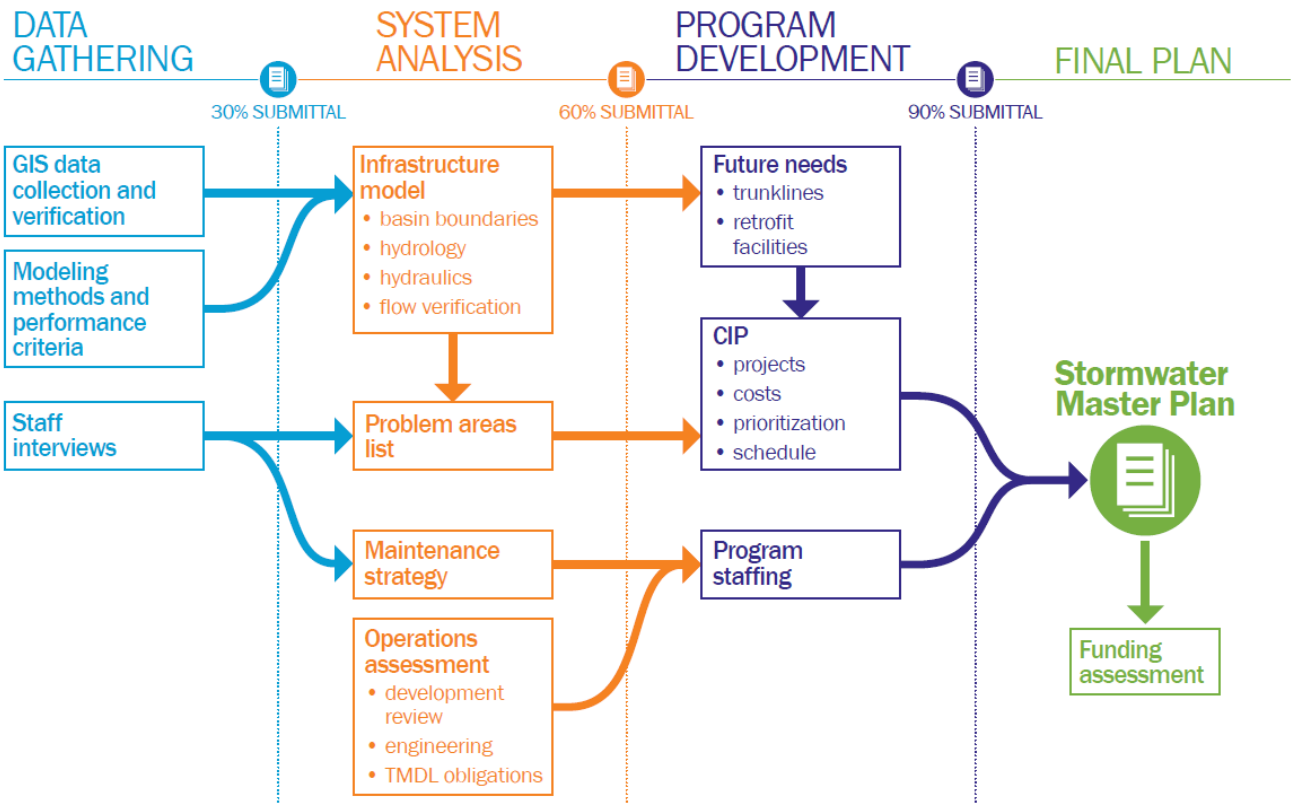


Figure 1-1. Stormwater Master Plan approach

1.4 Plan Organization

This Master Plan is organized as follows:

- Section 2 includes a description of study area characteristics and associated mapping.
- Section 3 describes the methods used to conduct a storm system capacity evaluation including hydrologic and hydraulic modeling.
- Section 4 provides a review of the existing maintenance and programmatic management activities and identifies future program needs.
- Section 5 describes the methods and results of integrating the programmatic and capital measures to address the City's storm system capacity and water quality needs.
- Section 6 describes the recommended capital improvement project prioritization and implementation schedule to address storm system capacity and water quality.
- Appendices A through F provide supporting and technical information used in the development of the Master Plan document.

Section 2

Study Area Characteristics

This section includes an overview of study area characteristics including location, topography, soils, land use, climate and rainfall, drainage system, and current stormwater quality conditions.

2.1 Location

The City of Newberg is located 25 miles southwest of Portland, Oregon, along the Oregon Highway 99W (Hwy 99W) corridor. Newberg is in northeast Yamhill County and is bordered by the Chehalem Mountains to the north and the Willamette River to the south.

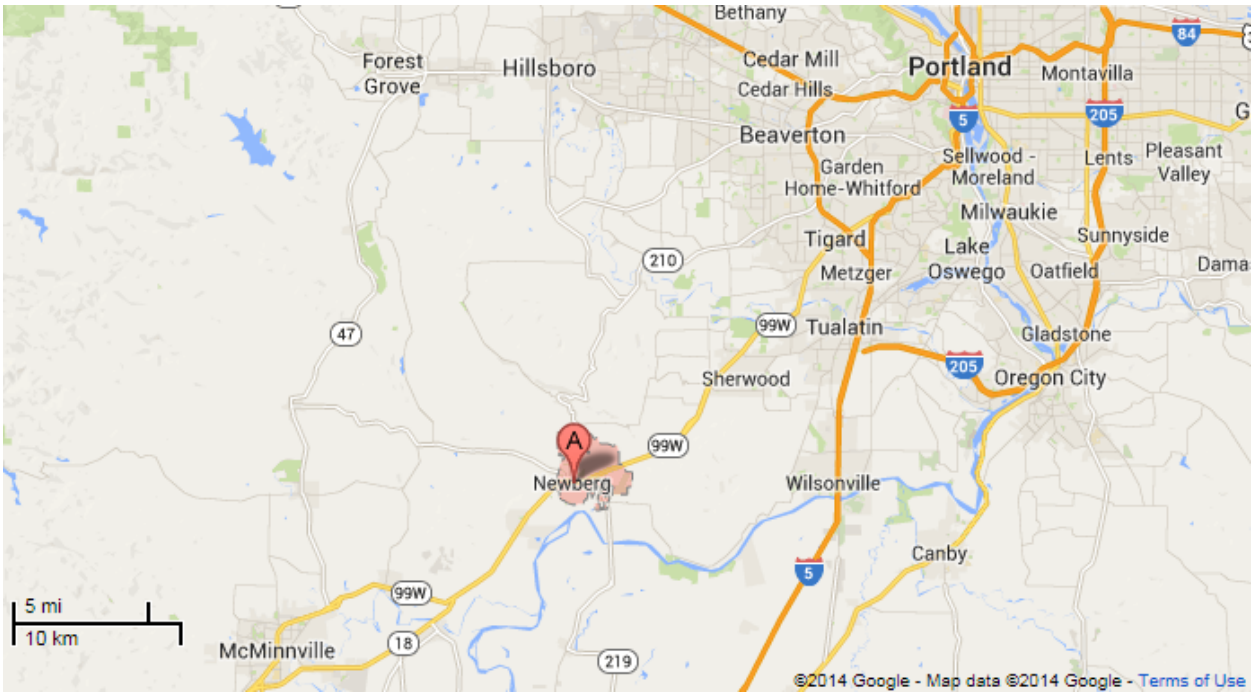


Figure 2-1. Vicinity map

The city is approximately 5.8 square miles and is drained by Chehalem Creek, Hess Creek, and Spring Brook Creek. Chehalem Creek and Spring Brook Creek drain to the Willamette River near River Mile 51.0 and River Mile 47.2, respectively. Hess Creek enters Spring Brook Creek downstream of the city limits.

2.2 Topography

Topographic information was compiled into the model using 2012 aerial imagery, LiDAR data, and field visits by a previous consultant. Everything in this plan and the associated model is believed to be in the North American Vertical Datum of 1988 (NAVD88). Google Earth, as-builts, and LiDAR data were occasionally used to supplement these data in areas where changes needed to be made to the model, or pipes were added.

Newberg is located within the Willamette River Valley and gently slopes from the north down to the Willamette River to the south. The highest point within the city is located at elevation 456.3 and the lowest is near the Willamette River at elevation 62.2. The Hess Creek and Spring Brook Creek watersheds extend into the mountains and flow through Newberg. Outside of the city, the watersheds extend up to elevations of 1,249 and 1,226, respectively. The creeks within the city flow from north to south and provide a natural drainage system throughout the city. The average slope within the city boundary ranges from 0.5 percent to 27.4 percent and averages approximately 5.6 percent. The average slope of Hess Creek passing through the center of the city from north to the south is approximately 1 percent. Figure 2-2 illustrates the city topography.

2.3 Soils

Soil classification is an important characteristic to consider when evaluating runoff flow rates and volumes. Soil types within the study area were identified using data from the Natural Resource Conservation Service Soil (NRCS) Survey. Soil information is based upon data obtained from the NRCS Web Soil Survey (2013) which publishes information from the 1974 publication from the U.S. Department of Agriculture Soil Conservation Service Titled *Soil Survey of Yamhill Area, Oregon*.

Table 2-1 shows soil types, soil characteristics and distribution within the UGB according to the NRCS soil survey.

Table 2-1. Soil Characteristics

NRCS map unit name	NRCS map symbol	Hydrologic soil group	Percent coverage in UGB
Aloha silt loam	Ah	C	42.8
Amity silt loam	Am	D	8.3
Carlton silt loam, 0 to 7 Percent slopes	CaB	C	0.1
Carlton silt loam, 7 to 12 Percent slopes	CaC	C	0.1
Carlton silt loam, 12 to 20 percent slopes	CaD	C	0.1
Cloquato silt loam	Cm	B	0.0
Cove silty clay loam, thick surface	Cs	D	0.7
on silt loam	Da	D	0.4
Dayton silt loam, thick surface	Dc	D	0.8
Hazelair silty clay loam, 2 to 7 percent slopes	HcB	D	0.5
Hazelair silty clay loam, 7 to 20 percent slopes	HcD	D	0.7
Jory clay loam, 2 to 7 percent slopes	JrB	B	0.7
Jory clay loam, 12 to 20 percent slopes	JrD	B	0.2
Jory clay loam, 20 to 30 percent slopes	JrE	B	0.0
Jory clay loam, 30 to 60 percent slopes	JRF	B	0.1
Laurelwood silt loam, 3 to 12 percent slopes	LuC	B	0.1
Laurelwood silt loam, 12 to 20 percent slopes	LuD	B	0.2
Nekia clay loam, 2 to 7 percent slopes	NcB	B	0.2
Nekia clay loam, 7 to 20 percent slopes	NcD	B	0.5
Panther silty clay loam, 4 to 20 percent slopes	PaD	D	0.0

Table 2-1. Soil Characteristics			
NRCS map unit name	NRCS map symbol	Hydrologic soil group	Percent coverage in UGB
Shale rock land	SH	D	0.0
Stony land	SL	A	0.3
Terrace escarpments	Te	C	6.0
Water	WATER	Water	0.0
Wapato silty clay loam	Wc	D	3.0
Willakenzie silty clay loam, 2 to 12 percent slopes	WeC	C	0.3
Willakenzie silty clay loam, 12 to 20 percent slopes	WeD	C	0.1
Willakenzie silty clay loam, 20 to 30 percent slopes	WeE	C	0.0
Willamette silt loam, 0 to 3 percent slopes	WIA	B	0.8
Willakenzie silty clay loam, moderately shallow, 7 to 20 percent slopes	WkD	C	0.1
Woodburn silt loam, 0 to 7 percent slopes	WuB	C	28.0
Woodburn silt loam, 7 to 12 percent slopes	WuC	C	2.6
Woodburn silt loam, 12 to 20 percent slopes	WuD	C	2.4

The soils listed in Table 2-1 are illustrated within the study area in Appendix E.

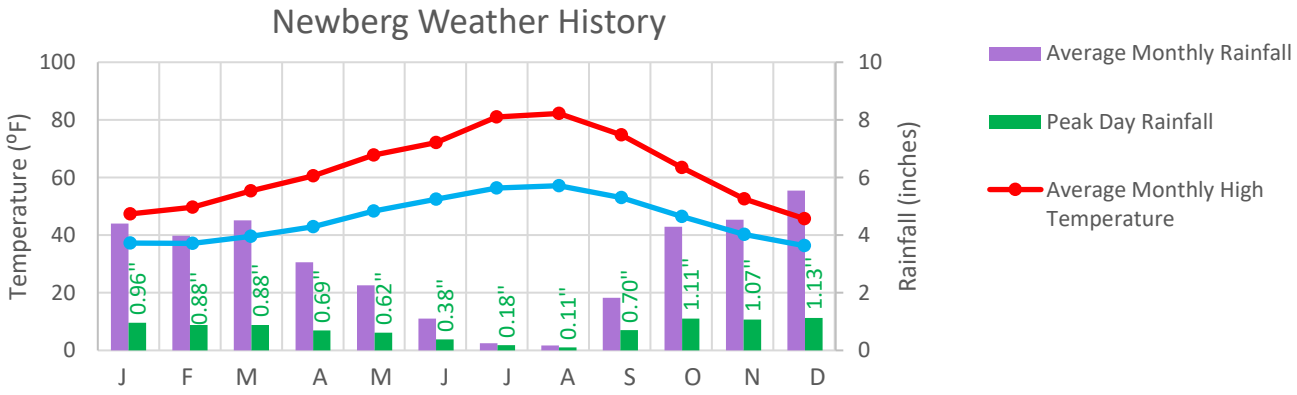
2.4 Land Use

According to Portland State University's Population Research Center, Newberg's population was 24,120 on July 1, 2020 The City's Comprehensive Plan projects significant population growth over the next several decades, with the 2030 population projection at 31,336 and the 2040 population projection at 36,709. The city is largely developed within the current UGB, but does have some significant remaining vacant areas in the northeast portion of the city. Currently land use includes a mix of residential, industrial and a commercial corridor along Hwy 99W.

Figure 2-3 shows the land use coverage within Newberg and the UGB.

2.5 Climate and Rainfall

The north Willamette Valley experiences relatively warm, dry summers and mild wet winters. The Coast Range provides some shielding from Pacific Ocean storms. Most of the precipitation in this area falls



between the months of October and April; however, short, summertime storms contribute to the annual rainfall as well. The following recent climate data is based on City of Newberg recordings from 2010 to 2019.

For a longer historical record of the area, the Western Regional Climate Center presents the following historic records from 1928 to 2005 for nearby McMinnville, Oregon (station 355384). The normal daily high temperatures range from approximately 83 degrees in August to 46 degrees in January. Normal daily low temperatures range from approximately 50 degrees in July to 33 degrees in January. The average annual precipitation is approximately 41.8 inches with 6.7 inches of snowfall.

2.6 Drainage System

The city's drainage system is defined by the three creeks running from north to south through the city. From west to east, the creeks include Chehalem Creek, Hess Creek, and Spring Brook Creek. All of the creeks flow into the Willamette River, which is one of the Columbia River's primary tributaries.

The City conveyance system contains approximately 77 miles of pipes and culverts, and 64 miles of open channels, creeks, and rivers.

For the purposes of the modeling effort for this plan, subcatchments were delineated to capture drainage to City-owned 12-inch-diameter and larger storm drain piping and major open channel conveyances within the UGB. Inlet leads, pipes smaller than 12 inches in diameter, pipes not in the GIS system, and pipes not owned by the City were generally not included in this effort.

Drainage areas for Hess Creek and Spring Brook Creek were also delineated to capture the extent of their respective watersheds which extend beyond the UGB. The Hess Creek watershed extends north of the existing UGB to Mountain Top Road and is bound to the west by Chehalem Creek and to the east by Spring Brook Creek. The drainage area for Spring Brook Creek extends north of the existing UGB to Mountain Top Road and east of the UGB to NE Old Parrett Mountain Road and NE Kramien Road.

Figure 2-4 illustrates delineated subcatchments and the modeled pipe system on a citywide scale. More detailed mapping associated with system modeling is presented in Section 3.

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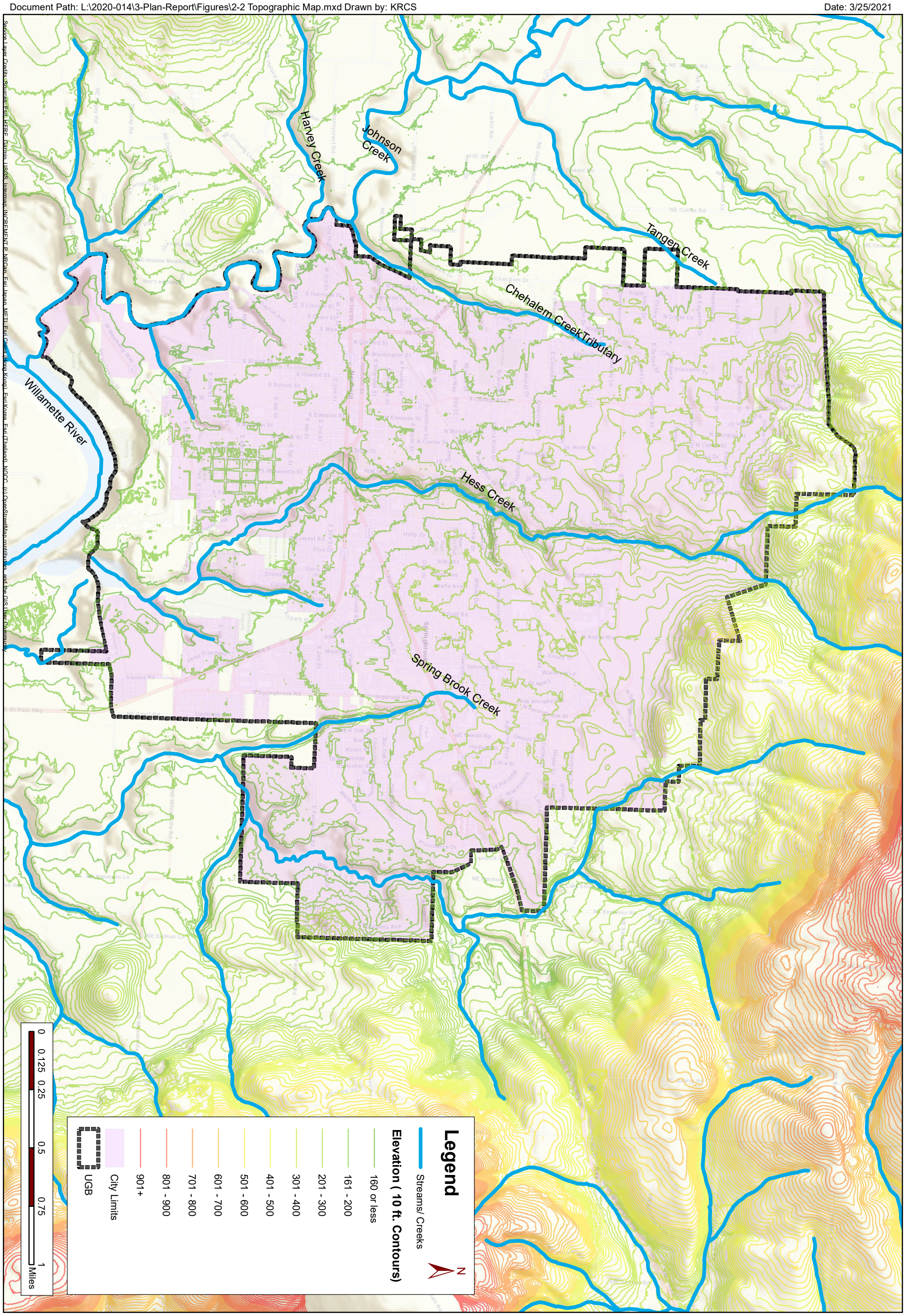

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Topographic Map

2020 City of Newberg Stormwater Master Plan

Figure **2-2**

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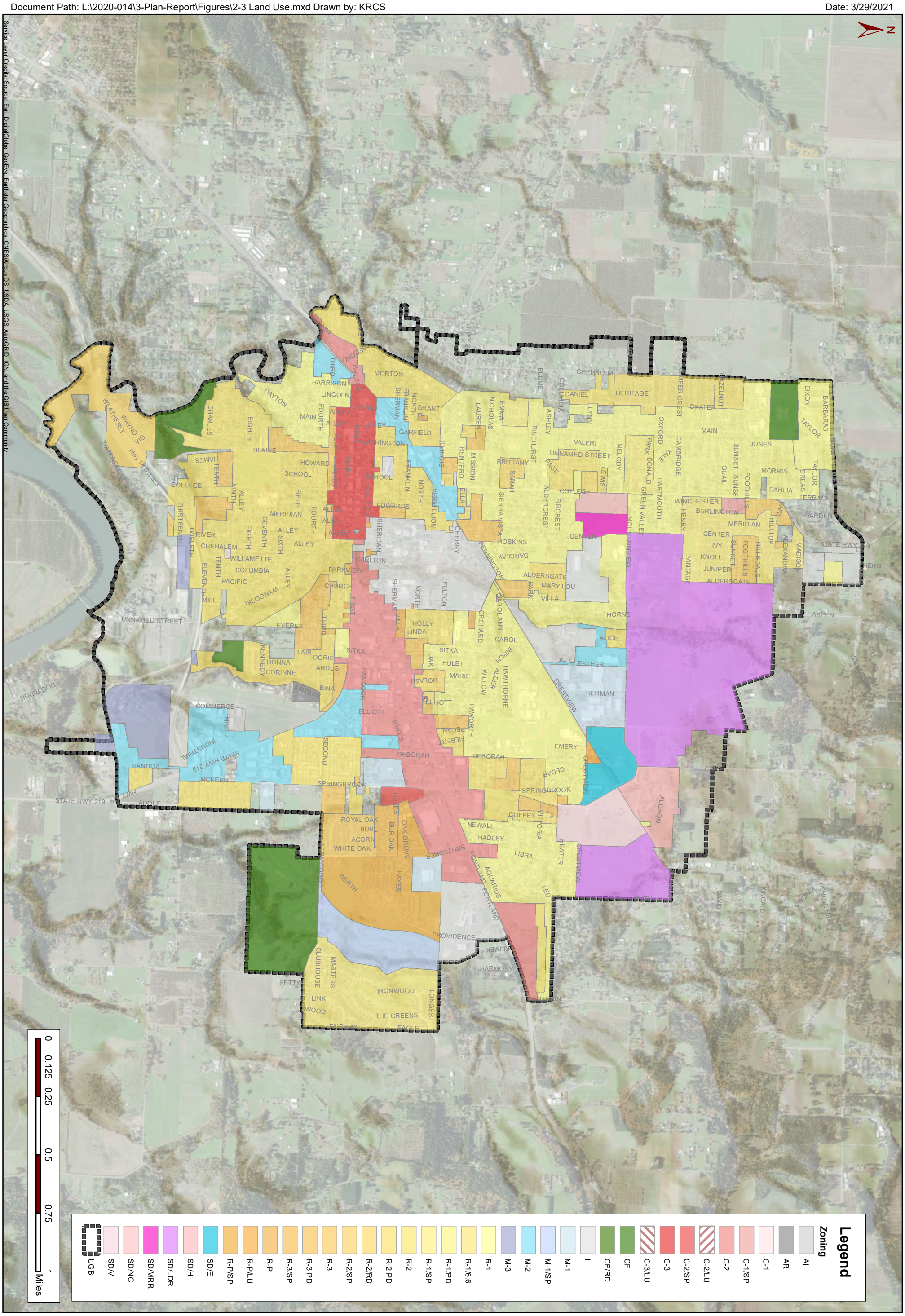

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Land Use

2020 City of Newberg Stormwater Master Plan

Figure **2-3**

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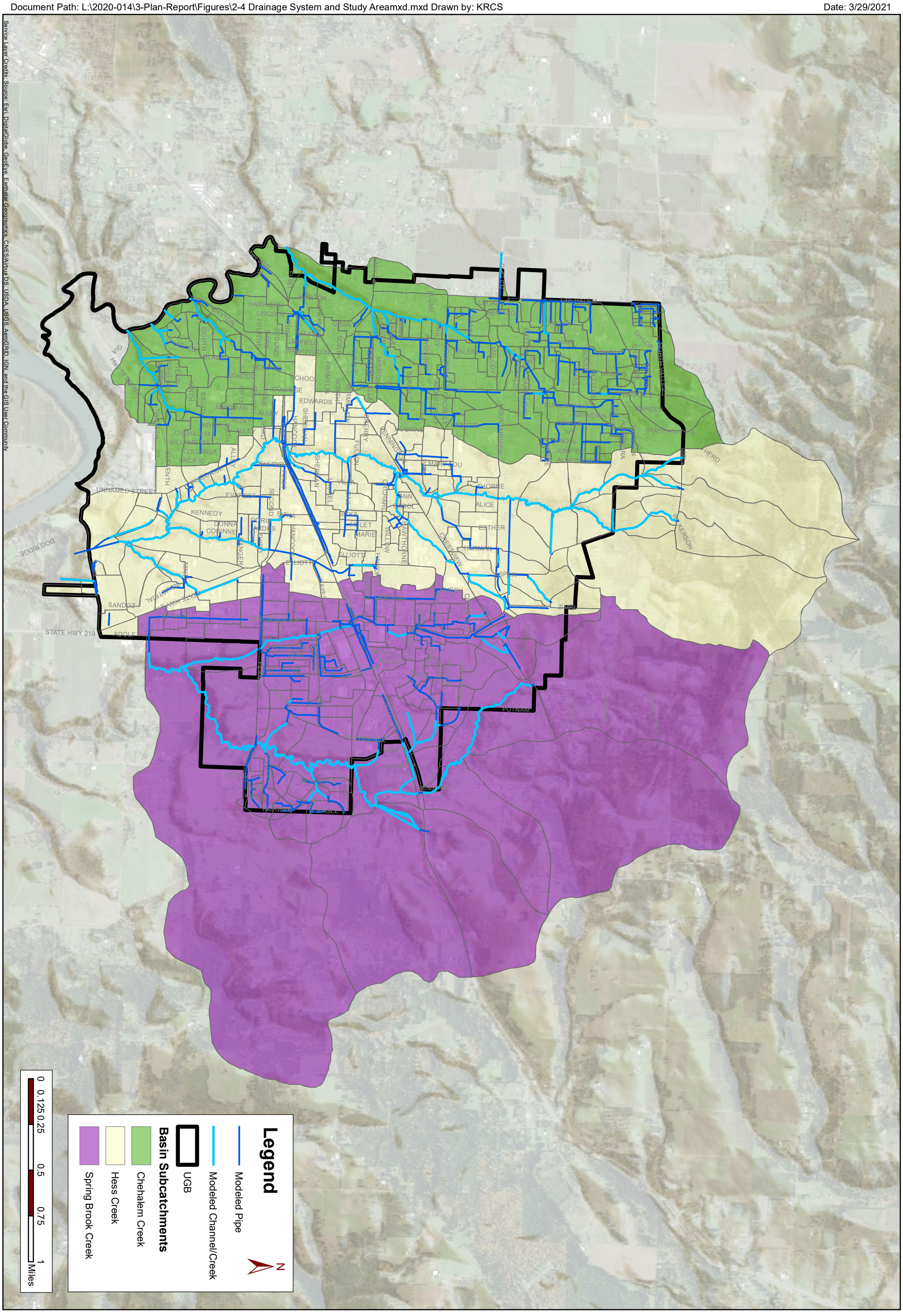

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Section 3

Stormwater System Capacity Evaluation

To identify flooding problems and need for Capital Improvement Program (CIP) projects, two primary methods of system evaluation were utilized. First, the City's public stormwater drainage system was evaluated using a hydrologic and hydraulic model to simulate the rainfall to runoff characteristics and route estimated flows through the City's conduits and channels. The stormwater drainage system was evaluated under both existing system and CIP scenarios. The CIP scenario assumes all of the Capital Improvement Program projects are completed, so the future system can be evaluated. This section provides a description of the modeling methods used for the system capacity evaluation and provides a summary of results.

The second method of system evaluation was to identify drainage capacity and other infrastructure problems through discussions with City staff and a review of existing reports that document potential problems. The compilation of additional problem areas is documented in Section 3.5.

3.1 Model Development

Computational Hydraulics International's PC SWMM, v. 7.2.2785, was the software used to model the City's storm system. PC SWMM provides a graphical interface for the U.S. Environmental Protection Agency (EPA) SWMM5 engine. The PC SWMM interface is integrated with Esri ArcGIS. Files transferred to the City will be in EPA SWMM5 format, which may be used by the City for internal modeling and future updates after the completion of this Stormwater Master Plan (Master Plan).

The model of the City's storm drain system includes most City-owned storm drainage pipes 12 inches and larger in diameter and major open-channel conveyances. Inlet leads, pipes smaller than 12 inches in diameter, pipes not in GIS, and pipes not owned by the City were generally not included in this effort. System mapping completed for the model development is shown in Appendix A, which contains a key map at a 1" = 2,000' scale and seven full size system maps at a 1" = 500' scale.

The storm system model also includes limited channel modeling for the east branch of Chehalem Creek, Hess Creek and two branches of Spring Brook Creek. This was not updated as part of the 2020 SWMP. A Yamhill County Flood Study was developed in 1980 and includes models of Chehalem Creek and Hess Creek. However, as urbanization has significantly changed the creek systems since the development of these earlier models, current channel information was estimated from more recent LiDAR topographic information and verified through limited field work as part of the 2014 master plan update. Culvert and bridge data were incorporated from the City's geographic information system (GIS) and as-built maps.

Model development requires input of meteorological data, subcatchment hydrology, and surface water system hydraulic input parameters. Precipitation data, as design storms, were used to evaluate system capacity. Input parameters associated with subcatchment hydrology and surface water system hydraulics were developed through use of the City's GIS data. Gaps in City GIS data were filled using data from City field verifications in the 2014 Stormwater Master Plan.

3.1.1 Horizontal and Vertical Datum

All reported elevations and coordinates in this study are measured in feet and use the NAVD88 and the North American Datum of 1983 (NAD83) state plane coordinate system, respectively.

A section of the City's storm-drain system GIS data were on the National Geodetic Vertical Datum of 1929 (NGVD29) prior to the 2013 update and were converted to NAVD88. The conversion from NAVD88 to NGVD29 is to subtract 3.415 feet. All elevations in this plan and analysis are believed to be in NAVD88, but other City records, such as older as-built drawings, may show different elevations on other datums.

3.1.2 Design Storms

Traditional design storms are synthetic rainfall events used to evaluate the capacity of storm drainage systems and design capital improvements for the desired level of capacity and flood protection.

Design storms evaluated for this study included the 2-year, 10-year, 25-year, and 50-year 24-hour duration design storms.

The rainfall depths for these design storms were based on isopluvial maps published in the NOAA Atlas 2, Volume X. The rainfall distribution for these design storms is based on the Soil and Conservation Service (SCS) 24-hour, Type IA distribution, which is applicable to western Oregon, Washington, and northwestern California. Table 3-1 lists the precipitation depths for each design storm used in the model.

Table 3-1. Design Storm Depths

Design storm event	Rainfall depth, inches
2-year, 24-hour	2.5
10-year, 24-hour	3.5
25-year, 24-hour	4.0
50-year, 24-hour	4.2

3.1.3 System Nomenclature

This master planning effort incorporated the same nomenclature as the City's GIS for all the different elements all the stormwater system. Most of the manholes in the system are labeled STMH followed by an identifier number. Most of the pipes within the system are identified with STGM followed by a unique number. For the modeling effort additional identifiers were created for the modeled creek system and to provide additional detail to the pipe system. Open channel reaches on the three main creeks were labeled with CC, HC, or SB followed by a number. These labels represent Chehalem Creek, Hess Creek and Spring Brook Creek, respectively. Numbering was started at the lower reaches and numbers increased in the upstream direction. Tributaries were named CCT1 (Chehalem Creek Tributary 1) followed by a number. Additional nodes were included in the model as breaking points between reaches, at slope changes, and where manholes were discovered that were not part of the GIS inventory. These additional nodes were labeled with a J followed by a number.

Subcatchments or drainage basins were developed and each subcatchment was named according to the name of the drainage element that the subcatchment drained into. For example, the runoff from subcatchment SC_STMG128 would enter the system STMG128. The key map in Appendix A illustrates the

location of the modeled elements within the study area. Detailed maps which include the location of the modeled elements, named subcatchments, and inlet nodes are also located in Appendix A.

3.1.4 Hydrologic Data

This section includes a summary of subcatchment delineations and model input parameters used to define the hydrologic characteristics of the subcatchments. Table 3-2 identifies and describes model attributes associated with subcatchments as utilized by the previous consultant to create the model.

Table 3-2. Subcatchment Model Attributes

Attribute	Value
Name/Outlet	Identified by the storm drain element that has been identified according to the subcatchment inlet node
Area	Area of the subcatchment in acres
Width	Characteristic width of the overland flow path for sheet flow in feet
Slope	Average percent slope of the subcatchment
Imperv	Average percent of land area that is directly connected impervious area
Nimperv	Manning's *n* for overland flow over the impervious portion of the subcatchment (default value = 0.015)
Nperv	Manning's *n* for overland flow over the pervious portion of the subcatchment (default value = 0.030)
Dstore-Imperv	Depth of depression storage on the impervious portion of the subcatchment (default value = 0.05)
Dstore-Perv	Depth of depression storage on the pervious portion of the subcatchment (default value = 0.2)
ZeroImperv	Percent of the impervious area with no depression storage (default value = 25)
Routing	Runoff from pervious and impervious areas routes to a node within the storm drain system (value=OUTLET)
PctRouted	Percent runoff routed between subcatchments (default = 100)
Groundwater	Groundwater routing is not included (value=NO)
CurveNo	SCS pervious curve number calculated as an area-weighted average, based on the hydrologic soil group within each subcatchment

The curve number method was used to model runoff characteristics. PC SWMM utilizes a pervious curve number to calculate the infiltration for each sub-catchment. This method is documented in the U.S. EPA *Technical Release 55*.

The pervious curve number is based on the underlying soil type, as shown in Table 3-3.

Table 3-3. Pervious Curve Numbers

Land Use	Hydrologic Soil Group (HSG)			
	A	B	C	D
Impervious	98	98	98	98
Open space/grass	39	61	74	80

The imperviousness for each subcatchment was determined by a previous consultant using the City's impervious surface and tax lot layers in GIS and spot-checking with aerial imagery. Unfortunately, the

impervious surface area shapefile is no longer available. A printout of the map used is located in Appendix E. There were some manual edits made to the impervious areas as part of the 2020 master plan based on looking at aerial photographs for areas where flooding appeared excessive based on land use. For the CIP model, the percent impervious assumed to remain the same as the updated existing model, since new development is required to have post-development peak runoff not exceed pre-development peak runoff when impervious area is increased by 500 sq. ft. There is an increase in total flows, but the worst-case scenario for capacity related problems is the peak flow, so this is an appropriate method of determining peak flows.

Appendix B, Table B-1, provides model parameters and peak flows for each subcatchment and modeled design storm. Table B-2 provides model parameters and runoff volumes for each subcatchment and modeled design storm.

3.1.5 Hydraulic Data

This section describes the model input parameters used to characterize the hydraulic characteristics of the system.

System hydraulics were based on GIS data provided by the City and the model created in the 2014 update. No information in the existing model was verified as part of this project. Where needed, model data were supplemented with GIS data, as-built information, and maps provided by the City, aerial imagery, and LiDAR/Google Earth topographic information. The City collected field survey data to validate invert and rim elevations and system geometry as part of the 2014 Master Plan process. Hydraulic components developed from these data and imported into the model included conduits and junctions. A description of hydraulic components is provided in the following sections.

3.1.5.1 Nodes

Model nodes include storm drain utility manholes, catch basins, and other relevant connection points or locations where a conduit change occurs. Model nodes have the attributes as listed in Table 3-4.

Table 3-4. Model Node Attributes

Attribute	Value
ID	Unique identifier
Invert elevation	Invert elevation of the node in feet.
Depth	Depth (feet) = Rim elevation – invert elevation.
Ponded area	Area available for ponding of water atop of the node after flooding occurs in square feet. Allows ponded water to be stored and subsequently returned to the drainage system when capacity exists.

Appendix B, Table B-2, provides model parameters and peak flows for each modeled node.

3.1.5.2 Conduits

Model conduits include pipes, culverts, and open channels. Model conduits have the model attributes as shown in Table 3-5.

Table 3-5. Model Conduit Attributes	
Attribute	**Value**
ID	GIS Unique ID (when available)
Length	Length between upstream and downstream junctions in feet
Roughness	Manning's Roughness Coefficient: • Concrete Pipe: 0.013 • Corrugated Metal Pipe: 0.024 • Ductile Iron (DI): 0.013 • HDPE: 0.0125 • PVC: 0.0125 • Unknown: 0.013 • Open channel: 0.04 – 0.10
Cross-Section	Circular, trapezoidal, or irregular
Inlet Elevation	Elevation of conduit inlet in feet
Outlet Elevation	Elevation of conduit outlet in feet
Geom1	• Circular: diameter in feet • Trapezoidal: max depth in feet
Geom2	Trapezoidal: bottom width in feet
Geom3	Trapezoidal: left slope (horizontal/vertical)
Geom4	Trapezoidal: right slope (horizontal/vertical)
Barrels	One for single pipe, two or more for parallel pipes

Table B-2 in Appendix B provides model parameters, 25-year recurrence interval peak flows, and the calculated hydraulic capacity for each modeled conduit.

3.1.5.3 Storage

No storage facilities were included in the 2014 model, but a few simplified conservative storage nodes were added to the current model that were in between pipes that needed to be modeled. Futures updates of this plan should add details to these and all other storage facilities in the City to add accuracy to the model.

3.1.5.4 Outfalls

The study area includes 16 piped outfalls. Model outfalls have the attributes shown in Table 3-6.

Table 3-6. Outfall Model Attributes	
Attribute	**Value**
Name	Unique identifier
Invert elevation	Invert elevation of the outfall in feet
Rim elevation	Ground surface elevation at the outfall in feet
Type	Type of outfall boundary condition; options used include: • FREE: Outfall stage is determined by minimum of critical flow depth and normal flow depth in the connecting conduit. • FIXED: Outfall stage is set to a fixed value equal to the top of the outfall pipe; this condition was selected for system evaluation and CIP sizing in systems draining to Chehalem Creek, Hess Creek, and Spring Brook Creek.

3.2 Evaluation Criteria

Section 4 of the City's 2015 Public Works Design and Construction Standards includes design requirements for storm drainage systems in Newberg. With the current SWMM model updates, the City is using the *2015 Newberg's Public Works Design & Construction Standards*, so that manual was used to establish the design standards for evaluating the capacity of the stormwater infrastructure. The existing and proposed (CIP) storm drainage pipe network models were evaluated for capacity based on the 25-year design storm event.

For the purpose of evaluating the capacity of the existing and proposed (CIP) storm drainage infrastructure, flooding was defined as any surcharge over the rim elevation of a manhole, catch basin, or above the bank elevation of open channels. Minor flooding is defined as flooding that occurs for less than 2-hours during the peak 24-hour design storm. Major flooding is defined as flooding that occurs for more than 2-hours during the peak 24-hour design storm.

Since the 2014 SWMP update, the City has updated the Stormwater Design Standards. The new standards include a change to using the 25-year, 24-hour design storm for sizing stormwater pipes conveying water from drainage areas less than 250 acres in size. The previous plan evaluated the 10-year design storm for the model evaluation, but the capital improvement projects (CIPs) were designed to convey the 25-year design storm. This change in evaluation criteria standardizes Newberg's evaluation criteria with most other communities in the region. Although it will show a larger number of problem areas than were shown in the previous plan, it should be understood that there are likely not many more problems in the City than existed before, just a stricter view of what is a problem area. This allows for better prioritization of all projects.

3.3 Model Validation

Preliminary modeling results were reviewed with City staff and the previous consultant. Model results were compared to known flooding problems reported by the City's maintenance crews. Anecdotal accounts of flooding were generally consistent with the locations where flooding occurs in the modeled system. In some cases, City staff report flooding problems due to sediment build-up or other field conditions (e.g., a grading problem that prevents adequate collection of runoff into the stormwater system) that are not reflected in the hydraulic model. These problems were documented in Table 3-8 and Figure 3-5 but did not require a change in the hydraulic model.

The model was revalidated with maintenance staff in September 2020. Adjustments were made as necessary. After adjusting the modeled system to reflect field conditions, the model validation was complete.

Flow monitoring was not possible due to the timing of this project and when large storms occur in Newberg. It is recommended that future updates include flow monitoring and model calibration.

3.4 Model Results

PC SWMM (version 7.2.2785) was used to simulate the 2-year, 10-year, 25-year, and 50-year design storms for the current and CIP conditions.

Results of the hydrologic/hydraulic (H/H) model simulations are tabulated in Appendix B (Table B-1 for hydrologic peak flow results and Table B-2 for hydraulic results). For reporting purposes, the hydrologic results reflect all simulated design storms, and the hydraulic results tables reflect just the 25-year flows, which were used to identify capacity deficiencies in most areas of the City. Hydraulic results for other storm events are available in the electronic project files.

The hydrologic results table (Table B-1) is sorted by basin and subcatchment, and includes the subcatchment name, modeled inlet node ID, subcatchment area, curve number, impervious area, and associated design flow. The hydraulic results table (Table B-2) is sorted by system basin and conduit, and includes the conduit name, upstream and downstream node ID, length, size, invert and rim elevations, and existing and CIP 25-year peak flows and water surface elevations.

3.4.1 Initial Identification of Flooding Problems

Based on the hydraulic model results summarized in Table B-2, conduits experiencing backwater conditions that resulted in flooding of the upstream manhole were identified. Figures 3-1 and 3-2 illustrate predicted flooding.

The model results were reviewed with City staff who provided comment and discussion about each identified modeled flooding area. Table 3-7 summarizes the identified flooding problem areas.

Figure 3-1. Predicted flooding: existing land use, each design storm

Figure 3-2. Predicted flooding duration at 25-year event

Table 3-7. Flooding Problem Areas from Model						
Problem Area	Location	Event(s) deficiency occurs	Problem description	Potential solution	Length of conveyance improvements, linear feet	Contributing drainage area, acres
Chehalem Creek						
C-A	South Blaine Street, between East 6th Street and East 7th St.	2-yr	This area was partially upgraded through a recent project, but more is needed.	Upsize existing stormwater pipes to 21" and 18" to convey flows.	1,035	39
C-B	South Center Street, between East 3rd Street and East 9th Street	2-yr	Currently a reach of 21" stormwater pipe runs through private property and under several houses. This is undersized and causes flooding along E 8th St, E 7th St, and S Center St. There are other undersized pipes in Center St.	In conjunction with the proposed River St. transportation improvements, divert extra flows from Center St. over to new lines in River St. to 8th street. From there are a few options for routing, Option A was selected for the master plan, but any of them would work if those roads are more feasible or being rehabbed sooner. A-continue to route down River St. to the River. B-Route down 9th St. to College St. to Chehalem Creek C-Route down 8th St. to Wynooski St. to Hess Creek	6,049	100
C-C	Oxford Street, between Winchester Drive and East Mountainview Drive	2-yr	Flow is currently restricted by fourteen undersized pipes. Pipe diameters increase and decrease in numerous places throughout this alignment. The City has installed some upsized pipes to address acute problems. This project provides a broader solution.	Upsize existing stormwater pipes to 18”, 36"& 48” to provide capacity for flows.	958	166
C-D	6th & Blaine St.	2-yr	Flow is currently restricted by six undersized pipes.	Upsize existing stormwater pipes to 15” & 18" to convey flows. Move pipes into the public right-of-way.	976	25
C-E	Pinehurst Dr.	2-yr	Flow is currently restricted by six undersized pipes.	Upsize existing stormwater pipes to 15” &18" to convey flows. Move pipes into the public right-of-way.	1,386	13
C-F	Crater Ln.	25-yr	Flow is backing up at a culvert and causing flooding upstream.	Upsize existing culvert to 24" to convey flows.	26	142
C-G	Partridge Ln.	25-yr	Flow is currently restricted by an undersized pipe.	Upsize existing stormwater pipes to 24" to convey flows.	223	30
C-H	Illinois St.	10-yr	Flow is currently restricted by two undersized pipes.	Upsize existing stormwater pipes to 18" to convey flows.	498	2
C-I	Ditch & Pinehurst Dr.	2-yr	Flow is currently restricted by two undersized pipes.	Upsize existing stormwater pipes to 24"&36” to convey flows.	693	136
C-J	Charles St.	10-yr	Flow is currently restricted by an undersized pipe.	Upsize existing stormwater pipes to 15" to convey flows.	171	12
C-K	Center St.	25-yr	Flow is currently restricted by two undersized pipes.	Upsize existing stormwater pipes to 30" to convey flows.	302	58
Hess Creek						
C-L	N Edwards Street, from Vermillion Street to E Sheridan Street	2-yr	The City has reported drainage problems along Vermillion St between N College St and the railroad. Currently a flat and undersized pipe discharges stormwater along the railroad tracks. This neighborhood does not have a defined connection to the public stormwater system.	Add a drainage system to convey flows from Vermillion St to the existing drainage system at E Sheridan St. Increase existing pipes to 12”, 18” & 24” to convey flows.	4,493	19
C-M	E 3rd and S Church Streets	2-yr	Modeling shows flooding problems along E 3rd St and S Church.	Add a 18" stormwater pipe to connect the stormwater system from E 3rd St to S Church St to provide conveyance and storage. Upsize existing stormwater pipes to 15”-18", as estimated by modeling. Divert some flow down Doris Dr.	2,448	28
C-N	Various, see map	2-yr	Flow is currently restricted by ten undersized pipes.	Upsize existing stormwater pipes to 18” & 24" to convey flows. Some pipes need to be replaced due to material.	1,891	25

C-O	Mountainview Dr.	10-yr	Flow is currently restricted by private undersized private pipes and backs up onto City-owned streets.	Divert flows away from private property through new pipe along Mountain View Dr. to Hess Creek.	1,455	78
C-P	Crestview Dr. and Villa Rd.	10-yr	Flow is currently restricted by three undersized pipes.	Upsize existing stormwater pipes to 15" to convey flows.	573	29
C-Q	Wynooski St. 5th to Merlin	2-yr	Flow is currently restricted by three undersized pipes.	Upsize existing stormwater pipes to 15” & 18" to convey flows.	1,251	21
C-S	E 2nd St.	10-yr	Flow is currently restricted by an undersized pipe.	Upsize existing stormwater pipes to 15" to convey flows.	526	6
C-T	E 2nd St.H-1	10-yr	Flow is currently restricted by two undersized pipes.	Upsize existing stormwater pipes to 18" to convey flows.	775	14
Spring Brook Creek						
C-R	E 2nd St.	2-yr	Flow is currently restricted by several undersized pipes.	Add two additional pipes to change the direction of flow.	113	11
C-U	North Springbrook Road, north of Highway (Hwy) 99W	2-yr	Modeling shows flooding problems along N Springbrook Rd. The upstream stormwater system along N Springbrook Rd was upgraded during installation of traffic improvements, but flows are constricted from a 30" pipe down to an 8"-12" section of pipe near Middlebrook Dr.	Upsize the stormwater pipes along N Springbrook Rd to 30" diameter and connect the system to the existing system to the south. This includes spur lines that are undersized and three new pipes. Divert flows away from channel to Springbrook Rd.	3,119	173
C-V	Libra Street and Victoria Way	2-yr	Modeling shows flooding problems along Libra St during the current and future conditions 10-year storm event. This system needs frequent maintenance to address silt accumulation.	Install pipes along Crestview Dr. and Coffee Dr. to divert flows away from flooding locations.	957	33
C-W	Brutscher St.	10-yr	Flow is currently restricted by an undersized pipe.	Upsize existing stormwater pipes to 18" to convey flows.	260	19

3.5 Reported Problem Areas

In addition to reviewing simulated problem areas identified through hydraulic modeling, other locations of drainage concerns were identified through the following methods:

- Maintenance Problem Map – During the Master Plan background information gathering period, maintenance and engineering staff developed a map of known problem areas throughout the City. Known problem areas include some of the capacity problems predicted through modeling and also problems that are the result of challenging maintenance conditions (i.e., areas with frequent need of leaf or sediment removal). The maintenance problem map also includes some locations where the piped stormwater system is located beneath private buildings. Relocating these pipes to public right-of-way is a high priority for the City.
- Citizen Report – City staff maintain records of drainage problems reported by citizen. The majority of the complaints are resolved through responsive maintenance visits to alleviate a blockage in the drainage network. Occasionally, a reported problem is indicative of a larger problem that needs to be addressed through infrastructure changes.
- 2001 & 2014 Master Plans – the City's initial Stormwater Master Plan was completed in 2001 and identifying 50 locations for potential stormwater capacity improvements and the most recent update in 2014 which provided an updated list of capital improvement projects. Since 2001, many of the project areas have been addressed through capital projects or resolved through other means, such as adjusted maintenance procedures or through reconstruction of the drainage system along Hwy 99W. Other projects are no longer required, as development patterns (and therefore flow rates) have shifted from what was assumed in the previous modeling. A detailed review of the 2001 Master Plan identified three remaining project areas that should be considered for inclusion in this Master Plan, and several areas from the 2014 Master Plan.

Table 3-8 includes a compilation of reported problem areas. These are all maintenance issues and not capacity related. The reported problem area locations are shown in Figure 3-5.

Table 3-8. Reported Problem Areas

Identifier	Location	Problem description	Frequency/ duration	Source of information	Drainage basin	Model in this area	Notes
F-1	College Street north of railroad tracks	Inadequate storm system in LID; Roadside drainage ditches overtop and flood neighboring properties.		2014 SWMP: City - engineering map City - photos during flood event	Chehalem	Model shows minor (<2 hour) flooding in 10-year event.	
F-2	Columbia and Kemper Crest	Street and intersection water backs up from ditch in county.	heavy rainfall	2014 SWMP: maintenance questionnaire	Chehalem		
F-3	Columbia and Kemper Crest	Road and ditches flood	every rainfall	2014 SWMP: maintenance questionnaire	Chehalem		Needs debris removal on downstream farm property.
F-4	1st and Harrison Streets	Flooding in front of Subway.	every rainfall	2014 SWMP: maintenance questionnaire	Chehalem		No storm drain in this area?
F-5	2nd and Main Streets	Street floods at Naps Thriftway parking lot driveway on 2nd Street.	heavy rainfall	2014 SWMP: maintenance questionnaire	Chehalem		No mapped drainage system in this area.
F-6	9th and River Streets, southeast Corner	Roadway floods 10-12' radius around catch basin.	heavy rainfall	2014 SWMP: maintenance questionnaire	Chehalem		Suggestion to move catch basin and raise the corner bubbler, near, but not connected to, DP-C-4.
F-7	Dayton Avenue near Johanna Court	Roadway drainage flows into driveways and causes minor damage of driveways and sidewalk. Report confirmed by maintenance staff.	1-2 times/year	2014 SWMP: citizen e-mail report	Chehalem		No drainage system in this area. Possible green street solution in existing planter strips.
F-8	College and Vermillion Streets	Intersection ponding	every rainfall	2014 SWMP: maintenance questionnaire	Hess		Recommends repaving.
F-9	College and Vermillion Streets	Gravel street area floods.	heavy rainfall	2014 SWMP: maintenance questionnaire	Hess		
F-10	Hess Creek at Hoover Park	Flooding during January 2012 storm event.		2014 SWMP: City - photos during storm event	Hess		Is Hoover Park part of the floodplain?

Table 3-8. Reported Problem Areas

Identifier	Location	Problem description	Frequency/ duration	Source of information	Drainage basin	Model in this area	Notes
F-11	Hoover Park	Trash, beaver dams, and people place debris in creek to slow the flow.	every rainfall	2014 SWMP: maintenance questionnaire	Hess		Needs frequent maintenance and public education regarding Hoover Park's natural floodplain.
F-12	College and Franklin Streets	Intersection ponding	every rainfall	2014 SWMP: maintenance questionnaire	Hess		Recommends repaving; no mapped drainage system at this intersection.
F-13	College and Sherman Streets	Bubbler backs up	heavy rainfall	2014 SWMP: maintenance questionnaire	Hess		No mapped drainage system at this intersection
F-14	Haworth Avenue between Elliot and Pecan Streets (near high school)	Flooding during January 2012 storm event. Flooding on/off of private property; standing water on roadway and onto school grounds.		2014 SWMP: City - photos during storm event	Spring Brook Creek		Construction near high school has resolved Haworth drainage problems. No recent flooding observed.
F-15	Haworth Avenue between Elliot and Pecan Streets (near high school)	Flooding during January 2012 storm event. Flooding on/off of private property; standing water on roadway and onto school grounds.		2014 SWMP: City - photos during storm event	Spring Brook Creek		Construction near high school has resolved Haworth drainage problems. No recent flooding observed.
F-16	Springbrook Road near 2nd Street	Flooding during January 2012 storm event.		2014 SWMP: City - photos during storm event	Spring Brook Creek		Oregon Department of Transportation bypass project to replace Springbrook Road drainage system.
F-17	Spring Brook Creek at Golf Course	Flooding during January 2012 storm event.		2014 SWMP: City - photos during storm event	Spring Brook Creek		Is the golf course part of the floodplain?
F-18	Myrtlewood Dr.	surcharging		Cartegraph	Chahelem		stiF08014
F-19	Myrtlewood Dr.	surcharging		Cartegraph	Chahelem		stiF08017
F-20	Myrtlewood Dr.	Flooding complaint, install trash rack		Cartegraph	Chahelem		stiF12099
M-R-1	Douglas Ave.	Replace		Cartegraph	Spring Brook Creek		stmg1206
M-R-2	Vermillion Street between College Street and railroad tracks	Undersized and flat pipe discharges to tracks with no fall. (Note: GIS data do not show a pipe in this area.)		2014 SWMP: City - engineering map	Hess	Model shows 10-year flooding in adjacent system.	Most commonly reported problem; also reported on crew surveys. Maintenance suggestion to repave at College and Vermillion Streets, stgm4578
M-R-3	College Street and Sheridan Street	Bored through		Cartegraph	Chehalem		stgm2048

Table 3-8. Reported Problem Areas

Identifier	Location	Problem description	Frequency/ duration	Source of information	Drainage basin	Model in this area	Notes
M-R-4	Between 1st and 2nd Streets at Howard Street	Storm drainpipe is under commercial building.	n/a	2014 SWMP: City - engineering map	Chehalem		
M-R-5	Fourth St. & Meridian St.	Replace		Cartegraph	Hess		stgm0750
M-R-6	Ninth St. and Charles St.	Replace		Cartegraph	Chehalem		stgm4095
M-R-7	Between 8th and 9th Streets near Center Street	Flat sloped pipe runs under house on private property; needs to be rerouted.		2014 SWMP: City - engineering map	Chehalem	Model shows 10-year flooding upstream of problem pipe.	
M-R-8	S River Street and 11th Court	Two clay sewer tile pipe segments are deteriorating and require replacement. Replacement should be sized to convey flows.	n/a	2014 SWMP: Master Plan	Chehalem		City staff confirmed this problem needs attention. stmg3369
M-R-9	Natural system crossing College Street, south of Andrew Street	Steep ravine; multiple pipe materials; potential to collapse and fail.		2014 SWMP: City - engineering map	Chehalem		Field visit needed?
M-R-9	College Street south of Andrew Street	Existing pipe system under College Street is composed of multiple pipe materials, causing ongoing maintenance problems and concerns over long-term stability.	n/a	2014 SWMP: 2001 Master Plan	Chehalem		City staff confirmed this problem needs attention.
M-R-10	Inlet at Mountainview Park (mobile home village)	Debris gets trapped against grate.		2014 SWMP: maintenance questionnaire	Spring Brook Creek		Clean upstream - owned by Parks and Rec, stil11034
M-R-11	N College St @ Second St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG12042
M-R-12	Third St. @ Chehalem St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG1208
M-R-13	Antonia Way	Bored through		Cartegraph	Chehalem		stmF07006
M-R-14	Center St. @ 8th St.	does not meet standard		Cartegraph	Hess		stiG131
M-R-15	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG135
M-R-16	Round Catch Basins between 6th St., Wynooski	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG136

Table 3-8. Reported Problem Areas

Identifier	Location	Problem description	Frequency/ duration	Source of information	Drainage basin	Model in this area	Notes
	St., S Meridian St., and 10th St.						
M-R-17	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG13064
M-R-18	S Meridian St.	does not meet standard		Cartegraph	Hess		stiG13078
M-R-19	S Center St.	ADA issue		Cartegraph	Hess		stiG13018
M-R-20	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG13017
M-R-21	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG13076
M-R-22	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG13015
M-R-23	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG13088
M-R-24	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG13012
M-R-25	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG13063
M-R-26	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG13033
M-R-27	Round Catch Basins between 6th St., Wynooski	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG13032

Table 3-8. Reported Problem Areas

Identifier	Location	Problem description	Frequency/ duration	Source of information	Drainage basin	Model in this area	Notes
	St., S Meridian St., and 10th St.						
M-R-28	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG13034
M-R-29	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG13036
M-R-30	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG13037
M-R-31	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiH13003
M-R-32	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiH13005
M-R-33	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiH13004
M-R-34	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG13044
M-R-35	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG13045
M-R-36	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG13042

Table 3-8. Reported Problem Areas

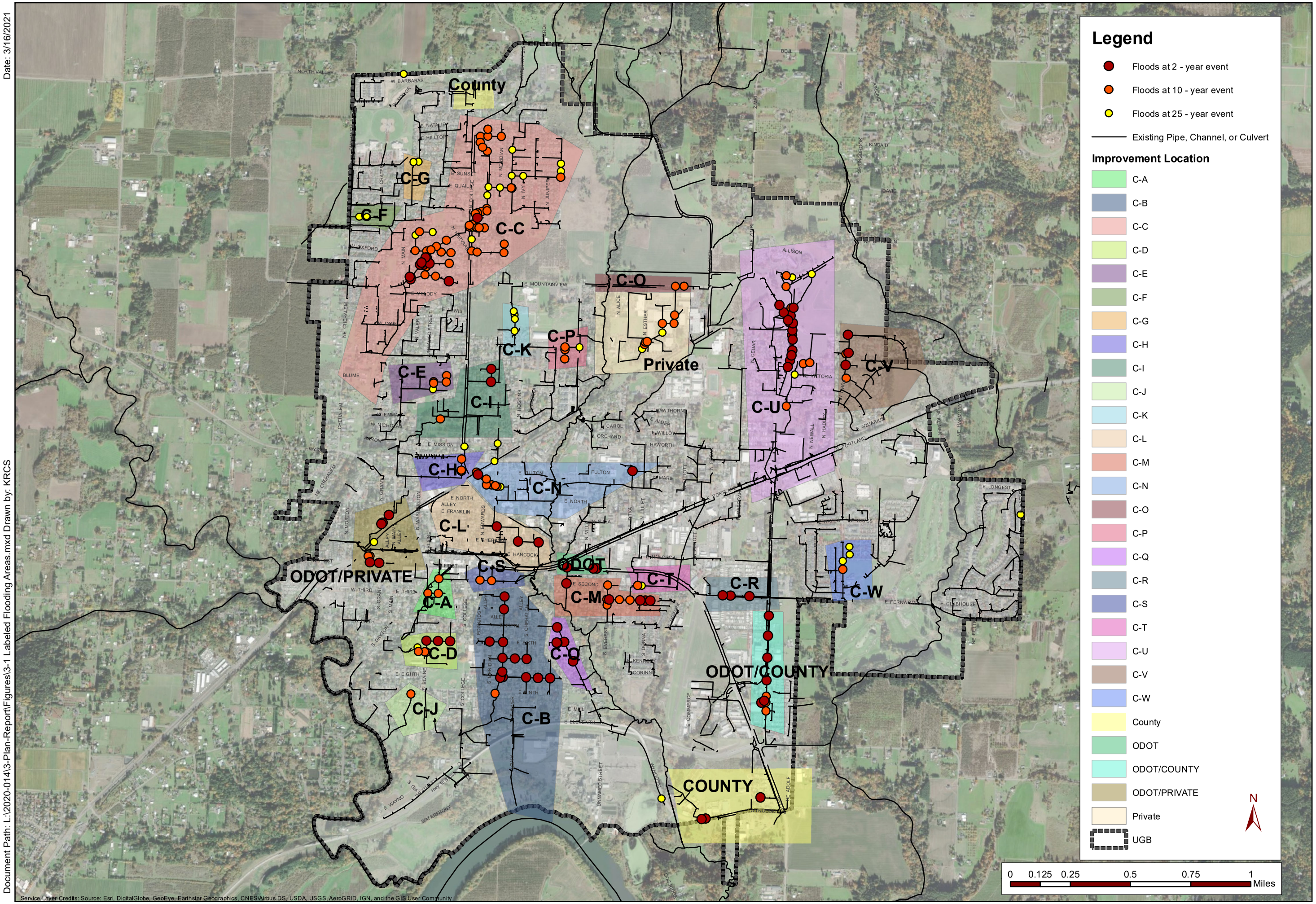
Identifier	Location	Problem description	Frequency/ duration	Source of information	Drainage basin	Model in this area	Notes
M-R-37	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG13043
M-R-38	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG13061
M-R-39	Round Catch Basins between 6th St., Wynooski St., S Meridian St., and 10th St.	Round Catch Basin that does not drain well, needs to be replaced with modern design		Cartegraph	Hess		stiG13060
M-R-13	Antonia Way	Bored through		Cartegraph	Chehalem		stmF07006
M-R-40	E Sheridan St.	Replace and increase size			Hess		stoG120006
M-SH-1	Hemlock Ln	Sink hole		Cartegraph	Hess		stiG10011
M-MN-1	Aldersgate Dr.& Sunset Dr.	roots		Cartegraph	Hess		stgm3561, stgm2883
M-MN-2	Cedar St.	plugged		Cartegraph	Spring Brook Creek		stgm2452
M-MN-3	Eight St. & Pacific	roots		Cartegraph	Hess		stgm2208
M-MN-4	W Fifth St.	needs inlet marked		Cartegraph	Chehalem		stiF1210040
M-MN-5	Highway 99	clean		Cartegraph	Hess		stiH12102
M-MN-6	E Second St.	debris on grate		Cartegraph	Hess		stiI12050
M-MN-7	Creek downstream of Kemper Crest Drive	Downstream creek discharge blocked; causes Kemper Crest to back up.		2014 SWMP: City - engineering map	Chehalem	Model shows 10-year flooding around existing pond.	Also reported on crew surveys. stiI1247
M-MN-8	E Fernwood Dr.	Beaver Dam		Cartegraph	Spring Brook Creek		stiJ12081
M-MN-9	E 2nd. Street	Debris on grate		Cartegraph	Spring Brook Creek		stiI12051
M-SR-1	Solstice Ln.	Bored Through		Cartegraph	Chehalem		stgm3738
M-SR-2	N Meridian St.	Bored Through		Cartegraph	Chehalem		stgm2596, stgm4457
M-SR-3	Cedar St.	Bored Through		Cartegraph	Spring Brook Creek		stgm1924
M-SR-4	Redwood Ct.	Reline the pipe or use root guard		Cartegraph	Chehalem		stgm0122, stgm2667
M-SR-5	N Lincoln St @ First St.	offset pipes		Cartegraph	Chehalem		stgm5477
M-SR-6	Howard St. @ Sixth St.	Root Removal and several spot repairs needed.		Cartegraph	Chehalem		stgm3838
M-SR-7	Renne Park	Broken Pipe		Cartegraph	Chehalem		stgm0206

Table 3-8. Reported Problem Areas

Identifier	Location	Problem description	Frequency/ duration	Source of information	Drainage basin	Model in this area	Notes
M-SR-8	Eighth St.	separated pipe		Cartegraph	Chehalem		stgm2390
M-SR-9	Nineth St. @ Charles St.	repair		Cartegraph	Chehalem		stgm1327
M-SR-12	Nineth St. @ Charles St.	Repair void upstream		Cartegraph	Chehalem		stiF131
M-SR-13	Nineth St. @ Charles St.	Repair holes in upstream pipe connections		Cartegraph	Chehalem		stiF132
M-SR-14	W Foothills Dr.			Cartegraph	Chehalem		StmF07006
M-SR-15	W Oxford St.	Broken pipe		Cartegraph	Chehalem		stmG08013
M-SR-16	Highway 99	Spot Repair		Cartegraph	Hess		stmI1110016
M-SR-17	Hancock St. @ Main St.	Repair protruding tap		Cartegraph	Chehalem		stiF12049
M-SR-18	First St. @ Church St.	Repair by adding concrete to bottom		Cartegraph	Hess		stiH12032

Date: 3/16/2021

Document Path: L:\2020-014\3-Plan-Report\Figures\3-1 Labeled Flooding Areas.mxd Drawn by: KRCS



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Figure 3-1

2020 City of Newberg Stormwater Master Plan

Model Capacity Problem Areas

City of Newberg

HBH CONSULTING ENGINEERS

Date: 3/16/2021

Document Path: L:\2020-014\3-Plan-Report\Figures\3-2 Hours Flooding at 25-year Event.mxd Drawn by: KRCS

Figure 3-2

2020 City of Newberg Stormwater Master Plan

Hours Flooding in Model at 25-year Event

City of Newberg

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Length of Time Flooded at 25-year Event in Model

- Less than 10 minutes
- 10-30 minutes
- 30 minutes - 1 hour
- 1-2 hours
- 2-10 hours
- 10 hours-1 day
- 1-2 days

Capacity Problem Locations

- C-A
- C-B
- C-C
- C-D
- C-E
- C-F
- C-G
- C-H
- C-I
- C-J
- C-K
- C-L
- C-M
- C-N
- C-O
- C-P
- C-Q
- C-R
- C-S
- C-T
- C-U
- C-V
- C-W
- County
- ODOT
- ODOT/COUNTY
- ODOT/PRIVATE
- Private
- Existing Pipes
- UGB

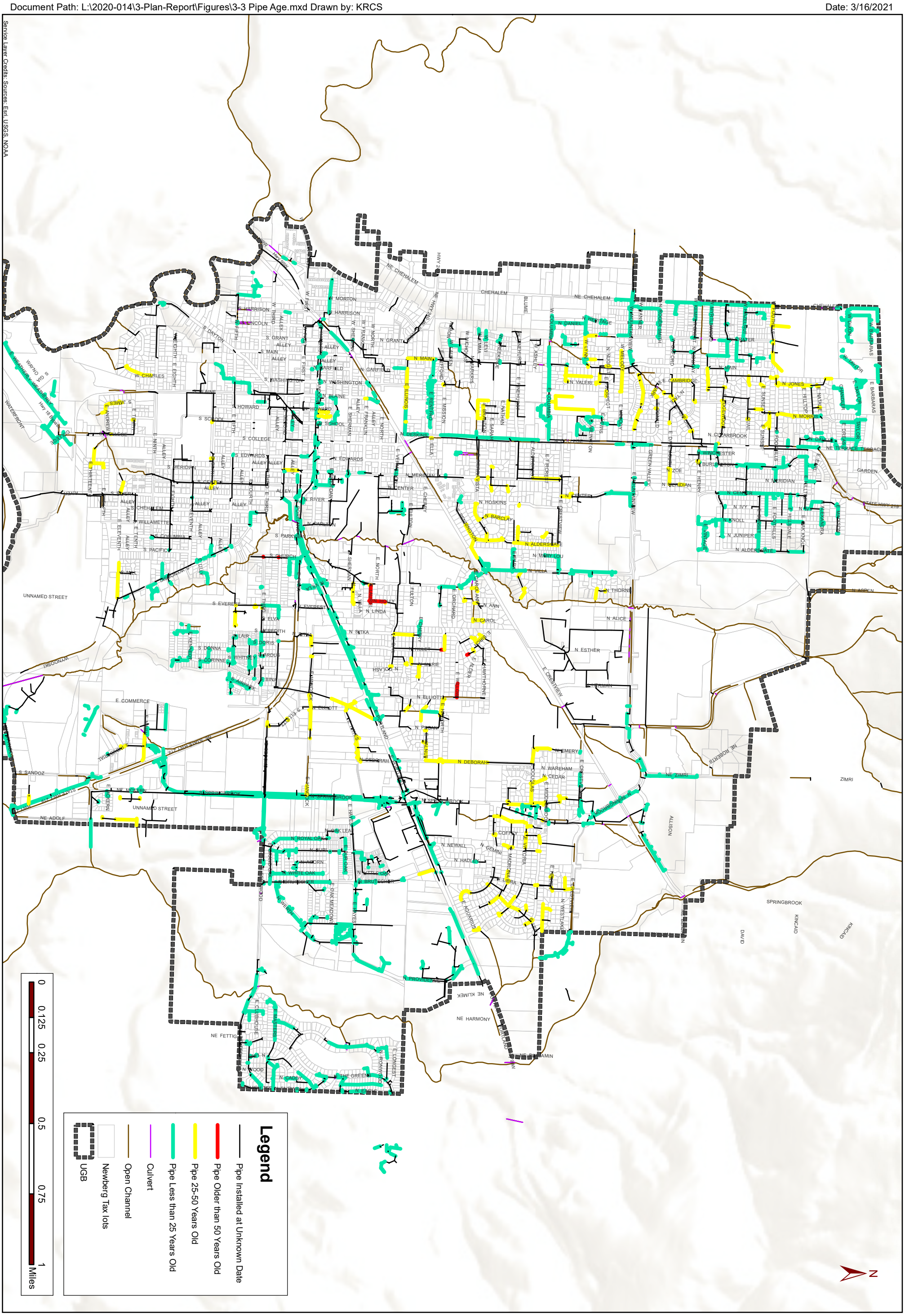
N

0 0.1 0.2 0.3 0.4 0.5 Miles

Document Path: L:\2020-014\3-Plan-Report\Figures\3-3 Pipe Age.mxd Drawn by: KRCS

Date: 3/16/2021

Service Layer Credits: Sources: Esri, USGS, NOAA

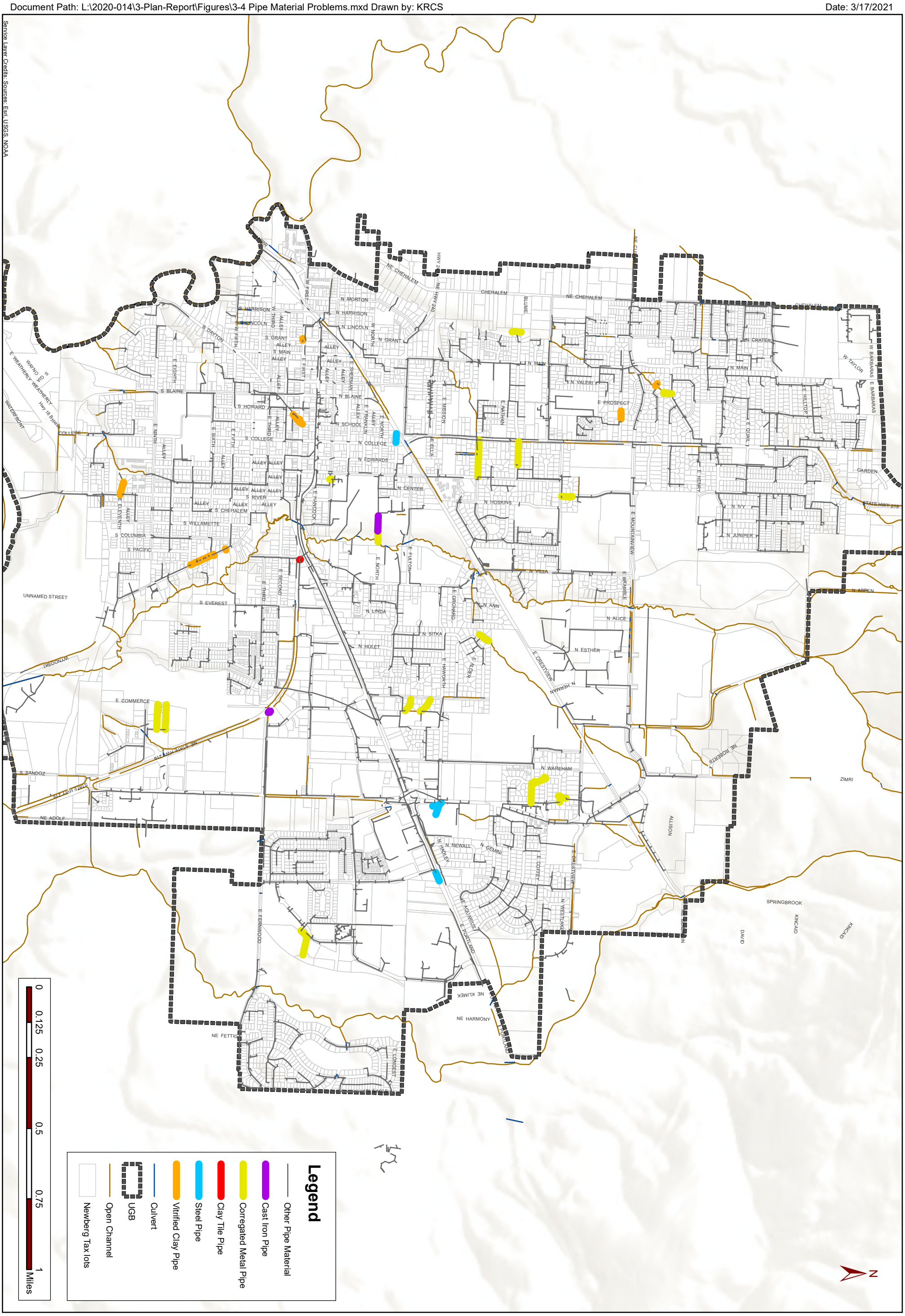


HBH CONSULTING ENGINEERS	City of Newberg	**Pipe Age**	**2020 City of Newberg Stormwater Master Plan**	Figure **3-3**

Document Path: L:\2020-014\3-Plan-Report\Figures\3-4 Pipe Material Problems.mxd Drawn by: KRCS

Date: 3/17/2021

Service Layer Credits: Sources: Esri, USGS, NOAA



HBH CONSULTING ENGINEERS	City of Newberg	Pipe Material	2020 City of Newberg Stormwater Master Plan	Figure 3-4

Date: 3/25/2021

Document Path: L:\2020-0141\3-Plan-Report\Figures\3-5 Reported Stormwater System Maintenance Problem Areas.mxd Drawn by: KRCS

Figure 3-5

2020 City of Newberg Stormwater Master Plan

Reported Stormwater System Maintenance Problem Areas

City of Newberg

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N

Legend

- Spot repair
- Maintenance Needed
- Replace Pipe
- New Pipe
- Replace Outlet and Increase Size
- Spot Repair Manhole
- Replace Manhole
- Spot Repair Catch Basin
- Maintenance Issue Catch Basin
- Replace Catch Basin
- Sink Hole
- Flooding or Surcharging
- Existing Pipes
- Culvert
- UGB
- Open Channel
- Newberg Tax lots

Meanings of Labels:
M-R-# = Replace
M-MN-# = Maintenance Needed
M-SR-#= Spot Repair
M-SH-# = Sink Hole
F-# = Reported Flooding Area

0 0.125 0.25 0.5 0.75 1 Miles

Service Layer Credits: Sources: Esri, USGS, NOAA

Date: 3/30/2021

Drawn by: KRCS

Document Path: L:\2020-014\3-Plan-Report\Figures\3-6 Pipes with PACP Scores of 3 or More.mxd

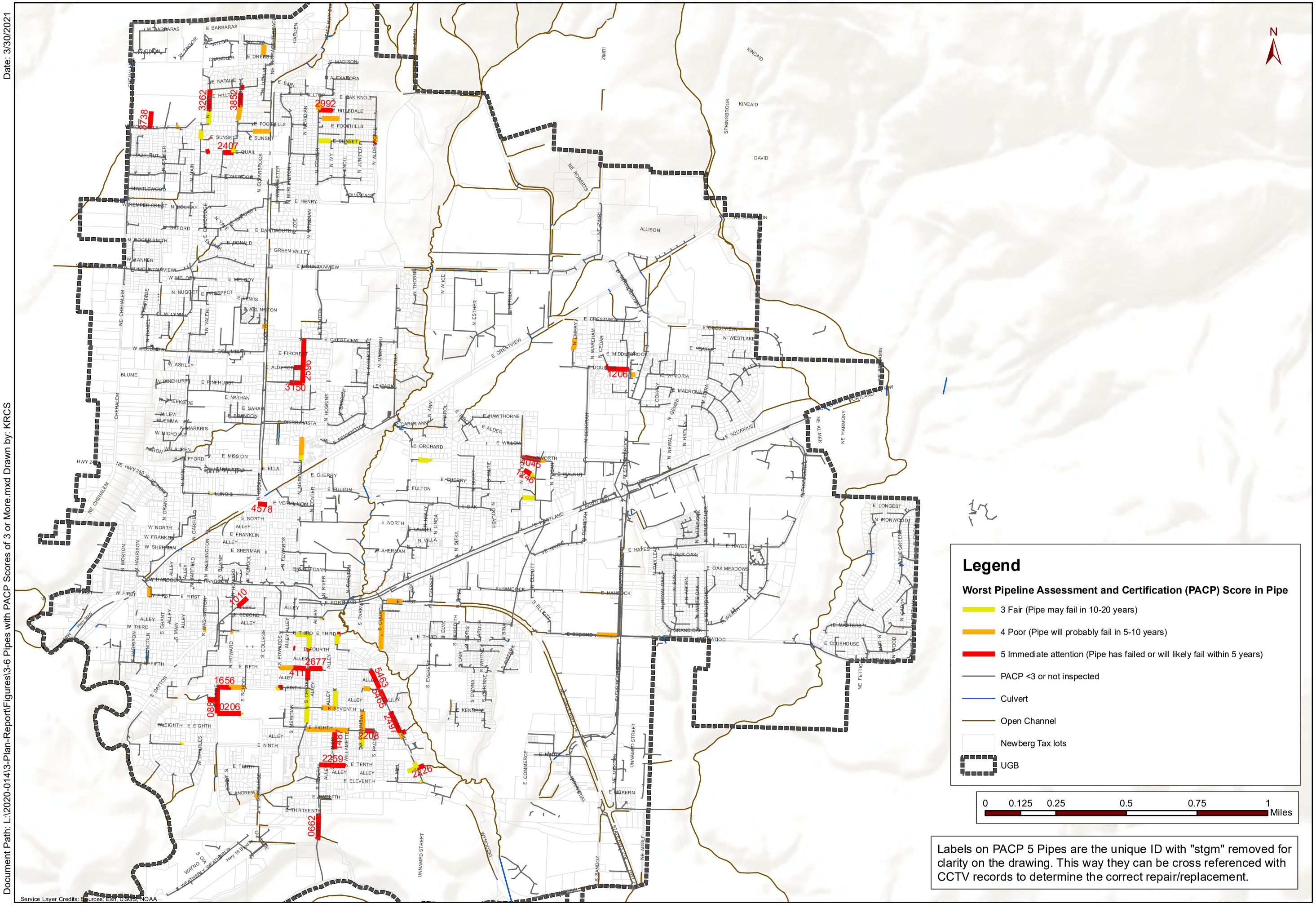

Figure **3-6**

2020 City of Newberg Stormwater Master Plan

Pipes with PACP Scores of 3 or More

City of Newberg

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Section 4

Maintenance and Programmatic Evaluation

This section documents the City's stormwater program activities as they relate to maintenance of the stormwater infrastructure, water quality protection, engineering, and development review. In general, the activities are divided into two categories: maintenance activities are those conducted by the operations and maintenance staff; programmatic activities are those conducted by administrative and engineering staff. This section also includes an evaluation of the City's existing design standards related to stormwater management and a staffing analysis to identify the staff levels needed to implement the recommended stormwater related activities.

4.1 Stormwater Program History

The City's Public Works Department is responsible for implementing the stormwater management program to meet regulatory requirements. The Public Works Department includes staff that performs roles related to engineering, operations, and maintenance. All staff plays a role in maintaining water quality and managing stormwater runoff.

In 2001, the City adopted Ordinance 2571 that codified the stormwater management program (Newberg Municipal Code (NMC) 13.20 and 13.25). The ordinance included adoption of a stormwater management fee that applies to all properties with impervious surfaces within the City. The stormwater management fee enables the City to fund maintenance and engineering activities, as well as capital projects related to the stormwater infrastructure. The City's Citizens Rate Review Committee (CRRC) meets regularly to adjust the stormwater management fee, along with the fees related to other City utilities. In 2012, the City adopted Ordinance 2754 to update the stormwater management guidelines in NMC 13.25.

Historically, the City's stormwater management program was formed around addressing drainage capacity and flooding problems. In the last decade, the program has shifted to address increasing water quality and quantity regulations.

4.2 Regulatory Conditions

The City's current stormwater program has been expanded to address the regulatory requirements of the Total Maximum Daily Load (TMDL) program. Due to its size, Newberg is not currently subject to the National Pollutant Discharge Elimination System (NPDES) permitting requirements for the municipal separate storm sewer system.

4.2.1 Willamette River TMDL

In September 2006, the Willamette River was listed by DEQ and the United States Environmental Protection Agency (USEPA) as a 303(d) stream. Near Newberg, the parameters of concern are bacteria, mercury, and temperature. Additional pollutants, such as dissolved oxygen, turbidity, and toxics are identified as problematic for specific tributaries and portions of the Willamette River, but are not listed as concerns in areas covered by Newberg. In 2008, DEQ and the City agreed to a TMDL Implementation Plan to reduce

pollutant loads and temperatures in Chehalem Creek, Hess Creek, and Spring Brook Creek, all of which drain to the Willamette River. This was updated in 2018.

The City's TMDL Implementation Plan includes six minimum measures:

- public education
- public involvement
- illicit discharge detection and elimination
- construction site stormwater control
- post-construction run-off control
- pollution prevention in municipal operations

In January 2018, the City completed its third 5-year review of activities from 2013 through 2017 related to the TMDL Implementation Plan and outlined strategies for the next 5-year cycle (2018-2022). The TMDL Implementation Plan remains the City's primary regulatory driver for stormwater management activities.

4.2.2 Future NPDES MS4 Program

In Oregon, DEQ has been delegated the authority from USEPA to implement the MS4 NPDES permitting program, including writing, and issuing MS4 permits for municipal stormwater discharges. To date, NPDES MS4 permits have been issued to municipalities with populations greater than 50,000 and smaller communities within larger urbanized areas. Due to its location away from the urbanized areas, the City has not yet been required to obtain a NPDES MS4 Permit. However, if DEQ expands the current permit program to reach a larger number of communities, then Newberg could be subject to a NPDES MS4 permit.

The City's TMDL activities are generally aligned with typical NPDES permit requirements. Fulfilling TMDL obligations puts the City in a good position to comply with a future NPDES permit if DEQ expands the NPDES MS4 permitting program to regulate smaller cities.

4.3 Maintenance Program Review

This section provides an assessment of the resources currently available to maintain the City's stormwater collection system and provides recommendations for improved system operation and efficiency. This section is still being updated and coordinated with maintenance.

4.3.1 Current Activities

The City's stormwater maintenance program is primarily reactive. This assessment is based upon staff interviews and an analysis of the current maintenance program's structure and funding. For example, most inspections, cleaning, and repairs are performed as the result of problems reported by customers, or "hot spots" known to City staff. Typical stormwater maintenance activities are described below. Table 4-1 quantifies a 3-year period of stormwater system maintenance activities since the new asset management system (Cartegraph) was implemented.

Structure Inspection – The City currently uses inspections of catch basins, manholes, grates, and inlets primarily as an investigative tool to determine the cause of ponding and drainage problems. The current inspection program is mostly reactive since the inspections are not a part of a preventive maintenance program. In 2010, the City conducted a larger number of catch basin inspections, as part of an effort to locate and map the public infrastructure. However, in recent years, inspections have been limited to those areas where problems are reported.

Structure Cleaning – Catch basins are cleaned to address problems that are reported through customer complaints or that come to the attention of staff by other means. The maintenance staff also conduct preventative maintenance cleaning of several known "hot spots" that routinely have problems with sediment build-up.

Storm Line Inspections –As with catch basin/manhole inspections, storm line inspections are used primarily as an investigative tool. The City uses their CCTV vehicle to observe the condition of storm lines as the camera is moving through the system.

Storm Line Cleaning – Storm line cleaning is conducted in response to reported and known problem areas. Newer pipe systems in the city have been designed to be "self cleaning," with flow velocities pushing sediment downstream to adjacent catch basins. Most storm line cleaning is to address larger blockages, like rocks, trash, or debris and the associated built-up of sediment behind the blockage.

Ditch Cleaning – City staff occasionally clean and maintain conveyance ditches along roadsides and the railroad right-of-way in order to maintain flow paths to adjacent areas of the public drainage system. Ditch cleaning is typically on a limited basis, in areas adjacent to culverts.

Minor Repairs – Maintenance crews occasionally identify and repair minor structural problems with the stormwater infrastructure and install new structures to address minor flooding problems or replace aged infrastructure. The City currently budgets $50,000 per year for stormwater repair and $15,000 for pipe and materials. Additional staff and materials budget is needed to replace deteriorating infrastructure.

Stormwater Facility Maintenance – In response to the TMDL Implementation Plan, the City has been strengthening a program to inspect and clean stormwater facilities, including detention ponds. The City currently has 114 public stormwater facilities, and the number of facility inspections has steadily increased since the TMDL Implementation Plan was approved.

Street Sweeping – Street sweeping occurs on a rotational basis and the City has established a monthly sweeping schedule with an online map to notify residents when their neighborhood is scheduled for sweeping. The schedule plans for each zone to be swept eleven times per year, though weather and emergency maintenance needs occasionally impact the sweeping schedule. In 2012, the City purchased a vacuum sweeper to improve collection and efficiency. They have also experimented with a contract street sweeper in some locations in the city.

Table 4-1. City of Newberg, Stormwater System Maintenance Activities			
Activity	2018	2019	2020
Grates and inlets inspected	0	36	234
Catch basins/grates cleaned	75	86	409
Storm line inspected, feet	2,089	32,707	21,014
Storm line cleaned, feet	4,390	33,121	22,267
Minor repairs	362 feet storm line 4 structures	13 ft. storm line 2 structures	1,172 ft. storm line 15 structures
Storm line replaced, feet	0	12	34
Storm line installed, feet	0	0	1,615
Stormwater facility inspection and cleaning	26	37	80
Ditch Cleaned, feet	125	1,900	220
Street sweeping, curb miles	2,016	1,797	1,797

Note: Data from City of Newberg TMDL Implementation Plan, Annual Report 2012, and 5th Year Review (submitted: March 29, 2013). As well as the 2020 City of Newberg TMDL Implementation Plan

4.3.2 Maintenance Program Analysis

The City's current maintenance program is focused on addressing immediate needs and correcting high priority problems.

The City is strongly encouraged to keep moving the maintenance program toward a more proactive, preventive maintenance approach, allowing the City to provide an increased level of service to the community at reasonable cost.

4.3.3 Current staff working in the Stormwater Program

The current number of people actively working in the storm water side of things is 4 with one in the street sweeper and 3 actually doing field work. These individuals are not only responsible for the storm system activities but street and signs as-well. The storm water account designations are spread out through various employees including people working in sewer and water that are being paid partially out of storm. For the last several years the city has been in maintenance only mode with construction activities hired out.

4.4 Programmatic Activity Review

The City's programmatic activities cover engineering, administration, and management activities to implement a successful stormwater management program. This section provides an assessment of the resources currently available to conduct programmatic activities.

4.4.1 Current Activities

Based on discussions with City staff, the City's programmatic efforts are generally focused on TMDL compliance, development review, capital project management, and stormwater fee administration. These activities are generally assigned to different staff members, though development review and capital project management are both assigned to the public works engineers.

TMDL Compliance – Many of the program activities conducted by City staff serve to satisfy requirements of the City's TMDL Implementation Plan. The City reports annually to DEQ on the progress toward meeting measurable goals related to public education, public involvement, illicit discharge detection and elimination, construction site runoff control, post construction stormwater runoff control, pollution prevention in municipal operations, and temperature management. In addition to the maintenance activities described in Section 4.3, the City conducts the following programmatic activities related to TMDL compliance:

- public outreach and education events
- storm drain stenciling
- public involvement in stormwater ordinance, design manual, and stormwater utility rate
- stormwater program website and citizen reporting
- illicit discharge complaint response
- household hazardous waste collection (in conjunction with Yamhill County)
- construction site inspections and erosion control enforcement
- development of stormwater ordinance and stormwater design standards
- stormwater plan review, inspection, and enforcement for new development
- staff training
- stream corridor overlay and stream bank protection ordinance
- stream trees program

Most of the TMDL compliance activities (outside of maintenance and development review) are conducted by the City's Environmental Specialist, which is funded at 0.5 FTE from the stormwater program though the TMDL tasks are taking increasing time as the required programs are implemented. Additional details regarding these programs are included in the City's TMDL Implementation Plan and TMDL Annual Reports.

Development Review – City staff currently spend the equivalent of approximately 1.0 FTE completing development review activities, which include establishing engineering conditions following pre-application meetings, reviewing development submittals, and conducting inspections during and after construction. Development review activities and inspections cover both construction site erosion and sediment control and the post-construction stormwater facilities. Development review cost is shared by developer fees, and other departments, as it is most efficient for the engineering reviewer to evaluate all aspects of development submittals at one time.

Capital Project Management – Other than development review and customer response, the City's engineering staff spend the bulk of their time managing the City's CIP program. As staff resources have been reduced, most design work is now being completed through consultant contracts. City staff are performing less design work and focused more on managing consultants and contractors, which allows a fewer number of staff to oversee a larger number of projects.

Stormwater Fee Administration – Programmatic activities also include the administration of the City's stormwater utility fee, which funds the stormwater management program. The stormwater program currently funds 0.45 FTE in general administration.

4.4.2 Future Needs

The following future needs have been identified through evaluation of regulatory obligations, discussions with City staff, and comparison to similar sized stormwater programs in other Oregon cities.

GIS Mapping – In preparing for work on this Stormwater Master Plan (Master Plan), City staff identified data gaps in the City's existing GIS database. Although new project pipe and structure information are entered in the NAVD88, older data in the GIS system may still be on the NGVD1929 datum. A combination of field work and engineering judgment was used to resolve many of the data gaps while preparing the PC SWMM hydraulic model of the stormwater system. However, spot checks continue to reveal areas where the system and the GIS database are inconsistent. A regular schedule for ongoing field data collection and/or checking as-built datums would allow the City to continually improve the accuracy of the GIS database. In addition, some as-built plans did not provide all information for a pipe, or it was not entered into GIS from the as-built plans. These areas should continue to be updated. In addition, the City should require attributes listed in Appendix F to be included in all GIS files submitted by developments to aide City staff in performing their tasks. The current guidance for engineers on what to submit for shapefiles are not clear in requirements for which attributes should be included.

TMDL Implementation Activities – The City's current program to address TMDL requirements is well-organized. The City is taking proactive steps to evaluate the effectiveness of program components and make adjustments to the TMDL Implementation Plan through adaptive management. The City's program would benefit from the following enhancements which would improve the level of service for residents and enhance the water quality program related to TMDL compliance.

- Stormwater facility inspection (covered under maintenance discussion) – regular and ongoing inspections are needed to identify maintenance needs.
- Illicit Discharge education for City staff– the City has recently adopted new illicit discharge screening procedures. Public works staff are likely to encounter illicit discharges as they are conducting other activities around the City. One-time training is needed for all public works staff, so they will readily recognize the signs of a potential illicit discharge and understand the reporting procedures.
- IDDE education for businesses– establishing a program to provide illicit discharge education for business owners is a preventative measure to reduce non-stormwater discharge to the drainage system.
- Private facility maintenance enforcement– The City's recently modified stormwater management municipal code (NMC 13.25.300) requires owners of private stormwater facilities to conduct and record annual facility inspections and perform necessary maintenance. An ongoing program is needed to track whether required activities have been completed and then follow-up with enforcement.
- Electronic database system– An electronic database system would assist the City with the handling of customer complaints, tracking calls, and tracking the City's response. An electronic database could also be used to track illicit discharge concerns logged by City field staff and the follow-up investigations and resolution.
- WQ Sensitive O&M Manual– Maintenance staff and the TMDL Implementation plan have identified the need for the City to develop standard operating procedures for maintenance activities that address water quality protection during regular maintenance. The SOPs should also include guidelines for performing inspections and maintenance of the stormwater system.

Monitoring Program – The City has considered the opportunity to establish an in-stream monitoring program that could track flows as well as water quality data. Flow data would be useful in evaluating changes in runoff rates as the watersheds develop. While not a current obligation, water quality monitoring may eventually be required as part of the City's TMDL Implementation Plan. Due to other immediate program needs and the significant resources that would be required, it is not currently recommended that the City pursue the establishment of an in-stream monitoring program. However, the City may re-evaluate monitoring needs during the future TMDL Implementation Plan 5-year reviews, the next of which will occur in 2023.

Engineering Services – City staff performing development review and capital project management are currently meeting the demand for these services. No changes to the structure of these activities are recommended at this time. If the City sees a substantial increase in new development activity, staff levels should be adjusted accordingly to support the increased need for development review and construction inspection as well as the potential to construct additional capital projects through an increase in system development fees.

4.5 Development Standards Review

Consistent with TMDL implementation Plan requirements, the City adopted municipal code for stormwater management in 2012. NMC 13.25 addresses Erosion Control, Illicit Discharge Detection and Elimination, Stormwater Management (facility design, installation, and maintenance), and Enforcement and Penalties. Following code adoption, the City completed an update to the Public Works Design and Construction Standards in 2015 and it includes a comprehensive chapter to address stormwater requirements. This chapter includes standards and submittal requirements for conveyance, water quantity, and water quality. Erosion and sediment control guidelines are outlined in the 2014 Erosion Control Manual, adopted from Clean Water Services.

During the development of this Master Plan, the City's Public Works Design and Construction Standards were reviewed with respect to TMDL obligations and recommendations from the stream channel vulnerability assessment. The review also considered regional and national trends in stormwater management.

4.5.1 Design Standards Recommendations

Based on a review of regulatory programs, regional trends, and local stream conditions, the City may consider incorporating the following principles into the stormwater design standards:

- Strengthen existing design standards language encouraging infiltration solutions such as rain gardens, infiltration trenches, pervious pavement where possible, etc.
- Consistent with regional trends, require water quality treatment for both new and replaced impervious area when redevelopment occurs.
- Update the design standards to include the required attributes for GIS files submitted to the City for as-built projects as shown in Appendix F.
- Promote the availability of existing stormwater management fee credits available to properties where stormwater management is provided that exceeds minimum stormwater design standards (NMC 13.20.080).

4.5.2 Community Recommendations

The following recommendations were provided by the Citizens Advisory Committee (CAC).

- Recommend the City allow public utility easements to be utilized for raingardens and that the City provide standard drawings to allow raingardens to be constructed in public utility easements without impacting the utilities.
- Recommend the City use pervious surfaces wherever possible and that pervious surfaces become part of the cost evaluation for projects.
- Recommend the City add onsite retention of stormwater wherever possible.
- Outfalls of the stormwater system should be given a priority 1 for engineering on new, existing or non-existence. Maintenance of said outfalls should also be a priority 1.
- Ground truthing the model and data collection to help in this effort should be a priority. This includes flow monitoring, etc.

4.6 Staffing Analysis

This section provides an assessment of the resources necessary to perform maintenance and programmatic activities to support the City's stormwater management program and address TMDL Implementation Plan obligations.

The extent of the public stormwater infrastructure has increased greatly over the same time, increasing from 32.5 miles of conveyance pipe in 2008 to 83.0 miles in 2020. The larger pipe network will require increased staff time for preventative inspections and follow-up maintenance.

The recommended resource levels for the City's stormwater management programs and maintenance activities are based on a zero-based approach as described below. The zero-based budgeting approach identifies the activities to be performed and then calculates the resources required to perform them. This approach follows the basic steps outlined below:

- Identify tasks for preventive and corrective maintenance.
- Identify tasks for programmatic activities and regulatory obligations.
- Establish program goals for major activities.
- Estimate production rates for specific activities based on city experience and industry standards.
- Calculate staff hours required to meet program goals.
- Compare calculated requirements with existing resources.

Table 4-2 summarizes the results of the zero-based approach for estimating staffing levels for stormwater management programs and maintenance. The maintenance frequencies and program activities are consistent with the recommendations included in Sections 4.3.2 and 4.4.2.

The effort required to address corrective maintenance activities is based on the City's current experience. It is anticipated that higher (than current) levels of corrective maintenance will be needed to address the backlog of work that has been generated as the City's pipe system continues to age without a preventative maintenance program in place. Once the preventive maintenance program is implemented and backlogged cleaning and repair work has been performed, the levels of certain corrective maintenance activities would likely decline. Likewise, the number of customer complaints may also be reduced.

The staffing requirements in Table 4-3 show a need to staff the stormwater program at 4.81 FTE for maintenance, 2.55 FTE for engineering, and 0.45 FTE for administration. This equates to 7.81 FTE, which is

an increase of approximately 0.5 FTE under current staff levels. This presents a problem because the recommended maintenance is not being completed by the current staff allocation, but this is not expected to be fixed by adding an additional 0.5 FTE. This could be due to staff inefficiencies, or more likely stormwater tasks are prioritized below other public works tasks, so the resources are used for other public works activities. The City should review the staffing levels of other duties to see where the actual shortfall may be occurring.

Table 4-2. Stormwater Management Maintenance and Program Staffing Requirements								
Storm drainage system quantities	4,676 structures (catch basins, manholes, and inlets) 437,978 feet of storm lines 114 public stormwater facilities							
	Infrastructure units				Staffing plan			
	Percent per year	Frequency per year	Actual per year	Units	Production rate (units/day)	Crew size	Annual hours	Total FTEs[a]
Stormwater Maintenance Activities							8,461	4.81
Inspections, structures	299	0.17	935	each	50	2	299	0.17
Inspections, storm lines	1402	0.80	87,596	feet	1000	2	1,402	0.80
Inspections, facilities	365	0.21	228	each	10	2	365	0.21
Cleaning, structures	374	0.21	468	each	20	2	374	0.21
Cleaning, storm lines	117	0.07	8,760	feet	1200	2	117	0.07
Cleaning, facilities	1824	1.04	114	each	1	2	1,824	1.04
Ditch Maintenance	80	0.05	1,000	Feet	200	2	80	0.05
Minor repairs, structures	240	0.14	10	each	1	3	240	0.14
Minor repairs, storm lines	240	0.14	10	locations	1	3	240	0.14
System replacement, structures[b]	288	0.16	6	each	0.5	3	288	0.16
System replacement, storm lines[b]	480	0.27	1000	feet	50	3	480	0.27
Miscellaneous investigations	160	0.09	40	each	2	1	160	0.09
Street sweeping	1760	1.00	-	-	n/a	1	1,760	1.00
Asset management and recordkeeping	416	0.24	-	-	8 hours/week	1	416	0.24
Maintenance management and planning	416	0.24	-	-	8 hours/week	1	416	0.24
Stormwater program activities							4,484	2.55
TMDL implementation plan	-	ongoing	-	-	-	n/a	1760	1.00
Development review and inspection	-	ongoing	-	-	-	n/a	880	0.50
CIP program management	-	ongoing	-	-	-	n/a	880	0.50
Customer response	-	as needed	10	calls	8 hours/call	1	80	0.05
Staff training (all PW staff)	-	1	1	training	4 hours/year	40	160	0.09
GIS mapping, field work and office	-	monthly			2 days/month	2	384	0.22
Stream channel observations	-	monthly			1 day/month	1	96	0.05
Private facility maintenance enforcement	-	ongoing	-	-	12 hrs/month	1	144	0.08
Illicit discharge investigation and enforcement	-	as needed	5	Events	20 hrs/event	1	100	0.06

Table 4-2. Stormwater Management Maintenance and Program Staffing Requirements								
Storm drainage system quantities	4,676 structures (catch basins, manholes, and inlets) 437,978 feet of storm lines 114 public stormwater facilities							
	Infrastructure units				Staffing plan			
	Percent per year	Frequency per year	Actual per year	Units	Production rate (units/day)	Crew size	Annual hours	Total FTEs[a]
Stormwater Administration							792	0.45
Stormwater administration[c]	-	ongoing	-	-	-	n/a	792	0.45
Total							**13,737**	**7.81**

[a]*Calculations of FTE are based on 1760 working hours per year, account for sick leave, vacation, holidays, training, and breaks not directly related to the work.*

[b]*System replacements are dependent on annual budget. The values in the table reflect an annual replacement budget of $100,000.*

[c]*Includes administration of the stormwater utility fee and general administration of the stormwater program such as the portion of the public works director paid by the stormwater program.*

4.6.1 Current Maintenance and Program Staffing

The number of personnel available to the stormwater program has varied over the years. Currently, the number of full time equivalent (FTE) positions within the stormwater program budget is 7.32 FTE for all stormwater tasks including maintenance staffing, as well as engineering and administrative staff positions funded by the stormwater program.

While a total of 7.32FTEs is budgeted for the Stormwater Program, not all of these resources will be directly expended toward stormwater programs and maintenance. Maintenance staff are not designated into infrastructure-specific groups and instead respond to complaints across the City based on need. The engineering department operates the same way, with staff working in all aspects of public works.

4.6.2 Evaluation of Staffing Levels

Based on the above findings, it is recommended that resources be designated specifically toward implementing Newberg's stormwater program and another 0.5 FTE be added to the budget. It appears as if there are close to sufficient FTEs budgeted for the storm system. However, resources are not being used exclusively for stormwater issues as maintenance has mentioned being short-staffed. Another indicator that there is not enough stormwater allocation is maintenance targets are not being hit. This can be seen when you compare the actual maintenance items preformed in Table 4-1 to the maintenance targets in Table 4-2.

Section 5

Integrated Management Strategy

This section provides a summary of recommendations to address future regulatory objectives and capital project recommendations to address existing storm system capacity deficiencies, future storm system needs, and water quality objectives.

Section 5.1 includes programmatic recommendations for maintenance activities, water quality programs, and staffing. The programmatic recommendations also include one-time projects that are needed to implement the stormwater management program. Section 5.2 focuses on the development of larger capital improvement projects (CIPs), integrated to address capacity and water quality concerns. Section 5.3 outlines several ongoing infrastructure expenses to replace aging infrastructure and enhance water quality through retrofits.

5.1 Programmatic Recommendations

The regulatory evaluation summarized in Section 4.2 assessed the ability of the City of Newberg's (City) stormwater program to meet Total Maximum Daily Load (TMDL) program requirements, and a review of the City's 2015 Public Works Design and Construction Standards. The City's stormwater program currently contains many of the elements of a successful and regulatory compliant program; therefore, the following recommendations include only minor adjustments and additions to the existing program.

5.1.1 Maintenance Recommendations

In addition to providing ongoing responsive maintenance to identified problem areas, the City is strongly encouraged to move the maintenance program toward a more proactive, preventive maintenance approach, to provide an increased level of service to the community at reasonable cost. Over time, as the condition of the system is documented, repairs made where required, and systems cleaned before they become problems, the number of customer service investigations should be reduced. With a fully functional preventive maintenance program, the long-term costs associated with future repairs, rehabilitation, and replacement will be minimized. Specific recommendations include the following:

- Establish a proactive inspection schedule to evaluate structures visually and record videos of storm lines. Routine inspections likely will result in more work orders for cleaning, based on inspection results. In addition to identifying maintenance needs, routine inspections can be used to meet illicit discharge screening requirements of the City's TMDL Implementation Plan. The recommended inspection plan includes the following:
  - Visual inspection (and cleaning as needed) of 20 percent of catch basins, manholes, and inlets each year.
  - Video inspection of 20 percent of storm lines each year. The City's video schedule would aim to cover higher risk storm lines (those in the downtown and older areas of Newberg) once every 3 years and the remainder of the city on a 6- to 8-year cycle. More frequent evaluation of older pipes is needed to identify deteriorating pipes that are in need of replacement.

5.1.2 Program Recommendations

The City's programmatic stormwater activities are on track to meet TMDL compliance obligations and to provide a responsive level of service for customer complaints, development review, and capital project management. In addition to continuing with current TMDL implementation activities, development review, and capital project management, the following recommendations would allow the City to improve understanding of the existing drainage infrastructure and enhance water quality related services.

- Allocate staff time for ongoing field data collection to improve the accuracy of the City's geographic information system (GIS) stormwater database. The suggested schedule is to have two staff members spend 1 day per month collecting field data. Importing data and making adjustments to the GIS database are expected to take another 8 to 16 hours per month. This should include all attribute data in Appendix E that will fully define pipes and allow for modeling in the future.
- After mapping of the public system is complete, continue monthly GIS mapping activities to locate and document the type and condition of private stormwater management facilities. The City's stormwater management code now requires private owners to conduct and document regular facility maintenance. The City will need facility locations to contact property owners and enforce the municipal code. Mapping and tracking maintenance on private facilities may also allow the City to take credit for the water quality improvement from private facilities if TMDL benchmarking becomes a regulatory requirement for the City.
- Continue development and updates to the Water Quality-Sensitive Operations and Maintenance (O&M) Manual required by the TMDL implementation plan.
- Conduct annual training for all public works staff on TMDL-related topics. In the beginning, the training should be focused on illicit discharge identification and reporting. Future trainings could cover the updated stormwater design standards, the water quality maintenance manual, or other water quality-related topics.
- Establish programs to implement the stormwater code (NMC 13.25). This will include private facility maintenance tracking.
- Conduct regular field screenings of outfalls and other areas of previously observed stream bank erosion to document changes in bank conditions and identify locations for stream bank stability projects. Allocating at least 1 day per month for stream observation would allow City staff to visit areas of concern several times a year on a rotational basis.
- Continue participation in watershed groups and professional associations to understand how monitoring data are being collected by other small communities and utilized by regulatory agencies. Observing regulatory trends among other Oregon jurisdictions will allow the City to evaluate the need for a stormwater monitoring program in the future.

5.1.3 Staffing Recommendations

The City should evaluate where current stormwater resources are going and find additional funding for those areas. If the stormwater staff were working as allocated, there should be sufficient staff to meet the desired maintenance targets.

5.1.4 Engineering Projects and Studies

The City's stormwater program would see benefits from funding several one-time engineering projects and studies that would support implementation of the stormwater program. Recommended engineering projects and studies include the following:

- Master Plan Update – This Master Plan is intended to identify stormwater management activities and projects over the next 10 to 15 years. As the projects in this Master Plan are completed and new developments are constructed, the City will need to complete a Master Plan Update.

Table 5-1 identifies the required funding and proposed schedule to implement engineering projects and studies.

Table 5-1. Engineering Projects and Studies

Project number	Program name	Total cost, $	Timeline
P-1	Master Plan Update with Model Calibration	250,000	2025

5.2 Integrated Capital Improvement Program (CIP) Development

This section identifies the projects designed to address the problem areas identified in Section 3. Problem areas include capacity problems identified through SWMM modeling and shown on Figures 3-1 and 3-2 as well as reported problem areas listed in Table 3-8 and depicted on Figure 3-3. To the extent possible, CIPs were developed as integrated solutions to address multiple objectives (e.g., flood control with pipe replacement or realignment with capacity improvement) or to address multiple drainage problem areas with a single, comprehensive project.

5.2.1 Project Identification

CIP locations were identified by reviewing the model results and are presented in Figures 5-1, 5-2 and Table 3-7 for capacity related CIP improvements. The identifier for capacity improvements starts with “C-“. Maintenance reported problem areas in Table 3-8 and shown in Figures 3-5 and 3-6.

Locations of know old pipes or bad pipe material are shown in Figures 3-3 and 3-4. (These are not included as part to the CIP improvements because there is no identified capacity issue with them, and they have not currently been found to be damaged or failed.) However, they should be prioritized in the pipe replacement program. Typical lifespan of pipe is 50-100 years, so those pipes that are older than 50, or suspected to be older than 50, if no date is known, should be planned for replacement as funds allow. Materials such as clay, steel, corrugated metal, and cast iron tend to degrade faster (typically need replacement in 20-50 years) than plastic or ductile iron pipes (typically need replacement in 75-100 years. Clay pipes tend to crack with ground settlement or ground movement. Steel, corrugated metal, and cast iron tend to rust through. For these reasons, these pipe types are not generally placed in new construction. These older materials should be prioritized for replacement as funds allow.

The maintenance staff records maintenance issues in a program called Cartegraph. Those records were compiled on Figure 3-5 and Table 3-8. Maintenance projects are labeled starting with “M-“ and then more finer designations of Replacement “M-R-“, Maintenance Needed “M-MN-“ and Spot Repair “M-SR-“. Figure 3-6 is based on the Pipeline Assessment Certification Program (PACP) ratings given by maintenance staff. The numbers shown are the worst ranking of any defect on the pipe, not the average score. The labels on the PACP figure are the pipe name without the “stgm”, so the CCTV recordings/PACP review sheets can be cross referenced for what confirming needs to be done.

Many of the reported problems have a clearly identifiable solution. Examples of this are pipes located under private property that require realignment, deteriorating pipes needing replacement, and areas lacking existing infrastructure.

One area of particular concern to maintenance are several circular catch basins in the older part of town that back up more frequently than other catch basins and require frequent maintenance to keep water moving through them. They are flagged for replacement with a more modern style that will not plug as easily on Figure 3-5 and Table 3-8.

The SWMM model was utilized to evaluate potential solutions for identified capacity problems. Potential solutions included upsizing of existing pipes, expansion of infrastructure, or installation of additional storage features such as underground vaults or regional detention ponds. In most cases, capacity problems are related to short stretches of undersized pipes. Upsizing existing pipe is more cost effective than acquiring property to add detention storage at the flooding locations. Where feasible, another alternative could be requiring onsite retainage/retention of stormwater. In addition, the stream channel vulnerability assessment showed that the natural stream channels are generally stable under current flow and development conditions, which indicates that significant upstream detention storage is not needed for existing development. Future development areas may need to utilize regional storage systems to meet the City's stormwater design standards and prevent any further degradation.

Following these evaluations, a strategy meeting was conducted with City staff to review the problem areas and potential alternative solutions. Small improvements along the same area were combined into larger projects that provide a longer-term solution. To integrate development of the flood control and water quality CIPs, the identified capacity problem areas were reviewed to determine whether water quality facilities (such as a rain garden, stormwater planter, required retainage, or green street design) could be sized and located to address the capacity problem or to provide treatment in addition to an upsized conveyance pipe. In areas where the capacity problem is a result of undersized trunklines, opportunities for adding additional water quality treatment were limited.

The resulting project list includes the recommended capital projects, including small pipe and culvert replacements, larger realignments of existing drainage networks, and construction of new stormwater infrastructure in underserved neighborhoods.

5.2.2 Unit Cost Estimates

Unit cost information for construction elements of the CIP facilities was compiled for the 2014 SWMP by using bid tabulations from recent local construction projects and *Site Work & Landscaping Cost Data* (RS Means, 2012) was referenced for additional work not covered by bid tabs. The unit costs were adjusted based on results of bids on City projects. The unit costs were adjusted for inflation based on the October 2020 ENR ratio and by adding the difference in cost between HDPE and PVC.

Preliminary CIP cost estimates are based on the unit cost information for construction elements plus a 30 percent contingency. Permitting, surveying and design, and construction administration costs are based on a general percentage of the total construction cost. Land acquisition costs are not included in the estimates.

Project unit costs and detailed cost estimates for each CIP are located in Appendix D. CIPs with multiple components contain a detailed cost estimate for each project component.

5.2.3 Capital Improvement Program (CIP) Sizing and Conceptual Design

This section includes a summary of the CIP sizing and conceptual design criteria based on the type of system improvement proposed. System improvements include piping improvements, infiltration planter boxes for water quality, and bank stabilization and outfall protection for channel improvements. Proposed CIPs may reflect a combination of these system improvements.

Conveyance – Design criteria for new conveyance piping are based the City's 2015 Public Works Design and Construction Standards. In most areas of the City, pipes were sized to convey the 25-year design storm event flow. In areas where the flooding is in an arterial or major collector, the 50-year future condition flow was the standard.

5.2.4 Capital Improvement Program (CIP) Project Summary

Table 5-2 includes, a problem description, and project description for each CIP. The CIPs are presented by each of the three basins. The following CIP designations are applicable:

Figure 5-1 shows the location of each of the proposed capacity CIPs. Figure 5-2 shows all projects including capacity projects and maintenance projects. Detailed CIP fact sheets are provided in Appendix D and include additional conceptual design detail and a map locating the proposed system improvements. Appendix D also contains detailed cost estimates for each project. Section 6 provides a priority ranking of CIPs and the planned schedule for implementation.

5.3 Ongoing Capital Projects

The capital projects listed in Table 5-2 address specific infrastructure needs. The City's stormwater system also faces long term challenges related to asset management. The stormwater program would benefit by allocating funds each fiscal year to upgrade existing infrastructure and enhance water quality treatment. Two ongoing capital projects are recommended, as described below.

5.3.1 Annual Pipe Replacement Program

The City's stormwater infrastructure is a significant asset. Stormwater pipes typically have a design life of 50-75 years. The longevity of the infrastructure depends on many factors, including pipe material, installation methods, site conditions, traffic loads, and maintenance frequency. While a preventative maintenance program can extend the life of the pipe network, some areas of the City are still composed of clay tile pipe. Other areas are deteriorating and will need replacement as part of the City's asset management strategy.

The areas in greatest need of pipe replacement include pipes located under private residences and the deteriorating clay tile pipe in River Street. These known problem areas will require significant capital projects and have been included in the Table 5-2 CIP list. Future areas that require replacement would be identified through the preventative maintenance inspection program. An annual pipe replacement program would establish "system replacement" as an annually recurring capital project. This funding would allow the City to replace aging pipes and structures that show significant deterioration during preventive maintenance inspections.

Targeted pipe replacement can be completed by City maintenance crews or by. This is a cost-effective way to upgrade infrastructure without incurring the engineering and administrative costs that come with larger capital projects. Funding annual pipe replacement at $100,000 per year would allow the City to replace only a small percentage (less than one percent) of the total existing pipe each year. However, the annual pipe replacement program is an ongoing investment in asset management that will allow the City to address small needs before they grow into larger, more costly problems.

Table 5-2. Comprehensive CIP Summary

CIP number	CIP name	Proposed CIP location	Event(s) deficiency occurs	Problem description	CIP description	Length of conveyance improvements, linear feet (LF)	Contributing drainage area, acres	Estimated capital implementation cost total, $
Chehalem Creek								
C-A	S Blaine St. Improvements	South Blaine Street, between East 6th Street and East 7th St.	2-yr	This area was partially upgraded through a recent project, but more is needed.	Upsize existing stormwater pipes to 21" and 18" to convey flows.	1,035	39	$325,711
C-B	S Center St. Improvements	South Center Street, between East 3rd Street and East 9th Street	2-yr	Currently a reach of 21" stormwater pipe runs through private property and under several houses. This is undersized and causes flooding along E 8th St, E 7th St, and S Center St. There are other undersized pipes in Center St.	In conjunction with the proposed River St. transportation improvements, divert extra flows from Center St. over to new lines in River St. to 8th street. From there are a few options for routing, Option A was selected for the master plan, but any of them would work if those roads are more feasible or being rehabbed sooner. A-continue to route down River St. to the River. B-Route down 9th St. to College St. to Chehalem Creek C-Route down 8th St. to Wynooski St. to Hess Creek	6,049	100	$2,415,715
C-C	Oxford St. Improvements	Oxford Street, between Winchester Drive and East Mountainview Drive	2-yr	Flow is currently restricted by fourteen undersized pipes. Pipe diameters increase and decrease in numerous places throughout this alignment. The City has installed some upsized pipes to address acute problems. This project provides a broader solution.	Upsize existing stormwater pipes to 18”, 36"& 48” to provide capacity for flows.	958	166	$378,492
C-D	6th & Blaine St. Improvements	6th & Blaine St.	2-yr	Flow is currently restricted by six undersized pipes.	Upsize existing stormwater pipes to 15” & 18" to convey flows. Move pipes into the public right-of-way.	976	25	$224,530
C-E	Pinehurst Dr. Improvements	Pinehurst Dr.	2-yr	Flow is currently restricted by six undersized pipes.	Upsize existing stormwater pipes to 15” &18" to convey flows. Move pipes into the public right-of-way.	1,386	13	$364,280
C-F	Crater Ln. Improvements	Crater Ln.	25-yr	Flow is backing up at a culvert and causing flooding upstream.	Upsize existing culvert to 24" to convey flows.	26	142	$12,274
C-G	Partridge Ln. Improvements	Partridge Ln.	25-yr	Flow is currently restricted by an undersized pipe.	Upsize existing stormwater pipes to 24" to convey flows.	223	30	$80,980
C-H	Illinois St. Improvements	Illinois St.	10-yr	Flow is currently restricted by two undersized pipes.	Upsize existing stormwater pipes to 18" to convey flows.	498	2	$139,183
C-I	Ditch & Pinehurst Dr. Improvements	Ditch & Pinehurst Dr.	2-yr	Flow is currently restricted by two undersized pipes.	Upsize existing stormwater pipes to 24"&36” to convey flows.	693	136	$283,916
C-J	Charles St. Improvements	Charles St.	10-yr	Flow is currently restricted by an undersized pipe.	Upsize existing stormwater pipes to 15" to convey flows.	171	12	$51,140
C-K	Center St. Improvements	Center St.	25-yr	Flow is currently restricted by two undersized pipes.	Upsize existing stormwater pipes to 30" to convey flows.	302	58	$138,377

Table 5-2. Comprehensive CIP Summary

CIP number	CIP name	Proposed CIP location	Event(s) deficiency occurs	Problem description	CIP description	Length of conveyance improvements, linear feet (LF)	Contributing drainage area, acres	Estimated capital implementation cost total, $
Hess Creek								
C-L	N Edwards St. Improvements	N Edwards Street, from Vermillion Street to E Sheridan Street	2-yr	The City has reported drainage problems along Vermillion St between N College St and the railroad. Currently a flat and undersized pipe discharges stormwater along the railroad tracks. This neighborhood does not have a defined connection to the public stormwater system.	Add a drainage system to convey flows from Vermillion St to the existing drainage system at E Sheridan St. Increase existing pipes to 12”, 18” & 24” to convey flows.	4,493	19	$1,024,049
C-M	E Third St. Improvements	E 3rd and S Church Streets	2-yr	Modeling shows flooding problems along E 3rd St and S Church.	Add a 18" stormwater pipe to connect the stormwater system from E 3rd St to S Church St to provide conveyance and storage. Upsize existing stormwater pipes to 15”-18", as estimated by modeling. Divert some flow down Doris Dr.	2,448	28	$647,954
C-N	E North St. Improvements	Various, see map	2-yr	Flow is currently restricted by ten undersized pipes.	Upsize existing stormwater pipes to 18” & 24" to convey flows. Some pipes need to be replaced due to material.	1,891	25	$650,305
C-O	Mountainview Dr. Improvements	Mountainview Dr.	10-yr	Flow is currently restricted by private undersized private pipes and backs up onto City-owned streets.	Divert public flows away from private property through new pipe along Mountain View Dr. to Hess Creek.	1,455	78	$384,725
C-P	Crestview Dr. Improvements	Crestview Dr. and Villa Rd.	10-yr	Flow is currently restricted by three undersized pipes.	Upsize existing stormwater pipes to 15" to convey flows.	573	29	$131,819
C-Q	Wynooski St. Improvements	Wynooski St. 5th to Merlin	2-yr	Flow is currently restricted by three undersized pipes.	Upsize existing stormwater pipes to 15” & 18" to convey flows.	1,251	21	$309,198
C-S	E 2nd St. @ River St. Improvements	E 2nd St.	10-yr	Flow is currently restricted by an undersized pipe.	Upsize existing stormwater pipes to 15" to convey flows.	526	6	$121,007
C-T	E 2nd St. @ Ardus St. Improvements	E 2nd St.H-1	10-yr	Flow is currently restricted by two undersized pipes.	Upsize existing stormwater pipes to 18" to convey flows.	775	14	$216,600
Spring Brook Creek								
C-R	2nd St. Crossing	E 2nd St.	2-yr	Flow is currently restricted by several undersized pipes.	Add two additional pipes to change the direction of flow.	113	11	$41,056
C-U	N Springbrook Rd. Improvements	North Springbrook Road, north of Highway (Hwy) 99W	2-yr	Modeling shows flooding problems along N Springbrook Rd. The upstream stormwater system along N Springbrook Rd was upgraded during installation of traffic improvements, but flows are constricted from a 30" pipe down to an 8"-12" section of pipe near Middlebrook Dr.	Upsize the stormwater pipes along N Springbrook Rd to 30" diameter and connect the system to the existing system to the south. This includes spur lines that are undersized and three new pipes. Divert flows away from channel to Springbrook Rd.	3,119	173	$1,198,542
C-V	Libra St. Improvements	Libra Street and Victoria Way	2-yr	Modeling shows flooding problems along Libra St during the current and future conditions 10-year storm event. This system needs frequent maintenance to address silt accumulation.	Install pipes along Crestview Dr. and Coffee Dr. to divert flows away from flooding locations.	957	33	$220,159
C-W	Brutscher St. Improvements	Brutscher St.	10-yr	Flow is currently restricted by an undersized pipe.	Upsize existing stormwater pipes to 18" to convey flows.	260	19	$72,666

Table 5-2. Comprehensive CIP Summary

CIP number	CIP name	Proposed CIP location	Event(s) deficiency occurs	Problem description	CIP description	Length of conveyance improvements, linear feet (LF)	Contributing drainage area, acres	Estimated capital implementation cost total, $
Stream Projects								
A-1	Stream Bank Protection Projects	Multiple locations	No capacity issues	Channel Issues	Channel improvements			$190,000
A-2	800 Block of NE Wynooski St.	800 Block of NE Wynooski St.	All the time	The current pipe and outfall have severely eroded	See existing City of Newberg 2020-2025 CIP			$300,000
A-3	RR Ditch; N College – N Meridian	N Collage and N Meridian		The system has a variety of contributing flooding factor and likely needs to be studied to determine what the "fix" would be	See existing City of Newberg 2020-2025 CIP			$165,755
A-4	OR240/RR Tracks/Franklin Street	OR240/RR Tracks/Franklin Street		This is an area of town where a diagonal pipe that runs under a building causes flooding in the area. The inlet north of the building overflows during storm events. The building owner places sandbags around the building to prevent flooding. Under the building the pipe is too long for it to be cleaned with the City's current equipment.	See existing City of Newberg 2020-2025 CIP			$109,273
A-5	Stormwater Master Plan Update	City-wide	2026	Per city code, the SWMP should be updated every 5 years.	This update should include hydraulic calibration with flow monitoring, modelling of all pipes 12" and larger, and addition of detention facilities into the model.			$350,000

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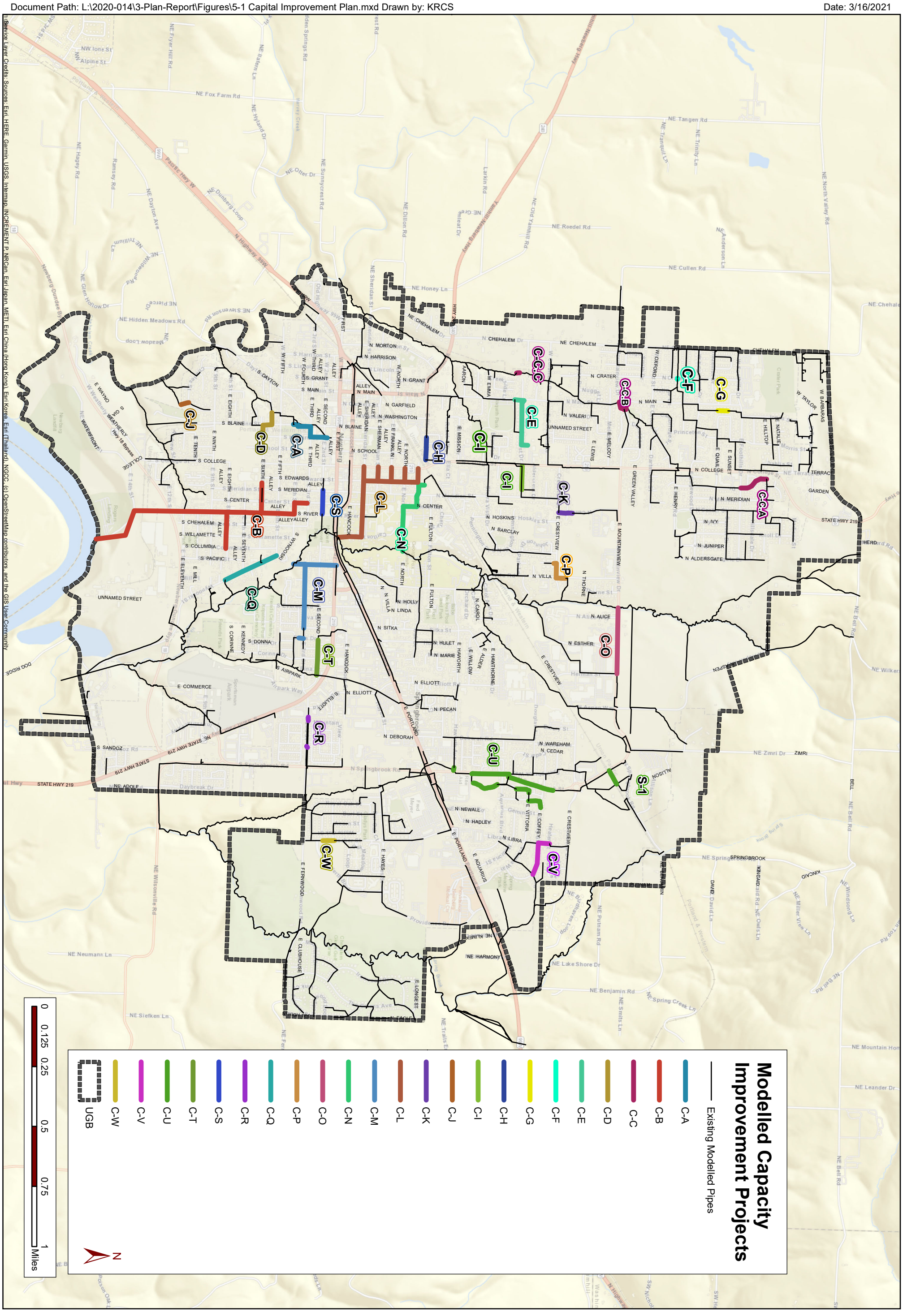
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Existing Modelled Pipes
Modelled Capacity Improvement Projects
0 0.125 0.25 0.5 0.75 1 Miles
N
NE Fox Farm Rd
NE Tangen Rd
NE Otter Dr
NE Roedel Rd
NE Cullen Rd
NE Honey Ln
NE Hidden Meadows Rd
NE Glen Hollow Dr
NE Dayton Ave
NE Hagey Rd
NE Ramsey Rd
NE Dunberg Loop
Pacific Hwy W
N Highway 99W
NE Hyland Dr
NE Fryer Hill Rd
NW Ione St
NW Alpine St
NE Sunnycrest Rd
NE Dillon Rd
NE Larkin Rd
NE Old Yamhill Rd
Yamhill-Newberg Hwy
NE North Valley Rd
NE Anderson Ln
NE Tranquil Ln
NE Trinity Ln
NE Sheridan St
NE Chehalem
N Chehalem Dr
NE Chehalem
HWY 240
N Morton
N Harrison
W First
W Fifth
W Fourth
W Third
S Grant
S Main
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W North
N Garfield
N Washington
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E Eighth
E Tenth
E Ninth
S Blaine
S Dayton
S College
S Center
S Edwards
S Meridian
S River
S Chehalem
S Willamette
S Columbia
S Pacific
E Eleventh
E Seventh
E Mill
Alley
N School
E Hancock
E North
E Fulton
N Center
N Barclay
N Hoskins
E Crestview
N Villa
N Holly
N Linda
N Sitka
N Hulet
N Marie
N Carol
E Haworth
E Willow
E Alder
E Hawthorne Dr
N Thorne
N Alice
N Esther
N Crater
W Emma
Aaron
N Valeri
Unnamed Street
E Mission
E Melody
E Lewis
E Green Valley
N College
E Quail
E Sunset
E Henry
N Meridian
N Ivy
N Juniper
N Aldersgate
Terrace
Garden
State Hwy 219
Herd
W Oxford
W Taylor
W Barbaras
E Hilltop
E Natalie
N Main
Cedar Park
Caster Park
Nugget Park
Friends Park
Corinne Park
Springbrook Park
Rogers Landing
Newberg Landfill
Sportsman Airpark
Friends Cemetery
Chehalem Cultural Center
Providence Newberg Medical Center
Fred Meyer
Chehalem Aquatic Center
Babe Ncbus Pool and Park
Hoskins Park
Pennington Park
Orchard Park
Hoskins Stadium
Dog Ridge
Newberg Dundee Bypass
Old Highway 99W
Meadow Loop
NE Wildwood Rd
NE Tillium Ln
NE Sievenson Rd
NE Pierce Dr
NE Dillon Rd
NE Crestview Dr
NE Quail Ridge Dr
NE Sunset Dr
NE Foothills Dr
NE Terrace St
NE Illahee Dr
NE Morris St
NE Princeton St
NE Darthea Dr
NE Dorothea Dr
NE Ella Ct
NE Ida Ct
NE Lewis Ct
NE Melody Ct
NE Aquarius Ct
NE Libra Ct
NE Hadley Ct
NE Newall Ct
NE Deborah Ct
NE Cedar Ct
NE Wareham Ct
NE Pecan Ct
NE Elliott Ct
NE Harmony Ct
NE Klinger Ct
NE Clubhouse Ct
NE Fernwood Ct
NE Hayes Ct
NE Longest St
NE Edwards Ave
NE Meridian Ln
NE Center St
NE Alley
NE Willamette St
NE Columbia St
NE Pacific St
NE Mill St
NE Eleventh St
NE Seventh St
NE Sixth St
NE Fifth St
NE Eighth St
NE Tenth St
NE Ninth St
NE Second St
NE Third St
NE Fourth St
NE First St
NE Main St
NE Grant St
NE North St
NE Fulton St
NE Hancock St
NE School St
NE Center St
NE River St
NE Edwards St
NE Meridian St
NE Alley
NE Chehalem St

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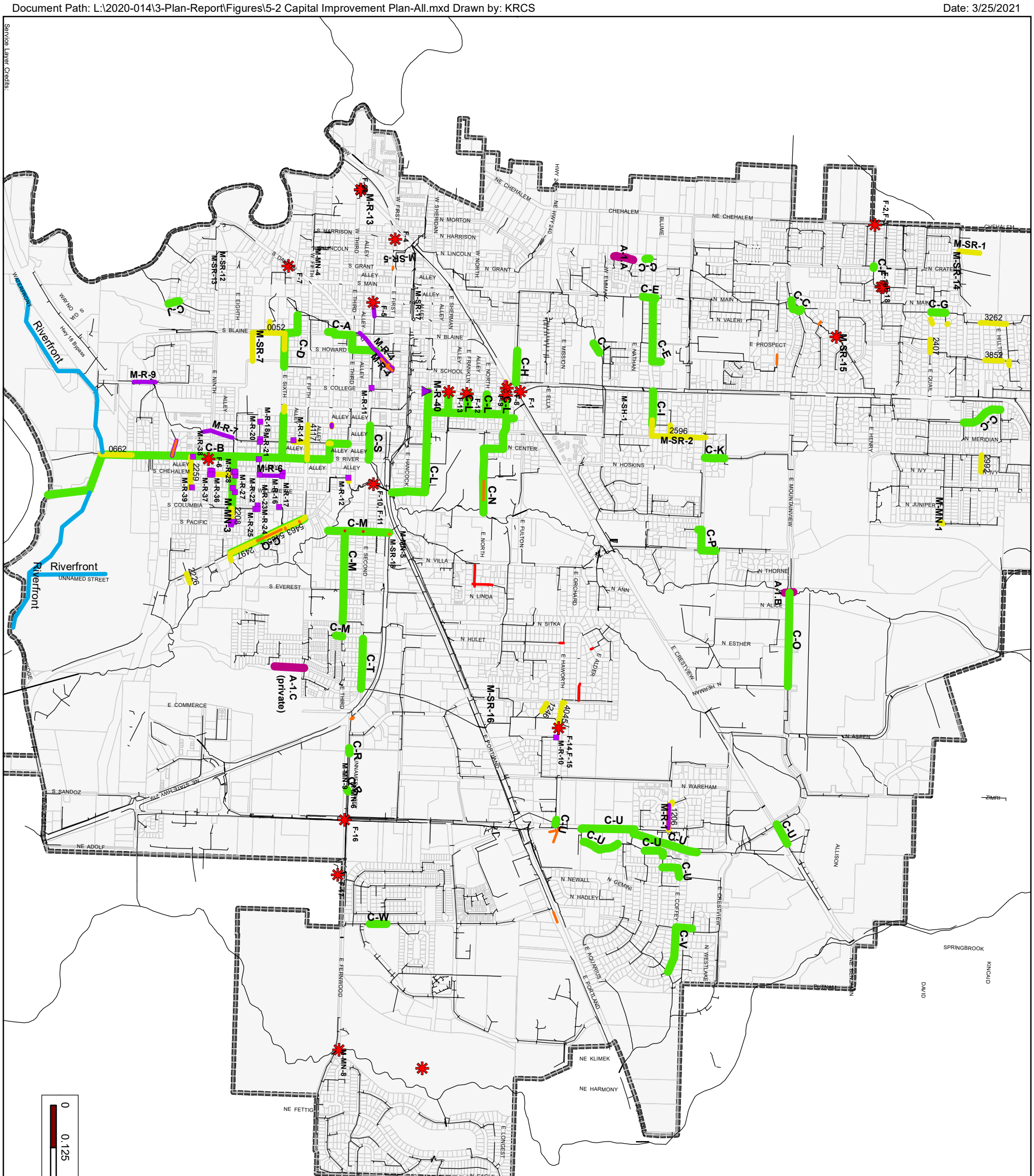

Legend

- Reported Flooding Area
- Replace Manhole
- Replace Catch Basin
- Replace Outlet
- Pipe Older than 50 Years Old
- Pipe Material Issue
- Riverfront Master Plan Improvements
- Maintenence Noted Replacement Pipe
- PACP Score of 5
- Stream Channel Improvements
- Modeled Capacity Based Improvements
- Existing Pipe, Channel, or Culvert
- Culvert
- Open Channel
- Newberg Tax lots
- UGB

0 0.125 0.25 0.5 0.75 1 Miles

N

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City of Newberg

Capital Improvement Plan Overview

2020 City of Newberg Stormwater Master Plan

Figure **5-2**

Section 6

Implementation Plan

This section presents a proposed implementation plan for the capital projects and program recommendations outlined in section 5. The plan includes capital project prioritization, so that the City of Newberg (City) can budget for projects in 5-year increments. The City is not under regulatory obligations to complete stormwater-related capital projects. Instead, the implementation timeline is based on local priorities, which were established during the development of this Stormwater Master Plan (Master Plan). Following the capital project prioritization, Section 6.2 presents a financial analysis to evaluate the funding needed to implement this Master Plan.

6.1 Capital Improvement Project (CIP) Priority Evaluation

The capital projects presented in Section 5.2 represent a long-term strategy to address flooding, capacity upgrades, stream bank stability, and water quality enhancements. Effective implementation of this Master Plan requires prioritizing projects and establishing a schedule for design and construction.

6.1.1 Prioritization Criteria

Strategy meetings were conducted with City staff to review project alternatives and establish implementation priorities. A list of prioritization criteria was developed to align with local priorities. The prioritization criteria is used as guidelines to help the City determine which projects should be budgeted for first. Stormwater CIP projects are to be prioritized based on the degree to which each project meets the criteria. The previous plan had a numerical ranking system. This plan has updated this methodology to allow for thoughtful consideration of all projects and how they should relate to each other.

Projects that meet multiple criteria will be ranked as a high priority improvement and performed first. For example, areas that have frequent reported flooding that are shown in the model to have long duration of flooding will have a high priority. Another example of a high priority project would be one that is a small project in scope and/or cost that reduces flooding in a large geographical area. An example of a low priority improvement is an area shown in the model to flood for only a short duration in the 25-year event that has had no documented flooding.

Following are the CIP prioritization criteria used in this plan:

Table 6-1. Prioritization Criteria

Category ID	Project Category
A	Projects required by regulations
B	Projects that fix documented flooded areas
C	Projects where maintenance issues correspond with model issues
D	Projects that are in roads set for repaving
E	Projects that address flooding that occurs most frequently in model results. This includes a combination of duration of flooding at the 25-year event, and intensity of the storm where flooding first occurs (2-year storm event, 10-year storm event, or 25-year storm event).
F	Projects that will reduce flooding in the areas with the largest potential for damage
G	Projects that will benefit the largest number of properties
H	Projects that reduce long-term maintenance by removing pipes and/or structures that currently require more maintenance than is typical of that type of structure
I	Conjunctive or multiple use potential, particularly as a balance between moving water and enhancing stream water quality and habitat/aesthetics
J	Low permitting complexity

6.1.2 CIP Prioritization

The following table and Figure 6-1 show the prioritized capacity improvement projects using the criteria described in section 6.1.1. It only includes project determined as part of this master plan. Projects currently in the CIP are all priority 1 since they will be happening in the next 5 years.

Table 6-2. Prioritized Improvements

No.	Project Name	Preliminary Estimated Cost
Priority 1 Projects (0-5 years)		**$6,624,256**
C-B	S Center St. Improvements	$2,415,715
C-C	Oxford St. Improvements - Section 1	$177,193
C-C	Oxford St. Improvements - Section 2	$142,677
C-C	Oxford St. Improvements - Section 3	$58,622
C-L	N Edwards St. Improvements	$1,024,049
C-M	E Third St. Improvements	$647,954
C-N	E North St. Improvements	$650,305
C-Q	Wynooski St. Improvements	$309,198
C-U	N Springbrook Rd. Improvements - Section 1	$94,466
C-U	N Springbrook Rd. Improvements - Section 2	$1,104,077
Priority 2 Projects (6-10 years)		**$1,730,653**
C-A	S Blaine St. Improvements	$325,711
C-D	6th & Blaine St. Improvements	$224,530
C-E	Pinehurst Dr. Improvements	$364,280
C-H	Illinois St. Improvements	$139,183
C-I	Ditch & Pinehurst Dr. Improvements	$283,916
C-P	Crestview Dr. Improvements	$131,819
C-R	2nd St. Crossing	$41,056
C-V	Libra St. Improvements	$220,159
Priority 3 Projects (11-20 years)		**$1,077,768**
C-F	Crater Ln. Improvements	$12,274
C-G	Partridge Ln. Improvements	$80,980
C-J	Charles St. Improvements	$51,140
C-K	Center St. Improvements	$138,377
C-O	Mountainview Dr. Improvements	$384,725
C-S	E 2nd St. @ River St. Improvements	$121,007
C-T	E 2nd St. @ Ardus St. Improvements	$216,600
C-W	Brutscher St. Improvements	$72,666
Total Recommended Improvement Project Costs		**$9,432,678**

Table 6-3. Other City Projects			
CIP number	CIP name	Source	Estimated capital implementation cost total
A-1	Stream Bank Protection Projects	2013 SWMP	$190,000
A-2	800 Block of NE Wynooski St.	Existing CIP	$300,000
A-3	RR Ditch; N College – N Meridian	Existing CIP	$165,755
A-4	OR240/RR Tracks/Franklin Street	Existing CIP	$109,273
A-5	Stormwater Master Plan Update	City Code	$350,000
A-6	Riverfront Additional piping	Riverfront Master Plan	TBD depending on layout
A-7	Maintenance Activities	Ongoing	$100,000/year

6.2 Financial Analysis

The system development charges (SDCs) are one method of funding stormwater improvements. They are incurred when land is developed or redeveloped. This fee pays for the portion of the flow within the pipes that the future user will use of existing or future pipes. Due to Newberg's policy that any increase of imperviousness above 500 sq. ft. must match pre-development peak flow with post-development peak flows, flows are not anticipated to increase as a result of adding impervious area to any areas within the storm system. The Table 6-3 used visual approximation from aerial photography to determine how much % of the system could likely be redeveloped. Areas that are currently fields, or open areas were assumed to be available for redevelopment. These areas contributing to pipes would then be SDC eligible. Many areas of the City are fully developed, so those areas have 0% SDC eligibility.

Table 6-4. Capacity Capital Improvement System Development Charge (SDC) Eligibility		
No.	**Project Name**	**% SDC Eligible**
Priority 1 Projects (0-5 years)		
C-B	S Center St. Improvements	30%
C-C	Oxford St. Improvements - Section 1	0%
C-C	Oxford St. Improvements - Section 2	0%
C-C	Oxford St. Improvements - Section 3	0%
C-L	N Edwards St. Improvements	0%
C-M	E Third St. Improvements	0%
C-N	E North St. Improvements	0%
C-Q	Wynooski St. Improvements	0%
C-U	N Springbrook Rd. Improvements - Section 1	25%
C-U	N Springbrook Rd. Improvements - Section 2	25%
Priority 2 Projects (6-10 years)		
C-A	S Blaine St. Improvements	0%
C-D	6th & Blaine St. Improvements	0%
C-E	Pinehurst Dr. Improvements	0%
C-H	Illinois St. Improvements	0%
C-I	Ditch & Pinehurst Dr. Improvements	0%
C-P	Crestview Dr. Improvements	5%
C-R	2nd St. Crossing	0%
C-V	Libra St. Improvements	0%
Priority 3 Projects (11-20 years)		
C-F	Crater Ln. Improvements	0%
C-G	Partridge Ln. Improvements	0%
C-J	Charles St. Improvements	0%
C-K	Center St. Improvements	45%
C-O	Mountainview Dr. Improvements	75%
C-S	E 2nd St. @ River St. Improvements	0%
C-T	E 2nd St. @ Ardus St. Improvements	0%
C-W	Brutscher St. Improvements	10%

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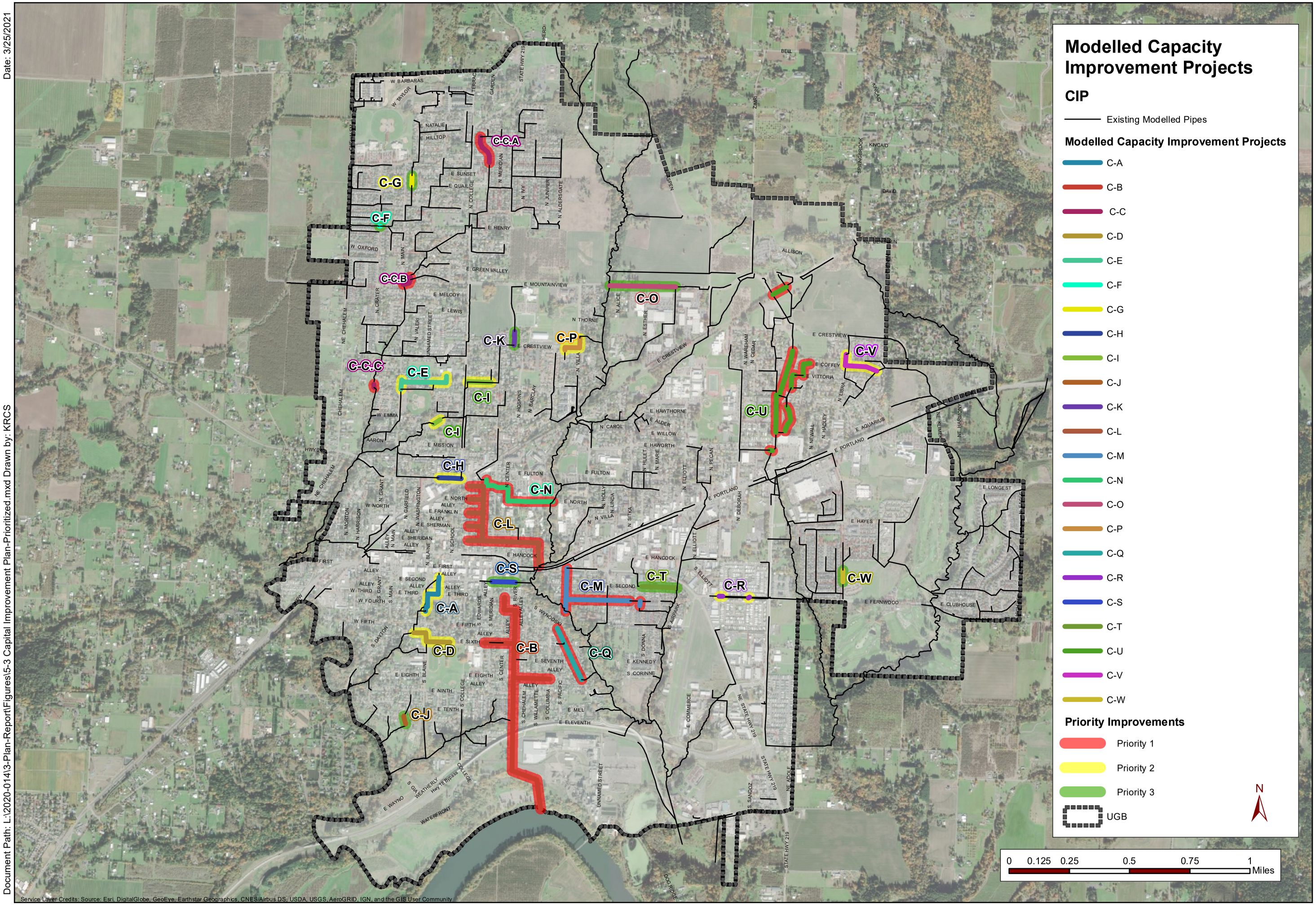

Modelled Capacity Improvement Projects

CIP

Existing Modelled Pipes

Modelled Capacity Improvement Projects

- C-A
- C-B
- C-C
- C-D
- C-E
- C-F
- C-G
- C-H
- C-I
- C-J
- C-K
- C-L
- C-M
- C-N
- C-O
- C-P
- C-Q
- C-R
- C-S
- C-T
- C-U
- C-V
- C-W

Priority Improvements

- Priority 1
- Priority 2
- Priority 3
- UGB

N

0 0.125 0.25 0.5 0.75 1 Miles

Figure 6-1

2020 City of Newberg Stormwater Master Plan

Modelled Capacity Capital Improvement Plan Prioritized

City of Newberg

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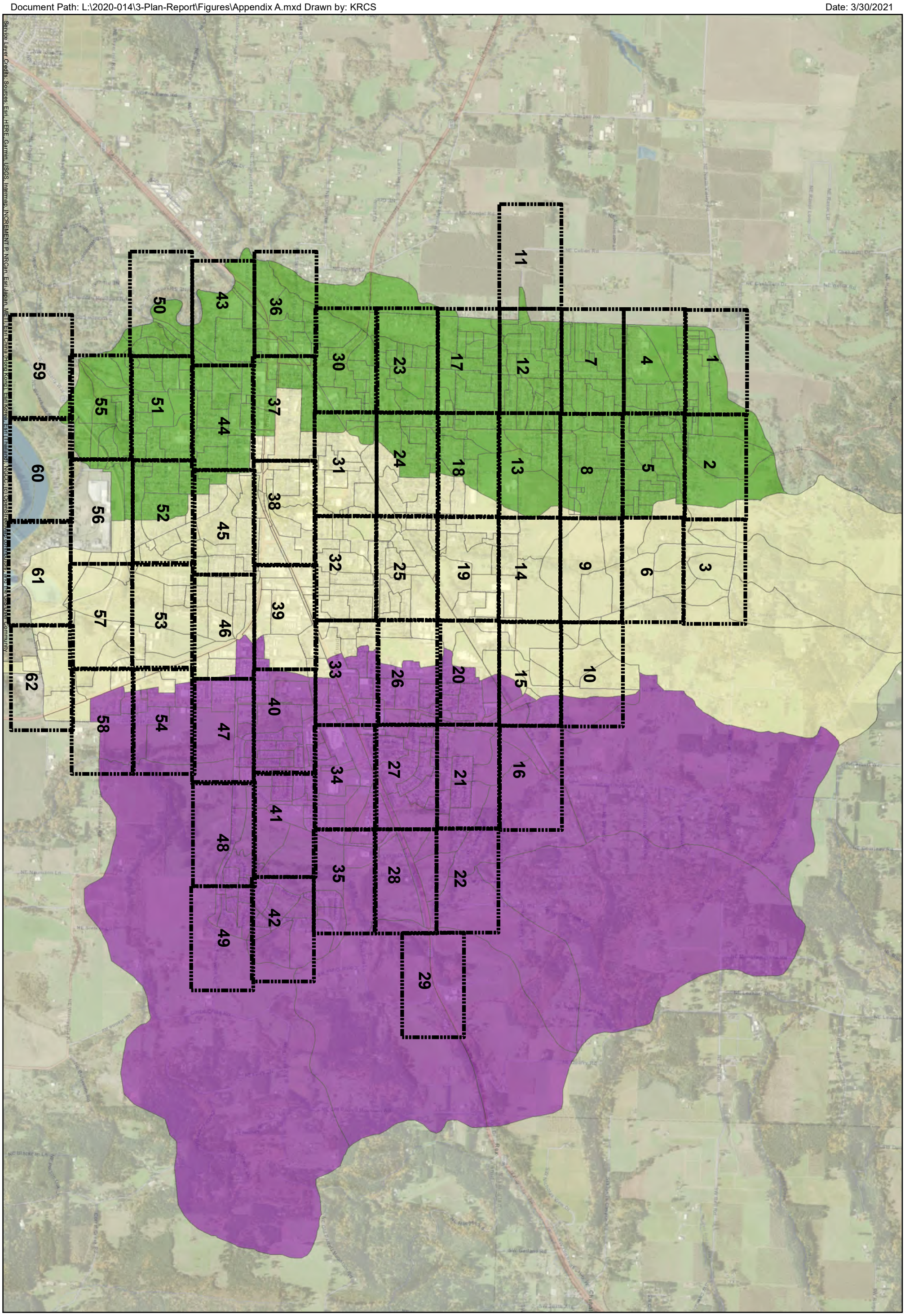
Appendix A: Modeled Drainage System Maps



HBH CONSULTING ENGINEERS

City of Newberg

Legend

Basin Subcatchments
- Chehalem Creek
- Hess Creek
- Spring Brook

N

System Details

2020 City of Newberg Stormwater Master Plan

View **Key Map**

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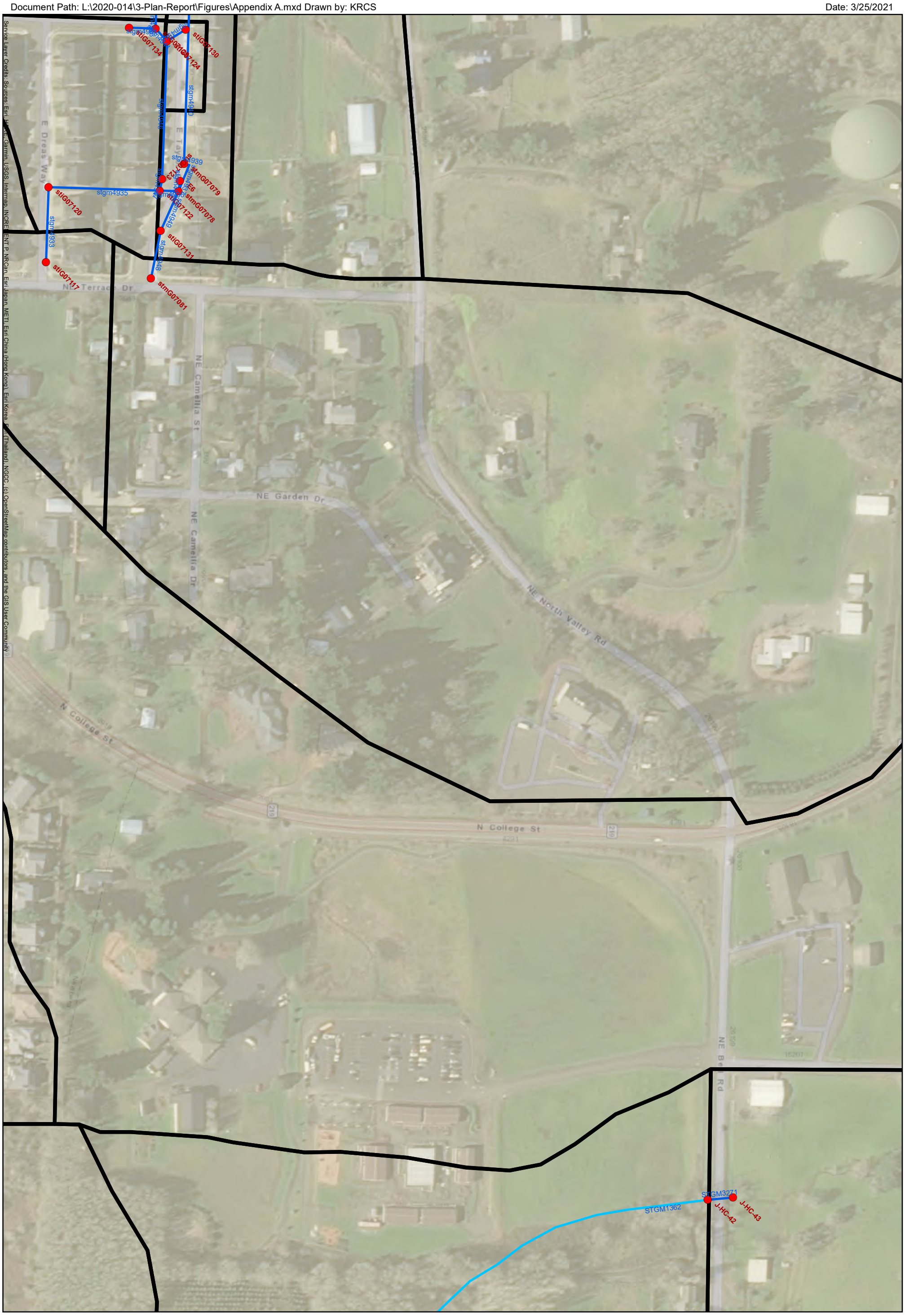

HBH CONSULTING ENGINEERS

City of Newberg

Legend

Junctions

Modeled Pipe

Modeled Channel/Creek

Subcatchments

0 25 50 100 Feet

N

System Details

2020 City of Newberg Stormwater Master Plan

View **2**

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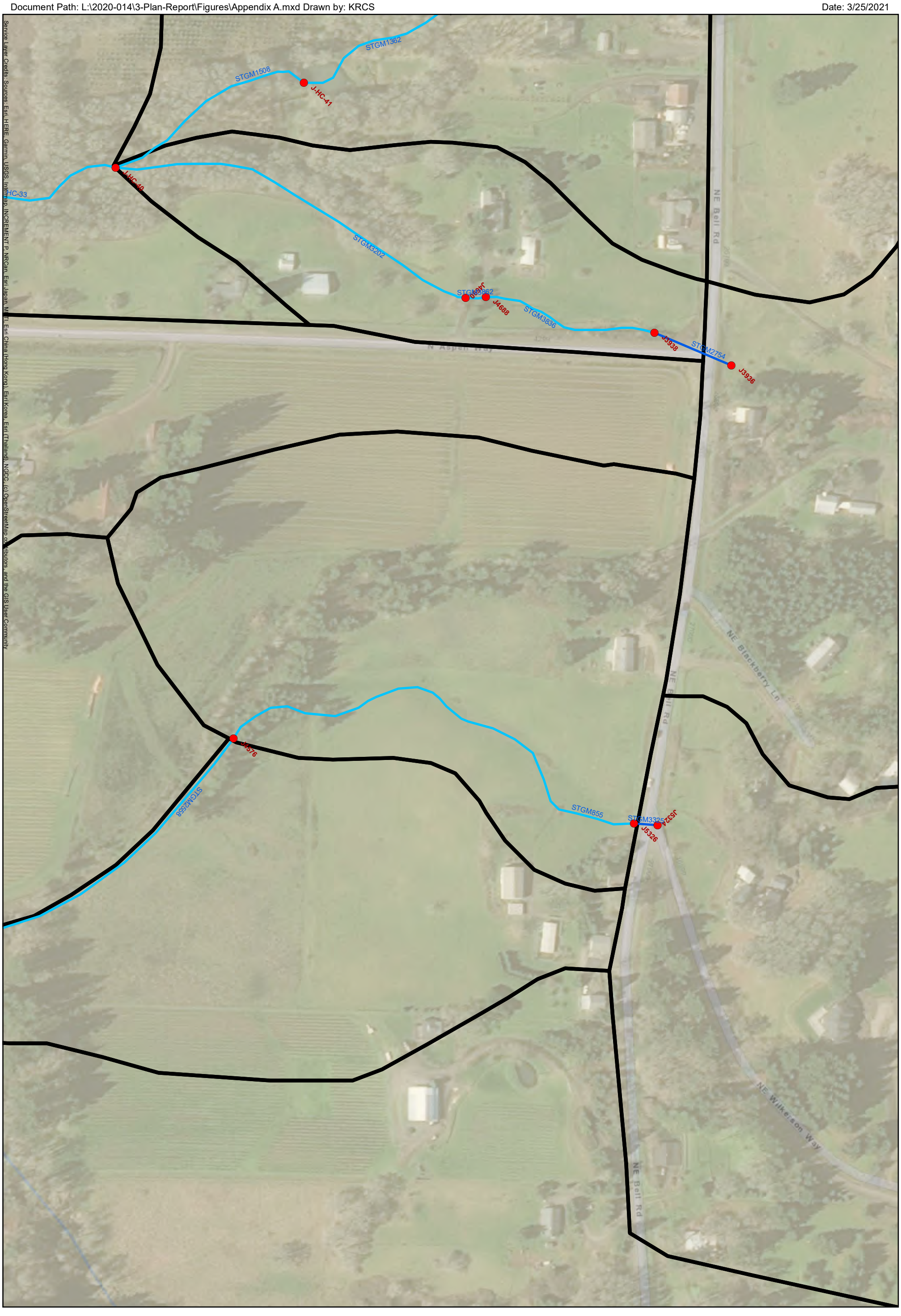

HBH CONSULTING ENGINEERS

City of Newberg

Legend
Junctions
Modeled Pipe
Modeled Channel/Creek
Subcatchments
0 25 50 100 Feet
N

System Details

2020 City of Newberg Stormwater Master Plan

View **3**

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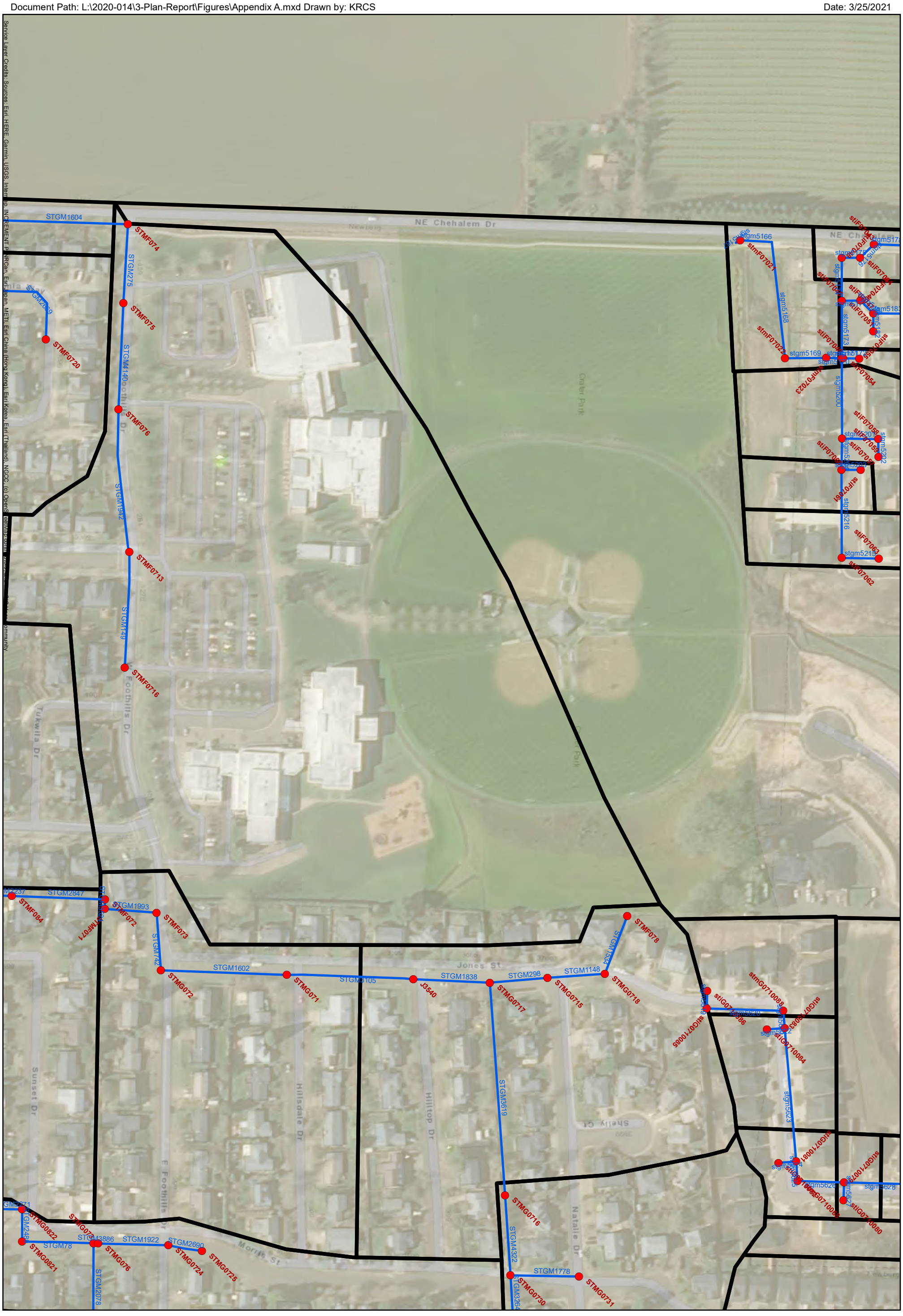

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HBH CONSULTING ENGINEERS

City of Newberg

Legend

Subcatchments

Modeled Channel/Creek

Modeled Pipe

Junctions

N

0 25 50 100 Feet

System Details

2020 City of Newberg Stormwater Master Plan

View **4**

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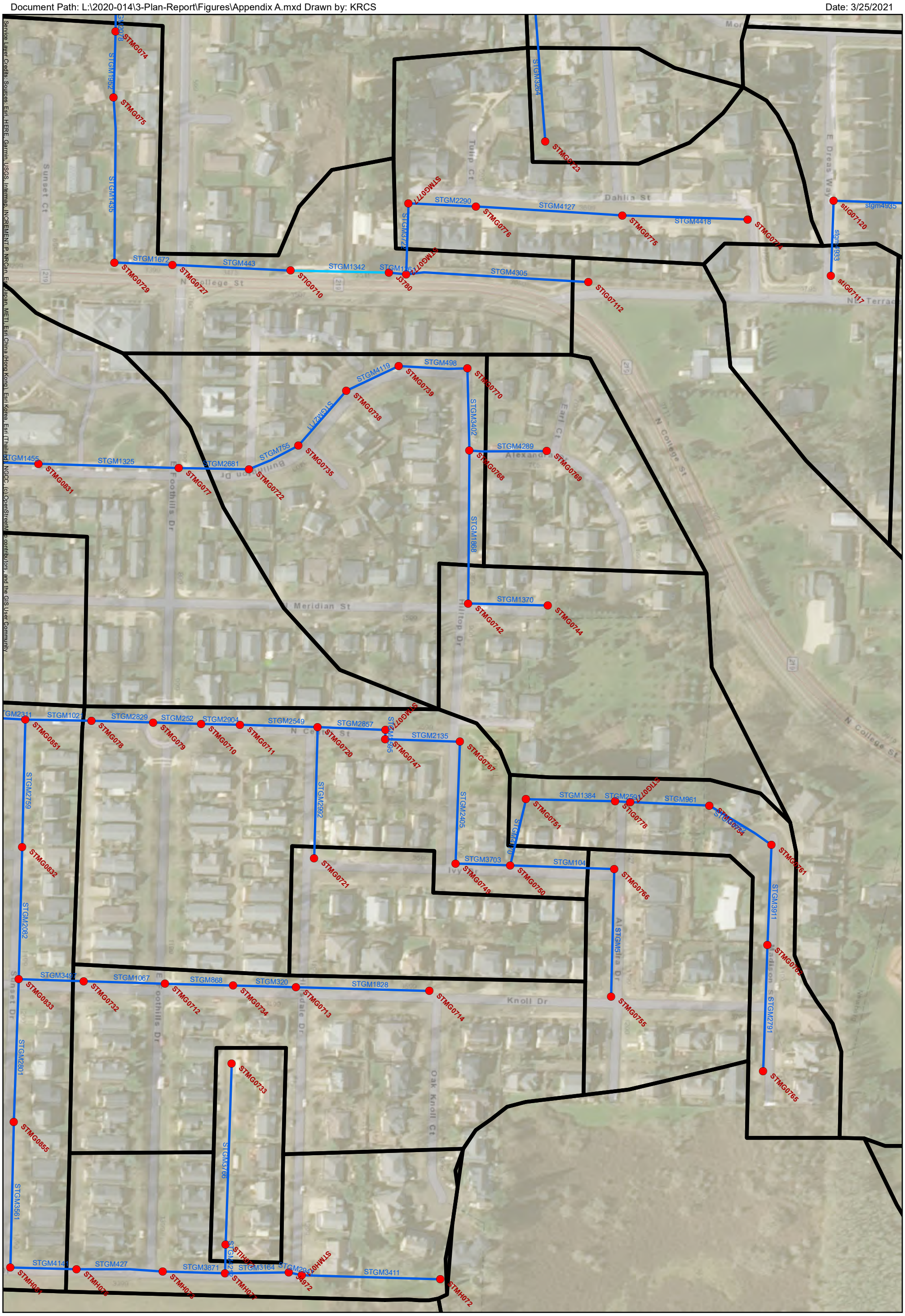

HBH CONSULTING ENGINEERS

City of Newberg

Legend

Junctions

Modeled Pipe

Modeled Channel/Creek

Subcatchments

0 25 50 100 Feet

N

System Details

2020 City of Newberg Stormwater Master Plan

View **5**

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HBH CONSULTING ENGINEERS

City of Newberg

Legend

Junctions

Modeled Pipe

Modeled Channel/Creek

Subcatchments

0 25 50 100 Feet

N

System Details

2020 City of Newberg Stormwater Master Plan

View **6**

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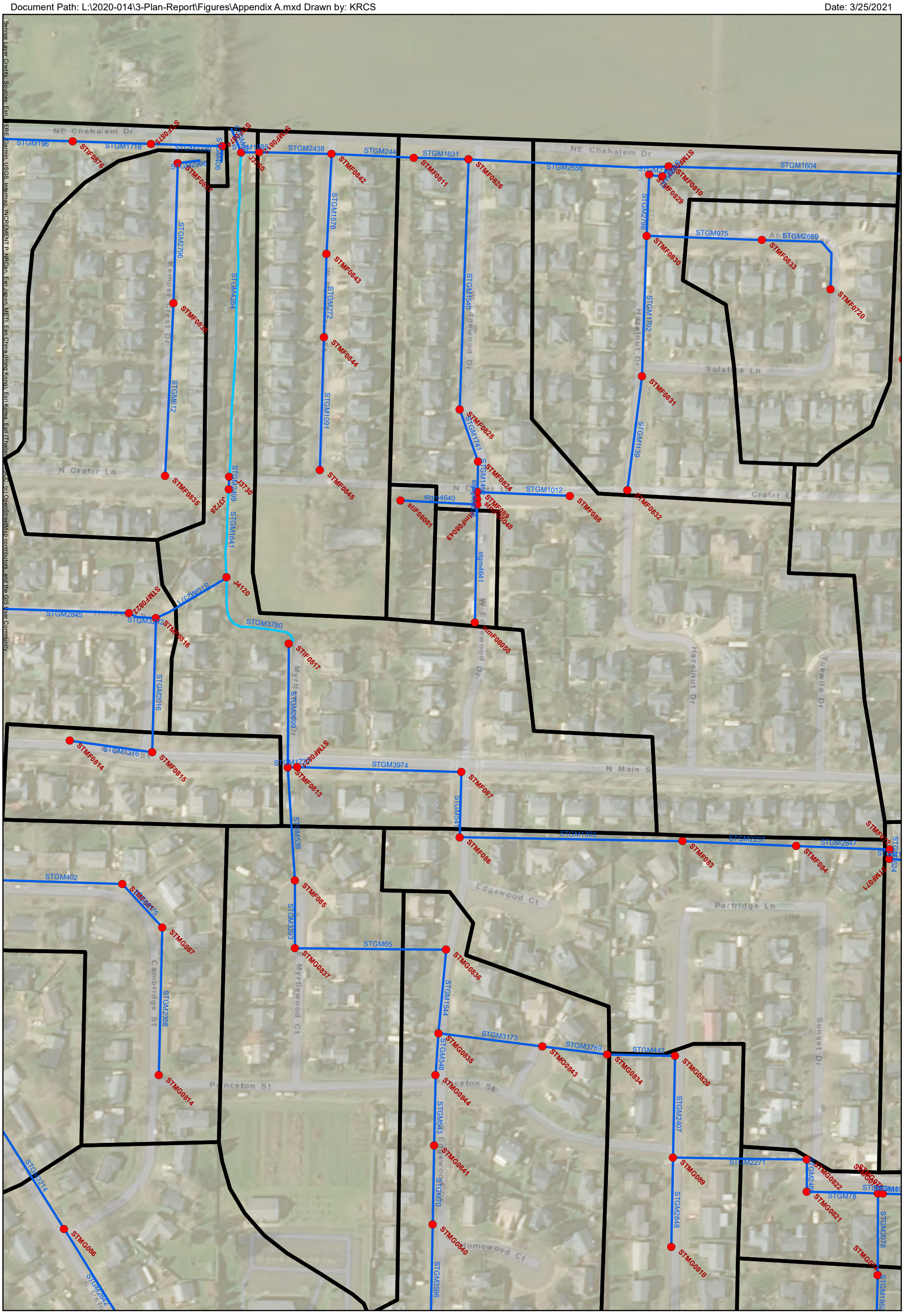

HBH CONSULTING ENGINEERS	City of Newberg	Legend: Junctions, Modeled Pipe, Modeled Channel/Creek, Subcatchments; 0 25 50 100 Feet; N	System Details	2020 City of Newberg Stormwater Master Plan	View 7

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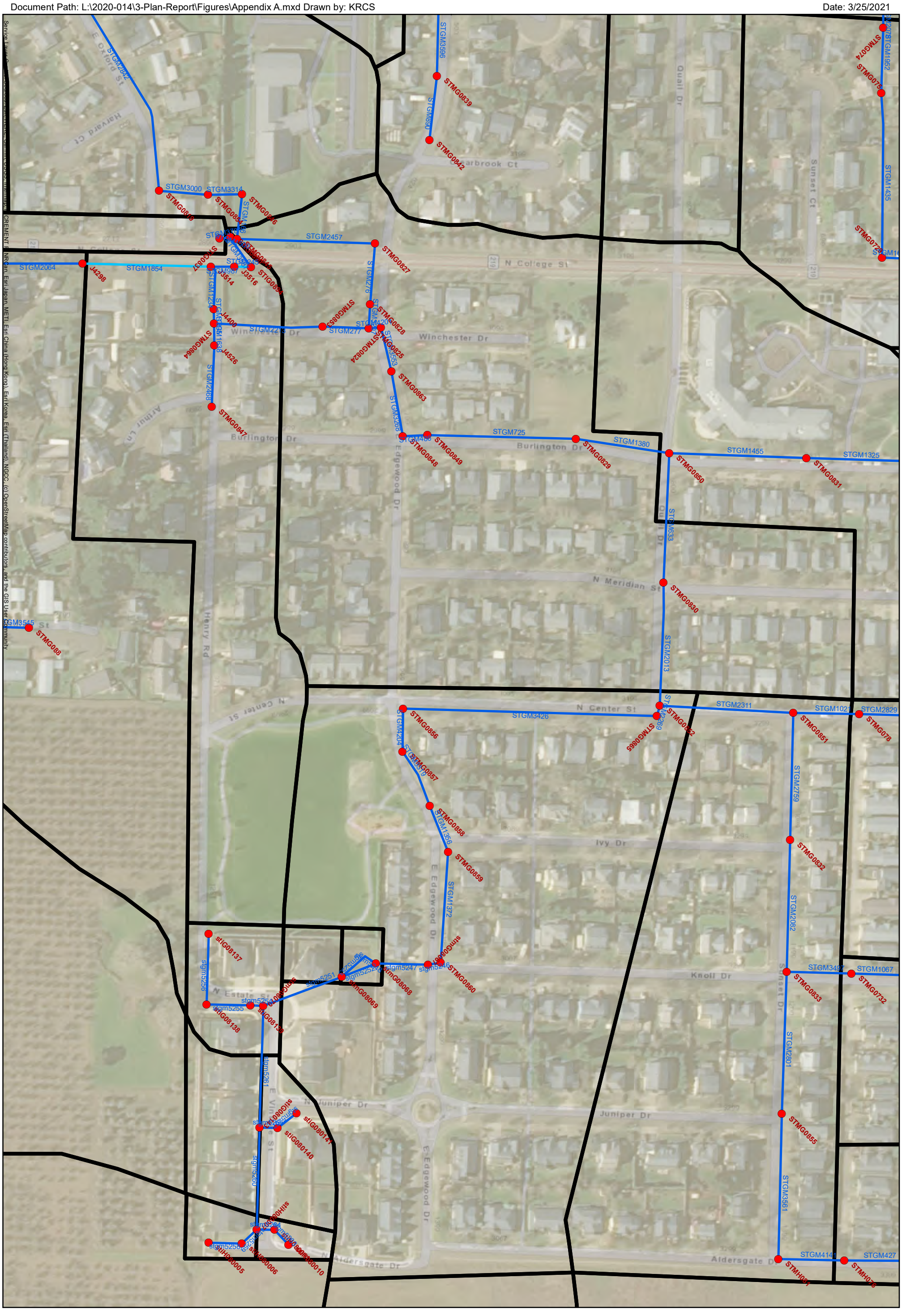
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HBH CONSULTING ENGINEERS

City of Newberg

0 25 50 100 Feet

Legend

Subcatchments

Modeled Channel/Creek

Modeled Pipe

Junctions

N

System Details

2020 City of Newberg Stormwater Master Plan

View **9**

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HBH CONSULTING ENGINEERS

City of Newberg

Legend
- Junctions
- Modeled Pipe
- Modeled Channel/Creek
- Subcatchments

0 25 50 100 Feet

N

System Details

2020 City of Newberg Stormwater Master Plan

View **10**

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HBH CONSULTING ENGINEERS

City of Newberg

Legend

Junctions

Modeled Pipe

Modeled Channel/Creek

Subcatchments

0 25 50 100 Feet

N

System Details

2020 City of Newberg Stormwater Master Plan

View **11**

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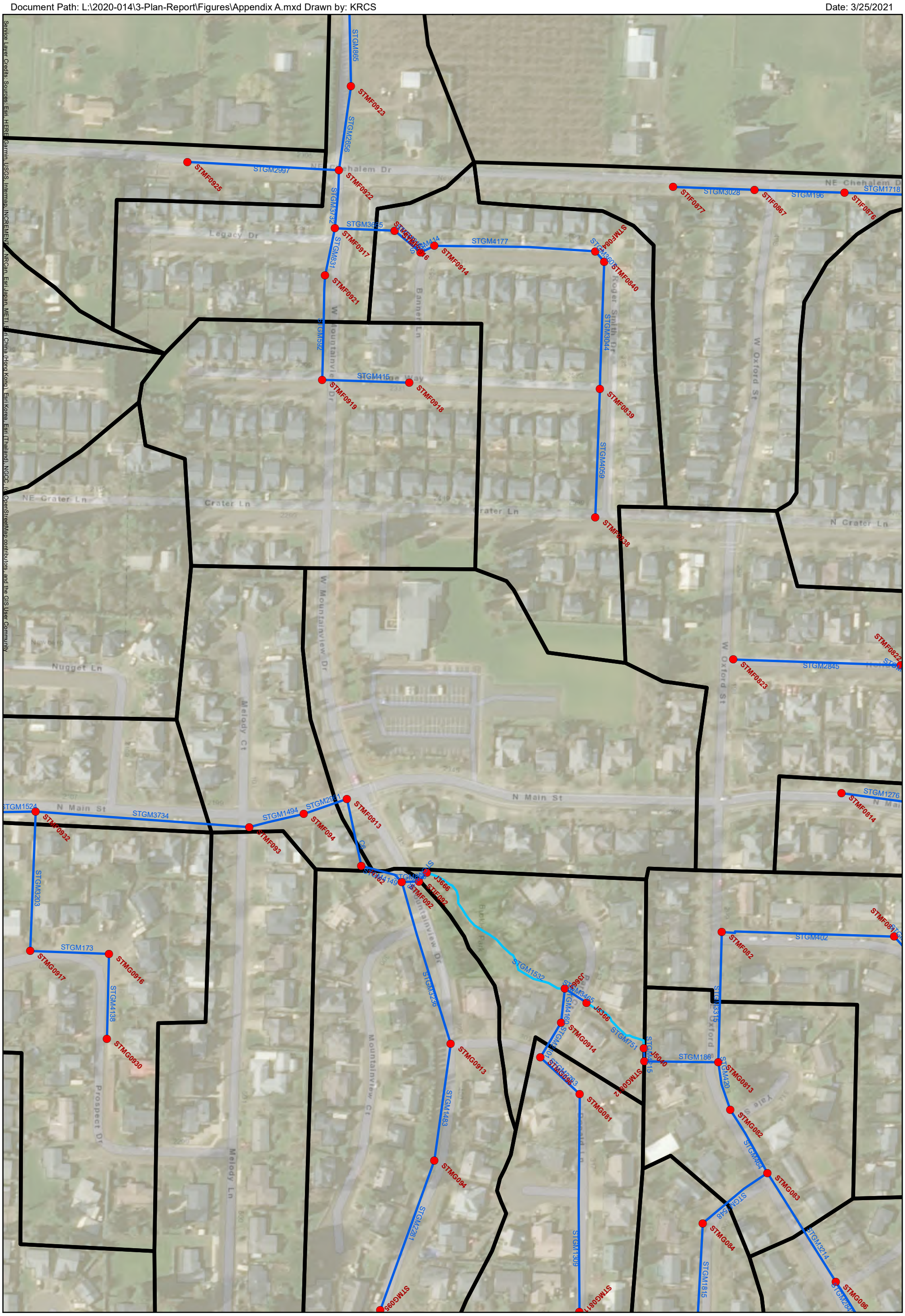

HBH CONSULTING ENGINEERS	City of Newberg	Legend: Junctions, Modeled Pipe, Modeled Channel/Creek, Subcatchments; 0 25 50 100 Feet; N	**System Details**	**2020 City of Newberg Stormwater Master Plan**	View **12**

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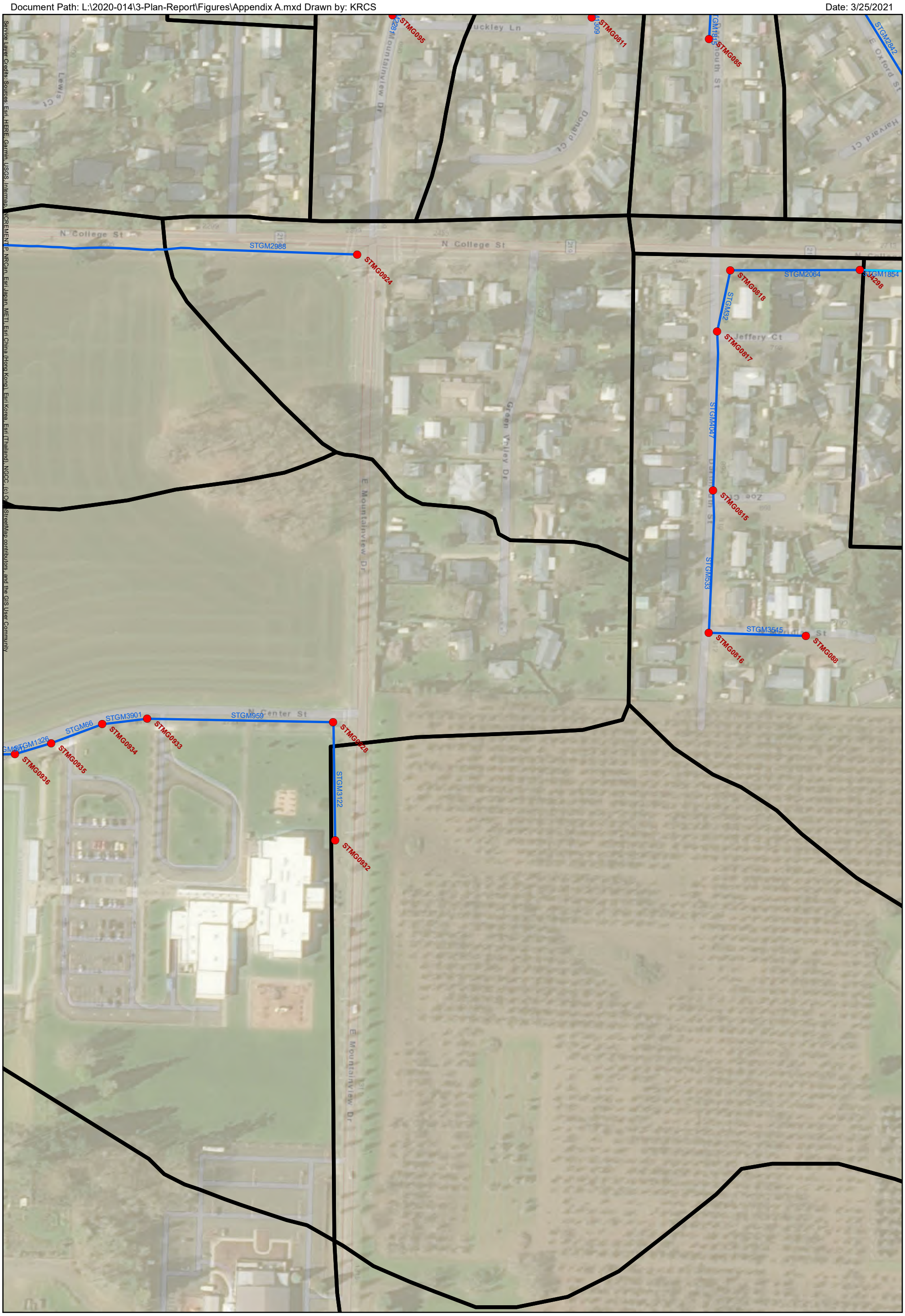

HBH CONSULTING ENGINEERS

City of Newberg

Legend
Junctions
Modeled Pipe
Modeled Channel/Creek
Subcatchments
0 25 50 100 Feet
N

System Details

2020 City of Newberg Stormwater Master Plan

View **13**

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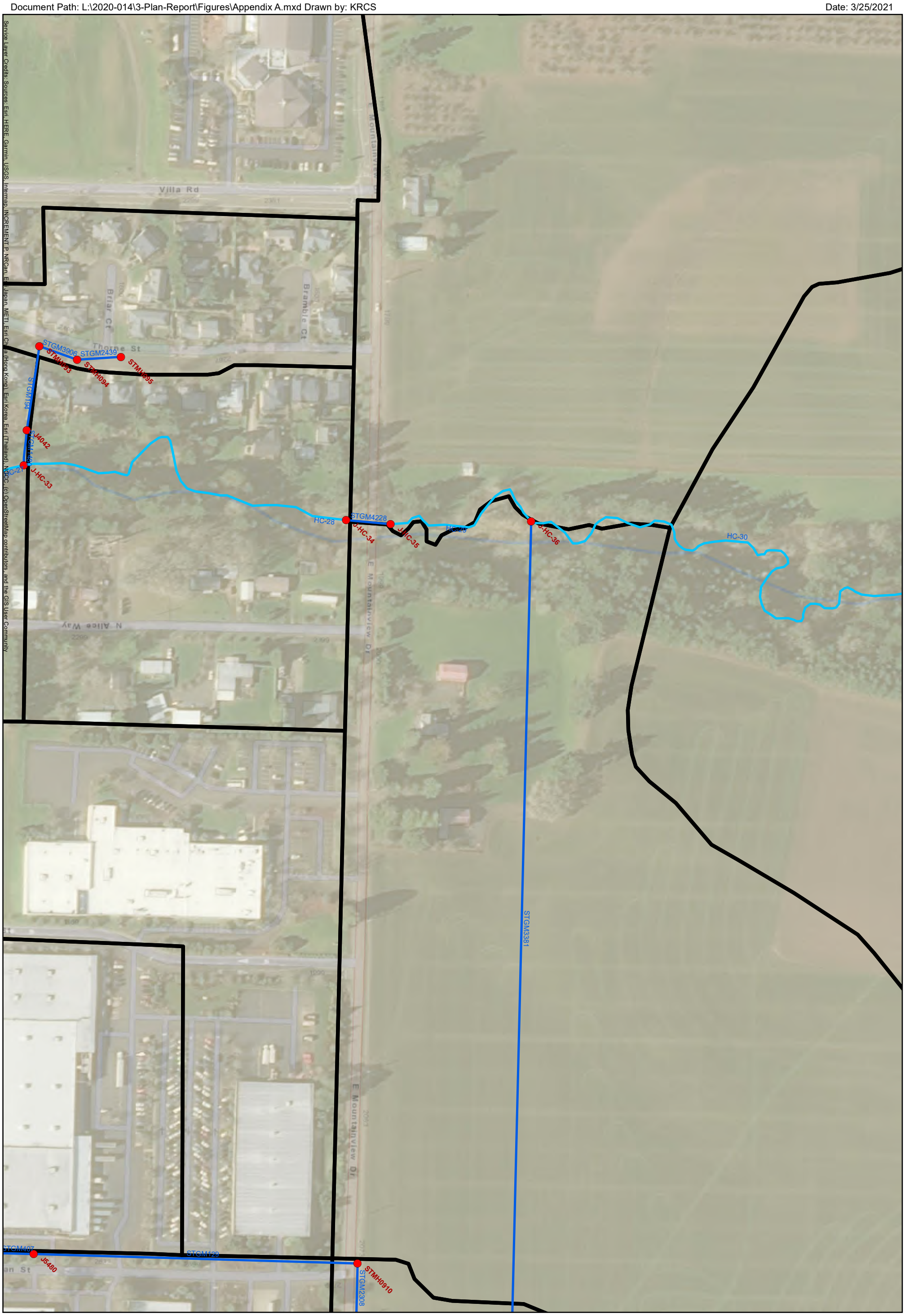

HBH CONSULTING ENGINEERS

City of Newberg

Legend

Junctions

Modeled Pipe

Modeled Channel/Creek

Subcatchments

0 25 50 100 Feet

N

System Details

2020 City of Newberg Stormwater Master Plan

View **14**

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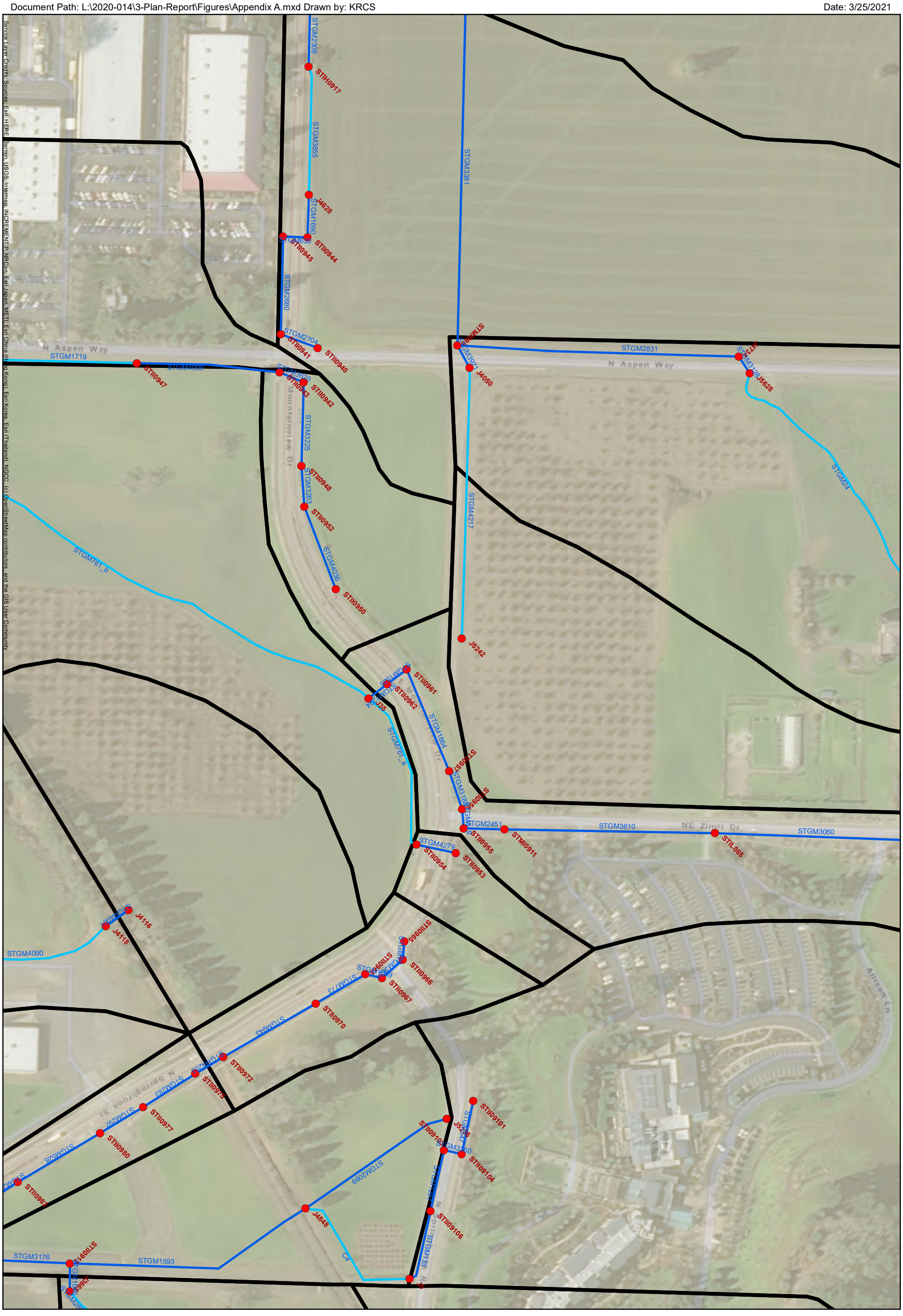

HBH CONSULTING ENGINEERS	City of Newberg	Legend: Junctions, Modeled Pipe, Modeled Channel/Creek, Subcatchments; 0 25 50 100 Feet; N	System Details	2020 City of Newberg Stormwater Master Plan	View 15

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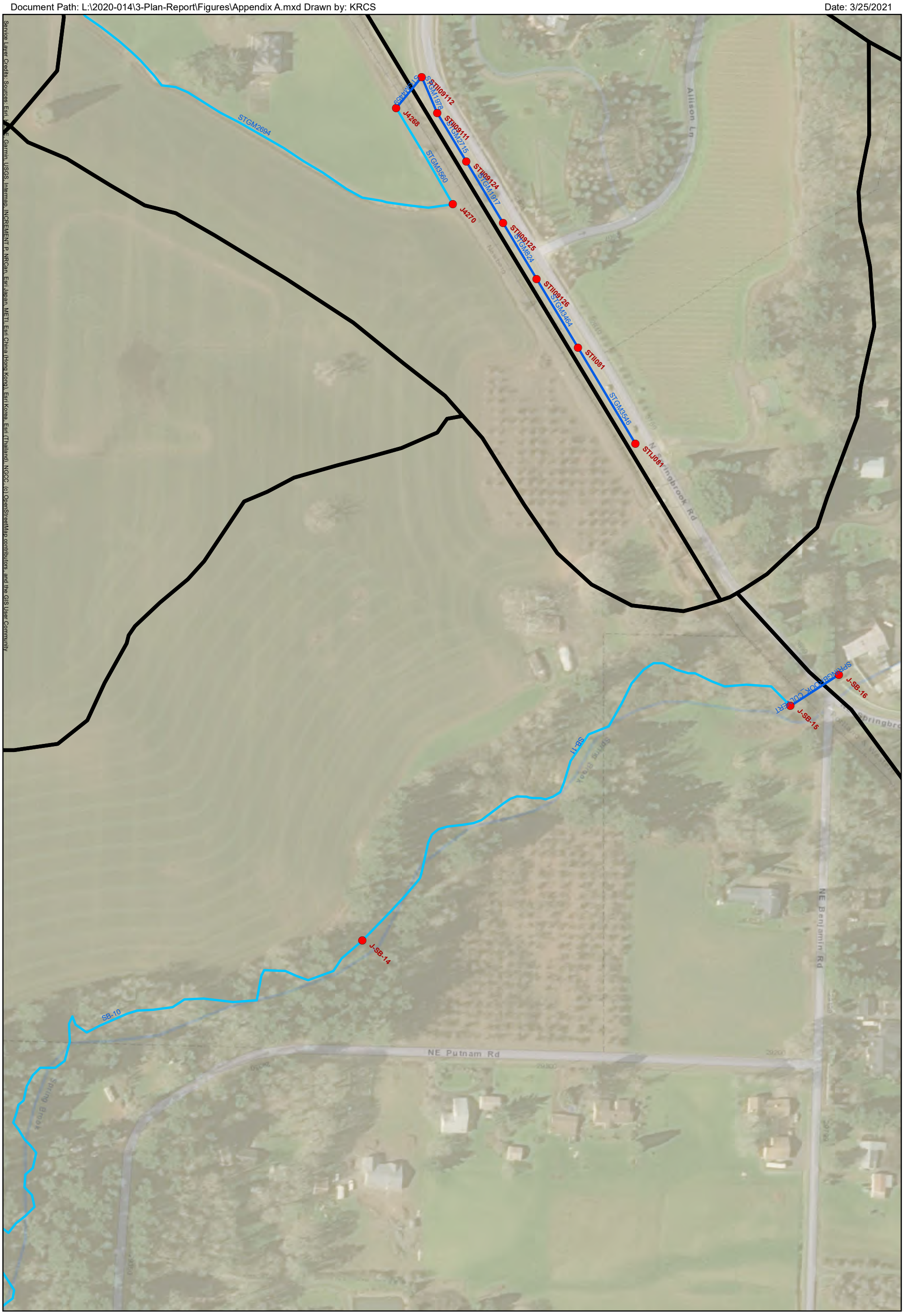

HBH CONSULTING ENGINEERS	City of Newberg	0 25 50 100 Feet Legend: Subcatchments; Modeled Channel/Creek; Modeled Pipe; Junctions N	**System Details**	**2020 City of Newberg Stormwater Master Plan**	View **16**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

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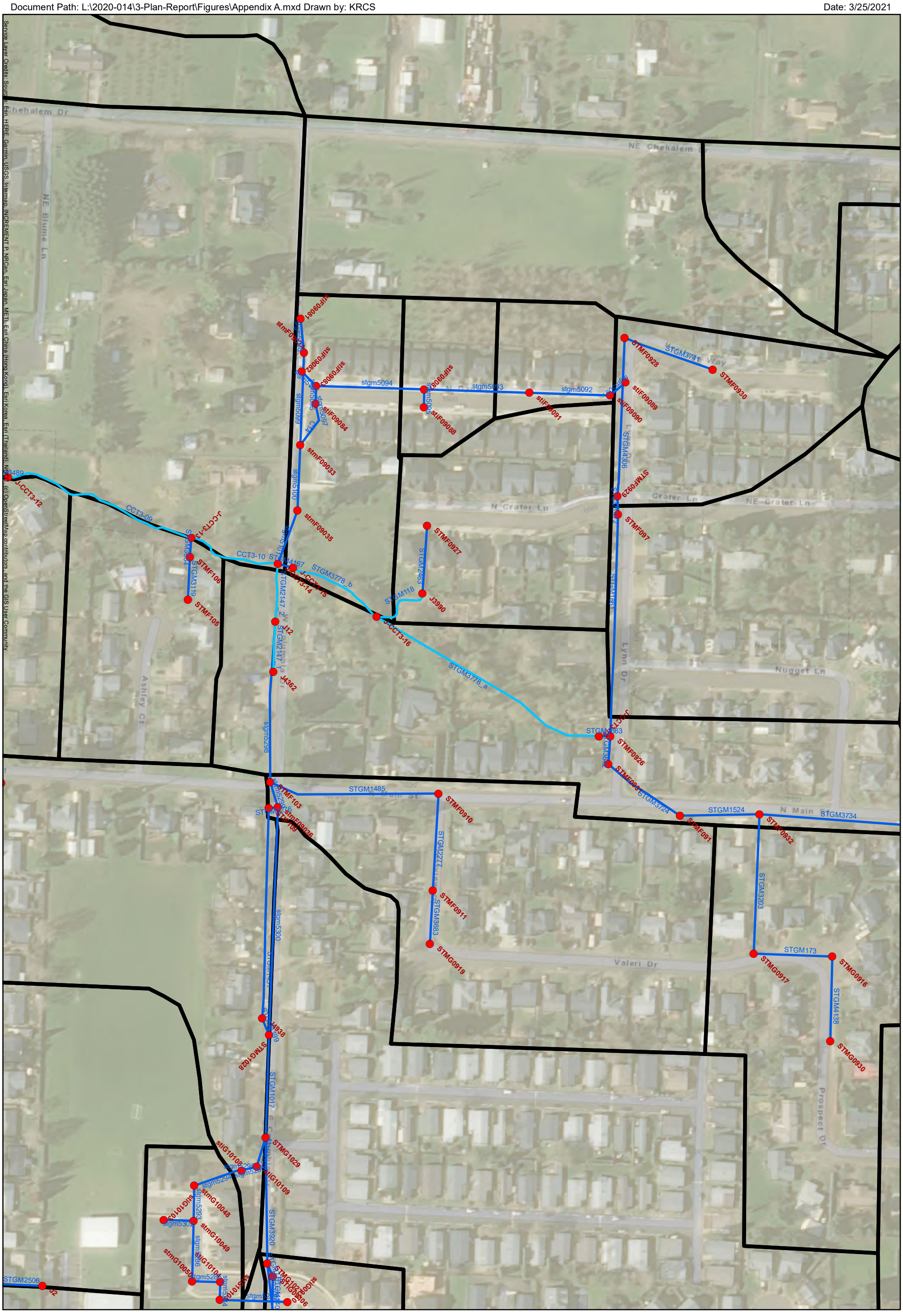

HBH CONSULTING ENGINEERS	City of Newberg	Legend: Junctions, Modeled Pipe, Modeled Channel/Creek, Subcatchments; 0 25 50 100 Feet; N	**System Details**	**2020 City of Newberg Stormwater Master Plan**	View **17**

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HBH CONSULTING ENGINEERS

City of Newberg

Legend

Subcatchments

Modeled Channel/Creek

Modeled Pipe

Junctions

N

0 25 50 100 Feet

System Details

2020 City of Newberg Stormwater Master Plan

View **18**

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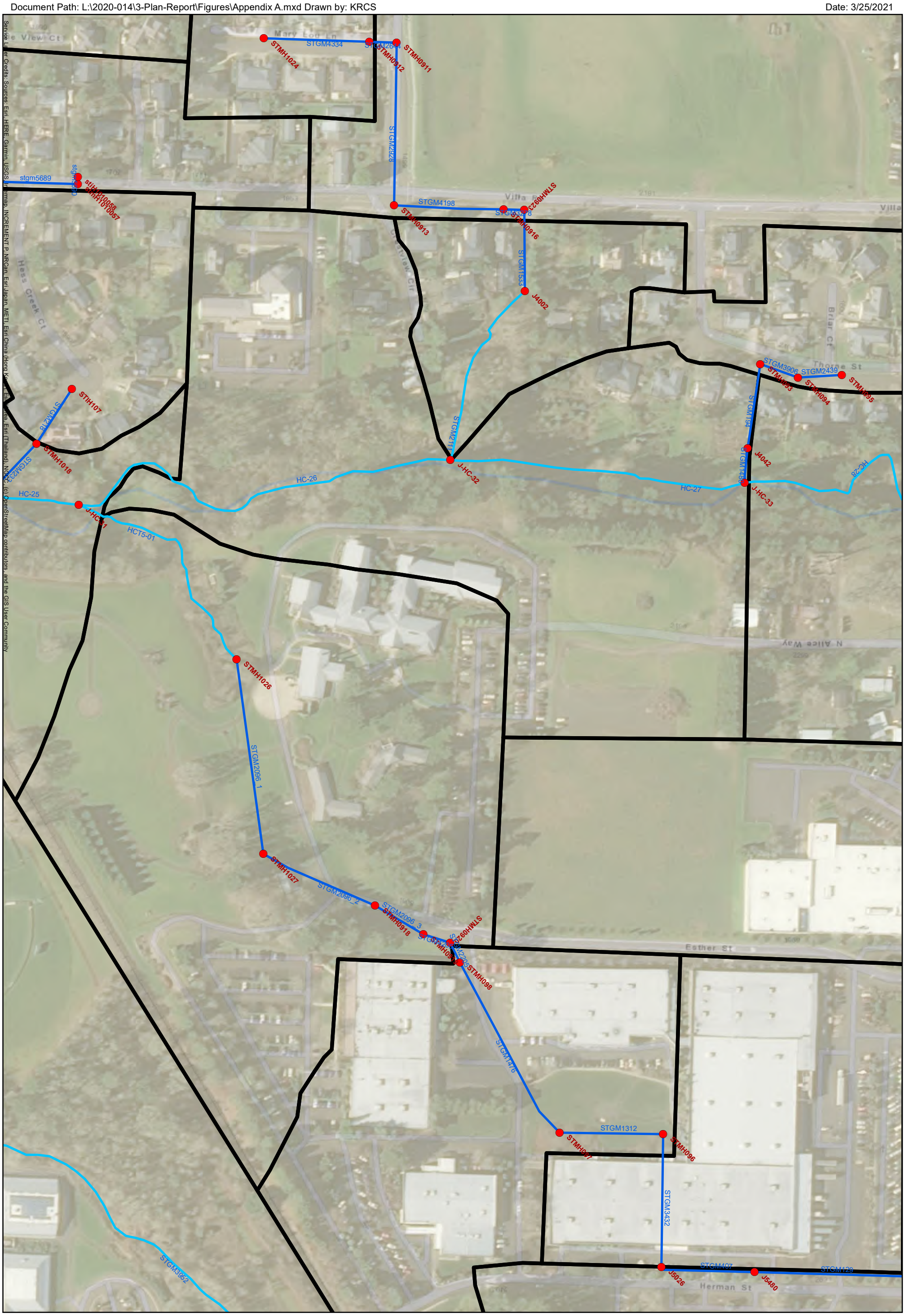

HBH CONSULTING ENGINEERS

City of Newberg

Legend

Junctions

Modeled Pipe

Modeled Channel/Creek

Subcatchments

0 25 50 100 Feet

N

System Details

2020 City of Newberg Stormwater Master Plan

View **19**

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Date: 3/25/2021

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J4370
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STMI1010
STII104
STGM1064
STMI095
STGM2662
STII092
STGM1692
STGM523
STMI101
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Cedar St
Lindquist Ct
Middlebrook Dr
Dogwood Ave
Crestview Dr
STMI1013
STGM1206
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STGM973
J5124
STGM1004
STGM3192
STMI092
STMI093
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STMI105
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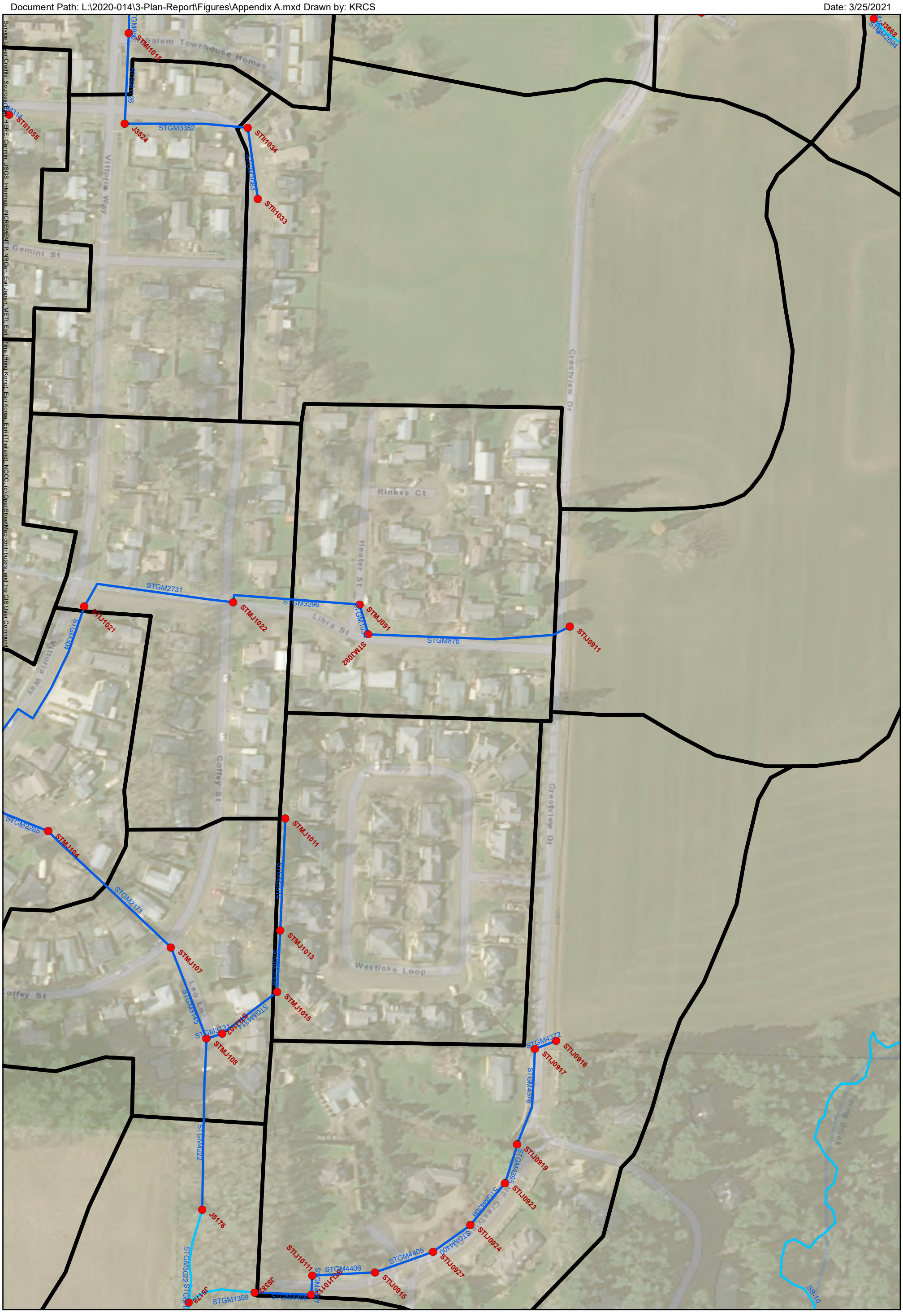
STII0928
STMI0951
STGM1593
STGM866

HBH CONSULTING ENGINEERS	City of Newberg	Legend: Junctions, Modeled Pipe, Modeled Channel/Creek, Subcatchments; 0 25 50 100 Feet; N	**System Details**	**2020 City of Newberg Stormwater Master Plan**	View **20**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

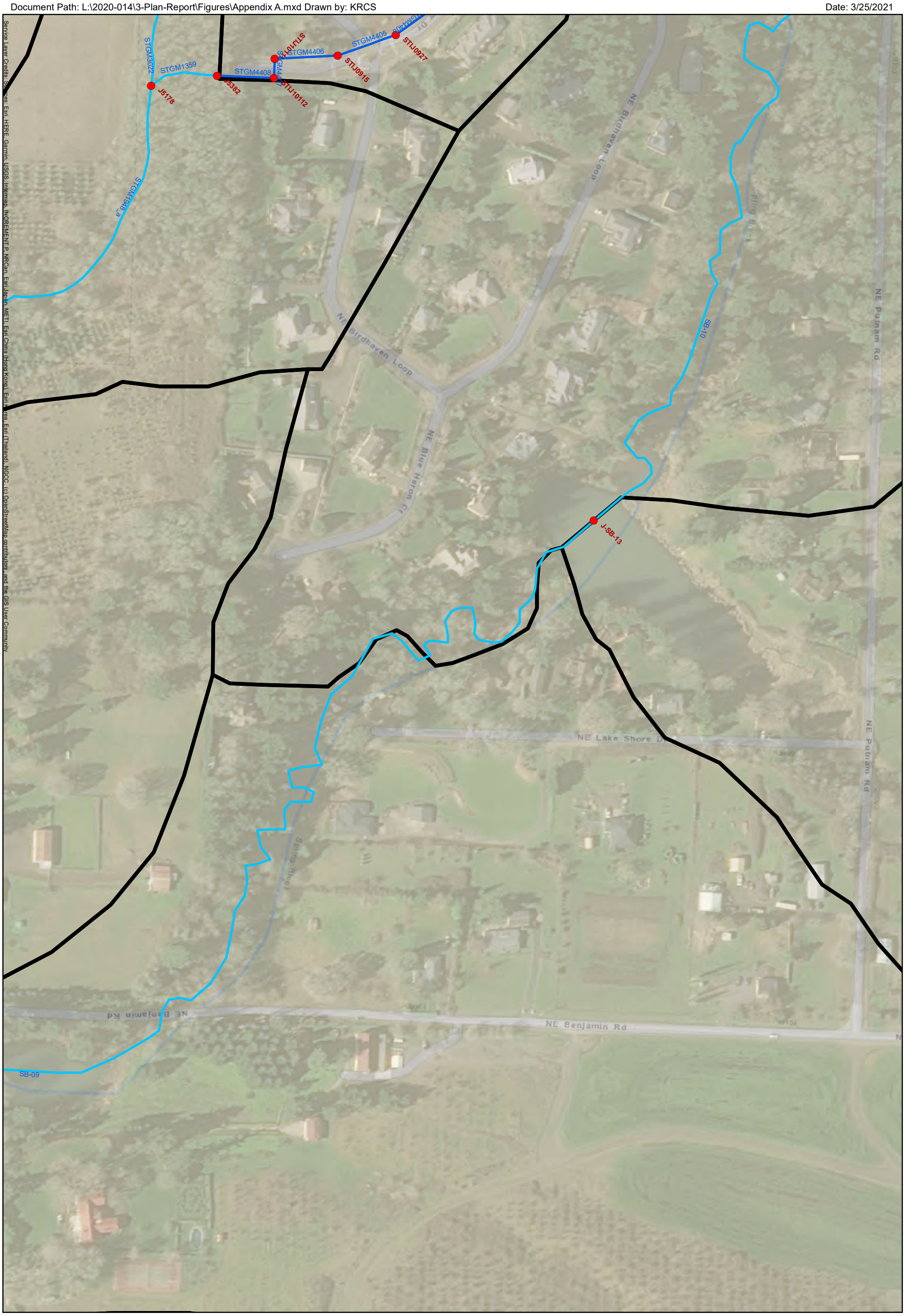
Date: 3/25/2021



HBH CONSULTING ENGINEERS	City of Newberg	Legend: Junctions, Modeled Pipe, Modeled Channel/Creek, Subcatchments; 0 25 50 100 Feet; N	**System Details**	**2020 City of Newberg Stormwater Master Plan**	View **21**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

Date: 3/25/2021



HBH CONSULTING ENGINEERS

City of Newberg

Legend

Junctions

Modeled Pipe

Modeled Channel/Creek

Subcatchments

0 25 50 100 Feet

N

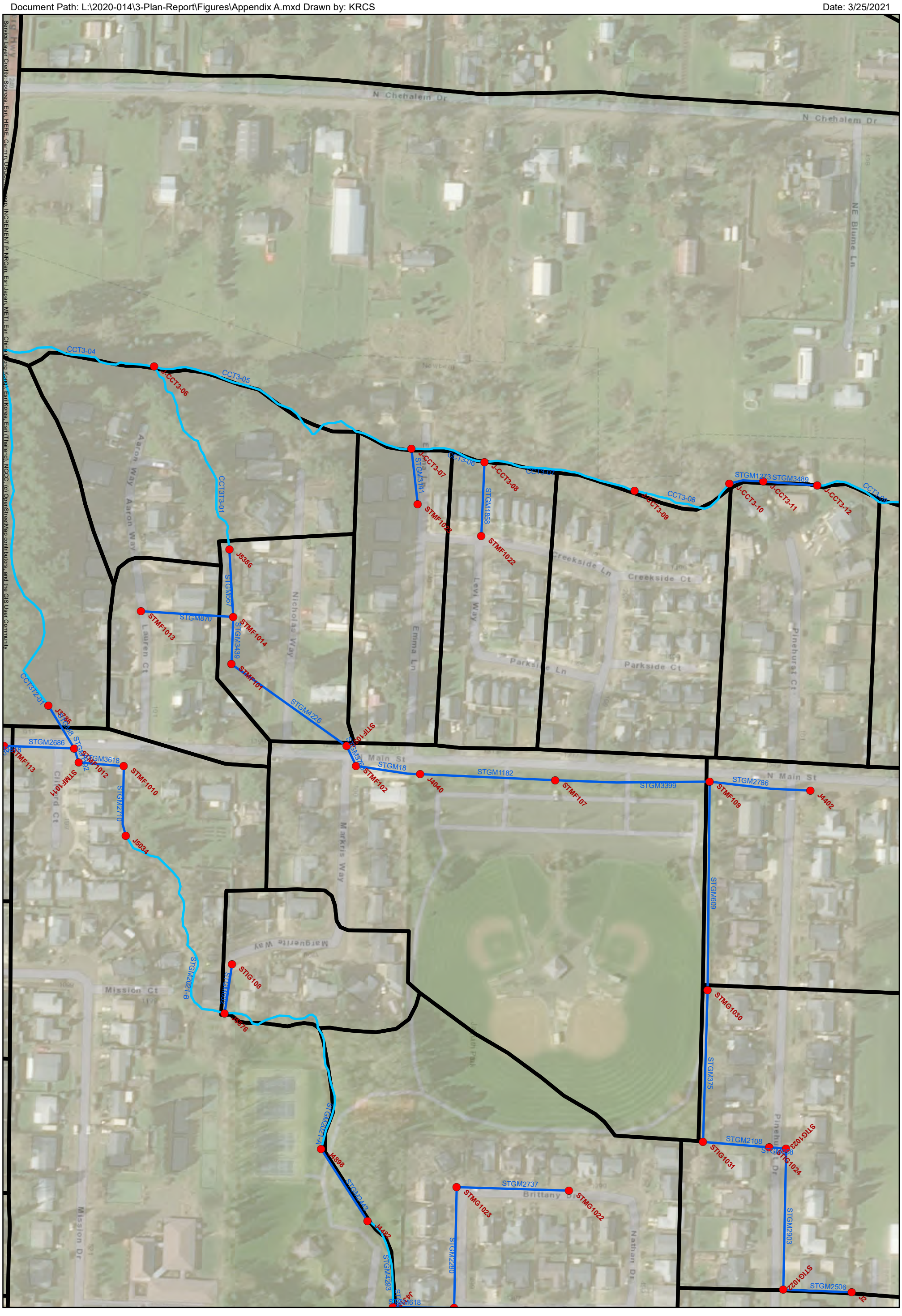
System Details

2020 City of Newberg Stormwater Master Plan

View **22**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

Date: 3/25/2021



HBH CONSULTING ENGINEERS

City of Newberg

Legend

Junctions

Modeled Pipe

Modeled Channel/Creek

Subcatchments

0 25 50 100 Feet

N

System Details

2020 City of Newberg Stormwater Master Plan

View **23**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

Date: 3/25/2021

STGM1335
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stgm4912
stgm4911
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stIG10016
STGM3615
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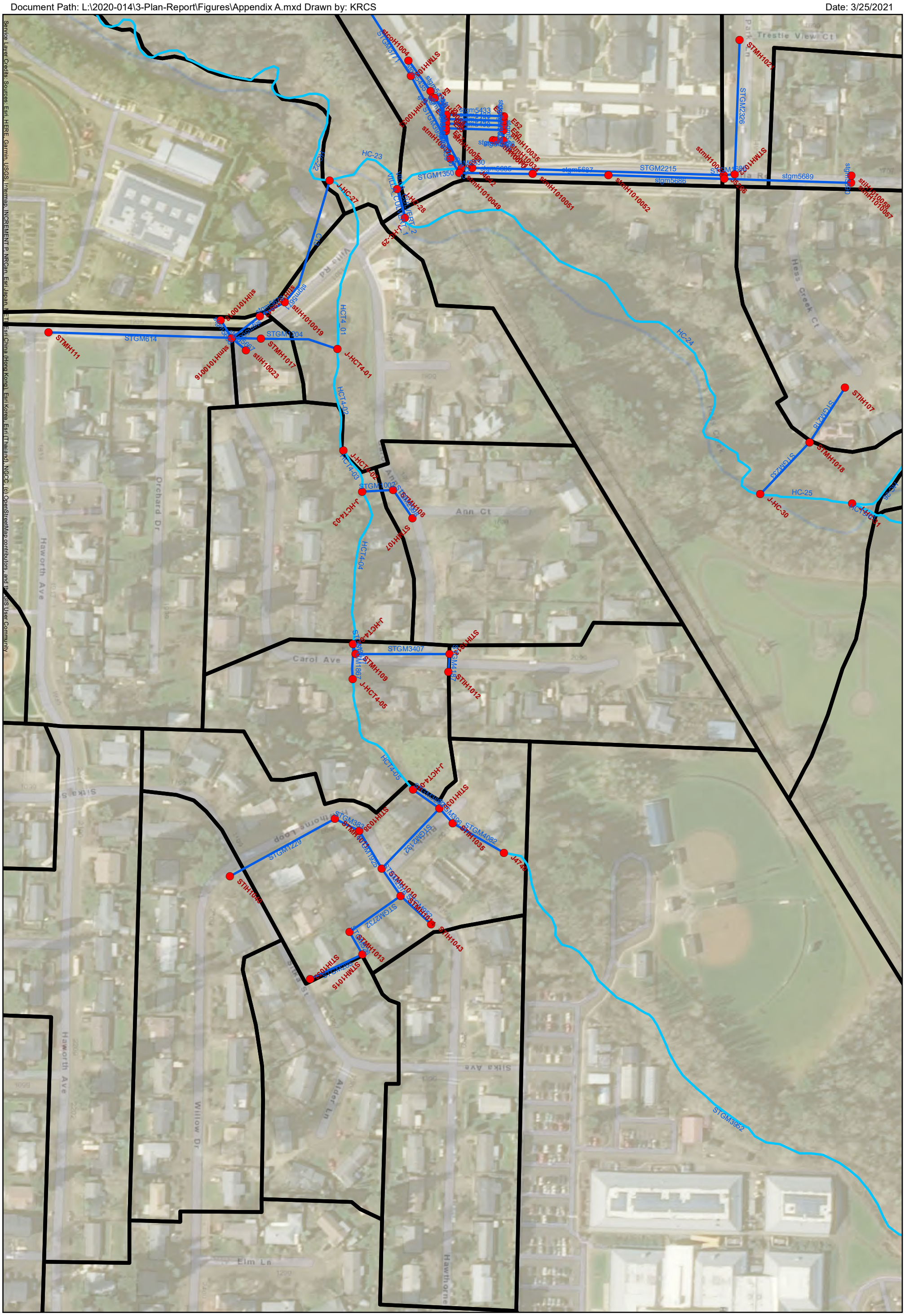
J3708
stgm4903
stgm4902
stgm4900
stmG10040
STGM2969
J5174
J5172
J5696
STGM3150
STGM4320
STGM1075
STGM2596
STMG1021
STMG1223
STGM171
STMG103
STMG102
STMG104
STMG101
STGM4016
stmG10038
stmG10020
stgm4642
stgm1138
E115
STMG106
STGM4085
STMG1035
STGM522
STMG108
STMG109
STGM98
STGM3054
STMG1019
STMH102
STGM3171
STMG-1015
STMG-1010
STGM2425
STMH101
STGM2515
STGM2041
STMH104
STMH105
STGM329
HC-22

Evergreen Dr
N College St
Sarah Dr
Brooke Dr
Hemlock Ln
Palomino Ct
Arabian Ct
Hoskins St
Barclay Way
Sierra Vista Dr
Pennington Dr S
Pennington Dr N
College Park

HBH CONSULTING ENGINEERS	City of Newberg	Legend: Junctions; Modeled Pipe; Modeled Channel/Creek; Subcatchments; 0 25 50 100 Feet; N	System Details	2020 City of Newberg Stormwater Master Plan	View 24

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

Date: 3/25/2021



HBH CONSULTING ENGINEERS

City of Newberg

Legend

Junctions

Modeled Pipe

Modeled Channel/Creek

Subcatchments

0 25 50 100 Feet

N

System Details

2020 City of Newberg Stormwater Master Plan

View **25**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

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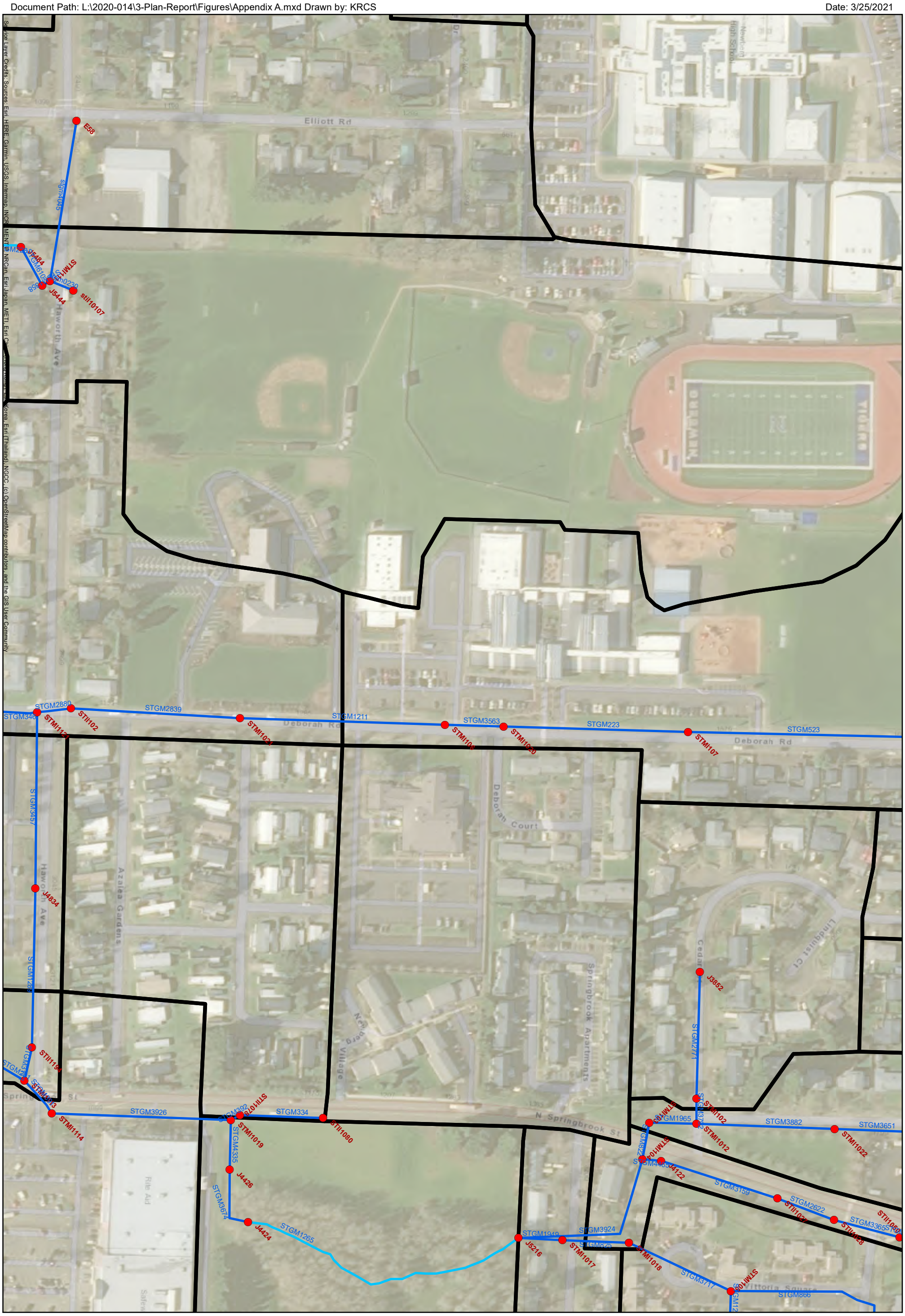

HBH CONSULTING ENGINEERS	City of Newberg	Legend: Junctions; Modeled Pipe; Modeled Channel/Creek; Subcatchments; 0 25 50 100 Feet; N	**System Details**	**2020 City of Newberg Stormwater Master Plan**	View **26**

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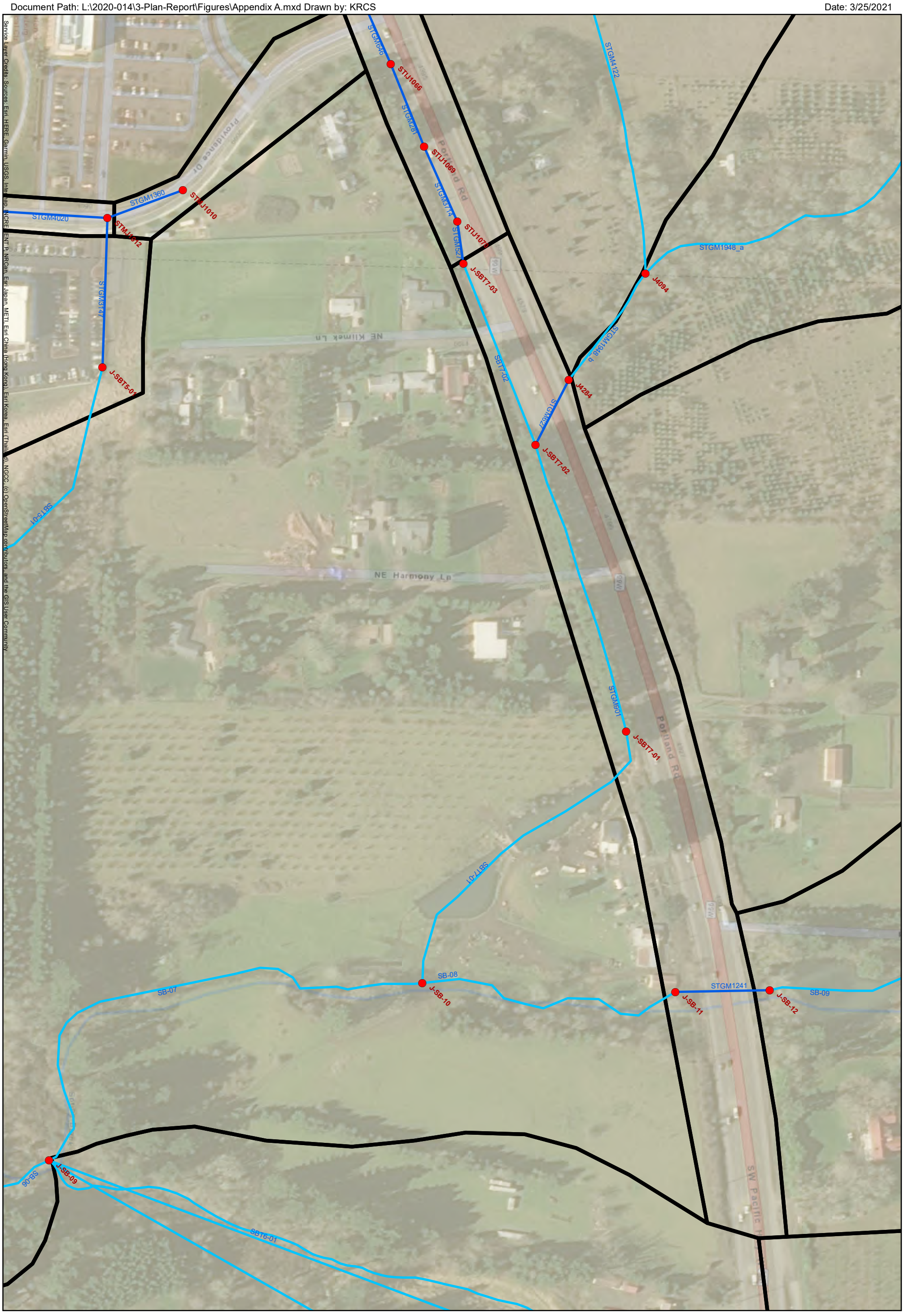
Date: 3/25/2021

HBH CONSULTING ENGINEERS	City of Newberg	Legend: Junctions; Modeled Pipe; Modeled Channel/Creek; Subcatchments; 0 25 50 100 Feet; N	**System Details**	**2020 City of Newberg Stormwater Master Plan**	View **27**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

Date: 3/25/2021



HBH CONSULTING ENGINEERS

City of Newberg

Legend

Junctions

Modeled Pipe

Modeled Channel/Creek

Subcatchments

0 25 50 100 Feet

N

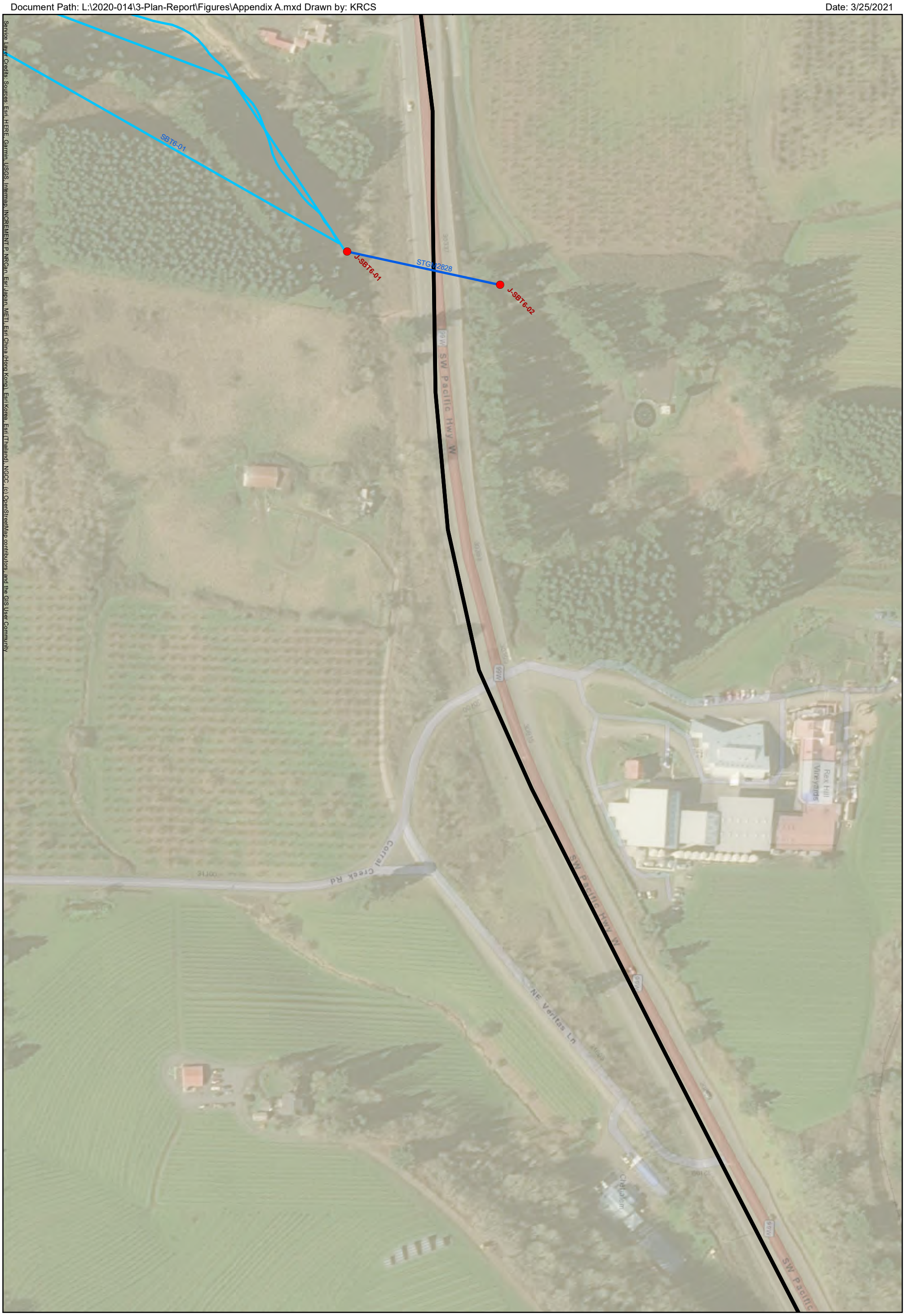
System Details

2020 City of Newberg Stormwater Master Plan

View **28**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

Date: 3/25/2021



HBH CONSULTING ENGINEERS

City of Newberg

Legend

Junctions

Modeled Pipe

Modeled Channel/Creek

Subcatchments

0 25 50 100 Feet

N

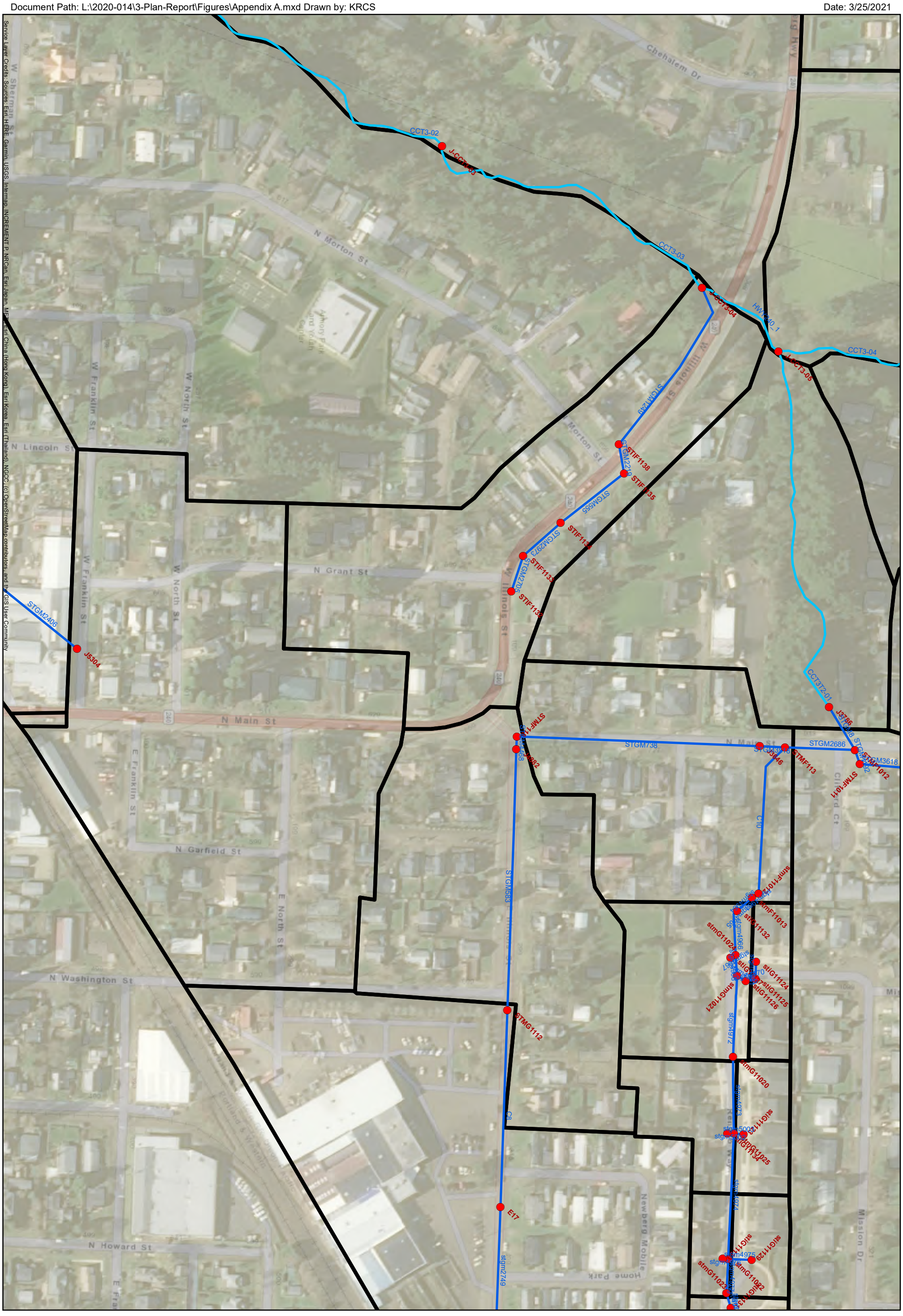
System Details

2020 City of Newberg Stormwater Master Plan

View **29**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

Date: 3/25/2021



HBH CONSULTING ENGINEERS

City of Newberg

Legend

Junctions

Modeled Pipe

Modeled Channel/Creek

Subcatchments

0 25 50 100 Feet

N

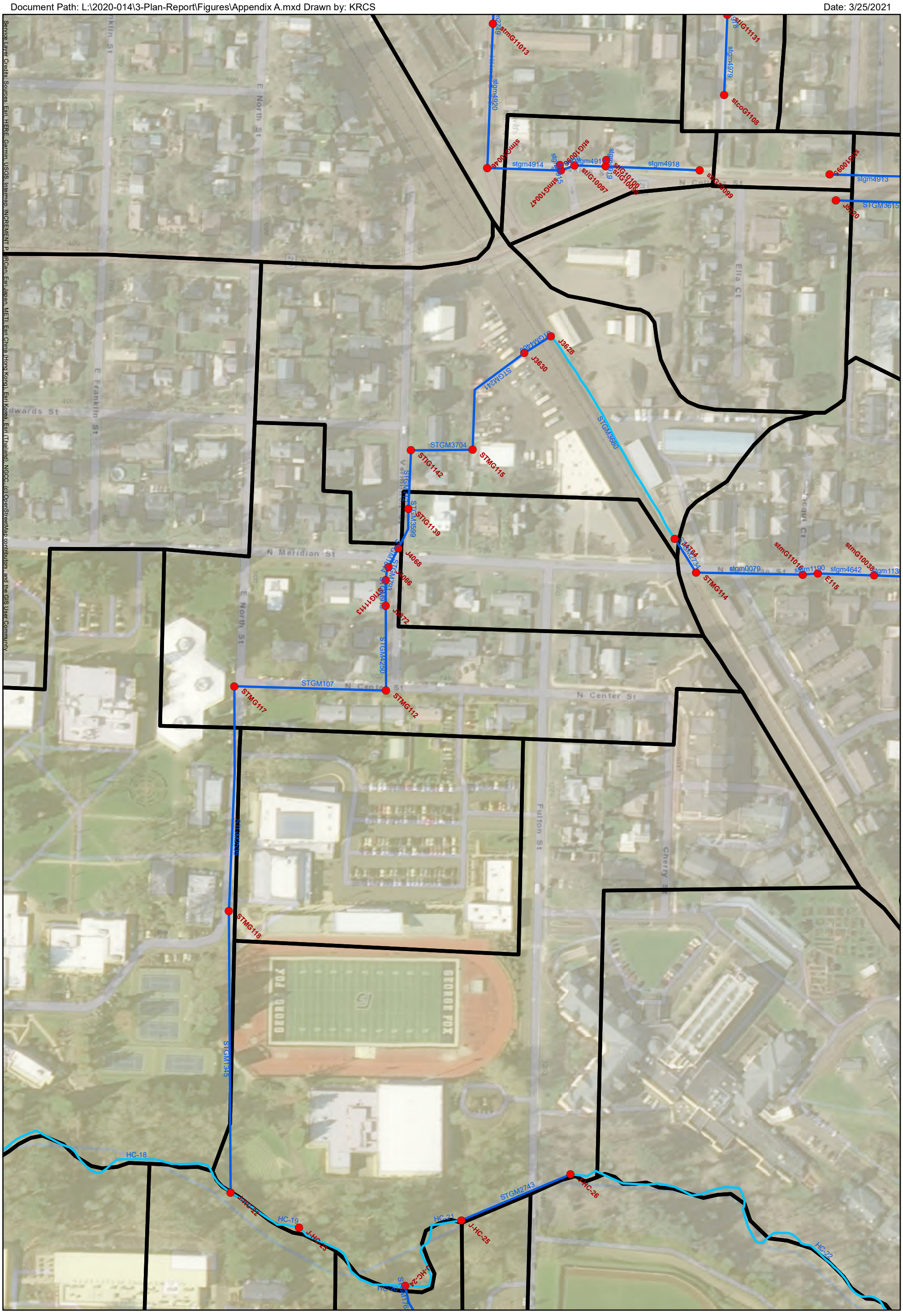
System Details

2020 City of Newberg Stormwater Master Plan

View **30**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

Date: 3/25/2021



HBH CONSULTING ENGINEERS

City of Newberg

Legend
- Junctions
- Modeled Pipe
- Modeled Channel/Creek
- Subcatchments

0 25 50 100 Feet

N

System Details

2020 City of Newberg Stormwater Master Plan

View **31**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

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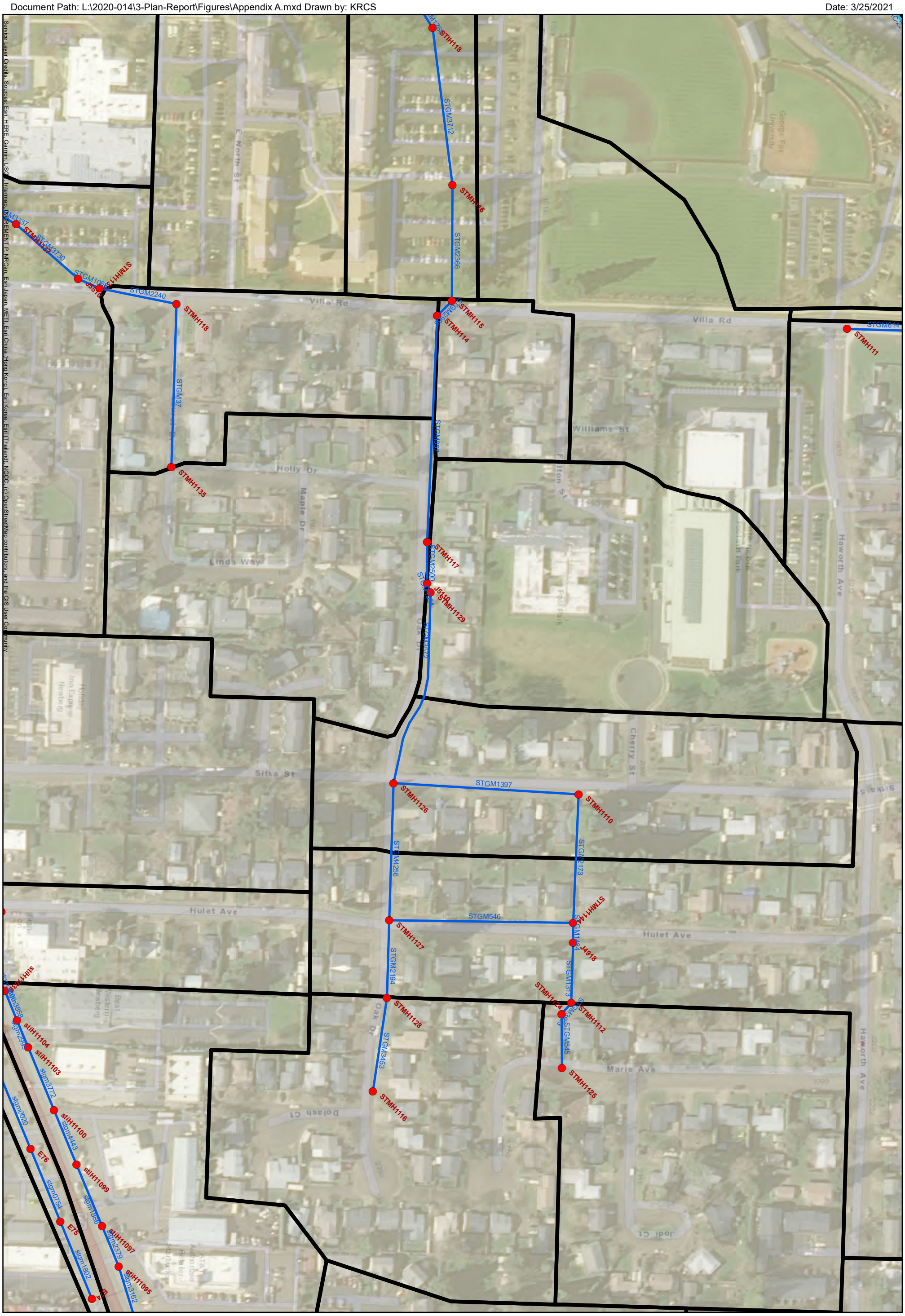


HBH CONSULTING ENGINEERS

City of Newberg

0 25 50 100 Feet

Legend
Subcatchments
Modeled Channel/Creek
Modeled Pipe
Junctions
N

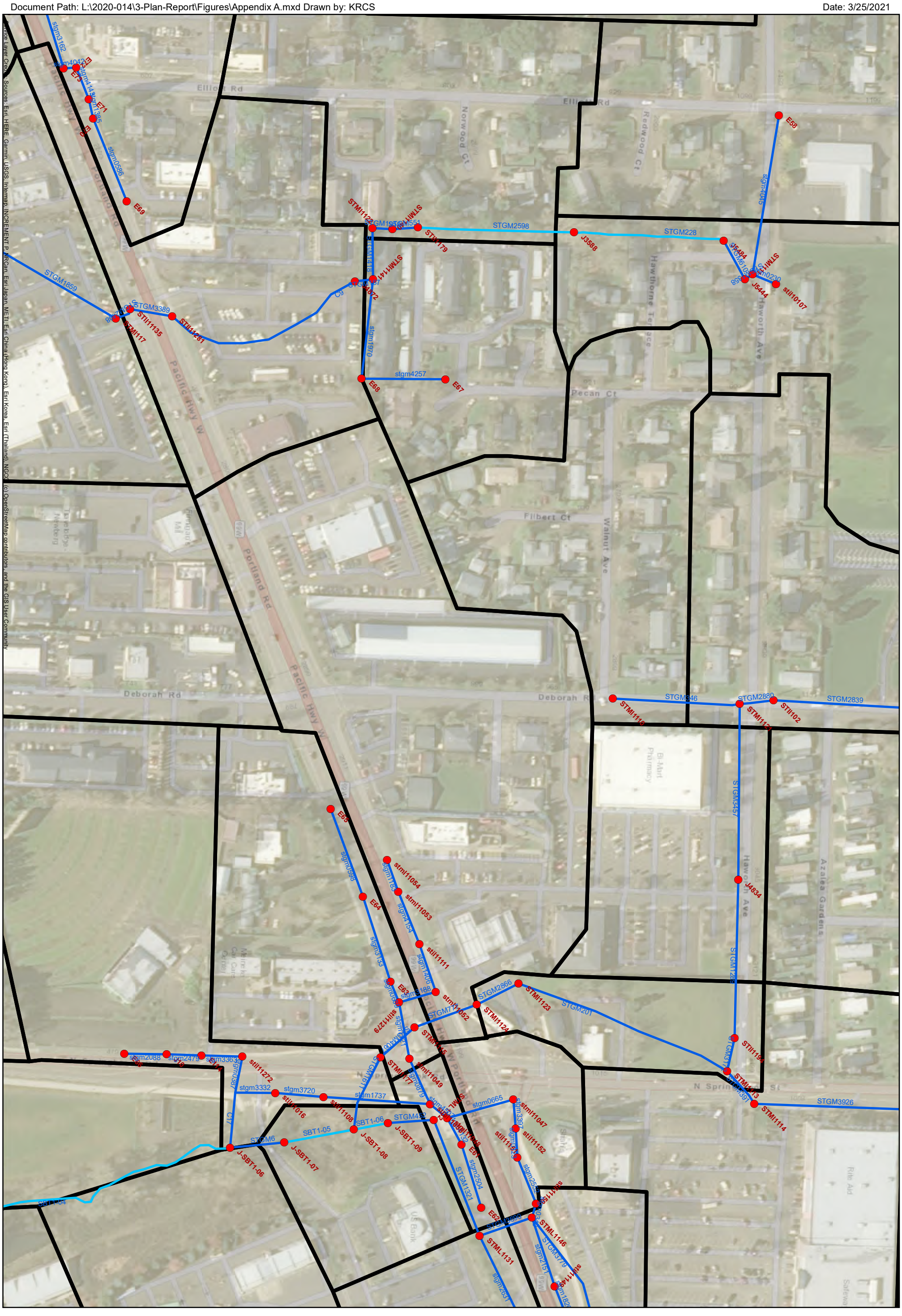
System Details

2020 City of Newberg Stormwater Master Plan

View **32**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

Date: 3/25/2021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Redwood Ct
Hawthorne Terrace
Hawthorn Ave
Pecan Ct
Filbert Ct
Walnut Ave
Deborah Rd
Pacific Hwy W
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Bi-Mart Pharmacy
Rite Aid
US Bank
Safeway
E58
E69
E68
E67
E65
E64
E63
E62
stgm4042
stgm4144
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stgm0586
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C47
C48

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HBH CONSULTING ENGINEERS

City of Newberg

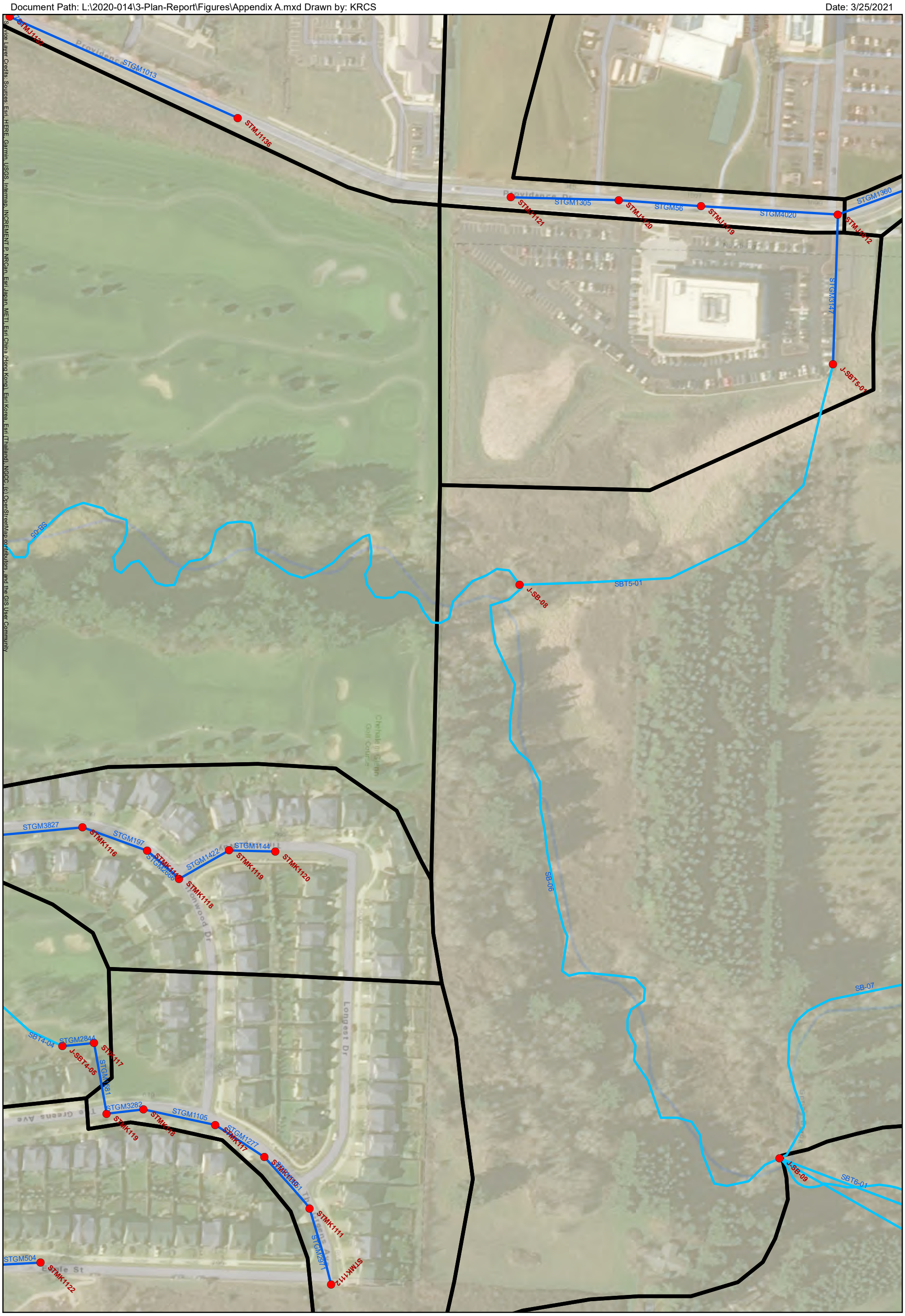
System Details

2020 City of Newberg Stormwater Master Plan

View **34**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

Date: 3/25/2021



HBH CONSULTING ENGINEERS	City of Newberg	0 25 50 100 Feet Legend: Subcatchments; Modeled Channel/Creek; Modeled Pipe; Junctions N	System Details	2020 City of Newberg Stormwater Master Plan	View 35

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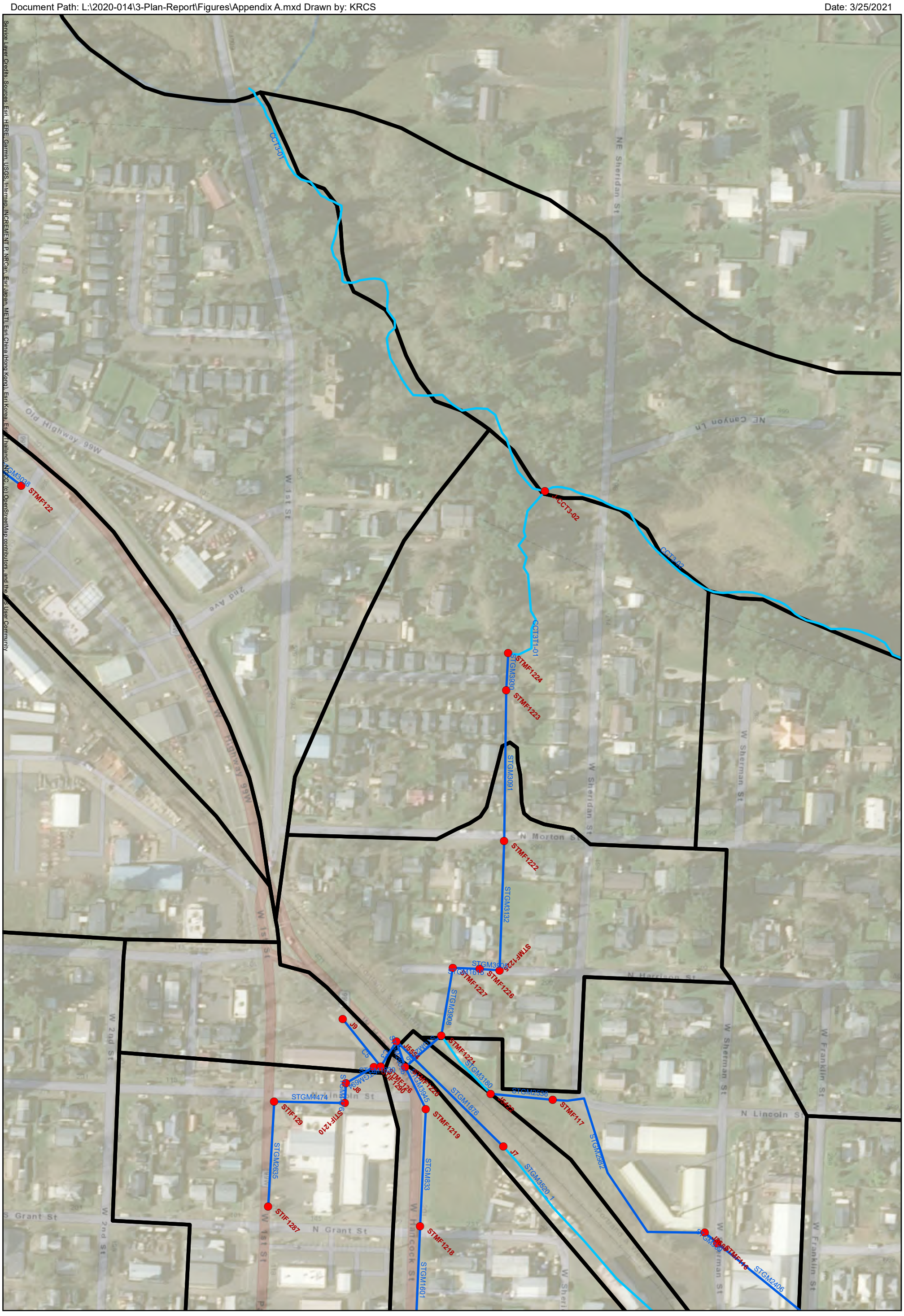
Date: 3/25/2021



HBH CONSULTING ENGINEERS	City of Newberg	Legend: Junctions, Modeled Pipe, Modeled Channel/Creek, Subcatchments; 0 25 50 100 Feet; N	System Details	2020 City of Newberg Stormwater Master Plan	View 36

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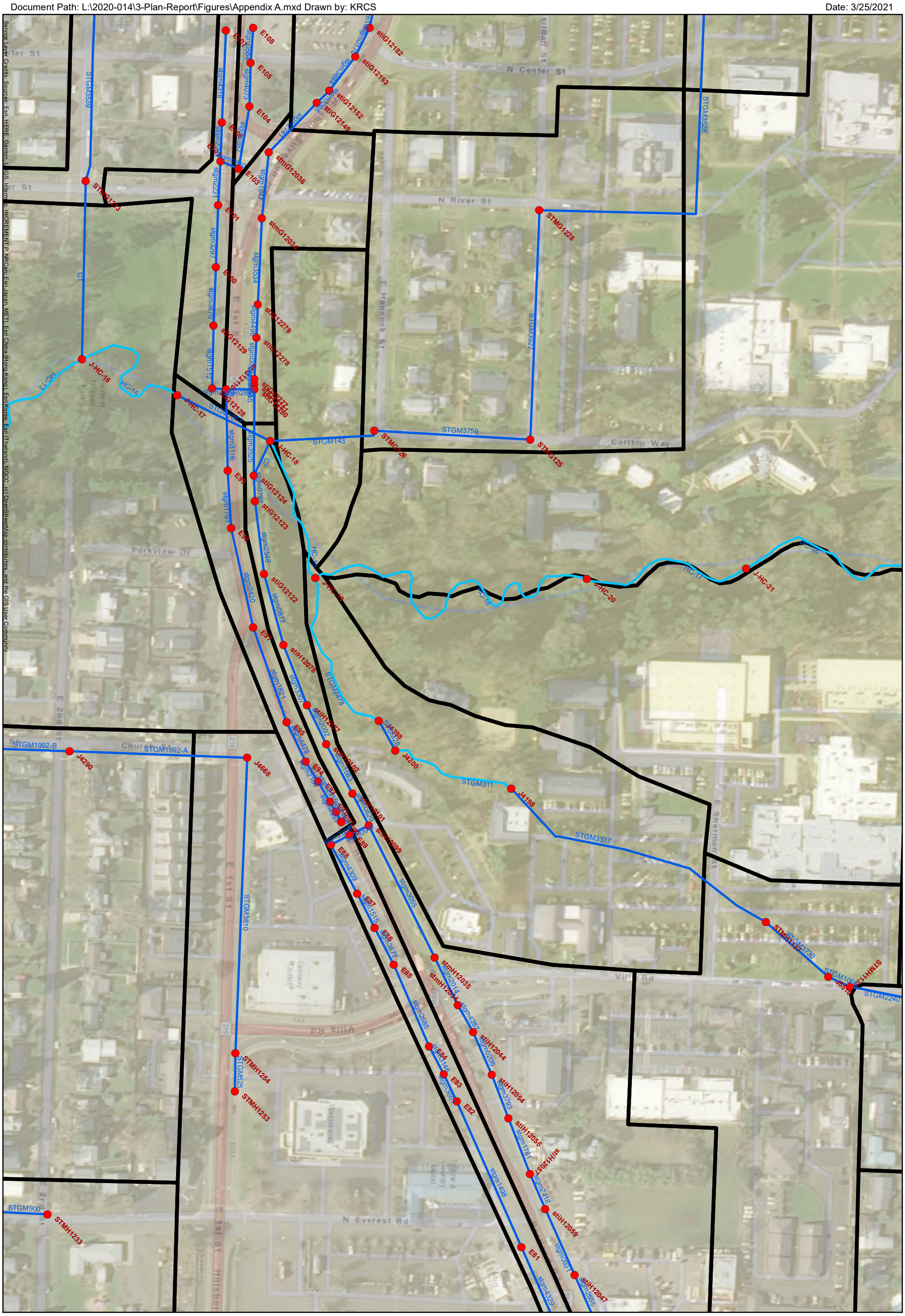
Date: 3/25/2021



HBH CONSULTING ENGINEERS

City of Newberg

Legend

Junctions

Modeled Pipe

Modeled Channel/Creek

Subcatchments

0 25 50 100 Feet

N

System Details

2020 City of Newberg Stormwater Master Plan

View **38**

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Silverton Hwy
Sitka St
E Hancock St
S Elliott Rd
Elliott Rd
Mountain View
Hayes St
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STGM2874
STGM2237
STGM425
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STGM2566
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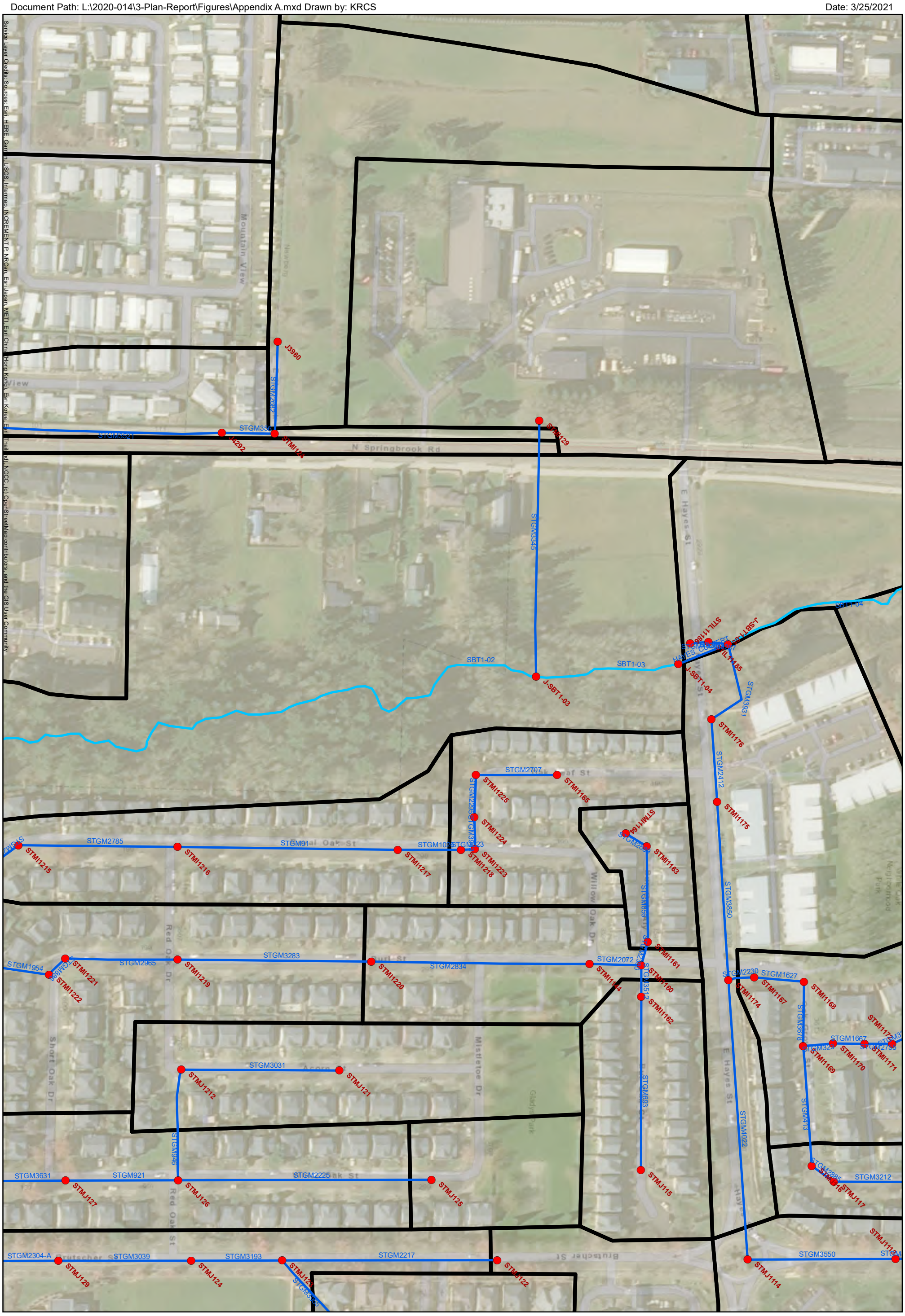

HBH CONSULTING ENGINEERS	City of Newberg	0 25 50 100 Feet Subcatchments Modeled Channel/Creek Modeled Pipe Junctions Legend N	System Details	2020 City of Newberg Stormwater Master Plan	View 40

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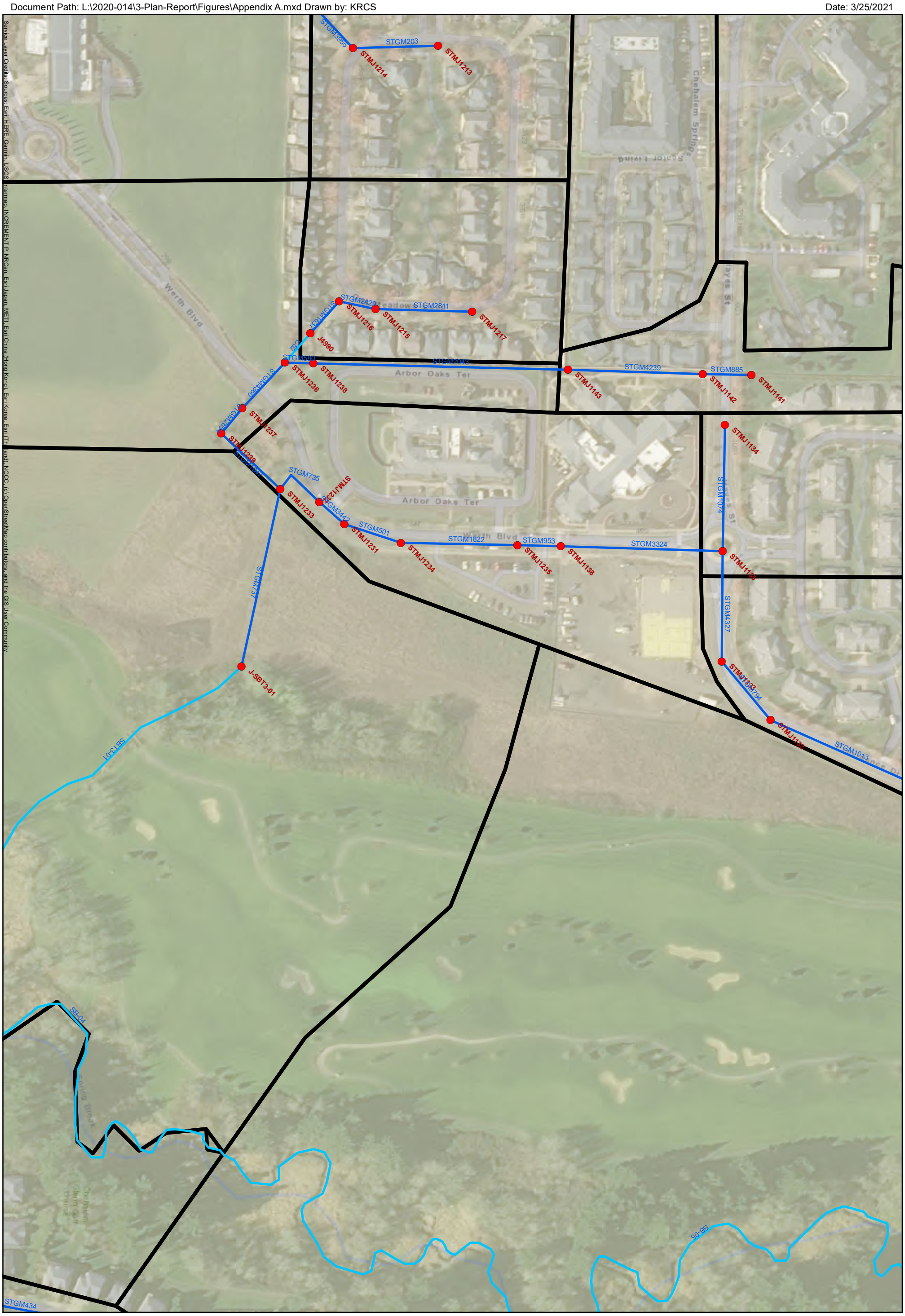
Date: 3/25/2021



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HBH CONSULTING ENGINEERS

City of Newberg

0 25 50 100 Feet

Legend

- Subcatchments
- Modeled Channel/Creek
- Modeled Pipe
- Junctions
- N

System Details

2020 City of Newberg Stormwater Master Plan

View **41**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

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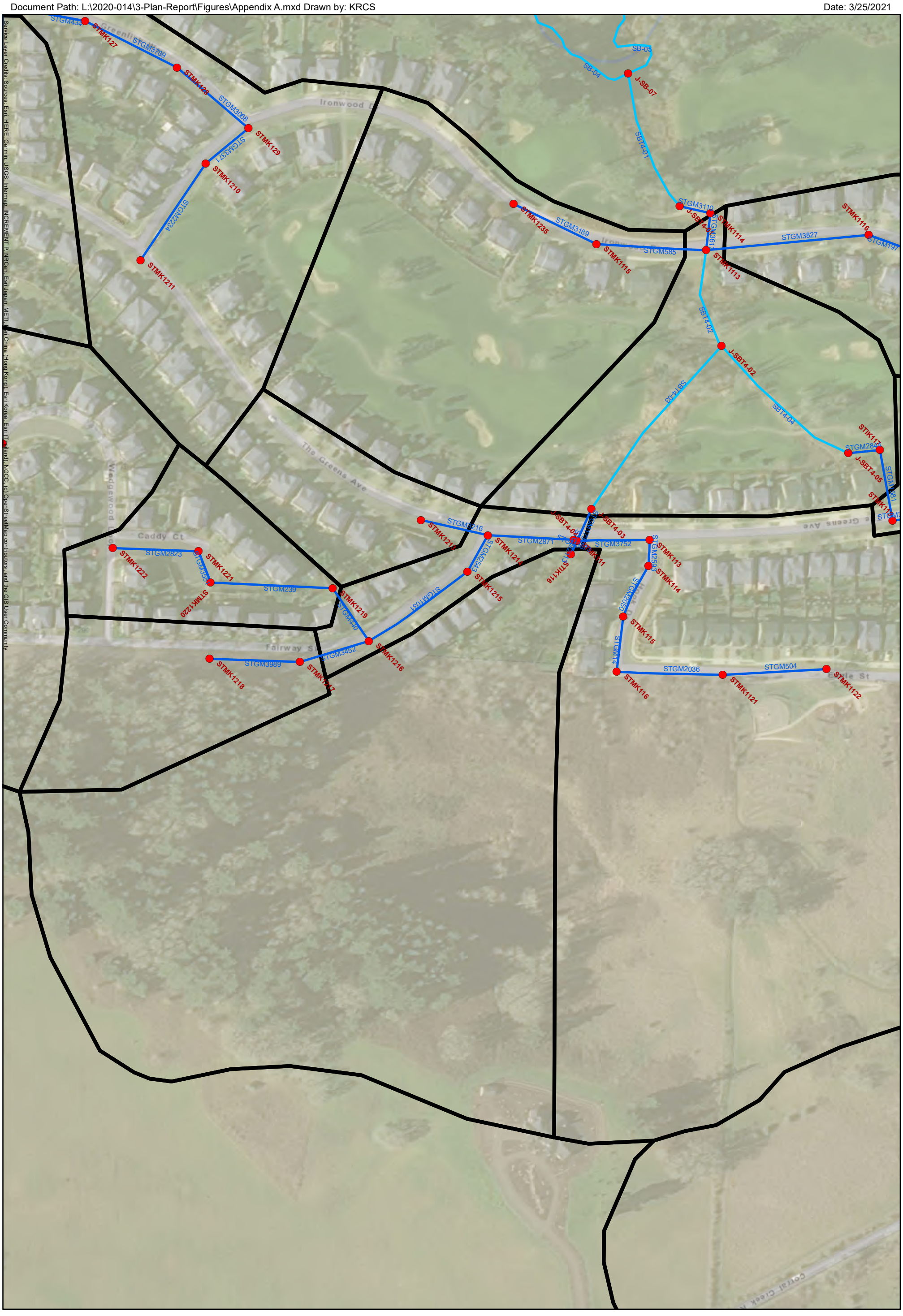


HBH CONSULTING ENGINEERS

City of Newberg

0 25 50 100 Feet

Legend

Junctions

Modeled Pipe

Modeled Channel/Creek

Subcatchments

N

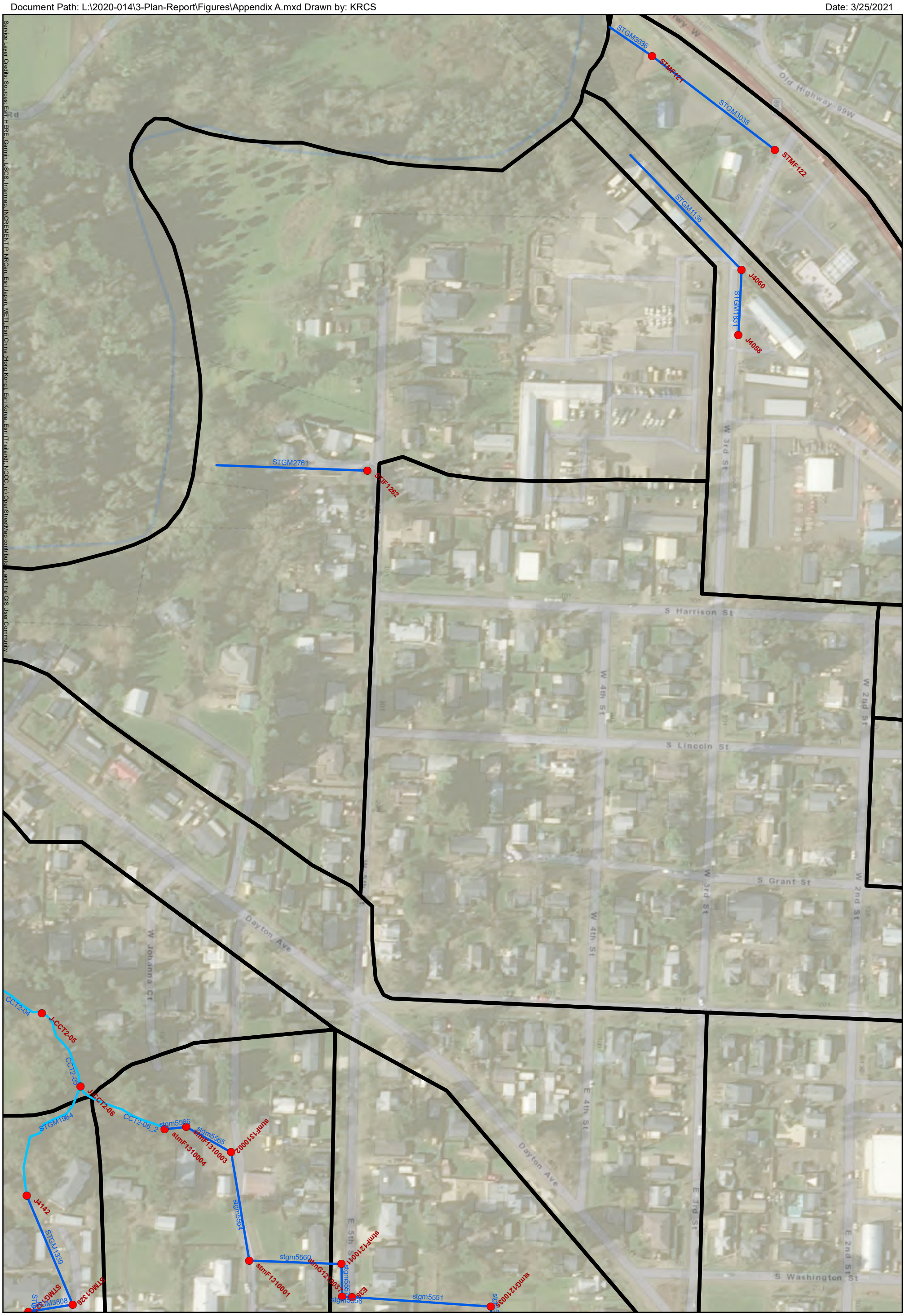
System Details

2020 City of Newberg Stormwater Master Plan

View **42**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

Date: 3/25/2021



HBH CONSULTING ENGINEERS

City of Newberg

Legend

Subcatchments

Modeled Channel/Creek

Modeled Pipe

Junctions

N

0 25 50 100 Feet

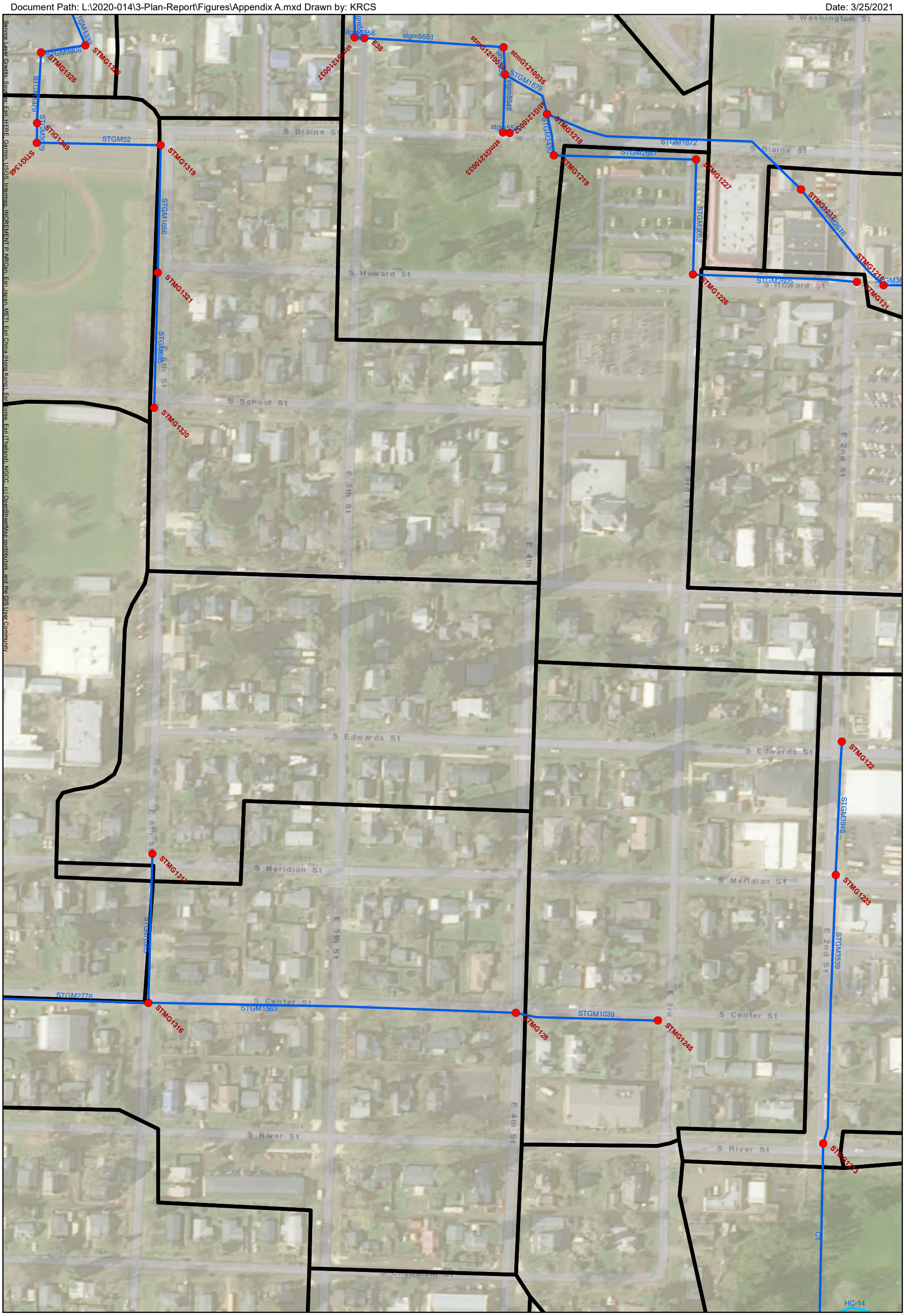
System Details

2020 City of Newberg Stormwater Master Plan

View **43**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

Date: 3/25/2021



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HBH CONSULTING ENGINEERS

City of Newberg

Legend

Junctions

Modeled Pipe

Modeled Channel/Creek

Subcatchments

0 25 50 100 Feet

N

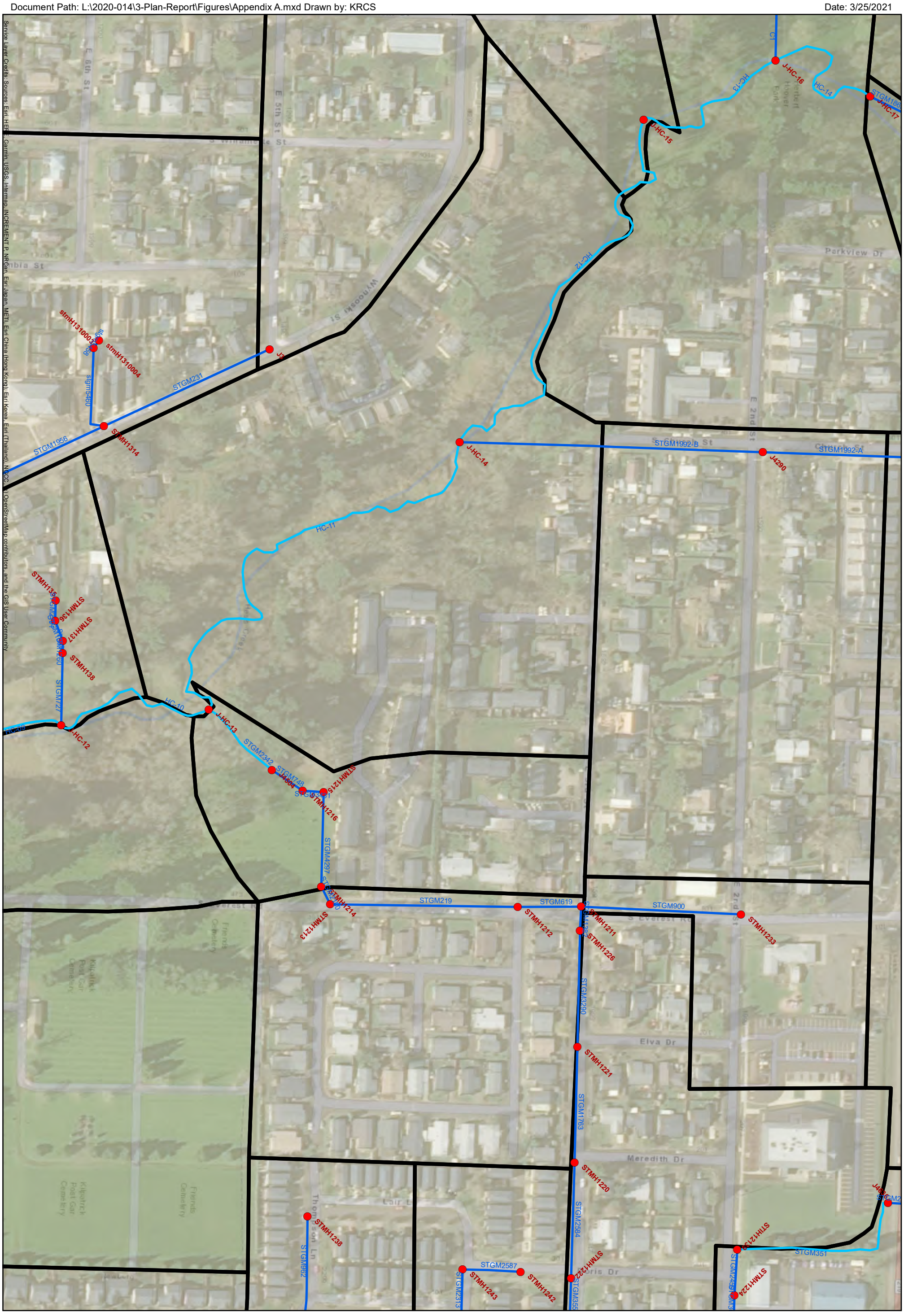
System Details

2020 City of Newberg Stormwater Master Plan

View **44**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

Date: 3/25/2021



HBH CONSULTING ENGINEERS	City of Newberg		System Details	2020 City of Newberg Stormwater Master Plan	View 45

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HBH CONSULTING ENGINEERS

City of Newberg

Legend
Junctions
Modeled Pipe
Modeled Channel/Creek
Subcatchments
0 25 50 100 Feet
N

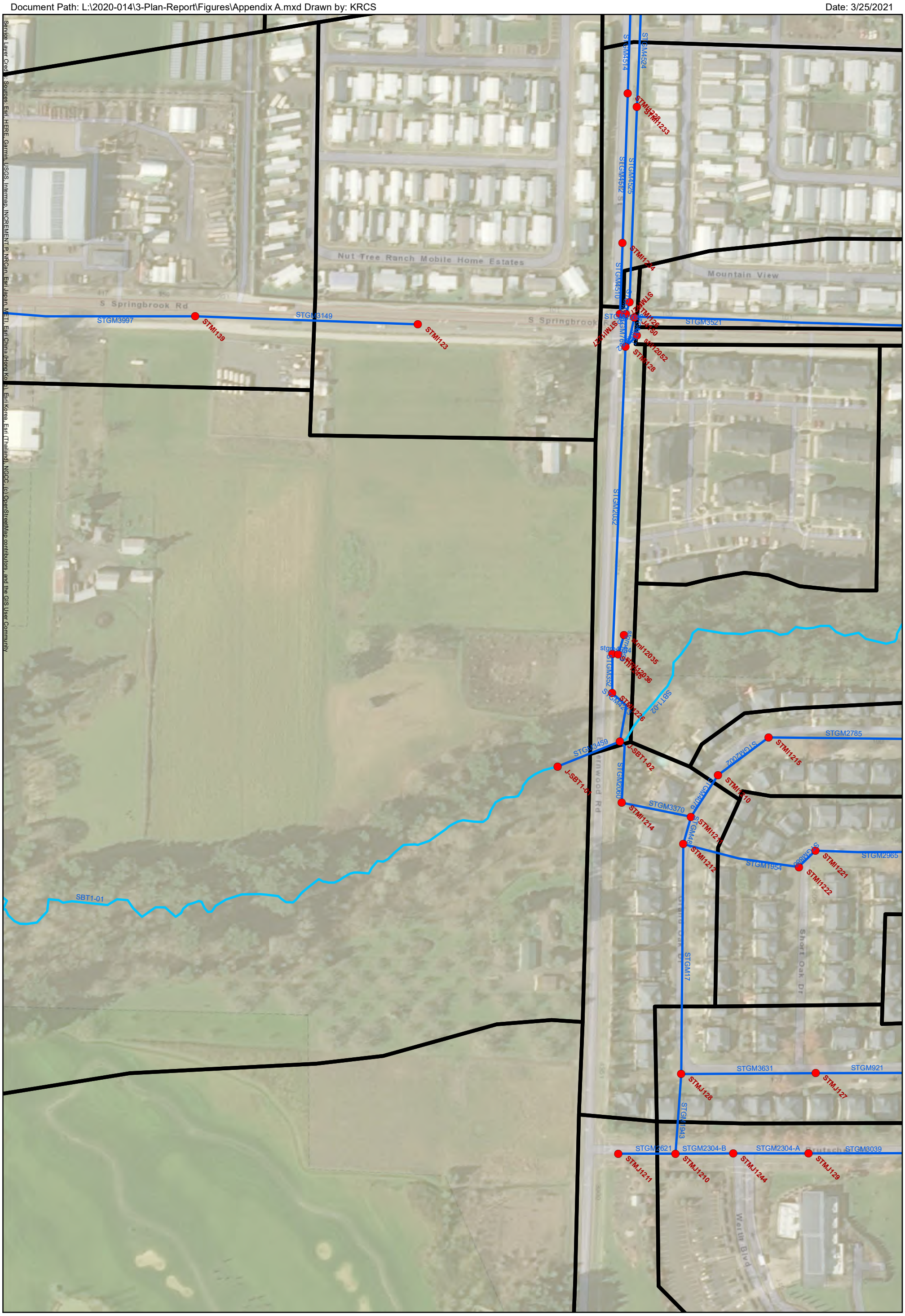
System Details

2020 City of Newberg Stormwater Master Plan

View **46**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

Date: 3/25/2021



HBH CONSULTING ENGINEERS	City of Newberg	0 25 50 100 Feet Legend: Junctions, Modeled Pipe, Modeled Channel/Creek, Subcatchments, N	**System Details**	**2020 City of Newberg Stormwater Master Plan**	View **47**

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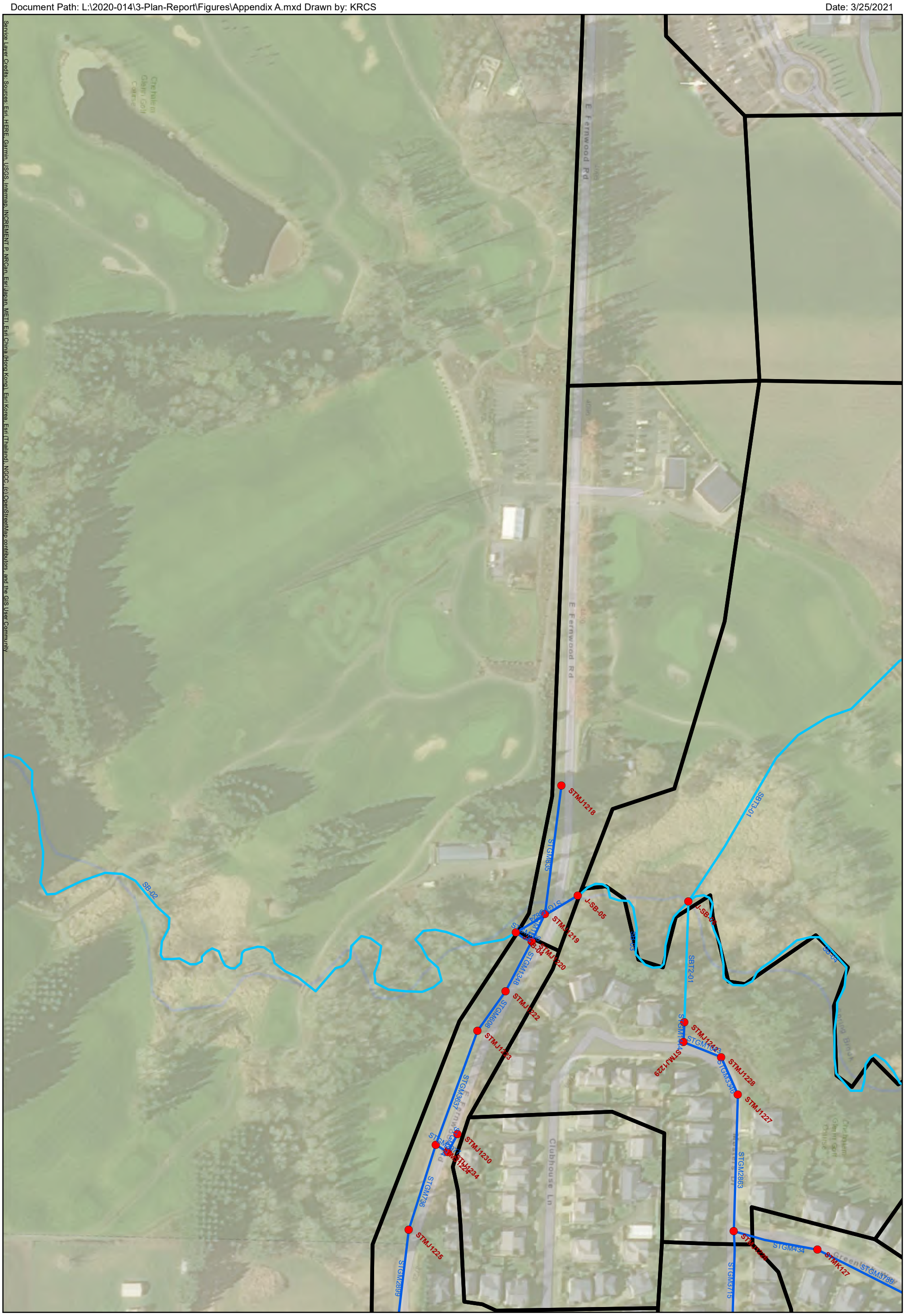
Date: 3/25/2021



HBH CONSULTING ENGINEERS	City of Newberg		System Details	2020 City of Newberg Stormwater Master Plan	View 48

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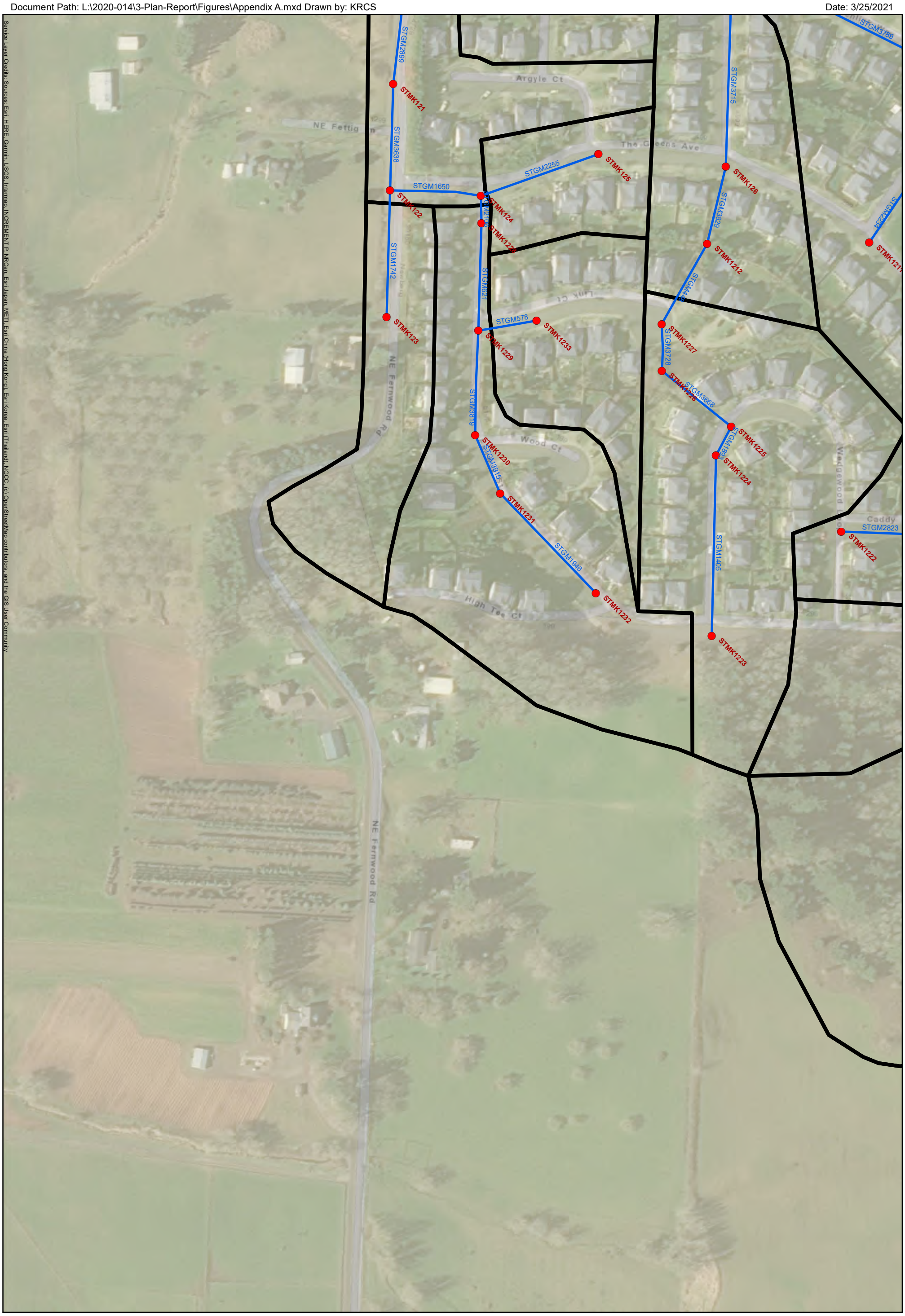
Date: 3/25/2021



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HBH CONSULTING ENGINEERS

City of Newberg

0 25 50 100 Feet

Legend

Junctions

Modeled Pipe

Modeled Channel/Creek

Subcatchments

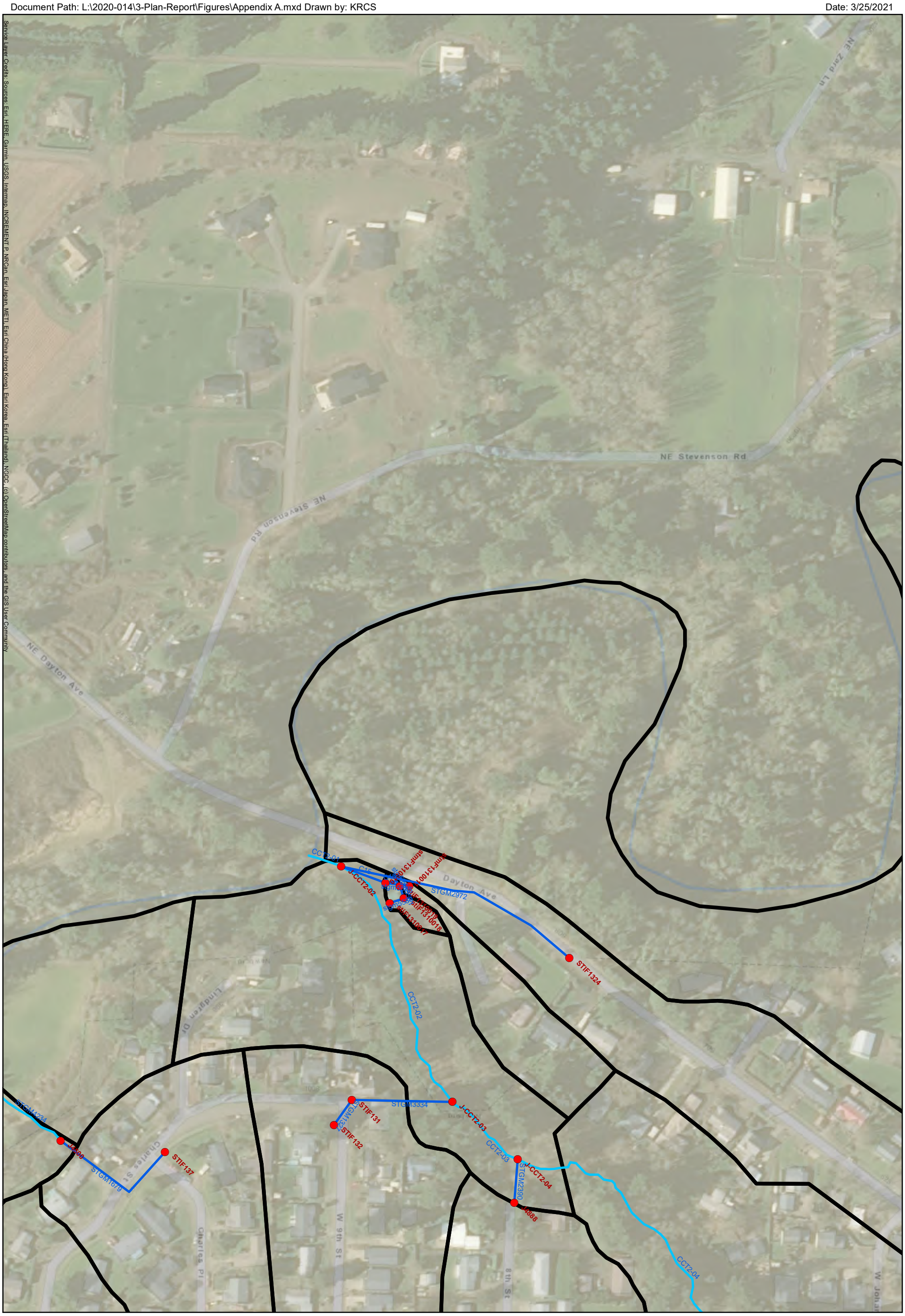
N

System Details

2020 City of Newberg Stormwater Master Plan

View

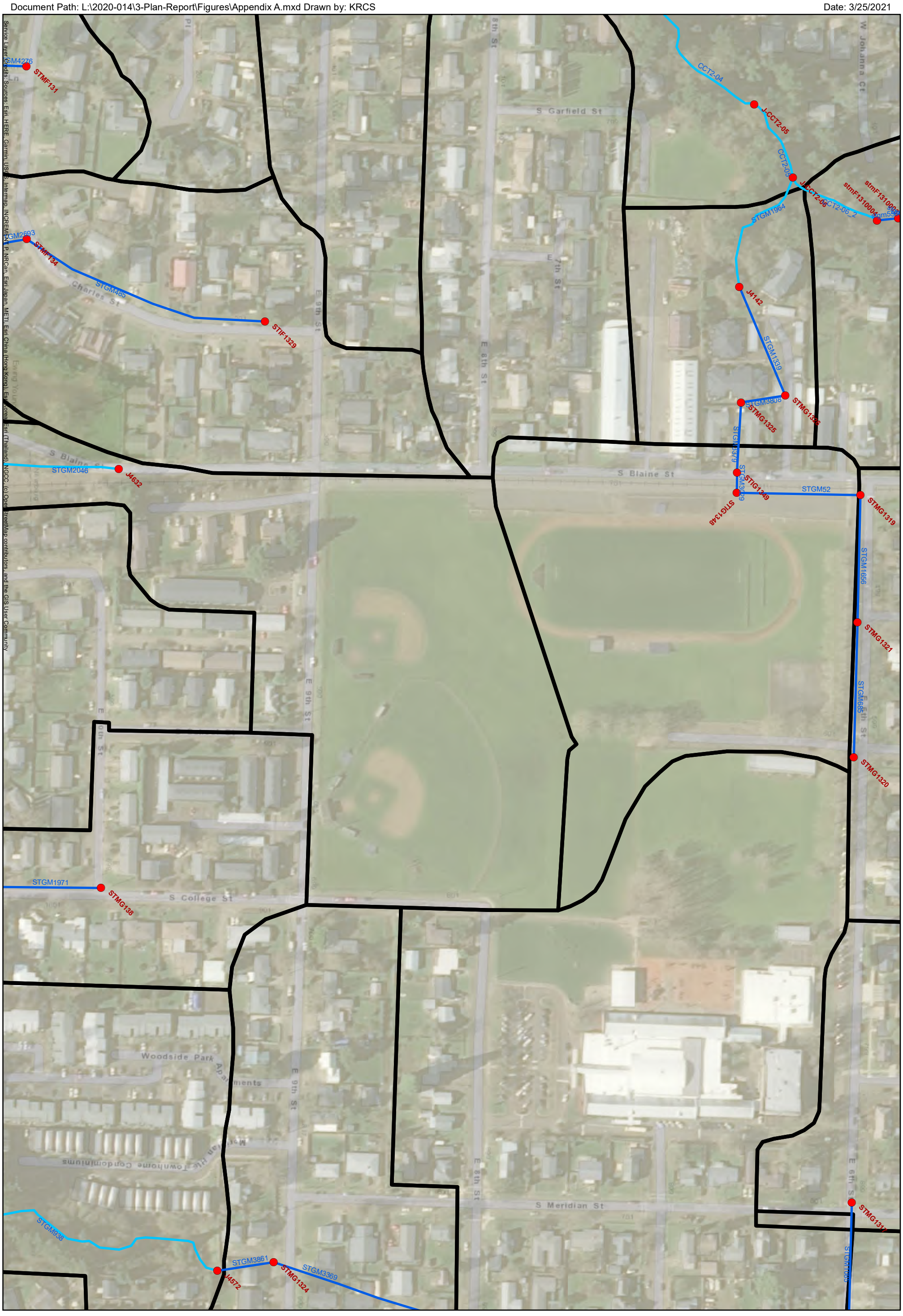
49



HBH CONSULTING ENGINEERS	City of Newberg	Legend: Subcatchments; Modeled Channel/Creek; Modeled Pipe; Junctions; N; 0 25 50 100 Feet	**System Details**	**2020 City of Newberg Stormwater Master Plan**	View **50**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

Date: 3/25/2021



HBH CONSULTING ENGINEERS

City of Newberg

Legend
Junctions
Modeled Pipe
Modeled Channel/Creek
Subcatchments
0 25 50 100 Feet
N

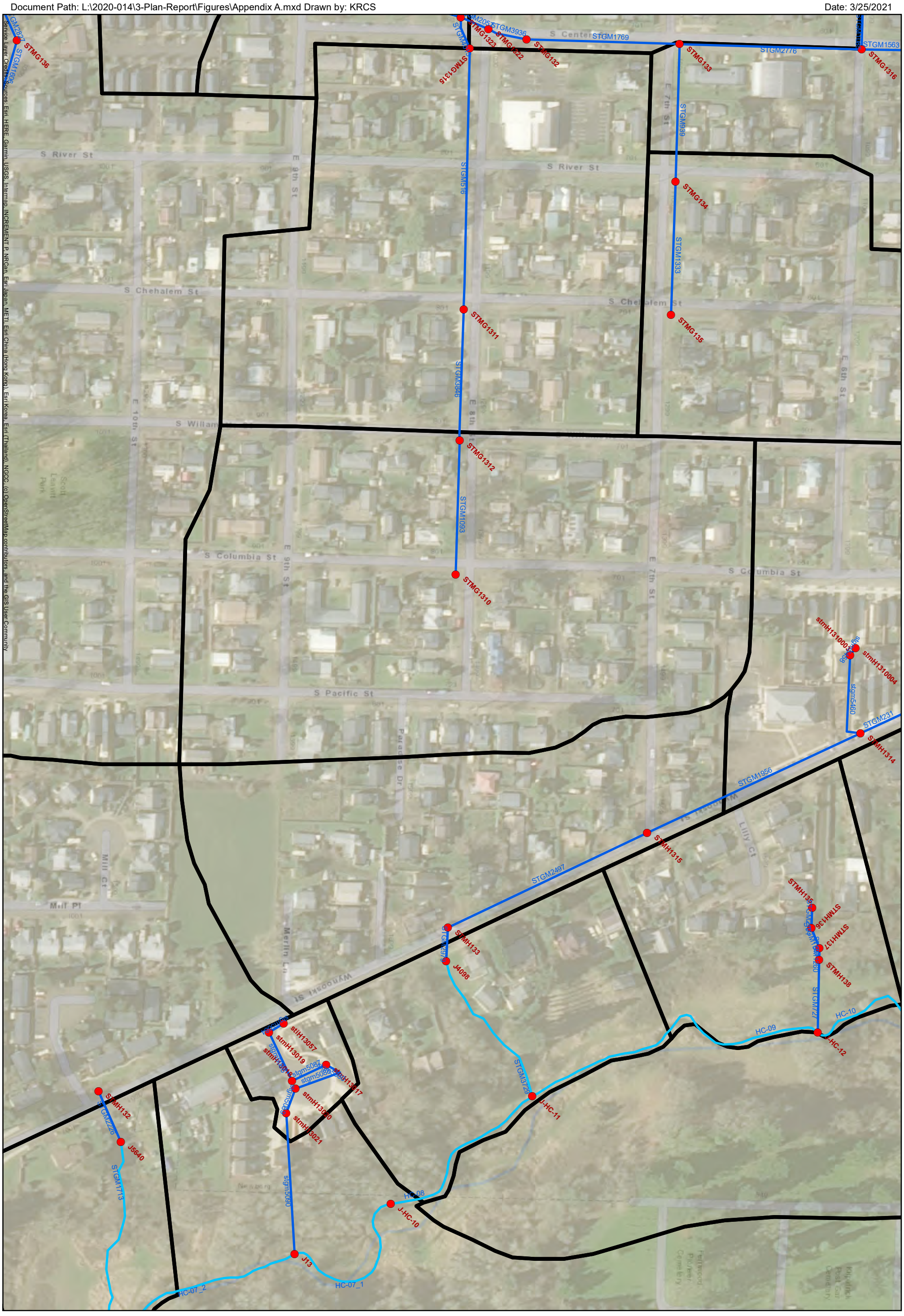
System Details

2020 City of Newberg Stormwater Master Plan

View **51**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

Date: 3/25/2021



HBH CONSULTING ENGINEERS

City of Newberg

System Details

2020 City of Newberg Stormwater Master Plan

View **52**

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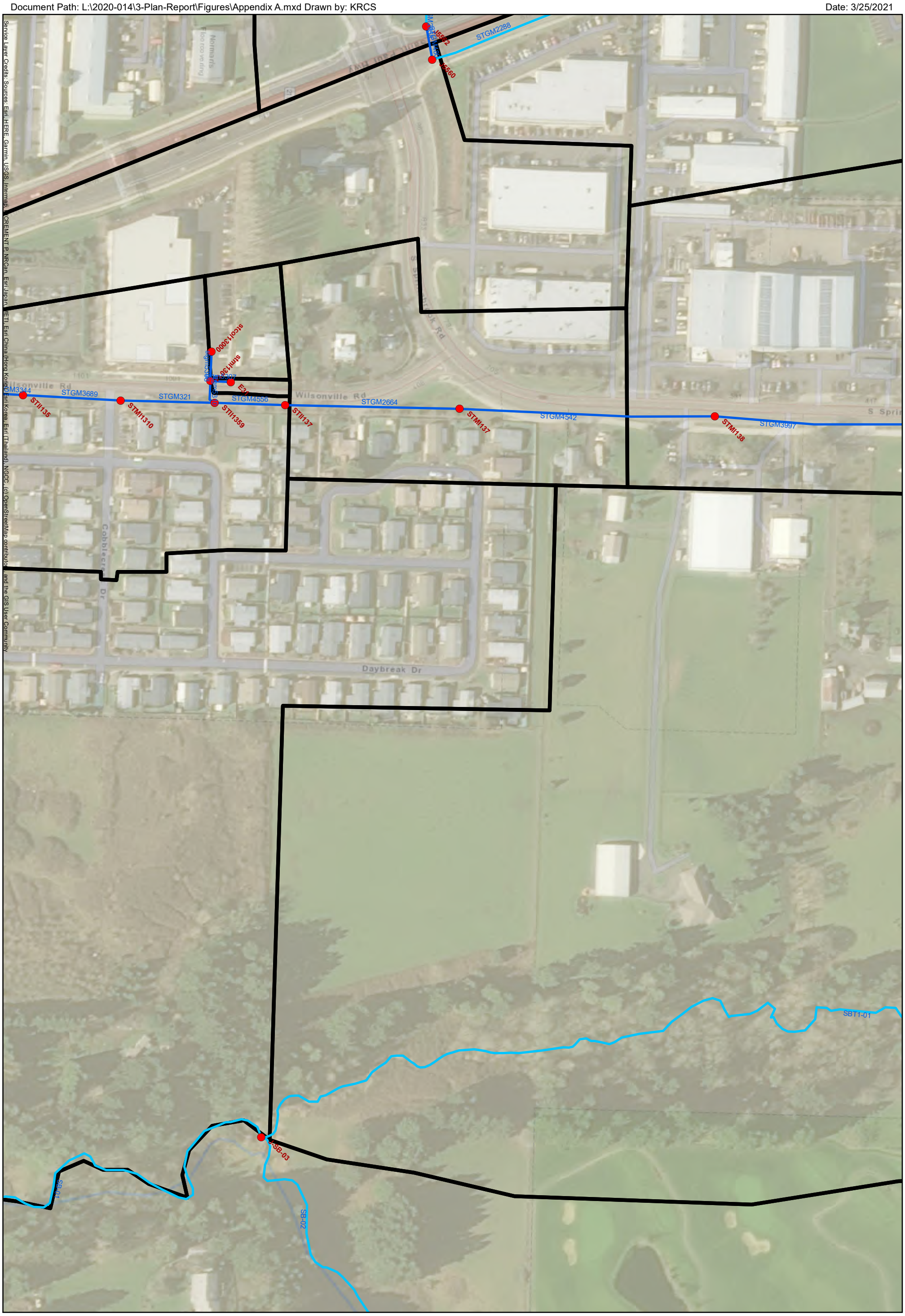

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HBH CONSULTING ENGINEERS

City of Newberg

0 25 50 100 Feet

Legend

Subcatchments

Modeled Channel/Creek

Modeled Pipe

Junctions

N

System Details

2020 City of Newberg Stormwater Master Plan

View **54**

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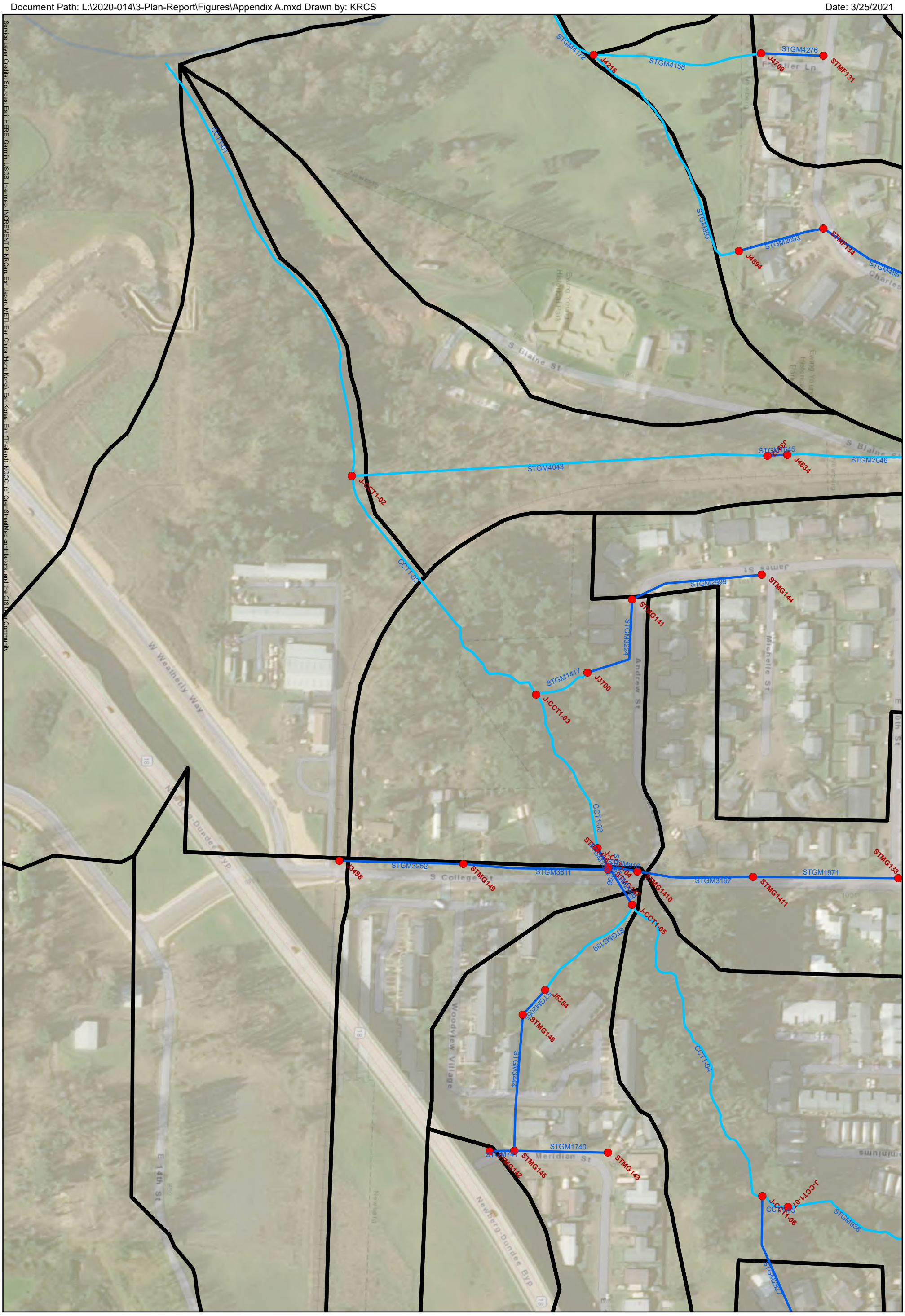

HBH CONSULTING ENGINEERS	City of Newberg		**System Details**	**2020 City of Newberg Stormwater Master Plan**	View **55**

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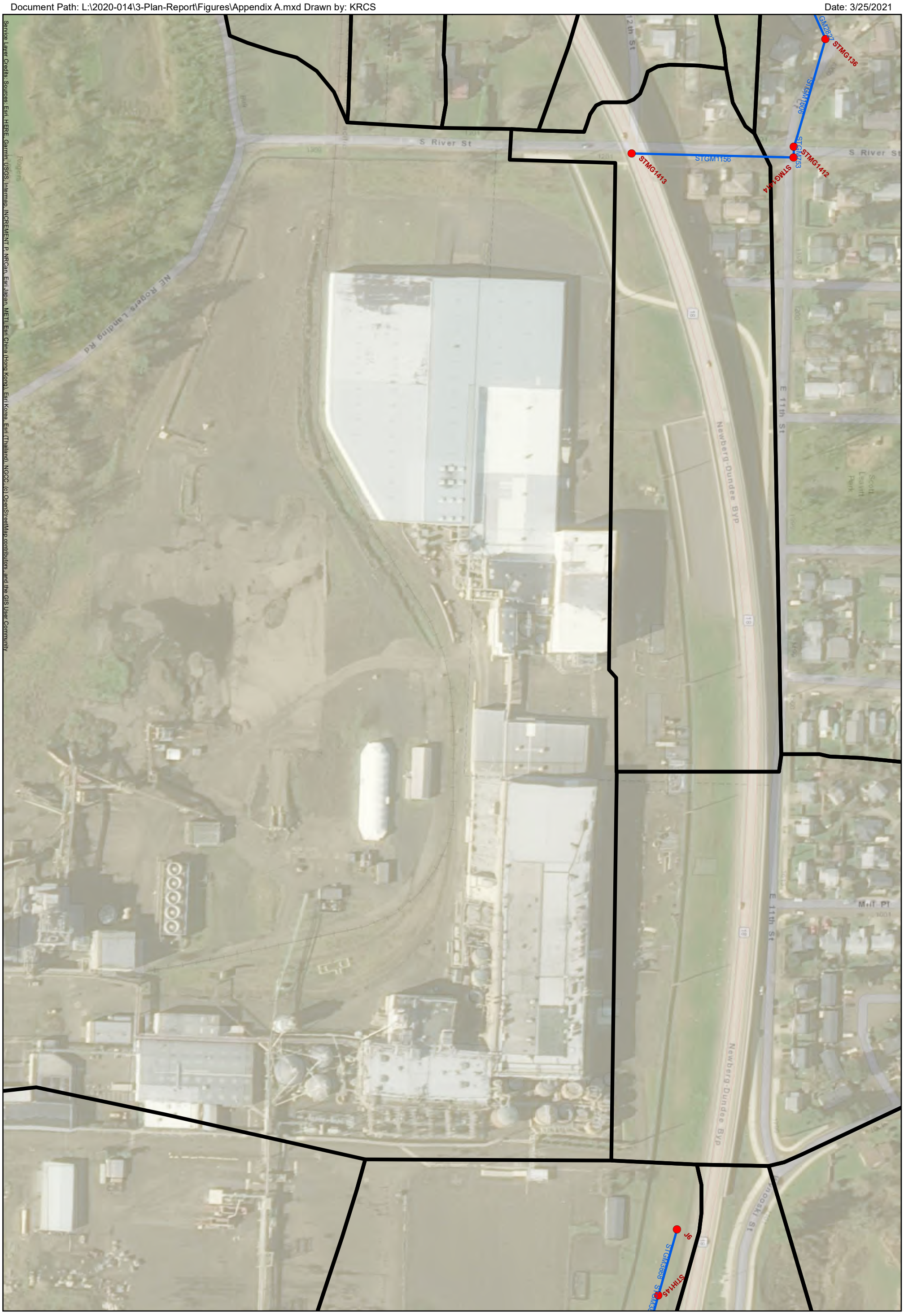

HBH CONSULTING ENGINEERS	City of Newberg	Legend: Junctions, Modeled Pipe, Modeled Channel/Creek, Subcatchments; 0 25 50 100 Feet; N	System Details	2020 City of Newberg Stormwater Master Plan	View 56

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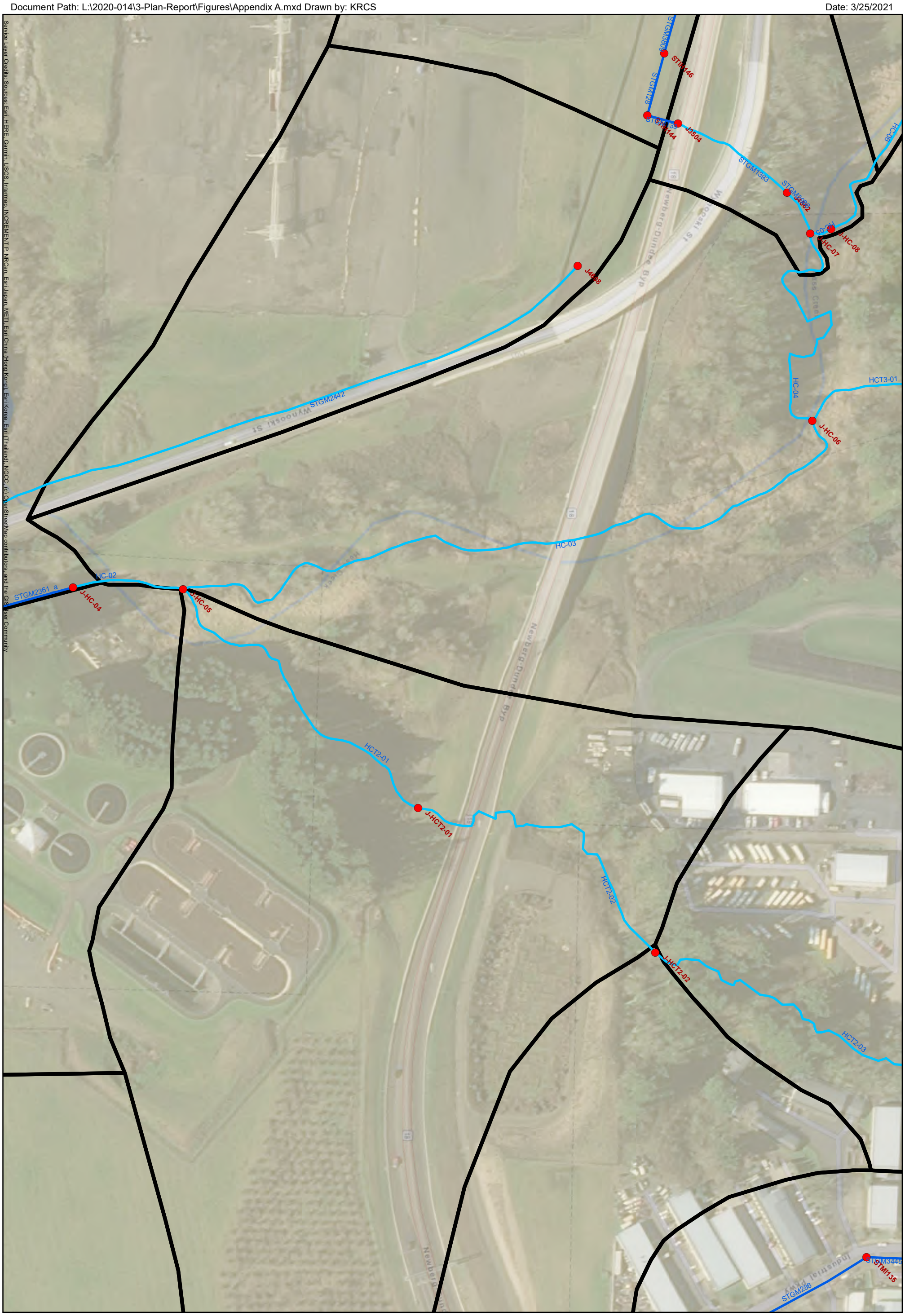

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HBH CONSULTING ENGINEERS

City of Newberg

0 25 50 100 Feet

Legend

Subcatchments

Modeled Channel/Creek

Modeled Pipe

Junctions

N

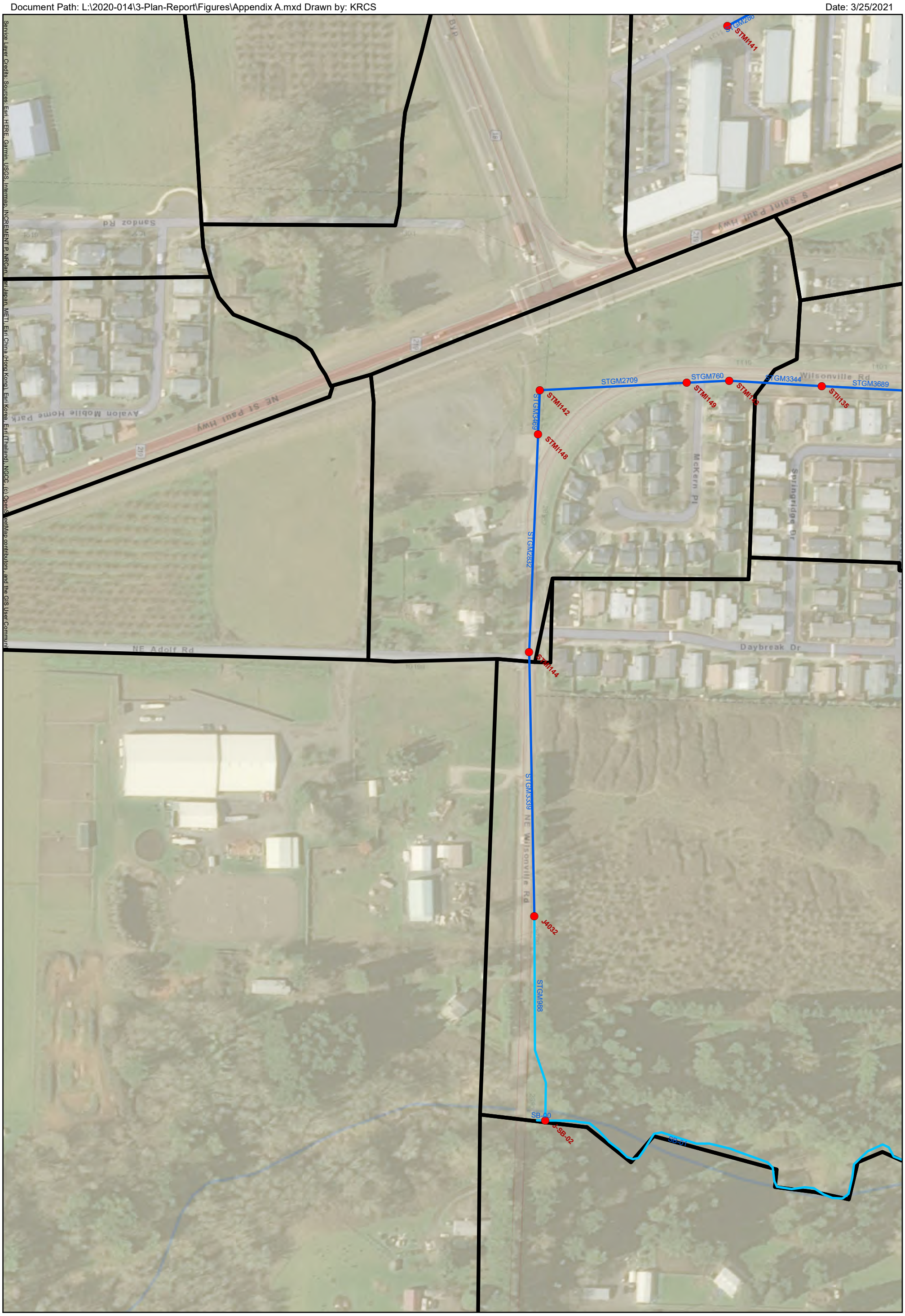
System Details

2020 City of Newberg Stormwater Master Plan

View **57**

Document Path: L:\2020-014\3-Plan-Report\Figures\Appendix A.mxd Drawn by: KRCS

Date: 3/25/2021



HBH CONSULTING ENGINEERS

City of Newberg

Legend

Junctions

Modeled Pipe

Modeled Channel/Creek

Subcatchments

0 25 50 100 Feet

N

System Details

2020 City of Newberg Stormwater Master Plan

View **58**

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HBH CONSULTING ENGINEERS

City of Newberg

Legend

Junctions

Modeled Pipe

Modeled Channel/Creek

Subcatchments

N

0 25 50 100 Feet

System Details

2020 City of Newberg Stormwater Master Plan

View **59**

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Date: 3/25/2021

HBH CONSULTING ENGINEERS

City of Newberg

Legend

Junctions

Modeled Pipe

Modeled Channel/Creek

Subcatchments

0 25 50 100 Feet

N

System Details

2020 City of Newberg Stormwater Master Plan

View **60**

HBH CONSULTING ENGINEERS

City of Newberg

Legend
Subcatchments
Modeled Channel/Creek
Modeled Pipe
Junctions
N
0 25 50 100 Feet

System Details

2020 City of Newberg Stormwater Master Plan

View **61**

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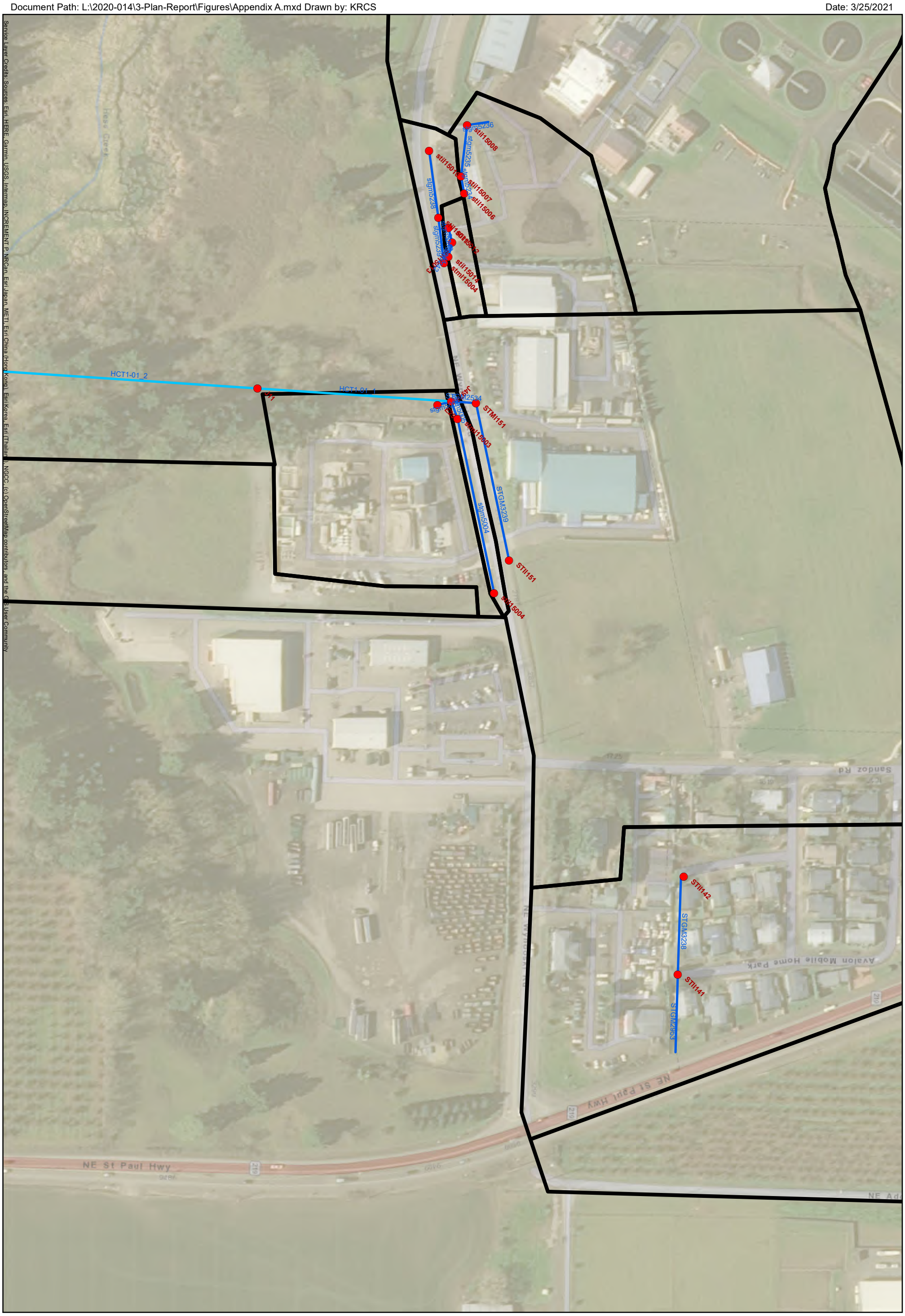
Date: 3/25/2021



HBH CONSULTING ENGINEERS

City of Newberg

Legend
Junctions
Modeled Pipe
Modeled Channel/Creek
Subcatchments
0 25 50 100 Feet
N

System Details

2020 City of Newberg Stormwater Master Plan

View **62**

Appendix B: Hydrologic and Hydraulic Modeling Inputs/Results Tables

Subcatchments- 25 Year Storm

Name	Outlet	Area (ac)	Width (ft)	Flow Length (ft)	Slope (%)	Imperv. (%)	N Imperv	N Perv	Dstore Imperv (in)	Dstore Perv (in)	Zero Imperv (%)	Curve Number	Infiltration (in)	Imperv Runoff (in)	Perv Runoff (in)	Runoff Depth (in)	Runoff Volume (MG)	Peak Runoff (cfs)	Runoff Coefficient	GIS_LENGTH (m)	GIS_AREA (m^2)
SC_STMF094	STMF094	3.160775	1131.7	121.661	6.3	52.5	0.012	0.24	0.07	0.15	5	79	0.82	2.07	1.06	3.13	0.27	1.63	0.783	526.69	12793.822
SC_STMG1025	STMG1025	4.058389	914	193.417	1.7	53.5	0.012	0.24	0.07	0.15	5	81.1	0.75	2.11	1.09	3.2	0.35	2.1	0.8	535.429	16427.09
SC_STMG0744	STMG0744	5.032007	603.4	363.265	13.8	32.1	0.012	0.24	0.07	0.15	5	78.3	1.2	1.26	1.48	2.75	0.38	2.23	0.686	642.775	20367.922
SC_STMH081	STMH081	11.1523342	3255.3	149.232	4.3	55.3	0.012	0.24	0.07	0.15	5	79.6	0.75	2.18	1.01	3.19	0.97	5.83	0.798	955.475	45141.557
SC_STMG0755	STMG0755	3.274386	678.9	210.093	13.7	44.3	0.012	0.24	0.07	0.15	5	63.5	1.39	1.75	0.82	2.56	0.23	1.35	0.641	460.001	13253.632
SC_STMG0731	STMG0731	3.913556	1045.5	163.055	2.6	48	0.012	0.24	0.07	0.15	5	69.6	1.16	1.89	0.9	2.79	0.3	1.74	0.698	537.925	15840.816
SC_STMF0716	STMF0716	25.6510868	2640.5	423.163	8.8	53.3	0.012	0.24	0.07	0.15	5	82.1	0.72	2.1	1.13	3.22	2.25	13.45	0.806	1414.998	103827.38
SC_STMG0714	STMG0714	6.891306	1731.5	173.367	7.8	59.3	0.012	0.24	0.07	0.15	5	80.3	0.67	2.34	0.94	3.28	0.61	3.7	0.819	929.597	27893.836
SC_STMG077	STMG077	10.45264	1460.7	311.712	5.1	61.6	0.012	0.24	0.07	0.15	5	79	0.66	2.43	0.85	3.28	0.93	5.56	0.82	1127.313	42308.928
SC_STMG0725	STMG0725	8.261191	1478.8	243.344	7.1	46.6	0.012	0.24	0.07	0.15	5	80.9	0.86	1.84	1.25	3.09	0.69	4.18	0.771	1003.777	33438.711
SC_STMF084	STMF084	8.823534	3510.1	109.499	2.8	50.3	0.012	0.24	0.07	0.15	5	79.3	0.85	1.98	1.12	3.1	0.74	4.49	0.775	965.569	35714.736
SC_STMF087	STMF087	9.13137	4343.1	91.585	5	46.1	0.012	0.24	0.07	0.15	5	81.1	0.86	1.82	1.27	3.09	0.77	4.67	0.773	1393.736	36960.865
SC_STMG0810	STMG0810	5.2661	1855.6	123.621	7.1	48.8	0.012	0.24	0.07	0.15	5	80.9	0.82	1.92	1.2	3.13	0.45	2.72	0.782	694.836	21315.536
SC_STMG0830	STMG0830	17.64353	4310.5	178.298	3.7	55.3	0.012	0.24	0.07	0.15	5	79	0.77	2.18	1	3.17	1.52	9.14	0.794	1297.065	71415.422
SC_STMG0846	STMG0846	8.750842	2671.1	142.708	1.8	50.8	0.012	0.24	0.07	0.15	5	79	0.85	2	1.1	3.1	0.74	4.41	0.774	748.771	35420.654
SC_STMF0838	STMF0838	7.38283	2684.3	119.806	6.3	56.9	0.012	0.24	0.07	0.15	5	79	0.74	2.24	0.97	3.21	0.64	3.88	0.802	876.654	29883.41
SC_STMG0814	STMG0814	6.276973	2963.1	92.277	3.8	48.8	0.012	0.24	0.07	0.15	5	79	0.88	1.92	1.15	3.07	0.52	3.17	0.767	800.497	25407.142
SC_STMG088	STMG088	14.31148	3697.6	168.598	5.1	38.8	0.012	0.24	0.07	0.15	5	79	1.06	1.53	1.36	2.89	1.12	6.79	0.723	1221.741	57928.229
SC_STMG082	STMG082	3.885206	1613.6	104.883	2.9	48.9	0.012	0.24	0.07	0.15	5	79	0.88	1.93	1.14	3.07	0.32	1.96	0.767	525.616	15726.042
SC_STMG085	STMG085	3.876046	889.9	189.73	3.5	45.6	0.012	0.24	0.07	0.15	5	79	0.94	1.8	1.21	3.01	0.32	1.9	0.752	549.424	15689.102
SC_STMF0913	STMF0913	8.591417	3491.1	107.199	2.5	54.7	0.012	0.24	0.07	0.15	5	79	0.78	2.15	1.01	3.17	0.74	4.46	0.792	765.066	34775.335
SC_STMG0811	STMG0811	6.325736	2325.8	118.475	5.8	57.1	0.012	0.24	0.07	0.15	5	79	0.74	2.25	0.96	3.21	0.55	3.33	0.803	746.443	25604.468
SC_STMG0924	STMG0924	9.9502	3023.9	143.335	5.1	41.8	0.012	0.24	0.07	0.15	5	79	1	1.65	1.3	2.95	0.8	4.82	0.737	861.867	40275.175
SC_STMG0928	STMG0928	32.986805	11284.3	127.337	4.5	31.7	0.012	0.24	0.07	0.15	5	79.8	1.15	1.25	1.56	2.81	2.51	15.3	0.701	1677.36	133519.83
SC_STMG095	STMG095	9.253202	4705.2	85.665	6.8	51.5	0.012	0.24	0.07	0.15	5	79	0.83	2.03	1.09	3.12	0.78	4.75	0.779	922.473	37454.13
SC_J5064	J5064	11.24361	793.4	617.307	2	22.2	0.012	0.24	0.07	0.15	5	79	1.39	0.87	1.69	2.56	0.78	3.56	0.64	941.081	45510.58
SC_STMF093	STMF093	5.661151	1672.5	147.444	3.3	49.2	0.012	0.24	0.07	0.15	5	79	0.88	1.94	1.13	3.07	0.47	2.84	0.768	746.597	22914.512
SC_STMF097	STMF097	6.472976	2477.9	113.791	7.8	42.2	0.012	0.24	0.07	0.15	5	79	0.99	1.66	1.29	2.96	0.52	3.16	0.739	674.936	26200.533
SC_STMF0930	STMF0930	3.214996	797	175.715	3	46.1	0.012	0.24	0.07	0.15	5	79	0.93	1.82	1.2	3.02	0.26	1.58	0.754	479.954	13013.249
SC_J1	J1	4.36254	544.2	349.196	1.5	31.8	0.012	0.24	0.07	0.15	5	79.5	1.18	1.25	1.52	2.77	0.33	1.75	0.692	638.37	17658.213
SC_STMG0919	STMG0919	7.888601	2464	139.459	4.1	49	0.012	0.24	0.07	0.15	5	79	0.88	1.93	1.14	3.07	0.66	3.97	0.767	821.483	31930.528
SC_STMG099	STMG099	6.257663	1670.8	163.146	4.4	48	0.012	0.24	0.07	0.15	5	80.5	0.85	1.89	1.21	3.1	0.53	3.18	0.774	720.286	25329.026
SC_stiG10088	stiG10088	3.750638	765.1	213.538	3	57.1	0.012	0.24	0.07	0.15	5	79	0.74	2.25	0.96	3.2	0.33	1.95	0.801	682.675	15181.399
SC_STMG1021	STMG1021	3.822122	569.3	292.45	4.7	40.4	0.012	0.24	0.07	0.15	5	79	1.03	1.59	1.32	2.91	0.3	1.78	0.728	606.805	15470.688
SC_STIG1072	STIG1072	10.4073219	2645.1	171.39	7.9	47.6	0.012	0.24	0.07	0.15	5	80.6	0.85	1.88	1.22	3.1	0.87	5.31	0.774	861.349	42125.66
SC_J-CCT3-12	J-CCT3-12	35.75638	2051.5	759.224	3.3	20.5	0.012	0.24	0.07	0.15	5	80.4	1.35	0.81	1.79	2.6	2.52	11.63	0.65	1799.307	144730.28
SC_J-CCT3-05	J-CCT3-05	26.9073734	1393.9	840.867	3	15.4	0.012	0.24	0.07	0.15	5	79.6	1.49	0.61	1.85	2.46	1.8	7.43	0.615	1749.075	108912.62
SC_J4402	J4402	8.802541	1560.6	245.7	3.6	42.9	0.012	0.24	0.07	0.15	5	79.7	0.97	1.69	1.29	2.98	0.71	4.23	0.745	1033.067	35629.91
SC_STMF105	STMF105	3.302448	1092.4	131.687	2.6	38.3	0.012	0.24	0.07	0.15	5	79	1.07	1.51	1.37	2.88	0.26	1.56	0.721	476.407	13367.296
SC_STIG1075	STIG1075	4.613583	1319.6	152.294	3.1	47.3	0.012	0.24	0.07	0.15	5	80.9	0.85	1.86	1.23	3.1	0.39	2.34	0.774	620.521	18674.288
SC_STMG102	STMG102	13.6999044	2924.4	204.065	4.2	46.7	0.012	0.24	0.07	0.15	5	79	0.92	1.84	1.19	3.03	1.13	6.75	0.756	1122.238	55452.938
SC_STMG1022	STMG1022	7.218669	2407.6	130.605	2.9	37.2	0.012	0.24	0.07	0.15	5	80.1	1.04	1.47	1.44	2.91	0.57	3.45	0.726	723.238	29218.887
SC_J-CCT3-09	J-CCT3-09	4.092183	1660	107.383	3.7	45.4	0.012	0.24	0.07	0.15	5	79	0.94	1.79	1.22	3.01	0.33	2.03	0.752	546.237	16563.883
SC_STMF107	STMF107	10.7324953	1229.6	380.211	1.5	46.9	0.012	0.24	0.07	0.15	5	80.4	0.89	1.85	1.21	3.06	0.89	5.02	0.765	917.603	43441.708
SC_STMF1013	STMF1013	2.014146	972.6	90.208	4	55.5	0.012	0.24	0.07	0.15	5	79	0.76	2.19	1	3.18	0.17	1.05	0.796	391.454	8152.641
SC_STIG108	STIG108	1.979572	573.7	150.305	4.1	47.5	0.012	0.24	0.07	0.15	5	80.1	0.87	1.87	1.21	3.08	0.17	1	0.769	374.134	8012.696
SC_J4770	J4770	10.1193914	1887.9	233.487	2.3	40.4	0.012	0.24	0.07	0.15	5	79	1.04	1.59	1.32	2.91	0.8	4.68	0.728	882.144	40960.154
SC_J5576	J5576	18.4429359	5684.7	141.322	2.8	48.1	0.012	0.24	0.07	0.15	5	79.6	0.88	1.89	1.18	3.07	1.54	9.27	0.768	1295.968	74651.465
SC_STIF1132	STIF1132	6.923058	2063.9	146.116	4.8	49.7	0.012	0.24	0.07	0.15	5	79	0.87	1.96	1.12	3.08	0.58	3.5	0.77	912.958	28022.315
SC_J-CCT3-04	J-CCT3-04	38.5372849	5655.2	296.839	2.8	23.9	0.012	0.24	0.07	0.15	5	79	1.33	0.94	1.68	2.62	2.74	15.24	0.655	2308.889	155986.83
SC_J-CCT3-03	J-CCT3-03	22.3658924	4185.9	232.748	7.5	43.9	0.012	0.24	0.07	0.15	5	79	0.97	1.73	1.25	2.98	1.81	10.89	0.745	1291.947	90530.196
SC_J4818	J4818	25.4253788	7223.9	153.315	2.7	66.4	0.012	0.24	0.07	0.15	5	79	0.58	2.61	0.75	3.37	2.32	13.94	0.841	1978.852	102913.8
SC_J5304	J5304	11.8709383	3400.3	152.074	3.6	61.3	0.012	0.24	0.07	0.15	5	79	0.67	2.41	0.86	3.28	1.06	6.35	0.82	1015.932	48049.948
SC_J3688	J3688	6.514808	2172.6	130.62	4.3	78.4	0.012	0.24	0.07	0.15	5	79	0.37	3.09	0.48	3.57	0.63	3.78	0.893	857.177	26369.855
SC_STMF1227	STMF1227	7.364779	1429.9	224.358	5.7	64	0.012	0.24	0.07	0.15	5	79	0.62	2.52	0.8	3.32	0.66	3.99	0.831	893.018	29810.342
SC_STMF1223	STMF1223	10.3390207	2670.9	168.62	6.4	39.1	0.012	0.24	0.07	0.15	5	79	1.05	1.54	1.36	2.9	0.81	4.93	0.725	919.587	41849.087
SC_STMG1227	STMG1227	13.9593916	4508	134.887	3.8	83.6	0.012	0.24	0.07	0.15	5	79	0.28	3.29	0.37	3.66	1.39	8.28	0.915	1131.108	56503.311
SC_J-CCT3-01	OF_J-CCT3-01	24.8212757	6524.3	165.721	2.2	54.3	0.012	0.24	0.07	0.15	5	79.1	0.79	2.14	1.02	3.16	2.13	12.75	0.79	1638.716	100468.81
SC_STIF1287	STIF1287	8.7179	3685.4	103.042	3.8	90.1	0.012	0.24	0.07	0.15	5	79	0.17	3.55	0.22	3.77	0.89	5.31	0.943	922.81	35280.627
SC_STMG1215	STMG1215	4.990752	1125.6	193.139	3.5	89.8	0.012	0.24	0.07	0.15	5	79	0.17	3.54	0.23	3.77	0.51	3.04	0.941	653.767	20201.055
SC_STMG128	STMG128	15.7981405	5253.2	131	1.9	69	0.012	0.24	0.07	0.15	5	79	0.53	2.72	0.69	3.41	1.46	8.77	0.852	1234.387	63945.887
SC_J4058	J4058	6.904524	2165.6	138.881	4.8	70.6	0.012	0.24	0.07	0.15	5	79	0.5	2.78	0.66	3.44	0.64	3.87	0.86	949.831	27947.382
SC_STMF122	STMF122	5.35071	1463	159.314	2	84	0.012	0.24	0.07	0.15	5	79	0.27	3.31	0.36	3.67	0.53	3.18	0.917	866.392	21658.026
SC_STIF1262	STIF1262	22.4681	7489.1	130.685	3.2	62.3	0.012	0.24	0.07	0.15	5	79	0.65	2.45	0.84	3.3	2.01	12.1	0.824	1318.071	90926.993
SC_STMG1245	STMG1245	11.7222633	3629.6	140.683	1.7	69.4	0.012	0.24	0.07	0.15	5	79	0.53	2.73	0.68	3.42	1.09	6.51	0.854	907.686	47448.054
SC_STIF1324	STIF1324	13.4149761	3383	172.733	3.2	61.5	0.012	0.24	0.07	0.15	5	79	0.66	2.42	0.86	3.28	1.2	7.17	0.82	1858.68	54299.872
SC_STMG1320	STMG1320	11.7065611	2384	213.9	2.3	65	0.012	0.24	0.07	0.15	5	79	0.6	2.56	0.78	3.34	1.06	6.34	0.835	1011.418	47384.549
SC_STMG1317	STMG1317	9.597463	1646.9	253.85	3.2	63.9	0.012	0.24	0.07	0.15	5	79	0.62	2.52	0.8	3.32	0.87	5.17	0.83	909.931	38847.542
SC_STMG135	STMG135	8.22491	1901.1	188.458	2.6	68.9	0.012	0.24	0.07	0.15	5	79	0.54	2.71	0.69	3.41	0.76	4.56	0.852	780.67	33291.945
SC_OF_J3682	OF_J3682	32.1703453	4995	280.549	2.7	21.5	0.012	0.24	0.07	0.15	5	79.3	1.36	0.85	1.74	2.59	2.26	12.59	0.648	2424.649	130215.35
SC_stmF1310001	stmF1310001	6.658455	1260.1	230.174	4.1	37.4	0.012	0.24	0.07	0.15	5	79	1.08	1.47	1.39	2.86	0.52	3.07	0.716	658.15	26951.239
SC_J-CCT2-05	J-CCT2-05	8.155913	3167	112.179	2.8	22	0.012	0.24	0.07	0.15	5	79	1.35	0.87	1.74	2.6	0.58	3.49	0.651	856.565	33012.478
SC_STIG1348	STIG1348	9.797806	2312.6	184.551	1.5	32.5	0.012	0.24	0.07	0.15	5	79	1.17	1.28	1.49	2.77	0.74	4.27	0.693	919.413	39658.481
SC_STMG133	STMG133	18.7055435	5722.7	142.383	2.6	57.8	0.012	0.24	0.07	0.15	5	79	0.73	2.28	0.94	3.22	1.63	9.83	0.805	1284.295	75714.306
SC_STMG1325	STMG1325	3.918454	2240.3	76.19	2.9	54.6	0.012	0.24	0.07	0.15	5	79	0.78	2.15	1.02	3.17	0.34	2.04	0.792	513.083	15860.698
SC_STMG1310	STMG1310	15.373498	8486.1	78.914	1.9	63.1	0.012	0.24	0.07	0.15	5	79	0.63	2.49	0.83	3.31	1.38	8.32	0.828	1017.141	62227.202
SC_STMG1311	STMG1311	12.7551489	2650.5	209.626	3.2	64.5	0.012	0.24	0.07	0.15	5	79	0.61	2.54	0.79	3.33	1.15	6.91	0.833	953.155	51628.853
SC_J4888	J4888	8.567472	2406.5	155.08	2.6	56.9	0.012	0.24	0.07	0.15	5	79	0.74	2.24	0.96	3.2	0.74	4.47	0.8	832.58	34678.473
SC_J4632	J4632	19.3880978	2298.9	367.369	1.2	24.7	0.012	0.24	0.07	0.15	5	79	1.34	0.97	1.64	2.61	1.38	6.83	0.654	2162.694	78476.992
SC_STMG1323	STMG1323	7.917843	2272.2	151.792	3.9	56.7	0.012	0.24	0.07	0.15	5	79	0.75	2.23	0.97	3.2	0.69	4.14	0.8	879.176	32048.926
SC_STIF1329	STIF1329	11.8332	2147.9	239.981	2.5	45.4	0.012	0.24	0.07	0.15	5	79	0.95	1.79	1.21	3	0.96	5.68	0.75	1179.216	47897.142
SC_STIF132	STIF132	7.229969	1738.5	181.155	2	46.4	0.012	0.24	0.07	0.15	5	79	0.93	1.83	1.19	3.02	0.59	3.52	0.754	830.456	29264.667
SC_STMG138	STMG138	8.832329	2625	146.566	2.8	57	0.012	0.24	0.07	0.15	5	79	0.74	2.24	0.96	3.2	0.77	4.62	0.801	1087.355	35750.502
SC_J4500	J4500	3.323373	418.6	345.834	16.9	13.5	0.012	0.24	0.07	0.15	5	81.4	1.37	0.53	2.05	2.58	0.23	1.4	0.645	464.934	13451.983
SC_STMG1412	STMG1412	16.8721237	6567.7	111.904	2.6	56.2	0.012	0.24	0.07	0.15	5	79	0.75	2.21	0.98	3.19	1.46	8.82	0.798	1330.534	68293.676
SC_STIF137	STIF137	5.272214	1532.8	149.829	2.7	49.4	0.012	0.24	0.07	0.15	5	79	0.87	1.95	1.13	3.07	0.44	2.64	0.768	657.225	21340.288
SC_STMG144	STMG144	7.82386	2810	121.284	7.1	59.4	0.012	0.24	0.07	0.15	5	79	0.7	2.34	0.91	3.25	0.69	4.17	0.813	923.43	31668.603
SC_J-CCT1-07	J-CCT1-07	11.82965	4220.6	122.092	7.4	45.5	0.012	0.24	0.07	0.15	5	79	0.94	1.79	1.22	3.01	0.97	5.88	0.753	1170.615	47882.757
SC_STMF131	STMF131	2.842434	700.4	176.78	3.4	49.7	0.012	0.24	0.07	0.15	5	79	0.87	1.96	1.12	3.08	0.24	1.43	0.769	427.755	11505.303
SC_J4216	J4216	3.540713	587.9	262.346	23.5	10	0.012	0.24	0.07	0.15	5	81.9	1.39	0.39	2.16	2.56	0.25	1.52	0.64	561.354	14331.708
SC_OF_J-CCT1-01	OF_J-CCT1-01	12.1696606	1736	305.363	9.6	22.5	0.012	0.24	0.07	0.15	5	78.9	1.35	0.89	1.72	2.6	0.86	5.08	0.651	1025.088	49259.026
SC_STMG1413	STMG1413	10.1090822	2757.7	159.681	7.2	58.4	0.012	0.24	0.07	0.15	5	79	0.71	2.3	0.93	3.23	0.89	5.35	0.808	1121.582	40918.024
SC_STMG143	STMG143	6.594897	2076.2	138.365	2.4	51.1	0.012	0.24	0.07	0.15	5	79	0.84	2.01	1.09	3.1	0.56	3.34	0.776	869.301	26694.124
SC_J-CCT1-04	J-CCT1-04	7.760569	1505.5	224.544	16.1	18.8	0.012	0.24	0.07	0.15	5	79	1.4	0.74	1.81	2.55	0.54	3.28	0.638	728.667	31412.407
SC_STMG149	STMG149	5.944576	435.3	594.867	1.6	47.3	0.012	0.24	0.07	0.15	5	79	0.93	1.86	1.15	3.01	0.49	2.6	0.753	970.803	24061.76
SC_J-CCT1-02	J-CCT1-02	16.95214	3233.9	228.342	3.1	12	0.012	0.24	0.07	0.15	5	79	1.53	0.47	1.94	2.42	1.11	6.26	0.604	1357.702	68617.073
SC_J3498	J3498	8.356613	982.6	370.46	2	19.7	0.012	0.24	0.07	0.15	5	79	1.42	0.78	1.76	2.53	0.57	2.92	0.633	933.895	33825.063
SC_STMG0918	STMF0918	6.674344	3016.8	96.372	4.4	56.9	0.012	0.24	0.07	0.15	5	79	0.74	2.24	0.97	3.21	0.58	3.51	0.802	661.994	27015.565
SC_STMF0925	STMF0925	2.709375	491.4	240.172	4.8	38.7	0.012	0.24	0.07	0.15	5	80	1.02	1.52	1.4	2.92	0.22	1.28	0.731	590.965	10966.679
SC_STMF0921	STMF0921	6.560873	1218.5	234.544	3.8	42.3	0.012	0.24	0.07	0.15	5	79.6	0.98	1.67	1.3	2.97	0.53	3.15	0.742	1055.778	26556.481
SC_STMG142	STMG142	2.820221	836.6	146.843	3.7	41.5	0.012	0.24	0.07	0.15	5	79	1.01	1.63	1.3	2.94	0.23	1.36	0.735	454.532	11415.412
SC_J-CCT3-11	J-CCT3-11	3.688591	1132.9	141.826	3.2	42.9	0.012	0.24	0.07	0.15	5	79	0.98	1.69	1.27	2.96	0.3	1.79	0.741	505.357	14930.273
SC_STMF1022	STMF1022	2.612942	944.7	120.482	3.1	52.2	0.012	0.24	0.07	0.15	5	79	0.82	2.06	1.07	3.12	0.22	1.34	0.781	467.325	10576.385
SC_STMF1023	STMF1023	2.411815	735.7	142.801	3.1	42.1	0.012	0.24	0.07	0.15	5	79.7	0.98	1.66	1.31	2.97	0.19	1.17	0.743	470.648	9762.208
SC_STMF0927	STMF0927	3.801946	671.7	246.558	2.7	21.1	0.012	0.24	0.07	0.15	5	79	1.38	0.83	1.74	2.57	0.27	1.5	0.643	498.807	15389.073
SC_STIG0837	STIG0837	1.222213	1643.8	32.388	3.5	62.4	0.012	0.24	0.07	0.15	5	79	0.64	2.46	0.85	3.31	0.11	0.66	0.827	487.497	4947.108
SC_STMG0774	STMG0774	5.124129	1116.8	199.863	10	45.2	0.012	0.24	0.07	0.15	5	78.3	0.97	1.78	1.2	2.98	0.41	2.51	0.746	773.064	20740.806
SC_STMG0723	STMG0723	1.680131	339.7	215.445	9.9	42.2	0.012	0.24	0.07	0.15	5	75	1.12	1.66	1.16	2.82	0.13	0.77	0.706	343.555	6800.641
SC_STMF0720	STMF0720	3.84079	1362.4	122.802	6.3	58.2	0.012	0.24	0.07	0.15	5	81.4	0.66	2.29	1	3.29	0.34	2.08	0.822	516.445	15546.282
SC_STMF0832	STMF0832	6.645951	1849.8	156.502	5.2	58.5	0.012	0.24	0.07	0.15	5	79.7	0.7	2.3	0.95	3.25	0.59	3.54	0.812	946.424	26900.733
SC_STMF0845	STMF0845	5.804922	1138.9	222.023	3.5	49.2	0.012	0.24	0.07	0.15	5	81.6	0.8	1.94	1.21	3.15	0.5	2.98	0.787	736.903	23496.315
SC_STMF0823	STMF0823	6.466765	1676.8	167.994	4.2	55.4	0.012	0.24	0.07	0.15	5	79	0.77	2.18	1	3.18	0.56	3.36	0.794	792.862	26175.405
SC_STMF0814	STMF0814	2.242645	860.7	113.5	3.6	58.2	0.012	0.24	0.07	0.15	5	79.4	0.71	2.29	0.95	3.24	0.2	1.19	0.809	440.433	9077.528
SC_STMF0835	STMF0835	5.750321	3256.5	76.918	5.3	54	0.012	0.24	0.07	0.15	5	79.5	0.77	2.13	1.05	3.17	0.5	3	0.793	636.908	23275.363
SC_STIF0877

Subcatchments- 25 Year Storm

Name	Outlet	Area (ac)	Width (ft)	Flow Length (ft)	Slope (%)	Imperv. (%)	N Imperv	N Perv	Dstore Imperv (in)	Dstore Perv (in)	Zero Imperv (%)	Curve Number	Infiltration (in)	Imperv Runoff (in)	Perv Runoff (in)	Runoff Depth (in)	Runoff Volume (MG)	Peak Runoff (cfs)	Runoff Coefficient	GIS_LENGTH (m)	GIS_AREA (m^2)
SC_J5242	J5242	8.139582	335.9	1055.553	5.4	12.2	0.012	0.24	0.07	0.15	5	82	1.41	0.48	2.06	2.54	0.56	2.37	0.635	925.268	32946.437
SC_STII0950	STII0950	3.179408	624.1	221.912	2.4	32	0.012	0.24	0.07	0.15	5	79.4	1.17	1.26	1.52	2.78	0.24	1.4	0.695	476.347	12869.233
SC_STMH0911	STMH0911	27.0561218	3037.8	387.967	3.8	29.6	0.012	0.24	0.07	0.15	5	79	1.23	1.17	1.55	2.72	2	11.13	0.679	1587.569	109514.74
SC_STII093	STII093	12.7613583	1993.6	278.835	3.3	71.7	0.012	0.24	0.07	0.15	5	81	0.45	2.82	0.66	3.49	1.21	7.23	0.872	1274.958	51654.268
SC_STMH095	STMH095	5.02828	2586.7	84.676	9.5	53.6	0.012	0.24	0.07	0.15	5	79	0.79	2.11	1.04	3.15	0.43	2.61	0.789	716.458	20352.875
SC_J-HC-34	J-HC-34	10.1079264	2838.8	155.101	5.8	25.3	0.012	0.24	0.07	0.15	5	80.4	1.23	1	1.73	2.72	0.75	4.56	0.681	817.156	40913.708
SC_STMH098	STMH098	14.95108	2218.2	293.602	3.9	61.8	0.012	0.24	0.07	0.15	5	79.1	0.66	2.43	0.85	3.29	1.33	7.96	0.821	1295.076	60517.276
SC_J5480	J5480	9.275572	2884.8	140.06	5	76.9	0.012	0.24	0.07	0.15	5	81.2	0.37	3.03	0.55	3.58	0.9	5.4	0.894	1058.931	37544.422
SC_STMH096	STMH096	7.469335	3533.1	92.09	8.7	96.1	0.012	0.24	0.07	0.15	5	81.3	0.06	3.79	0.09	3.88	0.79	4.66	0.97	795.127	30233.444
SC_J4002	J4002	3.585339	610.3	255.903	6	24	0.012	0.24	0.07	0.15	5	79	1.32	0.95	1.69	2.63	0.26	1.51	0.658	562.691	14512.319
SC_J-HC-33	J-HC-33	16.4939041	4235.6	169.628	19.5	28.3	0.012	0.24	0.07	0.15	5	79.4	1.21	1.12	1.62	2.74	1.23	7.52	0.684	1404.977	66762.068
SC_J4370	J4370	12.2557316	2556.3	208.841	1.9	49.8	0.012	0.24	0.07	0.15	5	81	0.81	1.96	1.17	3.14	1.04	6.21	0.784	1084.636	49606.983
SC_STMH0919	STMH0919	18.0229473	2697.3	291.061	5.8	45.2	0.012	0.24	0.07	0.15	5	79.4	0.94	1.78	1.23	3.01	1.47	8.78	0.753	1162.542	72951.526
SC_STMH097	STMH097	9.766518	1787.7	237.976	3.6	78.8	0.012	0.24	0.07	0.15	5	79.5	0.36	3.1	0.48	3.58	0.95	5.68	0.896	884.186	39531.762
SC_STMH091	STMH091	6.564419	2539.6	112.595	4.8	63.3	0.012	0.24	0.07	0.15	5	79	0.63	2.49	0.82	3.32	0.59	3.56	0.829	739.529	26570.564
SC_J4738	J4738	33.9372	3626.7	407.617	3.1	56.6	0.012	0.24	0.07	0.15	5	81.1	0.7	2.23	1.02	3.24	2.99	17.58	0.811	1648.625	137342.14
SC_STMH105	STMH105	12.6905737	1428.2	387.062	4.6	47.9	0.012	0.24	0.07	0.15	5	81	0.84	1.89	1.22	3.1	1.07	6.3	0.776	943.451	51367.417
SC_STIH107	STIH107	4.440096	675.8	286.195	5.1	46.2	0.012	0.24	0.07	0.15	5	79	0.93	1.82	1.2	3.01	0.36	2.16	0.754	523.574	17972.097
SC_J-HC-31	J-HC-31	12.0145807	1248.1	419.321	12.7	28.9	0.012	0.24	0.07	0.15	5	80	1.19	1.14	1.62	2.76	0.9	5.31	0.689	1230.208	48631.278
SC_STIH1012	STIH1012	2.599048	539.5	209.851	2.3	46.3	0.012	0.24	0.07	0.15	5	80	0.9	1.82	1.22	3.05	0.22	1.28	0.762	474.544	10520.12
SC_STMG1010	STMG1010	4.173696	1424.8	127.601	6.3	54.2	0.012	0.24	0.07	0.15	5	79	0.79	2.14	1.03	3.16	0.36	2.17	0.79	565.191	16893.811
SC_STMG106	STMG106	9.34704	2092.2	194.607	6.1	49.1	0.012	0.24	0.07	0.15	5	81.1	0.81	1.93	1.2	3.13	0.8	4.81	0.783	836.448	37833.891
SC_STMH107	STMH107	3.974622	904	191.521	4.6	47.6	0.012	0.24	0.07	0.15	5	79	0.9	1.87	1.17	3.04	0.33	1.97	0.761	540.237	16087.999
SC_J-HCT4-01	J-HCT4-01	3.684709	790.9	202.941	4.6	57.8	0.012	0.24	0.07	0.15	5	79	0.73	2.28	0.94	3.22	0.32	1.93	0.804	569.369	14914.527
SC_STMH1010	STMH1010	4.874309	1386.2	153.17	9.7	50.7	0.012	0.24	0.07	0.15	5	81.3	0.78	2	1.17	3.17	0.42	2.55	0.792	759.97	19729.662
SC_STII1043	STII1043	4.420697	1421.3	135.486	3.2	51.2	0.012	0.24	0.07	0.15	5	80.4	0.8	2.02	1.13	3.15	0.38	2.28	0.787	628.966	17893.428
SC_STMG1019	STMG1019	9.085469	2162.3	183.029	2.4	52.7	0.012	0.24	0.07	0.15	5	79	0.82	2.08	1.05	3.13	0.77	4.61	0.782	994.812	36775.238
SC_J-HCT4-06	J-HCT4-06	2.843153	879.7	140.784	15.9	40.5	0.012	0.24	0.07	0.15	5	79.3	1.01	1.6	1.34	2.94	0.23	1.38	0.735	464.557	11508.192
SC_J-HCT4-02	J-HCT4-02	3.815285	1235.4	134.526	6.2	49	0.012	0.24	0.07	0.15	5	79	0.88	1.93	1.14	3.07	0.32	1.93	0.768	527.411	15443.09
SC_J-HC-27	J-HC-27	14.49618	4157.5	151.883	3	57.6	0.012	0.24	0.07	0.15	5	79.3	0.72	2.27	0.95	3.22	1.27	7.63	0.806	1218.942	58675.893
SC_STIH1033	STIH1033	2.760554	1162.2	103.467	3.1	50.6	0.012	0.24	0.07	0.15	5	79	0.85	1.99	1.1	3.1	0.23	1.4	0.774	485.986	11173.851
SC_J-HC-26	J-HC-26	14.5542583	1944.5	326.039	3.5	28.7	0.012	0.24	0.07	0.15	5	79	1.25	1.13	1.57	2.7	1.07	6.04	0.676	1042.378	58911.098
SC_stmG10020	stmG10020	12.6358309	1688.3	326.018	3.4	61.4	0.012	0.24	0.07	0.15	5	79	0.67	2.42	0.86	3.28	1.12	6.67	0.819	1137.092	51145.882
SC_STIH1040	STIH1040	4.322615	1432.5	131.444	3.9	54.7	0.012	0.24	0.07	0.15	5	79	0.78	2.15	1.01	3.17	0.37	2.24	0.792	650.106	17496.797
SC_STMH1144	STMH1144	10.9151373	6269.1	75.842	5.9	52.7	0.012	0.24	0.07	0.15	5	79.5	0.8	2.08	1.07	3.15	0.93	5.67	0.788	1394.65	44180.884
SC_STMH1110	STMH1110	6.84176	3098.1	96.197	2.7	51.2	0.012	0.24	0.07	0.15	5	80.1	0.81	2.02	1.12	3.14	0.58	3.53	0.785	821.966	27693.297
SC_STMG118	STMG118	5.371641	2031	115.209	2.8	70.9	0.012	0.24	0.07	0.15	5	79	0.5	2.79	0.65	3.44	0.5	3.01	0.861	595.472	21742.714
SC_STMH1125	STMH1125	7.791434	1994.7	170.148	4.1	51.5	0.012	0.24	0.07	0.15	5	79.2	0.83	2.03	1.09	3.12	0.66	3.97	0.779	727.761	31537.26
SC_J5110	J5110	7.742914	1126.9	299.3	3.2	42.5	0.012	0.24	0.07	0.15	5	79.7	0.98	1.67	1.3	2.97	0.62	3.65	0.743	718.369	31340.901
SC_J3628	J3628	8.568887	2152.2	173.432	2.5	65.6	0.012	0.24	0.07	0.15	5	79	0.59	2.58	0.77	3.35	0.78	4.67	0.838	1002.187	34684.184
SC_J-HC-25	J-HC-25	7.95242	1270.2	272.719	4.4	47.8	0.012	0.24	0.07	0.15	5	79	0.9	1.88	1.16	3.04	0.66	3.91	0.76	1053.271	32188.977
SC_STMG112	STMG112	7.577363	3769.6	87.561	3.7	59.8	0.012	0.24	0.07	0.15	5	79	0.69	2.36	0.9	3.26	0.67	4.04	0.814	1046.555	30670.809
SC_J4068	J4068	3.254334	1194.6	118.666	3.7	49.3	0.012	0.24	0.07	0.15	5	79	0.87	1.94	1.13	3.08	0.27	1.64	0.769	495.036	13172.525
SC_J-HC-24	J-HC-24	13.793395	3734.1	160.906	3.1	53.4	0.012	0.24	0.07	0.15	5	79	0.8	2.1	1.04	3.14	1.18	7.07	0.786	1365.077	55831.266
SC_STMH114	STMH114	1.863733	403.3	201.3	2.7	43.5	0.012	0.24	0.07	0.15	5	79	0.98	1.71	1.26	2.97	0.15	0.89	0.742	349.402	7543.803
SC_STMH1116	STMH1116	7.512313	2177.7	150.267	2.7	51.1	0.012	0.24	0.07	0.15	5	79.3	0.84	2.01	1.1	3.11	0.63	3.82	0.778	746.35	30407.483
SC_STMH116	STMH116	3.685256	790.9	202.971	3.8	68.2	0.012	0.24	0.07	0.15	5	79	0.55	2.69	0.71	3.4	0.34	2.04	0.849	624.557	14916.728
SC_J4872	J4872	6.668039	1644.4	176.636	2.7	88.7	0.012	0.24	0.07	0.15	5	79.3	0.19	3.49	0.26	3.75	0.68	4.04	0.937	952.192	26990.29
SC_STMH118	STMH118	4.089953	943.9	188.747	3	51.2	0.012	0.24	0.07	0.15	5	80.1	0.81	2.02	1.12	3.13	0.35	2.09	0.784	606.867	16554.853
SC_STMH1135	STMH1135	7.116032	2383.1	130.072	3.2	55.1	0.012	0.24	0.07	0.15	5	79.7	0.75	2.17	1.02	3.19	0.62	3.72	0.798	736.193	28803.471
SC_E90	E90	1.64973	3124.445	23	2.3	99.4	0.012	0.24	0.07	0.15	5	79	0.01	3.92	0.01	3.93	0.18	1.04	0.983	617.734	6677.613
SC_STMI112	STMI112	6.02723	1684.4	155.869	2.2	91.7	0.012	0.24	0.07	0.15	5	79.6	0.14	3.61	0.19	3.8	0.62	3.7	0.95	641.331	24396.308
SC_STII118	STII118	7.856276	925.6	369.727	2.5	94.8	0.012	0.24	0.07	0.15	5	79.6	0.09	3.73	0.12	3.85	0.82	4.88	0.963	754.97	31799.563
SC_J4620	J4620	9.95972	3176.6	136.575	3.6	63.8	0.012	0.24	0.07	0.15	5	79	0.62	2.51	0.81	3.32	0.9	5.4	0.831	905.353	40313.866
SC_J-HC-20	J-HC-20	18.2026825	3471.4	228.412	4	49.6	0.012	0.24	0.07	0.15	5	79	0.87	1.95	1.12	3.07	1.52	9.09	0.769	1559.23	73678.854
SC_J-HC-21	J-HC-21	10.0981779	1994.4	220.556	7.4	44.9	0.012	0.24	0.07	0.15	5	79.5	0.93	1.77	1.24	3.01	0.83	4.98	0.753	998.71	40874.252
SC_STMH1137	STMH1137	7.40482	2025.4	159.254	2.8	74.6	0.012	0.24	0.07	0.15	5	79.7	0.43	2.94	0.58	3.52	0.71	4.23	0.879	879.144	29972.409
SC_J-HC-23	J-HC-23	6.47041	866.8	325.163	2.7	43.1	0.012	0.24	0.07	0.15	5	79	0.99	1.7	1.26	2.95	0.52	3	0.739	693.415	26190.117
SC_STMH128	STMH128	20.41072	4024.7	220.909	2.4	78.8	0.012	0.24	0.07	0.15	5	79.5	0.36	3.1	0.48	3.58	1.99	11.86	0.896	1127.543	82616.215
SC_STMI122	STMI122	19.1582165	3253.2	256.526	2.5	80.7	0.012	0.24	0.07	0.15	5	79.3	0.33	3.18	0.43	3.61	1.88	11.21	0.903	1169.549	77546.471
SC_J4198	J4198	6.932408	3065.7	98.501	15.3	70.5	0.012	0.24	0.07	0.15	5	79.3	0.5	2.78	0.67	3.45	0.65	3.9	0.862	807.609	28060.265
SC_STIH12182	STIH12182	5.723249	3010.4	82.814	3.9	98	0.012	0.24	0.07	0.15	5	79	0.03	3.86	0.05	3.91	0.61	3.6	0.976	704.402	23165.917
SC_STMG1228	STMG1228	9.34129	3299.9	123.309	3.1	70.1	0.012	0.24	0.07	0.15	5	79	0.51	2.76	0.67	3.43	0.87	5.22	0.858	810.266	37810.524
SC_STMH1253	STMH1253	16.9419022	6670.8	110.63	1.7	90.3	0.012	0.24	0.07	0.15	5	79	0.17	3.56	0.22	3.77	1.74	10.33	0.943	1237.491	68575.681
SC_STMG126	STMG126	2.143725	528.7	176.623	16.7	54.8	0.012	0.24	0.07	0.15	5	80.8	0.73	2.16	1.06	3.22	0.19	1.14	0.805	449.557	8677.129
SC_STMH127	STMH127	11.0911331	1792.3	269.559	5	72.5	0.012	0.24	0.07	0.15	5	79.6	0.46	2.85	0.62	3.48	1.05	6.27	0.87	1041.52	44893.416
SC_J-HC-16	J-HC-16	12.8458757	3752.4	149.122	2	35	0.012	0.24	0.07	0.15	5	80.1	1.08	1.38	1.49	2.87	1	5.97	0.716	1089.477	51996.091
SC_STMH1233	STMH1233	3.588046	894.5	174.729	2.1	67.8	0.012	0.24	0.07	0.15	5	79	0.55	2.67	0.72	3.39	0.33	1.98	0.848	589.409	14523.284
SC_J4636	J4636	7.914661	2455.9	140.381	1.7	77.3	0.012	0.24	0.07	0.15	5	79.3	0.39	3.04	0.51	3.56	0.76	4.57	0.889	1124.974	32036.122
SC_STMH1223	STMH1223	8.760874	1931.9	197.538	1.6	57.7	0.012	0.24	0.07	0.15	5	79	0.73	2.27	0.94	3.21	0.76	4.54	0.803	1009.344	35461.339
SC_STMH1229	STMH1229	5.804239	2052.9	123.159	4.4	58.1	0.012	0.24	0.07	0.15	5	79.4	0.71	2.29	0.95	3.24	0.51	3.08	0.809	705.403	23493.756
SC_J3614	J3614	4.305219	1762.5	106.403	2.4	99.7	0.012	0.24	0.07	0.15	5	79	0.01	3.93	0.01	3.93	0.46	2.72	0.983	607.67	17426.185
SC_J5560	J5560	8.688923	1682.8	224.916	2.2	60	0.012	0.24	0.07	0.15	5	79	0.69	2.36	0.89	3.25	0.77	4.57	0.813	1024.353	35170.118
SC_STMI1312	STMI1312	18.5041885	724	1113.318	1.4	23.7	0.012	0.24	0.07	0.15	5	80.2	1.34	0.93	1.67	2.6	1.31	4.95	0.651	1368.602	74898.741
SC_J-HC-14	J-HC-14	19.3062229	1615.28	520.64	13.87	28.3	0.012	0.24	0.07	0.15	5	80.1	1.2	1.11	1.63	2.75	1.44	8.38	0.687	1354.486	78145.557
SC_STMH1212	STMH1212	7.727999	3606.1	93.351	2.7	65	0.012	0.24	0.07	0.15	5	79	0.6	2.56	0.78	3.34	0.7	4.22	0.836	703.935	31280.54
SC_STMH1248	STMH1248	9.6918	5020.2	84.095	3.3	26.3	0.012	0.24	0.07	0.15	5	79	1.27	1.04	1.65	2.68	0.71	4.32	0.671	812.589	39222.107
SC_J3	J3	5.374068	1671.4	140.059	3	66.2	0.012	0.24	0.07	0.15	5	79	0.58	2.61	0.76	3.36	0.49	2.95	0.841	616.488	21752.583
SC_STMH135	STMH135	4.870885	567.1	374.142	14.7	30.7	0.012	0.24	0.07	0.15	5	80.5	1.14	1.21	1.6	2.81	0.37	2.23	0.703	569.568	19715.819
SC_stmH1310004	stmH1310004	7.140081	1783.6	174.379	2.3	67.9	0.012	0.24	0.07	0.15	5	79	0.55	2.67	0.72	3.39	0.66	3.94	0.848	712.753	28900.786
SC_J-HC-12	J-HC-12	8.052708	883.8	396.895	13.1	13.6	0.012	0.24	0.07	0.15	5	79.7	1.47	0.54	1.95	2.49	0.54	3.15	0.621	866.636	32594.864
SC_J5562	J5562	12.985961	2874.7	196.775	3.2	26.7	0.012	0.24	0.07	0.15	5	80.1	1.22	1.05	1.67	2.73	0.96	5.69	0.681	1635.082	52563.456
SC_STMH1315	STMH1315	8.334314	854.1	425.059	1.5	35.5	0.012	0.24	0.07	0.15	5	79	1.14	1.4	1.41	2.81	0.64	3.34	0.702	868.142	33734.669
SC_STMH132	STMH132	13.2843523	3718.1	155.635	4.7	53.9	0.012	0.24	0.07	0.15	5	79	0.79	2.12	1.03	3.15	1.14	6.86	0.788	948.016	53771.103
SC_STMI132	STMI132	11.6484871	6272	80.901	25.4	53.1	0.012	0.24	0.07	0.15	5	79.1	0.8	2.1	1.06	3.15	1	6.04	0.788	884.465	47149.434
SC_STMI141	STMI141	11.2798653	1886.9	260.401	2.1	87.1	0.012	0.24	0.07	0.15	5	79	0.22	3.43	0.29	3.72	1.14	6.78	0.93	862.201	45657.343
SC_J-HCT2-02	J-HCT2-02	15.5971451	780	871.041	3.8	27.2	0.012	0.24	0.07	0.15	5	79	1.3	1.07	1.58	2.65	1.12	5.31	0.662	1380.022	63132.409
SC_J-HC-06	J-HC-06	44.6877975	5563	349.919	6.84	11.3	0.012	0.24	0.07	0.15	5	79.7	1.51	0.45	2	2.44	2.96	16.65	0.61	2030.496	180882.36
SC_J6	J6	6.839411	2648.3	112.497	1.6	79	0.012	0.24	0.07	0.15	5	79	0.36	3.11	0.47	3.58	0.67	3.97	0.895	690.656	27683.834
SC_J4608	J4608	11.8604708	1996.6	258.761	2.1	68.7	0.012	0.24	0.07	0.15	5	79.2	0.54	2.71	0.7	3.41	1.1	6.53	0.851	1001.618	48007.478
SC_J-HCT2-01	J-HCT2-01	29.6020851	2350	548.709	10	14.2	0.012	0.24	0.07	0.15	5	79	1.5	0.56	1.89	2.45	1.97	10.61	0.612	1632.303	119820.1
SC_J4610	J4610	43.8363152	6209.7	307.504	13.1	39	0.012	0.24	0.07	0.15	5	79.8	1.03	1.54	1.39	2.92	3.48	20.98	0.731	1772.599	177435.71
SC_J5640	J5640	4.227743	759.5	242.476	21.2	12.1	0.012	0.24	0.07	0.15	5	79	1.52	0.48	1.96	2.44	0.28	1.71	0.609	575.098	17112.675
SC_STMH1024	STMH1024	2.063624	1476.6	60.877	2.5	57.8	0.012	0.24	0.07	0.15	5	79	0.72	2.28	0.95	3.22	0.18	1.09	0.806	374.512	8352.898
SC_STII0953	STII0953	1.150339	175.6	285.357	2.5	25.9	0.012	0.24	0.07	0.15	5	81.4	1.19	1.02	1.74	2.76	0.09	0.49	0.69	313.249	4656.223
SC_STII0954	STII0954	12.6339407	1479.3	372.024	3.1	12.3	0.012	0.24	0.07	0.15	5	80.9	1.44	0.48	2.02	2.51	0.86	4.5	0.627	1127.385	51138.21
SC_J4290	J4290	11.3591871	2760.9	179.219	3.3	52.8	0.012	0.24	0.07	0.15	5	79	0.81	2.08	1.05	3.13	0.97	5.8	0.783	881.591	45978.304
SC_STMH1252	STMH1252	1.5465	1134.2	59.395	6.3	60.9	0.012	0.24	0.07	0.15	5	79	0.67	2.4	0.88	3.28	0.14	0.83	0.82	400.713	6258.55
SC_STMH1242	STMH1242	4.3509	3003.1	63.11	4.1	64.9	0.012	0.24	0.07	0.15	5	79	0.6	2.56	0.79	3.35	0.4	2.38	0.837	693.836	17607.73
SC_STMH1238	STMH1238	5.89455	2302.2	111.531	3.7	57.3	0.012	0.24	0.07	0.15	5	79	0.73	2.26	0.96	3.21	0.51	3.1	0.803	676.715	23859.124
SC_STMH1311	STMH1311	6.596425	2976.6	96.533	1.4	48.5	0.012	0.24	0.07	0.15	5	79	0.89	1.91	1.15	3.06	0.55	3.3	0.765	672.1	26700.286
SC_STMH1313	STMH1313	5.850964	2033	125.365	2.3	31.8	0.012	0.24	0.07	0.15	5	79	1.18	1.25	1.52	2.77	0.44	2.65	0.693	628.443	23682.892
SC_J-HCT3-02	J-HCT3-02	16.3651886	1285.3	554.631	4.1	10.1	0.012	0.24	0.07	0.15	5	79	1.59	0.4	1.96	2.36	1.05	4.92	0.59	1094.612	66241.136
SC_J4862	J4862	4.631499	1254.5	160.82	8.4	16.4	0.012	0.24	0.07	0.15	5	79	1.44	0.65	1.86	2.51	0.32	1.93	0.628	631.51	18746.787
SC_STMH1215	STMH1215	4.829256	699.6	300.69	3	45.4	0.012	0.24	0.07	0.15	5	79	0.95	1.79	1.21	3	0.39	2.3	0.749	688.812	19547.306
SC_J-HC-15	J-HC-15	3.701619	1575.1	102.37	2.4	48.6	0.012	0.24	0.07	0.15	5	79.6	0.87	1.91	1.17	3.08	0.31	1.87	0.77	541.333	14983.024
SC_J-SB-16	J-SB-16	465.11554	11615	1744.333	9.8	13.4	0.012	0.24	0.07	0.15	5	71	1.95	0.53	1.48	2	25.31	87.14	0.501	6626.481	1882638.9
SC_J-SB-13	J-SB-13	513.015259	12906.5	1731.449	20.1	13.8	0.012	0.24	0.07	0.15	5	71.7	1.89	0.54	1.52	2.07	28.77	112.74	0.516	6721.355	2076615.1
SC_STII09101	STII09101	36.10392	1927.6	815.878	4.8	24.8	0.012	0.24	0.07	0.15	5	77.4	1.41	0.98	1.57	2.54	2.49	11.9	0.636	2055.589	146137.15
SC_J-SB-12	J-SB-12	137.539566	8554.9	700.327	16.6	13.1	0.012	0.24	0.07	0.15	5	75.1	1.71	0.52	1.72	2.24	8.36	43.21	0.559	4024.911	556716.43
SC_J-SBT6-02	J-SBT6-02	219.13031	10512.6	907.988	12.4	18.4	0.012	0.24	0.07	0.15	5	71.8	1.76	0.72	1.46	2.19	13.02	60.95	0.547	4129.134	886969.99
SC_STIJ081	STIJ081	16.2809944	1351	524.945	15.3	7	0.012	0.24	0.07	0.15	5	77.6	1.7	0.28	1.98	2.25	1	5.41	0.563	1104.144	65901.601
SC_J-SB-14	J-SB-14	113.276024	15382	320.784	8.07	18	0.012	0.24	0.07	0.15	5	79.7	1.39	0.71	1.85	2.56	7.87	45.88	0.64	3082.784	458504.39
SC_J4268	J4268	13.0727987	2333.1	244.075	3.1	5	0.012	0.24	0.07	0.15	5	78.3	1.7	0.2	2.06	2.25	0.8	4.32	0.563	1223.527	52913.23
SC_STI

Subcatchments- 25 Year Storm

Name	Outlet	Area (ac)	Width (ft)	Flow Length (ft)	Slope (%)	Imperv. (%)	N Imperv	N Perv	Dstore Imperv (in)	Dstore Perv (in)	Zero Imperv (%)	Curve Number	Infiltration (in)	Imperv Runoff (in)	Perv Runoff (in)	Runoff Depth (in)	Runoff Volume (MG)	Peak Runoff (cfs)	Runoff Coefficient	GIS_LENGTH (m)	GIS_AREA (m^2)
SC_STMI1114	STMI1114	8.142767	1486.6	238.597	2.1	93.4	0.012	0.24	0.07	0.15	5	80	0.11	3.68	0.15	3.83	0.85	5.03	0.957	839.548	32959.329
SC_J-SB-02	J-SB-02	970.6341	29721.1	1422.586	4.5	12.5	0.012	0.24	0.07	0.15	5	73.1	1.89	0.49	1.57	2.06	54.42	179.14	0.516	10632.923	3928102.5
SC_stmJ11001	stmJ11001	13.9310694	1800.704	337	4	88.1	0.012	0.24	0.07	0.15	5	79	0.2	3.47	0.27	3.74	1.41	8.41	0.934	1248.402	56388.362
SC_J4834	J4834	4.089164	1094.8	162.7	3.4	93.3	0.012	0.24	0.07	0.15	5	79.7	0.11	3.67	0.15	3.83	0.42	2.52	0.957	544.744	16551.631
SC_STMI1123	STMI1123	2.11717	605.6	152.285	2.4	50.9	0.012	0.24	0.07	0.15	5	81.2	0.78	2	1.16	3.16	0.18	1.1	0.791	447.424	8569.636
SC_STMI1110	STMI1110	6.025495	4331.3	60.599	3.9	60.9	0.012	0.24	0.07	0.15	5	80.1	0.64	2.4	0.9	3.3	0.54	3.26	0.826	756.655	24389.239
SC_J-SBT1-07	J-SBT1-07	2.298254	1525.3	65.634	6.6	53.7	0.012	0.24	0.07	0.15	5	79	0.79	2.12	1.04	3.16	0.2	1.19	0.789	379.7	9302.605
SC_STMJ1126	STMJ1126	2.972102	1697.7	76.259	4.2	68.7	0.012	0.24	0.07	0.15	5	79	0.54	2.71	0.7	3.41	0.28	1.65	0.852	604.995	12030.141
SC_J-SBT1-06	J-SBT1-06	12.9294434	2130.2	264.391	2.9	86.2	0.012	0.24	0.07	0.15	5	79.6	0.23	3.39	0.31	3.71	1.3	7.75	0.927	1060.833	52334.295
SC_STMI1217	STMI1217	4.272721	2194	84.831	4.9	61.9	0.012	0.24	0.07	0.15	5	79.7	0.64	2.44	0.87	3.31	0.38	2.32	0.827	751.4	17294.647
SC_STIL11186	STIL11186	4.256584	746.8	248.282	13.8	35.9	0.012	0.24	0.07	0.15	5	79	1.11	1.41	1.43	2.84	0.33	1.99	0.711	586.296	17229.321
SC_STMI129	STMI129	10.8777323	1406.6	336.865	3.9	59.6	0.012	0.24	0.07	0.15	5	82.4	0.62	2.35	0.98	3.33	0.98	5.88	0.832	887.341	44029.692
SC_J3960	J3960	6.489224	1407	200.903	2.1	19.1	0.012	0.24	0.07	0.15	5	81.7	1.28	0.75	1.92	2.67	0.47	2.72	0.668	1029.046	26266.318
SC_STMI1233	STMI1233	7.410288	3797.555	85	2.8	76.6	0.012	0.24	0.07	0.15	5	79	0.4	3.02	0.53	3.54	0.71	4.27	0.886	788.017	29994.565
SC_STMI125	STMI125	7.510254	2454.7	133.274	2.4	81.5	0.012	0.24	0.07	0.15	5	79	0.32	3.21	0.41	3.62	0.74	4.41	0.906	796.753	30399.195
SC_STMI123	STMI123	10.9843035	2510.8	190.567	1.4	59.7	0.012	0.24	0.07	0.15	5	79.6	0.68	2.35	0.91	3.26	0.97	5.79	0.815	865.455	44461.082
SC_STMI139	STMI139	13.0182838	1489.1	380.818	2.4	73.2	0.012	0.24	0.07	0.15	5	79.3	0.46	2.88	0.6	3.48	1.23	7.31	0.871	933.377	52694.089
SC_STMI137	STMI137	5.863204	1357.1	188.196	2.9	57.7	0.012	0.24	0.07	0.15	5	79.3	0.72	2.27	0.95	3.22	0.51	3.08	0.806	687.792	23732.433
SC_J-SB-03	J-SB-03	35.1864	6071.9	252.428	8.3	31.5	0.012	0.24	0.07	0.15	5	78.5	1.2	1.24	1.5	2.74	2.62	15.69	0.686	1894.233	142397.52
SC_STMI143	STMI143	11.2408257	4647.8	105.351	2.2	37.8	0.012	0.24	0.07	0.15	5	79	1.07	1.49	1.39	2.88	0.88	5.31	0.719	937.93	45499.459
SC_J-SBT1-01	J-SBT1-01	58.4130669	5396.6	471.496	3.5	11.9	0.012	0.24	0.07	0.15	5	76.7	1.68	0.47	1.81	2.28	3.61	17.08	0.569	2063.223	236438.1
SC_STMJ115	STMJ115	2.784293	1149.6	105.501	3.3	57.3	0.012	0.24	0.07	0.15	5	79.4	0.72	2.26	0.97	3.22	0.24	1.47	0.806	439.958	11269.908
SC_STMJ121	STMJ121	3.954901	1956.5	88.053	3.5	56.3	0.012	0.24	0.07	0.15	5	84	0.61	2.22	1.11	3.33	0.36	2.18	0.833	654.319	16008.204
SC_STMJ122	STMJ122	5.256135	2945.4	77.734	10.5	79.1	0.012	0.24	0.07	0.15	5	81.4	0.33	3.12	0.5	3.62	0.52	3.09	0.905	733.605	21275.212
SC_STMJ125	STMJ125	1.656186	468.9	153.857	4.6	42.6	0.012	0.24	0.07	0.15	5	84	0.81	1.68	1.46	3.14	0.14	0.86	0.784	335.49	6703.727
SC_STMJ1114	STMJ1114	18.1949139	2878.8	275.313	4.1	60.8	0.012	0.24	0.07	0.15	5	81.6	0.62	2.39	0.93	3.33	1.64	9.86	0.832	1333.808	73647.336
SC_STMJ1141	STMJ1141	7.794769	842.1	403.206	4.9	23	0.012	0.24	0.07	0.15	5	83.9	1.11	0.91	1.93	2.84	0.6	3.43	0.71	1308.176	31550.656
SC_STMJ1136	STMJ1136	10.465992	3438.2	132.598	2.4	42	0.012	0.24	0.07	0.15	5	79.7	0.98	1.66	1.32	2.97	0.84	5.09	0.743	889.243	42363.182
SC_STMJ1134	STMJ1134	7.437419	2871.9	112.808	2.1	44.2	0.012	0.24	0.07	0.15	5	79	0.96	1.74	1.24	2.99	0.6	3.63	0.746	806.338	30104.335
SC_STMJ1138	STMJ1138	8.117361	1192.1	296.613	3.7	38.2	0.012	0.24	0.07	0.15	5	79.3	1.06	1.5	1.38	2.88	0.64	3.71	0.721	832.034	32856.594
SC_STMJ1211	STMJ1211	6.265009	917.2	297.54	1.8	29.9	0.012	0.24	0.07	0.15	5	82.3	1.09	1.18	1.68	2.86	0.49	2.73	0.715	795.367	25358.873
SC_STMK1211	STMK1211	8.20808	2942.8	121.498	7	46.7	0.012	0.24	0.07	0.15	5	78	0.95	1.84	1.16	3	0.67	4.05	0.751	814.438	33223.692
SC_STMK1235	STMK1235	8.661866	1011.5	373.021	7.6	27	0.012	0.24	0.07	0.15	5	78.1	1.31	1.06	1.58	2.64	0.62	3.58	0.66	757.966	35060.581
SC_STMK1120	STMK1120	7.29584	2192.8	144.932	2.2	40.4	0.012	0.24	0.07	0.15	5	77.5	1.08	1.59	1.27	2.87	0.57	3.39	0.716	750.601	29531.292
SC_STMK1112	STMK1112	9.33036	2984.1	136.199	7.8	26.7	0.012	0.24	0.07	0.15	5	74.1	1.46	1.05	1.44	2.49	0.63	3.8	0.623	1023.005	37766.361
SC_STMK1222	STMK1222	2.632458	1190.7	96.305	14.7	46.6	0.012	0.24	0.07	0.15	5	59.7	1.41	1.84	0.71	2.55	0.18	1.08	0.637	448.612	10655.37
SC_STMK1218	STMK1218	3.185321	573.6	241.898	15.3	27	0.012	0.24	0.07	0.15	5	58.3	1.97	1.06	0.92	1.98	0.17	0.96	0.495	496.707	12893.149
SC_STMK1213	STMK1213	2.301658	888.2	112.88	6.1	51.8	0.012	0.24	0.07	0.15	5	70.3	1.05	2.04	0.86	2.9	0.18	1.08	0.725	415.946	9316.388
SC_STMK1122	STMK1122	24.3472118	2327.3	455.706	17.7	18.8	0.012	0.24	0.07	0.15	5	72.5	1.7	0.74	1.51	2.25	1.49	8.36	0.563	1242.404	98550.002
SC_STMK1223	STMK1223	6.598337	2704.5	106.276	8	42.7	0.012	0.24	0.07	0.15	5	64.9	1.39	1.68	0.88	2.56	0.46	2.73	0.641	775.677	26708.034
SC_STMJ1226	STMJ1226	8.199802	3376.2	105.794	7.8	33.9	0.012	0.24	0.07	0.15	5	80.4	1.08	1.34	1.53	2.87	0.64	3.92	0.718	1058.249	33190.244
SC_STMK125	STMK125	1.694809	631.6	116.887	5.3	55.4	0.012	0.24	0.07	0.15	5	79	0.77	2.18	1	3.18	0.15	0.88	0.795	348.693	6860.061
SC_STMK1233	STMK1233	2.783665	1052.9	115.164	8.9	47.8	0.012	0.24	0.07	0.15	5	75.7	0.99	1.88	1.07	2.96	0.22	1.35	0.739	580.575	11267.381
SC_STMK123	STMK123	2.745137	1118.4	106.919	21.7	38.9	0.012	0.24	0.07	0.15	5	74.5	1.2	1.54	1.22	2.75	0.21	1.24	0.689	589.845	11111.473
SC_STMK1232	STMK1232	6.826547	1734.1	171.481	20.6	44.5	0.012	0.24	0.07	0.15	5	70.8	1.19	1.75	1	2.75	0.51	3.06	0.689	893.99	27631.73
SC_STMJ1218	STMJ1218	6.612415	412.5	698.271	4	46.5	0.012	0.24	0.07	0.15	5	79.6	0.92	1.83	1.19	3.02	0.54	3.01	0.756	848.653	26765.14
SC_STMJ1230	STMJ1230	3.397663	1072.6	137.985	4.7	49.1	0.012	0.24	0.07	0.15	5	79	0.88	1.93	1.14	3.07	0.28	1.71	0.768	451.921	13752.682
SC_STMK122	STMK122	4.47699	2141.1	91.083	4.6	56.3	0.012	0.24	0.07	0.15	5	79	0.75	2.22	0.98	3.2	0.39	2.35	0.799	942.858	18121.508
SC_J-SB-07	J-SB-07	55.18457	3637.1	660.922	11.4	13.8	0.012	0.24	0.07	0.15	5	79.7	1.48	0.54	1.93	2.47	3.71	19.59	0.618	2030.146	223369.51
SC_STMI1022	STMI1022	3.235192	1083.7	130.041	3.1	71	0.012	0.24	0.07	0.15	5	82.7	0.43	2.8	0.71	3.51	0.31	1.86	0.878	649.054	13095.056
SC_STMI1023	STMI1023	2.283278	419.3	237.204	3.6	43.4	0.012	0.24	0.07	0.15	5	81	0.91	1.71	1.33	3.03	0.19	1.12	0.759	461.955	9241.986
SC_STII0965	STII0965	2.733958	525.8	226.495	2.5	5	0.012	0.24	0.07	0.15	5	79	1.66	0.2	2.09	2.29	0.17	0.92	0.573	509.809	11066.204
SC_SBT5-01	J-SBT5-01	19.6895046	5121.8	167.456	11.8	53.7	0.012	0.24	0.07	0.15	5	80.1	0.76	2.12	1.07	3.18	1.7	10.31	0.796	1154.148	79696.621
SC_STMJ1110	STMJ1110	2.647175	1272.1	90.646	2.1	70.9	0.012	0.24	0.07	0.15	5	83.5	0.42	2.79	0.73	3.53	0.25	1.53	0.881	541.073	10714.931
SC_STMJ1111	STMJ1111	4.562646	3704	53.658	1	61.4	0.012	0.24	0.07	0.15	5	79.8	0.64	2.42	0.88	3.3	0.41	2.47	0.825	558.509	18468.14
SC_STMI1174	STMI1174	7.54248	726.1	452.486	3.2	28.5	0.012	0.24	0.07	0.15	5	79.9	1.22	1.12	1.61	2.73	0.56	3.01	0.682	989.467	30529.587
SC_STMJ123	STMJ123	9.019251	1628.9	241.193	2.4	48.5	0.012	0.24	0.07	0.15	5	84	0.73	1.91	1.3	3.21	0.79	4.71	0.803	958.667	36507.14
SC_STMJ126	STMJ126	4.853779	2448.4	86.355	4	62.3	0.012	0.24	0.07	0.15	5	84	0.53	2.45	0.96	3.42	0.45	2.73	0.854	746.685	19646.572
SC_STMI1165	STMI1165	2.887177	2228.4	56.438	4.8	67.5	0.012	0.24	0.07	0.15	5	79.1	0.55	2.66	0.73	3.39	0.27	1.6	0.848	525.088	11686.402
SC_STMI1212	STMI1212	3.659343	1914.6	83.256	3.4	59	0.012	0.24	0.07	0.15	5	80.2	0.67	2.32	0.95	3.27	0.33	1.97	0.818	591.845	14811.922
SC_STMJ1238	STMJ1238	8.178616	1466.7	242.899	1.2	25	0.012	0.24	0.07	0.15	5	83.6	1.1	0.98	1.86	2.85	0.63	3.53	0.712	986.763	33104.548
SC_STMJ1121	STMJ1121	11.1850319	727	670.179	5.4	19.6	0.012	0.24	0.07	0.15	5	79	1.42	0.77	1.76	2.53	0.77	3.81	0.632	1467.204	45273.669
SC_STIK116	STIK116	17.8960419	1135	686.83	13.8	11.3	0.012	0.24	0.07	0.15	5	69.4	2.01	0.45	1.5	1.94	0.94	4.4	0.486	1195.907	72437.533
SC_STMK1216	STMK1216	1.447503	1170.1	53.887	12.9	63.2	0.012	0.24	0.07	0.15	5	74.7	0.72	2.49	0.74	3.23	0.13	0.76	0.809	426.843	5859.039
SC_J-SBT4-02	J-SBT4-02	6.290534	1458.1	187.927	6.2	19.8	0.012	0.24	0.07	0.15	5	81.3	1.28	0.78	1.89	2.68	0.46	2.77	0.669	718.611	25462.169
SC_J-SB-11	J-SB-11	67.5082	8274.2	355.401	3.7	12.2	0.012	0.24	0.07	0.15	5	79.8	1.5	0.48	1.97	2.45	4.5	23.9	0.613	2435.51	273251.63
SC_STMI1014	STMI1014	4.348255	1325.1	142.94	3.9	55.9	0.012	0.24	0.07	0.15	5	81.4	0.69	2.2	1.05	3.25	0.38	2.32	0.813	575.558	17600.357
SC_J-SBT3-01	J-SBT3-01	26.6879959	3219.7	361.068	7.4	11.7	0.012	0.24	0.07	0.15	5	80.9	1.44	0.46	2.05	2.51	1.82	10.35	0.628	1527.33	108024.65
SC_J-SBT5-01	J-SBT5-01	9.26221	1179.3	342.12	9.9	10	0.012	0.24	0.07	0.15	5	79.4	1.54	0.39	2.01	2.41	0.61	3.49	0.602	794.854	37490.51
SC_J-SBT7-02	J-SBT7-02	7.380721	10826.3	29.697	20.8	75	0.012	0.24	0.07	0.15	5	79.5	0.42	2.96	0.57	3.53	0.71	4.23	0.883	1307.38	29875.356
SC_STMI1219	STMI1219	5.410605	2418.5	97.451	3.3	58.4	0.012	0.24	0.07	0.15	5	83.4	0.6	2.3	1.04	3.34	0.49	2.98	0.836	713.961	21900.451
SC_STMI128	STMI128	1.721001	2449.9	30.6	2	60.7	0.012	0.24	0.07	0.15	5	78.2	0.69	2.39	0.86	3.26	0.15	0.92	0.815	625.942	6965.992
SC_STII0916	STII0916	2.929223	872.5	146.243	3.4	52.7	0.012	0.24	0.07	0.15	5	83.3	0.69	2.08	1.18	3.26	0.26	1.57	0.814	498.948	11856.493
SC_STMK1212	STMK1212	3.98797	1418.8	122.439	3.4	48.8	0.012	0.24	0.07	0.15	5	79	0.88	1.92	1.14	3.07	0.33	2.01	0.766	543.453	16142.02
SC_J4	J4	10.1414766	5197.209	85	0.5	78.5	0.012	0.24	0.7	0.15	5	79	0.37	2.63	0.48	3.11	0.86	5.87	0.777	825.526	41049.55
SC_J9	J9	2.3155	3685.4	27.368	3.8	86.5	0.012	0.24	0.07	0.15	5	79	0.23	3.41	0.3	3.72	0.23	1.39	0.929	430.6	9370.794
SC_STMG071	STMG071	7.295096	1801.442	176.4	8.7	51.6	0.012	0.24	0.07	0.15	5	76.3	0.91	2.03	1.01	3.04	0.6	3.62	0.76	737.16	29528.241
SC_STMF078	STMF078	8.577698	2707.569	138	8.7	51.6	0.012	0.24	0.07	0.15	5	76.3	0.91	2.03	1.01	3.04	0.71	4.27	0.761	810.08	34719.854
SC_J11	J11	7.520191	496.898	659.249	1.8	26	0.012	0.24	0.07	0.15	5	79.9	1.28	1.02	1.64	2.66	0.54	2.51	0.666	1072.763	30442.137
SC_STII151	STII151	19.2617416	1272.723	659.249	1.8	26	0.012	0.24	0.07	0.15	5	79.9	1.28	1.02	1.64	2.66	1.39	6.44	0.666	1185.472	77962.599
SC_E29	E29	3.316013	219.106	659.249	1.8	26	0.012	0.24	0.07	0.15	5	79.9	1.28	1.02	1.64	2.66	0.24	1.11	0.666	511.177	13422.518
SC_stiI15004	stiI15004	0.306833	742.536	18	1.8	26	0.012	0.24	0.07	0.15	5	79.9	1.23	1.03	1.7	2.73	0.02	0.14	0.682	286.577	1241.975
SC_stiI15012	stiI15012	0.267515	27.32	426.529	3.1	41.9	0.012	0.24	0.07	0.15	5	79	1.02	1.65	1.28	2.93	0.02	0.12	0.732	169.419	1082.86
SC_stiI15010	stiI15010	0.506516	51.729	426.529	3.1	41.9	0.012	0.24	0.07	0.15	5	79	1.02	1.65	1.28	2.93	0.04	0.23	0.732	284.67	2050.308
SC_J-HC-04	J-HC-04	15.10224	1542.342	426.529	3.1	41.9	0.012	0.24	0.07	0.15	5	79	1.02	1.65	1.28	2.93	1.2	6.79	0.732	1118.262	61129.159
SC_stiI15006	stiI15006	2.463695	251.609	426.529	3.1	41.9	0.012	0.24	0.07	0.15	5	79	1.02	1.65	1.28	2.93	0.2	1.11	0.732	408.691	9972.502
SC_E31	E31	0.106579	42.343	109.643	3.2	61.4	0.012	0.24	0.07	0.15	5	79.1	0.66	2.42	0.87	3.28	0.01	0.06	0.821	112.53	431.391
SC_STMI1310_3	STMI1310	6.874165	2731.033	109.643	3.2	61.4	0.012	0.24	0.07	0.15	5	79.1	0.66	2.42	0.87	3.28	0.61	3.69	0.821	716.764	27824.595
SC_stcoI13000	stcoI13000	0.745629	296.23	109.643	3.2	61.4	0.012	0.24	0.07	0.15	5	79.1	0.66	2.42	0.87	3.28	0.07	0.4	0.821	223.442	3018.012
SC_STMF1217_2	STMF1217	4.291531	1236.877	151.138	3	78.6	0.012	0.24	0.07	0.15	5	79	0.37	3.09	0.48	3.57	0.42	2.49	0.894	640.09	17367.599
SC_stiG12224_1	stiG12224	7.55814	2178.357	151.138	3	78.6	0.012	0.24	0.07	0.15	5	79	0.37	3.09	0.48	3.57	0.73	4.38	0.894	699.75	30587.239
SC_E109	E109	0.565414	1368.302	18	3	78.6	0.012	0.24	0.07	0.15	5	79	0.36	3.1	0.48	3.58	0.06	0.33	0.896	389.099	2288.256
SC_stiG12154	stiG12154	28.495985	3538.028	350.841	3.55	76.7	0.012	0.24	0.07	0.15	5	79.1	0.4	3.02	0.52	3.54	2.74	16.33	0.885	1678.77	115345.5
SC_E74	E74	3.233737	4401.924	32	3.55	76.7	0.012	0.24	0.07	0.15	5	79.1	0.4	3.03	0.53	3.55	0.31	1.86	0.888	1590.23	13089.111
SC_stiH11117	stiH11117	16.5333881	2052.766	350.841	3.55	76.7	0.012	0.24	0.07	0.15	5	79.1	0.4	3.02	0.52	3.54	1.59	9.48	0.885	2071.72	66920.943
SC_E69	E69	8.479043	1052.748	350.841	3.55	76.7	0.012	0.24	0.07	0.15	5	79.1	0.4	3.02	0.52	3.54	0.82	4.86	0.885	1019.673	34318.332
SC_stiH11112	stiH11112	3.101979	385.138	350.841	3.55	76.7	0.012	0.24	0.07	0.15	5	79.1	0.4	3.02	0.52	3.54	0.3	1.78	0.885	545.438	12555.156
SC_stmG12036	stmG12036	2.055801	473.813	189	3.55	76.7	0.012	0.24	0.07	0.15	5	79.1	0.4	3.02	0.52	3.54	0.2	1.18	0.886	514.435	8321.791
SC_J-HC-35	J-HC-35	28.5338955	3910.228	317.868	5.4	14.5	0.012	0.24	0.07	0.15	5	79	1.49	0.57	1.89	2.46	1.91	10.71	0.615	1581.024	115496.3
SC_stiH080010	stiH080010	0.246486	115.451	93	5.4	14.5	0.012	0.24	0.07	0.15	5	79	1.47	0.57	1.91	2.48	0.02	0.1	0.621	136.096	997.62
SC_stiH080005	stiH080005	0.340758	148.434	100	5.4	14.5	0.012	0.24	0.07	0.15	5	79	1.47	0.57	1.91	2.48	0.02	0.14	0.62	151.703	1379.194
SC_STMG0932	STMG0932	24.8415031	5247.95	206.194	2.1	14.8	0.012	0.24	0.07	0.15	5	80	1.44	0.58	1.93	2.51	1.7	9.56	0.629	1288.897	100551.44
SC_stiG080141	stiG080141	0.920224	162.287	247	2.1	14.8	0.012	0.24	0.07	0.15	5	80	1.44	0.58	1.93	2.51	0.06	0.34	0.628	270.328	3724.48
SC_stiG080143	stiG080143	1.026392	310.484	144	2.1	14.8	0.012	0.24	0.07	0.15	5	80	1.43	0.58	1.94	2.52	0.07	0.41	0.631	304.917	4154.236
SC_STMG0847	STMG0847	8.538992	2344.389	158.659	4.3	45	0.012	0.24	0.07	0.15	5	79	0.95	1.77	1.23	3	0.7	4.19	0.75	1066.676	34563.177
SC_stiG08137	stiG08137	1.055903	292.963	157	4.3	45	0.012	0.24	0.07	0.15	5	79	0.95	1.77	1.23	3	0.09	0.52	0.75	258.156	4273.929
SC_stiG08136_2	stiG08136	0.287452	92.751	135	6.4	47.2	0.012	0.24	0.07	0.15	5	79.2	0.9	1.86	1.19	3.05	0.02	0.14	0.762	136.509	1163.539
SC_STMG0860	STMG0860	16.3333549	4525.068	157.231	6.4	47.2	0.012	0.24	0.07	0.15	5	79.2	0.9	1.86	1.19	3.05	1.35	8.17	0.761	1225.684	66111.693
SC_stiG08136	stiG08136	0.203197	101.739	87	6.4	47.2	0.012	0.24	0.07	0.15	5	79.2	0.9	1.86	1.19	3.05	0.02	0.1	0.763	117.834	822.489
SC_E66	E66	7.765844	475.113	712	1.9	78.6	0.012	0.24	0.07	0.15	5	79.5	0.37	3.09	0.48	3.57	0.75	4.43	0.894	968.002	31434.823
SC_E65	E65	4.630693	397.073	508	1.9	78.6	0.012	0.24	0.07	0.15	5	79.5	0.36	3.1	0.48	3.58	0.45	2.66	0.894	610.999	18743.623
SC_stmI11054	stmI11054	11.6398363	593.019	855	1.9	78.6	0.012	0.24	0.07	0.15	5	79.5	0.37	3.09	0.48	3.57	1.13	6.61	0.893	1017.596	47113.628
SC_stiI11150	stiI11150	1.651334	482.766	149	1.9	78.6	0.012	0.24	0.07	0.15	5	79.5	0.36	3.09	0.49	3.58	0.16	0.96	0.895	343.846	6683.823
SC_E62	E62	0.637284	867.503	32	1.9	78.6	0.012	0.24	0.07	0.15	5	79.5	0.36	3.1	0

Subcatchments- 25 Year Storm

Name	Outlet	Area (ac)	Width (ft)	Flow Length (ft)	Slope (%)	Imperv. (%)	N Imperv	N Perv	Dstore Imperv (in)	Dstore Perv (in)	Zero Imperv (%)	Curve Number	Infiltration (in)	Imperv Runoff (in)	Perv Runoff (in)	Runoff Depth (in)	Runoff Volume (MG)	Peak Runoff (cfs)	Runoff Coefficient	GIS_LENGTH (m)	GIS_AREA (m^2)
SC_stiH13057	stiH13057	0.931358	97.11	417.773	10.321	13.662	0.012	0.24	0.07	0.15	5	79.235	1.49	0.54	1.92	2.46	0.06	0.35	0.615	253.719	3770.03
SC_stiF08081	stiF08081	0.554763	265.569	90.995	4.9	49.7	0.012	0.24	0.07	0.15	5	79.1	0.86	1.96	1.13	3.09	0.05	0.28	0.772	217.115	2245.594
SC_stmF08050	stmF08050	0.644307	308.435	90.995	4.9	49.7	0.012	0.24	0.07	0.15	5	79.1	0.86	1.96	1.13	3.09	0.05	0.33	0.772	213.542	2608.027
SC_STMF088	STMF088	13.4736643	6449.946	90.995	4.9	49.7	0.012	0.24	0.07	0.15	5	79.1	0.86	1.96	1.13	3.09	1.13	6.85	0.772	1360.869	54537.124
SC_stmF1310011	stmF1310011	1.19708	96.031	543	17	17	0.012	0.24	0.07	0.15	5	79.6	1.42	0.67	1.86	2.53	0.08	0.47	0.634	403.123	4845.295
SC_J-CCT2-02	J-CCT2-02	5.523877	1274.484	188.798	17	17	0.012	0.24	0.07	0.15	5	79.6	1.4	0.67	1.88	2.55	0.38	2.36	0.638	773.511	22359.065
SC_stiF1310017	stiF1310017	0.133592	52.426	111	17	17	0.012	0.24	0.07	0.15	5	79.6	1.39	0.67	1.89	2.56	0.01	0.06	0.64	119.455	540.736
OF3_2	OF3	3.228212	294.281	477.846	11.3	22	0.012	0.24	0.07	0.15	5	78.7	1.37	0.87	1.71	2.58	0.23	1.28	0.644	502.975	13067.994
OF3_1	OF3	35.2762451	752.514	2042	11.3	22	0.012	0.24	0.07	0.15	5	78.7	1.42	0.87	1.66	2.53	2.42	9.99	0.632	1621.462	142785.61
SC_stiG07134	stiG07134	3.213486	804.48	174	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.45	0.57	1.93	2.5	0.22	1.35	0.625	486.297	13007.636
SC_stiG07126	stiG07126	1.162367	448.077	113	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.45	0.57	1.93	2.5	0.08	0.49	0.626	322.455	4705.072
SC_E1	E1	32.63089	562.708	2526	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.52	0.57	1.86	2.43	2.15	8.77	0.607	2017.102	132069.9
SC_stiG0710075	stiG0710075	0.597654	78.18	333	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.46	0.57	1.92	2.49	0.04	0.25	0.623	261.143	2419.202
SC_stiG0710086	stiG0710086	1.214717	745.255	71	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.45	0.57	1.93	2.51	0.08	0.52	0.627	294.849	4917.046
SC_stiG0710084	stiG0710084	1.125833	476.129	103	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.45	0.57	1.93	2.51	0.08	0.48	0.626	274.502	4557.237
SC_stiG0710082	stiG0710082	0.639404	267.812	104	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.45	0.57	1.93	2.51	0.04	0.27	0.626	213.175	2588.221
SC_stiG0610001	stiG0610001	0.457724	553.846	36	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.44	0.57	1.94	2.51	0.03	0.2	0.628	231.144	1852.692
SC_stiG0710072	stiG0710072	3.109542	457.289	296.206	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.46	0.57	1.92	2.49	0.21	1.28	0.623	454.366	12586.732
SC_stiG0710080	stiG0710080	0.333465	183.87	79	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.45	0.57	1.93	2.51	0.02	0.14	0.627	155.065	1349.806
SC_stiG0710078	stiG0710078	0.872003	422.049	90	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.45	0.57	1.93	2.51	0.06	0.37	0.627	241.049	3529.655
SC_stiG07121	stiG07121	1.798547	1044.596	75	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.45	0.57	1.93	2.51	0.12	0.77	0.627	546.965	7280.038
SC_stmG07079	stmG07079	0.323144	187.682	75	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.45	0.57	1.93	2.51	0.02	0.14	0.627	155.238	1308.005
SC_stiF06008	stiF06008	4.289858	362.144	516	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.47	0.57	1.91	2.48	0.29	1.7	0.621	826.445	17363.704
SC_stiF06000	stiF06000	0.728355	373.261	85	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.45	0.57	1.93	2.51	0.05	0.31	0.627	230.047	2948.143
SC_stiF06002	stiF06002	0.750667	233.565	140	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.45	0.57	1.93	2.5	0.05	0.32	0.625	235.79	3038.455
SC_stiF06006	stiF06006	2.345762	623.057	164	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.45	0.57	1.93	2.5	0.16	0.99	0.625	606.648	9494.945
SC_stiF07055	stiF07055	0.430685	64.249	292	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.46	0.61	1.92	2.53	0.03	0.22	0.631	234.293	1743.32
SC_stiF07054	stiF07054	1.275665	529.219	105	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.45	0.57	1.93	2.5	0.09	0.54	0.626	301.545	5163.763
SC_stiF07051	stiF07051	1.012374	604.096	73	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.45	0.57	1.93	2.51	0.07	0.43	0.627	286.256	4097.875
SC_stiF06005	stiF06005	0.714416	426.301	73	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.45	0.57	1.93	2.51	0.05	0.3	0.627	215.645	2891.736
SC_stiF07063	stiF07063	1.243257	230.452	235	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.46	0.57	1.92	2.5	0.08	0.52	0.624	372.4	5032.481
SC_stiF07061	stiF07061	0.590213	347.428	74	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.45	0.57	1.93	2.51	0.04	0.25	0.627	218.8	2389.106
SC_stiF07059	stiF07059	2.638798	432.128	266	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.46	0.57	1.92	2.49	0.18	1.1	0.624	479.493	10681.37
S1	STMF074	35.846405	5271.566	296.206	27.4	14.5	0.012	0.24	0.07	0.15	5	79.3	1.46	0.57	1.92	2.49	2.43	14.8	0.623	2730.671	145101.38
SC_STMG1219	STMG1219	9.852103	2295.783	186.933	3.3	85.7	0.012	0.24	0.07	0.15	5	79	0.25	3.37	0.32	3.7	0.99	5.89	0.924	1309.741	39878.977
SC_STMG121_2	STMG121	10.5169954	2450.719	186.933	3.3	85.7	0.012	0.24	0.07	0.15	5	79	0.25	3.37	0.32	3.7	1.06	6.29	0.924	855.553	42568.79
SC_STMG0837	STMG0837	6.732828	2723.998	107.666	5	48.9	0.012	0.24	0.07	0.15	5	80.2	0.84	1.93	1.18	3.11	0.57	3.45	0.777	739.707	27252.891
SC_STMG0842	STMG0842	9.777999	3956.027	107.666	5	48.9	0.012	0.24	0.07	0.15	5	80.2	0.84	1.93	1.18	3.11	0.82	5.01	0.777	924.883	39577.638
SC_OF_J5066	OF_J5066	8.365142	2350.86	155.001	2.5	47.6	0.012	0.24	0.07	0.15	5	79.4	0.89	1.87	1.18	3.05	0.69	4.17	0.763	905.305	33859.368
SC_STII142	STII142	9.239051	2596.455	155.001	2.5	47.6	0.012	0.24	0.07	0.15	5	79.4	0.89	1.87	1.18	3.05	0.77	4.6	0.763	878.03	37396.983
SC_J3612	J3612	6.70534	3947.036	74.001	2.1	74	0.012	0.24	0.07	0.15	5	80.4	0.42	2.91	0.6	3.52	0.64	3.84	0.88	673.727	27139.767
SC_J4282	J4282	12.23501	7202.025	74.001	2.1	74	0.012	0.24	0.07	0.15	5	80.4	0.42	2.91	0.6	3.52	1.17	7.01	0.88	1024.68	49524.871
SC_STMG122_1	STMG122	6.396451	1536.85	181.299	4.1	93.9	0.012	0.24	0.07	0.15	5	79	0.1	3.7	0.14	3.83	0.67	3.96	0.959	909.23	25891.151
SC_E108	E108	3.689301	1055.803	152.212	3.954	89.323	0.012	0.24	0.07	0.15	5	79.027	0.18	3.52	0.24	3.76	0.38	2.24	0.939	702.16	14933.197
SC_E107	E107	2.013571	1479.308	59.292	3.676	80.643	0.012	0.24	0.07	0.15	5	79.077	0.33	3.18	0.44	3.61	0.2	1.18	0.904	976.455	8150.81
SC_STMG1112	STMG1112	6.554865	2821.052	101.214	2	67.2	0.012	0.24	0.07	0.15	5	79	0.56	2.65	0.73	3.38	0.6	3.61	0.845	795.192	26532.085
SC_stmG10046	stmG10046	12.01364	5170.373	101.214	2	67.2	0.012	0.24	0.07	0.15	5	79	0.56	2.65	0.73	3.38	1.1	6.62	0.845	1102.813	48627.884
SC_STII1033	STII1033	17.0177116	2456.951	301.712	6.2	11.6	0.012	0.24	0.07	0.15	5	80.3	1.47	0.46	2.02	2.48	1.15	6.57	0.62	1175.627	68881.078
SC_STII1034	STII1034	5.763777	832.152	301.712	6.2	29.9	0.012	0.24	0.07	0.15	5	80.3	1.16	1.18	1.61	2.79	0.44	2.57	0.697	744.005	23331.184
SC_stiG10091	stiG10091	0.96645	139.499	301.785	2.7	42	0.012	0.24	0.07	0.15	5	80.6	0.95	1.65	1.34	2.99	0.08	0.46	0.748	344.823	3911.962
SC_stiG10090	stiG10090	3.784094	546.201	301.785	2.7	42	0.012	0.24	0.07	0.15	5	80.6	0.95	1.65	1.34	2.99	0.31	1.79	0.748	486.319	15316.71
SC_J2_1	J2	5.290974	1129.153	204.113	2.9	40.6	0.012	0.24	0.07	0.15	5	79.5	1.01	1.6	1.34	2.94	0.42	2.51	0.734	604.068	21416.321
SC_STIG1022	STIG1022	7.762176	1656.535	204.113	2.9	40.6	0.012	0.24	0.07	0.15	5	79.5	1.01	1.6	1.34	2.94	0.62	3.68	0.734	748.379	31419.005

Junctions Existing 25 Year Storm

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
STIF109	181.1	190.56	0.62	183.48	8:00 AM	10.51	2.02	0.001	0.85	0.377	7.083	0	0	0	51.308
STIG1416	121.28	144.05	1.16	125.28	8:32 AM	55.08	15	-0.004	4.88	2.001	18.769	0	0	0	171.454
STIF0867	193.06	196.92	0.22	193.92	8:00 AM	3.04	0.508	0	0	0	3	0	0	0	5.884
STIF0875	190.9	194.32	0.15	191.39	8:00 AM	3.04	0.508	0	0	0	2.93	0	0	0	5.884
STIF1262	145.18	154.18	3.99	149.67	8:00 AM	12.1	2.01	0.018	0	0	4.51	0	0	0	22.468
STIF1287	171.84	174.58	5.95	221.04	8:35 AM	5.31	0.893	0	18.21	48.2	0	12.48	1.7	0.049	8.718
STIG0890	219.93	226.17	1.24	226.98	8:55 AM	13.39	1.7	-0.001	8.01	5.55	0	1.84	0.28	0.001	24.073
J2	188.89	193.89	0.73	201.17	8:08 AM	2.51	0.422	0	2.88	11.284	0	2	0.4	0.007	5.291
STIG0777	290.71	296.46	0.16	291.26	7:56 AM	1.45	0.243	0	0	0	5.2	0	0	0	3.4
STMG1321	165.57	171.89	2.53	197.34	8:39 AM	5.3	1.06	0.001	5.76	30.938	0	4.02	1.24	0.035	11.707
STIG1023	187.2	189.5	0.69	194.4	8:16 AM	5.48	1.04	0.001	4.54	6.201	0	2.2	0.3	0.006	13.053
J1	203	210.7	0.17	203.54	8:00 AM	1.75	0.328	0	0	0	7.16	0	0	0	4.363
STIF1329	154	163.23	0.4	163.26	8:00 AM	5.68	0.963	0.001	1.28	8.256	0	0.09	0.32	0	11.833
STIG1072	193	199.15	1.1	213.87	8:05 AM	5.31	0.875	-0.001	2.89	19.869	0	2.26	1.21	0.017	10.407
STIG07112	255.04	258.69	0	255.04	12:00 AM	0	0	0	0	0	3.65	0	0	0	0
STIG108	168.3	174.51	0.16	169.22	8:00 AM	1	0.165	-0.005	0	0	5.29	0	0	0	1.98
STIG1016	185.1	190.76	0.45	187.65	7:32 AM	6.86	1.19	0	1.71	1.049	3.111	0	0	0	14.809
STIF129	169.71	172.82	6.98	219.29	8:38 AM	4.21	0.893	0.002	23.11	48.583	0	18.21	1.61	0.054	8.718
STIG0894	223.3	226.81	0.42	227.64	9:00 AM	12.86	1.59	0.005	2.92	2.838	0	2	0.35	0.005	22.85
STIG0778	290.53	296.98	0.11	290.88	8:01 AM	1.52	0.243	0	0	0	6.1	0	0	0	3.4
STIF092	199.28	202.75	8.57	213.68	01/01/2013 16:05 PM	16.09	12.7	0	37.83	13.397	0	33.01	0.26	0.01	160.683
STIG1348	162.33	167.717	1.29	178.89	8:35 AM	7.61	1.8	-0.002	4.59	15.557	0	3.06	0.53	0.012	21.504
STMG1320	166.4	173.886	3.41	208.66	8:11 AM	6.34	1.06	0	8.84	41.428	0	4.18	2.01	0.037	11.707
STIG1349	161.5	168.13	1.4	177.24	8:36 AM	7.38	1.8	0	6.48	14.742	0	2.78	0.45	0.009	21.504
STIF1210	168.92	171.32	0.71	173.09	8:47 AM	3.24	0.893	0.002	4.82	3.168	0	3.03	0.09	0.002	8.718
STIG1024	187.02	189.42	0.75	193.71	8:18 AM	5.31	1.04	0.001	5.44	5.685	0	2.09	0.43	0.004	13.053
STIF137	150.1	158.77	0.17	150.71	8:00 AM	2.64	0.44	-0.002	0	0	8.06	0	0	0	5.272
STMG1319	164.32	169.547	1.84	187.82	8:44 AM	4.35	1.06	0.003	4.85	22.669	0	3.75	0.85	0.025	11.707
STIH077	264.96	271.4	0.05	265.13	8:00 AM	0.5	0.083	0.002	0	0	6.27	0	0	0	1.317
STIG1031	187	190.4	0.37	190.98	8:20 AM	5.21	1.04	0	1.88	2.978	0	0.79	0.15	0.001	13.053
STIF0876	191.96	195.5	0.22	192.76	8:00 AM	3.04	0.508	0	0	0	2.74	0	0	0	5.884
STIG1075	190.14	198.89	1.35	208.9	8:09 AM	7.18	1.26	0.001	5.8	17.756	0	2.08	1.01	0.019	15.021
STIF0874	186.57	194.61	0.22	187.38	8:00 AM	3.04	0.508	0	0	0	7.23	0	0	0	5.884
STIF1030	169.7	174.7	0.26	170.53	7:57 AM	14.49	2.64	-0.001	0	0	4.17	0	0	0	32.588
STIF1324	140	149.53	0.18	140.62	8:00 AM	7.17	1.2	-0.004	0	0	8.91	0	0	0	13.415
STIF132	151.5	157.39	0.26	152.27	8:00 AM	3.52	0.592	0	0	0	5.12	0	0	0	7.23
STIG0710	239.3	243	0.22	240.06	8:00 AM	7.29	1.21	0.001	0	0	2.94	0	0	0	14.457
STIF0817	200.1	207.25	0.52	201.51	8:01 AM	41.92	6.99	-0.009	0	0	5.74	0	0	0	83.916
STIG1022	188.47	191.42	0.83	200.66	8:08 AM	5.88	1.04	0.001	3.19	11.188	0	2.36	0.93	0.013	13.053
STIF0877	194.4	199.12	0.2	195.14	8:00 AM	3.04	0.508	0	0	0	3.98	0	0	0	5.884
STIG09106	196.3	198.4	0.28	197.16	8:02 AM	8.31	1.58	0	0	0	1.24	0	0	0	21.194
STIG0837	222	226.15	0.38	226.98	8:55 AM	0.66	0.11	-0.001	3.09	3.985	0	1.88	0.23	0.001	1.222
STIF131	151.4	157.41	0.09	151.68	8:00 AM	3.52	0.592	-0.003	0	0	5.73	0	0	0	7.23
STIF1290	167.61	170.68	0.16	168.05	8:47 AM	3.22	0.893	0	0	0	2.63	0	0	0	8.718
STIF1138	168	171.75	0.22	168.92	8:01 AM	3.5	0.579	0	0	0	2.83	0	0	0	6.923
STIF1132	172.1	177.93	0.23	173.13	8:00 AM	3.5	0.579	0	0.09	0.027	4.803	0	0	0	6.923
STIF1134	170.4	174.68	0.21	171.17	8:00 AM	3.5	0.579	0.002	0	0	3.51	0	0	0	6.923
STIF1133	171.5	175.32	0.21	172.3	8:00 AM	3.5	0.579	0	0	0	3.02	0	0	0	6.923
STIF1135	168.6	172.99	0.25	169.68	8:00 AM	3.5	0.579	-0.001	0	0	3.31	0	0	0	6.923
STMF101	154.8	170.49	0.32	155.9	7:57 AM	15.38	2.81	0	0	0	14.59	0	0	0	34.835
STMG1325	160.87	166.84	0.84	171.41	8:35 AM	8.75	2.14	0	3.18	9.545	0	2.11	0.37	0.005	25.423
STMG1326	158.1	165.58	0.72	166.25	8:37 AM	8.68	2.14	0	3.22	7.146	0	0.99	0.1	0.001	25.423
STMG0928	220	230.78	0.47	229.05	7:47 AM	24.85	4.21	0	0.68	7.046	1.734	0	0	0	57.828
STMG1036	201	204.87	0.28	201.87	8:02 AM	8.31	1.58	0	0	0	3	0	0	0	21.194
STMF1225	156.96	165.62	0.37	157.96	8:00 AM	29.65	7.01	0	0	0	7.66	0	0	0	74.624
STMF1226	157.4	165.49	0.49	158.75	8:00 AM	29.65	7.01	0	0	0	6.74	0	0	0	74.624
STMF1227	158.04	165.95	0.48	159.37	8:00 AM	29.64	7.01	0	0	0	6.58	0	0	0	74.624
STMF116	173.1	179.47	1.32	195.86	8:10 AM	5.77	1.06	0	2.6	21.756	0	2.39	0.99	0.018	11.871
STMG121	167	172.685	0.75	181.92	8:00 AM	6.29	1.06	0.001	2.09	13.925	0	1.44	1.66	0.011	10.517
STMG1232	165.59	172.19	0.22	166.42	8:00 AM	3.04	0.51	0.001	0	0	5.77	0	0	0	4.991
STMG1027	195	198.15	0.22	195.64	8:02 AM	8.52	1.61	-0.022	0	0	2.51	0	0	0	21.622
STMG1028	184.5	194.62	0.32	185.55	8:00 AM	23.45	4.2	-0.001	0	0	9.07	0	0	0	51.308
STMG1029	190.3	194.35	0.3	191.23	8:00 AM	23.45	4.22	0.01	0	0	3.12	0	0	0	51.308
STMF107	177.24	182.24	0.35	178.5	8:00 AM	14.21	2.64	0.002	0	0	3.74	0	0	0	32.588
STMG1030	183.05	188.05	0.35	186.1	8:48 AM	5.14	1.04	-0.001	1.21	1.801	1.949	0	0	0	13.053
STMG0910	202.75	215.71	0.5	204.42	8:03 AM	24.07	4.21	0	0	0	11.29	0	0	0	57.828
STMG0812	201.1	209.98	9.96	218.58	01/01/2013 16:13 PM	47.73	11.9	0	32.97	14.735	0	23.32	0.23	0.012	151.359
STMG1021	192	202.62	0.55	193.92	8:02 AM	30.61	5.37	0.002	0	0	8.7	0	0	0	72.271
STMF1010	153.57	166.92	0.54	155.23	8:07 AM	59.38	12.3	0	0	0	11.69	0	0	0	155.035
STMF1011	150.89	166.64	0.47	152.29	8:07 AM	59.38	12.3	0	0	0	14.35	0	0	0	155.035
STMF113	160.38	168.66	0.21	160.98	8:00 AM	12.23	2.54	0	0	0	7.68	0	0	0	30.876
STMF1012	149.35	166.05	0.49	150.81	8:04 AM	71.3	14.9	0	0	0	15.24	0	0	0	185.911
STMF134	146.6	152.3	0.35	152.3	7:15 AM	5.63	0.963	-0.001	1.36	4.7	0	0	0	0	11.833
STMF117	167.22	170	0.44	168.62	8:10 AM	8.48	1.69	0	0	0	1.38	0	0	0	18.386
STMF1217	175	183.81	0.2	175.67	8:00 AM	7.2	1.21	0	0	0	8.14	0	0	0	12.415
STMF1218	168.49	176.93	0.19	169.11	8:00 AM	7.2	1.21	0	0	0	7.82	0	0	0	12.415
STMF1219	162.89	172.64	0.17	163.44	8:00 AM	7.2	1.21	-0.001	0	0	9.2	0	0	0	12.415
STMF1220	160.62	172.34	0.37	161.58	8:00 AM	17.42	4.65	0	0	0	10.76	0	0	0	48.874
STMF1221	159.23	166.8	0.5	160.57	8:01 AM	25.73	6.34	0.001	0	0	6.23	0	0	0	67.26
STMF0910	186	190.99	0.2	186.75	8:00 AM	3.97	0.657	-0.004	0	0	4.24	0	0	0	7.889
STMF0911	186.9	194.19	0.31	190.27	7:12 AM	3.97	0.657	0	1.39	2.367	3.923	0	0	0	7.889
STMG0845	219.9	225.84	1.25	226.85	8:53 AM	38.64	9.95	-0.007	4.23	4.919	0	2.11	0.68	0.002	128.57
STMG0846	219.5	228.6	1.08	224.63	9:03 AM	42.94	10.7	0.004	3.1	2.881	3.969	0	0	0	137.32
STMG1310	164.5	169.86	2.93	200.62	8:30 AM	8.32	1.38	0.006	6.05	34.867	0	4.65	1.98	0.038	15.373
STMG1311	162.2	168.08	3.58	196.39	8:32 AM	12.65	2.54	0.022	21.95	32.942	0	5.13	2.58	0.061	28.129
STMG1312	163.1	169.4	3.26	198.47	8:32 AM	7.22	1.38	0.003	11.99	34.119	0	4.58	2.23	0.049	15.373
STMG1315	162	166.07	1.76	182.83	8:39 AM	11.01	2.54	0.006	5.92	19.577	0	4.36	1.67	0.03	28.129
STMG1316	162	169.41	4.27	205.13	8:40 AM	14.83	3.41	0.181	8.18	41.629	0	6.19	4.11	0.129	37.118
STMG1317	167.41	171.86	5.71	207.57	8:37 AM	5.17	0.865	0.032	5.55	36.323	0	5.34	1.61	0.042	9.597
STMG1218	161.72	168.32	0.32	162.93	8:00 AM	23.32	3.94	0	0	0	5.39	0	0	0	39.319
STMG146	157	163.5	0.14	157.46	8:00 AM	4.7	0.781	0	0	0	6.04	0	0	0	9.415
STMG147	128.19	143.81	0.08	128.43	8:00 AM	5.51	1.06	0	0	0	15.38	0	0	0	14.301
STMG149	157.06	162.16	0.18	157.62	8:00 AM	5.51	1.06	0	0	0	4.54	0	0	0	14.301
STMG1322	157.4	165.46	3.6	183.64	8:40 AM	21.69	5.8	0.001	21.87	24.736	0	4.66	0.85	0.019	64.048
STMG1323	157.3	165.38	3.32	181.14	8:40 AM	34.65	9.03	0.011	6.29	19.893	0	4.41	1.56	0.032	100.095
STMG1324	157	165.97	0.79	165.97	7:35 AM	34.56	9.02	0	3.13	7.22	0	0.01	1.47	0	100.095
STMF109	181.25	186.25	0.3	182.24	8:00 AM	9.21	1.75	-0.009	0	0	4.01	0	0	0	21.856
STMF0810	196.84	201.41	0.41	198.23	8:00 AM	33.79	5.6	0	0	0	3.18	0	0	0	71.984
STMF0811	191.3	199.91	0.64	193.54	8:01 AM	41.18	6.82	0	0	0	6.37	0	0	0	86.657
STMF0812	189.7	195.65	0.28	190.61	8:01 AM	44.12	7.32	0	0	0	5.04	0	0	0	92.462
STMG1112	181.88	189.35	0.3	182.79	8:00 AM	8.22	1.76	-0.001	0	0	6.56	0	0	0	20.184
STMG0727	234.7	238.6	0.19	235.32	8:00 AM	7.29	1.21	0	0	0	3.28	0	0	0	14.457
STMG0729	232.43	242.92	0.25	233.26	8:01 AM	7.29	1.21	0	0	0	9.66	0	0	0	14.457
STMG1226	165.13	171.86	0.45	172.17	8:01 AM	6.48	1.06	0.002	1.43	5.539	0	0.43	1.13	0.001	10.517
STMG1227	163.82	170.55	0.62	171.39	8:00 AM	14.44	2.44	0	1.6	6.066	0	0.74	0.49	0.002	24.476
STMG128	164.5	172.58	4.38	211.39	8:36 AM	13.91	2.55	0.051	6.15	45.391	0	5.68	4.22	0.107	27.52
STMF131	146.92	155.39	0.18	147.51	8:00 AM	1.43	0.238	0	0	0	7.88	0	0	0	2.842
STMG097	204.55	212.83	0.83	212.08	8:03 AM	24.07	4.21	0	2.08	5.528	0.752	0	0	0	57.828
STMG098	205.33	214.87	0.92	217.4	8:03 AM	24.2	4.21	0	2.61	10.069	0	0.68	1.25	0.004	57.828
STMF093	189.1	198.12	0.88	190.41	8:00 AM	23.42	14.8	-0.001	0	0	7.71	0	0	0	187.35
STMF094	189.97	200.16	0.87	191.22	8:00 AM	21.28	14.3	-0.014	0	0	8.94	0	0	0	181.689
STMG0827	221.54	231.47	1.3	230.59	8:49 AM	29.44	8.25	0.006	4.3	7.048	0.882	0	0	0	104.497
STMG1413	162	170.25	0.32	163.09	8:00 AM	5.35	0.887	0	0	0	7.16	0	0	0	10.109
STMG1414	161	168.82	0.12	161.4	7:56 AM	5.34	0.887	0	0	0	7.42	0	0	0	10.109
STMG0854	219.3	224.23	0.85	223.61	9:05 AM	42.94	10.7	-0.004	2.95	2.057	0.623	0	0	0	137.32
STMG1034	185.1	191.34	0.43	187.6	7:49 AM	6.73	1.13	0.002	1.37	0.746	3.744	0	0	0	13.7
STMG0732	250.9	255.1	0.16	251.44	8:00 AM	3.7	0.613	0	0	0	3.66	0	0	0	6.891
STMF0932	185.81	193.04	0.94	187.36	8:00 AM	30.61	16	0	0	0	5.68	0	0	0	202.825
STMG1245	166	174.05	4.39	215.54	8:33 AM	6.51	1.09	0.026	6.06	48.542	0	5.51	2.29	0.049	11.722
STMG132	157.5	165.48	4.01	186.97	8:41 AM	21.74	5.8	0.001	21.91	27.972	0	5.48	1.95	0.034	64.048
STMG134	158.7	169.36	5.33	201.35	8:40 AM	3.47	0.761	0.023	21.91	41.654	0	5.71	1.59	0.049	8.225
STMG135	159.5	170.17	5.1	202.95	8:38 AM	4.56	0.761	0.005	21.62	42.453	0	5.59	1.41	0.037	8.225
STMF121	151	153	0.1	151.31	8:00 AM	3.18	0.533	0	0	0	1.69	0	0	0	5.351
STMF102	169.96	174.96	0.46	172.97	7:57 AM	14.2	2.64	-0.004	0.03	1.506	1.994	0	0	0	32.588
STMF103	181	190.54	0.44	182.49	8:00 AM	27.38	4.86	0	0	0	8.05	0	0	0	59.196
STMG101	188.8	199.99	0.33	190.09	8:00 AM	6.74	1.13	-0.001	0	0	9.9	0	0	0	13.7
STMF091	184.65	190.36	0.71	185.81	8:00 AM	30.57	16	0	0	0	4.55	0	0	0	202.825
STMG077	241	246.56	0.36	242.23	8:00 AM	11.31	2.15	0	0	0	4.33	0	0	0	25.332
STMF087	210	215.12	0.38	211.34	8:00 AM	19.39	3.25	0	0	0	3.78	0	0	0	39.421

Junctions Existing 25 Year Storm

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
STMF074	199.28	202.57	0.49	200.94	8:00 AM	28.22	4.67	0	0	0	1.63	0	0	0	61.497
STMF075	200.16	203.47	0.33	201.22	8:00 AM	13.43	2.25	0	0	0	2.25	0	0	0	25.651
STMF076	201.2	205	0.34	202.3	8:00 AM	13.44	2.25	0	0	0	2.7	0	0	0	25.651
STMF122	154	156.6	0.22	154.83	8:00 AM	3.18	0.533	0	0	0	1.77	0	0	0	5.351
STMF118	175.28	186.38	0.24	176	8:00 AM	8.22	1.76	-0.001	0	0	10.38	0	0	0	20.184
STMG104	187.9	200.82	0.3	188.94	8:00 AM	6.74	1.13	-0.002	0	0	11.88	0	0	0	13.7
STMG1219	162.2	169.2	0.6	166.18	7:59 AM	20.28	3.43	0.001	1.61	2.481	3.019	0	0	0	34.328
STMF0716	207.75	213.22	0.31	208.82	8:00 AM	13.45	2.25	0	0	0	4.4	0	0	0	25.651
STMF0713	204.26	207.94	0.3	205.27	8:00 AM	13.45	2.25	0	0	0	2.67	0	0	0	25.651
STMF0720	202.21	204.21	0.16	202.78	8:00 AM	2.08	0.343	-0.001	0	0	1.43	0	0	0	3.841
STMF0833	200.47	202.47	0.18	201.1	8:00 AM	2.08	0.343	0	0	0	1.37	0	0	0	3.841
STMF0827	198.03	201.54	0.15	198.53	7:25 AM	5.6	0.929	0	0	0	3.01	0	0	0	10.487
STMF0829	198.35	201.85	0.23	199.16	8:00 AM	5.6	0.929	0	0	0	2.69	0	0	0	10.487
STMF0830	199.12	203.39	0.27	200.12	8:00 AM	5.6	0.929	0	0	0	3.27	0	0	0	10.487
STMF0831	200.29	206.6	0.29	205.05	7:13 AM	3.52	0.586	0	1.01	3.756	1.554	0	0	0	6.646
STMF0826	191.54	199.34	0.69	194.04	8:01 AM	41.21	6.82	0	0	0	5.3	0	0	0	86.657
STMF0825	198	202.9	0.24	198.83	8:00 AM	7.46	1.22	-0.002	0	0	4.07	0	0	0	14.673
STMF0836	192.16	195.75	0.16	192.72	8:00 AM	3	0.496	0	0	0	3.03	0	0	0	5.75
STMF0837	187.2	193.71	0.18	187.79	8:00 AM	3	0.496	0	0	0	5.92	0	0	0	5.75
STMF0842	190.8	196.36	0.55	192.74	8:01 AM	44.12	7.32	0	0	0	3.62	0	0	0	92.462
STMF0843	191.98	195.5	0.25	195.5	7:14 AM	2.98	0.496	-0.001	1.35	2.52	0	0.01	0.13	0	5.805
STMF0844	192.85	196.68	0.25	196.68	7:18 AM	2.98	0.496	0.001	0.96	2.83	0	0.01	0.18	0	5.805
STMG1412	158.8	168.7	0.35	161.91	7:56 AM	14.16	2.35	0	0.13	1.613	6.787	0	0	0	26.981
STMF092	199.23	203.19	4.66	206.95	01/01/2013 15:57 PM	17.59	13.4	0	36.51	6.466	0	24.66	1.02	0.052	169.937
STMF089	200.13	205.25	0.23	200.94	8:00 AM	7.46	1.23	0.001	0	0	4.31	0	0	0	14.673
STMF088	204.24	209.67	0.21	204.99	8:00 AM	6.85	1.13	-0.001	0	0	4.68	0	0	0	13.474
STMF1013	159.85	174.72	0.08	160.1	8:00 AM	1.05	0.174	-0.004	0	0	14.62	0	0	0	2.014
STMF1014	152.3	171.39	0.33	153.38	7:58 AM	16.34	2.99	0	0	0	18.01	0	0	0	36.85
STMF1022	160.25	171.41	0.08	160.49	8:00 AM	1.34	0.222	0	0	0	10.92	0	0	0	2.613
STMF0913	190.2	203.38	1.06	191.66	01/01/2013 13:19 PM	18.85	14.1	0.016	0	0	11.72	0	0	0	178.528
STMF0823	204.32	210.49	0.3	208.35	7:11 AM	3.36	0.558	-0.001	1.33	3.029	2.141	0	0	0	6.467
STMF0822	203.22	208.68	0.26	204.13	8:00 AM	3.36	0.558	0.001	0	0	4.55	0	0	0	6.467
STMF0821	205.66	212.53	0.24	206.48	8:00 AM	19.39	3.25	0	0	0	6.05	0	0	0	39.421
STMG1210	167.05	173.65	0.23	168.09	8:00 AM	3.04	0.51	0	0.53	0.043	5.557	0	0	0	4.991
STMF0816	203.09	208.65	0.17	203.66	8:00 AM	4.54	0.755	-0.001	0	0	4.99	0	0	0	8.709
STMF0815	204.5	212.09	0.14	204.96	8:00 AM	1.19	0.197	0	0	0	7.13	0	0	0	2.243
STMF0814	205	211	0.16	205.55	8:00 AM	1.19	0.197	-0.001	0	0	5.45	0	0	0	2.243
STMF0813	204.29	212.49	0.43	205.76	8:00 AM	41.91	6.99	0	0	0	6.73	0	0	0	83.916
STMG0919	187.81	195.75	0.27	191.95	7:12 AM	3.97	0.657	0	1.24	3.142	3.798	0	0	0	7.889
STMF106	170.2	178.66	0.1	170.54	8:00 AM	1.56	0.259	0.001	0	0	8.12	0	0	0	3.302
STMF105	172	182.75	0.12	172.38	8:00 AM	1.56	0.259	0	0	0	10.37	0	0	0	3.302
STMF086	211.36	217.26	0.33	212.53	8:00 AM	14.77	2.48	0.001	0	0	4.73	0	0	0	30.29
STMF085	207.36	212.43	0.33	208.46	8:00 AM	22.53	3.74	0	0	0	3.97	0	0	0	44.495
STMF0838	203.44	213.24	0.17	204.13	8:00 AM	3.88	0.643	-0.002	0	0	9.11	0	0	0	7.383
STMF097	190.32	196.47	0.2	191.01	8:00 AM	4.74	0.783	0	0	0	5.46	0	0	0	9.688
STMF0929	192.41	196.71	0.09	192.69	8:00 AM	1.57	0.263	0	0	0	4.02	0	0	0	3.215
STMF0931	180.95	188.91	1.15	182.86	8:00 AM	30.57	16	0.003	0	0	6.05	0	0	0	202.825
STMF0927	182.71	188.52	0.17	183.25	8:00 AM	1.5	0.266	0	0	0	5.27	0	0	0	3.802
STMF1222	148.1	164.26	0.53	149.53	8:00 AM	29.65	7.01	0	0	0	14.73	0	0	0	74.624
STMF0926	180.78	185.82	0.66	181.92	8:00 AM	38.48	16.8	-0.002	0	0	3.9	0	0	0	212.513
STMF0845	197.68	201.77	0.16	198.23	8:00 AM	2.98	0.496	0	0	0	3.54	0	0	0	5.805
STMF0835	195.93	201.82	0.19	196.6	8:00 AM	3	0.496	-0.001	0	0	5.22	0	0	0	5.75
STMF1023	160.8	169.06	0.07	161.01	8:00 AM	1.17	0.195	0	0	0	8.05	0	0	0	2.412
STMF081	212.38	217.1	3.01	219.23	01/01/2013 16:03 PM	3	0.523	-0.011	20.45	5.845	0	16.88	0.18	0.004	6.277
STMF082	207.57	212.14	5.68	219.1	01/01/2013 16:07 PM	2.94	0.523	-0.065	25.05	10.278	0	21.44	0.79	0.013	6.277
STMG138	159.96	168.26	0.24	168.26	7:38 AM	4.62	0.768	0.001	0.47	7.3	0	0	0	0	8.832
STMG1411	155.62	163.94	0.15	156.13	8:00 AM	4.62	0.768	0	0	0	7.81	0	0	0	8.832
STMG1410	137.22	145.73	0.1	137.55	8:00 AM	4.62	0.768	0	0	0	8.18	0	0	0	8.832
STMG141	154.32	162.3	0.19	154.99	7:57 AM	4.18	0.69	0.001	0	0	7.31	0	0	0	7.824
STMG143	160.47	166.99	0.27	162.03	7:59 AM	3.34	0.556	0	0.95	0.561	4.959	0	0	0	6.595
STMG145	159.65	166.41	0.24	160.49	8:00 AM	4.7	0.781	0	0	0	5.92	0	0	0	9.415
STMG142	160.03	166.77	0.14	160.51	8:00 AM	1.36	0.225	0	0	0	6.26	0	0	0	2.82
STMG144	157.5	164.02	0.23	164.02	7:59 AM	4.17	0.69	0	0.07	5.52	0	0	0	0	7.824
STMG136	155.05	163.76	0.2	155.71	8:00 AM	14.16	2.35	0.002	0	0	8.05	0	0	0	26.981
STMF0824	199.23	204.45	0.25	200.1	8:00 AM	7.46	1.22	0	0	0	4.35	0	0	0	14.673
STMF1223	144.7	158.2	0.25	145.37	8:00 AM	34.53	7.82	0	0	0	12.83	0	0	0	84.963
STMG085	211.01	216.49	3.76	219.26	01/01/2013 16:06 PM	1.9	0.316	-0.023	21.5	7.005	0	17.29	0.56	0.004	3.876
STMG0716	261.67	267.88	0.13	262.1	8:00 AM	2.51	0.425	0.002	0	0	5.78	0	0	0	5.594
STMG0844	216.5	220.29	0.17	217.1	8:00 AM	5	0.825	0	0	0	3.19	0	0	0	9.778
STMG0913	203.01	207.92	2.13	209.87	8:13 AM	4.3	0.757	5.858	18.82	5.856	0	13.16	1.59	0.088	9.253
STMG0914	201.3	208.49	9.6	218.39	01/01/2013 16:26 PM	3.2	0.552	0.006	36.01	16.093	0	25.04	0.13	0.01	6.326
STMG087	213.97	217.28	2.23	219.27	01/01/2013 16:02 PM	3.17	0.523	-0.063	18.99	4.3	0	16.78	0.22	0.005	6.277
STMG0724	228.95	233.04	0.21	229.63	8:00 AM	4.18	0.692	0	0	0	3.41	0	0	0	8.261
STMG0839	230	237.16	0.22	230.87	8:00 AM	5.01	0.825	0	0	0	6.29	0	0	0	9.778
STMG094	204.63	209.1	1.44	213.08	8:09 AM	4.52	0.782	5.103	13.74	7.449	0	5.49	1.74	0.038	9.253
STMG0820	220.62	225.39	0.23	221.37	8:00 AM	14.13	2.35	0	0	0	4.02	0	0	0	27.984
STMF084	218.62	225.3	0.55	223.91	7:14 AM	14.78	2.48	0	1.34	3.538	1.392	0	0	0	30.29
STMG095	204.18	209.3	2.24	217.84	8:03 AM	4.75	0.786	2.323	16.74	12.658	0	9.86	1.03	0.047	9.253
STMF071	220.65	225.81	0.31	223.52	8:00 AM	10.35	1.74	0	0.92	1.373	2.287	0	0	0	21.466
STMG0813	204.5	210.69	7.79	219.07	01/01/2013 16:07 PM	48.05	11.9	-0.001	26.99	11.569	0	23.03	4.88	0.02	151.359
STMF072	220.3	226.04	0.36	223.33	8:00 AM	10.36	1.74	0	0.97	1.531	2.709	0	0	0	21.466
STMG0811	210.91	215.9	3.36	218.61	01/01/2013 16:01 PM	3.33	0.551	-0.015	21.74	6.703	0	15.65	0.17	0.004	6.326
STMG0822	224.48	229.21	0.28	225.41	8:00 AM	11.44	1.9	0	0	0	3.8	0	0	0	22.718
STMG0836	210.6	215.44	0.36	211.79	8:01 AM	19.13	3.17	0	0	0	3.65	0	0	0	37.762
STMG071	226.07	230.44	0.3	230.2	7:58 AM	10.39	1.74	0	0.07	2.629	0.241	0	0	0	21.466
STMG0725	230.43	233.83	0.19	231.1	8:00 AM	4.18	0.692	0	0	0	2.73	0	0	0	8.261
STMG0717	249.02	252.12	0.18	249.67	8:00 AM	6.78	1.13	0	0	0	2.45	0	0	0	14.171
STMG0818	225.36	228.56	0.51	228.68	8:19 AM	6.38	1.12	-0.003	2.66	1.818	0	0.69	0.05	0	14.311
STMG0917	190.3	197.63	0.18	190.92	8:00 AM	3.21	0.536	-0.005	0	0	6.71	0	0	0	6.582
STMG096	202.94	210.51	8.3	218.42	01/01/2013 16:26 PM	3.2	0.552	0	32.68	14.477	0	22.54	0.13	0.008	6.326
STMG0835	212.96	218.36	0.31	214	8:00 AM	19.13	3.17	0	0	0	4.36	0	0	0	37.762
STMG0821	224.82	229.71	0.31	225.84	8:00 AM	11.44	1.9	0	0	0	3.87	0	0	0	22.718
STMG0731	268.21	273.67	0.1	268.54	8:00 AM	1.74	0.297	0	0	0	5.13	0	0	0	3.914
STMG072	222.75	225.85	0.37	225.85	7:58 AM	10.39	1.74	0.001	0.69	1.6	0	0.01	0.08	0	21.466
STMF073	221.91	224.37	0.32	224.44	8:00 AM	10.44	1.74	0	0.68	0.992	0	0.09	0.25	0	21.466
STMG0819	218.34	223.23	0.75	222.16	9:13 AM	42.94	10.7	-0.006	2.07	1.068	1.072	0	0	0	137.32
STMG0718	256.68	270.08	0.19	257.34	8:00 AM	4.27	0.709	0	0	0	12.74	0	0	0	8.578
STMG0816	235.61	238.11	0.41	241.62	8:05 AM	6.59	1.12	0.039	1.62	5.005	0	1.45	0.56	0.006	14.311
STMG0834	217.11	223.65	0.24	217.89	8:00 AM	14.13	2.35	0	0	0	5.76	0	0	0	27.984
STMG073	226.2	231.3	0.27	227.07	8:00 AM	11.44	1.9	0	0	0	4.23	0	0	0	22.718
STMG0730	262.62	266.77	0.21	263.34	8:00 AM	2.51	0.425	0	0	0	3.43	0	0	0	5.594
STMG0841	220.3	223.9	0.19	221	8:00 AM	5	0.825	0	0	0	2.9	0	0	0	9.778
STMG0843	214.07	219.37	0.35	215.22	8:01 AM	14.13	2.35	0.001	0	0	4.15	0	0	0	27.984
STMG0924	218	223.77	0.48	219.59	8:00 AM	4.82	0.796	-0.031	0	0	4.18	0	0	0	9.95
STMG081	204.25	209.96	7.36	218.45	01/01/2013 16:26 PM	3.33	0.552	-0.135	30.04	13.2	0	23.12	0.22	0.013	6.326
STMG0810	224.14	227.35	0.15	224.66	8:00 AM	2.72	0.447	-0.002	0	0	2.69	0	0	0	5.266
STMG0847	229.97	233.33	0.4	234.21	8:00 AM	4.19	0.695	0.005	2.04	3.236	0	0.88	0.12	0.001	8.539
STMG0814	218.02	221.32	0.43	221.32	7:34 AM	3.17	0.523	-0.007	6.28	2.3	0	0.01	0.13	0	6.277
STMG0842	230.83	235.93	0.31	233.71	7:10 AM	5.01	0.825	0	1.4	1.884	2.216	0	0	0	9.778
STMG089	221.73	226.53	0.35	222.87	8:00 AM	14.14	2.35	0	0	0	3.66	0	0	0	27.984
STMG0723	264.31	268.01	0.11	264.67	8:00 AM	0.77	0.129	-0.001	0	0	3.34	0	0	0	1.68
STMG086	212.42	217.42	3.24	219.98	10:02 AM	42.72	10.7	-0.017	18.8	4.807	0	16.5	2.07	0.017	137.32
STMG0840	226.5	230.19	0.17	227.1	8:00 AM	5.01	0.825	0	0	0	3.09	0	0	0	9.778
STMG084	209.23	215.18	4.79	219.26	01/01/2013 16:06 PM	2.2	0.317	0.009	23.23	8.776	0	18.66	0.53	0.007	3.876
STMG088	236	238.84	0.82	248.08	8:01 AM	6.79	1.12	0.003	5.08	11.078	0	1.8	1.03	0.01	14.311
STMG083	208.26	214.77	5.46	219.25	01/01/2013 16:06 PM	44.26	11	0.001	22.71	8.239	0	19.06	3.68	0.014	141.196
STMG0916	191.69	198.82	0.21	192.47	8:00 AM	3.22	0.536	0	0	0	6.35	0	0	0	6.582
STMG074	228.1	233.73	0.22	228.81	8:01 AM	7.29	1.21	0	0	0	4.92	0	0	0	14.457
STMF083	218.19	225.53	0.3	219.22	8:00 AM	14.78	2.48	0	0	0	6.31	0	0	0	30.29
STMG0815	231.5	235.51	0.24	232.5	8:08 AM	6.56	1.12	0.001	0	0	3.01	0	0	0	14.311
STMG0817	226.04	229.1	0.45	229.82	8:17 AM	6.5	1.12	-0.006	2.61	2.531	0	1.04	0.2	0.001	14.311
STMG082	206.02	211.29	6.77	219.12	01/01/2013 16:06 PM	45.91	11.3	0.001	24.83	10.105	0	22.44	5.65	0.015	145.082
STMG076	227.4	231.5	0.09	227.7	8:00 AM	4.18	0.692	0	0	0	3.8	0	0	0	8.261
STMG0715	254.03	260.09	0.15	254.56	8:00 AM	4.27	0.709	0	0	0	5.53	0	0	0	8.578
STMG0864	226.19	231.18	0.53	232.14	8:02 AM	8.64	0.944	-0.001	2.98	4.453	0	1.82	1.06	0.001	8.539
STMG0837	208	215.01	0.45	209.56	8:00 AM	22.54	3.74	0	0	0	5.45	0	0	0	44.495
STMF078	258.86	262.94	0.2	259.58	8:00 AM	4.27	0.709	0	0	0	3.36	0	0	0	8.578
STMG0930	195.5	203.44	0.16	196.06	8:00 AM	3.22	0.536	0	0	0	7.38	0	0	0	6.582
STMH077	262.39	267.48	0.12	262.79	8:00 AM	2.59	0.431	0	0	0	4.69	0	0	0	5.536

Junctions Existing 25 Year Storm

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
STMG0754	307.92	315.21	0.07	308.15	8:00 AM	1.45	0.243	0	0	0	7.06	0	0	0	3.4
STMG0865	235.06	239.46	0.34	241.81	8:02 AM	8.1	1.35	-0.001	1.36	5.254	0	0.89	3.63	0.005	20.414
STMG0770	245.78	251.08	0.98	258.77	8:14 AM	6.32	1.22	0	4.27	11.992	0	2.26	0.54	0.009	14.879
STMG0714	295.85	300.39	0.14	296.32	8:00 AM	3.7	0.613	0	0	0	4.07	0	0	0	6.891
STMG0767	265.52	270.69	0.21	266.23	8:00 AM	7.09	1.18	0	0	0	4.46	0	0	0	14.788
STMG0833	247	252.46	0.26	248.17	8:00 AM	12.11	2.01	0	0	0	4.29	0	0	0	23.58
STMG0858	244.49	250.27	0.25	248.11	8:00 AM	8.1	1.35	0	0.49	2.365	2.165	0	0	0	20.414
STMG0771	260.62	265.4	0.21	261.62	8:00 AM	7.08	1.18	0	0	0	3.78	0	0	0	14.788
STMG0830	231.75	238.04	0.71	239.83	8:01 AM	37.23	6.3	0.001	1.83	5.831	0	0.88	5.04	0.004	79.165
STMG0722	242.48	248.22	0.4	247.38	7:09 AM	5.99	1.22	-0.001	2.26	3.895	0.845	0	0	0	14.879
STMG0739	245.3	250.5	0.85	255.21	8:18 AM	6.13	1.22	0.001	4.16	8.908	0	1.97	0.35	0.005	14.879
STMG0751	286.67	289.91	0.11	287.03	8:01 AM	1.45	0.243	0.001	0	0	2.88	0	0	0	3.4
STMG0829	227.89	235.05	0.83	235.48	8:01 AM	48.39	8.45	0	2.16	4.586	0	0.62	0.46	0.001	104.497
STMG0710	247.1	248.1	0.22	247.83	8:00 AM	8.51	1.42	0	0	0	0.77	0	0	0	17.528
STMG0849	225.39	231.01	0.97	233.94	8:02 AM	48.36	8.45	0	2.67	5.554	0	2.06	6.78	0.007	104.497
STMG0765	340.04	345.64	0.17	340.61	8:00 AM	1.45	0.243	0	0	0	5.03	0	0	0	3.4
STMG0851	238.1	242.82	0.43	243.67	8:02 AM	22.57	3.43	0.121	0.86	3.573	0	0.67	4.08	0.006	41.108
STMG0863	223.96	229.51	1.05	233.01	8:02 AM	48.36	8.45	0	3.11	6.047	0	2.33	6.36	0.006	104.497
STMG0825	222.92	229.87	1.16	232.42	8:02 AM	48.36	8.93	0	3.2	6.496	0	2.21	1.57	0.003	104.497
STMG0911	201.8	208.1	0.25	203.01	8:00 AM	1.75	0.328	0	1.14	0.206	5.094	0	0	0	4.363
STMH073	257	261.49	0.23	261.49	7:14 AM	2.59	0.431	0	0.96	3.492	0	0.01	0.39	0	5.536
STMG099	201.5	208.58	0.42	202.89	8:01 AM	28.87	5.06	-0.001	0	0	5.69	0	0	0	68.449
STMG0857	241.7	247.45	0.28	246.28	8:00 AM	8.1	1.35	0	0.75	3.335	1.165	0	0	0	20.414
STMG0762	338.85	344.12	0.08	339.11	8:00 AM	1.45	0.243	0	0	0	5.01	0	0	0	3.4
STMG0713	280.5	284.89	0.11	280.85	8:00 AM	3.7	0.613	0	0	0	4.04	0	0	0	6.891
STMG0734	262.5	270.83	0.14	262.97	8:00 AM	3.7	0.613	0	0	0	7.86	0	0	0	6.891
STMG0859	245.36	250.58	0.33	249.55	8:00 AM	8.1	1.35	0	0.62	2.938	1.032	0	0	0	20.414
STMH081	254.22	260.12	0.48	260.12	7:08 AM	8.42	1.4	0	1.62	4.65	0	0.01	0.39	0	16.689
STMG0853	224.49	229.14	0.66	232.33	8:02 AM	6.47	0.726	0	3.19	6.345	0	2.36	1.49	0.005	0
STMG0768	249.66	253.51	0.78	263.2	8:09 AM	7.14	1.22	-0.001	2.27	12.536	0	2.26	1.43	0.017	14.879
STMG0750	284.09	289.98	0.16	284.63	8:00 AM	7.09	1.18	0	0	0	5.35	0	0	0	14.788
STMG0824	223.21	230.31	1.09	232.54	8:02 AM	48.36	8.45	0	3.18	6.333	0	2.1	1.51	0.003	104.497
STMG0769	254.21	259.52	0.41	263.38	8:09 AM	1.56	0.258	0	1.97	8.173	0	1.31	0.38	0.004	3.041
STMG102	199.76	210.12	0.41	210.12	7:12 AM	6.75	1.13	0	1.44	9.36	0	0	0	0	13.7
STMG0766	300.47	305.75	0.08	300.71	8:00 AM	1.34	0.228	0.001	0	0	5.04	0	0	0	3.274
STMG079	244.55	251.96	0.25	245.43	8:01 AM	8.51	1.42	0	0	0	6.53	0	0	0	17.528
STMG0711	250.1	254.87	0.25	252.82	7:25 AM	8.51	1.42	0	0.78	1.717	2.053	0	0	0	17.528
STMG0742	257.32	262.51	0.3	264.02	8:09 AM	2.24	0.375	0.105	1.43	5.7	0	0.99	0.81	0.003	5.032
STMG0852	234.17	239.07	0.6	241.7	8:02 AM	28.36	4.78	0.001	1.38	5.283	0	0.94	3.69	0.007	61.522
STMG0936	210.16	220.95	0.63	221.14	8:02 AM	24.64	4.21	0	1.52	8.982	0	0.14	0.22	0	57.828
STMG0856	239.74	246.97	0.35	244.98	8:00 AM	8.1	1.35	0.002	0.85	3.74	1.99	0	0	0	20.414
STMH076	255.5	259.7	0.26	259.7	7:14 AM	2.59	0.431	0.002	1.39	3.203	0	0.01	0.48	0	5.536
STMG0747	261.2	265.53	0.2	261.97	8:00 AM	7.09	1.18	0	0	0	3.56	0	0	0	14.788
STMG0935	211.3	221.54	0.6	221.93	8:01 AM	24.86	4.21	0	1.45	8.632	0	0.2	0.27	0.001	57.828
STMG0720	256.47	261.19	0.26	261.19	7:31 AM	8.51	1.42	0	0.61	3.47	0	0.01	0.3	0	17.528
STMG103	194.51	205.61	0.21	195.31	8:00 AM	6.75	1.13	0	0	0	10.3	0	0	0	13.7
STMG0749	276.33	282.78	0.18	276.95	8:00 AM	7.09	1.18	0	0	0	5.83	0	0	0	14.788
STMG0848	225.02	231.27	0.99	233.69	8:02 AM	48.36	8.45	0	2.9	5.669	0	2	2.48	0.004	104.497
STMG0933	214.11	224.36	0.56	224.13	7:47 AM	24.86	4.21	0	1.18	8.015	0.235	0	0	0	57.828
STMG0850	229.13	237.33	0.82	237.33	7:15 AM	48.39	8.45	-0.002	1.99	5.2	0	0.01	2.2	0	104.497
STMG0860	250.4	256.06	0.24	252.78	8:00 AM	8.17	1.35	0	0.02	1.031	3.279	0	0	0	20.414
STMG0735	243.49	249.49	0.49	248.55	8:19 AM	5.99	1.22	0	2.3	4.063	0.937	0	0	0	14.879
STMG0932	223.75	232.47	0.27	231.09	7:47 AM	9.56	1.7	0.001	0.37	5.344	1.376	0	0	0	24.842
STMG0831	238.07	243.07	0.26	239.22	8:00 AM	11.3	2.15	0	0	0	3.85	0	0	0	25.332
STMG078	242.4	247.18	0.22	244.48	8:01 AM	8.49	1.42	0	0.26	0.581	2.699	0	0	0	17.528
STMG0832	240.5	245.31	0.38	245.32	7:38 AM	12.52	2.01	0.093	0.67	3.073	0	0.08	2.25	0.001	23.58
STMG0934	212.83	223.17	0.58	223.12	8:00 AM	24.86	4.21	0	1.35	8.29	0.05	0	0	0	57.828
STMG0712	256	261.61	0.16	256.53	8:00 AM	3.7	0.613	0	0	0	5.08	0	0	0	6.891
STMG0755	315.4	318.78	0.08	315.66	8:00 AM	1.35	0.228	0	0	0	3.12	0	0	0	3.274
STMG0937	208.73	219.38	0.68	220.12	8:02 AM	24.45	4.21	0	1.77	9.386	0	0.3	0.4	0.001	57.828
STMG0738	245.09	250.29	0.57	252.24	8:20 AM	6.02	1.22	0	2.26	6.149	0	1.4	0.3	0.002	14.879
STMH072	292.3	301.98	0.09	292.6	8:00 AM	2.09	0.349	-0.003	0	0	9.38	0	0	0	4.22
STMG0855	253.08	266.68	0.24	253.96	8:00 AM	8.42	1.4	0	0	0	12.72	0	0	0	16.689
STMH071	269.29	275.64	0.5	270.02	8:00 AM	2.09	0.349	0.078	0	0	5.62	0	0	0	4.22
STMG0733	268.14	274.85	0.08	268.41	8:00 AM	0.5	0.083	-0.002	0	0	6.44	0	0	0	1.317
STMG0744	262.97	268.23	0.13	265.22	8:00 AM	2.23	0.375	0	0.32	1.246	3.014	0	0	0	5.032
STMG0761	324	329.73	0.07	324.23	8:00 AM	1.45	0.243	0	0	0	5.5	0	0	0	3.4
STMF0832	203.44	209.97	0.19	204.34	8:00 AM	3.54	0.586	0	0	0	5.63	0	0	0	6.646
STMG0721	264.2	270.54	0.1	264.53	8:00 AM	1.44	0.238	-0.002	0	0	6.01	0	0	0	2.74
STMG1025	182.1	187.45	0.2	183.84	8:28 AM	2.1	0.352	-0.001	0.97	0.486	3.614	0	0	0	4.058
STMF0924	183.64	193.32	0.33	184.95	8:00 AM	11.77	1.97	0	0	0	8.37	0	0	0	23.327
STMG0774	261.43	268.38	0.25	262.13	8:00 AM	2.51	0.415	0.001	0	0	6.25	0	0	0	5.124
STMF0922	188.07	199.21	0.36	191.42	7:40 AM	11.77	1.97	0	0.53	1.855	7.785	0	0	0	23.327
STMF0918	200.2	208.07	0.22	201	8:00 AM	3.51	0.581	0	0	0	7.07	0	0	0	6.674
STMF0928	194.94	199.96	0.16	195.46	8:00 AM	1.58	0.263	0	0	0	4.5	0	0	0	3.215
STMF0923	186.61	197.57	0.36	190.4	7:40 AM	11.77	1.97	0	0.48	2.288	7.172	0	0	0	23.327
STMF0839	197.51	207.13	0.56	203.67	7:04 AM	3.88	0.643	0.024	2.99	5.164	3.456	0	0	0	7.383
STMF0921	190.78	201.67	0.31	195.26	7:40 AM	6.65	1.11	0.001	1.3	3.485	6.405	0	0	0	13.235
STMG075	229.78	234.32	0.22	230.51	8:01 AM	7.29	1.21	0	0	0	3.81	0	0	0	14.457
STMG1024	180.74	186.75	0.38	183.71	8:29 AM	5.48	0.922	-0.001	1.99	1.723	3.037	0	0	0	11.277
STMF0917	189.31	199.98	0.32	192.61	7:40 AM	10.52	1.75	0	0.41	1.798	7.372	0	0	0	20.618
STMF0925	190.26	197.5	0.13	190.93	8:00 AM	1.28	0.215	0.001	0	0	6.57	0	0	0	2.709
STMG1022	183.41	188.61	0.22	184.58	8:01 AM	3.45	0.57	0.002	0	0	4.03	0	0	0	7.219
STMG1023	182.09	187.14	0.25	184.13	8:03 AM	3.38	0.57	-0.001	1.12	0.79	3.01	0	0	0	7.219
STMF0919	198.53	209.21	0.14	199.04	8:00 AM	3.51	0.581	0	0	0	10.17	0	0	0	6.674
STMF0841	194.31	203.23	0.24	195.15	8:00 AM	3.88	0.643	0	0	0	8.08	0	0	0	7.383
STMG0775	259	264.65	0.13	259.43	8:00 AM	2.51	0.415	0	0	0	5.22	0	0	0	5.124
STMG0777	245.36	250.92	0.18	246.02	8:00 AM	2.5	0.415	0.001	0	0	4.9	0	0	0	5.124
STMG0776	248.31	256.16	0.1	248.64	8:00 AM	2.51	0.415	0	0	0	7.52	0	0	0	5.124
STMF0840	194.68	203.47	0.19	195.38	8:00 AM	3.88	0.643	0	0	0	8.09	0	0	0	7.383
STMF0916	191.75	207.28	0.16	192.3	8:00 AM	3.88	0.643	0	0	0	14.98	0	0	0	7.383
STMF0915	192.18	205.63	0.22	192.96	8:00 AM	3.88	0.643	0	0	0	12.67	0	0	0	7.383
STMF0930	198.17	203.38	0.12	198.56	8:00 AM	1.58	0.263	-0.001	0	0	4.82	0	0	0	3.215
STMG0772	244.3	247.5	0.2	245	8:00 AM	7.3	1.21	0	0	0	2.5	0	0	0	14.457
STMF0914	192.61	205.38	0.18	193.27	8:00 AM	3.88	0.643	0	0	0	12.11	0	0	0	7.383
STMG133	157.92	167.29	5.57	199.74	8:39 AM	23.1	5.8	0.012	21.97	40.325	0	6.14	2.6	0.084	64.048
J3498	159	166.51	0.23	159.77	8:00 AM	2.92	0.575	0	0	0	6.74	0	0	0	8.357
J3514	224.8	227.3	0.41	228.07	9:03 AM	12.03	1.59	-0.026	0.76	0.103	0	0.76	1.11	0.007	22.85
J3516	224.36	227.15	0.31	227.65	9:00 AM	12.93	1.59	-0.005	2.75	1.787	0	1.53	0.35	0.003	22.85
J3530	217	219	0.2	217.6	8:01 AM	8.31	1.58	0	0	0	1.4	0	0	0	21.194
J3540	239.5	242.83	0.19	240.19	8:00 AM	6.77	1.13	0	0	0	2.64	0	0	0	14.171
J3664	200.3	205.18	10.43	218.37	01/01/2013 16:26 PM	38.06	12.4	-0.045	30.61	13.548	0	30.09	14.67	1.467	157.684
J3666	200	203.9	10.68	218.37	01/01/2013 16:25 PM	24.95	12.7	0.012	31.34	13.846	0	31.34	14.64	1.536	160.683
J3688	172.98	177.06	1.28	195.12	8:10 AM	9	1.69	-0.001	2.6	21.139	0	2.6	1.73	0.027	18.386
J3692	185	191.86	0.49	187.51	7:49 AM	13.59	2.32	-0.002	1.84	1.008	4.352	0	0	0	28.509
J3694	184.5	187.4	0.81	186.55	7:49 AM	53.16	9.72	0.046	0	0	0.971	0	0	0	123.336
J3700	140	152	0.16	140.41	7:57 AM	4.14	0.69	0.002	0	0	14.235	0	0	0	7.824
J3708	185	190.04	0.93	188.91	8:10 AM	38.09	6.89	0.006	0.11	0.022	1.133	0	0	0	91.042
J3728	195.5	202.25	0.69	201.11	8:06 AM	44.4	7.74	0.007	0.76	0.681	1.145	0	0	0	92.626
J3730	194.8	202.42	0.59	196.55	8:07 AM	44.4	7.74	0.002	0	0	5.87	0	0	0	92.626
J3760	185.9	192.54	1.03	189.19	8:03 AM	88.16	15.1	0.027	0	0	3.35	0	0	0	185.088
J3780	243.1	246.5	0.28	243.82	8:00 AM	7.3	1.21	-0.001	0	0	2.68	0	0	0	14.457
J3838	182.3	191.19	0.32	183.19	8:01 AM	11.88	1.97	-0.015	0	0	8	0	0	0	23.327
J3896	188.7	195.99	0.53	190.49	8:03 AM	37.18	6.63	-0.001	0	0	5.5	0	0	0	87.292
J3932	160	165	0.31	160.74	8:05 AM	6.78	1.38	0.006	0	0	4.872	0	0	0	19.388
J3990	182	187	0.09	182.33	8:00 AM	1.5	0.266	-0.003	0	0	4.67	0	0	0	3.802
J4040	172.53	177.53	0.33	173.7	7:57 AM	14.2	2.64	0	0	0	3.83	0	0	0	32.588
J-CCT3-18	180	185	0.79	181.27	8:03 AM	35.37	16.8	-0.003	0	0	3.73	0	0	0	212.513
J4058	155	162.28	0.26	160.13	7:15 AM	3.87	0.645	0.001	0.89	4.127	2.153	0	0	0	6.905
J4060	153.98	162.98	0.26	159.24	7:15 AM	3.87	0.645	0	0.87	4.261	3.739	0	0	0	6.905
J4120	199	203	0.55	201.14	8:06 AM	46.38	7.74	0.002	0	0	2.784	0	0	0	92.626
J4142	150	155.68	0.26	150.62	8:38 AM	8.63	2.14	0.003	0	0	24.403	0	0	0	25.423
J4162	199	202	0.52	199.68	01/01/2013 15:57 PM	16.93	13.3	0	0	0	2.32	0	0	0	169.937
J4216	110	114.31	0.13	110.37	8:01 AM	8.57	1.45	0.012	0	0	5.701	0	0	0	18.216
J-CCT3-15	171.4	176.32	1.17	173.65	8:06 AM	36.25	17.1	0.002	0	0	2.67	0	0	0	216.315
J4298	224.9	227.89	0.66	228.07	9:03 AM	6.38	1.12	0.026	0.16	0.003	0	0.16	0.17	0	14.311
J4318	180	183	0.8	183.22	8:32 AM	58.71	10.6	-0.061	0	0	1.254	0	0	0	134.613
J4362	179.3	185.39	0	179.3	12:00 AM	0	0	0	0	0	6.09	0	0	0	0
J-CCT1-05	121.5	123.35	1.65	129.2	8:49 AM	56.24	13.1	0.041	0	0	35.414	0	0	0	148.321

Junctions Existing 25 Year Storm

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
STMG1215	168.8	175.4	0.16	169.36	8:00 AM	3.04	0.51	0	0	0	6.04	0	0	0	4.991
J4400	227.5	230.93	0.19	231.02	8:05 AM	7.98	0.467	0.001	2.39	2.519	0	0.79	0.02	0	8.539
J4402	182.41	190.82	0.3	184.97	7:59 AM	4.23	0.712	0.001	1.37	1.559	5.851	0	0	0	8.803
J-CCT1-02	100	150	0.68	101.73	8:06 AM	72.77	18.7	0.001	0	0	51.101	0	0	0	223.379
J4482	176.38	180.82	0.8	183.08	8:32 AM	56.18	10.6	0.043	1.68	2.229	0	1.68	7.66	0.089	134.613
J4500	146	152.07	0.13	146.34	8:00 AM	4.04	0.673	0.003	0	0	5.73	0	0	0	8.596
J4526	229.4	230.88	0.26	232.69	8:01 AM	4.17	0.695	-0.005	2.05	2.287	0	1.96	0.78	0.002	8.539
J4572	150	163.61	0.51	151.18	8:40 AM	34.56	9.02	0.001	0	0	12.43	0	0	0	100.095
J4632	163.5	166.2	0.41	164.37	8:00 AM	6.83	1.38	-0.003	0	0	1.83	0	0	0	19.388
J4634	162.6	166.5	0.2	163.22	8:02 AM	6.81	1.38	0.003	0	0	3.28	0	0	0	19.388
J4708	146.5	152.59	0.05	146.64	8:00 AM	1.43	0.238	-0.033	0	0	5.95	0	0	0	2.842
J4770	185.5	191.72	0.37	188.15	7:32 AM	6.86	1.19	-0.003	1.43	1.154	3.566	0	0	0	14.809
J4818	176	188.53	0.44	179.94	7:12 AM	13.94	2.32	0	1.01	2.436	8.594	0	0	0	25.425
J-CCT3-11	160.41	169	1.49	163.68	8:03 AM	80.99	25.8	0	0	0	5.32	0	0	0	330.426
J4882	175.58	185.78	0.3	176.5	8:00 AM	8.22	1.76	0	0	0	9.28	0	0	0	20.184
J4888	144	146	0.1	144.34	8:00 AM	4.47	0.745	-0.001	0	0	1.66	0	0	0	8.567
J4894	144.1	150.46	0.1	144.39	8:01 AM	5.63	0.963	-0.005	0	0	6.07	0	0	0	11.833
J4898	172.38	180.52	0.74	174.31	8:40 AM	51.61	10.6	0.001	0	0	6.21	0	0	0	134.613
J4938	184	195.83	0.34	185.06	8:00 AM	10.51	2.02	-0.001	0	0	10.77	0	0	0	51.308
J4946	171.5	173.5	0.4	172.9	8:02 AM	11.75	1.97	0.016	0	0	0.86	0	0	0	23.327
J4948	171.4	173.75	0.23	172.04	8:03 AM	14.78	1.97	0.001	0	0	1.71	0	0	0	23.327
J4972	268.1	274.54	0.11	268.45	8:00 AM	2.09	0.348	0	0	0	6.09	0	0	0	4.22
J5034	154.93	166.68	0.77	157.97	8:07 AM	59.58	12.3	-0.002	0	0	12.994	0	0	0	155.035
J5040	201	207.71	9.96	218.5	01/01/2013 16:17 PM	47.58	11.9	-0.026	26.59	11.175	0	26.11	7.39	0.501	151.359
J5064	217.53	219	0.31	218.54	8:01 AM	8.35	1.58	0.016	0	0	0.99	0	0	0	21.194
J5174	188	193.51	0.72	189.96	8:04 AM	37.18	6.63	0	0	0	3.55	0	0	0	87.292
J5220	188	192.5	0.23	192.5	7:32 AM	2.18	0.392	0.007	0.67	3.5	0	0.01	0.07	0	4.69
J5304	174	182.38	1.52	201.32	8:06 AM	6.35	1.06	0	2.63	26.315	0	2.34	1.35	0.02	11.871
J5354	153	163	0.16	153.48	8:00 AM	4.69	0.781	-0.097	0	0	30.105	0	0	0	9.415
J5366	200.41	205.35	10.44	218.5	01/01/2013 16:17 PM	41.28	11.9	0.006	27.58	11.76	0	27.58	8.93	0.544	151.359
J5398	175	183.76	0.27	175.87	9:10 AM	13.94	2.32	-0.122	0	0	7.89	0	0	0	25.425
J5422	167.05	168.79	0.25	167.7	8:11 AM	8.48	1.69	-0.002	0	0	2.068	0	0	0	18.386
STMF126	166.02	170.42	0.24	166.7	8:00 AM	4.26	1.13	0	0	0	3.72	0	0	0	11.033
J5472	187.5	192.36	0.54	189.39	8:09 AM	37.17	6.63	0	0	0	2.97	0	0	0	87.292
J5474	187	191.77	0.54	188.94	8:10 AM	38.63	6.89	-0.006	0	0	2.83	0	0	0	91.042
J5554	164.69	170.51	0.24	165.24	8:30 AM	10.28	3.45	0	0	0	5.27	0	0	0	36.459
J5576	167.5	171.97	0.65	169.16	8:01 AM	59.64	12.3	0.003	0	0	13.974	0	0	0	155.035
J-CCT3-12	162.9	167.39	1.17	165.71	8:04 AM	79.54	25.6	0.001	0	0	5.908	0	0	0	326.737
J3646	161.58	173.78	0.27	162.36	8:00 AM	9.97	2.11	0.001	0	0	11.42	0	0	0	24.911
J-CCT3-14	171.1	176.5	0.91	172.84	8:02 AM	66.62	22.8	0.001	0	0	6.978	0	0	0	287.679
J-CCT3-10	160	170	1.19	162.2	8:04 AM	80.99	25.8	0	0	0	15.439	0	0	0	330.426
J-CCT3-06	138	148	1.04	140.09	8:04 AM	102.88	29.9	0.004	0	0	23.953	0	0	0	380.578
J5386	150	170	0.32	150.83	8:01 AM	16.34	2.99	-0.02	0	0	21.864	0	0	0	36.85
J-CCT3-04	128	148	1.06	130.29	8:05 AM	201.89	50.4	0	0	0	43.066	0	0	0	645.939
J-CCT3-02	112	152	1.73	115.69	8:09 AM	244.54	60	0.026	0	0	41.666	0	0	0	753.268
J-CCT1-03	112	162	0.57	113.4	8:31 AM	60.54	16.2	0.001	0	0	50.489	0	0	0	187.039
J-CCT1-04	121	160	0.66	122.67	8:31 AM	57.56	15.5	0	0	0	40.58	0	0	0	179.215
J3786	143.5	163.5	0.73	145.46	8:04 AM	74.21	15.4	-0.016	0	0	27.416	0	0	0	192.993
J-CCT1-07	130	132	0.53	131.3	8:30 AM	38.64	9.99	0	0	0	27.263	0	0	0	111.924
J-CCT3-05	130	150	1.91	133.81	8:06 AM	184.24	47.1	0.01	0	0	29.437	0	0	0	600.478
J-CCT1-06	129.31	139.31	0.59	130.83	8:01 AM	51.76	12.3	-0.031	0	0	41.594	0	0	0	138.906
STMF1224	129.1	152.56	0.64	130.61	8:00 AM	34.52	7.82	-0.024	0	0	26.898	0	0	0	84.963
J-CCT2-05	131	156	0.7	132.97	8:02 AM	43.68	8.1	0.001	0	0	38.608	0	0	0	90.561
J-CCT3-03	120	160	1.29	122.79	8:07 AM	211.86	52.2	0.007	0	0	42.566	0	0	0	668.305
J-CCT3-07	145	155	1.4	147.55	8:05 AM	85.2	26.6	0.002	0	0	15.089	0	0	0	339.543
J-CCT3-08	148	158	1.16	150.18	8:04 AM	84.11	26.4	0	0	0	15.459	0	0	0	337.131
J-CCT3-09	156	166	1.1	158.05	8:04 AM	82.88	26.2	0.001	0	0	15.589	0	0	0	334.518
J-CCT3-13	168.45	171.45	0.92	170.21	8:02 AM	68.12	23	0	0	0	6.958	0	0	0	290.981
J-CCT3-16	174.28	179.13	0.77	175.51	8:01 AM	36.29	17.1	0.002	0	0	3.62	0	0	0	216.315
J-CCT2-04	123	173	0.42	124.23	8:01 AM	48.01	8.84	0	0	0	48.77	0	0	0	99.128
J-CCT2-03	107	150	0.81	109.33	8:01 AM	51.48	9.44	0.001	0	0	46.316	0	0	0	106.358
J-CCT2-02	100	109	0.41	101.06	8:00 AM	61.41	11.1	0.001	0	0	47.586	0	0	0	126.628
J-CCT2-06	133.5	158.5	0.48	134.82	8:02 AM	40.29	7.52	0	0	0	29.379	0	0	0	82.405
STII118	190.63	202.32	0.3	191.73	8:00 AM	8.57	1.44	0	0	0	10.59	0	0	0	13.884
STIH1040	211	218	0.11	211.36	8:00 AM	2.24	0.372	0	0	0	6.64	0	0	0	4.323
STIH1036	190	197.28	0.57	191.44	7:59 AM	35.47	8.84	0	0	0	5.84	0	0	0	105.855
STII0952	251.69	259.1	0.14	252.12	8:00 AM	1.39	0.24	0	0	0	6.98	0	0	0	3.179
STII0962	254	261.65	0.3	254.89	8:02 AM	5	1.02	0	0	0	6.76	0	0	0	13.559
STII0950	252.77	260.32	0.14	253.2	8:00 AM	1.4	0.24	0	0	0	7.12	0	0	0	3.179
STIH12182	179.31	187.08	0.24	180.15	8:00 AM	3.6	0.607	0	0	0	6.93	0	0	0	5.723
STII0953	260	263.29	0.07	260.2	8:00 AM	0.49	0.086	-0.002	0	0	3.09	0	0	0	1.15
STIH118	163.5	170	0.19	164.13	8:00 AM	23.43	3.93	-0.001	0	0	5.87	0	0	0	46.353
STIH081	286.77	288.47	0.1	287.09	8:00 AM	2.82	0.472	0	0	0	1.38	0	0	0	6.232
STII093	233.5	240.03	1.8	236.37	01/01/2013 15:59 PM	7.23	3.52	0.001	31.61	1.872	3.658	0	0	0	43.284
STIH1013	201.5	208.96	0.08	201.76	8:00 AM	1.46	0.215	-0.001	0	0	7.2	0	0	0	2.599
STIH146	163.62	166.22	0.18	164.26	8:00 AM	3.97	0.665	0	0	0	1.96	0	0	0	6.839
STII0957	256.62	263.32	0.27	257.45	8:01 AM	5	1.02	0	0	0	5.87	0	0	0	13.559
STIH1033	209	215.86	0.1	209.31	8:00 AM	1.4	0.232	0	0	0	6.55	0	0	0	2.761
STII116	188.91	198.38	0.32	190.09	8:00 AM	8.57	1.44	0	0	0	8.29	0	0	0	13.884
STII151	159.5	167.59	0.31	160.41	8:00 AM	6.44	1.39	0	0	0	7.18	0	0	0	19.262
STII0954	259	260.95	0.11	259.28	8:01 AM	4.98	0.947	-0.009	0	0	3.881	0	0	0	13.784
STII0942	250.05	260.59	0.13	250.47	8:01 AM	1.39	0.24	0	0	0	10.12	0	0	0	3.179
STII0941	252	258.06	0.25	252.68	8:00 AM	4.91	1.29	0	0	0	5.38	0	0	0	18.277
STIH0917	230	242	1.31	243.18	8:39 AM	5.9	1.3	0.044	3.03	11.677	0	3.02	5.65	0.071	18.277
J3	164	169.8	1.53	177.69	8:01 AM	2.95	0.491	0.039	7.32	12.858	0	5.63	0.69	0.01	5.374
STIG1139	186.5	191.5	2.39	194.78	8:07 AM	2.89	1.35	-0.122	23.2	7.285	0	8.98	0.69	0.027	21.205
STII0956	257.19	263.76	0.28	258.1	8:01 AM	5	1.02	0	0	0	5.66	0	0	0	13.559
STIL085	276.09	280.14	0.18	276.62	8:00 AM	5.01	1.02	0	0	0	3.52	0	0	0	13.559
STIG1142	186.5	192.43	2.67	194.82	8:07 AM	2.89	1.35	0.149	23.36	7.323	0	2.27	0.52	0.003	21.205
STIH12125	178.25	181.65	0.23	179.02	8:00 AM	3.6	0.607	0	0	0	2.63	0	0	0	5.723
STII0943	249.57	260.13	0.14	250.02	8:01 AM	1.39	0.24	-0.004	0	0	10.11	0	0	0	3.179
STII0948	251.09	259.84	0.14	251.52	8:00 AM	1.39	0.24	0	0	0	8.32	0	0	0	3.179
STIH107	185.07	192.18	0.08	185.33	8:00 AM	2.16	0.363	-0.003	0	0	6.85	0	0	0	4.44
STII0955	257.95	263.87	0.22	258.64	8:01 AM	5	1.02	0	0	0	5.23	0	0	0	13.559
STIH1043	204	210.15	0.1	204.32	8:00 AM	2.28	0.378	0	0	0	5.83	0	0	0	4.421
STII0945	246.63	252.47	0.4	248.06	8:00 AM	4.9	1.29	0	1.42	0.232	4.408	0	0	0	18.277
STII142	167.62	172.08	0.85	172.08	12:02 AM	4.6	0.768	0.085	1.49	3.21	0	0	0	0	9.239
STIH145	163.35	167.1	0.67	165.6	7:58 AM	3.97	0.665	0.022	3.91	1.248	1.502	0	0	0	6.839
STII0947	248.11	252.11	0.1	248.37	8:03 AM	1.39	0.24	-0.782	0	0	3.74	0	0	0	3.179
STIH12139	173.26	178.65	0.52	178.65	7:58 AM	9.27	1.37	5.194	1.61	3.44	0	0.08	4.87	0.003	13.638
STIH1038	197.7	205.31	0.11	198.05	8:00 AM	2.24	0.372	0	0	0	7.26	0	0	0	4.323
STII0961	254.48	261.85	0.24	255.24	8:01 AM	5	1.02	0	0	0	6.61	0	0	0	13.559
STII0944	246.13	252.38	0.22	246.69	8:00 AM	4.9	1.29	0	0	0	5.69	0	0	0	18.277
STIG11113	185.9	192.78	2.41	194.54	8:05 AM	3.07	1.61	0	24.12	7.643	0	1.61	0.18	0.002	24.459
STII1179	205.36	212.9	0.54	207.14	8:00 AM	18.32	3.73	0	0	0	5.76	0	0	0	46.361
STII0940	252.88	259.13	0.37	254.46	7:59 AM	4.9	1.29	0	2.13	0.581	4.669	0	0	0	18.277
STIH1035	190.9	196.99	0.73	192.73	8:06 AM	26.57	7.44	0	0	0	4.26	0	0	0	89.477
STII11135	198	211.37	0.38	199.18	8:01 AM	24.32	4.74	0	0	0	12.19	0	0	0	56.786
STII11281	201.5	211.48	0.48	203.11	8:01 AM	24.32	4.74	0	0	0	8.37	0	0	0	56.786
J-HCT4-01	163	185	0.7	164.49	8:01 AM	46.34	10.9	-0.018	0	0	24.591	0	0	0	130.231
STMI117	194	208.9	0.43	195.26	8:01 AM	24.32	4.74	0	0	0	13.64	0	0	0	56.786
STMH1027	191.5	205.82	0.39	192.62	8:04 AM	30.66	6.73	0	0	0	13.2	0	0	0	77.762
STMH0918	203.7	214.44	0.76	214.84	8:03 AM	30.77	6.73	0	1.87	9.639	0	0.31	0.19	0.001	77.762
STMH0919	209.2	217.93	0.86	224.19	8:02 AM	30.94	6.73	0	1.84	13.488	0	1.33	1.37	0.007	77.762
STMH0920	212	221.44	0.78	226.66	8:02 AM	23.01	5.26	0	1.62	13.159	0	1.05	1.69	0.005	59.74
STMH0910	229	242.15	1.59	243	8:24 AM	6.35	1.32	-0.019	5.38	12.495	0	2.06	0.21	0.002	18.277
STMH1231	171.56	179.71	0.63	173.58	8:00 AM	61.98	11.1	0	0	0	6.13	0	0	0	121.329
STMH132	154.52	164.72	9.57	164.72	8:00 AM	6.86	1.14	0.078	0	0	0.28	0	0	0	13.284
STMI132	143.41	162.13	0.45	144.81	8:00 AM	39.4	7.44	0.001	0	0	17.32	0	0	0	86.353
STMH133	153.5	163.43	0.28	154.09	8:05 AM	4.1	1.53	0	0	0	9.34	0	0	0	20.848
STMH129	180.81	192.18	0.43	182.1	8:01 AM	32.85	6.19	0.001	0	0	10.08	0	0	0	70.669
J4872	204	212.13	0.5	205.5	8:00 AM	24.33	4.74	0	0	0	6.63	0	0	0	56.786
STMH1124	203.3	211.41	0.15	203.81	8:00 AM	3.97	0.659	0	0	0	7.6	0	0	0	7.791
STMH1125	206.69	211.59	0.14	207.13	8:00 AM	3.97	0.659	0	0	0	4.46	0	0	0	7.791
STMH1126	199	205.74	0.33	200.13	8:00 AM	16.92	2.81	0	0	0	5.61	0	0	0	33.061
STMH1127	200.5	212.66	0.34	202.1	8:00 AM	13.61	1.7	0.001	0	0	10.56	0	0	0	26.219
STMH1129	193	197.9	0.29	194.02	8:00 AM	16.92	2.81	0	0	0	3.88	0	0	0	33.061
STMH1017	192.51	194.61	0.12	192.89	8:00 AM	3.29	0.601	0	0	0	1.72	0	0	0	7.459
STMH091	199.87	209.08	0.23	200.68	8:00 AM	3.56	0.591	-0.001	0	0	8.4	0	0	0	6.564

Junctions Existing 25 Year Storm

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
STMG117	185	192.25	0.57	186.25	8:01 AM	5.71	2.28	0.001	0	0	6	0	0	0	32.036
STMG118	183.75	188.9	0.28	184.44	8:00 AM	8.69	2.79	0.016	0	0	4.46	0	0	0	37.408
STMG1228	172	183.21	2.1	201.23	8:29 AM	9.15	1.77	0.005	3.29	28.232	0	3.15	2.02	0.046	19.301
STMI151	156.8	164.69	0.34	157.86	8:00 AM	6.42	1.39	0	0	0	6.83	0	0	0	19.262
STMH1144	201.7	207.23	0.3	203.3	8:00 AM	9.82	1.6	-0.001	0	0	3.93	0	0	0	18.707
STMG122	171.5	177.39	0.48	179.56	8:00 AM	3.96	0.666	0.006	1.5	7.057	0	1.06	0.38	0.002	6.396
STMG125	166.96	177.04	1.17	180.41	8:37 AM	7.79	1.77	0.003	3.36	12.452	0	1.93	1.09	0.007	19.301
STMG126	163	172.1	0.19	163.55	8:30 AM	8.43	1.96	0.003	0	0	8.55	0	0	0	21.445
STMG112	185.51	194.41	2.01	193.93	8:01 AM	5.71	2.28	0.007	24.18	7.418	0.482	0	0	0	32.036
STMG114	191	197.09	0.61	196.35	8:02 AM	6.72	1.12	-0.002	3.8	3.846	0.744	0	0	0	12.636
STMH102	174.7	182.28	0.37	176	8:00 AM	21.4	3.59	0	0	0	6.28	0	0	0	41.861
STMH103	169.99	181.1	0.28	170.97	8:00 AM	21.4	3.59	0	0	0	10.13	0	0	0	41.861
STMH104	191.8	199.48	0.26	192.67	8:00 AM	9.85	1.66	0	0	0	6.81	0	0	0	19.255
STMH105	194	201.13	0.22	194.73	8:00 AM	9.85	1.66	0	0	0	6.4	0	0	0	19.255
STMG115	187	192.73	2.59	194.88	8:12 AM	8.6	1.44	5.588	17.84	5.129	0	8.59	7.6	0.18	21.205
STMH106	197.65	208.36	0.18	198.25	8:00 AM	3.56	0.591	0	0	0	10.11	0	0	0	6.564
STMH111	198.5	201.78	0.21	199.23	8:00 AM	3.3	0.601	0	0	0	2.55	0	0	0	7.459
STMH1011	199	207.82	0.14	199.45	8:00 AM	2.24	0.372	0	0	0	8.37	0	0	0	4.323
STMI111	212.62	219.78	0.51	215.46	7:59 AM	15.44	3.2	-0.003	1.32	1.088	4.322	0	0	0	40.357
STMH114	186.75	200.75	0.36	188.07	8:00 AM	21.43	3.59	0	0	0	12.68	0	0	0	42.667
STMH115	186.02	200.67	0.43	187.51	8:01 AM	21.43	3.59	0	0	0	13.16	0	0	0	42.667
STMH116	184.21	195.52	0.32	185.42	8:00 AM	23.43	3.93	0	0	0	10.1	0	0	0	46.353
STMH117	190.68	195.85	0.43	192.28	8:00 AM	20.55	3.44	0	0	0	3.57	0	0	0	40.804
STMH118	184	189.92	0.21	184.69	8:00 AM	5.8	0.965	0	0	0	5.23	0	0	0	11.206
STMH1110	200.5	204.33	0.52	203.33	7:59 AM	3.53	1.12	-0.001	4.73	1.835	0.995	0	0	0	25.548
STMH1112	202.7	210.97	0.21	203.39	8:00 AM	3.97	0.659	0	0	0	7.58	0	0	0	7.791
STMI112	192.35	203.93	0.18	192.96	8:00 AM	3.7	0.622	-0.001	0	0	10.97	0	0	0	6.027
STMI113	187.8	195.19	0.3	188.89	8:00 AM	8.57	1.44	0	0	0	6.3	0	0	0	13.884
STMI114	185.8	195.93	0.46	187.2	8:01 AM	32.85	6.19	0	0	0	8.73	0	0	0	70.669
STMH127	173.13	181.82	0.5	174.72	8:00 AM	61.98	11.1	0	0	0	7.1	0	0	0	121.329
STMH1212	168.22	173.34	0.89	178.69	8:10 AM	7.85	1.8	0.002	3.23	9.471	0	2.75	0.9	0.011	20.077
STMH1213	161.3	169.79	0.28	162.11	8:10 AM	7.53	1.8	0	0	0	7.68	0	0	0	20.077
STMH1214	160.3	168.3	0.31	161.23	8:10 AM	7.53	1.8	0	0	0	7.07	0	0	0	20.077
STMH1215	157.22	163.49	0.34	158.4	8:00 AM	9.73	2.19	0	0	0	5.09	0	0	0	24.906
STMH1216	156.42	162.65	0.19	156.97	8:00 AM	9.82	2.19	0	0	0	5.68	0	0	0	24.906
STMH1224	172.96	179.96	0.51	179.96	7:33 AM	5.41	1.31	0.005	2.89	5.75	0	0.01	0.19	0	13.638
STMH1227	171.54	180.88	0.47	179.77	8:10 AM	5.41	1.31	-0.001	2.58	6.977	1.113	0	0	0	13.638
STMH1228	165.5	173.36	0.45	167.89	7:59 AM	3.07	0.51	0	3.83	1.391	5.469	0	0	0	5.804
STMH1230	172.72	176.65	1.07	187.06	8:32 AM	4.22	0.764	0	3.16	13.336	0	3.13	0.56	0.011	8.761
STMH1133	181.3	188.43	0.2	181.98	8:00 AM	5.8	0.965	0	0	0	6.45	0	0	0	11.206
STMH1135	185.8	193.24	0.24	186.69	8:00 AM	3.72	0.617	0	0	0	6.55	0	0	0	7.116
STMH1137	177.67	184.99	0.24	178.48	8:00 AM	10.03	1.67	0	0	0	6.51	0	0	0	18.611
STMH096	224	237.93	1.28	240.3	8:02 AM	11.61	2.97	0	5.75	15.052	0	0.85	0.9	0.004	35.022
STMH098	214.5	223.88	0.74	228.59	8:02 AM	23.04	5.26	0	1.52	12.59	0	1	1.37	0.008	59.74
STMI1122	204.9	212.91	0.53	206.56	8:00 AM	18.32	3.73	0	0	0	6.35	0	0	0	46.361
STMH097	223	232.9	0.74	236.15	8:02 AM	15.68	3.92	0	1.45	11.646	0	0.87	1.56	0.006	44.788
STMI1140	205.14	210.64	0.51	206.81	8:00 AM	18.32	3.73	0	0	0	3.83	0	0	0	46.361
STMI1141	204.4	215.08	0.46	205.86	8:00 AM	20.33	4.06	0	0	0	9.22	0	0	0	50.118
STMH135	157.7	165.31	0.08	157.96	8:00 AM	2.23	0.372	0	0	0	7.35	0	0	0	4.871
STMH136	149.85	162.87	0.07	150.08	8:00 AM	2.23	0.372	0	0	0	12.79	0	0	0	4.871
STMH137	136.08	148.25	0.06	136.27	8:00 AM	2.23	0.372	0	0	0	11.98	0	0	0	4.871
STMH138	124.75	138.8	0.1	125.08	8:00 AM	2.23	0.372	-0.004	0	0	13.72	0	0	0	4.871
STMH1241	161.94	167.59	0.11	162.3	8:00 AM	3.1	0.514	-0.003	0	0	5.29	0	0	0	5.895
STMH1245	166.12	172.52	0.11	166.48	8:00 AM	2.38	0.395	-0.004	0	0	6.04	0	0	0	4.351
STMH1252	163.82	169.55	0.18	165.26	8:02 AM	0.83	0.139	0.022	1.54	0.444	4.286	0	0	0	1.546
STMH1253	170.83	177.28	4.02	221.71	8:31 AM	10.33	1.74	-0.001	5.27	49.884	0	4.42	2.25	0.038	16.942
STMH1254	169.5	176.84	4	218.84	8:34 AM	9.3	1.74	0	5.28	48.336	0	4.37	3.44	0.072	16.942
STMH1244	167.19	172.59	0.21	167.92	8:00 AM	2.38	0.395	0.001	0	0	4.67	0	0	0	4.351
STMH1243	168.94	173.54	0.19	169.64	8:00 AM	2.38	0.395	-0.001	0	0	3.9	0	0	0	4.351
STMH1242	169.93	174.17	0.17	170.54	8:00 AM	2.38	0.395	0	0	0	3.63	0	0	0	4.351
STMH1211	169.52	174.72	0.9	180.64	8:32 AM	4.97	1.09	0.009	3.16	9.871	0	2.77	2.42	0.011	12.349
STMH1226	169.99	173.7	0.85	180.99	8:33 AM	3.65	0.764	0.001	3.15	10.004	0	2.97	2.33	0.009	8.761
STMH1221	170.42	174.92	1.05	182.7	8:36 AM	3.45	0.764	0.002	3.26	11.285	0	3.01	0.64	0.011	8.761
STMH1222	172.1	176.3	1.09	186.15	8:34 AM	3.85	0.764	0.003	3.18	13.05	0	3.11	0.58	0.012	8.761
STMH1223	172.94	177.04	1.18	187.92	8:30 AM	4.54	0.764	0.001	3.21	13.977	0	3.15	0.59	0.01	8.761
STMH1220	171.26	176.3	1.04	184.42	8:36 AM	3.46	0.764	-0.002	3.2	12.155	0	2.94	0.86	0.011	8.761
STMH1229	168.72	176.6	0.17	169.41	8:00 AM	3.08	0.51	-0.001	0	0	7.19	0	0	0	5.804
STMH1240	162.29	167.91	0.19	162.91	8:00 AM	3.1	0.514	0.001	0	0	5	0	0	0	5.895
STMH1239	164.09	170.19	0.18	164.71	8:00 AM	3.1	0.514	0	0	0	5.48	0	0	0	5.895
STMH1238	165.13	170.46	0.21	165.86	8:00 AM	3.1	0.514	-0.001	0	0	4.6	0	0	0	5.895
STMH1233	170.71	177.21	0.73	180.78	8:31 AM	1.98	0.33	0.203	2.95	8.821	0	2.29	1.48	0.007	3.588
STMG1035	189	197.27	0.26	189.85	8:00 AM	4.81	0.795	0	0	0	7.42	0	0	0	9.347
STMG106	190	200.62	0.25	190.86	8:00 AM	4.81	0.795	0	0	0	9.76	0	0	0	9.347
STMG108	188.5	199.31	0.15	189	8:00 AM	4.88	0.795	-0.001	0	0	10.31	0	0	0	9.347
STMH0923	189.37	198.67	0.2	189.91	8:36 AM	9.72	2.18	0	0	0	8.76	0	0	0	29.12
STMG109	184.62	199.67	0.39	186.06	8:00 AM	16.86	2.81	0	0	0	13.61	0	0	0	32.776
STMH107	191.68	199.48	0.1	192.01	8:00 AM	1.97	0.328	0	0	0	7.47	0	0	0	3.975
STMH1014	197.45	207.49	0.12	197.85	8:00 AM	3.69	0.61	0	0	0	9.64	0	0	0	7.181
STMH1021	192.77	200.12	0.09	193.05	8:00 AM	0.99	0.166	0	0	0	7.07	0	0	0	2.095
STMG1010	189.18	201.53	0.31	190.35	8:00 AM	12	2.02	0	0	0	11.18	0	0	0	23.429
STMH0916	193.13	199.83	0.24	193.88	8:36 AM	9.72	2.18	0	0	0	5.95	0	0	0	29.12
STMH101	189.9	200.2	0.3	190.98	8:00 AM	9.85	1.66	0	0	0	9.22	0	0	0	19.255
STMH109	185	193.12	0.05	185.15	8:00 AM	1.3	0.215	0	0	0	7.97	0	0	0	2.599
STMH1010	193	206.15	0.26	194.02	8:00 AM	8.48	1.4	-0.002	0	0	12.13	0	0	0	16.378
STMH1018	163	189.38	1.71	167.17	7:53 AM	2.16	0.363	-0.005	19.47	3.171	22.209	0	0	0	4.44
STMH0912	204	211.5	1.6	231.91	8:32 AM	1.67	0.194	-0.002	3.14	26.911	0	3.07	1.47	0.023	2.064
STMH1116	213.23	216.28	0.14	213.71	8:00 AM	3.82	0.635	0	0	0	2.57	0	0	0	7.512
STMH1128	203.8	216.85	0.17	204.35	8:00 AM	3.82	0.635	0	0	0	12.5	0	0	0	7.512
STMH1022	186.19	193.13	0.09	186.48	8:00 AM	0.99	0.166	0	0	0	6.65	0	0	0	2.095
STMH1024	205.02	212.81	1.58	232	8:32 AM	1.09	0.181	0.032	3.06	25.978	0	2.96	1.04	0.021	2.064
STMH0913	195.61	206.53	1.28	209.82	8:36 AM	9.76	2.18	0	4.92	13.205	0	1.67	0.47	0.005	29.12
STMH0911	200.85	211.62	2.13	231.89	8:31 AM	11.13	2.19	0	4.15	30.038	0	3.03	1.14	0.026	29.12
STMH108	187	196.12	0.07	187.21	8:00 AM	1.97	0.328	-0.001	0	0	8.91	0	0	0	3.975
STMH1015	205	216.24	0.16	205.5	8:00 AM	1.4	0.232	0	0	0	10.74	0	0	0	2.761
STMH1013	204.8	214.21	0.08	205.07	8:00 AM	1.4	0.232	0	0	0	9.14	0	0	0	2.761
STMH125	177.69	185.76	0.15	178.18	8:00 AM	3.63	0.607	0	0	0	7.58	0	0	0	5.723
STMG1015	181.87	191.3	0.19	182.47	8:00 AM	16.8	2.81	0	0	0	8.83	0	0	0	32.776
STMG1019	177.8	190.81	0.34	178.99	8:00 AM	21.4	3.59	0	0	0	11.82	0	0	0	41.861
STMI122	182.11	192.56	0.36	183.35	8:00 AM	11.21	1.88	-0.001	0	0	9.21	0	0	0	19.158
STMI121	179.45	189.85	0.24	180.21	8:00 AM	11.2	1.88	-0.002	0	0	9.64	0	0	0	19.158
STMH128	173.6	186.62	0.92	176.43	8:00 AM	55.78	10.1	0	0	0	10.19	0	0	0	110.238
STMH1248	160.76	169.57	0.15	161.28	8:00 AM	4.32	0.706	-0.002	0	0	8.29	0	0	0	9.692
STMH1311	154.6	165.61	0.12	155.01	8:00 AM	3.3	0.548	0	0	0	10.6	0	0	0	6.596
STMI1312	157.19	167.06	0.25	157.8	8:00 AM	4.95	1.31	0	0	0	9.26	0	0	0	18.504
STMH093	195.22	204.4	0.1	195.55	7:59 AM	2.64	0.431	0	0	0	8.85	0	0	0	5.028
STMI135	152.82	166.12	0.36	154.1	8:00 AM	6.78	1.14	0	0	0	12.02	0	0	0	11.28
STMI0911	259.63	264.49	0.21	260.27	8:00 AM	5.01	1.02	0	0	0	4.22	0	0	0	13.559
STMH095	196.44	204.94	0.19	197.15	8:00 AM	2.61	0.431	0	0	0	7.79	0	0	0	5.028
STMI081	305.96	310.66	0.19	306.55	8:00 AM	5.02	1.02	0	0	0	4.11	0	0	0	13.559
STMH1312	147.62	162.43	0.09	147.92	8:00 AM	2.65	0.44	-0.003	0	0	14.51	0	0	0	5.851
STMI141	154.9	167.62	0.28	155.88	8:00 AM	6.78	1.14	-0.001	0	0	11.74	0	0	0	11.28
STMH1313	153.35	163.34	0.1	153.66	8:00 AM	2.65	0.44	0	0	0	9.68	0	0	0	5.851
STMH1310	147.1	159.92	0.3	148.59	7:59 AM	3.3	0.548	-0.002	1.31	0.489	11.331	0	0	0	6.596
STMI131	151.8	167.53	0.18	152.39	8:00 AM	6.78	1.14	-0.001	0	0	15.14	0	0	0	11.28
STMH094	195.8	204.52	0.2	196.5	7:59 AM	2.61	0.431	0	0	0	8.02	0	0	0	5.028
STMI1311	154.39	162.6	0.18	154.82	8:00 AM	4.94	1.31	0.001	0	0	7.78	0	0	0	18.504
STMG1223	170.31	176.14	0.44	176.39	8:02 AM	3.93	0.666	0.003	1.52	5.078	0	0.62	0.49	0.001	6.396
J-HC-39	229.6	245	0.8	231.75	8:09 AM	102.32	21.8	0	0	0	15.647	0	0	0	386.931
J3474	189.28	201.53	0.35	190.47	8:00 AM	9.85	1.66	0	0	0	11.06	0	0	0	19.255
J-HCT3-09	170.5	177.09	0.42	171.9	8:00 AM	66.71	12.4	0	0	0	5.19	0	0	0	134.967
J3504	160	164.33	0.16	160.44	8:00 AM	3.97	0.665	0.001	0	0	21.255	0	0	0	6.839
J-HC-18	128	154.69	2.19	133.76	8:58 AM	443.46	114	-0.002	0	0	30.409	0	0	0	1699.199
J3588	209.9	215.23	0.55	211.21	8:02 AM	15.37	3.2	0.011	0	0	4.02	0	0	0	40.357
STMH1315	158.1	169.3	1.99	170.77	8:03 AM	4.25	1.53	0.001	10.41	11.841	0	1.48	0.19	0.003	20.848
J3612	174	178.04	0.22	174.86	8:00 AM	3.84	0.641	0	0	0	3.18	0	0	0	6.705
J3614	172	178.25	0.22	172.72	8:00 AM	6.57	1.1	-0.012	0	0	5.53	0	0	0	11.011
J3628	188	194.25	2.14	194.96	8:13 AM	93.89	2.6	10.06	9.38	3.085	0	1.92	91.74	0.767	21.205
J3630	187.5	191.1	2.28	194.89	8:12 AM	10.68	1.45	0.036	18.37	4.635	0	13.69	10.66	0.244	21.205
J6	164	169.4	0.35	167.27	7:59 AM	3.97	0.665	-0.001	2.02	2.265	2.135	0	0	0	6.839

Junctions Existing 25 Year Storm

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
J3696	156.53	166.6	0.21	157.11	8:01 AM	26.43	4.48	-0.089	0	0	9.49	0	0	0	53.782
J-HC-32	167	180	1.14	169.09	8:38 AM	277.05	66	0.156	0	0	34.03	0	0	0	1134.659
J3762	187.4	195.63	0.31	188.52	8:00 AM	8.57	1.44	0	0	0	7.11	0	0	0	13.884
J-HCT3-07	164.6	173.02	1.05	167.76	8:01 AM	66.33	12.4	0.002	0	0	5.26	0	0	0	134.967
J-HC-26	140.4	146.12	1.96	145.57	8:53 AM	369.35	91.6	0.02	0	0	26.179	0	0	0	1442.68
J3872	185.8	193.2	2.34	194.39	8:05 AM	3.05	1.61	0.03	24.15	7.591	0	1.11	0.23	0.001	24.459
J3936	398	415	0.52	409.49	7:45 AM	33.39	6.87	0	1.27	9.994	5.506	0	0	0	129.636
J3938	387	397	0.44	388.11	8:00 AM	36.59	7.4	0	0	0	8.89	0	0	0	137.04
J-HC-08	105.4	140	3.54	110.95	7:45 AM	481.64	128	0.035	0	0	36.821	0	0	0	1878.682
J4002	182.8	191.93	0.34	183.61	8:30 AM	10.9	2.43	-0.036	0	0	17.225	0	0	0	32.705
J-HC-35	178.7	185.18	1.23	182.15	8:35 AM	255.98	61.1	0	0	0	35.242	0	0	0	1070.324
J4042	176	204	0.08	176.26	7:59 AM	2.61	0.431	-0.005	0	0	27.74	0	0	0	5.028
J4050	258	262.32	0.15	258.4	8:40 AM	2.34	0.562	0.084	0	0	3.92	0	0	0	8.14
J4066	186	192.01	2.42	194.63	8:06 AM	3.1	1.61	0.026	24.03	7.627	0	2.34	0.29	0.003	24.459
J4068	186.1	192.39	2.48	194.76	8:06 AM	3.2	1.62	0.077	23.94	7.659	0	1.93	0.26	0.002	24.459
J4098	152	157.41	0.15	152.37	8:00 AM	6.38	1.91	-0.027	0	0	20.227	0	0	0	26.144
J4160	147.33	154.38	0.3	148.19	8:01 AM	26.67	5.31	0.001	0	0	6.19	0	0	0	63.425
J4198	160	165.68	0.2	160.58	8:00 AM	13.92	2.32	0	0	0	16.793	0	0	0	25.543
J4200	153	155.5	0.17	153.57	8:00 AM	13.91	2.32	0	0	0	16.803	0	0	0	25.543
J4234	187.2	195.74	0.29	188.22	8:00 AM	8.57	1.44	0	0	0	7.52	0	0	0	13.884
J-HC-29	153.5	160	1.14	156.94	8:42 AM	309.12	73.9	0.009	0	0	9.446	0	0	0	1228.876
J4282	169.7	174.01	0.34	170.71	8:00 AM	13.58	2.27	-0.129	0	0	3.3	0	0	0	23.246
J4290	162.4	169.88	1.93	186.35	8:42 AM	11.33	2.7	0.056	3.95	22.948	0	3.81	1.98	0.05	28.301
J4370	228.8	234.77	0.77	229.99	8:00 AM	10.18	4.45	0.002	0	0	4.78	0	0	0	55.54
J4398	141	160.6	0.22	141.7	8:00 AM	13.91	2.32	-0.107	0	0	22.126	0	0	0	25.543
J-HC-43	348.3	365	0.88	357.19	8:00 AM	46.09	9.88	0	4.29	7.389	7.811	0	0	0	180.739
J-HC-42	344.2	351.66	0.52	345.55	8:00 AM	52.16	11	-0.001	0	0	29.846	0	0	0	197.568
J4504	146.42	159.19	0.36	147.27	8:00 AM	9.73	2.19	-0.034	0	0	19.856	0	0	0	24.906
J4554	312	319.7	0.23	312.61	8:00 AM	4.46	1.11	0	0	0	7.09	0	0	0	19.23
J4556	310	318.92	0.16	310.4	8:01 AM	15.12	2.95	-0.561	0	0	8.52	0	0	0	47.074
J4576	313	319.25	0.08	313.25	8:05 AM	14.25	3.04	-0.003	0	0	24.2	0	0	0	54.547
J4608	101	163.45	0.73	116.15	9:39 AM	54.48	1.39	0.403	1.11	12.301	47.297	0	0	0	11.86
J4610	100	156.64	1.15	156.64	8:42 AM	49.26	4.86	3.401	4.95	53.788	0	0.01	30.46	0	55.697
J4620	176.3	186.56	2.31	211.22	8:14 AM	5.4	0.899	0.003	3.23	33.919	0	3.22	2.13	0.047	9.96
J4628	242.1	252.54	0.21	243.19	8:40 AM	4.9	1.29	-0.012	0	0	9.35	0	0	0	18.277
J4636	176.5	183.62	0.33	177.52	8:34 AM	8.17	1.37	-0.247	0	0	6.1	0	0	0	13.638
J4642	157.2	168.22	0.05	157.34	8:00 AM	0.99	0.166	0.001	0	0	10.88	0	0	0	2.095
J4668	164.65	173.34	2.83	197.95	8:46 AM	7.37	1.74	0.092	5.31	32.304	0	4.09	1.77	0.053	16.942
J4690	355.6	362.56	0.28	356.37	8:01 AM	36.49	7.4	-0.006	0	0	26.752	0	0	0	137.04
J-HCT4-03	168	190	0.82	169.68	8:01 AM	39.32	9.61	0.003	0	0	20.32	0	0	0	115.272
J4734	264	268.25	1.77	267.77	01/01/2013 14:38 PM	4.85	2.95	-0.001	20.83	2.766	0.484	0	0	0	47.074
J4738	226	234.54	0.56	227.1	8:00 AM	27.72	7.44	-0.021	0	0	8.458	0	0	0	89.477
J4740	194	202.86	0.7	195.78	8:06 AM	27.52	7.44	0.04	0	0	7.778	0	0	0	89.477
J4784	190	195.85	1.09	195.89	8:23 AM	71.76	2.05	13.525	0.88	2.012	0	0.47	70.54	0.204	12.636
J4862	120	130	0.18	120.5	8:00 AM	5.9	0.981	-0.064	0	0	21.195	0	0	0	11.471
J4918	202	207.52	0.21	203.3	8:00 AM	3.97	0.659	0	0	0	4.22	0	0	0	7.791
J5012	234	240.45	1.66	236.75	01/01/2013 20:04 PM	13.89	2.36	2.212	0	0	3.7	0	0	0	30.523
J5026	226	239.1	1.24	241.75	8:03 AM	8.87	2.19	0.001	4.78	14.501	0	1.08	1.31	0.004	27.553
J5046	228	234.16	0.48	228.85	8:00 AM	10.16	4.45	0.001	0	0	5.31	0	0	0	55.54
J5084	233	238.3	0.44	233.58	01/01/2013 15:59 PM	4.15	3.41	0	0	0	4.72	0	0	0	43.284
J5090	244	260.75	0.68	245.97	8:32 AM	107.25	24.7	0.035	0	0	22.48	0	0	0	458.919
J5110	192.5	197.58	0.33	193.65	8:00 AM	20.55	3.44	0	0	0	3.93	0	0	0	40.804
J5190	231.2	238.26	0.5	231.84	01/01/2013 16:00 PM	4.15	3.41	0.001	0	0	6.42	0	0	0	43.284
J5242	260	262.15	0.15	260.33	8:32 AM	2.37	0.561	-0.08	0	0	1.82	0	0	0	8.14
STMH1314	163	169.9	1.44	171.52	8:04 AM	2.88	0.952	-0.001	7.68	7.519	0	5.18	0.16	0.003	12.514
J5266	185.66	193.01	0.06	185.86	8:00 AM	0.99	0.166	-0.001	0	0	7.15	0	0	0	2.095
J5284	252	280.67	0.29	252.77	8:01 AM	6.4	1.1	-0.532	0	0	27.9	0	0	0	16.228
J5324	436.5	460	0.34	439.29	7:59 AM	9.77	2.17	0	1.34	1.792	20.708	0	0	0	38.713
J5326	434	439.48	0.13	434.31	8:00 AM	9.77	2.17	0.001	0	0	13.132	0	0	0	38.713
J5444	212.42	219.78	0.54	215.08	7:59 AM	15.45	3.2	0	1.72	1.163	4.697	0	0	0	40.357
J5450	280	288.9	0.13	280.33	8:03 AM	2.82	0.472	-3.286	0	0	8.57	0	0	0	6.232
J5480	228.1	240.29	1.19	242.81	8:08 AM	9.05	2.2	0.008	3.34	13.46	0	1.18	2.36	0.006	27.553
J5484	211.8	218.48	0.45	213.12	8:00 AM	15.44	3.2	-0.009	0	0	5.36	0	0	0	40.357
J5510	180.53	188.52	0.2	181.2	8:00 AM	5.8	0.965	0	0	0	7.32	0	0	0	11.206
J5560	165	168.88	0.4	166.8	8:10 AM	18.03	3.04	0.109	0	0	2.08	0	0	0	31.934
J5562	164	171.13	0.38	165	8:00 AM	21.74	4	-0.004	0	0	6.13	0	0	0	44.92
J-HCT4-05	176.5	188.79	0.56	177.83	8:00 AM	36.14	9.07	0.001	0	0	14.932	0	0	0	108.699
STIH144	160.75	165.49	0.19	161.36	8:00 AM	3.97	0.665	0	0	0	4.13	0	0	0	6.839
STIH1012	201.6	208.95	0.16	202.14	7:59 AM	1.28	0.215	0.001	0	0	6.81	0	0	0	2.599
J5628	264.5	271.1	1.87	268.46	01/01/2013 14:35 PM	14.89	2.97	0.567	0	0	2.64	0	0	0	47.074
J5640	158.5	164.04	0.25	159.18	8:00 AM	8.57	1.42	-0.065	0	0	23.638	0	0	0	17.512
STMI096	256	258.65	0.35	256.62	8:47 AM	6.91	3.51	0.005	0	0	2.03	0	0	0	55.214
J-HC-04	100	145	2.46	106.64	9:23 AM	581.97	160	0.004	0	0	53.039	0	0	0	2272.563
J4974	156.4	163.4	0.08	156.64	8:01 AM	8.03	1.66	0.001	0	0	38.467	0	0	0	22.885
J4688	357	364.24	0.55	358.36	8:00 AM	36.52	7.4	0	0	0	7.251	0	0	0	137.04
J-HC-41	304.9	309.25	0.46	306.18	8:03 AM	51.98	11	-0.003	0	0	29.916	0	0	0	197.568
J-HC-38	203.5	230	1.49	207.39	8:13 AM	219.07	49.5	-0.006	0	0	31.519	0	0	0	892.449
J-HC-31	164.5	180	1.68	168.39	8:38 AM	307.62	73.5	0.01	0	0	32.23	0	0	0	1224.436
J-HC-27	151.5	170	1.94	155.18	8:43 AM	366.41	90.5	-0.008	0	0	27.669	0	0	0	1428.126
J-HC-10	111.5	155	1.54	114.4	9:12 AM	477.91	127	0.01	0	0	40.6	0	0	0	1860.238
J-HC-06	105	145	3.89	110.94	7:45 AM	552.26	149	0.068	0	0	43.165	0	0	0	2125.908
J-HC-05	101	160	2.08	106.67	9:23 AM	597.12	159	0.039	0	0	54.009	0	0	0	2257.46
J-HCT2-03	141	160	0.47	142.15	8:01 AM	39.4	7.44	0.024	0	0	42.04	0	0	0	86.353
J-HCT2-02	120	160	0.52	121.28	8:03 AM	44.57	8.56	0.041	0	0	41.91	0	0	0	101.95
J-HCT3-08	170.2	175	0.53	171.7	8:00 AM	66.52	12.4	-0.001	0	0	5.311	0	0	0	134.967
J-HCT3-06	164.4	170	1.17	167.33	8:01 AM	69.21	12.9	0	0	0	9.709	0	0	0	140.771
J-HC-17	127	160	1.54	130.43	8:59 AM	496.15	114	0.002	0	0	39.303	0	0	0	1699.199
J-HC-25	139.3	160	2.22	144.38	8:55 AM	365.67	92.2	0.003	0	0	29.307	0	0	0	1450.633
J-HCT4-04	175.6	195	0.73	177.12	8:01 AM	37.41	9.28	0.002	0	0	17.88	0	0	0	111.298
J-HCT4-06	185	195	0.71	186.43	8:00 AM	36.2	9.07	0.002	0	0	14.832	0	0	0	108.699
STMH1026	172	187.5	0.49	173.19	8:05 AM	30.66	6.73	-0.109	0	0	25.083	0	0	0	77.762
J-HC-34	177	190	1.81	181	8:35 AM	259.21	61.9	0.002	0	0	30.57	0	0	0	1080.431
J4956	240	254.2	0.7	241.78	8:33 AM	112.3	26.5	0.001	0	0	28.621	0	0	0	486.127
J-HC-40	294	330	0.76	296.05	8:06 AM	96.43	20.1	0.004	0	0	33.95	0	0	0	361.561
J-HC-33	169	195	0.67	170.67	8:34 AM	266.32	63.6	0.004	0	0	32.9	0	0	0	1101.954
J-HC-19	129	155	2.58	134.44	8:59 AM	405.34	105	0.013	0	0	36.655	0	0	0	1608.501
J-HC-37	196	220	1.32	199.33	8:37 AM	233.11	53.1	0.043	0	0	35.362	0	0	0	946.528
J-HCT3-01	132.64	165	0.59	133.93	8:04 AM	90.15	16.7	-0.02	0	0	47.815	0	0	0	191.068
J-HCT3-03	155	165	0.28	155.76	8:02 AM	79.66	14.7	-0.003	0	0	15.226	0	0	0	162.255
J-HCT3-05	162.3	170	1.17	165.22	8:01 AM	70.01	13.1	0	0	0	9.719	0	0	0	142.318
J-HCT3-04	160.4	165	1.37	163.72	8:02 AM	72.37	13.4	0	0	0	9.319	0	0	0	146.669
J35	253.8	256.69	0.15	254.16	8:07 AM	10.22	1.97	-2.192	0	0	3.801	0	0	0	27.344
J-HC-36	180.5	187	1.74	184.38	8:39 AM	247.7	59.3	0.017	0	0	34.812	0	0	0	1041.79
J-HC-15	125	140	1.41	128.07	9:04 AM	445.35	116	0.001	0	0	39.663	0	0	0	1722.143
J-HC-20	133.8	143.8	2.27	139.12	8:59 AM	397.99	103	0.002	0	0	36.775	0	0	0	1582.958
J-HC-21	136	146	2.26	141.31	8:58 AM	392.96	101	0.002	0	0	36.785	0	0	0	1564.755
J-HC-23	137.76	147.76	2.51	143.81	8:56 AM	383.71	97.9	0.001	0	0	35.933	0	0	0	1517.249
J-HC-22	137	147	3.02	143.66	8:56 AM	390.22	101	0.001	0	0	35.435	0	0	0	1554.657
J-HC-24	139	149	2.1	144.27	8:56 AM	382.25	97.3	-0.001	0	0	36.713	0	0	0	1510.779
J-HCT4-02	166.4	188.4	0.66	167.56	8:01 AM	41.18	9.93	0.014	0	0	24.921	0	0	0	119.088
J-HC-28	151.8	170	2.21	156.17	8:41 AM	325.99	78.3	0.007	0	0	13.83	0	0	0	1282.658
J-HC-30	162	180	2.43	166.86	8:35 AM	307.79	73.9	0.001	0	0	13.14	0	0	0	1228.876
J-HC-03	97.2	168.5	2.48	103.62	9:25 AM	585.19	165	-0.002	0	0	64.88	0	0	0	2328.259
J-HC-07	105.3	140	3.63	110.95	7:45 AM	485.09	129	0.012	0	0	36.721	0	0	0	1890.152
J-HC-16	126	147	1.58	129.41	9:02 AM	452.36	116	0.002	0	0	39.323	0	0	0	1718.441
J-HC-13	117	140	2.46	121.78	9:09 AM	464.2	122	0.008	0	0	31.693	0	0	0	1794.656
J-HC-14	120.5	150	2.62	125.5	9:05 AM	457.42	120	0.02	0	0	37.733	0	0	0	1769.75
J-HC-12	115.43	140	2.68	120.3	9:09 AM	466.95	123	0.005	0	0	31.603	0	0	0	1807.58
J-HC-11	112.5	119	1.58	115.46	9:11 AM	471.83	125	0.01	0	0	39.411	0	0	0	1833.724
J-HCT3-02	146.8	155	0.37	147.73	8:02 AM	87.72	16.3	0.009	0	0	33.957	0	0	0	185.217
J-HCT2-01	107	165	0.66	108.59	8:04 AM	54.78	10.5	-0.097	0	0	56.41	0	0	0	131.552
J-HC-09	109	145	1.32	111.46	9:15 AM	481.82	128	-0.01	0	0	39.911	0	0	0	1878.682
STMG1213	167.5	174	0.12	167.89	8:02 AM	3.89	0.666	-0.008	0	0	6.11	0	0	0	6.396
STII141	167.21	173.9	1.2	168.67	12:02 AM	4.69	0.772	0.226	0	0	5.23	0	0	0	9.239
STIJ0917	226.69	235.97	0.28	227.83	8:00 AM	6.31	1.04	0	0	0	8.14	0	0	0	13.94
STIJ0919	225.32	235.16	0.24	226.19	8:00 AM	6.31	1.04	0	0	0	8.97	0	0	0	13.94
STIJ0915	216.42	225.09	0.29	217.74	8:00 AM	6.3	1.04	0	0.15	0.07	7.35	0	0	0	13.94
STIJ0924	221.3	230.64	0.2	222.02	8:00 AM	6.3	1.04	0	0	0	8.62	0	0	0	13.94
STIJ10111	215.6	221.89	0.28	216.73	8:00 AM	6.3	1.04	0	0	0	5.16	0	0	0	13.94

Junctions Existing 25 Year Storm

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
STIJ0923	224.31	232.92	0.19	224.98	8:00 AM	6.3	1.04	0	0	0	7.94	0	0	0	13.94
STIJ0927	219.25	228.25	0.2	219.96	8:00 AM	6.3	1.04	0	0	0	8.29	0	0	0	13.94
STIJ10112	215.31	221.89	0.3	216.4	8:01 AM	6.3	1.04	0	0	0	5.49	0	0	0	13.94
STIJ0916	226.92	235.59	0.3	228.21	8:00 AM	6.31	1.04	0	0.16	0.043	7.377	0	0	0	13.94
STII0991	226.87	235.7	14.03	246.29	12:00 AM	11.97	4.14	-0.002	40.3	16.715	0	39.31	4.14	0.019	82.303
STIJ0911	232.75	239.68	2.92	272.63	8:40 AM	6.76	1.23	0.067	4.43	38.878	0	4.32	1.76	0.045	18.223
STIJ081	253.03	261.07	0.35	259.6	7:34 AM	5.41	0.996	0.001	1.46	5.571	1.469	0	0	0	16.281
STIJ1064	212.68	221.34	0.18	213.3	8:00 AM	3.99	0.671	0	0	0	8.04	0	0	0	6.613
STII1245	160	167.67	0.39	161.3	8:01 AM	20.27	3.64	0.001	0	0	6.37	0	0	0	42.285
STII0986	229.64	238.48	11.77	246.32	01/01/2013 23:59 PM	12.73	3.93	-0.001	40	14.48	0	35.94	5.66	0.014	79.012
STII09106	249.39	257.74	0.76	255.27	01/01/2013 15:07 PM	11.9	2.49	-0.008	9.35	4.179	2.471	0	0	0	36.104
STIJ1069	194.56	202.19	0.18	195.17	8:01 AM	3.99	0.671	0	0	0	7.02	0	0	0	6.613
STIJ1066	198.06	206.48	0.19	198.72	8:01 AM	3.99	0.671	0	0	0	7.76	0	0	0	6.613
STII1194	193.95	202.49	0.45	196.1	8:00 AM	20.23	3.38	-0.001	0.4	0.152	6.388	0	0	0	38.373
STII0965	256.31	262.57	0.12	256.68	8:00 AM	0.92	0.17	0	0	0	5.89	0	0	0	2.734
STIJ102	216	223.89	0.12	216.32	8:00 AM	3.8	0.627	0	0	0	7.57	0	0	0	7.338
STII1030	220.8	229.41	18.34	244.95	12:00 AM	4.7	4.33	0	44.29	23.15	0	40.27	1.2	0.017	84.471
STII1050	215.72	223.64	0.83	218.93	9:39 AM	3.93	4.33	0	5.16	2.21	4.71	0	0	0	84.471
STII09125	248.36	254.25	0.35	249.86	8:00 AM	5.42	0.996	0	0.82	0.252	4.388	0	0	0	16.281
STIJ1070	190.71	198.43	0.2	191.4	8:01 AM	3.99	0.671	0	0	0	7.03	0	0	0	6.613
STIK116	164.54	173	0.14	164.94	8:00 AM	4.4	0.944	0	0	0	8.06	0	0	0	17.896
STIJ1063	218.91	227.26	0.18	219.52	8:00 AM	3.99	0.671	0	0	0	7.74	0	0	0	6.613
STII0913	235	242.98	7.52	246.44	01/01/2013 23:58 PM	13.06	4	-0.027	38.85	9.691	0	30.46	1.05	0.019	71.722
STII1055	213.5	221.11	0.18	214.85	8:41 AM	1.81	0.299	0	0.77	0.345	6.265	0	0	0	3.52
STIJ1021	215.79	223.18	1.18	226.38	8:39 AM	9.63	2.46	0	4.59	9.345	0	2.46	0.72	0.007	32.571
STII09103	250.92	259.42	0.39	252.23	8:00 AM	11.9	2.49	0.007	0	0	7.19	0	0	0	36.104
STII092	233.85	240.58	0.33	238.91	7:10 AM	4.78	0.791	0	1.47	3.814	1.666	0	0	0	9.778
STII1034	223.24	226.14	0.73	236.97	8:14 AM	8.38	1.58	0.011	2.14	12.731	0	2.06	0.91	0.014	22.781
STII09111	247.51	252.83	0.27	248.42	8:00 AM	5.41	0.996	0	0	0	4.41	0	0	0	16.281
STII0983	232.3	238.26	0	232.3	12:00 AM	0	0	0	0	0	5.96	0	0	0	0
STII0968	254.2	260.11	0.08	254.44	8:00 AM	0.92	0.17	0	0	0	5.67	0	0	0	2.734
STII09104	252.46	259.49	0.3	253.39	8:00 AM	11.91	2.49	0	0	0	6.1	0	0	0	36.104
STII09100	224.82	233.6	15.75	246.26	12:00 AM	9.56	4.12	-0.014	40.93	18.74	0	39.73	3.61	0.029	82.303
STII0916	230.8	236.94	0.12	231.2	8:00 AM	1.57	0.259	0	0	0	5.74	0	0	0	2.929
STII1149	203.31	211.36	0.16	203.82	8:00 AM	2.04	0.35	0.002	0	0	7.54	0	0	0	3.874
J-SBT4-05	167.77	173	0.09	168	8:01 AM	4.24	0.631	-0.253	0	0	5	0	0	0	9.33
STII0967	255.36	261.56	0.08	255.62	8:00 AM	0.92	0.17	0	0	0	5.94	0	0	0	2.734
STII09124	247.94	253.53	0.31	248.98	8:00 AM	5.42	0.996	0	0	0	4.55	0	0	0	16.281
STII0972	243.16	251.43	1.29	246.39	01/01/2013 23:59 PM	0.92	0.17	-0.014	8.04	0.797	5.043	0	0	0	2.734
STII1027	211	220.35	2	216.4	9:35 AM	3.93	4.33	0.004	39.43	4.398	3.952	0	0	0	84.471
STII0992	226.18	235.09	14.6	246.28	12:00 AM	11.03	4.13	0.003	40.44	17.398	0	39.43	6.36	0.028	82.303
STII135	159.82	172.66	1.42	172.03	8:00 AM	11.22	3.19	0.007	4.33	10.678	0.632	0	0	0	37.592
STML1146	197.83	206	0.14	198.27	8:00 AM	10.34	1.74	-0.005	0	0	7.73	0	0	0	19.153
STII0970	249.55	255.98	0.09	249.82	8:01 AM	0.92	0.17	0.019	0	0	6.16	0	0	0	2.734
STII1080	207.16	213.16	0.28	213.16	7:13 AM	5.84	0.979	0	0.95	5	0	0	0	0	10.016
STIJ1062	220	228.39	0.21	220.81	8:00 AM	3.99	0.671	0	0	0	7.58	0	0	0	6.613
STII0966	255.84	261.68	0.13	256.24	8:00 AM	0.92	0.17	0	0	0	5.44	0	0	0	2.734
STII0977	240.65	247.71	3.06	246.38	01/01/2013 23:55 PM	2.78	0.485	-0.034	32.84	4.026	1.334	0	0	0	7.291
STII10109	223	231.69	17.34	246.25	12:00 AM	5.95	4.12	-0.001	42.24	20.752	0	40.01	3	0.022	82.303
STII0926	230.4	236.93	0.13	230.81	8:00 AM	1.57	0.259	0	0	0	6.12	0	0	0	2.929
STII0990	227.59	238.2	13.43	246.29	12:00 AM	13.19	4.14	-0.002	40.2	16.003	0	36.6	3.66	0.016	82.303
STII1056	213	220.4	0.19	214.74	8:41 AM	1.81	0.299	-0.004	1.72	0.74	5.66	0	0	0	3.52
STIJ1060	223.73	229.64	0.18	224.35	8:00 AM	3.99	0.671	0	0	0	5.29	0	0	0	6.613
STIJ1061	222.82	230.99	0.2	223.56	8:00 AM	3.99	0.671	0	0	0	7.43	0	0	0	6.613
J4094	185	190	0.2	185.47	8:04 AM	49.85	9.99	0.042	0	0	8.759	0	0	0	129.247
STII09126	248.74	255.77	0.36	250.72	7:59 AM	5.41	0.996	0	1.04	0.726	5.054	0	0	0	16.281
STII1028	213.2	223.07	1.28	217.59	9:42 AM	3.93	4.33	0	28.59	3.387	5.483	0	0	0	84.471
STII1033	224.79	227.89	0.82	240.78	8:13 AM	6.57	1.15	0.001	2.15	14.985	0	2.13	0.77	0.012	17.018
STII0988	228.75	239.62	12.48	246.3	01/01/2013 23:59 PM	12.27	3.92	-0.004	40.06	15.053	0	35.47	7.39	0.011	79.012
STII1029	217.94	225.72	8.6	229.41	10:13 AM	3.93	4.33	0	44.41	10.808	0	36.4	0.19	0.004	84.471
STII102	204.2	212.63	0.46	206.29	7:59 AM	14.46	2.42	0	0.82	0.341	6.339	0	0	0	28.259
STII0928	233.7	240.48	8.52	246.38	01/01/2013 23:59 PM	13.79	3.47	0.014	39.37	10.934	0	35.44	9.59	0.016	71.722
STIJ1065	207.91	216.48	0.17	208.51	8:00 AM	3.99	0.671	0	0	0	7.97	0	0	0	6.613
STII09101	253.18	260.99	0.49	255.24	7:59 AM	11.9	2.49	0	1.21	0.562	5.748	0	0	0	36.104
STII0982	232.49	240.24	9.41	246.33	01/01/2013 23:59 PM	4.33	0.49	-0.023	39.49	11.643	0	35.41	4.25	0.015	7.291
STII104	233.15	239.5	0.23	234	8:00 AM	4.78	0.791	0	0	0	5.5	0	0	0	9.778
STII0975	242.11	251	2.01	246.4	01/01/2013 23:58 PM	2.79	0.485	0.026	28.31	2.789	4.601	0	0	0	7.291
STIJ1234	160.31	164.61	0.08	160.56	8:00 AM	1.71	0.283	0	0	0	4.05	0	0	0	3.398
STII0985	230.09	237.43	11.41	246.33	01/01/2013 23:59 PM	14.03	3.95	-0.012	39.63	12.282	0	38.21	5.83	0.023	79.012
STII081	249.94	257.98	0.37	254.09	7:59 AM	5.41	0.996	-0.001	1.73	2.954	3.886	0	0	0	16.281
STII0915	229.7	236.61	0.12	230.09	8:00 AM	1.57	0.259	-0.002	0	0	6.52	0	0	0	2.929
STII0980	236.84	243.95	5.91	246.33	12:00 AM	3.15	0.486	-0.017	35.56	7.495	0	26.26	0.08	0.004	7.291
STII1078	204.07	210.07	0.28	206.03	7:13 AM	9.92	1.65	0	1.33	0.961	4.039	0	0	0	17.52
STII137	161.23	173.12	1.6	176.12	8:08 AM	12.1	2.72	0	4.56	13.394	0	2.57	0.59	0.005	29.866
STII1359	160.75	173.19	1.59	174.41	8:03 AM	12.15	2.75	0	3.56	9.417	0	1.96	0.34	0.002	30.718
STMI149	158.85	172.23	1.33	169.65	7:59 AM	15.2	4.07	0	4.13	9.05	2.58	0	0	0	48.833
STMI1174	192.91	198.42	0.41	194.51	8:00 AM	18.5	3.14	0.001	0	0	3.91	0	0	0	35.919
STMI1175	188.72	194.82	0.25	189.53	8:01 AM	18.46	3.14	0	0	0	5.29	0	0	0	35.919
STMI1176	178.28	184.85	0.29	179.26	8:01 AM	18.46	3.14	0	0	0	5.59	0	0	0	35.919
STMI1020	223.16	226.97	0.34	224.42	7:58 AM	10.48	1.76	0	0	0	2.55	0	0	0	20.721
STMI1021	211.58	215.18	0.29	212.57	8:00 AM	14.51	2.42	-0.001	0	0	2.61	0	0	0	28.259
STMI1022	214	223.04	0.42	215.38	7:58 AM	17.59	3.19	0.02	0	0	7.66	0	0	0	39.726
STMI099	228.23	241.67	12.91	246.3	01/01/2013 23:59 PM	11.94	3.92	-0.002	40.1	15.369	0	34.58	0.38	0.007	79.012
STMI0910	229	235.57	0.2	229.6	7:56 AM	10.55	2.01	0	0	0	5.97	0	0	0	26.412
STMI148	157.99	174.81	1.14	166.21	7:59 AM	15.2	4.07	0	3.68	6.471	8.599	0	0	0	48.833
STML1132	190.42	202.9	0.27	191.25	8:01 AM	10.77	1.84	0.001	0	0	11.65	0	0	0	33.084
STMI1012	211.4	219.92	0.56	213.64	9:30 AM	20.46	3.66	-0.006	0	0	6.28	0	0	0	45.427
STMI1013	222.05	230.44	0.15	222.53	8:00 AM	1.78	0.296	-0.012	0	0	7.91	0	0	0	3.448
STMI126	175	181.57	0.28	176.51	8:07 AM	8.27	1.57	0	1.53	0.514	5.056	0	0	0	17.552
STMI127	174.3	180.14	0.27	175.17	8:02 AM	12.59	2.31	0	0	0	4.97	0	0	0	25.062
STMI128	173	180.18	0.32	174.04	8:01 AM	18.39	3.31	-0.001	0	0	6.14	0	0	0	37.319
STMI129	185	194.19	0.19	185.69	8:00 AM	5.88	0.983	0	0	0	8.5	0	0	0	10.878
STMI1015	213.55	221.8	0.75	222.17	8:11 AM	10.39	2.05	0.06	3.13	6.776	0	0.71	0.73	0.001	27.892
STMI1017	206.55	215.32	1.89	213.72	9:26 AM	15.57	2.95	0	10.9	5.121	1.599	0	0	0	38.141
STMI1019	199.5	209.28	0.68	200.68	8:11 AM	30.74	13.3	0	0	0	8.6	0	0	0	194.926
STMJ092	222.67	232.52	3.66	263.62	8:43 AM	8.68	1.83	0	6.87	39.955	0	4.53	2.01	0.044	25.447
STMJ1222	133.4	138.19	0.19	134.03	8:00 AM	10.58	1.76	0	0	0	4.16	0	0	0	21.925
STMJ1223	139.5	145.03	0.19	140.15	8:00 AM	10.58	1.76	0	0	0	4.88	0	0	0	21.925
STMI1110	206.93	213.85	0.17	207.52	8:00 AM	3.26	0.54	-0.004	0	0	6.33	0	0	0	6.025
STMI1113	193.31	203.03	0.99	195.57	8:00 AM	55.51	17.5	0.004	0	0	7.46	0	0	0	241.442
STMI1114	194	203	0.86	195.77	8:00 AM	35.31	14.1	0	0	0	7.23	0	0	0	203.069
STMI1115	186.78	204.18	0.78	188.46	8:01 AM	56.54	17.7	0	0	0	15.72	0	0	0	243.56
STMI101	230.23	234.61	0.23	231.07	8:00 AM	4.77	0.791	0.004	0	0	3.54	0	0	0	9.778
STMI103	210.8	220.69	0.52	213.58	9:34 AM	20.46	3.66	-0.003	0	0	7.11	0	0	0	45.427
STMI104	209.3	220.31	0.9	213.58	9:34 AM	23.97	7.99	-0.054	0	0	6.73	0	0	0	129.898
STMI105	215.2	223.5	0.38	216.46	7:57 AM	15.74	2.88	0	0	0	7.04	0	0	0	36.491
STMI1121	203.84	212.58	0.31	204.91	8:00 AM	17.73	2.96	0.001	0	0	7.67	0	0	0	34.284
STMI106	222.18	225.78	0.23	222.96	7:59 AM	10.75	1.76	0.001	0	0	2.82	0	0	0	20.721
STMI107	226.24	230.94	0.34	227.79	8:02 AM	10.57	1.76	-0.001	0.02	0.048	3.152	0	0	0	20.721
STMI109	216.25	223.33	0.25	217.06	7:57 AM	15.74	2.88	0.001	0	0	6.27	0	0	0	36.491
STMI1226	159	169	0.19	159.6	8:01 AM	20.26	3.64	-0.001	0	0	9.4	0	0	0	42.285
STMI1177	185.02	200.95	0.79	186.65	8:01 AM	56.54	17.7	0	0	0	14.3	0	0	0	243.56
STMI093	223.04	232.83	0.35	224.16	7:56 AM	10.55	2.01	0	0	0	8.67	0	0	0	26.412
STMI094	226.07	235.97	0.3	227.03	7:56 AM	10.55	2.01	0	0	0	8.94	0	0	0	26.412
STMI137	162.42	174.01	1.77	180.54	8:13 AM	12.09	2.72	0	4.22	16.565	0	2.83	1.07	0.016	29.866
STMI138	163.98	175.56	2.47	192.07	8:28 AM	10.26	2.2	0.01	5.58	26.837	0	3.31	1.87	0.042	24.003
STMI123	166.55	177.28	3.26	210.81	8:12 AM	5.79	0.973	0.012	5.61	43.264	0	3.66	2.36	0.047	10.984
STMI1310	160.3	172.62	1.58	173.71	8:01 AM	11.22	3.19	0.002	4.87	11.907	0	1.27	0.15	0.002	37.592
STMI124	180.75	187.53	0.27	182.9	7:27 AM	4.45	0.763	-0.001	0.83	1.148	4.632	0	0	0	9.601
STMI1123	189.65	206.15	0.87	191.58	8:01 AM	56.56	17.7	0	0	0	14.57	0	0	0	243.56
STMI1124	188.46	204.67	0.87	190.39	8:01 AM	56.55	17.7	0	0	0	14.28	0	0	0	243.56
STMI1010	232.65	239.99	0.24	233.5	8:00 AM	4.77	0.791	-0.001	0	0	6.49	0	0	0	9.778
STMI095	232.85	244.02	0.76	237.21	7:10 AM	4.78	0.791	0.036	2.14	3.007	6.813	0	0	0	9.778
STMI142	158.2	173.58	1.18	167.01	7:59 AM	15.2	4.07	0	3.81	7.056	6.574	0	0	0	48.833
STMI143	159.08	173.03	1.35	170.42	7:59 AM	15.2	4.07	-0.001	4.11	9.546	2.614	0	0	0	48.833
STMI144	156.95	174.57	0.89	168.79	7:04 AM	15.2	4.07	0	3.53	10.088	5.782	0	0	0	48.833
STMJ1244	170	175.94	0.31	171.17	8:01 AM	10.1	1.71	0	0	0	4.77	0	0	0	18.796
STMI1167	193.54	199.41	0.18	194.51	8:00 AM	3.99	0.662	0	0	0	4.9	0	0	0	7.21
STMJ1015	218.73	223.66	0.18	219.38	8:00 AM	3.8	0.627	0	0	0	4.28	0	0	0	7.338

Junctions Existing 25 Year Storm

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
STMI1172	198.19	204.63	0.16	198.75	8:00 AM	2.47	0.409	0	0	0	5.88	0	0	0	4.563
STMJ105	212.09	221.33	0.86	216.86	7:59 AM	20.58	4.48	0.002	3.89	2.775	4.465	0	0	0	55.581
STMI1162	189.01	193.87	0.11	189.38	8:00 AM	1.47	0.244	0.001	0	0	4.49	0	0	0	2.784
STMI1168	194.76	201.96	0.19	195.41	7:59 AM	3.99	0.662	0	0	0	6.55	0	0	0	7.21
STMJ119	207.67	214.53	0.11	208.01	8:00 AM	1.53	0.253	0	0	0	6.52	0	0	0	2.647
STMI102	213.03	219.89	0.16	213.73	9:31 AM	2.88	0.479	0.009	0	0	6.16	0	0	0	5.701
STMJ106	212.77	222.19	0.62	218.23	7:08 AM	12.25	2.02	-0.003	2.72	3.462	3.958	0	0	0	23.01
STMI091	220.03	229.89	0.32	221.04	7:56 AM	10.54	2.01	0	0	0	8.85	0	0	0	26.412
STMJ102	213.81	221.62	0.53	221.62	7:08 AM	7.62	1.26	0.002	2.35	6.31	0	0	0	0	14.293
STMJ1013	219.3	228.02	0.24	220.12	8:00 AM	3.81	0.627	0	0	0	7.9	0	0	0	7.338
STMI092	220.75	228.98	0.4	221.97	7:56 AM	10.54	2.01	0	0	0	7.01	0	0	0	26.412
STMJ1128	214.51	218.82	0.12	214.89	8:00 AM	1.65	0.275	0	0	0	3.93	0	0	0	2.972
STMJ117	199.99	206.82	0.1	200.32	8:00 AM	1.53	0.253	0	0	0	6.5	0	0	0	2.647
STMJ108	209.51	224.35	0.79	211.73	8:00 AM	31.78	6.33	0	0	0	12.62	0	0	0	77.335
STMI108	209.79	220.98	0.76	214.85	7:40 AM	11.97	2.35	0.007	5.01	3.312	6.128	0	0	0	31.412
STMJ1110	210.16	216.08	0.1	210.47	8:00 AM	1.53	0.253	0	0	0	5.61	0	0	0	2.647
STMJ1113	207.14	211.47	0.1	207.45	8:00 AM	1.65	0.275	-0.002	0	0	4.02	0	0	0	2.972
STMJ104	211.5	221.26	0.55	213.18	8:00 AM	24.94	5.2	-0.002	0	0	8.08	0	0	0	64.063
STMJ122	183.38	188.66	0.2	188.66	7:25 AM	3.09	0.516	-0.004	0.72	4.28	0	0	0	0	5.256
STMI1170	196.84	202.68	0.16	197.4	8:00 AM	2.47	0.409	0	0	0	5.28	0	0	0	4.563
STMJ1111	203.2	210.45	0.15	203.7	8:00 AM	2.47	0.409	0	0	0	6.75	0	0	0	4.563
STMJ116	198.86	205.84	0.12	199.26	8:00 AM	1.53	0.253	0	0	0	6.58	0	0	0	2.647
STMJ1127	208.87	212.99	0.11	209.21	8:00 AM	1.65	0.275	0	0	0	3.78	0	0	0	2.972
STMI1169	196.34	203.34	0.19	196.99	8:00 AM	3.99	0.662	0	0	0	6.35	0	0	0	7.21
STMJ1011	220.37	229.52	0.28	224.11	7:12 AM	3.81	0.627	0	1.04	2.743	5.407	0	0	0	7.338
STMJ1126	219.3	223.49	0.12	219.69	8:00 AM	1.65	0.275	-0.001	0	0	3.8	0	0	0	2.972
STMI1220	181.41	186.31	0.17	182	8:00 AM	3.6	0.596	0.002	0	0	4.31	0	0	0	6.681
STMI1164	190.45	194.94	0.08	190.71	8:00 AM	0.57	0.094	0	0	0	4.23	0	0	0	1.066
STMI1160	187.86	194.96	0.22	188.62	8:00 AM	3.6	0.596	0	0	0	6.34	0	0	0	6.681
STMI1014	217.26	225.12	0.42	218.51	7:57 AM	13.97	2.58	0	0	0	6.61	0	0	0	33.044
STMJ1114	196.97	204.87	0.33	198.17	8:00 AM	11.52	1.92	-0.001	0	0	6.7	0	0	0	21.167
STMJ091	222.46	232.94	3.37	260.98	8:44 AM	7.59	1.83	0	5	37.523	0	4.4	1.15	0.034	25.447
STMJ107	210.16	224.1	0.63	212.2	8:00 AM	27.99	5.7	0.001	0	0	11.9	0	0	0	69.997
STMI1144	187.23	193.53	0.18	187.83	8:00 AM	3.6	0.596	-0.001	0	0	5.7	0	0	0	6.681
STMJ118	203.56	210.39	0.1	203.9	8:00 AM	1.53	0.253	0	0	0	6.49	0	0	0	2.647
STMI1023	219.69	226.18	0.1	220.01	8:00 AM	1.12	0.188	-0.002	0	0	6.17	0	0	0	2.283
STMJ123	176.8	182.23	0.45	183.2	8:00 AM	10.22	1.71	0.002	1.36	5.149	0	0.74	0.18	0.002	18.796
STMI1163	189.92	196.24	0.09	190.2	8:00 AM	0.57	0.094	-0.001	0	0	6.04	0	0	0	1.066
STMJ1214	178.72	183.13	0.25	183.48	8:01 AM	2.72	0.411	0.002	0.96	3.507	0	0.37	0.87	0.001	4.521
STMJ1213	180.53	185.14	0.22	185.14	8:07 AM	2.5	0.411	0.004	0.9	3.613	0	0.01	0.38	0	4.521
STMI1173	199.33	206.67	0.17	199.93	8:00 AM	2.47	0.409	0	0	0	6.74	0	0	0	4.563
STMI1171	197.53	203.54	0.17	198.11	8:00 AM	2.47	0.409	0	0	0	5.43	0	0	0	4.563
STMI1018	208.3	219.28	0.94	213.94	9:26 AM	11.97	2.35	-0.041	6.36	3.637	5.343	0	0	0	31.412
STMJ103	213.12	221.55	0.57	219.26	7:08 AM	10.27	1.69	-0.003	2.67	4.391	2.289	0	0	0	19.264
STMI125	180.4	186.25	0.3	181.58	8:00 AM	4.41	0.739	-0.001	0	0	4.67	0	0	0	7.51
STMJ1136	178.62	191.82	0.24	179.47	8:00 AM	5.09	0.845	-0.001	0	0	12.35	0	0	0	10.466
STMJ1132	175.66	181.21	0.23	176.41	8:00 AM	5.08	0.845	0.001	0	0	4.8	0	0	0	10.466
STMJ1133	174.87	180.81	0.18	175.46	8:00 AM	5.08	0.845	0	0	0	5.35	0	0	0	10.466
STMI1214	157.09	166.72	0.25	157.89	8:00 AM	31	5.21	-0.001	0	0	8.83	0	0	0	58.437
STMK121	160.93	166.67	0.25	161.78	8:00 AM	8.88	1.47	0	0	0	4.89	0	0	0	18.527
STMJ1119	183.51	193.37	0.24	184.25	8:00 AM	3.8	0.768	0.001	0	0	9.12	0	0	0	11.185
STMJ1238	168.99	178.49	0.16	169.48	8:00 AM	6.93	1.23	0	0	0	9.01	0	0	0	15.973
STMK1214	170.13	179.9	0.16	170.66	8:00 AM	3.88	0.662	0	0	0	9.24	0	0	0	9.567
STMJ1230	160.57	162.69	0.16	161.11	8:00 AM	1.71	0.283	0	0	0	1.58	0	0	0	3.398
STMK123	178.61	183.96	0.08	178.86	8:00 AM	1.24	0.205	-0.001	0	0	5.1	0	0	0	2.745
STMJ1236	165.95	178.43	0.23	166.67	8:01 AM	9.26	1.62	0.004	0	0	11.76	0	0	0	20.137
STMK1212	183.98	197.98	0.16	184.52	8:00 AM	4.74	0.791	0	0	0	13.46	0	0	0	10.586
STMJ125	181.17	185.96	0.09	181.46	8:00 AM	0.86	0.141	0.005	0	0	4.5	0	0	0	1.656
STMJ1226	159.59	169.98	0.24	160.47	8:00 AM	12.7	2.1	0	0	0	9.51	0	0	0	26.994
STMI1217	178.84	185.16	0.21	179.59	8:00 AM	3.91	0.65	-0.001	0	0	5.57	0	0	0	7.16
STMI1222	172.59	178.66	0.18	173.2	8:00 AM	6.58	1.09	-0.001	0	0	5.46	0	0	0	12.092
STMK1122	196.81	204.19	0.31	204.19	7:36 AM	8.36	1.49	0	1.01	6.38	0	0.01	0.28	0	24.347
STMK1115	155.74	169.24	0.21	156.52	8:32 AM	3.58	0.621	-0.002	0	0	12.72	0	0	0	8.662
STMK1219	210.12	227.48	0.08	210.37	8:00 AM	1.08	0.182	0	0	0	17.11	0	0	0	2.632
STMJ1235	170.33	176.93	0.27	171.21	8:00 AM	12.38	2.08	0	0	0	5.72	0	0	0	26.021
STMK1116	162.55	171.62	0.15	163.03	8:00 AM	3.38	0.568	-0.006	0	0	8.59	0	0	0	7.296
STMK124	164.12	169.3	0.25	165.01	8:00 AM	5.29	0.881	0.001	0	0	4.29	0	0	0	11.305
STMJ1121	186.07	195.26	0.28	189.27	7:46 AM	3.81	0.768	0	0.84	2.203	5.987	0	0	0	11.185
STMK118	169.71	178.16	0.18	170.38	8:00 AM	3.8	0.631	0	0	0	7.78	0	0	0	9.33
STMK1120	172.58	180.18	0.13	173.01	8:00 AM	3.39	0.568	0	0	0	7.17	0	0	0	7.296
STMJ1010	185.18	193.33	0.08	185.43	8:00 AM	0.83	0.137	-0.006	0	0	7.9	0	0	0	1.523
STMJ1215	172.85	178.89	0.16	173.37	8:00 AM	2.33	0.384	0.001	0	0	5.52	0	0	0	4.163
STMI1223	181.2	187.87	0.13	181.63	8:00 AM	1.6	0.266	0	0	0	6.24	0	0	0	2.887
STMJ1210	168.84	174.54	0.38	170.23	8:00 AM	12.82	2.2	0	0	0	4.31	0	0	0	25.061
STMK1210	169.93	178.44	0.14	170.42	8:00 AM	4.05	0.669	0	0	0	8.02	0	0	0	8.208
STMJ1219	127.73	133.34	0.15	128.21	8:00 AM	3	0.543	0	0	0	5.13	0	0	0	6.612
STMK1223	263.91	272.88	0.12	264.3	8:00 AM	2.73	0.459	0	0	0	8.58	0	0	0	6.598
STMK117	173.5	180.82	0.16	174.08	8:00 AM	3.8	0.631	0	0	0	6.74	0	0	0	9.33
STMJ124	174.83	179.96	0.41	179.96	7:13 AM	10.11	1.71	0	1.39	3.881	0	0.01	0.54	0	18.796
STMJ129	171.98	177	0.29	172.99	8:01 AM	10.11	1.71	0	0	0	4.01	0	0	0	18.796
STMK128	162.01	171.59	0.28	168.42	7:15 AM	4.05	0.669	0	0.97	5.406	3.174	0	0	0	8.208
STMK1226	208.13	221.22	0.09	208.42	8:00 AM	2.73	0.459	0	0	0	12.8	0	0	0	6.598
STMI1210	168.81	175.71	0.13	169.25	8:00 AM	3.91	0.65	-0.001	0	0	6.46	0	0	0	7.16
STMK1220	242.37	254.86	0.06	242.56	8:00 AM	1.08	0.182	0	0	0	12.3	0	0	0	2.632
STMK1222	259.18	269.43	0.07	259.39	8:00 AM	1.08	0.182	0	0	0	10.04	0	0	0	2.632
STMI1225	182.19	187.05	0.15	182.71	8:00 AM	1.6	0.266	0	0	0	4.34	0	0	0	2.887
STMK1233	189.66	196.45	0.13	190.11	8:00 AM	1.35	0.223	0	0	0	6.34	0	0	0	2.784
STMK119	168.4	177.26	0.27	169.39	8:00 AM	3.8	0.631	0	0	0	7.87	0	0	0	9.33
STMK1112	210	218.58	0.11	210.37	8:00 AM	3.8	0.631	0	0	0	8.21	0	0	0	9.33
STMK1211	188.97	197.21	0.13	189.4	8:00 AM	4.05	0.669	0	0	0	7.81	0	0	0	8.208
STMK1231	219.71	228.03	0.11	220.08	8:00 AM	3.06	0.511	0	0	0	7.95	0	0	0	6.827
STMK1119	167.33	175.55	0.18	167.97	8:00 AM	3.39	0.568	0	0	0	7.58	0	0	0	7.296
STMK122	163.17	171.35	0.26	164.07	8:00 AM	8.88	1.47	0	0	0	7.28	0	0	0	18.527
STMJ1234	166.39	173.8	0.28	167.31	8:00 AM	12.38	2.08	0	0	0	6.49	0	0	0	26.021
STMK1235	156.63	167.17	0.24	157.44	8:00 AM	3.58	0.621	0	0	0	9.73	0	0	0	8.662
STMJ1138	171.55	178.22	0.28	172.48	8:00 AM	12.39	2.08	0	0	0	5.74	0	0	0	26.021
STMK1118	165.41	174.14	0.17	165.98	8:00 AM	3.38	0.568	0	0	0	8.16	0	0	0	7.296
STMK1228	166.09	170.32	0.14	166.56	8:00 AM	4.41	0.734	0	0	0	3.76	0	0	0	9.61
STMK1111	190.91	200.03	0.12	191.3	8:00 AM	3.8	0.631	0	0	0	8.73	0	0	0	9.33
STMJ1141	184	198.14	0.14	184.43	8:00 AM	3.43	0.601	0	0	0	13.71	0	0	0	7.795
STMJ1120	184.6	192.95	0.24	185.36	8:00 AM	3.81	0.768	0	0	0	7.59	0	0	0	11.185
STMJ128	167.85	175.55	0.41	169.21	8:00 AM	18.58	3.15	0.001	0	0	6.34	0	0	0	35.526
STMJ127	170.29	176.67	0.23	171.08	8:00 AM	5.76	0.949	-0.002	0	0	5.59	0	0	0	10.465
STMK1216	204.42	215.41	0.1	204.73	8:00 AM	2.8	0.481	0	0	0	10.68	0	0	0	7.265
STMJ1232	164.8	173.07	0.19	165.41	8:00 AM	12.38	2.08	0	0	0	7.66	0	0	0	26.021
STMK129	163.14	171.85	0.31	168.91	7:15 AM	4.05	0.669	0.001	1	4.769	2.941	0	0	0	8.208
STMJ1231	165.26	172.49	0.31	166.25	8:00 AM	12.38	2.08	0	0	0	6.24	0	0	0	26.021
STMJ1142	181.8	196.18	0.14	182.23	8:00 AM	3.43	0.601	0	0	0	13.95	0	0	0	7.795
STMK1215	174.52	184.97	0.12	174.91	8:00 AM	2.8	0.481	0	0	0	10.06	0	0	0	7.265
STMI1224	181.67	186.62	0.15	182.17	8:00 AM	1.6	0.266	0	0	0	4.45	0	0	0	2.887
STMK1113	154	167.79	0.38	156.26	8:43 AM	22.31	5.36	-0.004	0	0	11.53	0	0	0	83.389
STMJ1217	173.99	182.19	0.17	174.58	8:00 AM	2.33	0.384	0	0	0	7.61	0	0	0	4.163
STMJ1233	159.41	172.31	0.38	160.66	8:01 AM	21.62	3.7	-0.002	0	0	11.65	0	0	0	46.158
STMJ1134	184.75	193.71	0.13	185.17	8:00 AM	3.63	0.603	-0.001	0	0	8.54	0	0	0	7.437
STMI1221	173.35	179.03	0.21	174.07	8:00 AM	6.58	1.09	0	0	0	4.96	0	0	0	12.092
STMJ1228	142.4	152.27	0.24	143.26	8:00 AM	12.69	2.1	0	0	0	9.01	0	0	0	26.994
STMJ1224	155.98	163.93	0.19	156.61	8:00 AM	10.58	1.76	0	0	0	7.32	0	0	0	21.925
STMJ1237	163.11	175.75	0.2	163.73	8:01 AM	9.24	1.62	0	0	0	12.02	0	0	0	20.137
STMJ1012	181.23	191.54	0.16	181.69	8:00 AM	4.62	0.904	0.002	0	0	9.85	0	0	0	12.708
STMK116	179.68	190.07	0.22	180.49	8:00 AM	8.36	1.49	0	0	0	9.58	0	0	0	24.347
STMK113	164.46	171.39	0.33	165.61	8:00 AM	8.35	1.49	0	0	0	5.78	0	0	0	24.347
STMI1211	165.11	175.91	0.33	166.21	8:00 AM	31	5.21	0	0	0	9.7	0	0	0	58.437
STMI1218	180.87	187.24	0.12	181.27	8:00 AM	1.6	0.266	0	0	0	5.97	0	0	0	2.887
STMJ1218	135.56	144.3	0.15	136.04	8:00 AM	3.01	0.543	0	0	0	8.26	0	0	0	6.612
STMK1121	190.2	198.25	0.22	191.03	8:00 AM	8.37	1.49	0	0	0	7.22	0	0	0	24.347
STMK1117	164.26	173.18	0.18	164.86	8:00 AM	3.38	0.568	0	0	0	8.32	0	0	0	7.296
STMK1217	221.37	232.04	0.06	221.55	8:00 AM	0.96	0.171	0.001	0	0	10.49	0	0	0	3.185
STMK111	164.77	172.01	0.1	165.09	8:00 AM	3.88	0.662	0	0	0	6.92	0	0	0	9.567
STMJ1135	172.13	184.24	0.4	173.47	8:00 AM	8.7	1.45	0	0	0	10.77	0	0	0	17.903

Junctions Existing 25 Year Storm

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
STMI1219	176.01	181.12	0.23	176.81	8:00 AM	6.58	1.09	-0.001	0	0	4.31	0	0	0	12.092
STMK127	160.59	170.32	0.27	165.44	7:15 AM	4.05	0.669	0	1	3.848	4.882	0	0	0	8.208
STMK1232	248.53	252.93	0.1	248.87	8:00 AM	3.06	0.511	0	0	0	4.06	0	0	0	6.827
STMJ1229	138.19	150.41	0.26	139.12	8:00 AM	12.69	2.1	0	0	0	11.29	0	0	0	26.994
STMK1224	244.69	253.15	0.11	245.05	8:00 AM	2.73	0.459	0	0	0	8.1	0	0	0	6.598
STMJ1239	160.72	175.82	0.35	161.81	8:01 AM	9.24	1.62	0.001	0	0	14.01	0	0	0	20.137
STMK1218	247.63	257.77	0.06	247.81	8:00 AM	0.96	0.171	0	0	0	9.96	0	0	0	3.185
STMJ1212	176.56	181.07	0.15	177.07	8:00 AM	2.18	0.358	0.001	0	0	4	0	0	0	3.955
STMJ1220	125.95	134.11	0.21	126.63	8:00 AM	13.58	2.3	0	0	0	7.48	0	0	0	28.537
STMJ1211	169.3	173.57	0.23	170.37	8:00 AM	2.73	0.487	0.001	0	0	3.2	0	0	0	6.265
STMI1165	183.22	188.69	0.15	183.74	8:00 AM	1.6	0.266	0	0	0	4.95	0	0	0	2.887
STMI1215	170.24	177.14	0.19	170.85	8:00 AM	3.91	0.65	0	0	0	6.29	0	0	0	7.16
STMK1229	188.72	195.11	0.12	189.1	8:00 AM	4.41	0.734	0	0	0	6.01	0	0	0	9.61
STMJ1216	172.18	179.11	0.1	172.52	8:00 AM	2.33	0.384	0	0	0	6.59	0	0	0	4.163
STMK1221	244.72	256	0.09	245	8:00 AM	1.08	0.182	0	0	0	11	0	0	0	2.632
STMK1225	239.49	249.01	0.09	239.77	8:00 AM	2.73	0.459	0	0	0	9.24	0	0	0	6.598
STMI1216	175.24	180.86	0.18	175.83	8:00 AM	3.91	0.65	0.001	0	0	5.03	0	0	0	7.16
STMI1212	165.74	175.94	0.39	167.05	8:00 AM	27.09	4.56	0	0	0	8.89	0	0	0	51.277
STMK1230	209.01	216.02	0.11	209.36	8:00 AM	3.06	0.511	0	0	0	6.66	0	0	0	6.827
STMJ1225	158.36	166.67	0.26	159.22	8:00 AM	8.87	1.47	0	0	0	7.45	0	0	0	18.527
STMJ1143	176	184.27	0.16	176.48	8:00 AM	3.42	0.601	0.001	0	0	7.79	0	0	0	7.795
STMJ1227	146.32	156.32	0.24	147.21	8:00 AM	12.69	2.1	0	0	0	9.11	0	0	0	26.994
STMK126	176.34	185.72	0.16	176.89	8:00 AM	4.73	0.791	0	0	0	8.83	0	0	0	10.586
STMK114	165.22	172.51	0.26	166.16	8:00 AM	8.35	1.49	0	0	0	6.35	0	0	0	24.347
STMK1110	177.71	187.16	0.15	178.23	8:00 AM	3.8	0.631	0	0	0	8.93	0	0	0	9.33
STMK1227	193.74	207.53	0.12	194.13	8:00 AM	2.73	0.459	0	0	0	13.4	0	0	0	6.598
STMJ121	179.24	184.58	0.17	179.83	8:00 AM	2.18	0.358	-0.001	0	0	4.75	0	0	0	3.955
STMJ126	173.71	178.85	0.22	174.47	8:00 AM	5.77	0.949	-0.001	0	0	4.38	0	0	0	10.465
STMK115	173.64	181.48	0.2	174.33	8:00 AM	8.35	1.49	0	0	0	7.15	0	0	0	24.347
STMK125	169.53	176.15	0.08	169.8	8:00 AM	0.88	0.146	-0.002	0	0	6.35	0	0	0	1.695
STMK1213	180.96	190.25	0.07	181.18	8:00 AM	1.08	0.181	-0.001	0	0	9.07	0	0	0	2.302
J-SB-06	119	125	1.51	122.94	9:19 AM	529.92	142	0.104	0	0	38.612	0	0	0	2336.289
STMI1233	178	182.86	1.21	195.54	8:09 AM	8.82	1.57	0.054	4.3	16.545	0	2.89	1.54	0.026	17.552
STML1232	179.2	183.3	1.44	202.48	8:11 AM	5.35	0.856	0.015	4	22.284	0	3.07	1.58	0.031	10.141
STMI1229	179.71	185.43	0.24	180.52	8:00 AM	4.41	0.739	-0.003	0	0	4.91	0	0	0	7.51
STMI1228	176.5	182.97	0.24	177.31	8:00 AM	4.41	0.739	0.003	0	0	5.66	0	0	0	7.51
STMI1227	174.4	180.52	0.24	175.22	8:02 AM	4.41	0.739	0	0	0	5.3	0	0	0	7.51
STMI1234	175	181.62	0.25	175.86	8:01 AM	4.41	0.739	0	0	0	5.76	0	0	0	7.51
STMI139	165.23	177.12	3.09	203.59	8:14 AM	11.84	2.2	0.007	5.79	37.108	0	3.54	3.03	0.06	24.003
J-SBT1-07	180	197.02	0.59	181.24	8:02 AM	68.45	19.7	0.008	0	0	18.81	0	0	0	278.942
J3522	212	221.63	0.61	213.98	8:00 AM	20.58	4.48	0	0	0	7.65	0	0	0	55.581
J3524	217.58	225.11	0.5	224.9	8:13 AM	7.97	1.58	-0.001	2.02	6.069	0.211	0	0	0	22.781
J-SBT1-02	138.8	152.64	1.83	146.56	8:33 AM	170.39	39.4	0.142	0	0	31.754	0	0	0	488.333
J3668	235.5	241.58	7.09	246.44	01/01/2013 23:58 PM	16.38	2.34	5.275	35.68	7.773	0	35.4	15.76	1.434	29.354
J3852	218.54	225.64	0.14	219.01	8:00 AM	2.88	0.478	-0.001	0	0	6.63	0	0	0	5.701
J3960	182.33	189.04	0.2	183.51	8:00 AM	2.72	0.471	0.001	0.03	0.18	5.53	0	0	0	6.489
STMJ115	190.96	195.48	0.16	191.49	8:00 AM	1.47	0.244	-0.001	0	0	3.99	0	0	0	2.784
J4092	202	209.33	0.28	202.7	8:42 AM	7.01	1.48	0.002	0	0	6.63	0	0	0	21.507
J4114	234	239.15	0.29	235.24	8:35 AM	4.31	0.848	0.018	0	0	3.91	0	0	0	12.731
J4116	242	247.5	0.14	242.42	8:00 AM	2.03	0.423	0	0	0	5.08	0	0	0	6.848
J4118	241.5	246.08	0.24	242.1	8:01 AM	4.34	0.848	-0.017	0	0	3.98	0	0	0	12.731
J4122	209.5	220.14	1.16	213.98	9:35 AM	3.93	4.33	0.079	7.02	3.478	6.162	0	0	0	84.471
J4150	175	180.51	0.18	175.61	8:00 AM	4.43	0.763	0.002	0	0	4.9	0	0	0	9.601
J4268	245	251.01	0.42	246.45	01/01/2013 23:57 PM	83.76	1.94	-0.195	0	0	4.56	0	0	0	29.354
J4270	243	250.64	1.52	250.64	12:01 AM	100.06	2.24	16.469	7.57	4.892	0	0.02	93.57	0.014	29.354
J4284	174.8	184.88	1.21	180.61	8:44 AM	49.69	9.99	0.01	0	0	4.27	0	0	0	129.247
J-SBT7-02	173	179.48	0.94	175.02	8:32 AM	45.16	11.4	0.01	0	0	12.033	0	0	0	143.242
J4292	179.9	185.1	0.23	180.67	8:00 AM	4.45	0.763	-0.001	0	0	4.43	0	0	0	9.601
J-SBT4-04	163.59	171.93	0.26	164.38	8:00 AM	16.62	3.09	0	0	0	7.55	0	0	0	51.81
J4424	202	204.82	0.69	203.11	9:35 AM	23.48	11.6	0.031	0	0	2.39	0	0	0	177.406
J4426	200.5	207	0.71	201.64	9:35 AM	23.47	11.6	0	0	0	5.36	0	0	0	177.406
J4	179.71	184.2	1.56	205.47	8:07 AM	5.87	0.856	0.002	3.92	24.756	0	3.03	1.3	0.021	10.141
STMJ1022	219.49	227.5	2.87	249.79	8:41 AM	9.93	2.46	0.001	7.05	29.3	0	4.57	1.47	0.036	32.571
J4834	197	209.42	0.4	198.49	8:00 AM	20.24	3.38	0	0	0	10.93	0	0	0	38.373
J4848	244	250.92	2.99	251.45	01/01/2013 20:12 PM	40.21	3.12	37.826	17.71	5.452	0	11.09	35.66	0.253	42.368
J4990	167.85	179	0.06	168.01	8:00 AM	2.33	0.384	-0.014	0	0	10.99	0	0	0	4.163
J-SB-15	260.2	270	0.66	261.48	8:31 AM	87.14	25.3	0.04	0	0	31.422	0	0	0	465.116
J5124	233	235.36	0.2	233.59	8:44 AM	3.82	0.848	0.001	0	0	1.77	0	0	0	12.731
J5176	209.16	215.69	0.46	210.39	8:01 AM	31.77	6.33	-0.001	0	0	5.3	0	0	0	77.335
J5178	205	210.38	0.21	205.51	8:02 AM	44	8.51	0.027	0	0	8.719	0	0	0	107.74
J5216	206	211.34	2.4	213.5	9:33 AM	43.56	11.6	-0.138	4.42	2	0	4.41	19.79	0.342	177.406
J5236	252	258.59	0.14	252.49	8:00 AM	2.38	0.424	0.058	0	0	6.1	0	0	0	6.264
STMI1161	188.4	195.56	0.08	188.66	8:00 AM	0.57	0.094	0.001	0	0	6.9	0	0	0	1.066
J5382	214.65	219.14	0.09	214.92	8:01 AM	6.3	1.04	-0.016	0	0	4.22	0	0	0	13.94
J-SB-12	152.7	156.33	2	159.83	9:21 AM	268.77	70.3	0.057	0	0	27.115	0	0	0	1228.946
J-SBT6-02	143.4	170	1.09	146.51	8:00 AM	60.95	13	0	0	0	23.49	0	0	0	219.13
STML1131	194.81	207.4	0.24	195.59	8:00 AM	10.77	1.84	-0.005	0	0	11.81	0	0	0	33.084
J-SB-02	106.1	130	1.4	109.13	9:52 AM	771.84	248	-0.005	0	0	54.373	0	0	0	3966.226
J-SB-05	117.1	125	2.26	122.51	9:21 AM	494.5	141	0.004	0	0	2.49	0	0	0	2336.289
J-SB-16	267	272.2	0.63	268.6	8:30 AM	87.14	25.3	0	0	0	3.6	0	0	0	465.116
J-SB-03	108.6	140	3.49	115.05	9:58 AM	640.12	190	0.281	0	0	52.042	0	0	0	2946.759
J-SB-04	115.9	125	2.94	121.6	9:29 AM	498.85	144	0.026	0	0	36.974	0	0	0	2364.827
J-SBT1-01	137.8	150	1.36	140.37	8:33 AM	158.66	43	-0.613	0	0	55.922	0	0	0	546.746
J-SB-11	151	153.16	2.01	154.99	8:25 AM	250.02	74.8	0.003	0	0	2.321	0	0	0	1296.455
J-SBT6-01	143	160	0.42	144.14	8:05 AM	156.14	34.5	-0.025	0	0	27	0	0	0	599.98
J-SB-09	139	165	1.97	143.24	9:10 AM	426.67	122	0.043	0	0	46.371	0	0	0	2056.217
J-SB-14	224	235	0.83	225.69	8:07 AM	129.47	33.2	0.022	0	0	32.977	0	0	0	578.392
J-SBT1-04	154.61	180	1.35	157.57	8:02 AM	115.03	29.6	0.002	0	0	36.554	0	0	0	376.734
J-SBT1-05	157.4	180	0.96	159.67	8:02 AM	108.18	28.3	0.004	0	0	28.569	0	0	0	358.372
J-SBT1-06	176	185	1.06	178.17	8:02 AM	87.85	24.9	0.005	0	0	28.669	0	0	0	318.196
STIL11186	172.5	179	0.13	172.93	8:00 AM	1.99	0.329	0	0	0	6.07	0	0	0	4.257
STIL11185	171.7	179	0.07	171.92	8:00 AM	1.99	0.329	0	0	0	7.08	0	0	0	4.257
J-SB-13	177	185	1.18	179.69	8:36 AM	235.91	61.9	-0.038	0	0	31.977	0	0	0	1091.407
STIK117	167.96	175	0.25	168.81	8:01 AM	3.81	0.631	0	0	0	6.19	0	0	0	9.33
J-SBT4-03	161.31	170	0.23	161.93	8:01 AM	16.62	3.09	-0.066	0	0	11.735	0	0	0	51.81
J-SBT4-02	153.6	157	0.99	156.29	8:43 AM	23.05	4.19	0.401	0	0	10.787	0	0	0	67.431
J4032	155	160	0.26	155.61	8:00 AM	15.2	4.07	0.001	0	0	11.411	0	0	0	48.833
J-SBT1-09	188.95	196.5	0.08	189.19	8:01 AM	10.77	1.84	-0.001	0	0	19.81	0	0	0	33.084
J-SBT1-08	182	199.21	0.34	182.66	8:01 AM	67.31	19.5	0.002	0	0	23.39	0	0	0	276.643
J-SBT1-03	152.2	175	1.39	155.21	8:05 AM	120.73	30.5	-0.124	0	0	36.504	0	0	0	387.611
STMJ1242	136.14	145	0.12	136.47	8:00 AM	12.69	2.1	-0.157	0	0	8.53	0	0	0	26.994
J-SB-07	126.6	150	3.06	132.05	8:39 AM	446.95	134	-0.013	0	0	37.102	0	0	0	2236.449
STMK1114	144.32	160	0.64	148.94	9:58 AM	21.34	5.36	0	2.79	3.368	11.062	0	0	0	83.389
J-SBT4-01	140.54	145	0.24	141.16	7:40 AM	21.34	5.36	-0.034	0	0	26.823	0	0	0	83.389
J-SB-08	134	160	3.15	139.89	9:42 AM	431.67	125	0.019	0	0	44.721	0	0	0	2097.876
J-SBT5-01	169.2	180	0.21	169.85	8:00 AM	18.4	3.21	-0.262	0	0	27.665	0	0	0	41.66
J-SBT7-01	168	170	0.44	169.04	8:32 AM	49.9	12.4	-0.028	0	0	13.013	0	0	0	159.782
J-SB-10	150	155	1.45	153.3	9:10 AM	297.11	87.2	-0.019	0	0	3.011	0	0	0	1456.237
J-SBT7-03	189.88	193.59	0.18	190.36	8:01 AM	3.99	0.671	-0.097	0	0	13.573	0	0	0	6.613
J-SBT3-01	147.7	160	0.3	148.57	8:02 AM	31.87	5.52	-0.251	0	0	16.555	0	0	0	72.846
STII09112	247.12	253.42	0.17	247.66	8:00 AM	5.53	0.996	-0.003	0	0	5.76	0	0	0	16.281
J5	247.57	255	1.21	255	8:30 AM	32.93	2.71	0.306	9.98	5.932	0	0.01	29.01	0.001	36.104
J7	172.43	175.26	0.72	175.87	9:11 AM	13.9	2.33	0.125	3.12	0.375	0	3.12	5.58	0.044	25.425
J8	169	171.35	0.51	172.79	8:47 AM	3.23	0.893	0	4.54	2.795	0	2.75	0.08	0.001	8.718
J9	167.6	171.8	0.12	168	8:00 AM	1.39	0.234	-0.002	0	0	3.8	0	0	0	2.316
stmI11045	205.08	215	0.21	205.77	8:00 AM	8.31	1.39	0	0	0	9.23	0	0	0	15.278
stmI11047	193.43	205	0.28	194.37	8:00 AM	8.93	1.47	0	0	0	10.63	0	0	0	20.804
stmI11048	189.85	205	0.33	192.28	8:46 AM	9.3	1.53	0.01	0	0	12.72	0	0	0	21.441
stmI11052	194.85	206	0.26	195.67	8:00 AM	6.61	1.13	0	0	0	10.33	0	0	0	11.64
stmI11053	197.28	207	0.27	198.13	8:00 AM	6.61	1.13	0	0	0	8.87	0	0	0	11.64
stmI11054	197.93	208	0.28	198.84	8:00 AM	6.61	1.13	0	0	0	9.16	0	0	0	11.64
stmI11056	188.81	204	0.47	192.28	8:45 AM	18.54	3.11	0.029	0	0	11.72	0	0	0	37.712
stmI11049	192.52	204	0.31	193.53	8:00 AM	9.27	1.58	0	0	0	10.47	0	0	0	16.271
stmI11029	201.53	214	0.26	202.38	8:00 AM	8.41	1.41	0	0	0	11.62	0	0	0	13.931
stmI11030	197.62	207.67	0.23	198.38	8:01 AM	8.41	1.41	0	0	0	9.29	0	0	0	13.931
stmJ11001	210.2	225.607	0.47	212.54	7:58 AM	8.41	1.41	0	1.06	0.841	13.066	0	0	0	13.931
stmI11039	204.8	221	0.26	205.66	8:00 AM	8.41	1.41	0	0	0	15.34	0	0	0	13.931
stmJ11002	206.6	225	0.28	207.53	7:59 AM	8.71	1.41	0	0	0	17.47	0	0	0	13.931
stmG11016	191.4	197.87	0.6	197.61	8:02 AM	6.68	1.12	0.008	2.7	4.713	0.257	0	0	0	12.636

Junctions Existing 25 Year Storm

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
stmG10020	192.3	199.998	0.57	199.34	8:02 AM	6.67	1.12	0.013	2.46	5.537	0.661	0	0	0	12.636
stmG10038	191.8	198	0.52	198	8:02 AM	6.67	1.12	-0.01	2.4	4.7	0	0.01	0.06	0	12.636
stmH11041	189.64	202	0.21	190.39	8:00 AM	6.63	1.11	-0.002	0	0	11.61	0	0	0	11.581
stmH11042	185.01	198	0.37	186.3	8:00 AM	16.1	2.7	0	0	0	11.7	0	0	0	28.114
stmH12034	168.73	185	0.36	169.94	8:02 AM	16.1	2.7	0	0	0	15.06	0	0	0	28.114
stmH12035	167.91	184	0.35	169.07	8:02 AM	16.1	2.7	0	0	0	14.93	0	0	0	28.114
stmG12034	153.99	168	0.32	155.04	8:00 AM	17.49	2.94	0	0	0	12.96	0	0	0	30.552
stmG12036	157.34	171	0.27	158.22	8:00 AM	17.49	2.94	0	0	0	12.78	0	0	0	30.552
stmF12016	175.6	185	0.24	176.42	8:00 AM	4.71	0.789	0	0	0	8.58	0	0	0	8.124
stmG11013	185.06	191.884	0.54	188.75	7:58 AM	4.61	1.16	0	3.61	2.692	3.132	0	0	0	13.63
stmF08048	196.08	205	4.17	200.98	7:59 AM	0.61	0.109	0.137	47.26	3.643	4.017	0	0	0	1.199
stmF08049	196.9	205	3.35	201.17	1:25 AM	0.61	0.11	5.207	46.6	1.767	3.833	0	0	0	1.199
stmF08050	196.99	211	3.26	201.62	1:25 AM	0.57	0.058	8.209	46.59	2.133	9.377	0	0	0	0.644
stmG10040	191.74	198	0.33	195.77	7:22 AM	1.95	0.326	0.002	0.88	3.031	2.229	0	0	0	3.751
stvG10041	191.74	194	0.05	191.89	8:00 AM	1.95	0.326	-0.001	0	0	2.85	0	0	0	3.751
stmG10042	186.92	192	0.32	187.79	8:10 AM	2.16	0.369	0.009	0	0	4.21	0	0	0	7.535
stvG10043	187	192	0.07	187.75	8:10 AM	2.84	0.504	-0.002	0	0	4.25	0	0	0	7.535
stvG10044	186.52	191	0.54	187.75	8:10 AM	0.34	0.059	0.649	0	0	3.25	0	0	0	7.535
stmG10045	186.5	191	0.56	187.75	8:10 AM	0.34	0.059	0.595	0	0	3.25	0	0	0	8.225
stmG10046	186.51	195	0.69	193.49	7:59 AM	6.62	1.21	0.002	3.32	5.782	1.508	0	0	0	13.63
stmG10047	187.55	193	0.38	193	7:06 AM	2.02	0.16	-0.012	2.4	4.45	0	1.49	2.02	0.051	1.616
stmG07079	264.9	264	0.01	264.94	8:00 AM	0.14	0.022	-0.001	0	0	1.21	0	0	0	6.498
stmG07080	267.89	266	0	267.89	12:00 AM	0	0	0	0	0	1.25	0	0	0	6.498
stmG07081	271.2	270	0	271.2	12:00 AM	0	0	0	0	0	1	0	0	0	0
stmI12035	166.03	175	0.2	166.67	8:00 AM	1.9	0.334	0	0	0	8.33	0	0	0	4.965
stmI12036	165.95	171	0.14	166.42	8:00 AM	1.9	0.334	0	0	0	4.58	0	0	0	4.965
stmF11012	177	181	0.1	177.32	8:07 AM	2.74	0.436	-0.001	0	0	3.68	0	0	0	5.965
stmG11020	178.44	185	0.18	179.06	8:01 AM	1.51	0.264	0	0	0	5.94	0	0	0	3.607
stmG11021	177.65	183	0.19	178.26	8:01 AM	1.74	0.305	0.007	0	0	4.74	0	0	0	4.165
stmG11022	180.76	192	0.12	181.15	8:00 AM	0.85	0.148	0	0	0	10.85	0	0	0	2.016
stmG11023	181.57	192	0.08	181.82	8:00 AM	0.46	0.081	0	0	0	10.18	0	0	0	1.109
stmG11024	177.36	182	0.23	178.13	8:03 AM	2.47	0.436	-0.002	0	0	3.87	0	0	0	5.965
stmG11025	178.95	188	0.21	179.65	8:00 AM	1.51	0.264	0	0	0	8.35	0	0	0	3.607
stmF11013	177.05	181	0.23	177.79	8:03 AM	2.34	0.436	0.004	0	0	3.21	0	0	0	5.965
stmI15003	156.03	164	0.45	156.65	8:01 AM	0.14	0.023	0.434	0	0	7.35	0	0	0	0.307
stmF09033	178.31	186	0.34	180.01	8:03 AM	3.51	0.829	-0.002	1.11	0.439	5.991	0	0	0	12.167
stmF09034	179.47	188	0.24	180.57	8:03 AM	2.06	0.474	0.005	0	0	7.43	0	0	0	6.951
stmF09035	177.62	184	0.36	178.74	8:03 AM	3.51	0.829	0	1.07	0.115	5.265	0	0	0	12.167
stmI15004	162.57	166	3.23	166	2:45 AM	0.13	0.024	0	46.12	2.43	0	24.17	0.13	0.023	0.774
stmG08067	256.1	256	0	256.1	12:00 AM	0	0	0	0	0	1	0	0	0	4.08
stmG08068	257.03	257	0	257.03	01/02/2013 22:55 PM	0	0	0	0	0	1	0	0	0	4.08
stmG08069	251.25	259	4.4	257.04	01/01/2013 14:08 PM	1.51	0.257	0.525	37.19	2.085	1.965	0	0	0	3.59
stmG08070	254.31	265	1.92	257.03	01/01/2013 14:04 PM	1.52	0.258	0.457	0	0	7.97	0	0	0	3.59
stmG10048	191.9	196.4	0.18	192.52	8:00 AM	2.04	0.341	0	0	0	3.88	0	0	0	4.136
stmG10049	192.42	196.79	0.19	193.09	8:00 AM	2.04	0.341	-0.002	0	0	3.7	0	0	0	4.136
stmG10050	193.07	197.29	0.13	193.49	8:00 AM	0.86	0.142	0.003	0	0	3.8	0	0	0	1.643
stmF09036	180.7	191	0.93	182.96	8:00 AM	23.43	4.2	0.008	0	0	8.04	0	0	0	51.308
stmI13014	172.86	172	0.04	173.26	8:03 AM	4.93	0.223	0	0	0	0.6	0	0	0	0.852
stmH10031	171	176	0.18	171.56	8:01 AM	2.52	0.468	0	0	0	4.44	0	0	0	6.592
stmH10033	181.92	182	0.07	182.14	8:00 AM	0.8	0.136	0	0	0	1.03	0	0	0	1.907
stmH10034	176.4	181	0.08	176.63	8:00 AM	1.74	0.332	0	0	0	4.37	0	0	0	4.685
stmH10035	171.95	181	0.27	172.72	8:00 AM	1.74	0.332	-0.002	0	0	8.28	0	0	0	4.685
stmH1310003	166.88	171	0.69	171	6:57 AM	2	0.522	-0.005	5.53	3.12	0	2.21	2	0.06	7.14
stmG1210033	158.15	169	0.16	158.67	8:00 AM	5.6	0.926	0.001	0	0	10.33	0	0	0	11.004
stmG1210034	155.6	162	0.42	157.07	8:00 AM	28.92	4.87	0.001	0	0	4.93	0	0	0	50.323
stmG1210035	154.95	164	0.49	156.64	8:00 AM	28.92	4.87	0	0	0	7.36	0	0	0	50.323
stmG1210037	153.32	168	0.39	154.74	8:00 AM	28.91	4.87	0	0	0	13.26	0	0	0	50.323
stmF1210011	152.42	167	0.53	154.24	8:00 AM	28.91	4.87	0	0	0	12.76	0	0	0	50.323
stmF1310001	151.44	164	0.53	153.28	8:00 AM	31.97	5.39	0	0	0	10.72	0	0	0	56.982
stmF1310002	150.08	164	0.57	152.01	8:00 AM	31.97	5.39	0	0	0	11.99	0	0	0	56.982
stmF1310003	149.47	156	0.15	149.95	8:00 AM	31.97	5.39	0	0	0	6.05	0	0	0	56.982
stmF1310010	108.5	115	0.04	108.63	8:00 AM	0.53	0.092	0	0	0	6.37	0	0	0	1.331
stmF1310011	110.6	123	0.06	110.78	8:00 AM	0.47	0.082	0	0	0	12.22	0	0	0	1.197
stmG0710063	240.8	242	0.17	241.13	11:11 AM	1.1	0.487	0.002	0	0	0.87	0	0	0	7.893
stmG0710068	274.87	291	0.12	275.27	8:00 AM	1.26	0.203	0	0	0	15.73	0	0	0	2.98
stmG0710069	257.47	260	0.15	258.02	8:00 AM	3.3	0.536	0	0	0	1.98	0	0	0	7.893
stmG0710088	277.58	289	0.08	277.85	8:00 AM	0.52	0.083	0	0	0	11.15	0	0	0	1.215
stmH10032	170.22	171	0.07	170.42	8:01 AM	2.52	0.468	0	0	0	1.55	0	0	0	6.592
stmH10028	186.83	193	0.1	187.17	8:00 AM	1.53	0.256	0	0	0	5.83	0	0	0	3.233
stmF0610006	236.26	243.31	0.79	239.61	8:00 AM	8.97	2.18	0	3.87	1.631	3.699	0	0	0	33.089
stmF07021	213.38	219	0.36	214.32	8:09 AM	6	1.08	0.001	0	0	4.68	0	0	0	16.02
stmF07022	215.31	218	0.25	216.17	8:01 AM	6.57	1.09	0	0	0	1.83	0	0	0	16.02
stmF07023	215.9	219	0.28	216.88	8:00 AM	6.63	1.09	0	0	0	2.12	0	0	0	16.02
stmF07024	239	249	0.09	239.31	8:00 AM	0.99	0.159	-0.001	0	0	9.69	0	0	0	2.346
stmF07025	228.21	239.5	0.14	228.67	8:01 AM	2.61	0.438	0	0	0	10.83	0	0	0	6.483
stmF06000	241.42	246	0.04	241.55	8:00 AM	0.31	0.05	0	0	0	4.45	0	0	0	0.728
stmH1010057	190.92	200	0.12	191.33	8:00 AM	1.53	0.256	0	0	0	8.67	0	0	0	3.233
stmH1010049	159.96	168	0.08	160.22	8:01 AM	4.05	0.725	0	0	0	7.78	0	0	0	9.825
stmH1010052	179.52	188	0.08	179.79	8:00 AM	1.53	0.256	0	0	0	8.21	0	0	0	3.233
stmH1010051	167.8	184	0.09	168.1	8:00 AM	1.53	0.256	0	0	0	15.9	0	0	0	3.233
stmH1010016	186.4	197	6.06	192.82	8:00 AM	0.36	0.06	0.96	0	0	4.18	0	0	0	0.741
stmH13019	161.06	169	0.08	161.3	8:00 AM	0.35	0.062	0	0	0	7.7	0	0	0	0.931
stmH13018	160.29	168	0.07	160.51	8:00 AM	0.35	0.062	0	0	0	7.49	0	0	0	0.931
stmH13020	157.01	168	0.06	157.21	8:34 AM	0.29	0.056	0.002	0	0	10.79	0	0	0	0.931
stmH13021	156.51	167	0.04	156.62	8:35 AM	0.29	0.056	0.001	0	0	10.38	0	0	0	0.931
stmH13017	159.69	168	0.07	159.92	8:00 AM	0.35	0.062	0	0	0	8.08	0	0	0	0.931
stmH1310004	167.1	171	0.68	171	6:55 AM	3.94	0.657	0	5.52	2.9	0	4.08	3.92	0.194	7.14
stmG07078	258.65	265	3.9	263.7	9:50 AM	1.84	0.297	0.208	39.3	2.804	1.296	0	0	0	4.376
stmG0710067	241.93	251	0.16	242.52	8:00 AM	3.3	0.536	0.007	0	0	8.48	0	0	0	7.893
stcoG1108	184.3	193	0.08	184.55	8:00 AM	0.46	0.081	0	0	0	8.45	0	0	0	1.109
stcoI13000	165.1	173	7.63	173	12:54 AM	2.45	0.151	0.115	47.1	6.9	0	2.29	2.45	0.101	0.746
stcoH1004	180.04	183	2.03	182.4	8:00 AM	0.8	0.136	0.13	0	0	0.6	0	0	0	1.907
stiF08081	197.25	204	3.01	201.24	1:25 AM	0.28	0.047	1.536	46.8	2.739	2.761	0	0	0	0.555
stiG10088	197.79	206	0.13	198.22	8:00 AM	1.95	0.326	-0.003	0	0	7.78	0	0	0	3.751
stiG10090	186.92	192	0.32	187.79	8:10 AM	1.79	0.309	0.014	0	0	4.21	0	0	0	3.784
stiG10091	186.92	191	0.19	187.75	8:10 AM	0.46	0.078	0	0	0	3.25	0	0	0	8.501
stiG10092	187.53	191	0	187.75	8:10 AM	0	0	0.773	0	0	3.25	0	0	0	0
stiG10093	187.51	191	0.08	187.77	8:11 AM	0.34	0.058	-0.02	0	0	3.23	0	0	0	0.691
stiG10094	188.76	193	0.08	189.02	8:00 AM	0.35	0.058	-0.003	0	0	3.98	0	0	0	0.691
stiG10095	189.43	193	0.08	189.69	8:00 AM	0.35	0.058	-0.001	0	0	3.31	0	0	0	0.691
stiG10096	187.55	193	0.44	193	7:05 AM	0.4	0	5.011	2.29	4.26	0	1.51	0.21	0	0
stiG10097	187.73	193	0.36	193	7:06 AM	0.82	0.137	0.001	2.21	4.07	0	1.55	0.8	0.027	1.616
stiG10098	187.93	194	0.64	193.58	7:06 AM	0.92	0.137	0.015	2.11	4.141	0.419	0	0	0	1.616
stiG10099	189.22	194	0.29	194	7:06 AM	1.12	0.136	0.002	1.98	3.78	0	0.01	0.84	0	1.616
stiG10100	186.78	194	1.77	193.62	7:06 AM	0.45	0.001	23.558	47.27	5.84	0.38	0	0	0	0
stiG08137	255.95	258	0.74	257.03	01/01/2013 14:18 PM	0.52	0.086	0.523	34.04	0.084	0.966	0	0	0	1.056
stiG08138	255.11	264	1.32	257.07	01/01/2013 14:12 PM	0.52	0.086	0.732	35.31	0.947	6.933	0	0	0	1.056
stiG08139	254.66	264	1.65	257.06	01/01/2013 14:04 PM	0.52	0.086	0.398	36.07	1.4	6.94	0	0	0	1.056
stiH080005	265.05	270	0.05	265.21	8:00 AM	0.14	0.023	0	0	0	4.79	0	0	0	0.341
stiH080006	264.69	271	0.05	264.84	8:00 AM	0.14	0.023	0.001	0	0	6.16	0	0	0	0.341
stiH080007	264.39	272	0.06	264.59	8:00 AM	0.24	0.039	0	0	0	7.41	0	0	0	0.587
stiG080143	263.1	271	0.09	263.39	8:00 AM	1	0.172	0	0	0	7.61	0	0	0	2.534
stiH080010	266.62	272	0.05	266.76	8:00 AM	0.1	0.017	0.001	0	0	5.24	0	0	0	0.246
stiH080011	264.4	272	1.96	266.53	8:00 AM	0.1	0.017	1.145	0	0	5.47	0	0	0	0.246
stiG080141	264.02	271	0.07	264.24	8:00 AM	0.34	0.063	0	0	0	6.76	0	0	0	0.92
stiG080140	263.57	271	0.07	263.79	8:00 AM	0.34	0.063	0	0	0	7.21	0	0	0	0.92
stiG10103	192.74	196.37	0.2	193.35	8:00 AM	1.18	0.199	0	0	0	3.02	0	0	0	2.493
stiG10104	193.51	197.94	0.13	193.92	8:00 AM	0.86	0.142	0	0	0	4.02	0	0	0	1.643
stiG10105	193.76	197.94	0.12	194.16	8:00 AM	0.86	0.142	0	0	0	3.78	0	0	0	1.643
stiG09110	194.47	198.27	0.13	194.88	8:00 AM	0.86	0.142	0	0	0	3.39	0	0	0	1.643
stiG09112	192.2	198.95	2.95	196.03	1:07 AM	0.24	0.038	2.755	46.88	2.081	2.919	0	0	0	0.429
stiG10108	189.63	194.72	1	192.19	01/01/2013 16:43 PM	2.18	0.485	-9.31	5.31	1.204	2.526	0	0	0	4.136
stiG10109	189.29	195.09	1.33	191.87	01/01/2013 16:42 PM	1.92	0.419	-0.182	23.49	1.381	3.219	0	0	0	4.136
stiH10069	183.27	182	0	183.27	12:00 AM	0	0	0	0	0	2	0	0	0	0
stiH10070	177.12	180	0.09	177.4	8:00 AM	1.74	0.332	0	0	0	2.6	0	0	0	4.685
stiH10071	176.84	180	0.12	177.21	8:00 AM	1.74	0.332	0	0	0	2.79	0	0	0	4.685
stiG1210032	159.82	169	0.23	160.85	8:00 AM	5.6	0.926	0	0.26	0.027	8.153	0	0	0	11.004
stiF1310017	113.4	113	0.03	113.5	8:00 AM	0.06	0.009	0.002	0	0	0.9	0	0	0	0.134
stiF1310018	112	115	0.03	112.09	8:00 AM	0.06	0.009	0.001	0	0	2.91	0	0	0	0.134

Junctions Existing 25 Year Storm

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
stiF1310019	111.8	118	0.03	111.89	8:00 AM	0.06	0.009	0	0	0	6.11	0	0	0	0.134
stiG0710062	240.9	244	0.23	241.34	11:11 AM	1.1	0.487	0.002	0	0	2.66	0	0	0	7.893
stiG0710071	258.97	261	0.15	259.52	8:00 AM	3.3	0.536	0	0	0	1.48	0	0	0	7.893
stiG0710072	259.46	265	0.14	259.95	8:00 AM	1.28	0.21	0	0	0	5.05	0	0	0	3.11
stiG0710073	261.52	266	0.12	261.94	8:00 AM	2.02	0.325	0	0	0	4.06	0	0	0	4.783
stiG0710074	263.89	268	0.05	264.06	8:00 AM	0.25	0.04	0	0	0	3.94	0	0	0	0.598
stiG0710075	264.82	271	0.06	265.01	8:00 AM	0.25	0.04	0	0	0	5.99	0	0	0	0.598
stiG0710076	262.26	269	0.13	262.73	8:00 AM	1.77	0.285	0	0	0	6.27	0	0	0	4.185
stiG0710077	262.62	272	0.15	263.18	8:00 AM	1.77	0.285	0	0	0	8.82	0	0	0	4.185
stiG0710078	263.44	273	0.07	263.68	8:00 AM	0.37	0.059	0	0	0	9.32	0	0	0	0.872
stiG0710079	273.76	284	0.08	274.02	8:00 AM	1.4	0.226	0	0	0	9.98	0	0	0	3.313
stiG0710080	274.48	286	0.04	274.61	8:00 AM	0.14	0.023	0.001	0	0	11.39	0	0	0	0.333
stiG0710081	275.38	291	0.14	275.88	8:00 AM	1.26	0.203	0	0	0	15.12	0	0	0	2.98
stiG0710082	277.98	292	0.05	278.13	8:00 AM	0.27	0.044	0	0	0	13.87	0	0	0	0.639
stiG0710083	277.02	290	0.12	277.45	8:00 AM	0.99	0.159	-0.001	0	0	12.55	0	0	0	2.341
stiG0710084	277.23	291	0.08	277.51	8:00 AM	0.48	0.077	0	0	0	13.49	0	0	0	1.126
stiG0710085	278.3	286	0.09	278.61	8:00 AM	0.52	0.083	0	0	0	7.39	0	0	0	1.215
stiG0710086	278.67	283	0.1	279	8:00 AM	0.52	0.083	0	0	0	4	0	0	0	1.215
stiG07124	262.3	270	1.09	263.83	9:48 AM	1.84	0.298	0.479	14.29	0.16	6.17	0	0	0	4.376
stiG07123	260.5	266	2.44	263.74	9:55 AM	1.84	0.296	0.209	38.73	2.041	2.259	0	0	0	4.376
stiG07117	266.9	271	0	266.9	12:00 AM	0	0	0	0	0	4.1	0	0	0	0
stiG07130	263.9	267	0	263.9	12:00 AM	0	0	0	0	0	3.1	0	0	0	0
stiG07120	265.83	272	0	265.83	12:00 AM	0	0	0	0	0	6.17	0	0	0	0
stiG07126	263.1	274	0.47	263.84	9:49 AM	0.49	0.079	0.095	0	0	10.16	0	0	0	1.162
stiG07134	263.55	277	0.15	263.95	8:00 AM	1.35	0.219	0.016	0	0	13.05	0	0	0	3.213
stiG07125	262.7	273	0.79	263.84	9:49 AM	1.84	0.299	0.095	0	0	9.16	0	0	0	4.376
stiG07131	263.5	267	0.11	263.68	9:48 AM	0.06	0.001	2.499	0	0	3.32	0	0	0	0
stiH10023	193.33	196.397	0.04	193.47	8:00 AM	0.21	0.035	0.001	0	0	2.927	0	0	0	0.43
stiG0610001	245.69	250.69	0.03	245.8	8:00 AM	0.2	0.031	0	0	0	4.89	0	0	0	0.458
stiF0610004	241.92	247.02	0.04	242.05	8:00 AM	0.2	0.031	-0.021	0	0	4.97	0	0	0	0.458
stiF0610005	237.77	243.22	0.44	241.18	8:00 AM	8.97	2.18	0	2.96	2.314	2.036	0	0	0	33.089
stiF07040	216.5	220	0.19	217.24	8:01 AM	7.41	1.09	0.001	0	0	2.76	0	0	0	16.02
stiF06006	240.01	243	0.22	240.56	8:00 AM	0.99	0.159	0.005	0	0	2.44	0	0	0	2.346
stiF07042	234.09	240	0.07	234.33	8:01 AM	0.99	0.159	0.001	0	0	5.67	0	0	0	2.346
stiF07043	222.85	228	0.06	223.06	8:01 AM	0.98	0.159	0	0	0	4.94	0	0	0	2.346
stiF07044	219.45	226	0.11	219.82	8:01 AM	0.98	0.159	0	0	0	6.18	0	0	0	2.346
stiF07048	218.8	225	0.09	219.12	8:01 AM	0.98	0.159	0.002	0	0	5.88	0	0	0	2.346
stiF07045	217.25	222	0.25	218.18	8:01 AM	4.02	0.667	0	0	0	3.82	0	0	0	9.841
stiF07046	217.64	223	0.2	218.35	8:01 AM	3.03	0.507	0	0	0	4.65	0	0	0	7.496
stiF07047	218.09	224	0.19	218.74	8:01 AM	3.03	0.507	0	0	0	5.26	0	0	0	7.496
stiF07055	217.01	221	0.06	217.24	7:45 AM	0.22	0.03	-0.003	0	0	3.76	0	0	0	0.431
stiF07051	218.4	223	0.08	218.73	8:01 AM	0.43	0.069	0	0	0	4.27	0	0	0	1.012
stiF07052	228.79	238	0.22	229.62	8:01 AM	2.62	0.438	-0.001	0	0	8.38	0	0	0	6.483
stiF06005	229.47	239	0.06	229.68	8:00 AM	0.3	0.049	0.008	0	0	9.32	0	0	0	0.714
stiF07059	218.32	222	0.12	218.73	8:00 AM	1.1	0.179	0	0	0	3.27	0	0	0	2.639
stiF07060	217.93	220	0.1	218.26	8:00 AM	0.77	0.124	0.001	0	0	1.74	0	0	0	1.833
stiF07061	218.23	221	0.07	218.45	8:00 AM	0.25	0.04	0	0	0	2.55	0	0	0	0.59
stiF06000	243.17	247	0.04	243.3	8:00 AM	0.31	0.05	0	0	0	3.7	0	0	0	0.728
stiF06001	236.4	243	0.08	236.68	8:00 AM	0.63	0.101	0	0	0	6.32	0	0	0	1.479
stiF06002	242.53	241	0.03	242.63	8:00 AM	0.32	0.051	0	0	0	0.9	0	0	0	0.751
stiF06003	235.7	244	0.04	235.85	8:00 AM	0.63	0.101	0	0	0	8.15	0	0	0	1.479
stiF06004	230.35	242	0.18	231.01	8:00 AM	2.32	0.39	-0.001	0	0	10.99	0	0	0	5.769
stiF07062	218.95	223	0.09	219.26	8:00 AM	0.52	0.084	0	0	0	3.74	0	0	0	1.243
stiF07063	219.69	223	0.09	219.97	8:00 AM	0.52	0.084	0	0	0	3.03	0	0	0	1.243
stiF07064	231.24	248	0.18	231.89	8:00 AM	1.7	0.289	0	0	0	16.11	0	0	0	4.29
stiF06007	231.68	250	0.16	232.23	8:00 AM	1.7	0.289	0	0	0	17.77	0	0	0	4.29
stiF06008	231.98	248	0.19	232.63	8:00 AM	1.7	0.289	0	0	0	15.37	0	0	0	4.29
stiH1010058	195	200	0.06	195.19	8:00 AM	1.53	0.256	0	0	0	4.81	0	0	0	3.233
stiH1010017	192.49	194	0.04	192.61	8:00 AM	0.36	0.06	0	0	0	1.39	0	0	0	0.741
stiH1010018	193.23	198	0.04	193.35	8:00 AM	0.15	0.025	0.001	0	0	4.65	0	0	0	0.312
stiH1010019	186.24	189	0.03	186.35	8:00 AM	0.36	0.06	-0.001	0	0	2.65	0	0	0	0.741
stiG11129	186.37	192	0.03	186.46	8:00 AM	0.23	0.039	0.001	0	0	5.54	0	0	0	0.527
stiI15008	163.82	167	0.08	164.07	8:00 AM	1.11	0.196	0	0	0	2.93	0	0	0	2.464
stiG11123	182.36	188	0.03	182.46	8:00 AM	0.28	0.048	0	0	0	5.54	0	0	0	0.65
stiI15013	162.76	168	3.04	166.06	2:45 AM	0.12	0.022	0.745	45.72	2.1	1.94	0	0	0	0.268
stiG11124	178.68	183	0.05	178.85	8:00 AM	0.24	0.041	0	0	0	4.15	0	0	0	0.558
stiF07057	217.03	220	0.22	217.77	8:00 AM	1.86	0.303	0	0	0	2.23	0	0	0	4.472
stiI15012	163.12	168	2.69	166.07	2:45 AM	0.12	0.022	0.523	45.57	1.95	1.93	0	0	0	0.268
stiF09090	190.13	200	0.07	190.31	8:00 AM	0.33	0.075	0	0	0	9.69	0	0	0	1.101
stiG11126	177.87	183	0.07	178.26	8:01 AM	0.24	0.041	0	0	0	4.74	0	0	0	0.558
stiF09083	181.02	188	0.21	181.6	8:00 AM	1.54	0.355	0	0	0	6.4	0	0	0	5.216
stiF09087	184.06	191	0.1	184.34	8:01 AM	0.68	0.158	-0.001	0	0	6.66	0	0	0	2.321
stiG11132	177.3	181	0.21	178	8:07 AM	2.33	0.436	0	0	0	3	0	0	0	5.965
stiI15006	166.96	168	0.1	167.29	8:00 AM	1.11	0.196	0	0	0	0.71	0	0	0	2.464
stiG11125	178.15	183	0.07	178.36	8:00 AM	0.24	0.041	0.001	0	0	4.64	0	0	0	0.558
stiF09081	184.06	188	0.12	184.38	8:00 AM	2.06	0.474	0	0	0	3.62	0	0	0	6.951
stiG11130	182.49	192	0.02	182.57	8:00 AM	0.16	0.028	0	0	0	9.43	0	0	0	0.381
stiF09089	192.63	200	0.08	192.84	8:00 AM	0.33	0.075	0	0	0	7.16	0	0	0	1.101
stiF09091	185.21	195	0.09	185.45	8:01 AM	0.32	0.075	0	0	0	9.55	0	0	0	1.101
stiF09082	181.02	188	0.24	181.66	8:00 AM	0.86	0.197	0	0	0	6.34	0	0	0	2.895
stiG11127	177.77	183	0.09	178.07	8:02 AM	0.73	0.131	0	0	0	4.93	0	0	0	1.8
stiI15004	162.19	168	0.04	162.31	8:00 AM	0.14	0.023	-0.019	0	0	5.69	0	0	0	0.307
stiG11134	181.53	189	0.04	181.64	8:00 AM	0.38	0.069	0	0	0	7.36	0	0	0	0.941
stiI15010	163.88	167	1.97	166.04	2:45 AM	0.23	0.04	0.99	45.25	1.159	0.961	0	0	0	0.507
stiI15011	163.02	166	2.79	166	2:45 AM	0.23	0.04	1.74	45.48	1.78	0	23.31	0.23	0.037	0.507
stiG11131	182.13	193	0.07	182.35	8:00 AM	0.46	0.081	0	0	0	10.65	0	0	0	1.109
stiI15007	166.14	168	0.1	166.45	8:00 AM	1.11	0.196	0	0	0	1.55	0	0	0	2.464
stiI12052	176.75	181	0.07	176.97	8:00 AM	0.53	0.088	0	0	0	4.03	0	0	0	0.935
stiI15014	162.62	167	3.18	166.04	7:24 AM	0.12	0.022	0.626	46.05	2.422	0.958	0	0	0	0.268
stiF07054	216.67	220	0.1	217.26	8:01 AM	0.92	0.116	0.082	0	0	2.74	0	0	0	1.706
stiF09088	185.47	191	0.08	185.68	8:00 AM	0.36	0.083	0	0	0	5.32	0	0	0	1.22
stiF07058	217.85	221	0.13	218.3	8:00 AM	1.1	0.179	0	0	0	2.7	0	0	0	2.639
stiF09084	180.65	188	0.21	181.22	8:00 AM	1.54	0.355	0.002	0	0	6.78	0	0	0	5.216
stiH13057	161.34	169	0.1	161.62	8:00 AM	0.35	0.062	0	0	0	7.38	0	0	0	0.931
stiG07122	260	266	2.82	263.73	10:19 AM	1.84	0.296	0.284	39.07	2.529	2.271	0	0	0	4.376
stiG0710070	251.05	258	0.11	251.42	8:00 AM	3.3	0.536	0	0	0	6.58	0	0	0	7.893
E1	237.91	243	0.79	243	7:59 AM	8.77	2.15	0	10.53	4.09	0	0.01	0	0	32.631
E6	260.5	264	2.39	263.7	10:22 AM	0.02	0.001	13.876	38.84	2.2	0.3	0	0	0	0
E14	193.17	199	2	196.28	1:07 AM	0.22	0.037	0.288	46.88	2.108	2.722	0	0	0	0.429
E16	186.5	188	0.56	187.75	8:10 AM	0	0.001	0	0	0	1.75	0	0	0	8.225
E17	184.11	191	0.28	184.9	8:00 AM	4.61	1.16	0.001	0	0	6.1	0	0	0	13.63
E29	155.28	158	1.2	156.73	8:00 AM	1.11	0.24	0.063	0	0	1.27	0	0	0	3.316
E31	170.69	172	1.28	172	1:05 AM	2.91	0.115	0.112	46.91	0.31	0	24.53	2.91	0.115	0.107
E34	243.8	251	0	243.8	12:00 AM	0	0	0	0	0	7.2	0	0	0	0
E38	153.24	168	0.56	154.9	8:00 AM	28.91	4.87	0	0	0	13.1	0	0	0	50.323
E42	179.84	182	0.09	180.11	8:00 AM	0.8	0.136	0	0	0	2.1	0	0	0	1.907
E45	202.49	218	0.29	203.48	8:00 AM	8.41	1.41	0	0	0	14.52	0	0	0	13.931
E43	209.7	224	0.33	210.89	7:57 AM	8.41	1.41	0	0	0	13.11	0	0	0	13.931
E44	209.6	224	0.17	210.16	7:50 AM	9.51	1.41	0	0	0	13.84	0	0	0	13.931
E47	199.19	211	0.26	200.05	8:00 AM	8.41	1.41	0	0	0	10.95	0	0	0	13.931
E48	198.34	210	0.26	199.2	8:00 AM	8.41	1.41	0	0	0	10.8	0	0	0	13.931
stiI11067	200.98	213	0.26	201.84	8:00 AM	8.41	1.41	0	0	0	11.16	0	0	0	13.931
stiI11151	194.65	205	1	196.49	8:00 AM	8.93	1.47	0.041	0	0	8.51	0	0	0	20.804
stiI11016	184.74	195	1.56	192.23	8:47 AM	18.69	3.11	-0.018	3.48	3.749	2.771	0	0	0	37.712
stiI11145	202.22	212	0.24	203.01	8:00 AM	8.31	1.39	0	0	0	8.99	0	0	0	15.278
stiI11152	194.24	204	1.41	196.48	8:00 AM	8.93	1.47	0.054	0	0	7.52	0	0	0	20.804
stiI11108	186.96	198	0.59	192.26	8:46 AM	18.49	3.11	-0.036	2.47	2.277	5.743	0	0	0	37.712
stiI11149	197.97	207	0.37	199.06	8:00 AM	8.3	1.39	-0.001	0	0	7.94	0	0	0	15.278
stiI11148	199.49	209	0.25	200.31	8:00 AM	8.3	1.39	0.001	0	0	8.69	0	0	0	15.278
stiI11272	186.1	197	0.66	192.25	8:46 AM	4.43	0.753	0	4.11	4.646	4.754	0	0	0	7.766
stiI11111	196.51	206	0.21	197.18	8:00 AM	6.61	1.13	0	0	0	8.82	0	0	0	11.64
stiI11150	195.24	207	0.41	196.5	8:00 AM	8.93	1.47	0.003	0	0	10.5	0	0	0	20.804
stiI10107	212.84	218.964	0.64	215.87	7:59 AM	9.5	2.05	0	1.75	1.53	3.094	0	0	0	25.874
stiI11279	194.019	206	0.33	195.11	8:00 AM	9.27	1.58	0	0	0	10.89	0	0	0	16.271
stiG12281	149.69	164	0.33	150.79	8:00 AM	17.49	2.94	0	0	0	13.21	0	0	0	30.552
stiG12280	149.49	164	0.39	150.71	8:00 AM	21.95	3.69	0	0	0	13.29	0	0	0	37.904
stiG12279	151.69	166	0.3	152.66	8:00 AM	17.49	2.94	0	0	0	13.34	0	0	0	30.552
stiG12277	149.89	164	0.32	150.93	8:00 AM	17.49	2.94	0	0	0	13.07	0	0	0	30.552
stiG12278	150.8	165	0.32	151.85	8:00 AM	17.49	2.94	0	0	0	13.15	0	0	0	30.552

Junctions Existing 25 Year Storm

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
stiG12182	160.9	177	0.33	162	8:01 AM	16.33	2.74	0	0	0	15	0	0	0	28.496
stiH11099	198.88	210	0.22	199.62	8:00 AM	4.86	0.815	0.002	0	0	10.38	0	0	0	8.479
stiG12123	155.91	166	0.32	156.95	8:03 AM	17.96	3.02	0	0	0	9.05	0	0	0	31.348
stiG12183	162.61	180	0.33	163.71	8:01 AM	16.33	2.74	0	0	0	16.29	0	0	0	28.496
stiH11126	182.42	194	0.38	183.71	8:00 AM	16.1	2.7	0	0	0	10.29	0	0	0	28.114
stiH12057	177.8	189	0.38	179.07	8:01 AM	16.1	2.7	0	0	0	9.93	0	0	0	28.114
stiH12078	159.18	170	0.37	160.41	8:03 AM	17.96	3.02	0	0	0	9.59	0	0	0	31.348
stiF12043	179.62	187	0.19	180.26	8:00 AM	4.38	0.734	0	0	0	6.74	0	0	0	7.558
stiH11117	188.95	201	0.36	190.2	8:00 AM	16.11	2.7	0.001	0	0	10.8	0	0	0	28.114
stiH11103	197.13	207	0.17	197.68	8:01 AM	4.86	0.815	0	0	0	9.32	0	0	0	8.479
stiH11097	199.57	210	0.26	200.45	8:00 AM	4.86	0.815	0	0	0	9.55	0	0	0	8.479
stiH12102	161.07	173	0.37	162.31	8:02 AM	17.96	3.02	0	0	0	10.69	0	0	0	31.348
stiH11100	197.99	209	0.25	198.84	8:01 AM	4.86	0.815	-0.001	0	0	10.16	0	0	0	8.479
stiH12044	172.84	186	0.36	174.04	8:01 AM	16.1	2.7	0	0	0	11.96	0	0	0	28.114
stiH12099	162.71	178	0.37	163.95	8:02 AM	17.96	3.02	0	0	0	14.05	0	0	0	31.348
stiH12059	180.29	190	0.26	181.15	8:01 AM	16.1	2.7	0	0	0	8.85	0	0	0	28.114
stiH11095	200.09	210	0.26	200.97	8:00 AM	4.86	0.815	0	0	0	9.03	0	0	0	8.479
stiG12224	181.5	190	0.21	182.18	8:00 AM	4.38	0.734	0	0	0	7.82	0	0	0	7.558
stiG12209	178.11	185	0.48	179.68	8:00 AM	16.33	2.74	-0.001	0	0	5.32	0	0	0	28.496
stiH12055	177.01	187	0.37	178.24	8:01 AM	16.1	2.7	0	0	0	8.76	0	0	0	28.114
stiH12047	181.44	192	0.38	182.73	8:01 AM	16.1	2.7	0	0	0	9.27	0	0	0	28.114
stiG12187	175.62	184	0.41	176.99	8:00 AM	16.33	2.74	0	0	0	7.01	0	0	0	28.496
stiH11110	194	202	0.06	194.19	8:00 AM	1.78	0.298	0	0	0	7.81	0	0	0	3.102
stiG12184	173.059	182	0.18	173.62	8:00 AM	16.33	2.74	0	0	0	8.38	0	0	0	28.496
stiF12044	179.05	186.304	0.2	179.71	8:00 AM	4.38	0.734	0	0	0	6.594	0	0	0	7.558
stiG12153	160.18	175	0.35	161.33	8:01 AM	16.33	2.74	0	0	0	13.67	0	0	0	28.496
stiH11036	195	205	0.16	195.51	8:01 AM	4.86	0.815	0	0	0	9.49	0	0	0	8.479
stiG12201	176.36	185	0.4	177.71	8:00 AM	16.33	2.74	-0.001	0	0	7.29	0	0	0	28.496
stiG12149	158.95	172	0.33	160.03	8:01 AM	16.33	2.74	0	0	0	11.97	0	0	0	28.496
stiH12077	160.29	171	0.37	161.52	8:03 AM	17.96	3.02	0	0	0	9.48	0	0	0	31.348
stiG12110	154.83	166	0.23	155.6	8:00 AM	4.46	0.748	0	0	0	10.4	0	0	0	7.353
stiF12049	176.51	185	0.2	177.18	8:00 AM	4.38	0.734	0	0	0	7.82	0	0	0	7.558
stiG12152	159.37	174	0.34	160.49	8:01 AM	16.33	2.74	0	0	0	13.51	0	0	0	28.496
stiG12124	147.82	165	0.18	148.37	8:01 AM	39.88	6.7	-0.001	0	0	16.63	0	0	0	69.253
stiH11125	183.21	195	0.37	184.5	8:00 AM	16.1	2.7	0	0	0	10.5	0	0	0	28.114
stiH11111	194.24	202	0.14	194.69	8:00 AM	1.78	0.298	0	0	0	7.31	0	0	0	3.102
stiH12101	162.06	176	0.37	163.29	8:02 AM	17.96	3.02	0	0	0	12.71	0	0	0	31.348
stiH11043	191.98	203	0.16	192.48	8:01 AM	4.86	0.815	-0.001	0	0	10.52	0	0	0	8.479
stiH11104	195.4	206	0.24	196.16	8:01 AM	4.86	0.815	0	0	0	9.84	0	0	0	8.479
stiH11120	187.28	199	0.25	188.1	8:00 AM	16.1	2.7	0	0	0	10.9	0	0	0	28.114
stiG12129	156.33	166	0.19	156.96	8:00 AM	3.42	0.572	0	0	0	9.04	0	0	0	5.703
stiH11124	183.99	197	0.37	185.28	8:00 AM	16.1	2.7	0	0	0	11.72	0	0	0	28.114
stiG12186	175.23	183	0.38	176.5	8:00 AM	16.33	2.74	0	0	0	6.5	0	0	0	28.496
stiG12122	157.92	168	0.32	158.99	8:03 AM	17.96	3.02	0	0	0	9.01	0	0	0	31.348
stiG12154	178.54	185	0.4	179.98	8:00 AM	16.33	2.74	0.001	0	0	5.02	0	0	0	28.496
stiH12054	176.31	187	0.24	177.08	8:01 AM	16.1	2.7	0	0	0	9.92	0	0	0	28.114
stiH11112	194.65	202.229	0.14	195.1	8:00 AM	1.78	0.298	0	0	0	7.129	0	0	0	3.102
stiF12012	177.96	186	0.2	178.62	8:00 AM	4.38	0.734	0	0	0	7.38	0	0	0	7.558
stiG12185	174.94	183	0.23	175.66	8:00 AM	16.33	2.74	0	0	0	7.34	0	0	0	28.496
stiH11118	188.12	200	0.37	189.42	8:00 AM	16.1	2.7	0	0	0	10.58	0	0	0	28.114
stiG12203	177.7	185	0.37	178.94	8:00 AM	16.33	2.74	0	0	0	6.06	0	0	0	28.496
stiG12128	155.15	166	0.19	155.79	8:00 AM	3.42	0.572	0.001	0	0	10.21	0	0	0	5.703
stiG12202	176.9	185	0.37	178.14	8:00 AM	16.33	2.74	0.001	0	0	6.86	0	0	0	28.496
E50	174.2	181	0	174.2	12:00 AM	0	0	0	0	0	6.8	0	0	0	4.685
E51	174.2	181	0	174.2	12:00 AM	0	0	0	0	0	6.8	0	0	0	4.685
E52	174.2	181	0	174.2	12:00 AM	0	0	0	0	0	6.8	0	0	0	4.685
E53	171.91	176	0.27	172.66	8:01 AM	0.8	0.136	0	0	0	3.34	0	0	0	6.592
E54	171.91	176	0.27	172.67	8:01 AM	0.8	0.137	0	0	0	7.53	0	0	0	6.592
E55	171.91	176	0.27	172.67	8:01 AM	0.03	0.001	0.076	0	0	3.33	0	0	0	4.685
E56	171.91	176	0.27	172.66	8:01 AM	0.8	0.136	0	0	0	3.34	0	0	0	6.592
E57	171.91	176	0.26	172.65	8:01 AM	2.52	0.468	0.001	0	0	3.35	0	0	0	6.592
E58	214.76	233	0.37	221.04	7:24 AM	5.95	1.15	0.008	1.23	5.028	11.962	0	0	0	14.483
E59	215.89	223	0.23	216.73	8:00 AM	8.31	1.39	0	0	0	6.27	0	0	0	15.278
E60	207.89	215	0.24	208.73	8:00 AM	8.31	1.39	0	0	0	6.27	0	0	0	15.278
E61	197.41	204	0.08	197.66	8:00 AM	0.37	0.062	0	0	0	6.34	0	0	0	0.637
E62	198.16	206	0.08	198.42	8:00 AM	0.37	0.062	0	0	0	7.58	0	0	0	0.637
E63	197.53	206	0.18	198.14	8:00 AM	2.66	0.45	0	0	0	7.86	0	0	0	4.631
E64	199.61	207	0.18	200.22	8:00 AM	2.66	0.45	0	0	0	6.78	0	0	0	4.631
E65	201.87	210	0.18	202.48	8:00 AM	2.66	0.45	0	0	0	7.52	0	0	0	4.631
E66	187.96	197	0.62	194.07	8:00 AM	4.43	0.754	0.024	3.89	5.106	2.934	0	0	0	7.766
E67	210.4	219	0.13	210.82	8:00 AM	2.01	0.333	-0.001	0	0	8.18	0	0	0	3.757
E68	206.5	214	0.18	207.15	8:00 AM	2.01	0.333	0.001	0	0	6.85	0	0	0	3.757
E69	203.79	211	0.38	208.08	7:59 AM	4.86	0.815	0	1.55	3.287	2.923	0	0	0	8.479
E70	202.54	211	0.38	204.85	7:59 AM	4.86	0.815	0	1.07	0.986	6.154	0	0	0	8.479
E71	202.28	211	0.33	204.13	7:59 AM	4.86	0.815	0	1.06	0.653	6.87	0	0	0	8.479
E72	201.7	211	0.22	202.45	8:00 AM	4.86	0.815	0	0	0	8.55	0	0	0	8.479
E73	201.19	211	0.24	201.96	8:00 AM	4.86	0.815	0	0	0	9.04	0	0	0	8.479
E74	203.34	211	0.18	203.97	8:00 AM	1.86	0.312	0	0	0	7.03	0	0	0	3.234
E75	202.4	210	0.18	203.04	8:00 AM	1.86	0.312	0	0	0	6.96	0	0	0	3.234
E76	201.53	209	0.15	202.05	8:00 AM	1.86	0.312	0	0	0	6.95	0	0	0	3.234
E77	199.11	206	0.13	199.56	8:00 AM	1.86	0.312	0	0	0	6.44	0	0	0	3.234
E78	195.01	202	0.14	195.47	8:01 AM	1.86	0.312	0	0	0	6.53	0	0	0	3.234
E79	190.75	198	0.14	191.2	8:01 AM	1.86	0.312	0	0	0	6.8	0	0	0	3.234
E80	186.37	194	0.13	186.82	8:02 AM	1.86	0.312	0	0	0	7.18	0	0	0	3.234
E81	182.38	191	0.15	182.87	8:02 AM	1.86	0.312	0	0	0	8.13	0	0	0	3.234
E82	178.71	186	0.13	179.12	8:02 AM	1.86	0.312	0	0	0	6.88	0	0	0	3.234
E83	177.36	186	0.14	177.82	8:02 AM	1.86	0.312	0	0	0	8.18	0	0	0	3.234
E84	176.34	184	0.14	176.79	8:03 AM	1.86	0.312	0	0	0	7.21	0	0	0	3.234
E85	173.56	182	0.13	174.01	8:03 AM	1.86	0.312	0	0	0	7.99	0	0	0	3.234
E86	172.16	181	0.13	172.61	8:03 AM	1.86	0.312	0	0	0	8.39	0	0	0	3.234
E87	170.85	179	0.14	171.32	8:03 AM	1.86	0.312	0	0	0	7.68	0	0	0	3.234
E88	169.16	178	0.14	169.65	8:03 AM	1.86	0.312	0	0	0	8.35	0	0	0	3.234
E89	164.17	177	0.17	164.72	8:04 AM	1.86	0.312	0	0	0	12.28	0	0	0	3.234
E90	169.03	177	0.09	169.33	7:15 AM	1.04	0.176	0	0	0	7.67	0	0	0	1.65
E91	168.44	176	0.11	168.81	7:15 AM	1.04	0.176	0	0	0	7.19	0	0	0	1.65
E92	168.11	176	0.1	168.44	7:15 AM	1.04	0.176	0	0	0	7.56	0	0	0	1.65
E93	167.29	175	0.1	167.62	7:15 AM	1.04	0.176	0	0	0	7.38	0	0	0	1.65
E94	166.56	174	0.1	166.89	7:15 AM	1.04	0.176	0	0	0	7.11	0	0	0	1.65
E95	165.09	173	0.11	165.45	8:00 AM	1.04	0.176	0	0	0	7.55	0	0	0	1.65
E97	162.7	170	0.11	163.05	8:00 AM	1.04	0.176	0	0	0	6.95	0	0	0	1.65
E98	160.11	168	0.11	160.46	8:00 AM	1.04	0.176	0	0	0	7.54	0	0	0	1.65
E99	158.69	166	0.09	158.97	8:00 AM	1.04	0.176	0	0	0	7.03	0	0	0	1.65
E100	158.27	167	0.17	158.84	7:59 AM	3.42	0.572	-0.001	0	0	8.16	0	0	0	5.703
E101	169.38	169	0.08	169.62	7:59 AM	3.42	0.572	0	0	0	1.01	0	0	0	5.703
E102	161.96	171	7.43	170.24	7:13 AM	3.42	0.573	0.154	47.13	6.843	0.757	0	0	0	5.703
E103	162.43	171	6.96	170.28	7:11 AM	2.24	0.377	0.149	47.11	6.603	0.717	0	0	0	3.689
E104	167.14	175	2.38	170.75	7:48 AM	2.24	0.377	0.168	47.04	2.51	4.25	0	0	0	3.689
E105	167.91	177	1.65	171.05	7:58 AM	2.24	0.377	0.085	0.98	0.305	5.945	0	0	0	3.689
E106	170.42	174	0.07	170.63	8:00 AM	1.18	0.198	-0.001	0	0	3.37	0	0	0	2.014
E107	171.07	178	0.17	171.64	8:00 AM	1.18	0.198	0	0	0	6.36	0	0	0	2.014
E108	171.19	178	0.14	171.65	8:00 AM	2.24	0.376	0	0	0	6.35	0	0	0	3.689
E109	181.19	188	0.06	181.4	8:00 AM	0.33	0.055	0	0	0	6.6	0	0	0	0.565
E110	179.82	187	0.07	180.05	8:00 AM	0.33	0.055	0	0	0	6.95	0	0	0	0.565
E111	178.89	185	0.06	179.08	8:00 AM	0.33	0.055	0	0	0	5.92	0	0	0	0.565
E112	177.36	184	0.06	177.55	8:00 AM	0.33	0.055	0	0	0	6.45	0	0	0	0.565
E113	179.44	186	0.07	179.68	8:00 AM	0.33	0.055	0.001	0	0	6.32	0	0	0	0.565
E114	187.02	197	0.63	192.7	8:35 AM	4.44	0.754	0.018	4.16	4.576	4.304	0	0	0	7.766
E115	191.5	198	0.56	197.75	8:02 AM	6.68	1.12	-0.002	2.51	4.745	0.255	0	0	0	12.636
J10	187.25	196	0.63	192.92	8:33 AM	4.43	0.754	-0.016	4.07	4.575	3.075	0	0	0	7.766
J11	130.415	137.415	0.1	130.7	8:04 AM	10.09	2.2	0.004	0	0	38.422	0	0	0	30.405
J13	110.449	150.798	1.66	113.53	9:13 AM	478	127	0.014	0	0	39.29	0	0	0	1861.169
stmF1310004	135.96	150	0.53	137.48	8:00 AM	31.97	5.39	-0.002	0	0	23.503	0	0	0	56.982
J12	175.501	181.271	0.44	176.63	8:01 AM	27.38	4.86	-0.006	0	0	4.641	0	0	0	59.196
STMG0828	222.44	232.2	1.3	232.2	7:21 AM	45.09	8.68	-0.001	3.27	6.76	0	1.48	17.37	0.426	104.497
J14	184.739	188.662	0.89	187.81	8:10 AM	40.44	7.4	0	1.03	0.319	0.854	0	0	0	94.826
J15	0	0	0	0	12:00 AM	0	0	0	48	0	0	0	0	0	0
J16	0	0	0	0	12:00 AM	0	0	0	48	0	0	0	0	0	0
J17	0	0	0	0	12:00 AM	0	0	0	48	0	0	0	0	0	0
J18	0	0	0	0	12:00 AM	0	0	0	48	0	0	0	0	0	0

Junctions Existing 25 Year Storm

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
J19	0	0	0	0	12:00 AM	0	0	0	48	0	0	0	0	0	0
J20	0	0	0	0	12:00 AM	0	0	0	48	0	0	0	0	0	0

Conduits Existing 25 Year Storm

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
STGM1972	STMF0929	STMF097	35.04	0.012	192.41	190.32	CIRCULAR	1	1		0.05975	1.57	1/1/2013 8:00	4.15	0.17	0.49	0	3.215
STGM3920	STMG1027	STMG1029	247.32	0.013	195	190.5	CIRCULAR	2.75	1		0.0182	8.52	1/1/2013 8:02	7.55	0.12	0.25	0	21.622
STGM1148	STMG0718	STMG0715	112.61	0.012	256.68	254.03	CIRCULAR	1	1		0.02354	4.27	1/1/2013 8:00	8.74	0.75	0.6	0	8.578
STGM987	J3514	J3516	46.07	0.013	224.8	224.36	CIRCULAR	1.5	1		0.00955	12.93	1/1/2013 9:45	10.1	1.26	1	1.07	22.85
STGM1372	STMG0860	STMG0859	218.3	0.012	250.4	245.36	CIRCULAR	1.25	1		0.02309	8.1	1/1/2013 7:58	7.37	0.79	1	0.01	20.414
STGM2210	J3530	STMG1036	313.92	0.012	217	201	CIRCULAR	1.5	1		0.05103	8.31	1/1/2013 8:01	9.67	0.34	0.49	0	21.194
STGM1828	STMG0714	STMG0713	260.82	0.012	295.85	280.5	CIRCULAR	1	1		0.05896	3.7	1/1/2013 8:00	12.24	0.41	0.41	0	6.891
STGM3553	STMG0863	STMG0824	88.38	0.013	223.96	223.21	CIRCULAR	3	1		0.00849	48.36	1/1/2013 8:02	7.08	0.79	1	0.01	104.497
STGM3732	STMF0917	STMF0922	113.88	0.012	189.31	188.07	CIRCULAR	1.5	1		0.01089	10.53	1/1/2013 8:00	6.44	0.92	1	0.01	20.618
STGM3293	STMG0837	STMF085	132.48	0.013	208	207.36	CIRCULAR	2.75	1		0.00483	22.53	1/1/2013 8:00	7.93	0.61	0.48	0	44.495
STGM2013	STMG0852	STMG0830	242.28	0.012	234.17	231.75	CIRCULAR	2.25	1		0.00999	28.44	1/1/2013 8:04	7.57	0.88	1	0.01	61.522
STGM2999	STMG144	STMG141	261.49	0.013	157.5	154.32	CIRCULAR	1	1		0.01216	4.18	1/1/2013 7:59	6.27	1.06	0.84	0.01	7.824
STGM938	J4572	J-CCT1-07	509.71	0.04	150	130	IRREGULAR	0	1	STGM938	0.03927	34.56	1/1/2013 8:40	5.09	0.37	0.55	0	100.095
STGM3167	STMG1411	STMG1410	226.8	0.013	155.62	137.22	CIRCULAR	1	1		0.0814	4.62	1/1/2013 8:00	14.72	0.45	0.42	0	8.832
STGM2311	STMG0851	STMG0852	262.28	0.012	238.1	234.17	CIRCULAR	2	1		0.01499	20.55	1/1/2013 7:39	8.04	0.71	1	0.01	41.108
STGM575	STMG087	STMF081	115.51	0.013	213.97	212.38	CIRCULAR	1	1		0.01377	3	1/1/2013 8:00	5.58	0.72	1	0.01	6.277
STGM4047	STMG0815	STMG0817	310.8	0.013	231.5	226.04	CIRCULAR	1.25	1		0.01757	6.5	1/1/2013 8:02	5.61	0.76	0.9	0.01	14.311
STGM3439	STMF101	STMF1014	92.59	0.013	154.8	152.3	CIRCULAR	1.5	1		0.02701	15.29	1/1/2013 7:57	11.15	0.89	0.72	0	34.835
STGM939	STMG134	STMG133	269.72	0.013	158.7	157.92	CIRCULAR	1	1		0.00289	2.96	1/1/2013 9:15	3.77	1.54	1	4.14	8.225
STGM1532	J3664	J3666	375.26	0.04	200.3	200	IRREGULAR	0	1	STGM1532	0.0008	23.6	1/1/2013 8:06	0.9	0.13	1	0.01	157.684
STGM800	STIF092	STMF092	33.63	0.013	199.28	199.23	CIRCULAR	1	1		0.00149	16.1	01/01/2013 16:47 PM	20.5	11.72	1	37.39	160.683
STGM2761	STIF1262	OF_J3682	295.71	0.013	149	93	CIRCULAR	1	1		0.19286	12.1	1/1/2013 8:00	21.89	0.77	0.66	0	22.468
STGM4201	STMG0824	STMG0825	24.087	0.013	223.21	222.92	CIRCULAR	3	1		0.01204	48.36	1/1/2013 8:02	7.62	0.66	1	0.01	104.497
STGM1212	J3692	J3694	59.55	0.013	185	184.5	CIRCULAR	1.5	1		0.0084	13.58	1/1/2013 7:59	7.68	1.41	1	1.35	28.509
STGM1741	STMF0824	STMF0825	108.34	0.012	199.23	198	CIRCULAR	1.5	1		0.01135	7.46	1/1/2013 8:00	7.19	0.64	0.57	0	14.673
STGM1093	STMG1310	STMG1312	262.42	0.013	164.5	163.1	CIRCULAR	1.25	1		0.00534	7.22	1/1/2013 8:00	5.88	1.53	1	1.88	15.373
STGM753	STMG1414	STMG1412	20.93	0.013	161	158.8	CIRCULAR	1.5	1		0.1057	5.37	1/1/2013 7:56	5	0.16	0.63	0.01	10.109
STGM3444	STMG145	STMG146	267.282	0.013	159.65	157	CIRCULAR	1.25	1		0.00992	4.7	1/1/2013 8:00	7.24	0.73	0.52	0	9.415
STGM4119	STMG0739	STMG0738	113.48	0.012	245.3	245.09	CIRCULAR	1	1		0.00185	6.02	1/1/2013 8:13	7.67	3.78	1	2.26	14.879
STGM2499	J3728	J3730	25.52	0.013	195.5	194.8	CIRCULAR	1.5	1		0.02744	44.4	1/1/2013 8:06	25.12	2.55	1	1.45	92.626
STGM1534	STMF078	STMG0718	121.38	0.012	258.86	256.68	CIRCULAR	1	1		0.01796	4.27	1/1/2013 8:00	7.36	0.86	0.69	0	8.578
STGM3369	STMG1323	STMG1324	359.6	0.013	157.3	157	CIRCULAR	1.75	1		0.00083	34.56	1/1/2013 8:40	14.37	7.55	1	3.13	100.095
STGM1885	STMF0812	J3760	35.38	0.013	189.7	185.9	CIRCULAR	3	1		0.10803	44.12	1/1/2013 8:01	9.09	0.2	0.65	0.01	92.462
STGM865	STMF0923	STMF0924	335.94	0.012	186.61	183.64	CIRCULAR	1.5	1		0.00884	11.77	1/1/2013 8:00	6.85	1.15	0.94	0.01	23.327
STGM1261	STMG0772	J3780	33.872	0.013	244.3	243.1	CIRCULAR	1.25	1		0.03545	7.3	1/1/2013 8:00	10.18	0.6	0.57	0	14.457
STGM8	STMF1012	J3786	98.24	0.013	149.35	143.5	CIRCULAR	2.75	1		0.05965	71.3	1/1/2013 8:04	18.41	0.55	0.62	0	185.911
STGM1727	STMF0821	STMF0813	18.68	0.013	205.66	204.29	CIRCULAR	2	1		0.07354	19.39	1/1/2013 8:00	10.45	0.32	0.57	0	39.421
STGM298	STMG0715	STMG0717	113.45	0.012	254.03	249.02	CIRCULAR	1	1		0.0442	4.27	1/1/2013 8:00	8.88	0.55	0.59	0	8.578
STGM533	STMG0816	STMG0815	279.18	0.013	235.61	231.5	CIRCULAR	1	1		0.01472	6.56	1/1/2013 8:01	8.37	1.52	1	0.08	14.311
STGM2486	STMG098	STMG097	101.94	0.013	205.33	204.55	CIRCULAR	1.5	1		0.00765	24.07	1/1/2013 8:03	13.62	2.62	1	3	57.828
STGM1524	STMF0932	STMF091	155.4	0.013	185.81	184.65	CIRCULAR	3	1		0.00746	30.57	1/1/2013 8:00	9.87	0.53	0.45	0	202.825
STGM32	STMG0817	STMG0818	123.07	0.013	226.04	225.36	CIRCULAR	1.25	1		0.00553	6.38	1/1/2013 8:07	5.2	1.33	1	1.43	14.311
STGM2845	STMF0823	STMF0822	328.26	0.012	204.32	203.22	CIRCULAR	1	1		0.00335	3.36	1/1/2013 8:00	4.34	1.57	0.96	0.01	6.467
STGM2383	STMF0924	J3838	130.71	0.012	183.64	182.3	CIRCULAR	1.5	1		0.01025	11.88	1/1/2013 8:00	8.56	1.07	0.73	0.01	23.327
STGM1325	STMG077	STMG0831	274.44	0.012	241	238.07	CIRCULAR	1.5	1		0.01068	11.3	1/1/2013 8:00	8.47	1	0.8	0.01	25.332
STGM1417	J3700	J-CCT1-03	113.79	0.04	140	118	IRREGULAR	0	1	STGM1417	0.19706	4.14	1/1/2013 7:57	5.71	0	0.03	0	7.824
STGM2669	STMF0720	STMF0833	216.18	0.012	202.21	200.47	CIRCULAR	1	1		0.00805	2.08	1/1/2013 8:00	4.2	0.62	0.6	0	3.841
STGM3652	STMG0761	STMG0754	144.35	0.012	324	307.92	CIRCULAR	1	1		0.11209	1.45	1/1/2013 8:00	10.55	0.12	0.23	0	3.4
STGM348	STMG0844	STMG0835	82.49	0.013	216.5	212.96	CIRCULAR	1	1		0.04295	5	1/1/2013 8:00	7.41	0.68	0.8	0.01	9.778
STGM1276	STMF0814	STMF0815	163.18	0.012	205	204.5	CIRCULAR	1	1		0.00306	1.19	1/1/2013 8:00	2.97	0.58	0.51	0	2.243
STGM3527	STMG1025	STMG1024	231.24	0.012	182.1	180.74	CIRCULAR	1.25	1		0.00588	2.1	1/1/2013 8:00	2.04	0.41	1	0.01	4.058
STGM2167	STMF0829	STMF0827	26.43	0.012	198.35	198.03	CIRCULAR	1.25	1		0.01211	5.6	1/1/2013 8:00	8.74	0.76	0.52	0	10.487
STGM196	STIF0867	STIF0876	176.06	0.012	193.06	191.96	CIRCULAR	1	1		0.00625	3.04	1/1/2013 8:00	4.37	1.04	0.83	0.01	5.884
STGM3379	STIG1349	STMG1325	138.16	0.013	161.5	160.87	CIRCULAR	1	1		0.00456	7.32	1/1/2013 8:39	9.32	3.04	1	3.18	21.504
STGM1615	STMF1227	STMF1226	52.798	0.013	158.04	157.4	CIRCULAR	3	1		0.01212	29.65	1/1/2013 8:00	9.68	0.4	0.45	0	74.624
STGM742	STMG072	STMF073	113.54	0.013	222.75	221.95	CIRCULAR	1.5	1		0.00705	10.44	1/1/2013 7:58	6	1.18	1	0.68	21.466
STGM4170	STMG0751	STMG0750	133.36	0.012	286.67	284.09	CIRCULAR	1	1		0.01935	1.45	1/1/2013 8:01	4.22	0.28	0.45	0	3.4
STGM3871	STMH077	STMH073	121.71	0.012	262.39	257	CIRCULAR	1	1		0.04433	2.59	1/1/2013 8:00	5.91	0.33	0.7	0.01	5.536
STGM3524	STMF071	STMF072	18.5	0.013	220.65	220.3	CIRCULAR	1.5	1		0.01892	10.36	1/1/2013 8:01	6.8	0.72	1	0.01	21.466
STGM612	STMF0835	STMF0836	338.43	0.012	195.93	192.16	CIRCULAR	1	1		0.01114	3	1/1/2013 8:00	5.9	0.77	0.62	0	5.75
STGM4043	J3932	J-CCT1-02	814.56	0.04	160	140	IRREGULAR	0	1	STGM4043	0.02456	6.7	1/1/2013 8:05	2.89	0.01	0.13	0	19.388
STGM970	STMG0936	STMG0937	97.5	0.012	210.16	208.73	CIRCULAR	2	1		0.01467	24.45	1/1/2013 8:00	8.81	0.86	1	0.01	57.828
STGM1234	J4400	J3514	87.11	0.012	227.5	224.8	CIRCULAR	1	1		0.03101	7.97	1/1/2013 7:23	10.15	1.22	1	1.72	8.539
STGM592	STMF0919	STMF0921	204.53	0.012	198.53	190.78	CIRCULAR	1	1		0.03792	3.51	1/1/2013 8:00	5.52	0.49	0.76	0.01	6.674
STGM414	STMF0914	STMF0915	30.203	0.012	192.61	192.18	CIRCULAR	1.25	1		0.01424	3.88	1/1/2013 8:00	5.3	0.48	0.58	0	7.383
STGM725	STMG0829	STMG0849	291.42	0.013	227.89	225.39	CIRCULAR	3	1		0.00858	48.36	1/1/2013 8:01	8.14	0.78	1	0.01	104.497
STGM2961	STMF0913	STMF094	89.48	0.013	190.2	189.97	CIRCULAR	3	1		0.00257	19.66	1/1/2013 8:00	6.68	0.58	0.45	0	178.528
STGM4140	STMF076	STMF075	208.34	0.013	201.2	200.16	CIRCULAR	3	1		0.00499	13.43	1/1/2013 8:00	5.88	0.29	0.36	0	25.651
STGM2280	STMG1023	STMG1024	237.16	0.012	182.09	180.74	CIRCULAR	1.25	1		0.00569	3.38	1/1/2013 7:48	2.84	0.67	1	0.01	7.219
STGM3768	STMF102	STIF1030	43.14	0.013	169.96	169.7	CIRCULAR	1.5	1		0.00603	14.49	1/1/2013 7:57	10.3	1.78	0.77	0.01	32.588
STGM2277	STMF0911	STMF0910	190.7	0.013	186.9	186	CIRCULAR	1	1		0.00472	3.97	1/1/2013 8:00	5.45	1.62	0.87	0.01	7.889
STGM3894	STMG0937	STMG098	259.26	0.012	208.73	205.33	CIRCULAR	2	1		0.01312	24.2	1/1/2013 8:01	7.7	0.9	1	0.01	57.828
STGM118	J3990	J-CCT3-16	122.8	0.04	182	174.3	TRAPEZOIDAL	1	1		0.06283	1.5	1/1/2013 8:00	1.36	0.12	0.66	0.01	3.802
STGM245	J3516	STIG0894	32.53	0.04	224.36	223.3	IRREGULAR	0	1	STGM245	0.0326	12.86	1/1/2013 9:45	1.62	0.11	1	0.01	22.85
STGM958	STIG1023	STIG1024	32.99	0.013	187.2	187.02	CIRCULAR	1	1		0.00546	5.31	1/1/2013 8:07	6.76	2.02	1	2.61	13.053
C2	J1	STMG0911	162.77	0.013	203	201.8	CIRCULAR	1	1		0.00737	1.75	1/1/2013 8:00	2.7	0.57	0.77	0.01	4.363
STGM1342	J3780	STIG0710	192.39	0.04	243.1	239.3	IRREGULAR	0	1	STGM1342	0.01976	7.29	1/1/2013 8:00	2.64	0.11	0.33	0	14.457
STGM3545	STMG088	STMG0816	190.57	0.013	236	235.61	CIRCULAR	1	1		0.00205	6.59	1/1/2013 8:01	8.4	4.09	1	1.62	14.311
STGM1192	STMF1011	STMF1012	28.91	0.013	150.89	149.51	CIRCULAR	2.75	1		0.04779	59.38	1/1/2013 8:07	19.59	0.51	0.51	0	155.035
STGM1663	STMF0926	J-CCT3-18	22.5	0.013	180.78	180	CIRCULAR	3	1		0.03469	35.37	1/1/2013 8:00	13.59	0.28	0.4	0	212.513
STGM3330	STIF0875	STIF0874	139.69	0.012	190.9	186.82	CIRCULAR	1	1		0.02922	3.04	1/1/2013 8:00	7.38	0.48	0.52	0	5.884
STGM2269	STMG0865	STMG0852	21.085	0.012	235.06	234.17	CIRCULAR	1.5	1		0.04225	9.51	1/1/2013 7:18	5.38	0.42	1	0.01	20.414
STGM3264	STMG0723	STMG0730	312.45	0.012	264.31	262.62	CIRCULAR	1	1		0.00541	0.77	1/1/2013 8:00	1.77	0.28	0.54	0	1.68
STGM1831	J4058	J4060	127.67	0.013	155	153.98	CIRCULAR	1	1		0.00799	3.87	1/1/2013 7:59	4.93	1.21	1	0.87	6.905
STGM890	STMG0842	STMG0839	125.782	0.012	230.83	230	CIRCULAR	1	1		0.0066	5.01	1/1/2013 8:00	6.55	1.66	0.94	0.01	9.778
STGM1492	STMF089	STMF0824	60.05	0.012	200.13	199.23	CIRCULAR	1.5	1		0.01499	7.46	1/1/2013 8:00	7.32	0.56	0.56	0	14.673
STGM3846	STMG1312	STMG1311	257.7	0.013	163.1	162.2	CIRCULAR	1.25	1		0.00349	6.01	1/1/2013 8:12	4.9	1.57	1	3.11	15.373
STGM3618	STMF1010	STMF1011	88.5	0.013	153.57	151.14	CIRCULAR	2.75	1		0.02747	59.38	1/1/2013 8:07	15.85	0.68	0.6	0	155.035
STGM4284	J3730	J3760	636.28	0.04	194.8	185.9	IRREGULAR	0	1	STGM4284	0.01399	44.39	1/1/2013 8:07	2.57	0.15	0.57	0	92.626
STGM1091	STMF0845	STMF0844	260	0.012	197.68	192.85	CIRCULAR	1	1		0.01858	2.98	1/1/2013 8:00	4.89	0.59	0.78	0.01	5.805
STGM2489	STMG0821	STMG0822	63.19	0.013	224.82	224.48	CIRCULAR	2.75	1		0.00538	11.44	1/1/2013 8:00	6.04	0.29	0.36	0	22.718
STGM2438	STMF0842	STMF0812	141.56	0.013	190.8	189.7	CIRCULAR	3	1		0.00777	44.12	1/1/2013 8:01	13.32	0.75	0.48	0	92.462
STGM2596	STMG099	STMG1021	836.73	0.013	201.5	192	CIRCULAR	2.75	1		0.01135	28.85	1/1/2013 8:01	7.72	0.51	0.6	0	68.449
STGM2371	STMF0816	J4120	160.17	0.012	203.09	199	CIRCULAR	1.25	1		0.02554	4.54	1/1/2013 8:00	4.75	0.42	0.73	0.01	8.709
STGM485	STIF1329	STMF134	504.185	0.013	154	146.6	CIRCULAR	1	1		0.01468	5.63	1/1/2013 8:00	7.17	1.3	1	1.23	11.833
STGM1339	STMG1326	J4142	231.32	0.013	158.1	150	CIRCULAR	1	1		0.03504	8.63	1/1/2013 8:38	12.65	1.29	0.81	0.01	25.423
STGM5	STMG0755	STMG0766	249.07	0.012	315.4	300.47	CIRCULAR	1	1		0.06005	1.34	1/1/2013 8:00	8.62	0.15	0.25	0	3.274
STGM2405	STMG0749	STMG0767	238.61	0.012	276.33	265.52	CIRCULAR	1.25	1		0.04535	7.09	1/1/2013 8:00	10.68	0.5	0.53	0	14.788
STGM3766	STMG0733	STIH077	354.44	0.012	268.14	264.96	CIRCULAR	1	1		0.00897	0.5	1/1/2013 8:00	3.84	0.14	0.22	0	1.317
STGM4127	STMG0775	STMG0776	286.94	0.012	259	248.31	CIRCULAR	1	1		0.03728	2.51	1/1/2013 8:00	9.25	0.35	0.38	0	5.124
STGM1971	STMG138	STMG1411	284.02	0.013	159.96	155.62	CIRCULAR	1	1		0.01528	4.62	1/1/2013 7:59	7.57	1.05	0.75	0.01	8.832
STGM464	STMG083	STMG082	142.61	0.013	208.26	206.02	CIRCULAR	2.75	1		0.01571	44.12	1/1/2013 7:24	10.18	0.67	1	0.01	141.196
STGM1085	STMG1317	STMG1316	291.93	0.013	170.25	162	CIRCULAR	1	1		0.02827	3.93	1/1/2013 8:00	5.01	0.66	1	0.01	9.597
STGM2903	STIG1022	STIG1023	277.56	0.013	188.47	187.2	CIRCULAR	1	1		0.00458	5.48	1/1/2013 8:04	6.97	2.27	1	2.91	13.053
STGM1182	STMF107	J4040	265.62	0.013	177.24	172.53	CIRCULAR	1.5	1		0.01773	14.2	1/1/2013 8:00	9.26	1.02	0.81	0.01	32.588
STGM959	STMG0928	STMG0933	364.15	0.012	220	214.11	CIRCULAR	2	1		0.01618	24.86	1/1/2013 8:00	9.78	0.83	1	0.01	57.828
STGM276	STMG0828	STMG0827	119.753	0.013	222.44	221.54	CIRCULAR	2	1		0.00752	29.44	1/1/2013 7:21	9.37	1.5	1	2.93	104.497
STGM4226	STIF1030	STMF101	277.624	0.013	169.7	154.8	CIRCULAR	1.5	1		0.05375	14.36	1/1/2013 7:57	12.07	0.59	0.64	0	32.588
STGM1718	STIF0876	STIF0875	153.62	0.012	191.96	190.9	CIRCULAR	1	1		0.0069	3.04	1/1/2013 8:00	5.7	0.99	0.64	0	5.884
STGM1952	STMG075	STMG074	129.07	0.013	229.78	228.1	CIRCULAR	2	1		0.01302	7.29	1/1/2013 8:01	7.17	0.28	0.36	0	14.457
STGM277	STMG0853	STMG0825	90.77	0.012	224.49	222.92	CIRCULAR	1.5	1		0.0173	6.47	1/1/2013 7:21	3.66	0.45	1	0.01	0
STGM427	STMH073	STMH076	168.93	0.012	257	255.5	CIRCULAR	1	1		0.00888	2.59	1/1/2013 8:00	4.43	0.74	1	0.01	5.536
STGM52	STMG1319	STIG1348	242.54	0.013	164.32	162.33	CIRCULAR	0.833	1		0.00821	4.32	1/1/2013 9:15	7.92	2.18	1	4.72	11.707
STGM1326	STMG0935	STMG0936	74.51	0.012	211.3	210.16	CIRCULAR	2	1		0.0153	24.64	1/1/2013 8:00	9.23	0.85	1	0.01	57.828
STGM2101	STMG096	STMG0914	78.9	0.013	202.94	201.3	CIRCULAR	1	1		0.02079	3.2	1/1/2013 7:20	4.08	0.62	1	0.01	6.326
STGM2064	STMG0818	J4298	253.61	0.013	225.36	224.9	CIRCULAR	1.5	1		0.00181	6.38	1/1/2013 8:05	3.61	1.43	1	1.46	14.311
STGM2857	STMG0771	STMG0720	132.95	0.013	260.62	256.47	CIRCULAR	1.25	1		0.03123	7.09	1/1/2013 8:01	8.35	0.62	0.9	0.01	14.788
STGM2796	STMF0836	STMF0837	274.73	0.012	192.16	187.2	CIRCULAR	1	1		0.01806	3	1/1/2013 8:00	6.39	0.6	0.58	0	5.75
STGM320	STMG0713	STMG0734	123.588	0.012	280.5	262.5	CIRCULAR	1	1		0.14721	3.7	1/1/2013 8:00	12.21	0.26	0.41	0	6.891
STGM915	J5174	J5472	56.72	0.04	188	187.5	IRREGULAR	0	1	STGM915	0.00882	37.17	1/1/2013 8:03	2.54	0.5	0.7	0	87.292
STGM3908	STMF1221	STMF1227	134.503	0.013	159.23	158.04	CIRCULAR	3	1		0.00885	25.72	1/1/2013 8:01	8.46	0.41	0.45	0	67.26
STGM275	STMF075	STMF074	154.86	0.013	200.16	199.28	CIRCULAR	3	1		0.00568	13.43	1/1/2013 8:00	4.32	0.27	0.45	0	25.651
STGM1548	STMG084	STMG083	160.9	0.013	209.23	208.26	CIRCULAR	1.25	1		0.00603	2.16	1/1/2013 7:14	1.76	0.43	1	0.01	3.876
STGM2992	STMG0721	STMG0720	257.03	0.013	264.2	256.47	CIRCULAR	1	1		0.03009	1.44	1/1/2013 8:00	3.02	0.23	0.66	0.01	2.74
STGM2909	J-CCT1-05	STIG1416	87.689	0.013	121.5	121.28	CIRCULAR	2	1		0.00251	48.32	1/1/2013 9:08	15.38	4.26	1	4.87	148.321
STGM2213	STMG0853	STMG0864	213.31	0.012	224.49	226.19	CIRCULAR	1.5	1		-0.00797	5.56	1/1/2013 7:21	4.42	0.57	1	0.01	0
STGM2556	STMF0810	STMF0826	392.4	0.013	196.84	191.54	CIRCULAR	3	1		0.01351	33.77	1/1/2013 8:00	6.98	0.44	0.65	0	71.984
STGM171	STMG102	STMG103	309.85	0.013	199.76	194.51	CIRCULAR	1	1		0.01695	6.75	1/1/2013 8:00	9.07	1.46	0.9	0.01	13.7
STGM1223	STMG103	STMG101	151.79	0.013	194.51	188.8	CIRCULAR	1	1		0.03764	6.74	1/1/2013 8:00	9.07	0.98	0.9	0.01	13.7
STGM833	STMF1218	STMF1219	229.63	0.013	168.49	162.89	CIRCULAR	2	1		0.02439	7.2	1/1/2013 8:00	9.39	0.2	0.29	0	12.415
STGM1854	J4298	J3514	251.92	0.04	224.9	224.8	IRREGULAR	0	1	STGM1854	0.0004	6.78	1/1/2013 9:48	1	0.17	1	0.01	14.311
STGM2848	STMG0810	STMG089	175.49	0.013	224.14	221.73	CIRCULAR	1.25	1		0.01373	2.72	1/1/2013 8:00	3.19	0.36	0.66	0	5.266
STGM1895	STMG0864	J4400	28.26	0.012	226.19	227.5	CIRCULAR	1	1		-0.04641	7.98	1/1/2013 7:23	10.16	1	1	0.01	8.539
STGM3780	STIF0817	J4120	231.16	0.04	200.1	199	IRREGULAR	0	1	STGM3780	0.00476	41.88	1/1/2013 8:01	1.53	0.21	0.

Conduits Existing 25 Year Storm

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
STGM4293	J4318	J4482	185.52	0.04	180	176.38	IRREGULAR	0	1	STGM4293	0.01952	56.18	1/1/2013 7:54	5	0.13	0.86	0.01	134.613
STGM1494	STMF094	STMF093	109.65	0.013	189.97	189.1	CIRCULAR	3	1		0.00793	20.58	1/1/2013 8:00	7.47	0.35	0.43	0	181.689
STGM1309	STMG0811	STMG081	426.3	0.013	210.91	204.25	CIRCULAR	1	1		0.01562	3.33	1/1/2013 8:00	4.24	0.75	1	0.01	6.326
STGM1455	STMG0831	STMG0850	269.98	0.012	238.07	229.13	CIRCULAR	1.5	1		0.03313	11.28	1/1/2013 8:00	6.82	0.57	0.88	0.01	25.332
STGM252	STMG0710	STMG079	94.24	0.012	247.1	244.55	CIRCULAR	1.5	1		0.02707	8.51	1/1/2013 8:00	9.21	0.47	0.54	0	17.528
STGM3734	STMF093	STMF0932	419.25	0.013	189.1	185.81	CIRCULAR	3	1		0.00785	23.31	1/1/2013 8:00	7.19	0.39	0.48	0	187.35
STGM1679	STIF137	J4500	272.63	0.013	150.1	146	CIRCULAR	1	1		0.01504	2.64	1/1/2013 8:00	7.18	0.61	0.48	0	5.272
STGM2016	STMF0815	STMF0816	262.58	0.012	204.5	203.09	CIRCULAR	1	1		0.00537	1.19	1/1/2013 8:00	2.91	0.44	0.52	0	2.243
STGM1964	J4142	J-CCT2-06	265.89	0.04	150	133.5	IRREGULAR	0	1	STGM1964	0.06218	8.63	1/1/2013 8:38	2.65	0	0.04	0	25.423
STGM3561	STMH081	STMG0855	285.25	0.012	254.22	253.08	CIRCULAR	1.25	1		0.004	8.42	1/1/2013 8:00	7.54	1.98	0.85	0.01	16.689
STGM2468	STMG0847	J4526	120.27	0.012	229.97	229.4	CIRCULAR	1	1		0.00474	4.17	1/1/2013 8:00	5.9	1.63	1	1.42	8.539
STGM2735	STMF1220	STMF1221	93.947	0.013	160.62	159.23	CIRCULAR	3	1		0.0148	17.42	1/1/2013 8:00	7.07	0.21	0.38	0	48.874
STGM4149	STMF092	J4162	87.57	0.013	199.23	199	CIRCULAR	1.25	1		0.00263	16.93	01/01/2013 15:57 PM	16.67	5.11	0.77	0.01	169.937
STGM3861	STMG1324	J4572	112	0.013	157	150	CIRCULAR	1.5	1		0.06262	34.56	1/1/2013 8:40	20.73	1.31	0.89	0.01	100.095
STGM1500	STIG0890	STMG0845	14	0.013	219.93	219.9	CIRCULAR	1.5	1		0.00214	13.39	1/1/2013 9:39	7.57	2.75	1	3.2	24.073
STGM447	STMF0827	STMF0810	21.87	0.012	198.03	196.84	CIRCULAR	1.5	1		0.05449	5.6	1/1/2013 8:00	4.97	0.22	0.62	0	10.487
STGM4322	STMG0730	STMG0716	157.377	0.012	262.62	261.67	CIRCULAR	1	1		0.00604	2.51	1/1/2013 8:00	5.35	0.87	0.58	0	5.594
STGM186	STMG0813	STMG0812	144.61	0.024	204.5	201.1	CIRCULAR	2.75	1		0.02352	47.73	1/1/2013 7:43	8.04	1.09	1	1.21	151.359
STGM2237	STMF084	STMF083	223.38	0.013	218.62	218.19	CIRCULAR	1.75	1		0.00192	14.78	1/1/2013 8:00	7.23	2.13	0.79	0.01	30.29
STGM2046	J4632	J4634	252.01	0.04	163.5	162.6	IRREGULAR	0	1	STGM2046	0.00357	6.81	1/1/2013 8:01	1.3	0.05	0.31	0	19.388
STGM140	STMG1036	STIG09106	446.37	0.012	201	196.3	CIRCULAR	1.75	1		0.01053	8.31	1/1/2013 8:02	7.05	0.49	0.49	0	21.194
STGM3710	STIG1016	J3692	25.97	0.013	185.1	185	CIRCULAR	1.5	1		0.00385	6.86	1/1/2013 8:00	3.88	1.05	1	0.46	14.809
STGM1740	STMG143	STMG145	183.36	0.013	160.47	159.65	CIRCULAR	1	1		0.00447	3.34	1/1/2013 8:00	4.42	1.4	0.92	0.01	6.595
STGM4013	STMG1315	STMG1323	64.94	0.013	162	160	CIRCULAR	1.25	1		0.03081	10.45	1/1/2013 8:15	8.52	0.92	1	0.01	28.129
STGM3619	STMG0716	STMG0717	418.18	0.012	261.67	249.02	CIRCULAR	1	1		0.03026	2.51	1/1/2013 8:00	5.79	0.39	0.54	0	5.594
STGM4276	STMF131	J4708	122.12	0.013	146.92	146.5	CIRCULAR	1	1		0.00344	1.43	1/1/2013 8:00	5.55	0.68	0.36	0	2.842
STGM2290	STMG0776	STMG0777	132.164	0.013	248.31	245.36	CIRCULAR	3	1		0.02233	2.5	1/1/2013 8:00	3.29	0.03	0.16	0	5.124
STGM1922	STMG0724	STMG076	138.04	0.013	228.95	227.4	CIRCULAR	1.5	1		0.01123	4.18	1/1/2013 8:00	8.4	0.38	0.32	0	8.261
STGM78	STMG073	STMG0821	139.83	0.013	226.2	224.82	CIRCULAR	2.75	1		0.00987	11.44	1/1/2013 8:00	6.31	0.22	0.34	0	22.718
STGM755	STMG0735	STMG0722	107.48	0.012	243.49	242.48	CIRCULAR	1	1		0.0094	5.99	1/1/2013 8:19	7.62	1.67	1	2.26	14.879
STGM1021	STMG078	STMG0851	129.26	0.012	242.4	238.1	CIRCULAR	1.5	1		0.03328	9.67	1/1/2013 7:41	6.81	0.49	1	0.01	17.528
STGM1872	STMG1232	STMG1218	543.34	0.013	165.59	161.72	CIRCULAR	1	1		0.00712	3.03	1/1/2013 8:00	4.03	1.01	0.91	0.01	4.991
STGM3611	STMG149	STMG147	283.29	0.013	157.06	128.19	CIRCULAR	1	1		0.10244	5.51	1/1/2013 8:00	18.89	0.48	0.4	0	14.301
STGM4141	STMH076	STMH081	129.45	0.012	255.5	254.22	CIRCULAR	1	1		0.00989	2.59	1/1/2013 8:00	3.29	0.7	1	0.01	5.536
STGM2842	STMG0819	STMG086	456.63	0.013	218.34	212.42	CIRCULAR	2.75	1		0.01297	42.72	1/1/2013 7:53	11	0.71	1	0.01	137.32
STGM1431	J4938	STIF109	412.68	0.013	184	181.1	CIRCULAR	2	1		0.00703	10.51	1/1/2013 8:00	4.07	0.55	0.77	0.01	51.308
STGM163	J4948	OF_J4952	68.13	0.04	171.4	169.5	IRREGULAR	0	1	STGM163	0.0279	11.87	1/1/2013 8:03	1.88	0.05	0.27	0	23.327
STGM3607	STMF0840	STMF0841	26.76	0.012	194.68	194.31	CIRCULAR	1.25	1		0.01383	3.88	1/1/2013 8:00	4.89	0.49	0.62	0	7.383
STGM443	STIG0710	STMG0727	231.094	0.013	239.3	234.7	CIRCULAR	1.5	1		0.01991	7.29	1/1/2013 8:00	9.14	0.49	0.46	0	14.457
STGM3974	STMF087	STMF0821	321.61	0.013	210	205.66	CIRCULAR	2	1		0.0135	19.39	1/1/2013 8:00	11.18	0.74	0.54	0	39.421
STGM200	J4770	STIG1016	89.7	0.013	185.5	185.1	CIRCULAR	1.5	1		0.00446	6.86	1/1/2013 8:00	3.88	0.98	1	0.03	14.809
STGM2605	STMG121	STMG1226	320.68	0.013	167	165.13	CIRCULAR	1	1		0.00583	6.48	1/1/2013 8:08	8.25	2.38	1	1.54	10.517
STGM1638	J4526	STMG0864	43.44	0.012	229.4	226.19	CIRCULAR	1	1		0.0741	4.16	1/1/2013 8:00	7.79	0.41	1	0.01	8.539
STGM3426	STMG0856	STMG0865	498.59	0.012	239.74	235.06	CIRCULAR	1.5	1		0.00939	8.1	1/1/2013 7:58	7.34	0.77	1	0.01	20.414
STGM3785	STIG1075	J3896	525.14	0.013	190.14	188.7	CIRCULAR	1	1		0.00274	6.67	1/1/2013 8:09	8.5	3.58	1	4.55	15.021
STGM1604	STMF074	STMF0810	478.09	0.013	199.28	196.84	CIRCULAR	3	1		0.0051	28.19	1/1/2013 8:00	7.82	0.59	0.51	0	61.497
STGM1631	STMF0826	STMF0811	107.61	0.013	191.54	191.3	CIRCULAR	3	1		0.00223	41.18	1/1/2013 8:01	6.87	1.31	0.79	0.01	86.657
STGM2801	STMG0855	STMG0833	279.26	0.012	253.08	247	CIRCULAR	1.25	1		0.02178	8.41	1/1/2013 8:00	8.72	0.85	0.82	0	16.689
STGM3781	STIG0837	STIG0890	21.45	0.013	222	219.93	CIRCULAR	1	1		0.09696	0.79	1/1/2013 10:27	1.64	0.07	1	0.01	1.222
STGM3276	STIF109	stmF09036	51.28	0.013	181.1	181	CIRCULAR	1.5	1		0.00195	10.51	1/1/2013 8:00	5.95	2.26	1	1.49	51.308
STGM1435	STMG0729	STMG075	322.97	0.013	232.43	229.78	CIRCULAR	2	1		0.00821	7.29	1/1/2013 8:01	6.4	0.36	0.39	0	14.457
STGM4468	J4882	STMF118	25.31	0.012	175.58	175.28	CIRCULAR	1.5	1		0.01185	8.22	1/1/2013 8:00	8.36	0.69	0.54	0	20.184
STGM3044	STMF0839	STMF0840	249.349	0.012	194.68	197.51	CIRCULAR	1	1		-0.01135	3.88	1/1/2013 8:00	5.14	50.21	0.92	0.01	7.383
STGM2988	STMG0924	J5064	1248.08	0.013	218	217.53	CIRCULAR	2	1		0.00038	4.79	1/1/2013 8:00	2.22	1.09	0.65	0.01	9.95
STGM1645	J4634	J3932	39.03	0.012	162.6	160	CIRCULAR	1	1		0.06676	6.78	1/1/2013 8:02	11.96	0.71	0.68	0	19.388
STGM975	STMF0833	STMF0830	226.5	0.012	200.47	199.12	CIRCULAR	1	1		0.00596	2.08	1/1/2013 8:00	3.02	0.73	0.82	0.01	3.841
STGM893	J4894	J4216	516.78	0.04	144.1	110	IRREGULAR	0	1	STGM893	0.06613	5.63	1/1/2013 8:01	2.54	0.04	0.25	0	11.833
STGM2681	STMG0722	STMG077	137.03	0.012	242.48	241	CIRCULAR	1	1		0.0108	5.99	1/1/2013 8:20	7.62	1.55	1	1.87	14.879
STGM3122	STMG0932	STMG0928	231.52	0.012	223.75	220	CIRCULAR	2	1		0.0162	9.67	1/1/2013 8:13	5.55	0.32	1	0.01	24.842
STGM2443	J4482	J4898	167.9	0.013	176.38	172.38	CIRCULAR	2	1		0.02383	51.61	1/1/2013 8:32	16.5	1.48	0.98	0.01	134.613
STGM4289	STMG0769	STMG0768	151.74	0.012	254.21	249.66	CIRCULAR	1	1		0.03	1.51	1/1/2013 7:35	2.69	0.24	1	0.01	3.041
STGM3596	STMG0839	STMG0840	194.36	0.012	230	226.5	CIRCULAR	1	1		0.01801	5.01	1/1/2013 8:00	8.08	1.01	0.74	0.01	9.778
STGM4199	STMG1028	J4938	34.74	0.013	184.5	184	CIRCULAR	1.5	1		0.01439	10.51	1/1/2013 8:00	7.89	0.83	0.71	0	51.308
STGM2693	STMF134	J4894	171.26	0.013	146.6	144.1	CIRCULAR	1	1		0.0146	5.63	1/1/2013 8:00	10.5	1.31	0.65	0.01	11.833
STGM1540	STMF0825	STMF0826	490.32	0.012	198	191.54	CIRCULAR	1.5	1		0.01318	7.45	1/1/2013 8:00	5.06	0.59	0.78	0.01	14.673
STGM166	STMG0845	STMG0846	88.453	0.013	219.9	219.5	CIRCULAR	2	1		0.00452	38.59	1/1/2013 7:53	12.28	2.54	1	3.18	128.57
STGM3052	STMG1226	STMG1227	225.11	0.013	165.13	163.82	CIRCULAR	1.5	1		0.00582	6.52	1/1/2013 8:06	3.69	0.81	1	0.01	10.517
STGM1340	J4946	J4948	19.12	0.013	171.5	171.4	CIRCULAR	1.5	1		0.00523	14.78	1/1/2013 7:50	11.58	1.95	0.68	0.01	23.327
STGM2358	STMG0814	STMG087	289.73	0.013	218.02	213.97	CIRCULAR	1	1		0.01398	3.17	1/1/2013 8:00	5.74	0.75	1	0.01	6.277
STGM3936	STMG132	STMG1322	78.4	0.013	157.5	157.4	CIRCULAR	1.5	1		0.00128	21.69	1/1/2013 8:45	12.27	5.78	1	21.86	64.048
STGM2941	STMH071	J4972	26.24	0.013	269.69	268.1	CIRCULAR	1	1		0.06071	2.09	1/1/2013 8:00	8.82	0.24	0.34	0	4.22
STGM1799	STMG097	STMG0910	199.9	0.024	204.55	202.75	CIRCULAR	2	1		0.009	24.07	1/1/2013 8:03	7.97	2.07	0.92	0.01	57.828
STGM1838	STMG0717	J3540	150.61	0.013	249.02	239.5	CIRCULAR	1	1		0.06334	6.77	1/1/2013 8:00	12.15	0.76	0.67	0	14.171
STGM618	STMG1024	J4318	119.61	0.012	180.74	180	CIRCULAR	1.25	1		0.00619	5.48	1/1/2013 8:00	4.46	1.04	1	0.25	11.277
STGM3164	J4972	STMH077	125.01	0.012	268.1	262.39	CIRCULAR	1	1		0.04572	2.09	1/1/2013 8:00	7.8	0.26	0.37	0	4.22
STGM1370	STMG0744	STMG0742	155.83	0.012	262.97	257.32	CIRCULAR	1	1		0.03628	2.24	1/1/2013 8:00	7.06	0.32	1	0.01	5.032
STGM244	STMF0811	STMF0842	160.92	0.013	191.3	190.8	CIRCULAR	3	1		0.00311	41.19	1/1/2013 8:01	7.83	1.11	0.7	0.01	86.657
STGM4268	STMG0911	STMG099	50.25	0.012	201.8	201.5	CIRCULAR	1	1		0.00597	1.75	1/1/2013 8:00	2.23	0.61	1	0.01	4.363
STGM4418	STMG0774	STMG0775	245.07	0.012	261.5	259	CIRCULAR	1	1		0.0102	2.51	1/1/2013 8:00	5.98	0.67	0.53	0	5.124
STGM3028	STIF0877	STIF0867	159.22	0.012	194.4	193.06	CIRCULAR	1	1		0.00842	3.04	1/1/2013 8:00	4.53	0.89	0.8	0	5.884
STGM4306	STMF0928	STMF0929	311.61	0.012	194.94	192.41	CIRCULAR	1	1		0.00812	1.57	1/1/2013 8:00	5.35	0.47	0.4	0	3.215
STGM3722	STMG0777	STMG0772	138.627	0.012	245.36	244.3	CIRCULAR	1	1		0.00765	2.5	1/1/2013 8:00	4.42	0.77	0.68	0	5.124
STGM2021-A	J4898	J5576	466.11	0.04	172.38	167.5	IRREGULAR	0	1	STGM2021	0.01047	51.58	1/1/2013 8:31	4.07	0.15	0.36	0	134.613
STGM868	STMG0734	STMG0712	133.31	0.012	262.5	256	CIRCULAR	1	1		0.04882	3.7	1/1/2013 8:00	9.36	0.45	0.5	0	6.891
STGM2506	J2	STIG1022	134.81	0.013	188.89	188.47	CIRCULAR	1	1		0.00312	2.22	1/1/2013 8:04	2.82	1.12	1	0.96	5.291
STGM420	STMG082	STMG0813	96.98	0.013	206.02	204.5	CIRCULAR	3	1		0.01568	45.42	1/1/2013 7:43	7.19	0.54	1	0.01	145.082
STGM1067	STMG0712	STMG0732	159.35	0.012	256	250.9	CIRCULAR	1	1		0.03202	3.7	1/1/2013 8:00	8.6	0.56	0.54	0	6.891
STGM2219	STIF1135	STIF1138	57.79	0.013	168.6	168.3	CIRCULAR	1	1		0.00519	3.5	1/1/2013 8:00	4.7	1.36	0.9	0.01	6.923
STGM4215	STMG0812	J5040	26.01	0.024	201.1	201	CIRCULAR	2.75	1		0.00384	47.58	1/1/2013 7:36	8.01	2.68	1	7.82	151.359
STGM2082	STMG0833	STMG0832	258.68	0.012	247	240.5	CIRCULAR	1.5	1		0.02514	12.52	1/1/2013 7:40	9.04	0.72	0.89	0.01	23.58
STGM1959	J5064	J3530	53.19	0.013	217.53	217	CIRCULAR	1.5	1		0.00996	8.31	1/1/2013 8:01	8.62	0.79	0.54	0	21.194
STGM2656	STMF0922	STMF0923	165.99	0.012	188.07	186.61	CIRCULAR	1.5	1		0.0088	11.77	1/1/2013 8:00	6.66	1.15	1	0.48	23.327
STGM402	STMF081	STMF082	340.4	0.013	212.38	207.57	CIRCULAR	1	1		0.01413	2.94	1/1/2013 7:32	4.65	0.69	1	0.01	6.277
STGM1993	STMF073	STMF071	102.299	0.013	221.91	220.65	CIRCULAR	1.5	1		0.01232	10.35	1/1/2013 8:01	7.22	0.89	1	0.01	21.466
STGM2165	STMF0915	STMF0916	66.109	0.012	192.18	191.75	CIRCULAR	1.25	1		0.0065	3.88	1/1/2013 8:00	5.83	0.72	0.53	0	7.383
STGM2710	J5034	STMF1010	137.49	0.013	154.93	153.77	CIRCULAR	2.75	1		0.00844	59.38	1/1/2013 8:07	10.19	1.22	0.95	0.01	155.035
STGM2829	STMG079	STMG078	121.1	0.012	244.55	242.4	CIRCULAR	1.5	1		0.01776	8.49	1/1/2013 8:01	9.22	0.58	0.79	0.01	17.528
STGM3399	STMF109	STMF107	303.04	0.013	181.25	177.34	CIRCULAR	1.5	1		0.0129	9.2	1/1/2013 8:00	7.01	0.77	0.72	0	21.856
STGM442	STMG0820	STMG0834	132.51	0.013	220.62	217.11	CIRCULAR	2.75	1		0.0265	14.13	1/1/2013 8:00	10.49	0.16	0.28	0	27.984
STGM1868	STMG0742	STMG0768	299.76	0.012	257.32	249.66	CIRCULAR	1	1		0.02556	2.27	1/1/2013 7:30	3.45	0.38	1	0.01	5.032
STGM2737	STMG1022	STMG1023	220.18	0.012	183.41	182.09	CIRCULAR	1.25	1		0.006	3.38	1/1/2013 8:00	4.31	0.65	0.97	0.01	7.219
STGM2759	STMG0832	STMG0851	249.76	0.013	240.5	238.1	CIRCULAR	1.75	1		0.00961	13.53	1/1/2013 7:38	6.71	0.87	1	0.09	23.58
STGM3883	STMG0919	STMF0911	104.441	0.013	187.81	186.9	CIRCULAR	1	1		0.00871	3.97	1/1/2013 8:00	5.06	1.19	1	0.92	7.889
STGM156	STMG147	STIG1416	8	0.013	128.19	121.28	CIRCULAR	1	1		1.71406	5.51	1/1/2013 8:00	10.78	0.12	0.62	0.01	14.301
STGM1858	STMF1022	J-CCT3-08	145.3	0.012	160.25	152	CIRCULAR	1.25	1		0.05687	1.34	1/1/2013 8:00	7.92	0.08	0.2	0	2.613
CCT1-03	J-CCT1-04	J-CCT1-03	335.09	0.04	121	112	IRREGULAR	0	1	CCT1-03	0.02687	57.55	1/1/2013 8:31	6.55	0	0.04	0	179.215
STGM3207	STMG0825	STMG0828	47.26	0.013	222.92	222.44	CIRCULAR	3	1		0.01016	45.09	1/1/2013 8:02	6.38	0.67	1	0.01	104.497
STGM2687	STMG1227	STMG1219	278.73	0.013	163.82	162.2	CIRCULAR	1.5	1		0.00581	14.43	1/1/2013 8:01	8.17	1.8	1	1.6	24.476
STGM541	STMF086	STMF087	127.52	0.013	211.36	210	CIRCULAR	2	1		0.01067	14.77	1/1/2013 8:01	7.11	0.63	0.63	0	30.29
STGM149	STMF0716	STMF0713	226.91	0.013	207.75	204.26	CIRCULAR	1.75	1		0.01538	13.45	1/1/2013 8:00	9.03	0.68	0.59	0	25.651
STGM4158	J4708	J4216	331.99	0.04	146.5	110	IRREGULAR	0	1	STGM4158	0.11061	1.42	1/1/2013 8:00	0.9	0.01	0.25	0	2.842
STGM3315	STMF082	STMG0813	254.79	0.013	207.57	204.5	CIRCULAR	1.25	1		0.01205	2.67	1/1/2013 7:34	2.18	0.38	1	0.01	6.277
STGM2786	J4402	STMF109	198.95	0.013	182.41	181.25	CIRCULAR	1	1		0.00583	4.23	1/1/2013 7:59	5.4	1.56	0.99	0.01	8.803
STGM1882	STIG1416	J-CCT1-04	41.84	0.013	121.28	121	CIRCULAR	2	1		0.00669	55.08	1/1/2013 8:34	18.26	2.98	0.92	0.01	171.454
STGM3319	STMG0858	STMG0857	120.16	0.012	244.49	241.7	CIRCULAR	1.25	1		0.02323	8.1	1/1/2013 7:58	9.07	0.79	1	0.01	20.414
STGM3314	STMG0846	STMG0854	66.913	0.013	219.5	219.3	CIRCULAR	2.25	1		0.00299	42.94	1/1/2013 7:53	10.8	2.54	1	2.95	137.32
STGM3741	STMF0930	STMF0928	183.81	0.012	198.17	194.94	CIRCULAR	1	1		0.01758	1.58	1/1/2013 8:00	4.54	0.32	0.45	0	3.215
STGM3905	STMF1226	STMF1225	38.703	0.013	157.4	156.96	CIRCULAR	3	1		0.01137	29.65	1/1/2013 8:00	11.57	0.42	0.39	0	74.624
STGM3292	STMF0822	STMF0816	55.01	0.012	203.22	203.09	CIRCULAR	1	1		0.00236	3.36	1/1/2013 8:00	5.39	1.86	0.74	0.01	6.467
STGM3029	STIG1348	STIG1349	38.93	0.013	162.33	161.5	CIRCULAR	1	1		0.02133	7.38	1/1/2013 8:30	9.4	1.42	1	3.25	21.504
STGM2969	J3896	J5174	64.76	0.013	188.7	188	CIRCULAR	2.75	1		0.01081	37.18	1/1/2013 8:03	8.64	0.68	0.68	0	87.292
STGM3642	STMF0931	STMF0926	54.63	0.013	180.95	180.78	CIRCULAR	3	1		0.00311	33.76	1/1/2013 8:00	9.36	0.91	0.51	0	202.825
STGM2271	STMG0822	STMG089	262.18	0.013	224.48	221.73	CIRCULAR	2.25	1		0.01049	11.44	1/1/2013 8:00	6.4	0.36	0.46	0	22.718
STGM65	STMG0836	STMG0837	296.642	0.013	210.6	208	CIRCULAR	2.75	1		0.00877	19.12	1/1/2013 8:01	6.47	0.39	0.5	0	37.762
STGM1576	STMF0843	STMF0842	195.75	0.012	191.98	190.8	CIRCULAR	1	1		0.00603	2.98	1/1/2013 8:00	3.79	1.04	1	0.3	5.805
STGM339	STMF116	J3688	31.51	0.013	173.1	172.98	CIRCULAR	1	1		0.00381	5.45	1/1/2013 8:11	6.94	2.48	1	2.6	11.871
STGM4160	STMG0914	J3664	67.14	0.013	201.3	201	CIRCULAR	1	1		0.00447	3.2	1/1/2013 7:20	4.08	1.34	1	1.06	6.326
STGM3945	STMF1219	STMF1220	91.8	0.013	162.89	160.62	CIRCULAR	2.75	1		0.02474	7.2	1/1/2013 8:00	5.58	0.09	0.27	0	12.415
STGM3615	J5220	J4770	571.05	0.013	188	185.5	CIRCULAR	1	1		0.00438	2.18	1/1/2013 8:00	2.77	0.92	1	0.01	4.69
STGM2549	STMG0720	STMG0711	151.52	0.012	256.47	250.1	CIRCULAR	1	1		0.04208	8.51	1/1/2013 8:00	10.83	1.12	1	0.61	17.528
STGM633	STMG0830	STMG0850	254.58	0.012	231.75	229.13	CIRCULAR	2.25	1		0.01029	37.12	1/1/2013 8:02	9.34	1.14	1	0.84	79.165
STGM2407	STMG089	STMG0820	199.44	0.013	221.73	220.62	CIRCULAR	2.75	1		0.00557	14.13	1/1/2013 8:00	7.82	0.36	0.34	0	27.984
STGM916	STMG1410	STIG1416	57.63	0.013	137.22	121.28	CIRCULAR	1	1		0.28782	4.62	1/1/2013 8:00	8.3	0.24	0.67	0.01	8.832
STGM1356	STMG0859	STMG0858	97.01	0.012	245.36	244.49	CIRCULAR	1.25	1		0.00897	8.1	1/1/2013 7:58	7.37	1.27	1

Conduits Existing 25 Year Storm

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
STGM3724	STMF091	STMF0931	173.83	0.013	184.65	180.95	CIRCULAR	3	1		0.02129	30.57	1/1/2013 8:00	8.43	0.31	0.51	0	202.825
STGM2406	J5304	STMF116	225.41	0.013	174	173.1	CIRCULAR	1	1		0.00399	5.77	1/1/2013 8:00	7.35	2.56	1	2.6	11.871
STGM2635	STIF1287	STIF129	205.82	0.013	171.84	169.71	CIRCULAR	1	1		0.01035	4.21	1/1/2013 8:00	5.36	1.16	1	0.96	8.718
STGM3838	STMG1215	STMG1210	86.67	0.013	168.8	167.05	CIRCULAR	1	1		0.0202	3.04	1/1/2013 8:00	4.91	0.6	0.78	0.01	4.991
STGM2457	STMG0827	STMG0845	271.274	0.013	221.54	219.93	CIRCULAR	2	1		0.00594	29.44	1/1/2013 7:21	9.37	1.69	1	4.19	104.497
STGM1563	STMG128	STMG1316	719.4	0.013	164.5	162	CIRCULAR	1.5	1		0.00348	10.9	1/1/2013 8:02	6.17	1.76	1	4.02	27.52
STGM2791	STMG0765	STMG0762	247.44	0.012	340.04	338.85	CIRCULAR	1	1		0.00481	1.45	1/1/2013 8:00	4.72	0.56	0.41	0	3.4
STGM4305	STIG07112	STMG0772	357.72	0.013	255.3	244.3	CIRCULAR	1.25	1		0.03076	0	1/1/2013 0:00	0	0	0.28	0	0
STGM70	STMG0840	STMG0841	154.61	0.012	226.5	220.3	CIRCULAR	1	1		0.04013	5	1/1/2013 8:00	9.26	0.67	0.65	0	9.778
STGM2055	STMG146	J5354	65.29	0.013	157	153	CIRCULAR	1.25	1		0.06138	4.69	1/1/2013 8:00	11.12	0.29	0.38	0	9.415
STGM751	J5040	J5366	153.29	0.04	201	200.41	IRREGULAR	0	1	STGM751	0.00385	41.28	1/1/2013 7:44	1.77	0.24	1	0.01	151.359
STGM2699	STMF0813	STIF0817	242.87	0.013	204.29	200.1	CIRCULAR	3	1		0.01725	41.92	1/1/2013 8:01	12.53	0.48	0.48	0	83.916
STGM1483	STMG094	STMG0913	230.65	0.013	204.63	203.01	CIRCULAR	1	1		0.00702	4.3	1/1/2013 8:03	5.47	1.44	1	3.45	9.253
STGM3911	STMG0762	STMG0761	195.62	0.012	338.85	324	CIRCULAR	1	1		0.07613	1.45	1/1/2013 8:00	9.68	0.14	0.25	0	3.4
STGM3268	STMG0848	STMG0863	129.63	0.013	225.02	223.96	CIRCULAR	3	1		0.00818	48.36	1/1/2013 8:02	7.31	0.8	1	0.01	104.497
STGM3139	J5354	J-CCT1-05	243.13	0.04	153	121.5	IRREGULAR	0	1	STGM3139	0.13066	4.69	1/1/2013 8:00	2.01	0	0.13	0	9.415
STGM4474	STIF129	STIF1210	138.769	0.013	169.71	168.92	CIRCULAR	0.5	1		0.00569	3.24	1/1/2013 8:38	16.5	7.65	1	23.11	8.718
STGM2798	STMF0830	STMF0829	120.14	0.012	199.12	198.35	CIRCULAR	1.25	1		0.00641	5.6	1/1/2013 8:00	5.86	1.04	0.73	0.01	10.487
STGM1656	STMG1321	STMG1319	249.5	0.013	165.57	164.32	CIRCULAR	0.833	1		0.00501	4.35	1/1/2013 8:16	7.98	2.81	1	4.85	11.707
STGM3119	STMF105	STMF106	83.834	0.013	172	170.2	CIRCULAR	1	1		0.02148	1.56	1/1/2013 8:00	6.15	0.3	0.36	0	3.302
STGM3886	STMG076	STMG073	9.14	0.013	227.4	226.2	CIRCULAR	2.25	1		0.13244	4.18	1/1/2013 8:00	5.09	0.04	0.26	0	8.261
STGM3000	STMG0854	STMG0819	96.47	0.013	219.3	218.34	CIRCULAR	2.25	1		0.00995	42.94	1/1/2013 7:53	11.44	1.39	1	2.2	137.32
STGM1136	J4060	OF_J5408	312.83	0.013	153.98	151.48	CIRCULAR	1	1		0.00799	3.87	1/1/2013 8:00	5.13	1.21	0.92	0.01	6.905
STGM1544	STMG0835	STMG0836	164.3	0.013	212.96	210.6	CIRCULAR	2.75	1		0.01437	19.13	1/1/2013 8:00	8.51	0.3	0.4	0	37.762
STGM18	J4040	STMF102	126.75	0.013	172.53	169.96	CIRCULAR	1.5	1		0.02028	14.2	1/1/2013 8:00	8.84	0.95	0.89	0.01	32.588
STGM1384	STIG0778	STMG0751	174.31	0.012	290.53	286.67	CIRCULAR	1	1		0.02215	1.45	1/1/2013 8:01	5.78	0.26	0.36	0	3.4
STGM66	STMG0934	STMG0935	106.74	0.012	212.83	211.3	CIRCULAR	2	1		0.01434	24.86	1/1/2013 8:00	9.45	0.88	1	0.01	57.828
STGM3497	STMG0732	STMG0833	127.09	0.012	250.9	247	CIRCULAR	1	1		0.0307	3.7	1/1/2013 8:00	5.92	0.57	0.77	0.01	6.891
STGM3180	J5422	STMF1221	150.14	0.04	167.05	159.23	IRREGULAR	0	1	STGM3180	0.05216	8.48	1/1/2013 8:11	2.04	0.03	0.36	0	18.386
STGM3411	STMH072	STMH071	271.29	0.012	292.3	269.29	CIRCULAR	1	1		0.08512	2.09	1/1/2013 8:00	5.12	0.19	0.51	0	4.22
STGM961	STMG0754	STIG0777	154.58	0.012	307.92	290.71	CIRCULAR	1	1		0.11203	1.45	1/1/2013 8:00	5.09	0.12	0.39	0	3.4
STGM741	STMG142	STMG145	47.996	0.013	160.03	159.65	CIRCULAR	1	1		0.00792	1.36	1/1/2013 8:00	2.45	0.43	0.66	0	2.82
STGM4212	STIH077	STMH077	55.97	0.013	264.96	262.39	CIRCULAR	1	1		0.04597	0.5	1/1/2013 8:00	2.71	0.07	0.28	0	1.317
STGM2463	STMF0927	J3990	133.43	0.012	182.71	182	CIRCULAR	1	1		0.00532	1.5	1/1/2013 8:00	4.63	0.55	0.43	0	3.802
STGM1672	STMG0727	STMG0729	113.743	0.013	234.7	232.43	CIRCULAR	2.25	1		0.01996	7.29	1/1/2013 8:00	6.54	0.17	0.32	0	14.457
STGM4138	STMG0930	STMG0916	165.97	0.013	195.5	191.69	CIRCULAR	1	1		0.02296	3.22	1/1/2013 8:00	5.77	0.6	0.67	0	6.582
STGM3214	STMG086	STMG083	251.78	0.013	212.42	208.26	CIRCULAR	2.75	1		0.01652	42.58	1/1/2013 7:43	10.42	0.63	1	0.01	137.32
STGM3835	STMG1034	J3692	17.08	0.013	185.1	185	CIRCULAR	1.5	1		0.00585	6.76	1/1/2013 8:00	3.83	0.84	1	0.09	13.7
STGM375	STIG1031	STMG1030	298.16	0.013	187	183.05	CIRCULAR	1	1		0.01325	5.14	1/1/2013 8:21	6.55	1.25	1	1.87	13.053
STGM685	STMG1320	STMG1321	264.39	0.013	166.4	165.57	CIRCULAR	0.833	1		0.00314	5.3	1/1/2013 8:01	9.72	4.32	1	5.76	11.707
STGM1017	STMG1029	STMG1028	201.15	0.013	190.3	184.5	CIRCULAR	3	1		0.02885	23.45	1/1/2013 8:00	11.53	0.21	0.33	0	51.308
STGM2997	STMF0925	STMF0922	296.93	0.012	190.26	188.07	CIRCULAR	1	1		0.00738	1.45	1/1/2013 8:04	2.33	0.46	0.84	0.01	2.709
STGM1303	STMF083	STMF086	436.54	0.013	218.19	211.36	CIRCULAR	2	1		0.01565	14.77	1/1/2013 8:00	8.35	0.52	0.55	0	30.29
STGM963	J3838	J4946	602.8	0.04	182.3	171.5	IRREGULAR	0	1	STGM963	0.01792	11.75	1/1/2013 8:01	2.07	0.19	0.51	0	23.327
STGM2135	STMG0767	STMG0747	146.44	0.012	265.52	261.2	CIRCULAR	1.25	1		0.02951	7.09	1/1/2013 8:00	9.88	0.61	0.59	0	14.788
STGM2595	STMG0747	STMG0771	17.7	0.012	261.2	260.62	CIRCULAR	1.25	1		0.03279	7.08	1/1/2013 8:00	9.86	0.58	0.71	0	14.788
STGM1333	STMG135	STMG134	261.41	0.013	159.5	158.7	CIRCULAR	1	1		0.00306	3.47	1/1/2013 8:00	4.42	1.76	1	3.35	8.225
STGM1815	STMG085	STMG084	216.61	0.013	211.01	209.23	CIRCULAR	1.25	1		0.00822	2.2	1/1/2013 7:14	3.54	0.38	1	0.01	3.876
STGM1834	J5472	J5474	63.41	0.013	187.5	187	CIRCULAR	2.75	1		0.00789	37.13	1/1/2013 8:03	9.31	0.79	0.7	0	87.292
STGM1012	STMF088	STMF089	180.82	0.012	204.24	200.13	CIRCULAR	1.25	1		0.02274	6.85	1/1/2013 8:00	8.5	0.68	0.62	0	13.474
STGM516	STMG1311	STMG1315	511.17	0.013	162.2	162	CIRCULAR	1.25	1		0.00039	11.01	1/1/2013 8:07	8.97	8.61	1	5.91	28.129
STGM4320	STMG104	STMG1034	689.83	0.013	187.9	185.1	CIRCULAR	1.75	1		0.00406	6.73	1/1/2013 8:00	3.27	0.67	0.8	0.01	13.7
STGM1242	J5474	J3708	206.65	0.04	187	185	IRREGULAR	0	1	STGM1242	0.00968	38.09	1/1/2013 8:05	1.65	0.08	0.75	0.01	91.042
STGM3236	STMG0913	STMF092	331.04	0.013	203.01	199.23	CIRCULAR	1	1		0.01142	4.16	1/1/2013 8:09	5.29	1.09	1	0.88	9.253
STGM1327	STIF132	STIF131	60.15	0.013	151.5	151.4	CIRCULAR	1.25	1		0.00166	3.52	1/1/2013 8:00	7.15	1.34	0.42	0.01	7.23
STGM2686	STMF113	STMF1012	137.44	0.013	160.38	153.43	CIRCULAR	2.75	1		0.05063	12.22	1/1/2013 8:00	12.9	0.1	0.22	0	30.876
STGM779	STIG09106	STMG1027	27.28	0.012	196.3	196	CIRCULAR	1.75	1		0.011	8.31	1/1/2013 8:02	7.11	0.48	0.49	0	21.194
STGM3703	STMG0750	STMG0749	106.7	0.012	284.09	276.33	CIRCULAR	1.25	1		0.07292	7.09	1/1/2013 8:00	12.66	0.39	0.47	0	14.788
STGM539	STMF085	STMF0813	222.27	0.013	207.36	204.29	CIRCULAR	3	1		0.01381	22.53	1/1/2013 8:00	7.8	0.29	0.43	0	44.495
STGM1485	STMF0910	STMF103	335.12	0.013	186	181	CIRCULAR	1	1		0.01492	3.97	1/1/2013 8:00	5.44	0.91	0.87	0.01	7.889
STGM3386	STMG0910	STMG099	312.09	0.013	202.75	201.5	CIRCULAR	2.75	1		0.00401	24.07	1/1/2013 8:03	7.09	0.72	0.56	0	57.828
STGM3930	STMF1223	STMF1224	73.01	0.013	144.7	129.1	CIRCULAR	3	1		0.21872	34.52	1/1/2013 8:00	14.85	0.11	0.36	0	84.963
STGM1942	STMF0713	STMF076	281.159	0.013	204.26	201.2	CIRCULAR	2.25	1		0.01088	13.44	1/1/2013 8:00	7.35	0.42	0.47	0	25.651
STGM3132	STMF1225	STMF1222	253.95	0.013	156.96	148.1	CIRCULAR	3	1		0.03491	29.65	1/1/2013 8:00	11.08	0.24	0.4	0	74.624
STGM1139	STMF0832	STMF0831	225.12	0.012	203.44	200.29	CIRCULAR	1	1		0.01399	3.52	1/1/2013 8:00	4.75	0.8	0.95	0.01	6.646
STGM1641	J4120	J3728	172.539	0.04	199	195.5	IRREGULAR	0	1	STGM1641	0.02029	44.4	1/1/2013 8:06	3.25	0.08	0.72	0.01	92.626
STGM3901	STMG0933	STMG0934	88.11	0.012	214.11	212.83	CIRCULAR	2	1		0.01453	24.86	1/1/2013 8:00	9.48	0.88	1	0.01	57.828
STGM3465	J5366	J3664	51	0.013	200.41	200.3	CIRCULAR	2.25	1		0.00216	35.12	1/1/2013 7:57	8.83	2.44	1	14.33	151.359
STGM2847	STMF072	STMF084	183.2	0.013	220.3	218.62	CIRCULAR	1.5	1		0.00917	10.35	1/1/2013 8:01	5.86	1.03	1	0.35	21.466
STGM831	STMF0921	STMF0917	94.18	0.012	190.78	189.31	CIRCULAR	1	1		0.01561	6.65	1/1/2013 8:00	8.47	1.44	1	0.95	13.235
STGM694	J8	STIF1290	63.77	0.012	169	167.61	CIRCULAR	0.666	1		0.0218	3.22	1/1/2013 8:47	10.42	1.74	0.83	0.01	8.718
STGM1380	STMG0850	STMG0829	185.31	0.013	229.13	227.89	CIRCULAR	3	1		0.00669	48.39	1/1/2013 8:00	8.42	0.89	1	0.01	104.497
STGM3808	STMG1325	STMG1326	87.79	0.013	160.87	158.1	CIRCULAR	1	1		0.03157	8.68	1/1/2013 8:31	11.05	1.37	1	3.13	25.423
STGM2078	STMG074	STMG073	159.57	0.013	228.1	226.2	CIRCULAR	2.25	1		0.01191	7.28	1/1/2013 8:01	5.86	0.22	0.35	0	14.457
STGM3173	STMG0843	STMG0835	205.42	0.013	214.07	212.96	CIRCULAR	2.75	1		0.0054	14.13	1/1/2013 8:01	6.44	0.36	0.4	0	27.984
STGM3402	STMG0768	STMG0770	160.54	0.012	249.66	245.78	CIRCULAR	1	1		0.02418	6.32	1/1/2013 8:01	8.05	1.1	1	1.05	14.879
STGM2763	STMG081	STMG096	105.72	0.013	204.25	202.94	CIRCULAR	1	1		0.01239	3.2	1/1/2013 7:20	4.08	0.81	1	0.01	6.326
STGM602	STIG108	J5576	97.56	0.013	168.3	167.5	CIRCULAR	1	1		0.0082	1	1/1/2013 8:00	1.29	0.31	0.96	0.01	1.98
STGM3091	STMF1222	STMF1223	295	0.013	148.1	144.7	CIRCULAR	3	1		0.01153	29.64	1/1/2013 8:01	13.43	0.41	0.35	0	74.624
STGM2108	STIG1024	STIG1031	130.33	0.013	187.02	187	CIRCULAR	1	1		0.00015	5.21	1/1/2013 8:11	6.63	11.8	1	1.88	13.053
STGM1602	STMG071	STMG072	247.03	0.013	226.07	222.75	CIRCULAR	1.5	1		0.01344	10.39	1/1/2013 8:00	6.55	0.85	1	0.01	21.466
STGM3105	J3540	STMG071	248.27	0.013	239.5	226.07	CIRCULAR	1	1		0.05417	6.77	1/1/2013 8:00	9.58	0.82	0.84	0.01	14.171
STGM2057	STMG1322	STMG1323	58.633	0.013	157.4	157.3	CIRCULAR	1.5	1		0.00171	21.76	1/1/2013 8:48	12.31	5.02	1	21.83	64.048
STGM1778	STMG0731	STMG0730	134.3	0.012	268.21	262.62	CIRCULAR	1	1		0.04166	1.74	1/1/2013 8:00	4.19	0.23	0.52	0	3.914
STGM173	STMG0916	STMG0917	154.32	0.013	191.69	190.3	CIRCULAR	1	1		0.00901	3.21	1/1/2013 8:00	5.48	0.95	0.7	0	6.582
STGM4059	STMF0838	STMF0839	251.88	0.012	203.44	197.51	CIRCULAR	1	1		0.02355	3.88	1/1/2013 8:00	5.49	0.68	0.84	0.01	7.383
STGM3489	J-CCT3-12	J-CCT3-11	106.77	0.024	162.9	160.41	CIRCULAR	3.5	1		0.02333	79.32	1/1/2013 8:04	8.94	0.95	0.87	0	326.737
STGM2281	STMG095	STMG094	311.18	0.013	204.18	204.63	CIRCULAR	1	1		-0.00145	4.52	1/1/2013 8:00	5.75	3.33	1	1.3	9.253
STGM609	STMG1030	STMF109	409.88	0.013	183.05	181.25	CIRCULAR	1.25	1		0.00439	5.14	1/1/2013 8:20	4.53	1.2	0.9	0.01	13.053
STGM583	STMG1112	J4882	511.93	0.012	181.88	175.58	CIRCULAR	1.5	1		0.01231	8.22	1/1/2013 8:00	7.31	0.68	0.61	0	20.184
STGM1335	J3694	J4318	353.6	0.04	184.5	180.52	IRREGULAR	0	1	STGM1335	0.01126	53.33	1/1/2013 7:54	3.77	0.35	0.76	0	123.336
STGM1601	STMF1217	STMF1218	227.98	0.013	175	168.49	CIRCULAR	1.5	1		0.02857	7.2	1/1/2013 8:00	9.83	0.41	0.43	0	12.415
STGM3150	STMG1021	J3896	684.78	0.013	192	188.7	CIRCULAR	2.75	1		0.00482	30.58	1/1/2013 8:02	7.18	0.83	0.67	0	72.271
STGM2705	STIF1132	STIF1133	73.19	0.013	172.1	171.6	CIRCULAR	1	1		0.00683	3.5	1/1/2013 8:00	4.73	1.19	0.9	0.01	6.923
STGM2973	STIF1133	STIF1134	98.06	0.013	171.5	170.5	CIRCULAR	1	1		0.0102	3.5	1/1/2013 8:00	5.22	0.97	0.8	0	6.923
STGM1249	STIF1138	J-CCT3-04	351.76	0.013	168	165	CIRCULAR	1	1		0.00853	3.48	1/1/2013 8:01	4.89	1.06	0.86	0.01	6.923
STGM555	STIF1134	STIF1135	157.51	0.013	170.4	168.7	CIRCULAR	1	1		0.01079	3.5	1/1/2013 8:00	4.93	0.94	0.88	0	6.923
STGM1879	STMG1218	stmG1210034	120.71	0.013	161.72	145	CIRCULAR	1.5	1		0.13986	23.32	1/1/2013 8:00	14.01	0.99	0.89	0	39.319
STGM2021-B	J5576	J5034	463.9	0.04	167.5	155.33	IRREGULAR	0	1	P31	0.02624	59.58	1/1/2013 8:01	4.99	0.01	0.14	0	155.035
STGM3252	J3498	STMG149	242.41	0.013	159	157.06	CIRCULAR	1	1		0.008	2.92	1/1/2013 8:00	5.27	0.91	0.66	0	8.357
STGM1156	STMG1413	STMG1414	317.37	0.013	162	161	CIRCULAR	1.5	1		0.00315	5.34	1/1/2013 8:00	6.11	0.91	0.5	0	10.109
STGM1606	STMG1412	STMG136	220.44	0.013	158.8	155.05	CIRCULAR	1.5	1		0.01701	14.16	1/1/2013 8:00	11.19	1.03	0.72	0.01	26.981
STGM3518	J3646	STMF113	49.33	0.013	161.58	160.38	CIRCULAR	1.75	1		0.02433	9.97	1/1/2013 8:00	11.38	0.4	0.39	0	24.911
STGM2982	J3688	STMF117	467.39	0.013	172.98	167.22	CIRCULAR	1	1		0.01232	8.48	1/1/2013 8:10	10.8	2.14	1	2.51	18.386
STGM2690	STMG0725	STMG0724	66.43	0.013	230.43	228.95	CIRCULAR	1	1		0.02228	4.18	1/1/2013 8:00	7.43	0.79	0.67	0	8.261
STGM738	STMF118	J3646	476.76	0.013	175.28	161.58	CIRCULAR	1.5	1		0.02875	8.22	1/1/2013 8:00	9.4	0.46	0.5	0	20.184
STGM43	J3760	OF_J4000	49.68	0.013	185.9	185.5	CIRCULAR	3	1		0.00805	87.89	1/1/2013 8:03	12.55	1.47	0.97	0.01	185.088
STGM4016	STMG101	STMG104	246.17	0.013	188.8	187.9	CIRCULAR	1.5	1		0.00366	6.74	1/1/2013 8:00	4.57	1.06	0.78	0.01	13.7
STGM2536	STMF117	J5422	122.22	0.013	167.22	167.05	CIRCULAR	1.5	1		0.00139	8.48	1/1/2013 8:10	6.6	2.17	0.68	0.01	18.386
STGM1273	J-CCT3-11	J-CCT3-10	66.95	0.024	160.41	160	CIRCULAR	3.5	1		0.00612	80.99	1/1/2013 8:04	10.03	1.9	0.78	0.01	330.426
STGM567	STMF1014	J5386	133.15	0.013	152.3	150	CIRCULAR	2	1		0.01728	16.34	1/1/2013 7:58	11.07	0.55	0.48	0	36.85
STGM3636	STMF121	OF_J3954	100.49	0.013	151	132	CIRCULAR	1	1		0.19255	3.18	1/1/2013 8:00	15.54	0.2	0.31	0	5.351
STGM3038	STMF122	STMF121	302.54	0.013	154	151	CIRCULAR	1	1		0.00992	3.18	1/1/2013 8:00	6.87	0.89	0.57	0	5.351
STGM4177	STMF0841	STMF0914	315.31	0.012	194.31	192.61	CIRCULAR	1.25	1		0.00539	3.88	1/1/2013 8:00	5.04	0.79	0.6	0	7.383
STGM486	STMG0849	STMG0848	48.57	0.013	225.39	225.02	CIRCULAR	3	1		0.00762	48.36	1/1/2013 8:02	7.85	0.83	1	0.01	104.497
STGM3587	STIG0894	STIG0890	72.59	0.013	223.3	219.933	CIRCULAR	1.5	1		0.04643	13.13	1/1/2013 9:39	7.43	0.58	1	0.01	22.85
STGM3203	STMG0917	STMF0932	273.38	0.013	190.3	185.81	CIRCULAR	1	1		0.01643	3.21	1/1/2013 8:00	4.72	0.7	0.81	0.01	6.582
STGM1769	STMG133	STMG132	299.65	0.013	157.92	157.5	CIRCULAR	1.5	1		0.0014	21.74	1/1/2013 8:34	12.3	5.53	1	21.89	64.048
STGM1039	STMG1245	STMG128	279.09	0.013	166	164.5	CIRCULAR	1	1		0.00537	5.16	1/1/2013 8:01	6.57	1.97	1	3.61	11.722
STGM2095	J4818	J5398	137.01	0.013	176	175	CIRCULAR	1.5	1		0.0073	13.94	1/1/2013 7:59	10.16	1.55	0.72	0.01	25.425
STGM2776	STMG1316	STMG133	356.74	0.013	162	157.92	CIRCULAR	1.5	1		0.01144	12.99	1/1/2013 8:45	7.35	1.16	1	2.19	37.118
STGM4172	J4216	OF_J4218	232.48	0.04	110	90	IRREGULAR	0	1	STGM4172	0.08635	8.55	1/1/2013 8:01	3.61	0	0.06	0	18.216
STGM4234	J4500	OF_J5512	337.29	0.04	146	82.5	IRREGULAR	0	1	STGM4234	0.19169	4.04	1/1/2013 8:00	5.01	0	0.09	0	8.596
STGM3334	STIF131	J-CCT2-03	196.5	0.013	151.4	107	CIRCULAR	1.25	1		0.23195	3.52	1/1/2013 8:00	6.95	0.11	0.61	0.01	7.23
STGM2827	STMG136	J-CCT1-06	286.06	0.013	155.05	130	CIRCULAR	1.75	1		0.08791	14.15	1/1/2013 8:00	16.35	0.3	0.42	0	26.981
STGM2390	J4888	J-CCT2-04	85.23	0.013	144	123	CIRCULAR	1	1		0.25423	4.47	1/1/2013 8:00	9.56	0.25	0.67	0.01	8.567
STGM2972	STIF1324	J-CCT2-02	493.04	0.013	140	100	CIRCULAR	1	1		0.0814	7.17	1/1/2013 8:00	10.52	0.71	0.81	0.01	13.415
STGM2996	STMF0837	OF_J5574	42.35	0.012	187.2	186.8	CIRCULAR	1.25	1		0.00945	3	1/1/2013 8:00	5.21	0.46	0.48	0	5.75
STGM3141	STMF1023	J-CCT3-07	109.36	0.012	160.8	150	CIRCULAR	1	1		0.09924	1.17	1/1/2013 8:00	9.51	0.1	0.21	0	2.412
STGM3634	STMF106	J-CCT3-13	37.85	0.013	170.2	169	CIRCULAR	1	1		0.03172	1.56	1/1/2013 8:00	3.22	0.25	0.67	0.01	3.302
STGM406	STIF0874	OF_J4224	30.81	0.012	186.57	186.4	CIRCULAR	1	1		0.00552	3.04	1/1/2013 8:01	4.64	1.1	0.78	0.01	5.884
STGM4167	J-CCT3-15	J-CCT3-14	30.84	0.013	171.4	171.1	CIRCULAR	2	1		0.00973	36.29	1/1/2013 8:09	11.92	1.63	0.94	0.01	216.315
C3	STMF126	J5554	58.7	0.013	166.02	164.69	CIRCULAR	1	1		0.02266	4.26	1/1/2013 8:00	8.45	0.79	0.61	0	11.033
C5	J9	STMF126	119.29	0.013	167.6	166.02	CIRCULAR	1	1		0.01325	1.39	1/1/2013 8:00	3.61	0.34

Conduits Existing 25 Year Storm

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
CCT1-01	J-CCT1-02	OF_J-CCT1-01	913.01	0.04	100	76	IRREGULAR	0	1	CCT1-01	0.0263	72.7	1/1/2013 8:06	6.34	0	0.03	0	223.379
CCT2-03	J-CCT2-04	J-CCT2-03	175.81	0.04	123	107	IRREGULAR	0	1	CCT2-03	0.09139	47.99	1/1/2013 8:01	4.21	0	0.04	0	99.128
CCT3-03	J-CCT3-04	J-CCT3-03	643.74	0.04	128	120	IRREGULAR	0	1	C55	0.01243	201.84	1/1/2013 8:05	4.28	0	0.06	0	645.939
CCT3-02	J-CCT3-03	J-CCT3-02	1459.74	0.04	120	112	IRREGULAR	0	1	C55	0.00548	211.12	1/1/2013 8:07	3	0	0.07	0	668.305
HWY240_1	J-CCT3-05	J-CCT3-04	194.76	0.04	130	128	IRREGULAR	0	1	HWY240_1	0.01027	184.09	1/1/2013 8:06	9.12	0	0.09	0	600.478
CCT3-05	J-CCT3-07	J-CCT3-06	571.25	0.04	145	138	IRREGULAR	0	1	CCT3-06	0.01225	85.16	1/1/2013 8:05	4.99	0.01	0.13	0	339.543
CCT3-06	J-CCT3-08	J-CCT3-07	148.81	0.04	148	145	IRREGULAR	0	1	CCT3-06	0.02016	84.1	1/1/2013 8:04	4.76	0.01	0.13	0	337.131
CCT3-07	J-CCT3-09	J-CCT3-08	303.31	0.04	156	148	IRREGULAR	0	1	CCT3-06	0.02638	82.87	1/1/2013 8:04	5.85	0	0.12	0	334.518
CCT3-09	J-CCT3-13	J-CCT3-12	393.35	0.04	168.45	162.9	IRREGULAR	0	1	C50	0.01411	68.08	1/1/2013 8:02	3.08	0.02	0.26	0	290.981
STGM3778_b	J-CCT3-16	J-CCT3-15	194.91	0.04	174.28	171.4	IRREGULAR	0	1	STGM3778	0.01478	36.25	1/1/2013 8:01	2.04	0.09	0.61	0	216.315
CCT1-02	J-CCT1-03	J-CCT1-02	593.88	0.04	112	100	IRREGULAR	0	1	CCT1-02	0.02021	60.52	1/1/2013 8:31	4.09	0	0.03	0	187.039
CCT1-04	J-CCT1-06	J-CCT1-05	688.44	0.04	129.31	121.5	IRREGULAR	0	1	CCT1-04	0.01135	51.57	1/1/2013 8:01	1.99	0	0.11	0	138.906
CCT2-04	J-CCT2-05	J-CCT2-04	693.94	0.04	131	123	IRREGULAR	0	1	CCT2-04	0.01153	43.65	1/1/2013 8:02	4.93	0	0.04	0	90.561
CCT2-02	J-CCT2-03	J-CCT2-02	538.9	0.04	107	100	IRREGULAR	0	1	CCT2-02	0.01299	51.43	1/1/2013 8:01	6.87	0	0.03	0	106.358
CCT2-01	J-CCT2-02	OF_J-CCT2-01	67.12	0.04	100	97	IRREGULAR	0	1	CCT2-01	0.04474	61.4	1/1/2013 8:00	1.3	0	0.11	0	126.628
CCT2-05	J-CCT2-06	J-CCT2-05	167.43	0.04	133.5	131	IRREGULAR	0	1	CCT2-05	0.01493	40.27	1/1/2013 8:02	2.52	0	0.05	0	82.405
STGM1575	J3474	STMG1010	20.17	0.013	189.28	189.18	CIRCULAR	1.75	1		0.00496	9.85	1/1/2013 8:00	5.87	0.88	0.67	0	19.255
STGM1393	J3504	J4862	255.43	0.04	160	120	IRREGULAR	0	1	STGM1393	0.15855	3.97	1/1/2013 8:00	4.63	0	0.02	0	6.839
STGM3138	STMH1313	STMH1312	49.44	0.012	153.35	147.62	CIRCULAR	1	1		0.11668	2.65	1/1/2013 8:00	12.86	0.21	0.31	0	5.851
STGM228	J5484	J3588	294.72	0.04	211.8	209.9	IRREGULAR	0	1	STGM2598	0.00645	15.37	1/1/2013 8:00	1.8	0.17	0.55	0	40.357
STGM2497	STMH1315	STMH133	432.6	0.013	158.1	153.5	CIRCULAR	0.833	1		0.01063	4.1	1/1/2013 8:03	8.28	1.82	0.85	0.01	20.848
STGM1579	J3612	J3614	93.21	0.013	174	173	CIRCULAR	1	1		0.01073	3.84	1/1/2013 8:00	5.43	1.04	0.84	0.01	6.705
STGM3836	J3938	J4688	348.87	0.04	387	357	IRREGULAR	0	1	STGM3836	0.08631	36.52	1/1/2013 8:00	6.13	0	0.14	0	137.04
STGM4460	J3628	J3630	62.23	0.013	188	187.5	CIRCULAR	1	1		0.00803	6.05	1/1/2013 11:57	7.71	1.9	1	0.57	21.205
STGM3868	J6	STIH145	134.69	0.013	164	163.35	CIRCULAR	1	1		0.00483	3.97	1/1/2013 8:00	5.06	1.61	1	1.51	6.839
STGM4009	STII0943	STII0947	281.36	0.012	249.57	248.11	CIRCULAR	1.5	1		0.00519	1.39	1/1/2013 8:01	4.33	0.18	0.24	0	3.179
HC-27	J-HC-33	J-HC-32	583.24	0.04	169	167	IRREGULAR	0	1	HC-27	0.00343	266.19	1/1/2013 8:34	2.09	0	0.06	0	1101.954
HC-28	J-HC-34	J-HC-33	754.96	0.04	177	169	IRREGULAR	0	1	HC-28	0.0106	259.2	1/1/2013 8:34	10.13	0	0.08	0	1080.431
STGM1958	STMI1140	STMI1122	39.18	0.013	205.14	204.9	CIRCULAR	2	1		0.00613	18.32	1/1/2013 8:01	6.56	1.03	0.83	0.01	46.361
STGM1860	STMI113	J3762	43.66	0.013	187.8	187.4	CIRCULAR	1.5	1		0.00916	8.57	1/1/2013 8:00	6.12	0.85	0.74	0	13.884
STGM139	STIH144	J3504	62.53	0.013	160.75	160	CIRCULAR	1.5	1		0.012	3.97	1/1/2013 8:00	7.25	0.35	0.35	0	6.839
STGM2308	STIH0917	STMH0910	189.84	0.013	230	229	CIRCULAR	1.5	1		0.00527	6.35	1/1/2013 10:14	3.59	0.83	1	0.01	18.277
STGM1260	STMH137	STMH138	23.01	0.012	136.08	124.75	CIRCULAR	1	1		0.56573	2.23	1/1/2013 8:00	13.71	0.08	0.26	0	4.871
STGM1528	STII0961	STII0962	47.79	0.012	254.48	254	CIRCULAR	1.5	1		0.01004	5	1/1/2013 8:01	5.04	0.46	0.55	0	13.559
STGM1864	STII0957	STII0961	215.88	0.013	256.62	254.48	CIRCULAR	1.25	1		0.00991	5	1/1/2013 8:01	6.07	0.78	0.64	0	13.559
STGM3620	STII0942	STII0943	51.3	0.012	250.05	249.77	CIRCULAR	1.5	1		0.00546	1.39	1/1/2013 8:01	3.42	0.17	0.28	0	3.179
STGM937	STIH12125	STMH125	90.37	0.013	178.25	177.69	CIRCULAR	1.25	1		0.0062	3.63	1/1/2013 8:00	5.85	0.71	0.5	0	5.723
STGM4250	J3872	STMG112	166.88	0.013	185.8	185.51	CIRCULAR	1	1		0.00174	2.99	1/1/2013 9:12	3.81	2.02	1	22	24.459
STGM1719	STII0947	J5012	522.97	0.04	248.11	234	IRREGULAR	0	1	STGM1719	0.02699	1.38	1/1/2013 8:03	1.59	0.02	0.6	0.01	3.179
STGM3407	STIH1013	STMH109	184	0.013	201.5	185	CIRCULAR	1	1		0.09004	1.3	1/1/2013 8:00	11.39	0.12	0.2	0	2.599
STGM2660	STMH1227	J-HCT3-09	345.42	0.013	171.54	170.5	CIRCULAR	1.25	1		0.00301	5.41	1/1/2013 8:39	4.5	1.53	1	0.98	13.638
STGM4205	STMH0920	STMH0919	54.95	0.013	212	209.2	CIRCULAR	1.5	1		0.05102	22.4	1/1/2013 8:12	13.14	0.94	1	0.01	59.74
STGM2754	J3936	J3938	164.31	0.013	398	387	CIRCULAR	1.5	1		0.0671	33.39	1/1/2013 8:00	20.44	1.23	0.87	0.01	129.636
STGM4036	STII0950	STII0952	174.08	0.012	252.77	251.89	CIRCULAR	1.5	1		0.00506	1.39	1/1/2013 8:00	3.33	0.18	0.29	0	3.179
STGM3453	STMH1116	STMH1128	184.87	0.013	213.23	203.8	CIRCULAR	1	1		0.05108	3.82	1/1/2013 8:00	9.29	0.47	0.52	0	7.512
STGM2515	STMH104	STMH101	122.45	0.013	191.8	189.9	CIRCULAR	1.75	1		0.01552	9.85	1/1/2013 8:00	7.14	0.5	0.56	0	19.255
STGM4279	STII0953	STII0954	78.29	0.012	260	259	CIRCULAR	1.5	1		0.01277	0.49	1/1/2013 8:00	2.66	0.04	0.16	0	1.15
STGM712	STIG1142	STIG1139	114.71	0.013	186.5	186.5	CIRCULAR	1	1		0	2.89	01/01/2013 16:29 PM	3.68	27.45	1	20.53	21.205
STGM4198	STMH0913	STMH0916	214.49	0.012	195.61	193.13	CIRCULAR	1	1		0.01156	9.72	1/1/2013 8:36	13.37	2.44	0.87	0.01	29.12
STGM194	STMH093	J4042	166.75	0.013	195.22	176	CIRCULAR	1	1		0.11604	2.61	1/1/2013 7:59	13.58	0.22	0.29	0	5.028
STGM3971	J4050	STMI096	50.12	0.013	258	257	CIRCULAR	1.5	1		0.01996	2.31	1/1/2013 8:40	6.1	0.16	0.27	0	8.14
STGM1044	J4068	J4066	41.97	0.012	186.1	186	CIRCULAR	1	1		0.00238	3.1	01/01/2013 16:16 PM	3.95	1.72	1	20.23	24.459
STGM2598	J3588	STII1179	306.81	0.04	209.9	207.9	IRREGULAR	0	1	STGM2598	0.00652	15.22	1/1/2013 8:02	2.31	0.17	0.44	0	40.357
STGM1476	STMH097	STMH098	388.33	0.013	223	214.5	CIRCULAR	1.5	1		0.02189	15.57	1/1/2013 7:29	10.6	1	1	0.02	44.788
STGM329	STMH106	STMH105	266.07	0.013	197.65	194	CIRCULAR	1.25	1		0.01372	3.55	1/1/2013 8:00	5.37	0.47	0.53	0	6.564
STGM2658	J5562	J4160	453.58	0.04	164	147.33	IRREGULAR	0	1	STGM2658	0.03678	21.73	1/1/2013 8:00	5.07	0.02	0.19	0	44.92
STGM3906	STMH094	STMH093	78.28	0.013	195.8	195.22	CIRCULAR	1	1		0.00741	2.64	1/1/2013 7:59	6.52	0.86	0.51	0	5.028
STGM311	J4198	J4200	250.76	0.04	160	153	IRREGULAR	0	1	STGM311	0.02793	13.91	1/1/2013 8:00	3.08	0	0.03	0	25.543
STGM2425	STMH101	J3474	67.9	0.013	189.9	189.28	CIRCULAR	1.75	1		0.00913	9.85	1/1/2013 8:00	5.99	0.65	0.65	0	19.255
STGM3568	J4234	STMI114	33.66	0.013	187.2	186.85	CIRCULAR	1.5	1		0.0104	8.57	1/1/2013 8:00	6.73	0.8	0.68	0	13.884
HC-24	J-HC-30	J-HC-29	1068.52	0.04	162	153.5	IRREGULAR	0	1	HC-24	0.00796	309.12	1/1/2013 8:40	4.35	0.04	0.32	0	1228.876
STGM3445	STMI135	STMI131	340.1	0.012	152.82	151.8	CIRCULAR	1.5	1		0.003	6.78	1/1/2013 8:00	5.86	1.13	0.62	0.01	11.28
STGM1229	STIH1040	STMH1011	233.9	0.013	211	199	CIRCULAR	1	1		0.05137	2.24	1/1/2013 8:00	7.48	0.28	0.41	0	4.323
STGM1382	STMH1226	STMH1211	47.59	0.012	169.99	169.52	CIRCULAR	1	1		0.00988	4.4	1/1/2013 7:09	5.6	1.19	1	0.14	8.761
STGM2704	STII0940	STII0941	77.93	0.012	252.88	252.2	CIRCULAR	1	1		0.00873	4.91	1/1/2013 8:00	6.35	1.42	0.96	0.01	18.277
STGM1142	J3762	J4234	24.91	0.013	187.4	187.2	CIRCULAR	1.5	1		0.00803	8.57	1/1/2013 8:00	6.36	0.91	0.71	0	13.884
STGM2498	STII11135	STMI117	36.59	0.013	198	197	CIRCULAR	2	1		0.02734	24.32	1/1/2013 8:01	12.67	0.65	0.59	0	56.786
STGM1908	STMH1239	STMH1240	278.71	0.012	164.09	162.29	CIRCULAR	1.5	1		0.00646	3.1	1/1/2013 8:00	4.5	0.35	0.41	0	5.895
STGM857	STMH117	STMH114	443.31	0.013	190.68	186.75	CIRCULAR	2	1		0.00887	20.55	1/1/2013 8:00	8.36	0.96	0.73	0	40.804
STGM28	J4200	J4398	66.07	0.013	153	141	CIRCULAR	1.5	1		0.1847	13.91	1/1/2013 8:00	19.52	0.31	0.42	0	25.543
STGM4085	STMG106	STMG1035	183.85	0.013	190	189	CIRCULAR	1.5	1		0.00544	4.81	1/1/2013 8:00	4.64	0.62	0.57	0	9.347
STGM3809	STIH145	STIH146	105.04	0.013	163.35	163.62	CIRCULAR	1	1		-0.00257	3.97	1/1/2013 7:59	5.75	2.2	0.82	0.01	6.839
HCT4-03	J-HCT4-03	J-HCT4-02	92.5	0.04	168	166.4	IRREGULAR	0	1	HCT4-04	0.0173	39.31	1/1/2013 8:01	6.09	0	0.09	0	115.272
STGM1713	J5640	J-HC-09	472.66	0.04	158.5	109	IRREGULAR	0	1	STGM1713	0.10531	8.56	1/1/2013 8:00	6.53	0	0.06	0	17.512
STGM2096_3	STMH0919	STMH0918	109.42	0.013	209.2	203.7	CIRCULAR	1.5	1		0.05033	30.77	1/1/2013 8:00	17.41	1.31	1	1.63	77.762
STGM1173	STMI1311	J4160	152.33	0.013	154.39	147.33	CIRCULAR	2	1		0.0464	4.94	1/1/2013 8:00	6.14	0.1	0.32	0	18.504
STGM3060	STMI081	STIL085	647.64	0.012	305.96	276.09	CIRCULAR	1	1		0.04617	5.01	1/1/2013 8:00	11.13	0.63	0.56	0	13.559
STGM525	STMH1253	STMH1254	74.1	0.013	170.83	169.5	CIRCULAR	1	1		0.01795	9.3	1/1/2013 8:00	11.84	1.95	1	2.16	16.942
STGM3271	J-HC-43	J-HC-42	49.15	0.013	348.3	346.2	CIRCULAR	1.5	1		0.04277	46.1	1/1/2013 8:00	26.08	2.12	1	4.29	180.739
STGM748	STMH1216	J4504	72.45	0.013	156.42	146.42	CIRCULAR	1.25	1		0.13936	9.73	1/1/2013 8:00	13.76	0.4	0.56	0	24.906
STGM383	STMH1011	STIH1038	53.74	0.013	199	197.7	CIRCULAR	1	1		0.0242	2.24	1/1/2013 8:00	7.55	0.4	0.4	0	4.323
STGM37	STMH1135	STMH118	319.98	0.013	185.8	184.3	CIRCULAR	1.25	1		0.00469	3.72	1/1/2013 8:00	4.27	0.84	0.67	0	7.116
STGM24	J4556	J5628	1003.7	0.04	310	265	IRREGULAR	0	1	STGM24	0.04488	14.89	1/1/2013 8:01	2	0	0.36	0	47.074
STGM1925	STIH1038	STMH1010	85.77	0.013	197.7	193	CIRCULAR	1	1		0.05488	2.24	1/1/2013 8:00	3.99	0.27	0.68	0.01	4.323
STGM2451	STMI0911	STII0955	80.03	0.012	259.63	257.95	CIRCULAR	1.25	1		0.021	5	1/1/2013 8:00	7.56	0.51	0.53	0	13.559
STGM1397	STMH1110	STMH1126	362.86	0.013	200.5	199	CIRCULAR	1	1		0.00413	3.35	1/1/2013 7:13	4.29	1.46	1	0.97	25.548
STGM2566	STMI114	STMH129	334	0.013	185.8	180.81	CIRCULAR	2.75	1		0.01494	32.85	1/1/2013 8:01	11.36	0.51	0.49	0	70.669
STGM1330	J4554	J4556	47.81	0.013	312	311	CIRCULAR	1.25	1		0.02092	4.46	1/1/2013 8:00	7.52	0.48	0.49	0	19.23
STGM2979	STMH133	J4098	65.59	0.013	153.5	152	CIRCULAR	1.25	1		0.02288	4.1	1/1/2013 8:04	9.67	0.42	0.38	0	20.848
STGM3558	STMI112	STII118	163.79	0.013	192.35	190.63	CIRCULAR	1.5	1		0.0105	3.7	1/1/2013 8:00	3.61	0.34	0.57	0	6.027
STGM2998	STMH107	STMH108	66.82	0.013	191.68	187	CIRCULAR	1	1		0.07021	1.97	1/1/2013 8:00	11.48	0.21	0.27	0	3.975
STGM855	J5326	J4576	941.85	0.04	434	313	IRREGULAR	0	1	STGM855	0.12954	9.71	1/1/2013 8:01	4.72	0	0.02	0	38.713
STGM2439	STMH095	STMH094	86.27	0.013	196.44	195.8	CIRCULAR	1	1		0.00742	2.61	1/1/2013 8:00	4.43	0.85	0.7	0	5.028
STGM218	STIH107	STMH1018	127.41	0.013	185.07	163	CIRCULAR	1	1		0.17588	2.16	1/1/2013 8:00	4.16	0.14	0.63	0.01	4.44
STGM2442	J4608	J4610	1370.89	0.04	101	100	IRREGULAR	0	1	STGM2442	0.00073	50.91	1/1/2013 8:49	0.67	0.83	1	0.01	11.86
STGM3855	J4628	STIH0917	253.21	0.04	242.1	230	IRREGULAR	0	1	STGM3855	0.04784	5.17	1/1/2013 9:24	1.31	0.03	0.9	0.01	18.277
STGM2215	J5266	J4642	492.27	0.013	185.66	157.2	CIRCULAR	2	1		0.05791	0.99	1/1/2013 8:00	7.66	0.02	0.09	0	2.095
STGM1992-A	J4668	J4290	348.04	0.013	164.65	162.4	CIRCULAR	1	1		0.00646	6.59	1/1/2013 10:55	8.39	2.3	1	3.95	16.942
STGM614	STMH111	STMH1017	415.87	0.013	198.5	192.51	CIRCULAR	1	1		0.01441	3.29	1/1/2013 8:00	7.41	0.77	0.55	0	7.459
STGM3862	J4688	J4690	40.22	0.04	357	355.6	IRREGULAR	0	1	STGM3836	0.03483	36.49	1/1/2013 8:00	8.1	0.01	0.12	0	137.04
STGM219	STMH1212	STMH1213	366.97	0.013	168.22	161.31	CIRCULAR	1	1		0.01883	7.53	1/1/2013 8:10	9.58	1.54	1	2.73	20.077
STGM4274	STMH127	STMH1231	80.71	0.013	173.13	171.56	CIRCULAR	4	1		0.01946	61.98	1/1/2013 8:00	11.27	0.31	0.45	0	121.329
STGM1763	STMH1220	STMH1221	225.79	0.012	171.26	170.42	CIRCULAR	1	1		0.00372	3.45	1/1/2013 10:12	4.39	1.53	1	3	8.761
STGM1992-B	J4290	J-HC-14	594.69	0.013	162.4	139	CIRCULAR	1	1		0.03938	9.95	1/1/2013 8:42	12.66	1.41	1	3.95	28.301
STGM3952	J4738	J4740	1596.66	0.04	226	194	IRREGULAR	0	1	STGM3952	0.02005	27.52	1/1/2013 8:00	2.78	0	0.15	0	89.477
STGM2288	J4282	J5560	877.68	0.04	169.7	165	IRREGULAR	0	1	STGM2288	0.00536	13.46	1/1/2013 8:00	1.4	0.05	0.38	0	23.246
STGM2173	STMH1144	STMH1110	252.1	0.013	201.7	200.5	CIRCULAR	1	1		0.00476	1.43	1/1/2013 10:04	2.2	0.58	1	0.01	18.707
STGM2680	STII0941	STII0945	191.59	0.012	252	246.83	CIRCULAR	1	1		0.02699	4.9	1/1/2013 8:00	6.96	0.81	0.84	0.01	18.277
STGM2205	STMH098	STMH0920	42.95	0.013	214.5	212	CIRCULAR	1.5	1		0.05831	23.01	1/1/2013 7:28	15.32	0.91	1	0.01	59.74
STGM3771	STMH102	STMH103	272.3	0.013	174.7	169.99	CIRCULAR	2	1		0.0173	21.4	1/1/2013 8:00	11.6	0.72	0.57	0	41.861
STGM2734	STMG114	J4784	78.62	0.013	191	190	CIRCULAR	1.5	1		0.01272	6.73	1/1/2013 8:02	3.99	0.57	1	0.01	12.636
STGM4334	STMH1024	STMH0912	206.64	0.012	205.02	204	CIRCULAR	1	1		0.00494	1.67	1/1/2013 7:11	3.52	0.64	1	0.05	2.064
STGM2778	STMI131	STMI132	235.77	0.012	151.8	143.41	CIRCULAR	1.5	1		0.03561	6.77	1/1/2013 8:00	5.88	0.33	0.66	0	11.28
STGM355	STMH1230	STMH1222	116.35	0.012	172.72	172.1	CIRCULAR	1	1		0.00533	3.85	1/1/2013 8:01	4.9	1.42	1	1.91	8.761
STGM3290	STMH1221	STMH1226	227.89	0.012	170.42	169.99	CIRCULAR	1	1		0.00189	3.65	1/1/2013 10:12	4.65	2.27	1	3.15	8.761
STGM3610	STIL085	STMI0911	412.58	0.012	276.09	259.63	CIRCULAR	1.25	1		0.03993	5.01	1/1/2013 8:00	8.95	0.37	0.47	0	13.559
STGM2584	STMH1222	STMH1220	226.82	0.012	172.1	171.26	CIRCULAR	1	1		0.0037	3.46	1/1/2013 8:04	4.4	1.53	1	3.09	8.761
STGM167	STMI1141	J4872	35.79	0.013	204.4	204	CIRCULAR	2	1		0.01118	20.33	1/1/2013 8:00	8.16	0.85	0.74	0	50.118
STGM2180	STMH1213	STMH1214	39.05	0.013	161.31	160.3	CIRCULAR	1.25	1		0.02587	7.53	1/1/2013 8:10	8.31	0.72	0.69	0	20.077
STGM1362	J-HC-42	J-HC-41	911.23	0.04	344.2	304.9	IRREGULAR	0	1	STGM1362	0.04317	51.98	1/1/2013 8:01	6.34	0	0.04	0	197.568
STGM3990	STMG108	STMG109	127.61	0.013	188.5	184.62	CIRCULAR	1.75	1		0.03042	4.86	1/1/2013 8:00	3.57	0.18	0.55	0	9.347
STGM3599	STIG1139	J4068	81.44	0.012	186.5	186.1	CIRCULAR	1	1		0.00491	2.87	01/01/2013 16:18 PM	3.66	1.11	1	4.65	21.205
STGM3183	STII0956	STII0957	78.78	0.012	257.19	256.62	CIRCULAR	1.25	1		0.00724	5	1/1/2013 8:01	5.48	0.88	0.7	0	13.559
STGM1313	STMH1112	J4918	118.56	0.013	202.7	202	CIRCULAR	1.75	1		0.0059	3.97	1/1/2013 8:00	3.83	0.33	0.57	0	7.791
STGM3239	STII151	STMI151	314.32	0.013	159.5	157	CIRCULAR	1.5	1		0.00795	6.42	1/1/2013 8:00	5.71	0.69	0.61	0	19.262
STGM952	STIH1043	STMH1014	81.9	0.013	204	197.45	CIRCULAR	1	1		0.08023	2.28	1/1/2013 8:00	8.97	0.23	0.36	0	4.421
STGM4082	J4740	STIH1035	115.86	0.024	194	190.9	CIRCULAR	2.25	1		0.02677	26.57	1/1/2013 8:06	7.78	0.97	0.8	0	89.477
STGM2917	J5012	STII093	73.59	0.013	234	233.5	CIRCULAR	1	1		0.00679	3.71	1/2/2013 1:10	4.72	1.26	1	10.51	30.523
STGM2111	J4002	J-HC-32	377.6	0.04	182.8	167	IRREGULAR	0	1	STGM2111	0.04188	10.9	1/1/2013 8:30	4.97	0	0.08	0	32.705
STGM1652	STMH1310	J-HCT3-02	116.83	0.012	147.1	146.8	CIRCULAR	1	1		0.00257	3.3	1/1/2013 8:00	4.25	1.76	0.96	0.01	6.596
STGM3954	STMH103	J3696	206.48	0.013	169.99	156.53	CIRCULAR	1.75	1		0.06533	21.39	1/1/2013 8:00	20.58	0.53	0.45	0	41.861
STGM3432	J5026	STMH096	260.73	0.013	226	224	CIRCULAR	1.25	1		0.00767	8.87	1/1/2013 8:38	7.23	1.57	1	2.36	27.553
STGM1345	STMG118	J-HC-22	551.11	0.012	183.75	139	CIRCULAR	1	1		0.08147	8.68	1/1/2013 8:00	12.27	0.82	0.84	0.01	37.408
STGM2516	STMH1014	STMH1010	64.99	0.013	197.45	193	CIRCULAR	1.25	1		0.06863	3.69	1/1/

Conduits Existing 25 Year Storm

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
STGM1334	STMH1129	J5110	18.78	0.013	193	192.5	CIRCULAR	2	1		0.02663	16.92	1/1/2013 8:01	9.75	0.46	0.54	0	33.061
STGM1150	STMH091	STMH106	384.74	0.013	199.87	197.65	CIRCULAR	1.25	1		0.00577	3.56	1/1/2013 8:00	4.98	0.72	0.56	0	6.564
STGM1859	STMI117	STMI114	547.89	0.013	194	187.8	CIRCULAR	2.75	1		0.01132	24.31	1/1/2013 8:01	9.13	0.43	0.46	0	56.786
STGM2132	STMH1010	STIH1036	162.93	0.013	193	190	CIRCULAR	1.25	1		0.01842	8.47	1/1/2013 8:00	7.24	0.97	0.91	0.01	16.378
STGM4297	STMH1214	STMH1215	185.32	0.013	160.3	157.22	CIRCULAR	1.25	1		0.01662	7.53	1/1/2013 8:10	7.36	0.9	0.84	0	20.077
STGM2732	STMH1013	STMH1014	122.52	0.013	204.8	197.45	CIRCULAR	1	1		0.0601	1.4	1/1/2013 8:00	6.12	0.16	0.33	0	2.761
STGM3539	STMG1223	STMG1213	526.28	0.013	170.31	167.5	CIRCULAR	1	1		0.00534	3.89	1/1/2013 8:02	6.7	1.5	0.69	0.01	6.396
STGM1726	J5084	J5190	52.95	0.013	233	231.2	CIRCULAR	1	1		0.03401	4.15	01/01/2013 15:59 PM	8.26	0.63	0.61	0	43.284
STGM1690	STII0944	J4628	83.25	0.012	246.13	242.1	CIRCULAR	1	1		0.04847	4.9	1/1/2013 8:00	12.24	0.6	0.78	0.01	18.277
STGM3759	STMG125	STMG126	305.96	0.013	166.96	163	CIRCULAR	1	1		0.01294	7.62	1/1/2013 8:35	11.7	1.88	0.77	0.01	19.301
STGM285	STIH1033	STMH1015	112.94	0.013	209	205	CIRCULAR	1	1		0.03544	1.4	1/1/2013 8:00	4.68	0.21	0.41	0	2.761
STGM2730	STII118	STII116	199.97	0.013	190.63	188.91	CIRCULAR	1.5	1		0.0086	8.57	1/1/2013 8:00	5.95	0.88	0.76	0	13.884
STGM1000	STMH1312	J-HCT3-01	119.96	0.012	147.62	132.64	CIRCULAR	1	1		0.12586	2.65	1/1/2013 8:00	10.76	0.2	0.65	0.01	5.851
STGM1533	STMH0923	J4002	158.61	0.013	189.37	182.8	CIRCULAR	3	1		0.04146	9.72	1/1/2013 8:36	8.19	0.07	0.22	0	29.12
STGM630	STII0945	STII0944	47.83	0.012	246.63	246.33	CIRCULAR	1	1		0.00627	4.9	1/1/2013 8:00	6.34	1.67	0.96	0.01	18.277
STGM1312	STMH096	STMH097	202.67	0.013	224	223	CIRCULAR	1.25	1		0.00493	11.61	1/1/2013 8:38	9.46	2.56	1	1.49	35.022
STGM3629	J3614	J4282	388.69	0.04	172	169.7	IRREGULAR	0	1	STGM3629	0.00592	6.56	1/1/2013 8:00	1.42	0.05	0.3	0	11.011
STGM241	J3630	STMG115	238.99	0.013	187.5	187	CIRCULAR	2.75	1		0.00209	8.6	1/1/2013 9:48	1.85	0.36	1	1.42	21.205
STGM4217	J5242	J4050	531.29	0.04	260	258	IRREGULAR	0	1	STGM4217	0.00376	2.34	1/1/2013 8:32	0.52	0.05	0.33	0	8.14
STGM3474	J5046	J4738	138.02	0.013	228	226	CIRCULAR	2	1		0.01449	10.15	1/1/2013 8:00	6.7	0.37	0.49	0	55.54
STGM526	STMH1015	STMH1013	50.12	0.013	205	204.8	CIRCULAR	1	1		0.00399	1.4	1/1/2013 8:00	5	0.62	0.39	0	2.761
STGM461	STMG1019	STMH102	153.15	0.013	177.8	174.7	CIRCULAR	2	1		0.02025	21.4	1/1/2013 8:00	10.42	0.66	0.62	0	41.861
STGM1862	J-HC-18	J-HC-17	203.4	0.013	128	127	CIRCULAR	6	1		0.00492	496.15	1/1/2013 8:58	21.61	1.67	0.76	0.01	1699.199
STGM2191	STMH135	STMH136	39.53	0.013	157.7	149.85	CIRCULAR	1	1		0.20262	2.23	1/1/2013 8:00	15.15	0.14	0.24	0	4.871
STGM1685	STMH1022	J5266	21.48	0.013	186.19	185.66	CIRCULAR	1	1		0.02468	0.99	1/1/2013 8:00	6.68	0.18	0.24	0	2.095
STGM2874	STIH12182	STIH12125	196.41	0.013	179.31	178.35	CIRCULAR	1.25	1		0.00489	3.6	1/1/2013 8:00	4.31	0.8	0.64	0	5.723
STGM2644	STMH0912	STMH0911	53.61	0.012	204	200.85	CIRCULAR	1	1		0.05886	1.93	1/1/2013 10:11	2.45	0.21	1	0.01	2.064
STGM3202	J4690	J-HC-40	762.6	0.04	355.6	294	IRREGULAR	0	1	STGM3202	0.08104	36.35	1/1/2013 8:01	2.73	0	0.05	0	137.04
STGM3123	J5284	J5090	621.51	0.04	252	244	IRREGULAR	0	1	STGM3123	0.01287	6.27	1/1/2013 8:01	1.54	0	0.19	0	16.228
STGM2831	J4734	STMI096	552.44	0.013	264	257	CIRCULAR	1	1		0.01267	4.85	01/01/2013 14:34 PM	6.28	1.21	0.95	0.01	47.074
STGM3225	STII0948	STII0942	164.56	0.012	251.09	250.25	CIRCULAR	1.5	1		0.0051	1.39	1/1/2013 8:01	3.34	0.18	0.29	0	3.179
STGM98	STMG109	STMG1015	220.28	0.013	184.62	181.87	CIRCULAR	1.75	1		0.01249	16.8	1/1/2013 8:00	11.55	0.95	0.58	0	32.776
STGM3325	J5324	J5326	45.89	0.013	436.5	434	CIRCULAR	1	1		0.05456	9.77	1/1/2013 8:00	17.92	1.17	0.66	0.01	38.713
STGM2291	STMH125	J4636	54.12	0.013	177.69	176.5	CIRCULAR	1.5	1		0.02199	3.6	1/1/2013 8:00	4.77	0.23	0.47	0	5.723
STGM793	J4066	STIG11113	26.81	0.012	186	185.9	CIRCULAR	1	1		0.00373	3.07	01/01/2013 16:42 PM	3.91	1.36	1	15.48	24.459
STGM3927	STMG1228	STMG125	449.4	0.013	172	166.96	CIRCULAR	1	1		0.01122	7.79	1/1/2013 8:10	9.92	2.07	1	3.27	19.301
STGM1114	STMH1252	J-HCT3-05	39.3	0.012	163.82	162.3	CIRCULAR	1	1		0.03871	0.83	1/1/2013 7:59	1.6	0.11	1	0.01	1.546
STGM1484	J4918	STMH1144	38.51	0.013	202	201.7	CIRCULAR	1.75	1		0.00779	3.98	1/1/2013 8:00	2.75	0.28	0.83	0	7.791
STGM4004	STMH129	STMH128	443.57	0.013	180.81	173.6	CIRCULAR	3	1		0.01626	32.84	1/1/2013 8:01	6.37	0.39	0.69	0	70.669
STGM2459	STIH12139	STMH1224	90.38	0.013	173.26	172.96	CIRCULAR	1.25	1		0.00332	5.41	1/1/2013 8:39	4.41	1.45	1	2.86	13.638
STGM522	STMG1035	STMG108	111.08	0.013	189	188.5	CIRCULAR	1.5	1		0.0045	4.88	1/1/2013 8:00	6.35	0.69	0.45	0	9.347
STGM2326	STMH1021	STMH1022	263.42	0.013	192.77	186.19	CIRCULAR	1	1		0.02499	0.99	1/1/2013 8:00	5.31	0.18	0.29	0	2.095
STGM177	STMH1248	J-HCT3-03	182.8	0.012	160.76	155	CIRCULAR	1.25	1		0.03153	4.32	1/1/2013 8:00	6.83	0.36	0.51	0	9.692
HC-11	J-HC-14	J-HC-13	998.06	0.04	120.5	117	IRREGULAR	0	1	HC-11	0.00351	455.82	1/1/2013 9:06	3.34	0.01	0.13	0	1769.75
STGM2500	J5110	STMH117	81.34	0.013	192.5	190.68	CIRCULAR	2	1		0.02238	20.55	1/1/2013 8:00	8.93	0.61	0.69	0	40.804
STGM231	J3	STMH1314	357.44	0.013	164	163	CIRCULAR	0.833	1		0.0028	2.88	1/1/2013 8:00	5.28	2.49	1	2.71	5.374
STGM3072	STMI1312	STMI1311	168.29	0.013	157.19	154.39	CIRCULAR	1.75	1		0.01664	4.94	1/1/2013 8:00	8.24	0.24	0.3	0	18.504
STGM3278	STMH0916	STMH0923	40.17	0.012	193.13	189.37	CIRCULAR	1	1		0.09401	9.72	1/1/2013 8:36	18.17	0.86	0.64	0	29.12
STGM1814	J4160	STMI132	89.7	0.013	147.33	143.75	CIRCULAR	3.5	1		0.03994	26.65	1/1/2013 8:01	13.23	0.13	0.27	0	63.425
STGM3166	STMI122	STMI121	491.04	0.013	182.11	179.45	CIRCULAR	2	1		0.00542	11.2	1/1/2013 8:00	7.12	0.67	0.5	0	19.158
STGM3572	STMH1126	STMH1129	385.85	0.013	199	193	CIRCULAR	2	1		0.01555	16.92	1/1/2013 8:01	9.83	0.6	0.54	0	33.061
STGM192	STMH1228	J-HCT3-06	72.05	0.013	165.5	164.4	CIRCULAR	1	1		0.01527	3.08	1/1/2013 8:00	3.92	0.7	1	0.01	5.804
STGM233	STMH1018	J-HC-30	140.54	0.013	163	162	CIRCULAR	1	1		0.00712	2.16	1/1/2013 7:59	3.35	0.72	1	0.01	4.44
STGM1720	STIH081	J5450	45.64	0.013	286.77	281	CIRCULAR	1	1		0.12745	2.82	1/1/2013 8:00	12.99	0.22	0.32	0	6.232
STGM1598	STMH136	STMH137	42.86	0.012	149.85	136.08	CIRCULAR	1	1		0.33926	2.23	1/1/2013 8:00	18.74	0.1	0.21	0	4.871
STGM1418	STMI1122	STMI1141	101.09	0.013	204.9	204.4	CIRCULAR	2	1		0.00495	18.33	1/1/2013 8:01	6.99	1.15	0.78	0.01	46.361
STGM3337	STMH1137	J4198	581.15	0.013	177.67	161	CIRCULAR	1.5	1		0.0287	10.03	1/1/2013 8:00	10.37	0.56	0.54	0	18.611
STGM3528	J4620	STMG1228	785.82	0.013	176.3	172	CIRCULAR	1	1		0.00547	4.03	1/1/2013 8:11	5.13	1.53	1	3.12	9.96
STGM351	J4636	STIH12139	375.55	0.04	176.5	173.26	IRREGULAR	0	1	STGM351	0.00863	9.27	1/1/2013 7:59	1.22	0.14	0.76	0.01	13.638
STGM425	STMH128	STMH127	415.46	0.013	173.6	173.13	CIRCULAR	3.5	1		0.00113	55.75	1/1/2013 8:00	8.72	1.65	0.63	0.01	110.238
STGM551	STII1179	STMI1140	50	0.013	205.36	205.14	CIRCULAR	2	1		0.0044	18.32	1/1/2013 8:01	6.36	1.22	0.86	0.01	46.361
STGM407	J5480	J5026	184.32	0.013	228.1	226	CIRCULAR	1.25	1		0.01139	8.87	1/1/2013 8:38	7.23	1.29	1	2	27.553
STGM610	J5444	J5484	86.75	0.013	212.42	211.8	CIRCULAR	1.5	1		0.00715	15.44	1/1/2013 8:00	8.96	1.74	0.94	0.01	40.357
STGM1204	STMH1017	J-HCT4-01	153.14	0.013	192.51	178	CIRCULAR	1	1		0.09518	3.29	1/1/2013 8:00	12.21	0.3	0.38	0	7.459
STGM396	STIH1035	STIH1036	38.48	0.024	190.9	190	CIRCULAR	2.25	1		0.0234	27.47	1/1/2013 8:06	8.95	1.07	0.72	0.01	89.477
STGM1068	STMH1133	J5510	46.01	0.013	181.3	180.53	CIRCULAR	1.5	1		0.01674	5.8	1/1/2013 8:00	7.46	0.43	0.45	0	11.206
STGM129	STMH0910	J5480	634.59	0.013	229	228.1	CIRCULAR	1.25	1		0.00142	6.35	1/1/2013 10:15	5.17	2.61	1	2.12	18.277
STGM319	STII0955	STII0956	37.85	0.013	257.95	257.19	CIRCULAR	1.25	1		0.02008	5	1/1/2013 8:01	6.04	0.55	0.64	0	13.559
STGM4256	STMH1127	STMH1126	268.38	0.013	200.5	199	CIRCULAR	1.75	1		0.00559	13.59	1/1/2013 8:00	6.76	1.15	0.78	0.01	26.219
STGM2313	STMH1243	STMH1244	299.24	0.012	168.94	167.19	CIRCULAR	1	1		0.00585	2.38	1/1/2013 8:00	3.95	0.84	0.72	0	4.351
STGM286	STMI141	STMI135	312.47	0.012	154.9	152.82	CIRCULAR	1.5	1		0.00666	6.78	1/1/2013 8:00	4.78	0.76	0.75	0	11.28
STGM107	STMG112	STMG117	297.47	0.013	185.51	185	CIRCULAR	1	1		0.00171	5.71	1/1/2013 8:01	7.27	3.87	1	2.41	32.036
STGM3242	STMG1015	STMG1019	29.2	0.013	181.87	177.8	CIRCULAR	2	1		0.14076	16.8	1/1/2013 8:00	12.31	0.2	0.45	0	32.776
STGM480	J5560	J5562	66.13	0.013	165	164	CIRCULAR	1.5	1		0.01512	16.35	1/1/2013 8:11	10.43	1.27	0.83	0.01	31.934
STGM2535	STMG117	STMG118	441.47	0.013	185	183.75	CIRCULAR	1.5	1		0.00283	5.72	1/1/2013 8:03	5	1.02	0.65	0.01	32.036
STGM1867	J-HCT4-05	J-HCT4-04	69.01	0.013	176.5	175.6	CIRCULAR	4	1		0.01304	36.13	1/1/2013 8:01	9.01	0.22	0.36	0	108.699
STGM2240	STMH118	STMH1133	153.33	0.013	184	181.5	CIRCULAR	1.5	1		0.01631	5.8	1/1/2013 8:00	7.32	0.43	0.46	0	11.206
STGM910	STIG11113	J3872	49.37	0.012	185.9	185.8	CIRCULAR	1	1		0.00203	3.05	01/01/2013 16:42 PM	3.88	1.83	1	20.83	24.459
STGM674	STMH1229	STMH1228	221.01	0.012	168.72	165.5	CIRCULAR	1	1		0.01457	3.07	1/1/2013 8:00	4.34	0.69	0.85	0.01	5.804
STGM3730	J5510	STMH1137	162.18	0.013	180.53	177.67	CIRCULAR	1.5	1		0.01764	5.8	1/1/2013 8:00	6.68	0.42	0.49	0	11.206
STGM2366	STMH115	STMH116	226.96	0.013	186.02	184.21	CIRCULAR	2.25	1		0.00798	21.43	1/1/2013 8:01	8.61	0.77	0.6	0	42.667
HCT4-04	J-HCT4-04	J-HCT4-03	310.09	0.04	175.6	168	IRREGULAR	0	1	HCT4-04	0.02452	37.38	1/1/2013 8:01	4.77	0	0.1	0	111.298
STGM1793	STMH1231	J-HCT3-09	111.29	0.013	171.56	170.5	CIRCULAR	3.5	1		0.00953	61.98	1/1/2013 8:00	13.3	0.63	0.49	0	121.329
STGM3431	STMH1215	STMH1216	41.39	0.013	157.22	156.42	CIRCULAR	1.25	1		0.01933	9.82	1/1/2013 7:59	11.23	1.09	0.69	0.01	24.906
STGM128	STIH146	STIH144	125.9	0.013	163.62	160.75	CIRCULAR	1	1		0.0228	3.97	1/1/2013 8:00	7.68	0.74	0.63	0	6.839
STGM4187	STIH1012	STIH1013	34.76	0.013	201.6	201.5	CIRCULAR	1	1		0.00288	1.46	1/1/2013 7:59	5.25	0.76	0.39	0	2.599
STGM1358	STMI111	J5444	18.08	0.013	212.62	212.42	CIRCULAR	1.5	1		0.01106	15.45	1/1/2013 8:00	8.74	1.4	1	1.54	40.357
STGM3128	J5628	J4734	38.97	0.013	264.5	264	CIRCULAR	1	1		0.01283	4.85	01/01/2013 14:38 PM	6.18	1.2	1	20.83	47.074
STGM3704	STMG115	STIG1142	120.61	0.013	187	186.5	CIRCULAR	1	1		0.00415	2.89	01/01/2013 16:29 PM	3.68	1.26	1	11.21	21.205
STGM3263	STII0952	STII0948	79.25	0.012	251.69	251.29	CIRCULAR	1.5	1		0.00505	1.39	1/1/2013 8:00	3.33	0.18	0.29	0	3.179
STGM2226	STMH132	J5640	108.9	0.013	164	158.5	CIRCULAR	1	1		0.05057	6.86	1/1/2013 8:00	11.72	0.86	0.7	0	13.284
STGM619	STMH1211	STMH1212	124.79	0.013	169.52	168.22	CIRCULAR	1	1		0.01042	4.87	1/1/2013 9:15	6.2	1.34	1	2.35	12.349
STGM3602	STMH1224	STMH1227	429.88	0.013	172.96	171.54	CIRCULAR	1.25	1		0.0033	5.41	1/1/2013 8:39	4.41	1.46	1	2.58	13.638
STGM1294	STII0962	J35	46.3	0.012	254	253.8	CIRCULAR	1.5	1		0.00432	5.27	1/1/2013 8:02	7.58	0.73	0.42	0	13.559
STGM1350	J3696	J-HC-28	138.62	0.04	156.53	152	IRREGULAR	0	1	STGM1350	0.0327	26.42	1/1/2013 8:01	0.85	0.02	0.6	0.01	53.782
STGM3389	STII11281	STII11135	83.81	0.013	201.5	200.5	CIRCULAR	2	1		0.01193	24.32	1/1/2013 8:01	8.97	0.98	0.81	0	56.786
VILLA_CULVERT_2	J-HC-29	J-HC-28	58.16	0.013	153.5	151.8	CIRCULAR	5	1		0.02924	261.92	1/1/2013 8:43	15.92	0.59	0.78	0	1228.876
STGM2041	STMH105	STMH104	75.87	0.013	194	191.8	CIRCULAR	1.75	1		0.02901	9.85	1/1/2013 8:00	9.16	0.36	0.46	0	19.255
STGM496	STMH1240	STMH1241	56.71	0.012	162.29	161.94	CIRCULAR	1.5	1		0.00617	3.1	1/1/2013 8:00	6.19	0.36	0.33	0	5.895
STGM193	J5190	J4370	359.92	0.013	231.2	228.8	CIRCULAR	2	1		0.00667	4.15	01/01/2013 16:00 PM	3.69	0.22	0.45	0	43.284
STGM3680	J4784	J3628	465.92	0.04	190	188	IRREGULAR	0	1	STGM3680	0.00429	86.73	1/1/2013 9:12	1.09	0.49	1	0.01	12.636
STGM1226	STMI121	STMH128	273.08	0.013	179.45	173.6	CIRCULAR	2.25	1		0.02143	11.2	1/1/2013 8:00	3.96	0.25	0.67	0.01	19.158
STGM2096_2	STMH0918	STMH1027	241.47	0.013	203.7	191.5	CIRCULAR	1.5	1		0.05059	30.66	1/1/2013 8:03	18.74	1.3	0.87	0.01	77.762
STGM2103	STMI132	J-HCT2-03	99.6	0.013	143.41	141.33	CIRCULAR	2.75	1		0.02089	39.4	1/1/2013 8:00	12.96	0.52	0.51	0	86.353
STGM3810	STMH1254	J4668	579.22	0.013	169.5	164.65	CIRCULAR	1	1		0.00837	7.37	1/1/2013 8:06	9.38	2.26	1	5.17	16.942
STGM2530	J4642	J3696	20.59	0.04	157.2	156.53	IRREGULAR	0	1	STGM1350	0.03256	0.99	1/1/2013 8:00	0.29	0	0.12	0	2.095
C9	J4872	STII11281	412.8	0.013	204	201.8	CIRCULAR	3	1		0.00533	24.32	1/1/2013 8:01	6.89	0.5	0.5	0	56.786
STGM3756	J4370	J5046	214.41	0.04	228.8	228	IRREGULAR	0	1	STGM3756	0.00373	10.16	1/1/2013 8:00	1.84	0.04	0.23	0	55.54
STGM3848	STMG122	STMG1223	261.1	0.013	171.5	170.31	CIRCULAR	1	1		0.00456	3.93	1/1/2013 8:00	5.01	1.63	1	1.47	6.396
STGM545	STMH1125	STMH1124	105.92	0.013	206.69	203.3	CIRCULAR	1.75	1		0.03202	3.97	1/1/2013 8:00	7.53	0.14	0.27	0	7.791
STGM658	J-HCT3-09	J-HCT3-08	48.59	0.013	170.5	170.2	CIRCULAR	2	5		0.00617	66.52	1/1/2013 8:00	5.45	0.75	0.73	0	134.967
STGM1956	STMH1314	STMH1315	461.14	0.013	163	158.1	CIRCULAR	0.833	1		0.01063	2.31	1/1/2013 6:56	4.24	1.02	1	0.73	12.514
STGM3712	STMH116	STIH118	309.98	0.013	184.21	163.5	CIRCULAR	1.5	1		0.06696	23.43	1/1/2013 8:00	20.58	0.86	0.61	0	46.353
STGM3682	STIH1036	J-HCT4-06	63.43	0.024	190	185	CIRCULAR	2.25	1		0.07907	34.82	1/1/2013 8:01	13.03	0.74	0.64	0	105.855
STGM143	STMG126	J-HC-18	212.04	0.013	163	128.5	CIRCULAR	1	1		0.1649	8.43	1/1/2013 8:30	12.92	0.58	0.77	0.01	21.445
STGM2577	STMH109	J-HCT4-04	20.29	0.013	185	175.6	CIRCULAR	1	1		0.52277	1.29	1/1/2013 8:00	3.82	0.05	0.58	0.01	2.599
STGM2743	J-HC-26	J-HC-25	232.18	0.013	140.4	139.3	CIRCULAR	6.5	1		0.00474	363.41	1/1/2013 8:51	12.95	1.01	0.79	0.01	1442.68
STGM1768	STIH118	J-HC-24	72.09	0.013	163.5	139	CIRCULAR	1.5	1		0.36136	23.43	1/1/2013 8:00	17.44	0.37	0.71	0.01	46.353
STGM615	J5450	J-HC-37	1211.19	0.04	280	196	IRREGULAR	0	1	STGM615	0.06952	2.67	1/1/2013 8:03	2.37	0	0.55	0.01	6.232
STGM1002	STMH108	J-HCT4-03	60.61	0.013	187	168	CIRCULAR	1	1		0.33012	1.97	1/1/2013 8:00	4.46	0.1	0.6	0.01	3.975
STGM2096_1	STMH1027	STMH1026	384.43	0.013	191.5	172	CIRCULAR	2	1		0.05079	30.66	1/1/2013 8:04	16.32	0.6	0.58	0	77.762
STGM2478	J4398	J-HC-19	342.19	0.04	141	129	IRREGULAR	0	1	STGM2478	0.03509	13.9	1/1/2013 8:00	2.35	0	0.13	0	25.543
STGM962	STMH1238	STMH1239	205.94	0.012	165.13	164.09	CIRCULAR	1.25	1		0.00505	3.1	1/1/2013 8:00	4.6	0.65	0.54	0	5.895
STGM2928	STMH0911	STMH0913	318.56	0.012	200.85	195.61	CIRCULAR	1	1		0.01645	9.76	1/1/2013 8:30	12.43	2.05	1	3.57	29.12
STGM2587	STMH1242	STMH1243	113.78	0.012	169.93	168.94	CIRCULAR	1	1		0.0087	2.38	1/1/2013 8:00	4.35	0.69	0.66	0	4.351
STGM3056	STII116	STMI113	160.87	0.013	188.91	187.8	CIRCULAR	1.5	1		0.0069	8.57	1/1/2013 8:00	5.96	0.98	0.76	0	13.884
STGM546	STMH1144	STMH1127	359.94	0.013	201.7	200.5	CIRCULAR	1.75	1		0.00333	9.8	1/1/2013 8:00	4.29	1.07	0.91	0.01	18.707
STGM1508	J-HC-41	J-HC-40	436.48	0.04	304.9	294	IRREGULAR	0	1	STGM1508	0.02498	51.6	1/1/2013 8:03	2.88	0.01	0.13	0	197.568
STGM1480	J4042	J-HC-33	68.29	0.013	176	169	CIRCULAR	2	1		0.10305	2.61	1/1/2013 7:59	7.91	0.04	0.47	0	5.028
STGM2342	J4504	J-HC-13	173.05	0.04	146.42	117	IRREGULAR	0	1	STGM2342	0.17252	9.72	1/1/2013 8:00	7.54	0	0.13	0	24.906
STGM2534	STMI151	J4974	48.57	0.013	156.8	156.4	CIRCULAR	1.25	1		0.00824	6.79	1/1/2013 8:00	10.66	1.16	0.52	0.01	19.262
STGM4325	STMH1244	STMH1245	194.74	0.012	167.19	166.12	CIRCULAR	1	1		0.00549	2.38	1/1/2013 8:00	5.4	0.87	0.55	0	4.351
STGM2986	J4862	J-HC-07	94.32	0.04	120	105.3	IRREGULAR	0	1	STGM2986	0.15778	5.89	1/1/2013 8:00	5.62	0	0.14	0	11.471
STGM3381	STMI096	J-HC-36	2189.4	0.013	256	181	CIRCULAR	1.5	1		0.03428	6.91	1/1/2013 8:47	8.84	0.36	0.71	0.01	55.214
STGM3729

Conduits Existing 25 Year Storm

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
HCT2-03	J-HCT2-03	J-HCT2-02	833.65	0.04	141	120	IRREGULAR	0	1	HCT2-02	0.0252	39.31	1/1/2013 8:01	40.54	0	0.03	0	86.353
HC-09	J-HC-12	J-HC-11	640.08	0.04	115.43	112.5	IRREGULAR	0	1	HC-11	0.00458	466.89	1/1/2013 9:10	6.56	0.01	0.11	0	1807.58
HCT3-07	J-HCT3-08	J-HCT3-07	270.93	0.04	170.2	164.6	IRREGULAR	0	1	HCT3-07	0.02067	66.33	1/1/2013 8:00	2.46	0.03	0.34	0	134.967
HCT3-05	J-HCT3-05	J-HCT3-04	128.31	0.04	162.3	160.4	IRREGULAR	0	1	HCT3-04	0.01481	70.01	1/1/2013 8:01	4.62	0.02	0.25	0	142.318
HCT5-01	STMH1026	J-HC-31	480.46	0.04	172	164.5	IRREGULAR	0	1	HCT5-01	0.01561	30.65	1/1/2013 8:05	3.01	0	0.1	0	77.762
HC-26	J-HC-32	J-HC-31	822.12	0.04	167	164.5	IRREGULAR	0	1	HC-26	0.00304	276.62	1/1/2013 8:38	50	0	0.08	0	1134.659
HC-22	J-HC-27	J-HC-26	1572.93	0.04	151.5	140.4	IRREGULAR	0	1	HC-22	0.00706	365.13	1/1/2013 8:43	3.32	0.01	0.14	0	1428.126
HCT6-01	J4956	J-HC-38	1557.59	0.04	240	203.5	IRREGULAR	0	1	HCT6-01	0.02344	112.2	1/1/2013 8:33	2.73	0	0.09	0	486.127
HC-25	J-HC-31	J-HC-30	181.33	0.04	164.5	162	IRREGULAR	0	1	HC-24	0.01379	306.35	1/1/2013 8:38	3.29	0.03	0.34	0	1224.436
HCT4-05	J-HCT4-06	J-HCT4-05	263.03	0.04	185	176.5	IRREGULAR	0	1	HCT4-04	0.03233	36.14	1/1/2013 8:00	5.89	0	0.08	0	108.699
STGM2361_a	J-HC-04	J-HC-03	735.03	0.013	100	97.2	CIRCULAR	8	1		0.00381	581.49	1/1/2013 9:23	13.24	1.03	0.82	0.01	2272.563
HCT4_01	J-HCT4-01	J-HC-27	359.43	0.04	163	151.5	IRREGULAR	0	1	HCT4-01	0.03201	46.3	1/1/2013 8:01	2.9	0	0.12	0	130.231
HCT3-03	J-HCT3-03	J-HCT3-02	570.05	0.04	155	146.8	IRREGULAR	0	1	HCT3-03	0.01439	79.61	1/1/2013 8:02	2.29	0	0.05	0	162.255
HC-30	J-HC-37	J-HC-36	1759.95	0.04	196	180.5	IRREGULAR	0	1	HC-30	0.00881	229.86	1/1/2013 8:37	3.99	0	0.09	0	946.528
HC-19	J-HC-23	J-HC-22	154.85	0.04	137.76	137	IRREGULAR	0	1	HC-20	0.00491	383.63	1/1/2013 8:55	2.86	0	0.15	0	1517.249
HC-15	J-HC-19	J-HC-18	293.09	0.04	129	128	IRREGULAR	0	1	HC-15	0.00341	414.39	1/1/2013 9:00	3.75	0.01	0.15	0	1608.501
HC-31	J-HC-38	J-HC-37	691.07	0.04	203.5	196	IRREGULAR	0	1	HC-31	0.01085	218.44	1/1/2013 8:14	5.28	0	0.1	0	892.449
HC-33	J-HC-40	J-HC-39	1817.65	0.04	294	229.6	IRREGULAR	0	1	HC-33	0.03545	94.99	1/1/2013 8:06	7.38	0	0.12	0	361.561
HCT3-06	J-HCT3-06	J-HCT3-05	146.07	0.04	164.4	162.3	IRREGULAR	0	1	HCT3-04	0.01438	69.21	1/1/2013 8:01	5.18	0.02	0.23	0	140.771
HCT3-01	J-HCT3-01	J-HC-06	1105.73	0.04	132.64	105	IRREGULAR	0	1	HCT3-01	0.025	89.95	1/1/2013 8:04	50	0	0.07	0	191.068
HCT2-02	J-HCT2-02	J-HCT2-01	687.64	0.04	120	107	IRREGULAR	0	1	HCT2-02	0.01891	44.36	1/1/2013 8:03	50	0	0.03	0	101.95
HCT3-04	J-HCT3-04	J-HCT3-03	376.24	0.04	160.4	155	IRREGULAR	0	1	HCT3-04	0.01435	72.36	1/1/2013 8:02	10.97	0.02	0.16	0	146.669
STGM761_a	STII0954	J35	320.92	0.04	259	253.8	IRREGULAR	0	1	STGM761	0.01621	4.95	1/1/2013 8:01	1.05	0	0.08	0	13.784
STGM761_b	J35	J5012	1224.76	0.04	253.8	234	IRREGULAR	0	1	STGM761	0.01617	9.57	1/1/2013 8:07	0.99	0	0.36	0	27.344
HC-29	J-HC-36	J-HC-35	355.65	0.04	180.5	178.7	IRREGULAR	0	1	HC-30	0.00506	247.46	1/1/2013 8:38	4.16	0	0.09	0	1041.79
C1	STMG1213	J-HC-16	349.23	0.013	167.5	126	CIRCULAR	1	1		0.11968	3.89	1/1/2013 8:02	7.87	0.32	0.69	0.01	6.396
HC-16	J-HC-20	J-HC-19	751.91	0.04	133.8	129	IRREGULAR	0	1	HC-18	0.00638	397.91	1/1/2013 8:59	5.49	0.01	0.13	0	1582.958
HC-17	J-HC-21	J-HC-20	348.39	0.04	136	133.8	IRREGULAR	0	1	HC-18	0.00631	392.9	1/1/2013 8:58	5.54	0.01	0.13	0	1564.755
HC-21	J-HC-25	J-HC-24	236.22	0.04	139.3	139	IRREGULAR	0	1	HC-21	0.00127	365.19	1/1/2013 8:53	2.38	0.01	0.15	0	1450.633
HC-18	J-HC-22	J-HC-21	568.5	0.04	137	136	IRREGULAR	0	1	HC-18	0.00176	390.18	1/1/2013 8:57	4.41	0.01	0.14	0	1554.657
HC-20	J-HC-24	J-HC-23	254.64	0.04	139	137.76	IRREGULAR	0	1	HC-20	0.00487	381.88	1/1/2013 8:55	3.53	0	0.13	0	1510.779
HCT4-02	J-HCT4-02	J-HCT4-01	203.63	0.04	166.4	163	IRREGULAR	0	1	HCT4-02	0.0167	41.18	1/1/2013 8:01	50	0	0.05	0	119.088
HC-23	J-HC-28	J-HC-27	179.15	0.04	151.8	151.5	IRREGULAR	0	1	HC-23	0.00167	325.97	1/1/2013 8:42	2.64	1.08	0.88	0.01	1282.658
VILLA_CULVERT_1	J-HC-29	J-HC-28	58.93	0.013	153.5	151.8	CIRCULAR	2.5	1		0.02886	46.84	1/1/2013 8:43	9.54	0.67	1	0.01	1228.876
STGM2361_b	J-HC-03	OF_J-HC-02	559.52	0.013	97.2	95	CIRCULAR	8	1		0.00393	585.2	1/1/2013 9:25	13.8	1.02	0.79	0.01	2328.259
HC-04	J-HC-07	J-HC-06	623.66	0.04	105.3	105	IRREGULAR	0	1	HC-07	0.00048	486.55	1/1/2013 9:13	50	0.01	0.14	0	1890.152
HC-10	J-HC-13	J-HC-12	342.39	0.04	117	115.43	IRREGULAR	0	1	HC-11	0.00459	463.9	1/1/2013 9:09	3.51	0.01	0.13	0	1794.656
HC-12	J-HC-15	J-HC-14	941.48	0.04	125	120.5	IRREGULAR	0	1	HC-12	0.00478	442.54	1/1/2013 9:04	2.37	0	0.09	0	1722.143
HC-08	J-HC-11	J-HC-10	373.11	0.04	112.5	111.5	IRREGULAR	0	1	HC-07	0.00268	471.74	1/1/2013 9:11	19.23	0	0.07	0	1833.724
HCT3-02	J-HCT3-02	J-HCT3-01	566.6	0.04	146.8	132.64	IRREGULAR	0	1	HCT3-02	0.025	87.6	1/1/2013 8:02	2.87	0	0.03	0	185.217
HCT2-01	J-HCT2-01	J-HC-05	680.12	0.04	107	101	IRREGULAR	0	1	HCT2-02	0.00882	54.49	1/1/2013 8:04	23.34	0	0.08	0	131.552
HC-13	J-HC-16	J-HC-15	338.8	0.04	126	125	IRREGULAR	0	1	HC-12	0.00295	444.36	1/1/2013 9:02	3.46	0	0.08	0	1718.441
HC-06	J-HC-09	J-HC-08	394.15	0.04	109	105.4	IRREGULAR	0	1	HC-07	0.00913	481.64	1/1/2013 9:15	50	0	0.09	0	1878.682
HC-14	J-HC-17	J-HC-16	331.3	0.04	127	126	IRREGULAR	0	1	HC-12	0.00302	446.87	1/1/2013 9:00	3.2	0	0.08	0	1699.199
STGM3238	STII142	STII141	197.21	0.012	167.62	167.21	CIRCULAR	1.25	1		0.00208	4.6	1/1/2013 8:00	3.75	1.5	1	1.45	9.239
STGM2953	STII141	OF_J5066	151.71	0.012	167.21	166.9	CIRCULAR	1.5	1		0.00204	4.69	1/1/2013 0:00	3.37	0.95	0.99	0.01	9.239
HC-32	J-HC-39	J-HC-38	784.65	0.04	229.6	203.5	IRREGULAR	0	1	HC-33	0.03328	102.03	1/1/2013 8:09	4.42	0	0.17	0	386.931
STGM203	STMJ1213	STMJ1214	166.28	0.012	180.53	178.72	CIRCULAR	1	1		0.01089	2.72	1/1/2013 7:16	5.23	0.7	1	0.01	4.521
STGM3598	STMJ1013	STMJ1015	120.66	0.012	219.3	218.73	CIRCULAR	1.25	1		0.00472	3.8	1/1/2013 8:00	5.06	0.82	0.59	0	7.338
STGM3031	STMJ121	STMJ1212	309.61	0.012	179.24	176.56	CIRCULAR	1	1		0.00866	2.18	1/1/2013 8:00	4.95	0.63	0.55	0	3.955
STGM2811	STMJ1217	STMJ1215	189.45	0.012	173.99	172.85	CIRCULAR	1.25	1		0.00602	2.33	1/1/2013 8:00	4.43	0.45	0.44	0	4.163
STGM3192	STMI093	STMI092	113.07	0.024	223.04	220.75	CIRCULAR	2	1		0.02026	10.54	1/1/2013 7:56	5.52	0.6	0.59	0	26.412
STGM3285	J3522	STMJ104	164.18	0.013	212	211.5	CIRCULAR	2.25	1		0.00305	20.58	1/1/2013 8:00	5.95	1.2	0.81	0.01	55.581
STGM2707	STMI1165	STMI1225	158.65	0.012	183.22	182.19	CIRCULAR	1	1		0.00649	1.6	1/1/2013 8:00	3.85	0.54	0.52	0	2.887
STGM746	STII0985	STII0986	52.03	0.012	230.09	229.84	CIRCULAR	2	1		0.0048	12.73	1/1/2013 7:51	4.25	0.78	1	0.01	79.012
STGM3955	STMJ1214	STMJ123	209.62	0.012	178.72	176.8	CIRCULAR	1.25	1		0.00916	2.58	1/1/2013 7:16	2.38	0.4	1	0.01	4.521
STGM3595	STMI126	STMI127	23.77	0.013	175	174.3	CIRCULAR	1	1		0.02946	8.27	1/1/2013 8:09	10.91	1.35	0.94	0.01	17.552
STGM1949	STMI1017	J5216	86.43	0.013	206.55	206	CIRCULAR	2	1		0.00636	15.57	1/1/2013 7:58	4.95	0.86	1	0.01	38.141
STGM3344	STII135	STMI143	181.71	0.013	159.82	159.37	CIRCULAR	1.5	1		0.00248	11.22	1/1/2013 9:15	6.35	2.15	1	4.11	37.592
STGM646	STIJ1065	STIJ1066	368.72	0.012	207.91	198.26	CIRCULAR	1	1		0.02618	3.99	1/1/2013 8:00	8.17	0.67	0.6	0	6.613
STGM3282	STMK118	STMK119	73.01	0.012	169.71	168.4	CIRCULAR	1	1		0.01795	3.8	1/1/2013 8:00	5.46	0.77	0.83	0	9.33
STGM2885	STMJ117	STMJ116	53.36	0.012	199.99	198.86	CIRCULAR	1.25	1		0.02118	1.53	1/1/2013 8:00	5.1	0.16	0.29	0	2.647
STGM2593	STMK114	STMK113	51.05	0.013	165.22	164.46	CIRCULAR	1.5	1		0.01489	8.35	1/1/2013 8:00	6.34	0.65	0.7	0	24.347
STGM3176	STII0913	STII0928	170.12	0.013	235	233.7	CIRCULAR	1.75	1		0.00764	13.06	01/02/2013 19:11 PM	5.43	0.94	1	0.01	71.722
STGM1130	STII10109	STII1030	118.5	0.013	223	220.8	CIRCULAR	1	1		0.01857	3.88	1/2/2013 1:06	4.94	0.8	1	0.01	82.303
STGM72	STII0965	STII0966	36.45	0.012	256.31	256.04	CIRCULAR	1	1		0.00741	0.92	1/1/2013 8:00	3.51	0.29	0.37	0	2.734
STGM1083	STII1033	STII1034	140.72	0.013	224.79	223.24	CIRCULAR	1	1		0.01102	5.91	1/1/2013 8:06	7.52	1.58	1	2.14	17.018
STGM1646	J3668	STII0913	55.01	0.013	235.5	235	CIRCULAR	1.75	1		0.00909	13.07	01/02/2013 19:11 PM	5.43	0.86	1	0.01	29.354
STGM3550	STMJ1113	STMJ1114	289.75	0.012	207.14	196.97	CIRCULAR	1.25	1		0.03512	1.65	1/1/2013 8:00	2.21	0.13	0.6	0	2.972
STGM824	STII09126	STII09125	128.03	0.012	248.74	248.36	CIRCULAR	1.25	1		0.00297	5.42	1/1/2013 8:00	4.41	1.48	1	0.82	16.281
STGM1064	STMI095	STII104	248.72	0.013	232.85	233.15	CIRCULAR	1.25	1		-0.00121	4.78	1/1/2013 8:00	4.34	2.13	0.84	0.01	9.778
STGM3792	STMI102	STMI1012	49.89	0.013	213.03	212.2	CIRCULAR	1.25	1		0.01664	2.88	1/1/2013 8:00	5.53	0.35	0.78	0.01	5.701
STGM876	STIJ0911	STMJ092	399.79	0.013	232.75	222.67	CIRCULAR	1	1		0.02522	5.42	1/1/2013 8:31	6.9	0.96	1	0.01	18.223
STGM2171	STMJ104	STMJ107	331.65	0.013	211.5	210.21	CIRCULAR	3	1		0.00389	24.93	1/1/2013 8:00	5.5	0.6	0.61	0	64.063
STGM4396	STIJ0923	STIJ0924	106.36	0.012	224.31	221.3	CIRCULAR	1.25	1		0.02831	6.3	1/1/2013 8:00	9.05	0.56	0.55	0	13.94
STGM736	STMJ1225	STMJ1224	175.02	0.012	158.36	155.98	CIRCULAR	1.75	1		0.0136	8.87	1/1/2013 8:00	9.11	0.46	0.42	0	18.527
STGM4407	STIJ10111	STIJ10112	37.59	0.013	215.6	215.31	CIRCULAR	1.25	1		0.00772	6.3	1/1/2013 8:00	5.47	1.11	0.89	0.01	13.94
STGM1306	STMJ1127	STMJ1113	73.7	0.012	208.87	207.14	CIRCULAR	1.25	1		0.02348	1.65	1/1/2013 8:00	6.52	0.16	0.26	0	2.972
STGM1105	STMK117	STMK118	143.64	0.012	173.5	169.71	CIRCULAR	1	1		0.02639	3.8	1/1/2013 8:00	7.39	0.63	0.62	0	9.33
STGM1701	STMI094	STMI093	255.54	0.012	226.07	223.04	CIRCULAR	1.75	1		0.01186	10.55	1/1/2013 7:56	7.05	0.59	0.6	0	26.412
STGM3631	STMJ127	STMJ128	263.08	0.012	170.29	167.85	CIRCULAR	1.5	1		0.00928	5.76	1/1/2013 8:00	4.24	0.55	0.72	0	10.465
STGM3563	STMI1020	STMI106	114.64	0.013	223.16	222.18	CIRCULAR	1.5	1		0.00855	10.75	1/1/2013 7:58	8.42	1.11	0.68	0.01	20.721
STGM3689	STMI1310	STII135	191.12	0.013	160.3	159.85	CIRCULAR	1.5	1		0.00235	11.22	1/1/2013 9:15	6.35	2.2	1	4.33	37.592
STGM1824	STMJ105	J3522	28.17	0.013	212.09	212	CIRCULAR	1.25	1		0.00319	20.58	1/1/2013 8:00	16.77	5.64	1	4.02	55.581
STGM2050	STMK115	STMK114	111.34	0.012	173.64	165.22	CIRCULAR	1	1		0.07584	8.35	1/1/2013 8:00	12.17	0.82	0.82	0	24.347
STGM1144	STMK1120	STMK1119	90.65	0.012	172.58	167.33	CIRCULAR	1	1		0.05801	3.39	1/1/2013 8:00	7.94	0.38	0.53	0	7.296
STGM3926	STMI1019	STMI1114	350.81	0.013	199.5	194	CIRCULAR	3.5	1		0.01568	30.67	1/1/2013 8:11	8.53	0.24	0.42	0	194.926
STGM2255	STMK125	STMK124	243.75	0.012	169.53	164.12	CIRCULAR	1	1		0.0222	0.88	1/1/2013 8:00	1.86	0.16	0.58	0	1.695
STGM3352	STII1034	J3524	241.98	0.013	223.24	217.63	CIRCULAR	1	1		0.02319	7.97	1/1/2013 8:15	10.15	1.47	1	2.12	22.781
STGM608	STMJ1223	STMJ1222	95.32	0.012	139.5	133.4	CIRCULAR	1.5	1		0.06413	10.58	1/1/2013 8:00	14.72	0.38	0.43	0	21.925
STGM2072	STMI1160	STMI1144	101.41	0.012	187.86	187.23	CIRCULAR	1.25	1		0.00621	3.6	1/1/2013 8:00	5.32	0.68	0.54	0	6.681
STGM2715	STII09124	STII09111	110.47	0.012	247.94	247.61	CIRCULAR	1.5	1		0.00299	5.41	1/1/2013 8:00	4.49	0.91	0.64	0	16.281
STGM3728	STMK1226	STMK1227	91.97	0.012	208.13	193.74	CIRCULAR	1	1		0.15842	2.73	1/1/2013 8:00	11.64	0.19	0.34	0	6.598
STGM352	STII1245	STMI1226	77.05	0.012	160	159	CIRCULAR	2	1		0.01298	20.26	1/1/2013 8:01	13.76	0.76	0.48	0	42.285
STGM2834	STMI1144	STMI1220	426.96	0.012	187.23	181.41	CIRCULAR	1.25	1		0.01363	3.6	1/1/2013 8:00	6.3	0.46	0.47	0	6.681
STGM434	STMK127	STMJ1226	167.85	0.012	160.59	159.59	CIRCULAR	1	1		0.00596	4.05	1/1/2013 8:00	5.28	1.42	0.94	0.01	8.208
STGM4376	STIJ0917	STIJ0919	192.83	0.012	226.69	225.32	CIRCULAR	1.25	1		0.0071	6.31	1/1/2013 8:00	5.97	1.11	0.81	0.01	13.94
STGM4360	STMJ1236	STMJ1237	122.26	0.013	165.95	163.11	CIRCULAR	2	1		0.02324	9.24	1/1/2013 8:01	9.98	0.27	0.34	0	20.137
STGM3638	STMK122	STMK121	208.17	0.012	163.17	160.93	CIRCULAR	1.75	1		0.01076	8.88	1/1/2013 8:00	7.4	0.52	0.5	0	18.527
STGM2863	STMJ1226	STMJ1227	267.81	0.012	159.59	146.32	CIRCULAR	1.25	1		0.04961	12.69	1/1/2013 8:00	13.6	0.85	0.71	0	26.994
STGM4181	STMJ1111	STMI1173	211.74	0.012	203.2	199.33	CIRCULAR	1	1		0.01828	2.47	1/1/2013 8:00	5.58	0.49	0.55	0	4.563
STGM1422	STMK1119	STMK1118	112.82	0.013	167.33	165.41	CIRCULAR	1	1		0.01702	3.38	1/1/2013 8:00	6.8	0.73	0.61	0	7.296
STGM1444	STMJ1229	STMJ1242	38.73	0.012	138.19	136.14	CIRCULAR	1.25	1		0.053	12.69	1/1/2013 8:00	20.41	0.82	0.51	0	26.994
STGM1405	STMK1223	STMK1224	353.27	0.012	263.91	244.69	CIRCULAR	1	1		0.05449	2.73	1/1/2013 8:00	10.12	0.32	0.38	0	6.598
STGM4239	STMJ1142	STMJ1143	263.73	0.013	181.8	176	CIRCULAR	2	1		0.022	3.42	1/1/2013 8:00	6.34	0.1	0.23	0	7.795
STGM3371	STMK1210	STMK129	108.45	0.012	169.93	163.14	CIRCULAR	1	1		0.06273	4.05	1/1/2013 8:00	6.47	0.44	0.74	0.01	8.208
STGM201	STMI1113	STMI1123	445.13	0.013	193.31	189.65	CIRCULAR	3	1		0.00822	55.48	1/1/2013 8:00	10.51	0.92	0.7	0	241.442
STGM91	STMI1217	STMI1216	430.83	0.012	178.84	175.24	CIRCULAR	1.25	1		0.00836	3.91	1/1/2013 8:00	5.83	0.64	0.54	0	7.16
STGM2225	STMJ125	STMJ126	495.9	0.012	181.17	173.71	CIRCULAR	1	1		0.01505	0.86	1/1/2013 8:00	2.04	0.19	0.53	0	1.656
STGM1305	STMJ1121	STMJ1120	211.46	0.012	186.07	184.6	CIRCULAR	1	1		0.00695	3.81	1/1/2013 8:00	5.2	1.23	0.88	0.01	11.185
STGM3189	STMK1235	STMK1115	180.84	0.012	156.63	155.74	CIRCULAR	1.25	1		0.00492	3.58	1/1/2013 8:00	4.67	0.76	0.6	0	8.662
STGM1978	STII09111	STII09112	77.13	0.012	247.51	247.12	CIRCULAR	1.5	1		0.00506	5.53	1/1/2013 8:00	6.54	0.71	0.48	0	16.281
STGM1917	STII09125	STII09124	139.85	0.012	248.36	247.94	CIRCULAR	1.25	1		0.003	5.42	1/1/2013 8:00	4.6	1.47	0.92	0.01	16.281
STGM2889	STMI1164	STMI1163	48.7	0.012	190.45	189.92	CIRCULAR	1	1		0.01088	0.57	1/1/2013 8:00	3.31	0.15	0.27	0	1.066
STGM693	STMJ115	STMI1162	339.05	0.012	190.96	189.01	CIRCULAR	1	1		0.00575	1.47	1/1/2013 8:00	4.27	0.52	0.45	0	2.784
STGM2755	STMI1172	STMI1171	54.37	0.012	198.19	197.53	CIRCULAR	1	1		0.01214	2.47	1/1/2013 8:00	5.35	0.6	0.57	0	4.563
STGM281	STIJ1066	STIJ1069	174.93	0.012	198.06	194.56	CIRCULAR	1	1		0.02001	3.99	1/1/2013 8:01	7.56	0.76	0.64	0	6.613
STGM3951	STII0926	STII0915	98.22	0.013	230.4	229.7	CIRCULAR	1.75	1		0.00713	1.57	1/1/2013 8:00	3.81	0.12	0.23	0	2.929
STGM1026	STMI1218	STMI1217	123.78	0.012	180.87	178.84	CIRCULAR	1	1		0.0164	1.6	1/1/2013 8:00	3.44	0.34	0.57	0	2.887
STGM984	STII0916	STII0926	51.08	0.013	230.8	230.4	CIRCULAR	1.75	1		0.00783	1.57	1/1/2013 8:00	3.78	0.11	0.23	0	2.929
STGM4123	STMI092	STMI091	68.87	0.024	220.75	220.03	CIRCULAR	2.25	1		0.01046	10.54	1/1/2013 7:56	5.36	0.61	0.5	0	26.412
STGM4122	J4092	J4094	929.08	0.04	202	189.43	IRREGULAR	0	1	STGM4122	0.01353	6.15	1/1/2013 8:08	1.72	0.08	0.47	0	21.507
STGM4090	J4118	J4114	433.3	0.04	241.5	234	IRREGULAR	0	1	STGM4090	0.01731	4.31	1/1/2013 8:01	1.51	0.03	0.43	0	12.731
STGM3882	STMI1022	STMI1012	270.81	0.013	214	212.2	CIRCULAR	2.25	1		0.00665	17.59	1/1/2013 7:58	6.86	0.7	0.61	0	39.726
STGM4001	J4116	J4118	54.14	0.013	242	241.5	CIRCULAR	2	1		0.00924	2.03	1/1/2013 8:00	3.27	0.09	0.25	0	6.848
STGM323	STMI1170	STMI1169	58.54	0.012	196.84	196.34	CIRCULAR	1.25	1		0.00854	2.47	1/1/2013 8:00	4.19	0.4	0.48	0	4.563
STGM3159	STII1027	J4122	239.23	0.013	211	209.5	CIRCULAR	1	1		0.00627	3.93	1/2/2013 0:03	5.15	1.39	1	7.02	84.471
STGM4067	STMI1115	STMI1177	89.15	0.013	186.78	185.02	CIRCULAR	3	1		0.01975	56.54	1/1/2013 8:01	14.15	0.6	0.55	0	243.56
STGM3546	STIJ081	STII081	219.62	0.012	253.03	250.14	CIRCULAR	1	1		0.01316	5.41	1/1/2013 8:00	6.89	1.27	1	1.17	16.281
STGM2729	STII1029	STII1050	118.53	0.013	217.94	215.72	CIRCULAR	0.666	1		0.01873	3.93	1/2/2013 0:03	11.27	2.38	1	20.58	84.471
STGM1360	STMJ1010	STMJ1012	157.23	0.012	185.18	181.23	CIRCULAR	1	1		0.02513	0.83	1/1/2013 8:00	3.71	0.14	0.36	0	1.523
STGM3521	J4292	J4150	661.17	0.013	179

Conduits Existing 25 Year Storm

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
STGM1581	STMK119	STIK117	140.69	0.012	168.4	167.96	CIRCULAR	1.25	1		0.00313	3.81	1/1/2013 8:00	3.97	1.01	0.73	0.01	9.33
STGM627	J4284	J-SBT7-02	142.83	0.013	174.8	174.2	CIRCULAR	2	1		0.0042	39.77	1/1/2013 8:44	12.66	2.71	1	2.01	129.247
STGM757	J4150	STMI128	60.18	0.013	175	173	CIRCULAR	1	1		0.03325	4.42	1/1/2013 8:00	6.54	0.68	0.8	0.01	9.601
STGM356	STMI124	J4292	103.8	0.013	180.75	179.9	CIRCULAR	1	1		0.00819	4.45	1/1/2013 8:00	6.06	1.38	0.88	0.01	9.601
STGM4405	STIJ0927	STIJ0915	120.44	0.012	219.25	216.42	CIRCULAR	1.25	1		0.0235	6.3	1/1/2013 8:00	6.32	0.61	0.78	0.01	13.94
STGM3039	STMJ124	STMJ129	259.82	0.012	174.83	171.98	CIRCULAR	1.25	1		0.01097	10.11	1/1/2013 8:01	8.65	1.44	0.91	0.01	18.796
STGM334	STII1080	STII1078	162.62	0.013	207.16	204.07	CIRCULAR	1	1		0.019	5.84	1/1/2013 8:00	7.43	1.19	1	0.92	10.016
STGM1040	STII0983	STII0916	197.63	0.013	232.3	230.8	CIRCULAR	1.75	1		0.00759	0	1/1/2013 0:00	0	0	0.11	0	0
STGM1893	STMK1224	STMK1225	63.74	0.012	244.69	239.49	CIRCULAR	1	1		0.08185	2.73	1/1/2013 8:00	12.58	0.26	0.32	0	6.598
STGM2380	STMI1161	STMI1160	48.22	0.012	188.4	187.86	CIRCULAR	1	1		0.0112	0.57	1/1/2013 8:00	1.43	0.15	0.51	0	1.066
STGM1611	STMI1177	J-SBT1-08	153.25	0.013	185.02	182	CIRCULAR	3.5	1		0.01971	56.54	1/1/2013 8:01	20.68	0.4	0.33	0	243.56
STGM773	STII0968	STII0970	113.46	0.012	254.2	249.75	CIRCULAR	1	1		0.03925	0.92	1/1/2013 8:00	6.38	0.13	0.24	0	2.734
STGM3464	STII081	STII09126	157.19	0.012	249.94	248.74	CIRCULAR	1	1		0.00763	5.41	1/1/2013 8:00	6.89	1.67	1	1.7	16.281
STGM3674	J4424	J4426	131.89	0.013	202	200.5	CIRCULAR	3.5	1		0.01137	23.47	1/1/2013 9:35	8.77	0.22	0.32	0	177.406
STGM760	STMI143	STMI149	83.39	0.013	159.08	158.85	CIRCULAR	1.75	1		0.00276	15.2	1/1/2013 8:00	6.32	1.83	1	4.13	48.833
STGM1213	STII1056	STMI108	205.69	0.013	213	209.79	CIRCULAR	1	1		0.01561	1.79	1/1/2013 7:52	2.95	0.4	1	0.01	3.52
STGM2230	STMI1167	STMI1174	51.22	0.012	193.54	192.91	CIRCULAR	1.5	1		0.0123	4.14	1/1/2013 7:39	2.97	0.34	0.82	0.01	7.21
STGM3873	STMK111	J-SBT4-04	7.2	0.012	164.77	163.59	CIRCULAR	1.25	1		0.16614	3.88	1/1/2013 8:00	7.76	0.14	0.44	0	9.567
STGM794	STMJ1132	STMJ1133	149.18	0.012	175.66	174.87	CIRCULAR	2	1		0.0053	5.08	1/1/2013 8:00	5.5	0.3	0.33	0	10.466
STGM3452	STMK1217	STMK1216	140.96	0.012	221.37	204.42	CIRCULAR	1	1		0.12113	0.96	1/1/2013 8:00	6.3	0.07	0.25	0	3.185
STGM2823	STMK1222	STMK1221	168.6	0.012	259.18	244.72	CIRCULAR	1	1		0.08608	1.08	1/1/2013 8:00	7.19	0.1	0.25	0	2.632
STGM2871	STMK1214	STMK111	168.79	0.012	170.13	164.77	CIRCULAR	1.25	1		0.03177	3.88	1/1/2013 8:00	10.66	0.32	0.34	0	9.567
STGM3145	STMJ107	STMJ108	191.99	0.013	210.16	209.61	CIRCULAR	3	1		0.00286	27.98	1/1/2013 8:00	5.35	0.78	0.69	0	69.997
STGM2113	STIK116	J-SBT4-04	28.53	0.013	164.54	163.59	CIRCULAR	2.75	1		0.03332	4.4	1/1/2013 8:00	4.9	0.05	0.22	0	17.896
STGM2666	STMK1118	STMK1117	83.16	0.012	165.41	164.26	CIRCULAR	1.25	1		0.01383	3.38	1/1/2013 8:00	6.01	0.43	0.47	0	7.296
STGM1650	STMK124	STMK122	178.58	0.012	164.12	163.17	CIRCULAR	1.5	1		0.00532	5.29	1/1/2013 8:00	4.81	0.66	0.6	0	11.305
STGM4020	STMJ1119	STMJ1012	268.34	0.012	183.51	181.23	CIRCULAR	1.25	1		0.0085	3.8	1/1/2013 8:00	6.49	0.61	0.48	0	11.185
STGM2832	STMI148	STMI144	427.19	0.013	157.99	156.95	CIRCULAR	1.75	1		0.00243	15.2	1/1/2013 7:59	6.32	1.94	1	3.53	48.833
STGM4517	J4	STML1232	170.66	0.012	179.71	179.2	CIRCULAR	1	1		0.00299	5.35	1/1/2013 8:00	6.81	2.64	1	3.77	10.141
STGM1211	STMI106	STMI1021	401.16	0.013	222.18	211.58	CIRCULAR	1.75	1		0.02643	10.54	1/1/2013 7:59	8.72	0.41	0.51	0	20.721
STGM2906	STII1030	STII1029	150.14	0.013	220.8	217.94	CIRCULAR	0.666	1		0.01905	3.93	01/01/2013 23:59 PM	11.28	2.36	1	44.34	84.471
STGM3914	STMJ1011	STMJ1013	220.26	0.012	220.37	219.3	CIRCULAR	1	1		0.00486	3.81	1/1/2013 8:00	5.07	1.47	0.91	0.01	7.338
STGM554	STII0991	STII0992	98.28	0.012	226.87	226.38	CIRCULAR	2.5	1		0.00499	11.03	1/1/2013 7:51	3.59	0.37	1	0.01	82.303
STGM4465	J4122	STMI104	37.02	0.013	209.5	209.3	CIRCULAR	1	1		0.0054	4.24	1/2/2013 2:07	7.7	1.62	1	6.45	84.471
STGM3690	STML1146	STML1131	109.06	0.013	197.83	194.81	CIRCULAR	1	1		0.0277	2.36	1/1/2013 8:00	4.7	0.4	0.61	0	19.153
STGM3296	STMJ091	STMJ1022	261.03	0.013	222.46	219.49	CIRCULAR	1	1		0.01138	7.42	1/1/2013 8:51	9.45	1.95	1	4.64	25.447
STGM3068	STMK129	STMK128	184.01	0.012	163.14	162.01	CIRCULAR	1	1		0.00614	4.05	1/1/2013 8:00	5.15	1.39	1	0.97	8.208
STGM1627	STMI1168	STMI1167	97.81	0.012	194.76	193.54	CIRCULAR	1.25	1		0.01247	3.99	1/1/2013 8:00	6.21	0.53	0.65	0	7.21
STGM2864	STMJ119	STMJ118	214	0.012	207.67	203.56	CIRCULAR	1.25	1		0.01921	1.53	1/1/2013 8:00	5.63	0.16	0.27	0	2.647
STGM4327	STMJ1133	STMJ1135	216.05	0.012	174.87	172.13	CIRCULAR	2	1		0.01268	5.07	1/1/2013 8:00	3.39	0.19	0.48	0	10.466
STGM3243	STMI1173	STMI1172	117.26	0.012	199.33	198.19	CIRCULAR	1	1		0.00972	2.47	1/1/2013 8:00	5.19	0.67	0.58	0	4.563
STGM4253	STII0972	STII0975	63.18	0.013	243.16	242.36	CIRCULAR	1.25	1		0.01266	0.92	1/1/2013 8:01	4.05	0.13	1	0.01	2.734
STGM440	STMK1219	STMK1216	125.52	0.012	210.12	204.42	CIRCULAR	1	1		0.04546	1.08	1/1/2013 8:00	5.98	0.14	0.28	0	2.632
STGM528	STII0980	STII0982	187.51	0.012	236.84	232.69	CIRCULAR	2	1		0.02214	3.15	01/02/2013 19:14 PM	4.19	0.09	1	0.01	7.291
STGM3624	STII0966	STII0967	54.19	0.012	255.84	255.56	CIRCULAR	1	1		0.00517	0.92	1/1/2013 8:00	3.1	0.34	0.4	0	2.734
STGM3442	STMJ1231	STMJ1232	65.16	0.013	165.26	164.8	CIRCULAR	2.75	1		0.00706	12.38	1/1/2013 8:00	8.63	0.28	0.29	0	26.021
STGM737	STMJ1233	J-SBT3-01	355.47	0.024	159.41	147.7	CIRCULAR	3	1		0.03296	21.61	1/1/2013 8:01	9.7	0.33	0.35	0	46.158
STGM2412	STMI1175	STMI1176	161.77	0.012	188.72	178.28	CIRCULAR	1.75	1		0.06467	18.46	1/1/2013 8:01	14.83	0.44	0.51	0	35.919
STGM2099	J5236	J4848	330.61	0.013	252	245	CIRCULAR	1	1		0.02118	2.47	1/1/2013 8:00	5.58	0.48	0.74	0.01	6.264
STGM2002	STMI1215	STMI1210	122.95	0.012	170.24	168.81	CIRCULAR	1.5	1		0.01163	3.91	1/1/2013 8:00	7.13	0.33	0.35	0	7.16
STGM3829	STMK1212	STMK126	155.71	0.012	183.98	176.34	CIRCULAR	1	1		0.04912	4.73	1/1/2013 8:00	10.74	0.58	0.55	0	10.586
STGM3637	STMJ1224	STMJ1223	237.24	0.012	155.98	139.5	CIRCULAR	1.5	1		0.06963	10.58	1/1/2013 8:00	14.79	0.37	0.42	0	21.925
STGM692	STMI1010	STMI101	282.8	0.013	232.655	230.23	CIRCULAR	1.25	1		0.00858	4.77	1/1/2013 8:00	5.41	0.8	0.68	0	9.778
STGM3131	STIJ102	STMJ108	32.25	0.013	216.03	209.51	CIRCULAR	1.5	1		0.20643	3.8	1/1/2013 8:00	3.47	0.08	0.6	0.01	7.338
STGM1013	STMJ1136	STMJ1132	488.25	0.012	178.62	175.66	CIRCULAR	1.5	1		0.00606	5.08	1/1/2013 8:00	5.33	0.6	0.53	0	10.466
STGM297	STII0977	STII0980	98.58	0.012	240.65	237.34	CIRCULAR	1.5	1		0.0336	3.15	01/02/2013 19:14 PM	6.59	0.16	1	0.01	7.291
STGM2866	STMI1123	STMI1124	92.16	0.013	189.65	188.46	CIRCULAR	3	1		0.01291	56.55	1/1/2013 8:01	11.76	0.75	0.64	0	243.56
STGM2295	STMI1225	STMI1224	82.17	0.012	182.19	181.67	CIRCULAR	1	1		0.00633	1.6	1/1/2013 8:00	3.94	0.54	0.51	0	2.887
STGM4335	J4426	STMI1019	97.01	0.013	200.5	199.5	CIRCULAR	3.5	1		0.01031	23.47	1/1/2013 9:35	8.89	0.23	0.33	0	177.406
STGM3715	STMK126	STMJ1226	356.03	0.012	176.34	159.59	CIRCULAR	1	1		0.0471	4.73	1/1/2013 8:00	7.84	0.59	0.72	0	10.586
STGM4022	STMJ1114	STMI1174	548.25	0.012	196.97	192.91	CIRCULAR	1.75	1		0.00741	11.5	1/1/2013 8:00	5.71	0.81	0.8	0	21.167
STGM580	STMJ1238	STMJ1236	55.4	0.013	168.99	165.95	CIRCULAR	2	1		0.05496	6.93	1/1/2013 8:00	8.68	0.13	0.3	0	15.973
STGM943	STII0970	STII0972	209.97	0.012	249.55	244.59	CIRCULAR	1	1		0.02363	0.92	1/1/2013 8:01	5.32	0.16	0.57	0.01	2.734
STGM547	STII09101	STII09104	106.46	0.012	253.18	252.66	CIRCULAR	1.5	1		0.00488	11.91	1/1/2013 8:00	6.92	1.56	0.94	0.01	36.104
STGM2106	STMK1228	STMK124	53.83	0.012	166.09	164.12	CIRCULAR	1.5	1		0.03662	4.41	1/1/2013 8:00	5.65	0.21	0.45	0	9.61
STGM2621	STMJ1211	STMJ1210	111.61	0.012	169.3	168.84	CIRCULAR	1.25	1		0.00412	2.73	1/1/2013 8:00	2.36	0.63	0.93	0.01	6.265
STGM493	STIJ1061	STIJ1062	179.58	0.012	222.82	220.2	CIRCULAR	1	1		0.01459	3.99	1/1/2013 8:00	6.44	0.89	0.74	0	6.613
STGM3457	STMI1121	J4834	344.86	0.013	203.84	197	CIRCULAR	2	1		0.01984	17.72	1/1/2013 8:00	8.36	0.56	0.64	0	34.284
STGM2235	STMI1023	STMI1014	127.01	0.013	219.69	217.26	CIRCULAR	1	1		0.01914	1.12	1/1/2013 8:00	2.03	0.23	0.66	0.01	2.283
STGM621	STMK1229	STMK1228	210.43	0.012	188.72	166.09	CIRCULAR	1.25	1		0.10817	4.41	1/1/2013 8:00	12.06	0.2	0.34	0	9.61
STGM2429	STMJ1215	STMJ1216	72.51	0.012	172.85	172.18	CIRCULAR	1.25	1		0.00924	2.33	1/1/2013 8:00	6.19	0.36	0.35	0	4.163
STGM3147	STMJ1012	J-SBT5-01	292.92	0.012	181.23	169.2	CIRCULAR	1.5	1		0.0411	4.62	1/1/2013 8:00	7.74	0.21	0.37	0	12.708
STGM3915	STMK1231	STMK1230	123.83	0.012	219.71	209.01	CIRCULAR	1	1		0.08673	3.06	1/1/2013 8:00	12.15	0.28	0.36	0	6.827
STGM1043	STMJ1228	STMJ1229	79.65	0.012	142.4	138.19	CIRCULAR	1.25	1		0.05293	12.69	1/1/2013 8:00	13.45	0.82	0.72	0	26.994
STGM1667	STMI1171	STMI1170	61.87	0.012	197.53	196.84	CIRCULAR	1	1		0.01115	2.47	1/1/2013 8:00	5.34	0.63	0.57	0	4.563
STGM408	STMI0910	STMI094	42.9	0.013	229	226.07	CIRCULAR	1.75	1		0.06846	10.55	1/1/2013 7:56	10.12	0.25	0.45	0	26.412
STGM448	STMK1227	STMK1212	180.4	0.012	193.74	183.98	CIRCULAR	1	1		0.05418	2.73	1/1/2013 8:00	7.63	0.32	0.47	0	6.598
STGM346	STMI1110	STMI1121	250.05	0.013	206.93	203.84	CIRCULAR	1.25	1		0.01236	3.26	1/1/2013 8:00	3.94	0.45	0.66	0	6.025
STGM585	STMK1115	STMK1113	215.05	0.012	155.74	154	CIRCULAR	1.25	1		0.00809	3.57	1/1/2013 8:00	4.25	0.59	0.81	0.01	8.662
STGM2043	STMJ1143	STMJ1238	498.83	0.013	176	168.99	CIRCULAR	2	1		0.01405	3.42	1/1/2013 8:00	5.81	0.13	0.24	0	7.795
STGM223	STMI107	STMI1020	361.44	0.013	226.24	223.16	CIRCULAR	1.5	1		0.00852	10.48	1/1/2013 7:58	6.37	1.08	0.92	0.01	20.721
STGM1637	STMJ1216	J4990	84.36	0.012	172.18	167.85	CIRCULAR	1.5	1		0.0514	2.33	1/1/2013 8:00	11.78	0.09	0.17	0	4.163
STGM3260	STII09104	STII09103	36.04	0.012	252.46	251.59	CIRCULAR	1.5	1		0.02415	11.9	1/1/2013 8:00	10.4	0.7	0.62	0	36.104
STGM1757	STII0915	STMI0910	86.79	0.013	229.7	229	CIRCULAR	1.75	1		0.00807	1.57	1/1/2013 8:00	2.87	0.11	0.28	0	2.929
STGM2977	STIJ1234	STMJ1224	27.85	0.012	160.31	155.98	CIRCULAR	0.833	1		0.15739	1.71	1/1/2013 8:00	5.91	0.19	0.52	0	3.398
STGM3212	STMJ118	STMJ117	176.04	0.012	203.56	199.99	CIRCULAR	1.25	1		0.02028	1.53	1/1/2013 8:00	5.74	0.16	0.27	0	2.647
STGM3850	STMI1174	STMI1175	350.14	0.012	192.91	188.72	CIRCULAR	1.75	1		0.01197	18.46	1/1/2013 8:00	10.59	1.02	0.69	0.01	35.919
STGM901	J-SBT7-02	J-SBT7-01	590	0.04	173	168	IRREGULAR	0	1	STGM901	0.00847	45.13	1/1/2013 8:32	4.21	0.01	0.11	0	143.242
STGM1784	STMI099	STII0990	89.94	0.012	228.23	227.79	CIRCULAR	2.5	1		0.00489	11.94	1/1/2013 7:51	3.76	0.4	1	0.01	79.012
STGM4406	STIJ0915	STIJ10111	123.65	0.012	216.42	215.6	CIRCULAR	1.25	1		0.00663	6.3	1/1/2013 8:00	5.23	1.15	0.95	0.01	13.94
STGM2036	STMK1121	STMK116	208.22	0.012	190.2	179.68	CIRCULAR	1	1		0.05059	8.36	1/1/2013 8:00	12.17	1	0.82	0.01	24.347
STGM2709	STMI149	STMI142	287.43	0.013	158.85	158.2	CIRCULAR	1.75	1		0.00226	15.2	1/1/2013 8:00	6.32	2.02	1	3.81	48.833
STGM4076	STMI1210	STMI1211	97.27	0.012	168.81	165.11	CIRCULAR	1.5	1		0.03807	3.91	1/1/2013 8:00	4.37	0.18	0.51	0	7.16
STGM2622	STII1028	STII1027	118.31	0.013	213.2	211	CIRCULAR	1	1		0.0186	3.93	1/2/2013 0:03	5.08	0.81	1	0.01	84.471
STGM3283	STMI1220	STMI1219	378.83	0.012	181.41	176.01	CIRCULAR	1.25	1		0.01426	3.6	1/1/2013 8:00	5.16	0.45	0.56	0	6.681
STGM4395	STIJ0919	STIJ0923	80.11	0.012	225.32	224.31	CIRCULAR	1.25	1		0.01261	6.3	1/1/2013 8:00	7.94	0.84	0.62	0	13.94
STGM1943	STMJ1210	STMJ128	155.82	0.012	168.84	167.85	CIRCULAR	1.75	1		0.00635	12.82	1/1/2013 8:00	6.32	0.98	0.79	0	25.061
STGM1742	STMK123	STMK122	247.8	0.012	178.61	163.17	CIRCULAR	1	1		0.06243	1.24	1/1/2013 8:00	2.67	0.13	0.57	0	2.745
STGM1965	STMI1012	STMI103	92.52	0.013	211.4	211	CIRCULAR	2.25	1		0.00432	20.46	1/1/2013 7:58	6.59	1	1	0.01	45.427
STGM3789	STMK128	STMK127	201.91	0.012	162.01	160.59	CIRCULAR	1	1		0.00703	4.05	1/1/2013 8:00	5.15	1.3	1	0.96	8.208
STGM973	J4114	J5124	121.72	0.013	234	233	CIRCULAR	1	1		0.00822	3.82	1/1/2013 8:35	5.89	1.18	0.8	0.01	12.731
STGM2899	STMK121	STMJ1225	198.51	0.012	160.93	158.36	CIRCULAR	1.75	1		0.01295	8.87	1/1/2013 8:00	7.62	0.47	0.49	0	18.527
STGM4314	STMJ1015	STIJ102	135.22	0.013	218.73	216.03	CIRCULAR	1	1		0.01997	3.8	1/1/2013 8:00	7.04	0.76	0.65	0	7.338
STGM392	STII1078	STMI1019	20.23	0.013	204.07	203.28	CIRCULAR	1	1		0.03908	9.92	1/1/2013 7:59	12.63	1.41	1	1.33	17.52
STGM3022	J5176	J5178	185.64	0.04	209.16	205	IRREGULAR	0	1	STGM3022	0.02241	31.76	1/1/2013 8:01	6.21	0.02	0.17	0	77.335
STGM1074	STMJ1134	STMJ1135	246.83	0.012	184.75	172.13	CIRCULAR	1.25	1		0.0512	3.63	1/1/2013 8:00	4.18	0.24	0.67	0.01	7.437
STGM1287	STII09103	STII09106	122.73	0.012	250.92	249.59	CIRCULAR	1.5	1		0.01084	11.9	1/1/2013 8:00	7.34	1.05	0.87	0.01	36.104
STGM2654	STMJ1237	STMJ1239	64.28	0.013	163.11	160.72	CIRCULAR	2	1		0.03721	9.24	1/1/2013 8:01	7.19	0.21	0.43	0	20.137
STGM3172	STII1194	STMI1113	66.47	0.013	193.95	193.31	CIRCULAR	2	1		0.00963	20.23	1/1/2013 8:00	6.44	0.91	1	0.01	38.373
STGM3216	STMK1213	STMK1214	134.5	0.012	180.96	170.13	CIRCULAR	1	1		0.08078	1.08	1/1/2013 8:00	4.17	0.1	0.37	0	2.302
STGM3551	STMK1221	STMK1220	65.63	0.012	244.72	242.37	CIRCULAR	1	1		0.03583	1.08	1/1/2013 8:00	7.68	0.15	0.24	0	2.632
STGM3668	STMK1225	STMK1226	173.81	0.012	239.49	208.13	CIRCULAR	1	1		0.18344	2.73	1/1/2013 8:00	14.72	0.17	0.29	0	6.598
STGM1739	J-SBT4-04	J-SBT4-03	68.43	0.013	163.59	161.31	CIRCULAR	2.75	1		0.03334	16.62	1/1/2013 8:00	13.81	0.17	0.26	0	51.81
STGM274	STMJ1230	STIJ1234	40.15	0.012	160.57	160.31	CIRCULAR	1	1		0.00648	1.71	1/1/2013 8:00	5.94	0.57	0.39	0	3.398
STGM735	STMJ1232	STMJ1233	111.44	0.013	164.8	159.41	CIRCULAR	2.75	1		0.04842	12.38	1/1/2013 8:00	7.03	0.11	0.34	0	26.021
STGM1265	J5216	J4424	585.21	0.04	206	202	IRREGULAR	0	1	STGM1265	0.00684	23.48	1/1/2013 9:28	2.83	1.13	0.89	0.01	177.406
STGM3370	STMI1211	STMI1214	138.11	0.012	165.11	157.09	CIRCULAR	2	1		0.05817	31	1/1/2013 8:00	20.96	0.55	0.48	0	58.437
STGM1289	J4834	STII1194	311.55	0.013	197	193.95	CIRCULAR	2	1		0.00979	20.23	1/1/2013 8:00	7.26	0.9	0.87	0.01	38.373
STGM1946	STMK1232	STMK1231	271.03	0.012	248.53	219.71	CIRCULAR	1	1		0.10694	3.06	1/1/2013 8:00	12.3	0.25	0.35	0	6.827
STGM3819	STMK1230	STMK1229	204.5	0.012	209.01	188.72	CIRCULAR	1	1		0.09971	3.06	1/1/2013 8:00	11.85	0.26	0.36	0	6.827
STGM767	STMI127	STMI128	64.17	0.013	174.3	173	CIRCULAR	2	1		0.02026	12.59	1/1/2013 8:02	8.51	0.39	0.48	0	25.062
STGM3827	STMK1116	STMK1113	320.28	0.012	162.55	154	CIRCULAR	1.25	1		0.0267	3.38	1/1/2013 8:00	5.34	0.31	0.69	0.01	7.296
STGM2662	STII092	STMI095	217.42	0.013	233.85	232.95	CIRCULAR	1.25	1		0.00414	4.78	1/1/2013 8:00	3.89	1.15	1	0.77	9.778
STGM866	STMI1015	STMI108	340.41	0.013	213.55	210	CIRCULAR	1.25	1		0.01043	10.26	1/1/2013 7:59	8.36	1.55	1	1.82	27.892
STGM3469	STMI142	STMI148	85.97	0.013	158.2	157.99	CIRCULAR	1.75	1		0.00244	15.2	1/1/2013 7:59	6.32	1.94	1	3.68	48.833
STGM3656	STMJ1128	STMJ1127	253.64	0.012	214.51	208.87	CIRCULAR	1	1		0.02224	1.65	1/1/2013 8:00	6.43	0.3	0.36	0	2.972
STGM4372	STIJ0916	STIJ0917	44.34	0.012	226.92	226.69	CIRCULAR	1.25	1		0.00519	6.31	1/1/2013 8:00	5.22	1.3	0.96	0.01	13.94
STGM2844	STIK117	J-SBT4-05	62.36	0.012	167.96	167.77	CIRCULAR	1.25	1		0.00305	4.24	1/1/2013 8:00	8.5	1.14	0.43	0.01	9.33
STGM2543	STMK1215	STMK1214	81.52	0.012	174.52	170.13	CIRCULAR	1	1		0.05393	2.8	1/1/2013 8:00	7.96	0.33	0.46	0	7.265
STGM56	STMJ1120	STMJ1119	161.53	0.012	184.6	183.51	CIRCULAR	1.25	1		0.00675	3.8	1/1/2013 8:00	4.94	0.69	0.6	0	11.185
STGM1004	J5124	STMI0910	143.28	0.013	233	229	CIRCULAR	1	1		0.02793	3.82	1/1/2013 8:36	8.66	0.64	0.59	0	12.731
STGM239	STMK1220	STMK1219	239.65	0.012	242.37	210.12	CIRCULAR	1	1		0.13581	1.08	1/1/2013 8:00	8.44	0.08	0.22	0	2.632
STGM856	STMI1163	STMI1161	186.55	0.012	189.92	188.4	CIRCULAR	1	1		0.00815	0.57	1/1/2013 8:00	3.33	0.17	0.27	0

Conduits Existing 25 Year Storm

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
STGM1504	STII0990	STII0991	105.96	0.012	227.59	227.07	CIRCULAR	2.5	1		0.00491	11.97	1/1/2013 7:51	3.7	0.4	1	0.01	82.303
STGM3324	STMJ1135	STMJ1138	316.81	0.012	172.13	171.55	CIRCULAR	2	1		0.00183	8.69	1/1/2013 8:00	4.75	0.86	0.57	0	17.903
STGM2936	STII0982	STII0985	198.93	0.012	232.49	230.29	CIRCULAR	2	1		0.01106	5.83	01/02/2013 19:11 PM	1.86	0.24	1	0.01	7.291
STGM1080	STMI091	STMI1014	251.97	0.013	220.03	217.26	CIRCULAR	1.75	1		0.01099	10.54	1/1/2013 7:56	6.42	0.63	0.65	0	26.412
STGM3924	STMI104	J5216	351.75	0.013	209.3	206.5	CIRCULAR	5	1		0.00796	24.56	1/1/2013 7:59	4.22	0.11	0.93	0.01	129.898
STGM2971	STMK1112	STMK1111	154.89	0.012	210	190.91	CIRCULAR	1	1		0.1242	3.8	1/1/2013 8:00	13.82	0.29	0.38	0	9.33
STGM501	STMJ1234	STMJ1231	116.59	0.013	166.39	165.26	CIRCULAR	2.75	1		0.00969	12.38	1/1/2013 8:00	6.76	0.24	0.35	0	26.021
STGM2785	STMI1216	STMI1215	311.59	0.012	175.24	170.24	CIRCULAR	1.25	1		0.01605	3.91	1/1/2013 8:00	6.68	0.46	0.48	0	7.16
STGM2861	STIJ1060	STIJ1061	30.32	0.012	223.73	223.02	CIRCULAR	1	1		0.02342	3.99	1/1/2013 8:00	7.82	0.7	0.62	0	6.613
STGM3651	STMI105	STMI1022	162.04	0.013	215.2	214	CIRCULAR	2.25	1		0.00741	15.74	1/1/2013 7:58	6.47	0.59	0.59	0	36.491
STGM1822	STMJ1235	STMJ1234	227.71	0.012	170.33	166.39	CIRCULAR	2	1		0.01731	12.38	1/1/2013 8:00	9.06	0.4	0.45	0	26.021
STGM953	STMJ1138	STMJ1235	85.21	0.012	171.55	170.33	CIRCULAR	2	1		0.01432	12.38	1/1/2013 8:00	8.98	0.44	0.45	0	26.021
STGM3134	STIJ1063	STIJ1064	250.7	0.012	218.91	212.88	CIRCULAR	1	1		0.02406	3.99	1/1/2013 8:00	7.9	0.69	0.61	0	6.613
STGM2476	STMJ106	STMJ105	253.29	0.013	212.77	212.09	CIRCULAR	2	1		0.00268	12.25	1/1/2013 8:00	3.9	1.05	1	0.44	23.01
STGM1099	STII0967	STII0968	33.18	0.012	255.36	254.4	CIRCULAR	1	1		0.02895	0.92	1/1/2013 8:00	5.72	0.15	0.26	0	2.734
STGM2880	STII102	STMI1121	66.46	0.013	204.2	203.84	CIRCULAR	1.5	1		0.00542	14.46	1/1/2013 8:00	8.99	1.87	0.86	0.01	28.259
STGM2731	STMJ1022	STIJ1021	320.7	0.013	219.49	215.84	CIRCULAR	1	1		0.01138	9.63	1/1/2013 8:41	12.26	2.53	1	4.63	32.571
STGM1647	STMJ1239	STMJ1233	158.32	0.024	160.72	159.41	CIRCULAR	3	1		0.00827	9.24	1/1/2013 8:01	3.63	0.28	0.39	0	20.137
STGM4459	STII09112	J4268	78.42	0.013	247.12	245	CIRCULAR	1.75	1		0.02704	5.41	1/1/2013 8:00	7.91	0.21	0.49	0	16.281
STGM3490	STII0992	STII09100	234.44	0.012	226.18	225.02	CIRCULAR	2.5	1		0.00495	9.56	1/1/2013 7:51	3.54	0.32	1	0.01	82.303
STGM2771	J3852	STMI102	247.29	0.013	218.54	213.03	CIRCULAR	1.25	1		0.02229	2.88	1/1/2013 8:00	6.49	0.3	0.4	0	5.701
STGM777	STMI1124	STMI1115	129.71	0.013	188.46	186.78	CIRCULAR	3	1		0.01295	56.54	1/1/2013 8:01	12.72	0.74	0.6	0	243.56
STGM3193	STMJ123	STMJ124	178.13	0.012	176.8	174.83	CIRCULAR	1.25	1		0.01106	10.11	1/1/2013 8:01	8.23	1.43	1	1.35	18.796
STGM1241	J-SB-12	J-SB-11	184.99	0.013	152.7	151	CIRCULAR	4	1		0.00919	234.85	1/1/2013 9:21	18.71	1.71	1	0.01	1228.946
STGM3717	STMI108	STMI1018	220.7	0.013	209.79	208.5	CIRCULAR	1.75	1		0.00585	11.97	1/1/2013 7:58	5.84	0.99	1	0.01	31.412
STGM487	STMI1212	STMI1211	55.67	0.012	165.74	165.11	CIRCULAR	2.75	1		0.01132	27.09	1/1/2013 8:00	10.77	0.46	0.44	0	51.277
STGM2234	STMK1211	STMK1210	228.68	0.012	188.97	169.93	CIRCULAR	1	1		0.08355	4.05	1/1/2013 8:00	11.91	0.38	0.46	0	8.208
STGM2399	STII0986	STII0988	78.25	0.012	229.64	229.25	CIRCULAR	2	1		0.00498	12.27	1/1/2013 7:51	4.21	0.74	1	0.01	79.012
STGM413	STMJ116	STMI1169	235.37	0.012	198.86	196.34	CIRCULAR	1.25	1		0.01071	1.53	1/1/2013 8:00	3.14	0.22	0.42	0	2.647
STGM2905	STII09100	STII10109	111.88	0.012	224.82	223	CIRCULAR	2.5	1		0.01627	5.95	1/1/2013 7:51	3.95	0.11	1	0.01	82.303
STGM2694	J4270	J3668	872.47	0.04	243	236	IRREGULAR	0	1	STGM2694	0.00802	47.36	01/01/2013 22:06 PM	1.46	0.22	1	0.01	29.354
STGM1231	STII0988	STMI099	65.64	0.012	228.75	228.43	CIRCULAR	2.5	1		0.00488	11.94	1/1/2013 7:51	3.91	0.4	1	0.01	79.012
STGM822	STMI103	STMI104	72.28	0.013	210.8	210.2	CIRCULAR	3	1		0.0083	20.46	1/1/2013 7:59	7.75	0.34	0.96	0.01	45.427
STGM1277	STMK1110	STMK117	114.69	0.012	177.71	173.5	CIRCULAR	1	1		0.03673	3.8	1/1/2013 8:00	8.61	0.54	0.55	0	9.33
STGM523	STMI101	STMI107	468.44	0.013	230.23	226.24	CIRCULAR	1.25	1		0.00852	4.76	1/1/2013 8:00	4.34	0.8	0.84	0.01	9.778
STGM2081	STMJ103	STMJ106	121.1	0.013	213.12	212.77	CIRCULAR	1.75	1		0.00289	10.27	1/1/2013 8:00	4.27	1.21	1	0.94	19.264
STGM3851	STMK1111	STMK1110	134.32	0.012	190.91	177.71	CIRCULAR	1	1		0.09875	3.8	1/1/2013 8:00	10.87	0.33	0.46	0	9.33
STGM946	STMJ1212	STMJ126	217.37	0.012	176.56	173.71	CIRCULAR	1	1		0.01311	2.18	1/1/2013 8:00	4.14	0.51	0.64	0	3.955
STGM2032	STMI128	STII1245	601.64	0.012	173	160	CIRCULAR	2	1		0.02161	18.39	1/1/2013 8:01	9.65	0.53	0.58	0	37.319
STGM4021	STIJ1062	STIJ1063	74.1	0.012	220	219.11	CIRCULAR	1	1		0.01201	3.99	1/1/2013 8:00	5.9	0.98	0.81	0	6.613
STGM2217	STMJ122	STMJ123	420.81	0.012	183.38	176.8	CIRCULAR	1	1		0.01564	3.26	1/1/2013 8:10	4.49	0.7	1	0.01	5.256
STGM527	STIJ1070	J-SBT7-03	83.44	0.012	190.71	189.88	CIRCULAR	1.25	1		0.00995	3.99	1/1/2013 8:01	7.02	0.6	0.47	0	6.613
STGM3714	STIJ1069	STIJ1070	160.43	0.012	194.56	190.71	CIRCULAR	1	1		0.024	3.99	1/1/2013 8:01	7.33	0.7	0.65	0	6.613
STGM1031	STMK1216	STMK1215	236.86	0.012	204.42	174.52	CIRCULAR	1	1		0.12725	2.8	1/1/2013 8:00	11.32	0.21	0.35	0	7.265
STGM3804	STIJ1064	STIJ1065	199.43	0.012	212.68	208.11	CIRCULAR	1	1		0.02292	3.99	1/1/2013 8:00	7.75	0.71	0.62	0	6.613
STGM1359	J5382	J5178	136.08	0.04	214.65	205	IRREGULAR	0	1	STGM1359	0.07109	6.3	1/1/2013 8:01	1.79	0.07	0.51	0	13.94
STGM1948_a	J5178	J4094	903.36	0.04	205	185	IRREGULAR	0	1	STGM1948	0.02214	43.88	1/1/2013 8:02	14.27	0	0.05	0	107.74
STGM4173	STMJ1110	STMJ119	89.51	0.012	210.16	207.67	CIRCULAR	1.25	1		0.02783	1.53	1/1/2013 8:00	5.96	0.14	0.26	0	2.647
STGM14	STMK116	STMK115	108.82	0.012	179.68	173.64	CIRCULAR	1	1		0.05559	8.35	1/1/2013 8:00	13.28	0.96	0.75	0	24.347
STGM3365	STII1050	STII1028	132.55	0.013	215.72	213.2	CIRCULAR	1	1		0.01902	3.93	1/2/2013 0:03	6.69	0.8	1	0.01	84.471
STGM197	STMK1117	STMK1116	134.51	0.012	164.26	162.55	CIRCULAR	1.25	1		0.01271	3.38	1/1/2013 8:00	6.72	0.45	0.43	0	7.296
STGM1348	STMJ1222	STMJ1220	110.4	0.012	133.4	125.95	CIRCULAR	1.5	1		0.06764	10.58	1/1/2013 8:00	14.19	0.37	0.44	0	21.925
STGM1034	STMJ092	STMJ091	61.1	0.013	222.67	222.46	CIRCULAR	1	1		0.00344	7.59	1/1/2013 8:30	9.66	3.63	1	5	25.447
STGM3110	STMK1114	J-SBT4-01	61.55	0.012	144.32	140.54	CIRCULAR	1.25	1		0.06153	21.34	1/1/2013 7:39	21.7	1.28	0.75	0.01	83.389
STGM283	STII0975	STII0977	121.82	0.012	242.11	240.85	CIRCULAR	1.5	1		0.01034	2.78	1/1/2013 8:00	5.2	0.25	1	0.01	7.291
STGM1126	J3524	STMI1015	177.86	0.013	217.58	214.14	CIRCULAR	1.25	1		0.01934	7.98	1/1/2013 8:15	7.6	0.89	1	0.01	22.781
STGM17	STMJ128	STMI1212	450.16	0.012	167.85	165.74	CIRCULAR	2.75	1		0.00469	18.58	1/1/2013 8:01	6.47	0.49	0.49	0	35.526
STGM1460	STMJ1126	STMJ1128	240.75	0.012	219.3	214.51	CIRCULAR	1	1		0.0199	1.65	1/1/2013 8:00	5.94	0.32	0.38	0	2.972
C52	J4990	STMJ1236	75.72	0.04	167.85	165.95	IRREGULAR	0	1	C52	0.0251	2.33	1/1/2013 8:00	0.32	0	0.11	0	4.163
STGM452	STML1132	J-SBT1-09	89.83	0.013	190.42	188.95	CIRCULAR	2.5	1		0.01637	10.77	1/1/2013 8:01	14.05	0.21	0.21	0	33.084
STGM1321	STML1131	STML1132	245.22	0.013	194.81	190.42	CIRCULAR	2.25	1		0.01791	10.77	1/1/2013 8:00	8.43	0.26	0.36	0	33.084
STGM55	STMI125	STMI1229	202.77	0.013	180.4	179.71	CIRCULAR	1.25	1		0.0034	4.41	1/1/2013 8:00	4.22	1.17	0.8	0.01	7.51
STGM4525	STMI1233	STMI126	382.78	0.012	178	175	CIRCULAR	1	1		0.00784	8.27	1/1/2013 8:09	10.53	2.52	1	1.53	17.552
STGM4524	STML1232	STMI1233	416.61	0.012	179.2	178	CIRCULAR	1	1		0.00288	4.82	1/1/2013 8:15	6.14	2.43	1	3.7	10.141
STGM4510	STMI1234	STMI1227	138.44	0.013	175	174.4	CIRCULAR	1.5	1		0.00433	4.41	1/1/2013 8:01	4.51	0.64	0.56	0	7.51
STGM4512	STMI1228	STMI1234	293.17	0.012	176.5	175	CIRCULAR	1.5	1		0.00512	4.41	1/1/2013 8:00	4.37	0.56	0.56	0	7.51
STGM4509	STMI1227	STMI127	11.77	0.013	174.4	174.3	CIRCULAR	1.5	1		0.0085	4.4	1/1/2013 8:01	4.74	0.45	0.57	0	7.51
STGM4514	STMI1229	STMI1228	645.87	0.012	179.71	176.5	CIRCULAR	1.5	1		0.00497	4.41	1/1/2013 8:00	4.53	0.57	0.54	0	7.51
STGM3149	STMI123	STMI139	436.5	0.013	166.55	165.48	CIRCULAR	1	1		0.00245	4.62	1/1/2013 8:07	5.88	2.62	1	4.91	10.984
STGM3997	STMI139	STMI138	486.87	0.013	165.23	163.98	CIRCULAR	1.25	1		0.00257	10.26	1/1/2013 8:06	8.36	3.13	1	5.57	24.003
STGM4542	STMI138	STMI137	499.53	0.013	163.98	162.73	CIRCULAR	1.25	1		0.0025	9.85	1/1/2013 8:37	8.03	3.05	1	4.21	24.003
STGM4556	STII137	STII1359	137.91	0.013	161.23	160.75	CIRCULAR	1.5	1		0.00348	12.15	1/1/2013 8:35	6.87	1.96	1	3.66	29.866
STGM2664	STMI137	STII137	341.84	0.013	162.42	161.23	CIRCULAR	1.5	1		0.00348	12.1	1/1/2013 8:28	6.85	1.95	1	3.68	29.866
STGM321	STII1359	STMI1310	184.13	0.013	160.75	160.3	CIRCULAR	1.5	1		0.00244	9.72	1/1/2013 9:35	5.5	1.87	1	4.72	30.718
STGM1206	STMI1013	STMI109	361.98	0.024	222.05	216.25	CIRCULAR	1.75	1		0.01603	1.78	1/1/2013 8:00	2.31	0.16	0.37	0	3.448
STGM2304-B	STMJ1244	STMJ1210	113.39	0.012	170	168.84	CIRCULAR	1.5	1		0.01023	10.11	1/1/2013 8:01	6.32	0.91	0.85	0	18.796
STGM3779	STII1149	STML1146	421.95	0.013	203.31	197.83	CIRCULAR	1	1		0.01299	2.04	1/1/2013 8:00	5.53	0.5	0.48	0	3.874
STGM2682	J3960	STMI124	180.02	0.013	182.33	180.75	CIRCULAR	1	1		0.00878	2.73	1/1/2013 8:03	3.69	0.82	1	0.01	6.489
STGM3931	STMI1176	J-SBT1-05	182.65	0.012	178.28	172.07	CIRCULAR	1.75	1		0.03402	18.46	1/1/2013 8:01	13.24	0.61	0.56	0	35.919
STGM3752	STMK113	J-SBT4-04	142.09	0.013	164.46	163.59	CIRCULAR	1.5	1		0.00612	8.35	1/1/2013 8:00	6.91	1.02	0.65	0.01	24.347
STGM6	J-SBT1-07	J-SBT1-06	106.51	0.013	180	176	CIRCULAR	5	1		0.03758	68.4	1/1/2013 8:02	11.57	0.14	0.34	0	278.942
STGM4063	STMJ102	STMJ103	259.05	0.013	213.81	213.12	CIRCULAR	1.5	1		0.00266	7.62	1/1/2013 7:59	4.31	1.4	1	1.34	14.293
STGM304	STIJ1021	STMJ105	483.12	0.013	215.79	212.09	CIRCULAR	1.25	1		0.00766	9.69	1/1/2013 8:45	7.9	1.71	1	4.57	32.571
STGM1954	STMI1222	STMI1212	231.45	0.012	172.59	165.74	CIRCULAR	1.5	1		0.02961	6.58	1/1/2013 8:00	5.48	0.35	0.64	0	12.092
STGM314	STII1055	STII1056	63.77	0.013	213.5	213	CIRCULAR	1	1		0.00784	1.81	1/1/2013 8:00	4.67	0.57	1	0.01	3.52
STGM886	STMI1221	STMI1222	45.3	0.012	173.35	172.59	CIRCULAR	1.5	1		0.01678	6.58	1/1/2013 8:00	8.69	0.46	0.44	0	12.092
STGM3943	STMI1224	STMI1223	63.42	0.012	181.67	181.2	CIRCULAR	1	1		0.00741	1.6	1/1/2013 8:00	4.44	0.5	0.47	0	2.887
STGM210	STMI109	STMI105	34.25	0.013	216.25	215.2	CIRCULAR	2.75	1		0.03067	15.74	1/1/2013 7:57	7.67	0.17	0.38	0	36.491
STGM3669	STMI1014	STMI109	287.71	0.013	217.26	216.25	CIRCULAR	2.75	1		0.00351	13.97	1/1/2013 7:57	6.87	0.45	0.37	0	33.044
STGM3339	STMI144	J4032	516.75	0.013	156.95	155	CIRCULAR	1.75	1		0.00377	15.2	1/1/2013 7:59	8.82	1.56	0.67	0.01	48.833
STGM3345	STMI129	J-SBT1-03	501.35	0.013	185	165	CIRCULAR	1	1		0.03992	5.87	1/1/2013 8:00	10.12	0.82	0.69	0	10.878
STGM3459	J-SBT1-02	J-SBT1-01	131.72	0.013	138.8	137.8	CIRCULAR	3	1		0.00759	142.31	1/1/2013 8:33	20.8	2.45	0.93	0.01	488.333
STGM3617	STMK1113	STMK1114	73.11	0.012	154	144.32	CIRCULAR	1.25	1		0.13358	21.34	1/1/2013 7:39	17.8	0.87	1	0.01	83.389
STGM4243	STMI1226	J-SBT1-02	107.71	0.012	159	138.8	CIRCULAR	2	1		0.19093	20.26	1/1/2013 8:01	9.37	0.2	0.65	0.01	42.285
STGM1948_b	J4094	J4284	257.12	0.04	185	175	IRREGULAR	0	1	STGM1948	0.03892	49.69	1/1/2013 8:04	1.84	0	0.33	0	129.247
STGM796	STMJ1220	J-SB-04	35.81	0.013	125.95	123.4	CIRCULAR	1.75	1		0.07139	13.58	1/1/2013 8:00	15.65	0.32	0.39	0	28.537
SB-00	J-SB-02	OF_J-SB-01	16.1	0.04	106.1	105	IRREGULAR	0	1	SB-01	0.06848	771.77	1/1/2013 9:52	13.04	0	0.05	0	3966.226
STGM3824	J-SB-05	J-SB-04	141.22	0.013	117.1	115.9	CIRCULAR	7	1		0.0085	492.66	1/1/2013 9:15	15.12	0.84	0.79	0	2336.289
STGM2828	J-SBT6-02	J-SBT6-01	306.49	0.013	143.4	143.2	CIRCULAR	4	1		0.00065	60.84	1/1/2013 8:00	6.66	1.66	0.68	0.01	219.13
SPRINGBROOK_CULVERT	J-SB-16	J-SB-15	113.32	0.013	267	260.2	CIRCULAR	3	1		0.06012	87.14	1/1/2013 8:30	25.95	0.53	0.48	0	465.116
SB-01	J-SB-03	J-SB-02	1344.6	0.04	108.6	106.1	IRREGULAR	0	1	SB-01	0.00186	604.94	1/1/2013 9:56	3.9	0.01	0.08	0	2946.759
SB-02	J-SB-04	J-SB-03	4551.46	0.04	115.9	108.6	IRREGULAR	0	1	SB-02	0.0016	491.23	1/1/2013 9:29	2.03	0.01	0.14	0	2364.827
SBT1-01	J-SBT1-01	J-SB-03	2511.66	0.04	137.8	108.6	IRREGULAR	0	1	SBT1-01	0.01163	158.34	1/1/2013 8:33	4.69	0	0.08	0	546.746
SBT6-01	J-SBT6-01	J-SB-09	1562.56	0.04	143	139	IRREGULAR	0	1	SBT6-01	0.00256	152.38	1/1/2013 8:05	0.72	0	0.09	0	599.98
SBT7-01	J-SBT7-01	J-SB-10	683.85	0.04	168	150	IRREGULAR	0	1	SBT7-01	0.02633	49.87	1/1/2013 8:32	1.66	0.14	0.67	0.01	159.782
SBT2-01	STMJ1242	J-SB-06	236.35	0.04	136.14	119	IRREGULAR	0	1	SBT2-01	0.07271	12.68	1/1/2013 8:00	2.49	0.02	0.59	0.01	26.994
SB-11	J-SB-15	J-SB-14	1149.21	0.04	260.2	224	IRREGULAR	0	1	SB-11	0.03152	86.53	1/1/2013 8:31	50	0	0.05	0	465.116
HAYES_CULVERT	J-SBT1-05	J-SBT1-04	105.23	0.024	157.4	154.61	CIRCULAR	6	1		0.02652	108.16	1/1/2013 8:02	9.14	0.29	0.44	0	358.372
SBT1-04	J-SBT1-06	J-SBT1-05	645.44	0.04	176	157.4	IRREGULAR	0	1	SBT1-04	0.02883	87.82	1/1/2013 8:02	6.64	0	0.07	0	318.196
STGM4128	STIL11186	STIL11185	36.12	0.012	172.5	171.7	CIRCULAR	1	1		0.02215	1.99	1/1/2013 8:00	9.03	0.36	0.32	0	4.257
STGM3287	STIL11185	J-SBT1-05	38.37	0.012	171.7	160.86	CIRCULAR	1	1		0.29451	1.99	1/1/2013 8:00	16.18	0.1	0.21	0	4.257
SB-10	J-SB-14	J-SB-13	2491.27	0.04	224	177	IRREGULAR	0	1	SB-10	0.01887	125.98	1/1/2013 8:07	50	0	0.06	0	578.392
SB-09	J-SB-13	J-SB-12	2246.78	0.04	177	152.7	IRREGULAR	0	1	SB-09	0.01082	230.88	1/1/2013 8:36	2.74	0	0.14	0	1091.407
SBT4-03	J-SBT4-03	J-SBT4-02	410.71	0.04	161.31	153.6	IRREGULAR	0	1	SBT4-03	0.01878	16.54	1/1/2013 8:01	1.18	0	0.13	0	51.81
SBT4-04	J-SBT4-05	J-SBT4-02	329.17	0.04	167.77	153.6	IRREGULAR	0	1	SBT4-04	0.04309	3.79	1/1/2013 8:01	0.71	0	0.34	0	9.33
SBT4-02	J-SBT4-02	STMK1113	197.84	0.04	153.6	154	IRREGULAR	0	1	SBT4-02	-0.00202	17.27	1/1/2013 9:17	1.49	0	0.18	0	67.431
SBT1-03	J-SBT1-04	J-SBT1-03	283.9	0.04	154.61	152.2	IRREGULAR	0	1	SBT1-02	0.00849	115.01	1/1/2013 8:02	4.59	0	0.08	0	376.734
SBT1-06	J-SBT1-09	J-SBT1-08	68.4	0.04	188.95	186	IRREGULAR	0	1	SBT1-05	0.04317	10.76	1/1/2013 8:01	2.08	0	0.01	0	33.084
SBT1-05	J-SBT1-08	J-SBT1-07	139.18	0.04	182	180	IRREGULAR	0	1	SBT1-05	0.01437	67.3	1/1/2013 8:01	1.54	0	0.05	0	276.643
SBT1-02	J-SBT1-03	J-SBT1-02	1575.84	0.04	152.2	138.8	IRREGULAR	0	1	SBT1-02	0.0085	119.68	1/1/2013 8:05	3.22	0	0.13	0	387.611
STGM988	J4032	J-SB-02	403.63	0.04	155	110	IRREGULAR	0	1	STGM988	0.11219	15.19	1/1/2013 8:00	6.37	0	0.05	0	48.833
SB-03	J-SB-06	J-SB-05	437.16	0.04	119	117.1	IRREGULAR	0	1	SB-03	0.00435	494.5	1/1/2013 9:12	1.84	0.4	0.87	0.01	2336.289
SBT5-01	J-SBT5-01	J-SB-08	860.12	0.04	169.2	134	IRREGULAR	0	1	SBT5-01	0.04096	18.27	1/1/2013 8:00	2.56	0	0.11	0	41.66
SB-04	J-SB-07	J-SB-06	2464.84	0.04	126.6	119	IRREGULAR	0	1	SB-04	0.00308	502.29	1/1/2013 8:57	2.79	0	0.11	0	2236.449
SBT4-01	J-SBT4-01	J-SB-07	283.33	0.04	140.54	126.6	IRREGULAR	0	1	SBT4-01	0.04926	21.33	1/1/2013 7:40	1.13	0	0.11	0	83.389
SB-06	J-SB-09	J-SB-08	1627.27	0.04	139	134	IRREGULAR	0	1	SB-06	0.00307	421.26	1/1/2013 9:10	2.79	0	0.1	0	2056.217
SB-05	J-SB-08	J-SB-07	2409.13	0.04	134	126.6	IRREGULAR	0	1	SB-05	0.00307	415.46	1/1/2013 9:50	2.67	0	0.13	0	2097.876
SB-08	J-SB-11	J-SB-10	536.75	0.04	151	150	IRREGULAR	0	1	SB-07	0.00186	249.96	1/1/2013 9:13	2.53	0.17	0.58	0	1296.455
SB-07	J-SB-10	J-SB-09	1031.15	0.04	150	139	IRREGULAR	0	1	SB-07	0.01067	296.9	1/1/2013 9:10	4.03	0.08	0.6	0	1456.237
SBT7-02	J-SBT7-03	J-SBT7-02	381.64	0.04	189.88	173	IRREGULAR	0	1	STGM901	0.04427	3.99	1/1/2013 8:01	0.69	0	0.09	0	6.613
SBT3-01	J-SBT3-01	J-SB-06	873.91	0.04	147.7	119	IRREGULAR	0	1	SBT3-01	0.03286	31.76	1/1/2013 8:02	2.36	0	0.13	0	72.846
STGM1593	J4848	STII0913	498.81	0.013

Conduits Existing 25 Year Storm

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
stgm5636	stiG0710071	stmG0710069	36.8	0.013	258.97	258.05	CIRCULAR	1	1		0.02501	3.3	1/1/2013 8:00	7.45	0.59	0.55	0	7.893
stgm5635	stiG0710072	stiG0710071	33	0.013	259.46	259.28	CIRCULAR	1	1		0.00545	1.28	1/1/2013 8:00	3.42	0.49	0.48	0	3.11
stgm5634	stiG0710073	stiG0710071	97.21	0.013	261.52	259.17	CIRCULAR	1	1		0.02418	2.02	1/1/2013 8:00	6.49	0.36	0.42	0	4.783
stgm5633	stiG0710074	stiG0710073	158.75	0.013	263.89	261.92	CIRCULAR	1	1		0.01241	0.24	1/1/2013 8:00	2.8	0.06	0.17	0	0.598
stgm5632	stiG0710075	stiG0710074	33	0.012	264.82	264.62	CIRCULAR	1	1		0.00606	0.25	1/1/2013 8:00	2.31	0.08	0.19	0	0.598
stgm5631	stiG0710076	stiG0710073	35.03	0.013	262.26	261.84	CIRCULAR	1	1		0.01199	1.77	1/1/2013 8:00	4.85	0.45	0.47	0	4.185
stgm5630	stiG0710077	stiG0710076	37.66	0.013	262.62	262.36	CIRCULAR	1	1		0.0069	1.77	1/1/2013 8:00	3.94	0.6	0.56	0	4.185
stgm5629	stiG0710078	stiG0710077	33	0.013	263.44	263.2	CIRCULAR	1	1		0.00727	0.37	1/1/2013 8:00	2.62	0.12	0.24	0	0.872
stgm5628	stiG0710079	stiG0710077	147.89	0.013	273.76	263.08	CIRCULAR	1	1		0.0724	1.4	1/1/2013 8:00	8.71	0.15	0.26	0	3.313
stgm5627	stiG0710080	stiG0710079	33	0.013	274.48	274.06	CIRCULAR	1	1		0.01273	0.14	1/1/2013 8:00	2.4	0.04	0.13	0	0.333
stgm5626	stmG0710068	stiG0710079	90.72	0.013	274.87	273.91	CIRCULAR	1	1		0.01058	1.26	1/1/2013 8:00	4.23	0.34	0.4	0	2.98
stgm5625	stiG0710081	stmG0710068	38.18	0.013	275.38	275.2	CIRCULAR	1	1		0.00471	1.26	1/1/2013 8:00	3.33	0.52	0.49	0	2.98
stgm5624	stiG0710082	stiG0710081	33	0.013	277.98	277.2	CIRCULAR	1	1		0.02364	0.27	1/1/2013 8:00	3.63	0.05	0.15	0	0.639
stgm5623	stiG0710083	stiG0710081	262.51	0.013	277.02	275.65	CIRCULAR	1	1		0.00522	0.99	1/1/2013 8:00	3.12	0.39	0.42	0	2.341
stgm5622	stiG0710084	stiG0710083	33	0.013	277.23	277.03	CIRCULAR	1	1		0.00606	0.48	1/1/2013 8:00	1.94	0.17	0.35	0	1.126
stgm5621	stmG0710088	stiG0710083	34.21	0.013	277.58	277.28	CIRCULAR	1	1		0.00877	0.52	1/1/2013 8:00	3.08	0.15	0.27	0	1.215
stgm5620	stiG0710085	stmG0710088	150.42	0.013	278.3	277.6	CIRCULAR	1	1		0.00465	0.52	1/1/2013 8:00	2.53	0.21	0.31	0	1.215
stgm5619	stiG0710086	stiG0710085	35	0.013	278.67	278.55	CIRCULAR	1	1		0.00343	0.52	1/1/2013 8:00	2.45	0.25	0.31	0	1.215
stgm5618	stiG0710062	stmG0710063	16.5	0.013	240.8	240.09	CIRCULAR	1	1		0.04307	1.1	1/1/2013 11:11	3.98	0.4	0.38	0	7.893
stgm5617	stiG0710061	stiG0710062	4	0.013	240.9	240.86	CIRCULAR	1	1		0.01	1.1	1/1/2013 11:11	3.22	1.95	0.45	0.01	7.893
stgm5616	stmG0710063	E3	114.76	0.013	238.75	234.75	CIRCULAR	1	1		0.03488	1.1	1/1/2013 11:11	4.93	0.23	0.33	0	7.893
stgm5267	stiG080141	stiG080140	47.21	0.013	264.02	263.6	CIRCULAR	1	1		0.0089	0.34	1/1/2013 8:00	2.75	0.1	0.22	0	0.92
stgm5265	stiG080140	stiG080143	35	0.013	263.57	263.3	CIRCULAR	1	1		0.00771	0.34	1/1/2013 8:00	2.62	0.11	0.22	0	0.92
stgm5264	stiH080011	stiH080007	35	0.012	266.4	266.19	CIRCULAR	1	1		0.006	0.1	1/1/2013 8:00	1.77	0.03	0.13	0	0.246
stgm5263	stiH080010	stiH080011	40.29	0.013	266.62	266.45	CIRCULAR	1	1		0.00422	0.1	1/1/2013 8:00	1.58	0.04	0.14	0	0.246
stgm5261	stiG080143	stmG08070	239.1	0.013	263.1	257.37	CIRCULAR	1	1		0.02397	1	1/1/2013 8:00	5.33	0.18	0.29	0	2.534
stgm5260	stiH080007	stiG080143	200.56	0.013	264.39	263.2	CIRCULAR	1	1		0.00593	0.24	1/1/2013 8:00	2.16	0.09	0.2	0	0.587
stgm5259	stiH080006	stiH080007	40.32	0.013	264.69	264.44	CIRCULAR	1	1		0.0062	0.14	1/1/2013 8:00	1.87	0.05	0.15	0	0.341
stgm5258	stiH080005	stiH080006	65.23	0.013	265.05	264.69	CIRCULAR	1	1		0.00552	0.14	1/1/2013 8:00	1.82	0.05	0.15	0	0.341
stgm5256	stiG08137	stiG08138	139.01	0.013	255.95	255.12	CIRCULAR	1	1		0.00597	0.52	1/1/2013 8:00	2.69	0.19	1	0.01	1.056
stgm5255	stiG08138	stiG08139	86.09	0.013	255.11	254.53	CIRCULAR	1	1		0.00674	0.52	1/1/2013 8:00	2.55	0.2	1	0.01	1.056
stgm5254	stiG08139	stmG08070	25.13	0.013	254.66	254.54	CIRCULAR	1	1		0.00478	0.52	1/1/2013 8:00	2.58	0.21	1	0.01	1.056
stgm5253	stmG08069	stiG08136	22.81	0.013	251.86	251.25	CIRCULAR	1	1		0.02675	1.51	1/1/2013 8:01	3.19	0.26	1	0.01	3.59
stgm5252	stmG08069	stmG08068	72.21	0.013	253.95	251.21	CIRCULAR	1	1		0.03797	0	1/1/2013 0:00	0	0	0.5	0.01	3.59
stgm5251	stmG08070	stmG08069	164.49	0.013	254.31	252.53	CIRCULAR	1	1		0.01082	1.51	1/1/2013 8:00	4.48	0.41	1	0.01	3.59
stgm5248	stiG08136	stmG08068	9	0.013	250.98	250.8	CIRCULAR	1	1		0.02	0	1/1/2013 0:00	0	0	0.5	0	4.08
stgm5247	stmG08068	stmG08067	171.1	0.013	250.75	250.36	CIRCULAR	1	1		0.00228	0	1/1/2013 0:00	0	0	0	0	4.08
stgm5246	stmG08067	STMG0860	20.2	0.013	250.01	250.75	CIRCULAR	1	1		-0.03666	0	1/1/2013 0:00	0	0	0.5	0	4.08
stgm4961	stiG07134	stiG07125	52.14	0.013	263.55	262.9	CIRCULAR	1	1		0.01247	1.35	1/1/2013 8:00	4.58	0.34	0.6	0	3.213
stgm4949	stiG07131	stmG07078	84.967	0.013	263.5	259.9	CIRCULAR	1	1		0.04241	0.06	1/1/2013 9:48	0.14	0.01	0.59	0.01	0
stgm4948	stmG07081	stiG07131	95.16	0.013	264.1	263.7	CIRCULAR	1	1		0.0042	0	1/1/2013 0:00	0	0	0	0	0
stgm4947	stiG07123	stiG07122	23.304	0.013	260.5	260.2	CIRCULAR	1	1		0.01287	1.84	1/1/2013 8:00	5.03	0.46	1	0.01	4.376
stgm4946	stiG07124	stiG07123	269.795	0.013	262.3	260.7	CIRCULAR	1	1		0.00593	1.84	1/1/2013 8:00	3.82	0.67	1	0.01	4.376
stgm4945	stiG07130	stiG07124	43.577	0.013	263.9	262.67	CIRCULAR	1	1		0.02824	0	1/1/2013 0:00	0	0	0.5	0	0
stgm4944	stiG07125	stiG07124	33.406	0.013	262.7	262.5	CIRCULAR	1	1		0.00599	1.84	1/1/2013 8:00	3.87	0.67	1	0.01	4.376
stgm4943	stiG07126	stiG07125	35.764	0.013	263.1	262.9	CIRCULAR	1	1		0.00559	0.49	1/1/2013 8:00	2.2	0.18	0.84	0	1.162
stgm4941	stmG07080	E4	113.502	0.013	254.8	247.5	CIRCULAR	1.25	1		0.06445	0	1/1/2013 0:00	0	0	0	0	6.498
stgm4940	stmG07079	stmG07080	318.845	0.013	257.2	255	CIRCULAR	1.25	1		0	0	1/1/2013 0:00	0	0	0.02	0	6.498
stgm4939	stiG07121	stmG07079	10.316	0.013	257.5	257.4	CIRCULAR	1.25	1		0.00969	0.14	1/1/2013 8:00	2.71	0	0.52	0.01	6.174
stgm4938	E6	stmG07078	19.995	0.013	260.5	259.9	CIRCULAR	1	1		0.03002	0.02	1/1/2013 8:56	0.04	0	1	0.01	0
stgm4937	stmG07078	stiG07121	22.645	0.013	258.65	258.4	CIRCULAR	1	1		0.01104	1.82	1/1/2013 8:00	4.45	0.49	1	0.01	4.376
stgm4936	stiG07122	stmG07078	36.458	0.013	260	258.9	CIRCULAR	1	1		0.03019	1.84	1/1/2013 8:00	6.7	0.3	1	0.01	4.376
stgm4935	stiG07120	stiG07122	217.71	0.013	265.83	260.2	CIRCULAR	1	1		0.02587	0	1/1/2013 0:00	0	0	0.5	0	0
stgm4933	stiG07117	stiG07120	147.023	0.013	266.9	266.03	CIRCULAR	1	1		0.00592	0	1/1/2013 0:00	0	0	0	0	0
stgm4641	stmF08050	stmF08049	231.627	0.013	196.99	196.9	CIRCULAR	2.5	1		0.00039	0.53	1/1/2013 1:24	0.24	0.07	1	0.01	0.644
stgm4640	stiF08081	stmF08049	150.399	0.013	197.25	196.9	CIRCULAR	1.25	1		0.00233	0.28	1/1/2013 7:59	0.35	0.09	1	0.01	0.555
stgm4638	stmF08049	stmF08048	10.459	0.013	196.9	196.34	CIRCULAR	1	1		0.05362	0.61	1/1/2013 7:59	0.78	0.07	1	0.01	1.199
stgm4637	stmF08048	STMF089	13.599	0.013	196.08	196.05	CIRCULAR	1	1		0.00221	0.61	1/1/2013 7:59	1.98	0.03	0.9	0.01	1.199
stgm5105	stiF09082	stiF09083	40.08	0.013	181.02	180.9	CIRCULAR	1	1		0.00299	0.86	1/1/2013 8:00	1.7	4.81	0.61	0.01	2.895
stgm5101	stmF09035	J-CCT3-14	39	0.013	177.62	177.52	CIRCULAR	1	1		0.00256	3.51	1/1/2013 8:03	4.72	1.95	0.9	0.01	12.167
stgm5100	stmF09033	stmF09035	129.27	0.013	178.31	177.62	CIRCULAR	1	1		0.00534	3.51	1/1/2013 8:04	4.47	1.35	1	1.07	12.167
stgm5099	stmF09034	stmF09033	180.5	0.013	179.47	178.57	CIRCULAR	1	1		0.00499	2.02	1/1/2013 8:03	3.46	0.8	1	0.01	6.951
stgm5098	stiF09081	stmF09034	67.65	0.013	184.06	179.6	CIRCULAR	1	1		0.06607	2.06	1/1/2013 8:00	6.19	0.22	0.64	0	6.951
stgm5097	stiF09084	E35	33.4	0.013	180.65	180.56	CIRCULAR	1	1		0.00269	1.66	1/1/2013 8:00	5.05	0.9	0.45	0	5.216
stgm5096	stiF09083	stiF09084	34.72	0.013	181.02	180.9	CIRCULAR	1	1		0.00346	1.54	1/1/2013 8:00	3.44	0.73	0.55	0	5.216
stgm5095	stiF09088	stiF09087	35.38	0.013	185.47	185.08	CIRCULAR	1	1		0.01102	0.36	1/1/2013 8:00	3.01	0.1	0.21	0	1.22
stgm5094	stiF09087	stiF09083	212.06	0.013	184.06	181.27	CIRCULAR	1	1		0.01316	0.68	1/1/2013 8:01	3.49	0.17	0.3	0	2.321
stgm5093	stiF09091	stiF09087	206.71	0.013	185.21	184.13	CIRCULAR	1	1		0.00522	0.32	1/1/2013 8:01	2.27	0.13	0.24	0	1.101
stgm5092	stiF09090	stiF09091	157.66	0.013	190.13	187.38	CIRCULAR	1	1		0.01745	0.32	1/1/2013 8:00	3.44	0.07	0.18	0	1.101
stgm5091	stiF09089	stiF09090	39.36	0.013	192.63	192.28	CIRCULAR	1	1		0.00889	0.33	1/1/2013 8:00	2.71	0.1	0.21	0	1.101
stgm4911	stiG10093	stmG10045	225	0.013	187.51	186.52	CIRCULAR	1	1		0.0044	0.34	1/1/2013 8:01	0.79	0.15	0.63	0.01	0.691
stgm4910	stiG10092	stmG10045	6.595	0.013	187.53	187.5	CIRCULAR	1	1		0.00455	0	1/1/2013 7:47	0.35	0	0.24	0	0
stgm4909	stmG10045	E16	8	0.013	186.5	186.5	CIRCULAR	3	1		0	0	1/1/2013 0:59	0.15	0	0.42	0	8.225
stgm4908	stvG10044	stmG10045	13	0.013	186.52	186.52	CIRCULAR	3	1		0	0.34	1/1/2013 8:14	0.21	0.06	0.41	0	7.535
stgm4907	stvG10043	stvG10044	196.448	0.013	186.83	186.62	CIRCULAR	3	1		0.00107	0.39	1/1/2013 8:14	0.5	0.01	0.31	0	7.535
stgm4906	stvG10043	stiG10091	9.184	0.013	187	186.92	CIRCULAR	1	1		0.00871	0.46	1/1/2013 7:18	2.73	0.14	0.79	0	7.535
stgm4905	stiG10090	stmG10042	6.083	0.013	187	186.92	CIRCULAR	1	1		0.01315	1.79	1/1/2013 8:00	2.88	0.44	0.83	0	3.784
stgm4904	stmG10042	stvG10043	97	0.013	186.92	186.92	CIRCULAR	3	1		0	2.1	1/1/2013 8:00	2.77	0.11	0.27	0	7.535
stgm4903	stvG10041	stmG10042	316	0.013	187.24	186.92	CIRCULAR	3	1		0.00101	0.37	1/1/2013 8:00	0.57	0	0.17	0	3.751
stgm4902	stmG10040	stvG10041	232.926	0.013	191.74	189.29	CIRCULAR	1	1		0.01052	1.95	1/1/2013 8:00	4.19	26.42	0.57	0.01	3.751
stgm4900	stiG10088	stmG10040	302	0.013	197.79	191.74	CIRCULAR	1	1		0.02004	1.95	1/1/2013 8:00	3.24	0.39	0.72	0.01	3.751
stgm5003	stiG11123	stmG11025	19.47	0.013	182.36	179.3	CIRCULAR	1	1		0.15914	0.28	1/1/2013 8:00	5.63	0.02	0.22	0	0.65
stgm5002	stiG11134	stmG11025	12.531	0.013	181.53	179.3	CIRCULAR	1	1		0.18085	0.38	1/1/2013 8:00	6.46	0.03	0.23	0	0.941
stgm4979	stcoG1108	stiG11131	157.602	0.013	184.3	182.81	CIRCULAR	1	1		0.00945	0.46	1/1/2013 8:00	3.07	0.13	0.25	0	1.109
stgm4978	stiG11131	stmG11023	29.93	0.013	182.13	181.72	CIRCULAR	1	1		0.0137	0.46	1/1/2013 8:00	3.5	0.11	0.22	0	1.109
stgm4977	stmG11023	stmG11022	67.052	0.013	181.57	180.96	CIRCULAR	1	1		0.0091	0.46	1/1/2013 8:00	3.02	0.14	0.25	0	1.109
stgm4976	stiG11130	stmG11022	10.355	0.013	182.49	180.84	CIRCULAR	1	1		0.16141	0.16	1/1/2013 8:00	2.65	0.01	0.19	0	0.381
stgm4975	stiG11129	stmG11022	46.301	0.013	186.37	180.86	CIRCULAR	1	1		0.11986	0.23	1/1/2013 8:00	3.16	0.02	0.19	0	0.527
stgm4974	stmG11022	stmG11025	246.098	0.013	180.76	179.44	CIRCULAR	1	1		0.00536	0.85	1/1/2013 8:00	3	0.33	0.39	0	2.016
stgm4973	stmG11025	stmG11020	150.493	0.013	178.95	178.57	CIRCULAR	1	1		0.00253	1.51	1/1/2013 8:00	3.01	0.84	0.61	0	3.607
stgm4972	stmG11020	stmG11021	159.575	0.013	178.44	177.84	CIRCULAR	1	1		0.00376	1.51	1/1/2013 8:01	3.27	0.69	0.57	0	3.607
stgm4971	stiG11124	stiG11125	33.778	0.013	178.68	178.28	CIRCULAR	1	1		0.01184	0.24	1/1/2013 8:00	2.74	0.06	0.17	0	0.558
stgm4970	stiG11125	stiG11126	19.508	0.013	178.15	178.05	CIRCULAR	1	1		0.00513	0.24	1/1/2013 8:00	2.08	0.09	0.21	0	0.558
stgm4969	stiG11126	stmG11021	20.295	0.013	177.87	177.67	CIRCULAR	1	1		0.00986	0.24	1/1/2013 8:00	0.93	0.07	0.49	0	0.558
stgm4968	stmG11021	stmG11024	40.94	0.013	177.65	177.55	CIRCULAR	1.33	1		0.00244	1.74	1/1/2013 8:01	3.06	0.46	0.44	0	4.165
stgm4967	stiG11127	stmG11024	11.403	0.013	177.77	177.55	CIRCULAR	1	1		0.0193	0.73	1/1/2013 8:00	2.76	0.15	0.44	0	1.8
stgm4966	stmG11024	stiG11133	24.714	0.013	177.36	177.3	CIRCULAR	1.33	1		0.00243	2.47	1/1/2013 8:00	3.26	0.66	0.57	0	5.965
stgm4965	stiG11133	stiG11132	9.09	0.013	177.3	177.3	CIRCULAR	1	1		0	2.33	1/1/2013 8:07	3.79	6.24	0.73	0.01	5.965
stgm4964	stiG11132	stmF11013	39.048	0.013	177.3	177.05	CIRCULAR	1	1		0.0064	2.34	1/1/2013 8:07	3.91	0.82	0.72	0	5.965
stgm4963	stmF11013	stmF11012	15.263	0.013	177.05	177	CIRCULAR	1	1		0.00328	2.74	1/1/2013 8:04	6.7	1.34	0.53	0.01	5.965
stgm4920	stmG10046	stmG11013	283.146	0.013	186.51	184.11	CIRCULAR	1	1		0.00848	4.61	1/1/2013 8:00	5.87	1.81	1	3.51	13.63
stgm4919	stiG10100	stiG10098	13	0.013	186.78	187.93	CIRCULAR	1	1		-0.08881	0.45	1/1/2013 7:05	0.82	0.04	1	0.01	0
stgm4918	stiG10099	stiG10098	185	0.013	189.22	188.44	CIRCULAR	1	1		0.00422	0.82	1/1/2013 8:00	2.24	0.35	1	0.01	1.616
stgm4917	stiG10098	stiG10097	61	0.013	188.24	187.93	CIRCULAR	1	1		0.00508	0.82	1/1/2013 7:59	2.26	0.32	1	0.01	1.616
stgm4916	stiG10097	stmG10047	28.231	0.013	187.73	187.55	CIRCULAR	1	1		0.00638	0.57	1/1/2013 9:14	2.31	0.2	1	0.01	1.616
stgm4915	stiG10096	stmG10047	11.402	0.013	187.74	187.55	CIRCULAR	1	1		0.01667	0.4	1/1/2013 7:03	0.52	0.09	1	0.01	0
stgm4914	stmG10047	stmG10046	145	0.013	187.35	186.71	CIRCULAR	1	1		0.00441	2.01	1/1/2013 7:59	2.56	0.74	1	0.01	1.616
stgm4913	stiG10095	stiG10094	151	0.013	189.43	188.76	CIRCULAR	1	1		0.00444	0.35	1/1/2013 8:00	2.15	0.15	0.26	0	0.691
stgm4912	stiG10094	stiG10093	287	0.013	188.76	187.51	CIRCULAR	1	1		0.00436	0.34	1/1/2013 8:00	2.14	0.15	0.26	0	0.691
stgm4642	stmG10038	E115	110.017	0.013	191.8	191.5	CIRCULAR	1.5	1		0.00273	6.68	1/1/2013 7:59	3.78	1.22	1	0.77	12.636
stgm4423	stiG12154	stiG12209	55.242	0.013	178.54	178.21	CIRCULAR	2.167	1		0.00597	16.33	1/1/2013 8:00	6.22	0.75	0.67	0	28.496
stgm4308	E113	E111	79.306	0.013	179.44	178.99	CIRCULAR	1	1		0.00567	0.33	1/1/2013 8:00	2.32	0.12	0.24	0	0.565
stgm3889	stiF12044	stiF12012	90.874	0.013	179.05	178.05	CIRCULAR	1.5	1		0.011	4.38	1/1/2013 8:00	5.88	0.4	0.44	0	7.558
stgm3884	stiG12153	stiG12152	83.517	0.013	160.18	159.47	CIRCULAR	2.5	1		0.0085	16.33	1/1/2013 8:01	7.42	0.43	0.46	0	28.496
stgm3664	stmF12016	stmF1217	99.755	0.013	175.6	173.88	CIRCULAR	1.5	1		0.01724	4.71	1/1/2013 8:00	5.38	0.58	0.5	0	8.124
stgm3630	stiF12049	stmF12016	13.231	0.013	176.51	176.37	CIRCULAR	1.5	1		0.01058	4.38	1/1/2013 8:00	5.8	0.41	0.44	0	7.558
stgm3600	stiG12209	stiG12203	137.691	0.013	178.11	177.8	CIRCULAR	2.5	1		0.00225	16.33	1/1/2013 8:00	5.47	0.84	0.59	0	28.496
stgm3533	E110	E113	59.744	0.013	179.82	179.44	CIRCULAR	1	1		0.00636	0.33	1/1/2013 8:00	2.36	0.12	0.23	0	0.565
stgm3266	stiG12152	stiG12149	34.837	0.013	159.37	159.05	CIRCULAR	2.5	1		0.00919	16.33	1/1/2013 8:01	7.64	0.42	0.45	0	28.496
stgm3229	E109	E110	126.926	0.013	181.19	179.92	CIRCULAR	1	1		0.01001	0.33	1/1/2013 8:00	2.83	0.09	0.21	0	0.565
stgm3222	E111	E112	104.71	0.013	178.89	177.56	CIRCULAR	1	1		0.0127	0.33	1/1/2013 8:00	3.08	0.08	0.19	0	0.565
stgm3220	stiG12203	stiG12202	107.092	0.013	177.7	177	CIRCULAR	2.5	1		0.00654	16.33	1/1/2013 8:00	6.73	0.49	0.5	0	28.496
stgm3136	stiG12187	stiG12186	65.315	0.013	175.62	175.32	CIRCULAR	2.5	1		0.00459	16.33	1/1/2013 8:00	5.94	0.59	0.55	0	28.496
stgm2929	stiF12012	stiF12049	112.727	0.013	177.96	176.71	CIRCULAR	1.5	1		0.01109	4.38	1/1/2013 8:00	5.9	0.4	0.44	0	7.558
stgm2894	stiG12186	stiG12185	48.749	0.013	175.23	174.94	CIRCULAR	2.5	1		0.00595	16.33	1/1/2013 8:00	8.92	0.52	0.4	0	28.496
stgm2749	stmG11013	E17	214.873	0.013	185.06	184.11	CIRCULAR	1	1		0.00442	4.61	1/1/2013 7:59	6.23	1.95	0.89	0.01	13.63
stgm2272	stiG12201	stiG12187	129.384	0.013	176.36	175.72	CIRCULAR	2.5	1		0.00495	16.33	1/1/2013 8:00	6.06	0.57	0.54	0	28.496
stgm2094	stiG12184	stiG12183	78.986	0.013	173.059	161.1	CIRCULAR	2.5	1		0.15317	16.33	1/1/2013 8:00	11.46	0.11	0.33	0	28.496
stgm1826	stiG12183	stiG12182	153.662	0.013	162.61	161.1	CIRCULAR	2.5	1		0.00983	16.33	1/1/2013 8:01	7.83	0.4	0.44	0	28.496
stgm1801	stiG12202	stiG12201	66.164	0.013	176.9	176.46	CIRCULAR	2.5	1		0.00665	16.33	1/1/2013 8:00	6.71	0.49	0.5	0	28.496
stgm1190	E115	stmG11016	30.224	0.013	191.5	191.4	CIRCULAR	1.5	1		0.00331	6.68	1/1/2013 7:59	3.78	1.11	1	0.52	12.636
stgm1175	stiF12043	stiF12044	27.046	0.013	179.62	179.3	CIRCULAR	1.5	1		0.01183	4.38	1/1/2013 8:00	6.04	0.38	0.43	0	7.558
stgm1138	stmG10020	stmG10038	330.265	0.013	192.3	191.8	CIRCULAR	1.5	1		0.00151	6.67	1/1/2013 8:00	3.78	1.63	1	1.28	12.636
stgm0801	stiG12224	stiF12043	185.842	0.013	181.5	179.72	CIRCULAR	1.5	1		0.00958	4.38	1/1/2013 8:00	5.59	0.43	0.46	0	7.558
stgm0681	E112	stmF12016	37.754	0.013	177.36	176.87	CIRCULAR	1

Conduits Existing 25 Year Storm

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
stgm5560	stmF1210011	stmF1310001	181	0.013	152.42	151.75	CIRCULAR	3	1		0.0037	28.91	1/1/2013 8:00	6.61	0.71	0.59	0	50.323
stgm5557	stmG1210037	stmF1210011	64	0.013	153.32	152.42	CIRCULAR	3	1		0.01406	28.91	1/1/2013 8:00	7.42	0.37	0.54	0	50.323
stgm5556	E38	stmG1210037	23	0.013	153.24	153.32	CIRCULAR	3	1		-0.00348	28.91	1/1/2013 8:00	7.93	0.74	0.51	0	50.323
stgm5551	stmG1210035	E38	271	0.013	154.95	153.57	CIRCULAR	3	1		0.00509	28.91	1/1/2013 8:00	7.06	0.61	0.56	0	50.323
stgm5550	stmG1210034	stmG1210035	55	0.013	155.16	155.08	CIRCULAR	3	1		0.00145	28.92	1/1/2013 8:00	8.09	0.45	0.5	0	50.323
stgm5548	stmG1210033	stmG1210034	113	0.013	158.15	155.83	CIRCULAR	2.5	1		0.02054	5.6	1/1/2013 8:00	3.63	0.1	0.35	0	11.004
stgm5547	stiG1210032	stmG1210033	14	0.013	159.82	159.56	CIRCULAR	1	1		0.01857	5.6	1/1/2013 8:00	7.2	1.15	0.97	0.01	11.004
stgm5090	stmH13021	J13	78.52	0.013	149.4	149.3	CIRCULAR	1	1		0.00127	0.29	1/1/2013 8:35	5.96	0.03	0.11	0	0.931
stgm5080	stmH13017	stiH13054	19.24	0.012	159.69	159.57	CIRCULAR	1	1		0.00624	0.35	1/1/2013 8:01	2.59	0.12	0.23	0	0.931
stgm4496	stiG12279	stiG12278	64.99	0.013	151.69	150.8	CIRCULAR	3	1		0.0137	17.49	1/1/2013 8:00	8.35	0.22	0.34	0	30.552
stgm4495	stiG12281	stiG12280	10.07	0.013	149.69	149.59	CIRCULAR	3	1		0.00993	17.49	1/1/2013 8:00	7.38	0.26	0.37	0	30.552
stgm4494	stiG12277	stiG12281	9.722	0.013	149.89	149.79	CIRCULAR	3	1		0.01029	17.49	1/1/2013 8:00	8.03	0.26	0.35	0	30.552
stgm4318	E107	E106	180.486	0.013	171.07	170.52	CIRCULAR	1	1		0.00305	1.18	1/1/2013 8:00	2.9	0.6	0.51	0	2.014
stgm4073	E105	E104	85.119	0.013	167.91	167.24	CIRCULAR	1	1		0.00787	2.24	1/1/2013 7:58	2.85	0.71	1	0.01	3.689
stgm3670	E100	stiG12129	113.456	0.013	158.27	156.57	CIRCULAR	1.25	1		0.01499	3.42	1/1/2013 8:00	6.21	0.43	0.46	0	5.703
stgm3534	stmG12034	stiG12279	168.987	0.013	153.99	151.69	CIRCULAR	2.5	1		0.01361	17.49	1/1/2013 8:00	9.38	0.37	0.4	0	30.552
stgm3525	stiG12280	stiG12124	167.478	0.013	149.49	147.82	CIRCULAR	3	1		0.00997	21.95	1/1/2013 8:00	12.61	0.33	0.29	0	37.904
stgm3297	E101	E100	29.728	0.013	159.38	158.37	CIRCULAR	1.25	1		0.03399	3.42	1/1/2013 7:59	12.14	0.08	0.29	0	5.703
stgm3129	stiG12128	stiG12110	27.521	0.013	155.15	154.92	CIRCULAR	1.5	1		0.00836	3.42	1/1/2013 8:00	4.57	0.36	0.44	0	5.703
stgm2843	stiG12110	stiG12280	55.473	0.013	154.83	154.46	CIRCULAR	1.5	1		0.00667	4.46	1/1/2013 8:00	4.9	0.52	0.51	0	7.353
stgm2741	stiG12149	stmG12036	135.037	0.013	158.95	157.53	CIRCULAR	2.5	1		0.01052	16.33	1/1/2013 8:01	8.03	0.39	0.43	0	28.496
stgm2310	E103	E102	38.483	0.013	162.43	162.15	CIRCULAR	1.25	1		0.00728	2.24	1/1/2013 7:58	1.83	0.41	1	0.01	3.689
stgm2261	E106	E102	75.389	0.013	170.42	162.4	CIRCULAR	1	1		0.10699	1.18	1/1/2013 8:00	2.36	0.1	0.61	0.01	2.014
stgm2231	E102	E101	86.103	0.013	161.96	159.48	CIRCULAR	1.25	1		0.02881	3.42	1/1/2013 7:58	4.47	0.18	0.6	0.01	5.703
stgm1847	stmG12036	stmG12034	129.398	0.013	157.34	153.99	CIRCULAR	2.5	1		0.0259	17.49	1/1/2013 8:00	10.01	0.26	0.39	0	30.552
stgm1512	stiG12129	stiG12128	123.03	0.013	156.33	155.35	CIRCULAR	1.5	1		0.00797	3.42	1/1/2013 8:00	4.89	0.36	0.42	0	5.703
stgm0887	E104	E103	124.354	0.013	167.14	162.68	CIRCULAR	1	1		0.03589	2.24	1/1/2013 7:58	2.85	0.33	1	0.01	3.689
stgm0564	E108	E105	69.186	0.013	171.19	169.75	CIRCULAR	1	1		0.02082	2.24	1/1/2013 8:00	5.05	0.44	0.73	0.01	3.689
stgm0012	stiG12278	stiG12277	81.671	0.013	150.8	149.98	CIRCULAR	3	1		0.01004	17.49	1/1/2013 8:00	7.96	0.26	0.35	0	30.552
stgm5439	stmH10031	stmH10032	48.8	0.013	171	166.5	CIRCULAR	1	1		0.09261	2.52	1/1/2013 8:01	9.26	0.56	0.38	0	6.592
stgm5438	E42	E54	61	0.013	179.84	178.95	CIRCULAR	1.25	1		0.01459	0.8	1/1/2013 8:00	4.1	0.1	0.22	0	1.907
stgm5437	stiH10069	E42	4.6	0.013	183.27	180.21	CIRCULAR	2	1		0.89094	0	1/1/2013 0:00	0	0	0	0	0
stgm5435	stcoH1004	stmH10033	74.2	0.013	181.92	180.04	CIRCULAR	1	1		0.02535	0.8	1/1/2013 8:00	3.27	6.14	0.35	0.01	1.907
stgm5434.1	E56	E57	34.8	0.013	171.91	171.91	CIRCULAR	1.5	1		0	0.8	1/1/2013 8:02	0.92	1.43	0.49	0.01	6.592
stgm5433	E52	E55	113	0.013	174.2	171.91	CIRCULAR	2	1		0.02027	0	1/1/2013 0:00	0	0	0.19	0	4.685
stgm5432	E51	E53	113	0.013	174.2	171.91	CIRCULAR	2	1		0.02027	0	1/1/2013 0:00	0	0	0.19	0	4.685
stgm5431	E50	E56	113	0.013	174.2	171.91	CIRCULAR	2	1		0.02027	0	1/1/2013 0:00	0	0	0.19	0	4.685
stgm5430	stmH10035	E57	113	0.013	171.95	171.91	CIRCULAR	2	1		0.00035	1.74	1/1/2013 8:00	1.6	0.41	0.38	0	4.685
stgm5429.1	E51	E52	29.4	0.013	174.2	171.95	CIRCULAR	2	1		0.07676	0	1/1/2013 0:00	0	0	0	0	4.685
stgm5428	stmH10034	stmH10035	20.5	0.013	176.4	174.37	CIRCULAR	1.5	1		0.09951	1.74	1/1/2013 8:00	9.9	0.05	0.16	0	4.685
stgm5427	stiH10070	stiH10071	5	0.013	177.12	176.84	CIRCULAR	1.5	1		0.05609	1.74	1/1/2013 8:00	6.22	0.07	0.22	0	4.685
stgm5426	stiH10071	stmH10034	15	0.013	176.84	176.6	CIRCULAR	1.5	1		0.016	1.74	1/1/2013 8:00	5.2	0.13	0.24	0	4.685
stgm4507	stmI11048	stmI11056	43.624	0.013	189.85	189.59	CIRCULAR	3	1		0.00596	9.29	1/1/2013 7:59	5.52	0.18	0.85	0	21.441
stgm4478	E94	E95	85.797	0.013	166.56	165.19	CIRCULAR	1	1		0.01597	1.04	1/1/2013 8:00	4.66	0.23	0.33	0	1.65
stgm4443	stiH11099	stiH11100	114.672	0.013	198.66	198.09	CIRCULAR	1.75	1		0.00497	4.86	1/1/2013 8:00	5.01	0.37	0.42	0	8.479
stgm4428	stiH11111	stiH11110	19.136	0.013	194.24	194.1	CIRCULAR	1.5	1		0.00732	1.78	1/1/2013 8:00	3.96	0.2	0.3	0	3.102
stgm4329	E80	E81	220.246	0.013	186.37	182.78	CIRCULAR	1	1		0.0163	1.86	1/1/2013 8:02	5.5	0.41	0.45	0	3.234
stgm4309	E87	E88	109.137	0.013	170.85	169.36	CIRCULAR	1	1		0.01365	1.86	1/1/2013 8:03	5.15	0.45	0.47	0	3.234
stgm4287	stiH12044	stmH12034	60.313	0.013	172.84	172.41	CIRCULAR	2.5	1		0.00713	16.1	1/1/2013 8:01	6.93	0.46	0.48	0	28.114
stgm4257	E67	E68	164.59	0.013	210.4	206.5	CIRCULAR	1	1		0.0237	2.01	1/1/2013 8:00	4.7	0.37	0.53	0	3.757
stgm4237	stiH11118	stiH11120	76.205	0.013	188.12	187.44	CIRCULAR	2	1		0.00892	16.1	1/1/2013 8:00	7.47	0.75	0.65	0	28.114
stgm4216	stiH11043	stmH11041	88.232	0.013	191.98	189.74	CIRCULAR	2	1		0.0254	4.86	1/1/2013 8:01	6.57	0.13	0.29	0	8.479
stgm4154	stmI11053	stiI11111	111.52	0.013	197.28	196.61	CIRCULAR	2	1		0.00601	6.61	1/1/2013 8:00	5.19	0.38	0.43	0	11.64
stgm4143	E71	E72	67.902	0.013	202.28	201.95	CIRCULAR	1	1		0.00486	4.86	1/1/2013 7:59	6.29	1.96	0.95	0.01	8.479
stgm4132	E61	stmI11048	59.303	0.013	197.41	197.04	CIRCULAR	1	1		0.00624	0.37	1/1/2013 8:00	2.48	0.13	0.25	0	0.637
stgm4074	E90	E91	21.787	0.013	169.03	168.54	CIRCULAR	1	1		0.0225	1.04	1/1/2013 7:15	5.27	0.2	0.3	0	1.65
stgm4051	E91	E92	23.521	0.013	168.44	168.21	CIRCULAR	1	1		0.00978	1.04	1/1/2013 7:15	3.91	0.3	0.37	0	1.65
stgm4045	E58	stmI111	317.286	0.013	214.75	212.84	CIRCULAR	1.25	1		0.00602	5.95	1/1/2013 8:00	4.85	1.18	1	0.76	14.483
stgm4042	E72	E73	24.573	0.013	201.7	201.39	CIRCULAR	1.25	1		0.01262	4.86	1/1/2013 8:00	6.34	0.67	0.6	0	8.479
stgm3893	stiH11124	stiH11125	91.38	0.013	183.99	183.3	CIRCULAR	2.167	1		0.00755	16.1	1/1/2013 8:00	7.05	0.66	0.59	0	28.114
stgm3890	stiH11036	stiH11043	125.876	0.013	195	192.08	CIRCULAR	2	1		0.0232	4.86	1/1/2013 8:01	7.75	0.14	0.25	0	8.479
stgm3858	stiH11104	stiH11036	62.286	0.013	195.4	195.1	CIRCULAR	2	1		0.00482	4.86	1/1/2013 8:01	4.4	0.31	0.38	0	8.479
stgm3793	stiH12055	stiH12054	91.316	0.013	177.01	176.41	CIRCULAR	2.5	1		0.00657	16.1	1/1/2013 8:01	6.72	0.48	0.49	0	28.114
stgm3772	stiH11100	stiH11103	133.544	0.013	197.99	197.22	CIRCULAR	1.5	1		0.00577	4.86	1/1/2013 8:01	4.73	0.61	0.56	0	8.479
stgm3720	stiI11108	stiI11016	94.792	0.013	186.96	185.48	CIRCULAR	3	1		0.01562	18.69	1/1/2013 7:54	6.74	0.22	1	0.01	37.712
stgm3677	E85	E86	81.834	0.013	173.56	172.25	CIRCULAR	1	1		0.01601	1.86	1/1/2013 8:03	5.46	0.41	0.45	0	3.234
stgm3661	E82	E83	58.912	0.013	178.71	177.46	CIRCULAR	1	1		0.02122	1.86	1/1/2013 8:02	6.06	0.36	0.41	0	3.234
stgm3491	stmI11039	E45	196.431	0.013	204.6	202.49	CIRCULAR	1.75	1		0.01074	8.41	1/1/2013 8:00	6.49	0.49	0.53	0	13.931
stgm3467	stmI11029	stiI11067	57.281	0.013	201.53	200.98	CIRCULAR	2	1		0.0096	8.41	1/1/2013 8:00	6.53	0.38	0.43	0	13.931
stgm3397	stiI11152	stmI11047	57.342	0.013	194.24	195.39	CIRCULAR	2.42	1		-0.02006	8.93	1/1/2013 8:00	3.09	0.17	0.6	0	20.804
stgm3363	E114	stiI11272	80.449	0.013	187.02	186.6	CIRCULAR	1	1		0.00522	4.43	1/1/2013 7:59	5.64	1.72	1	1.29	7.766
stgm3332	stiI11016	stmI11020	78.645	0.013	185.38	184.74	CIRCULAR	3	1		0.00814	18.69	1/1/2013 7:54	5.79	7.86	1	2.95	37.712
stgm3307	stiH12077	stiH12078	126.596	0.013	160.29	159.27	CIRCULAR	2.5	1		0.00806	17.96	1/1/2013 8:03	7.45	0.49	0.49	0	31.348
stgm3235	stiH11110	stmH11041	15.656	0.013	194	190.25	CIRCULAR	1.5	1		0.24671	1.78	1/1/2013 8:00	13.65	0.03	0.13	0	3.102
stgm3188	stmI11052	stiI11279	74.46	0.013	194.85	194.33	CIRCULAR	2	1		0.00698	6.61	1/1/2013 8:00	5.48	0.35	0.41	0	11.64
stgm3162	E73	stiH11095	184.68	0.013	201.19	200.34	CIRCULAR	2	1		0.0046	4.86	1/1/2013 8:00	4.33	0.32	0.39	0	8.479
stgm3146	E83	E84	61.233	0.013	177.36	176.44	CIRCULAR	1	1		0.01503	1.86	1/1/2013 8:03	5.34	0.43	0.46	0	3.234
stgm3133	E64	E63	175.718	0.013	199.61	197.53	CIRCULAR	1	1		0.01184	2.66	1/1/2013 8:00	5.32	0.69	0.61	0	4.631
stgm3055	stmH12035	stiH12099	288.621	0.013	167.91	165.62	CIRCULAR	2.5	1		0.00793	16.1	1/1/2013 8:02	7.21	0.44	0.46	0	28.114
stgm2993	stiH11103	stiH11104	56.728	0.013	197.13	195.65	CIRCULAR	1.5	1		0.0261	4.86	1/1/2013 8:01	8.28	0.29	0.37	0	8.479
stgm2915	E92	E93	46.112	0.013	168.11	167.39	CIRCULAR	1	1		0.01562	1.04	1/1/2013 7:15	4.63	0.23	0.33	0	1.65
stgm2869	stmH11041	stiH11117	38.383	0.013	189.64	189.05	CIRCULAR	2	1		0.01537	6.63	1/1/2013 8:00	4.56	0.24	0.47	0	11.581
stgm2685	E84	E85	174.281	0.013	176.34	173.65	CIRCULAR	1	1		0.01544	1.86	1/1/2013 8:03	5.39	0.42	0.45	0	3.234
stgm2655	stiH11126	stiH12047	117.918	0.013	182.42	181.542	CIRCULAR	2.167	1		0.00745	16.1	1/1/2013 8:01	7.01	0.67	0.6	0	28.114
stgm2631	stmI11030	stmL1131	177.829	0.013	197.62	195.01	CIRCULAR	2	1		0.01468	8.41	1/1/2013 8:01	7.67	0.31	0.38	0	13.931
stgm2552	stiI11150	stiI11151	97.203	0.013	195.24	194.75	CIRCULAR	2.42	1		0.00504	8.93	1/1/2013 8:00	2.98	0.33	0.62	0	20.804
stgm2548	stiG12122	stiG12123	144.045	0.013	157.92	156	CIRCULAR	2.5	1		0.01333	17.96	1/1/2013 8:03	8.98	0.38	0.43	0	31.348
stgm2513	stiH11112	stiH11111	55.702	0.013	194.65	194.24	CIRCULAR	1.5	1		0.00736	1.78	1/1/2013 8:00	3.96	0.2	0.3	0	3.102
stgm2504	E62	E61	129.822	0.013	198.16	197.52	CIRCULAR	1	1		0.00493	0.37	1/1/2013 8:00	2.33	0.15	0.26	0	0.637
stgm2479	J10	E114	31.198	0.013	187.25	187.12	CIRCULAR	1	1		0.00417	4.44	1/1/2013 7:59	5.65	1.93	1	1.86	7.766
stgm2420	E97	E98	199.59	0.013	162.7	160.2	CIRCULAR	1	1		0.01253	1.04	1/1/2013 8:00	4.27	0.26	0.35	0	1.65
stgm2418	stiH12059	stiH12057	74.21	0.013	180.29	178.05	CIRCULAR	2.167	1		0.0302	16.1	1/1/2013 8:01	10.54	0.33	0.43	0	28.114
stgm2415	stmH11042	stiH11124	121.261	0.013	185.01	184.09	CIRCULAR	2.167	1		0.00759	16.1	1/1/2013 8:00	7.07	0.66	0.59	0	28.114
stgm2396	E79	E80	276.842	0.013	190.75	186.46	CIRCULAR	1	1		0.0155	1.86	1/1/2013 8:01	5.4	0.42	0.45	0	3.234
stgm2389	E60	stmI11045	72.231	0.013	207.89	206.02	CIRCULAR	1.25	1		0.0259	8.31	1/1/2013 8:00	9.41	0.8	0.68	0	15.278
stgm2379	stiH11095	stiH11097	85.969	0.013	200.09	199.67	CIRCULAR	1.5	1		0.00489	4.86	1/1/2013 8:00	4.62	0.66	0.58	0	8.479
stgm2324	stiH11125	stiH11126	90.832	0.013	183.21	182.52	CIRCULAR	2.167	1		0.0076	16.1	1/1/2013 8:00	7.07	0.66	0.59	0	28.114
stgm2186	E93	E94	45.635	0.013	167.29	166.56	CIRCULAR	1	1		0.016	1.04	1/1/2013 7:15	4.67	0.23	0.33	0	1.65
stgm2166	stiI11067	E47	191.106	0.013	200.98	199.19	CIRCULAR	2	1		0.00937	8.41	1/1/2013 8:00	6.5	0.38	0.43	0	13.931
stgm2151	stiI11149	stmL1146	142.352	0.013	197.97	195.8	CIRCULAR	2.167	1		0.01525	8.3	1/1/2013 8:00	7.16	0.95	0.35	0	15.278
stgm2092	stiH12102	stiH12077	85.821	0.013	161.07	160.39	CIRCULAR	2.5	1		0.00792	17.96	1/1/2013 8:03	7.41	0.49	0.5	0	31.348
stgm2088	E66	J10	120.449	0.013	187.96	187.35	CIRCULAR	1	1		0.00506	4.43	1/1/2013 7:59	5.64	1.75	1	1.59	7.766
stgm2014	stmH12034	stmH12035	104.489	0.013	168.73	168.01	CIRCULAR	2.5	1		0.00689	16.1	1/1/2013 8:02	6.84	0.47	0.48	0	28.114
stgm2005	E88	E89	41.416	0.013	169.16	168.67	CIRCULAR	1	1		0.01183	1.86	1/1/2013 8:04	4.88	0.48	0.49	0	3.234
stgm1970	E68	STMI1141	196.019	0.013	206.5	205.4	CIRCULAR	1	1		0.00561	2.01	1/1/2013 8:00	3.87	0.75	0.63	0	3.757
stgm1886	stiH11097	stiH11099	130.358	0.013	199.57	198.91	CIRCULAR	1.5	1		0.00506	4.86	1/1/2013 8:00	4.63	0.65	0.57	0	8.479
stgm1863	stmJ11002	stmI11039	195.328	0.013	206.6	204.6	CIRCULAR	1.75	1		0.01024	8.41	1/1/2013 8:00	6.77	0.55	0.51	0	13.931
stgm1821	E95	E97	195.883	0.013	165.09	162.8	CIRCULAR	1	1		0.01169	1.04	1/1/2013 8:00	4.17	0.27	0.36	0	1.65
stgm1820	stiI11148	stiI11149	116.46	0.013	199.49	198.22	CIRCULAR	2	1		0.01091	8.3	1/1/2013 8:00	6.76	0.35	0.41	0	15.278
stgm1809	stiI11145	stiI11148	208.3	0.013	202.22	199.59	CIRCULAR	2	1		0.01263	8.3	1/1/2013 8:00	7.24	0.33	0.39	0	15.278
stgm1802	E74	E75	163.803	0.013	203.31	202.49	CIRCULAR	1	1		0.00501	1.86	1/1/2013 8:00	3.73	0.73	0.61	0	3.234
stgm1791	E98	E99	112.544	0.013	160.11	158.79	CIRCULAR	1	1		0.01173	1.04	1/1/2013 8:00	4.17	0.27	0.35	0	1.65
stgm1781	stiH12057	stiH12055	116.707	0.013	177.8	177.11	CIRCULAR	2.5	1		0.00591	16.1	1/1/2013 8:01	6.46	0.51	0.51	0	28.114
stgm1737	stmI11056	stiI11108	209.92	0.013	188.81	187.06	CIRCULAR	2.92	1		0.00834	18.49	1/1/2013 7:55	7.5	0.33	1	0.01	37.712
stgm1721	stiI11279	stmI11049	112.774	0.013	194.019	193.45	CIRCULAR	2	1		0.00505	9.27	1/1/2013 8:00	5.31	0.58	0.54	0	16.271
stgm1716	E48	stmI11030	55.317	0.013	198.34	197.83	CIRCULAR	2	1		0.00922	8.41	1/1/2013 8:01	6.47	0.39	0.43	0	13.931
stgm1694	stmI11045	stiI11145	137.175	0.013	205.08	202.32	CIRCULAR	2	1		0.02012	8.31	1/1/2013 8:00	8.57	0.26	0.35	0	15.278
stgm1683	stiH12101	stiH12102	109.5	0.013	162.06	161.17	CIRCULAR	2.5	1		0.00813	17.96	1/1/2013 8:02	7.48	0.49	0.49	0	31.348
stgm1677	E45	stmI11029	114.004	0.013	202.49	201.64	CIRCULAR	1.75	1		0.00746	8.41	1/1/2013 8:00	5.98	0.61	0.57	0	13.931
stgm1515	E86	E87	74.235	0.013	172.16	170.95	CIRCULAR	1	1		0.0163	1.86	1/1/2013 8:03	5.5	0.41	0.45	0	3.234
stgm1498	E81	E82	311.83	0.013	182.38	178.81	CIRCULAR	1	1		0.01145	1.86	1/1/2013 8:02	4.82	0.49	0.49	0	3.234
stgm1406	stiI11111	stmI11052	98.72	0.013	196.51	195.05	CIRCULAR	2	1		0.01479	6.61	1/1/2013 8:00	7.2	0.24	0.33	0	11.64
stgm1385	E70	E71	38.155	0.013	202.54	202.477	CIRCULAR	1	1		0.00165	4.86	1/1/2013 8:00	6.19	3.36	1	1.06	8.479
stgm1352	E78	E79	279.989	0.013	195.01	190.85	CIRCULAR	1	1		0.01486	1.86	1/1/2013 8:01	5.32	0.43	0.46	0	3.234
stgm1183	stmI11054	stmI11053	66.26	0.013	197.93	197.53	CIRCULAR	1.75	1		0.00604	6.61	1/1/2013 8:00	5.21	0.54	0.52	0	11.64
stgm1049	E77	E78	256.218	0.013	199.11	195.11	CIRCULAR	1	1		0.01561	1.86	1/1/2013 8:01	5.41	0.42	0.45	0	3.234
stgm0947	E89	stiH12099	42.155	0.013	164.17	163.96	CIRCULAR	1.25	1		0.00498	1.86	1/1/2013 8:04	3.61	0.41	0.44	0	3.234
stgm0931	stiH12047	stiH12059	141.929	0.013	181.44	180.38	CIRCULAR	2.167	1		0.00747	16.1	1/1/2013 8:01	7.02	0.67	0.6	0	28.114
stgm0918	stiH11117	stiH11118	73.165	0.013	188.95	188.22	CIRCULAR	2	1		0.00998	16.1	1/1/2013 8:00	7.81	0.71	0.62	0	28.114
stgm0879	stmI11049	stmI11056	97.349	0.013	192.52	191.89	CIRCULAR	2	1		0.00647	9.27	1/1/2013 8:01	5.82	0.51	0.51	0	16.271
stgm0877	stiH12078	stiG12122	143.263	0.013	159.18	158.02	CIRCULAR	2.5	1		0.0081	17.96	1/1/2013 8:03	7.47	0.49	0.49	0	31.348
stgm0829	stiH12099	stiH12101	69.254	0.013	162.71	162.16	CIRCULAR	2.5	1		0.00794	17.96	1/1/2013 8:02	7.41	0.49	0.49	0	31.348
stgm0756	stiH11120	stmH11042	49.453	0.013	187.28	185.26	CIRCULAR	2	1		0.04088	16.1	1/1/2013 8:00	11.3	0.35	0.46	0	28.114
stgm0754	E75	E76	154.277	0.013	202.4	201.62	CIRCULAR	1	1		0.00506	1.86	1/1/2013 8:00	3.71	0.74	0.61	0	3.234
stgm0669	E63	stiI11279	43.913	0.013	197.53	197.01	CIRCULAR	1	1		0.01184	2.66	1/1/2013 8:00	5.32	0.69	0.61	0	4.631
stgm0665	stmI11047	stmI11048	134.816	0.013	193.43	192.72	CIRCULAR	2.5	1		0.00527	8.93	1/1/2013 8

Conduits Existing 25 Year Storm

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
stgm0123	stiI11151	stiI11152	57.316	0.013	194.65	194.34	CIRCULAR	2.42	1		0.00541	8.93	1/1/2013 8:00	2.2	0.32	0.82	0	20.804
stgm0020	E76	E77	245.153	0.013	201.53	199.23	CIRCULAR	1	1		0.00938	1.86	1/1/2013 8:00	4.48	0.54	0.52	0	3.234
stgm5242	stiI15014	stmI15004	15.5	0.013	162.62	162.57	CIRCULAR	1	1		0.00323	0.13	1/1/2013 7:58	0.16	0.06	1	0.52	0.268
stgm5241	stiI15013	stiI15014	28.82	0.013	162.76	162.62	CIRCULAR	1	1		0.00486	0.12	1/1/2013 7:58	0.33	0.05	1	0.01	0.268
stgm5240	stiI15012	stiI15013	29.26	0.013	163.12	162.96	CIRCULAR	1	1		0.00547	0.12	1/1/2013 7:59	0.85	0.05	1	0.01	0.268
stgm5239	stiI15011	stmI15004	89.59	0.013	163.02	162.57	CIRCULAR	1	1		0.00502	0.03	1/1/2013 2:44	0.37	0.01	1	0.01	0.507
stgm5238	stiI15010	stiI15011	132.09	0.013	163.88	163.22	CIRCULAR	1	1		0.005	0.23	1/1/2013 7:59	1.06	0.09	1	0.01	0.507
stgm5236	stiI15008	OF1	36.23	0.013	163.82	162.03	CIRCULAR	1	1		0.04947	1.11	1/1/2013 8:00	7.11	0.14	0.25	0	2.464
stgm5235	stiI15007	stiI15008	101.13	0.013	166.14	164.02	CIRCULAR	1	1		0.02097	1.11	1/1/2013 8:00	5.23	0.21	0.31	0	2.464
stgm5234	stiI15006	stiI15007	33.84	0.013	166.96	166.34	CIRCULAR	1	1		0.01832	1.11	1/1/2013 8:00	4.98	0.23	0.33	0	2.464
stgm5006	E29	J4974	33	0.013	155.48	155.28	CIRCULAR	1.5	1		0.00606	1.11	1/1/2013 8:00	1.27	0.06	0.49	0	3.316
stgm5005	stmI15003	J4974	35	0.013	156.03	155.53	CIRCULAR	1	1		0.01429	0.14	1/1/2013 8:01	0.44	0.04	0.43	0	0.307
stgm5004	stiI15004	stmI15003	348	0.013	162.19	156.28	CIRCULAR	1	1		0.01699	0.14	1/1/2013 8:00	1.08	0.03	0.24	0	0.307
stgm4954	stmI12036	STII1245	8	0.013	165.95	165.84	CIRCULAR	1	1		0.01375	1.9	1/1/2013 8:00	5.19	0.45	0.47	0	4.965
stgm4953	stmI12035	stmI12036	39.274	0.013	166.03	165.95	CIRCULAR	1	1		0.00204	1.9	1/1/2013 8:00	4.24	1.18	0.55	0.01	4.965
stgm4952	stiI12052	STMI128	31.113	0.013	176.75	176.16	CIRCULAR	1	1		0.01897	0.53	1/1/2013 8:00	4.08	0.11	0.22	0	0.935
stgm1618	E44	stmJ11002	38.011	0.013	209.6	206.6	CIRCULAR	1.5	1		0.07917	8.71	1/1/2013 7:57	9.96	0.29	0.5	0	13.931
stgm0949	E43	E44	16.76	0.013	209.7	209.6	CIRCULAR	1.5	1		0.00597	9.51	1/1/2013 7:51	8.93	1.17	0.58	0.01	13.931
stgm2392	stmJ11001	E43	247.064	0.013	210.2	209.7	CIRCULAR	1.5	1		0.00202	8.41	1/1/2013 7:59	5.04	1.78	0.9	0.01	13.931
stgm5691	stmF0610006	stoF0610007	36.874	0.013	236.26	236.22	CIRCULAR	1	1		0.00108	8.97	1/1/2013 8:00	11.42	48.33	1	2.67	33.089
stgm5692	stiF0610005	stmF0610006	24.614	0.013	237.77	236.98	CIRCULAR	1	1		0.03211	8.97	1/1/2013 8:00	11.42	1.4	1	2.48	33.089
stgm5693	stiG0610001	stiF0610004	81.53	0.013	245.69	241.92	CIRCULAR	1	1		0.04629	0.2	1/1/2013 8:00	3.55	0.03	0.12	0	0.458
stgm5694	stiF0610004	stiF0610005	205.635	0.013	241.57	237.87	CIRCULAR	1	1		0.018	0.19	1/1/2013 8:00	1.11	0.04	0.57	0.01	0.458
stgm5695	E1	stiF0610005	30.384	0.013	237.91	237.87	CIRCULAR	1	1		0.00132	8.77	1/1/2013 8:00	11.17	6.79	1	2.96	32.631
stgm5166	stiF07038	stmF07021	61.96	0.012	213.96	213.77	CIRCULAR	1.67	1		0.00307	6	1/1/2013 8:09	4.69	0.72	0.57	0	16.02
stgm5167	stmF07021	E33	10.09	0.012	213.38	213.45	CIRCULAR	1.67	1		-0.00694	6	1/1/2013 8:09	5.18	0.48	0.52	0	16.02
stgm5168	stmF07022	stiF07038	45.29	0.012	215.31	215	CIRCULAR	1.67	1		0.00684	6.57	1/1/2013 8:01	5.79	0.52	0.51	0	16.02
stgm5169	stmF07023	stmF07022	80.65	0.012	215.9	215.56	CIRCULAR	1.67	1		0.00422	6.57	1/1/2013 8:01	4.97	0.67	0.58	0	16.02
stgm5170	stiF07040	stmF07023	30.52	0.012	216.4	215.56	CIRCULAR	1.67	1		0.02753	6.63	1/1/2013 8:00	6.06	0.31	0.52	0	16.02
stgm5171	stiF07054	stiF07040	1	0.013	216.67	216.65	CIRCULAR	1	1		0.02	1.55	1/1/2013 8:01	3.54	0.31	0.56	0	1.706
stgm5172	stiF07055	stiF07054	32.2	0.013	217.01	216.89	CIRCULAR	1	1		0.00373	0.24	1/1/2013 7:45	1.61	0.11	0.29	0	0.431
stgm5173	stiF07045	stiF07040	113.7	0.013	217.25	216.75	CIRCULAR	1.25	1		0.0044	4.01	1/1/2013 8:01	4.41	0.94	0.7	0	9.841
stgm5174	stiF07048	stiF07045	84.9	0.013	218.8	217.45	CIRCULAR	1	1		0.0159	0.98	1/1/2013 8:01	2.78	0.22	0.52	0	2.346
stgm5175	stiF07044	stiF07048	35.6	0.013	219.45	219.13	CIRCULAR	1	1		0.00899	0.98	1/1/2013 8:01	3.73	0.29	0.37	0	2.346
stgm5176	stiF07043	stiF07044	40.6	0.013	222.85	219.13	CIRCULAR	1	1		0.09201	0.98	1/1/2013 8:01	5.23	0.1	0.29	0	2.346
stgm5177	stiF07046	stiF07045	35.3	0.013	217.64	217.4	CIRCULAR	1.25	1		0.0068	3.03	1/1/2013 8:01	3.98	0.57	0.6	0	7.496
stgm5178	stiF07042	stiF07043	244.6	0.013	234.09	222.95	CIRCULAR	1	1		0.04559	0.98	1/1/2013 8:01	6.68	0.13	0.24	0	2.346
stgm5179	stmF07024	stiF07042	248.8	0.013	239	234.09	CIRCULAR	1	1		0.01974	0.99	1/1/2013 8:00	5.53	0.2	0.28	0	2.346
stgm5180	stiF06006	stmF07024	232.1	0.013	240.1	239.1	CIRCULAR	1	1		0.00431	0.99	1/1/2013 8:00	2.98	0.42	0.44	0	2.346
stgm5181	stiF07047	stiF07046	38.5	0.013	218.09	217.79	CIRCULAR	1.25	1		0.00779	3.03	1/1/2013 8:01	4.72	0.53	0.52	0	7.496
stgm5182	stiF07051	stiF07047	35.7	0.013	218.4	218.14	CIRCULAR	1	1		0.00728	0.43	1/1/2013 8:00	1.46	0.14	0.47	0	1.012
stgm5183	stmF07025	stiF07047	345.3	0.013	228.21	218.29	CIRCULAR	1	1		0.02874	2.61	1/1/2013 8:01	7.41	0.43	0.46	0	6.483
stgm5184	stiF07052	stmF07025	86.5	0.013	228.79	228.39	CIRCULAR	1	1		0.00462	2.61	1/1/2013 8:01	4.07	0.76	0.76	0.01	6.483
stgm5185	stiF06005	stiF07052	35.3	0.013	229.47	229.21	CIRCULAR	1	1		0.00737	0.3	1/1/2013 8:00	2.34	0.1	0.31	0	0.714
stgm5690	stiH1010058	stmH1010057	14	0.013	195	191.12	CIRCULAR	1	1		0.28844	1.53	1/1/2013 8:00	13.9	0.08	0.2	0	3.233
stgm5670	stiH1010017	stiH1010019	56	0.013	186.24	179.42	CIRCULAR	1	1		0.1227	0.36	1/1/2013 8:00	7.13	0.03	0.11	0	0.741
stgm5686	stmH10028	stmH1010052	227	0.013	186.83	179.82	CIRCULAR	1	1		0.0309	1.53	1/1/2013 8:00	6.58	0.24	0.34	0	3.233
stgm5687	stmH1010052	stmH1010051	148	0.013	179.52	168	CIRCULAR	1	1		0.07807	1.53	1/1/2013 8:00	9.17	0.15	0.27	0	3.233
stgm5667	stiH10023	stmH1010016	37	0.013	193.33	192.59	CIRCULAR	1	1		0.02	0.21	1/1/2013 8:00	2.1	0.04	0.19	0	0.43
stgm5671	stiH1010019	stmH1010015	42	0.013	179.22	177.66	CIRCULAR	1	1		0.03717	0.36	1/1/2013 8:00	7.86	0.02	0.11	0	0.741
stgm5669	stmH1010016	stiH1010017	70	0.013	192.49	186.44	CIRCULAR	1	1		0.08675	0.36	1/1/2013 8:00	2.67	2.64	0.23	0.01	0.741
stgm5668	stiH1010018	stmH1010016	42	0.013	193.23	192.59	CIRCULAR	1	1		0.01524	0.15	1/1/2013 8:00	1.53	0.03	0.18	0	0.312
stgm5685	stmH1010051	stmH1010049	144	0.013	167.8	160.8	CIRCULAR	1	1		0.04867	1.53	1/1/2013 8:00	7.75	0.19	0.3	0	3.233
stgm5689	stmH1010057	stmH10028	248	0.013	190.92	187.2	CIRCULAR	1	1		0.015	1.53	1/1/2013 8:00	5.06	0.35	0.41	0	3.233
stgm5089	stmH13020	stmH13021	51	0.012	156.51	149.72	CIRCULAR	1	1		0.13433	0.29	1/1/2013 8:34	3.78	0.08	0.15	0	0.931
stgm5088	stiH13054	stmH13020	92.36	0.012	157.01	156.61	CIRCULAR	1	1		0.00433	0.29	1/1/2013 8:34	1.55	2.3	0.29	0.01	0.931
stgm5086	stmH13019	stmH13018	105	0.012	161.06	160.48	CIRCULAR	1	1		0.00552	0.35	1/1/2013 8:00	2.48	0.12	0.24	0	0.931
stgm5087	stmH13018	stmH13017	74	0.012	160.29	159.74	CIRCULAR	1	1		0.00743	0.35	1/1/2013 8:00	2.75	0.11	0.22	0	0.931
stgm5084	stiH13057	stmH13019	33.19	0.012	161.34	161.27	CIRCULAR	1	1		0.00211	0.35	1/1/2013 8:00	2.11	0.2	0.26	0	0.931
stgm5200	stiF07057	stiF07040	158.2	0.013	217.03	216.75	CIRCULAR	1.25	1		0.00177	1.86	1/1/2013 8:00	2.94	0.68	0.51	0	4.472
stgm5201	stiF07058	stiF07057	71.8	0.013	217.85	217.45	CIRCULAR	1	1		0.00557	1.09	1/1/2013 8:00	3.26	0.41	0.44	0	2.639
stgm5202	stiF07059	stiF07058	35.5	0.013	218.32	218.05	CIRCULAR	1	1		0.00761	1.1	1/1/2013 8:00	3.61	0.35	0.41	0	2.639
stgm5203	stiF07061	stiF07060	35.1	0.013	218.23	218.08	CIRCULAR	1	1		0.00427	0.25	1/1/2013 8:00	2.05	0.11	0.21	0	0.59
stgm5204	stiF07060	stiF07057	61.9	0.013	217.93	217.43	CIRCULAR	1	1		0.00808	0.77	1/1/2013 8:00	3.34	0.24	0.34	0	1.833
stgm5205	stiF06000	stmF06000	28	0.013	243.17	241.54	CIRCULAR	1	1		0.05831	0.31	1/1/2013 8:00	5.17	0.04	0.13	0	0.728
stgm5206	stmF06000	stiF06001	85	0.013	241.42	236.6	CIRCULAR	1	1		0.0568	0.31	1/1/2013 8:00	5.12	0.04	0.13	0	0.728
stgm5207	stiF06002	stiF06001	38	0.013	242.53	236.63	CIRCULAR	1	1		0.15717	0.32	1/1/2013 8:00	7.37	0.02	0.1	0	0.751
stgm5208	stiF06001	stiF06003	35	0.013	236.4	236.03	CIRCULAR	1	1		0.01057	0.63	1/1/2013 8:00	3.48	0.17	0.28	0	1.479
stgm5209	stiF06003	stiF06004	38	0.013	235.7	230.42	CIRCULAR	1	1		0.14031	0.63	1/1/2013 8:00	3.09	0.05	0.37	0	1.479
stgm5210	stiF06004	stiF07052	218.8	0.013	230.35	228.79	CIRCULAR	1	1		0.00713	2.32	1/1/2013 8:00	3.69	0.77	0.74	0	5.769
stgm5211	stiF06008	stiF06007	61.62	0.013	231.98	231.78	CIRCULAR	1	1		0.00325	1.7	1/1/2013 8:00	3.43	0.84	0.6	0	4.29
stgm5212	stiF06007	stiF07064	37.5	0.013	231.68	231.44	CIRCULAR	1	1		0.0064	1.7	1/1/2013 8:00	3.8	0.59	0.55	0	4.29
stgm5213	stiF07064	stiF06004	146.5	0.013	231.24	230.65	CIRCULAR	1	1		0.00403	1.69	1/1/2013 8:00	3.44	0.75	0.6	0	4.29
stgm5215	stiF07063	stiF07062	71.1	0.013	219.69	219.2	CIRCULAR	1	1		0.00689	0.52	1/1/2013 8:00	2.83	0.18	0.28	0	1.243
stgm5216	stiF07062	stiF07060	173.3	0.013	218.95	218.08	CIRCULAR	1	1		0.00502	0.52	1/1/2013 8:00	2.57	0.2	0.3	0	1.243
stgm5284	stiG10105	stiG10104	33	0.013	193.76	193.61	CIRCULAR	1	1		0.00455	0.86	1/1/2013 8:00	2.96	0.36	0.4	0	1.643
stgm5285	stiG10104	stmG10050	55	0.013	193.51	193.27	CIRCULAR	1	1		0.00436	0.86	1/1/2013 8:00	2.92	0.36	0.4	0	1.643
stgm5286	stmG10050	stmG10049	119	0.013	193.07	192.57	CIRCULAR	1	1		0.0042	0.86	1/1/2013 8:00	2.39	0.37	0.47	0	1.643
stgm5302	stiG10103	stmG10049	58	0.013	192.74	192.67	CIRCULAR	1	1		0.00121	1.18	1/1/2013 8:00	2.78	0.95	0.53	0	2.493
stgm5289	stiG09110	stiG10105	132	0.013	194.47	193.86	CIRCULAR	1	1		0.00462	0.86	1/1/2013 8:00	2.92	0.35	0.4	0	1.643
stgm5291	E14	stiG09112	34	0.013	193.17	192.85	CIRCULAR	1	1		0.00941	0.23	1/1/2013 7:59	1.16	0.07	1	0.01	0.429
stgm5292	stiG09112	STMG1027	96	0.013	192.2	186.09	CIRCULAR	1.75	1		0.06378	0.22	1/1/2013 7:59	0.18	0.01	0.68	0.01	0.429
stgm5293	stmG10049	stmG10048	68	0.013	192.42	192.1	CIRCULAR	1	1		0.00471	2.04	1/1/2013 8:00	3.82	0.83	0.64	0	4.136
stgm5294	stmG10048	stiG10107	28	0.013	191.9	191.73	CIRCULAR	1	1		0.00607	2.04	1/1/2013 8:00	4.01	0.73	0.62	0	4.136
stgm5295	stiG10107	stiG10108	8	0.013	190.1	189.99	CIRCULAR	1	1		0.01375	2.18	01/01/2013 16:32 PM	3.95	0.52	1	0.01	4.136
stgm5296	stiG10108	stiG10109	30	0.013	189.63	189.49	CIRCULAR	1	1		0.00467	1.92	1/1/2013 8:15	2.45	0.79	1	1.72	4.136
stgm5297	stiG10109	STMG1029	44	0.013	189.29	188.71	CIRCULAR	1	1		0.01318	1.92	1/1/2013 8:15	2.54	0.36	0.96	0.01	4.136
stgm5298	STMF103	J12	310.7	0.013	179.55	177	CIRCULAR	2.25	1		0.00821	27.38	1/1/2013 8:00	9.77	0.78	0.66	0	59.196
stgm5299	stmF09036	STMF103	52.67	0.013	180.7	179.8	CIRCULAR	2.25	1		0.01709	23.43	1/1/2013 8:00	6.63	1	0.83	0.01	51.308
stgm5300	STMG1028	stmF09036	423.04	0.013	182.93	180.8	CIRCULAR	2.25	1		0.00504	12.92	1/1/2013 8:00	4.25	0.45	0.71	0	51.308
stgm5307	E31	stmI13014	40	0.013	170.69	164.9	CIRCULAR	1	1		0.14629	2.86	1/1/2013 8:03	4.85	0.34	0.7	0.01	0.107
stgm5308	stcoI13000	stmI13014	57.56	0.013	165.1	164.9	CIRCULAR	1	1		0.00347	2.07	1/1/2013 8:04	3.51	0.16	0.7	0.01	0.746
stgm5310	stmI13014	STII1359	42.21	0.013	164.7	163.99	CIRCULAR	1	1		0.01682	4.93	1/1/2013 8:03	8.36	0.3	0.7	0.01	0.852
stgm5577	stmF1310011	stmF1310010	48	0.013	110.6	108.5	CIRCULAR	1	1		0.04379	0.47	1/1/2013 8:00	6.06	0.06	0.15	0	1.197
stgm5460	stmH1310003	STMH1314	168	0.013	161.73	160.54	CIRCULAR	1	1		0.00708	1.98	1/1/2013 8:04	3.28	0.37	1	0.01	7.14
stgm5458	stmH1310004	stmH1310003	18	0.013	162.34	161.89	CIRCULAR	1	1		0.02501	1.62	1/1/2013 6:16	5.03	0.41	1	0.01	7.14
stgm5429	stmH10035	E50	29.4	0.013	174.2	174.2	CIRCULAR	2	1		0	0	1/1/2013 0:00	0	0	0	0	4.685
stgm5429.2	E50	E51	29.4	0.013	174.2	174.2	CIRCULAR	2	1		0	0	1/1/2013 0:00	0	0	0	0	4.685
stgm5434.2	E54	E53	34.8	0.013	171.91	171.91	CIRCULAR	1.5	1		0	0.8	1/1/2013 8:00	0.89	1.42	0.51	0.01	6.592
stgm5434.3	E53	E56	34.8	0.013	171.91	171.91	CIRCULAR	1.5	1		0	0.8	1/1/2013 8:01	0.91	1.42	0.5	0.01	6.592
stgm5434	E55	E54	34.8	0.013	171.91	171.91	CIRCULAR	1.5	1		0	0.03	1/1/2013 7:06	0.25	0.04	0.51	0	4.685
stgm5434.4	E57	stmH10031	34.8	0.013	171.91	171.91	CIRCULAR	1.5	1		0	2.52	1/1/2013 8:01	3.31	4.48	0.45	0.01	6.592
stgm5438.1	stmH10033	E42	61	0.013	179.84	178.95	CIRCULAR	1.25	1		0.01459	0.8	1/1/2013 8:00	4.73	0.07	0.2	0	1.907
HCT1-01_1	J4974	J11	380.045	0.04	156.4	130.415	IRREGULAR	0	1	HCT-01	0.06853	7.61	1/1/2013 8:01	2.05	0	0.01	0	22.885
HCT1-01_2	J11	OF_J-HC-01	566.245	0.04	130.415	91.7	IRREGULAR	0	1	HCT-01	0.06853	9.96	1/1/2013 8:04	2.76	0	0.01	0	30.405
C7	stiG12124	J-HC-18	74.471	0.01	147.82	128	CIRCULAR	4	1	HC-15	0.2761	39.88	1/1/2013 8:01	6.83	0.04	0.57	0.01	69.253
C8	E17	STMG1112	385.827	0.01	184.11	181.88	CIRCULAR	1.25	1		0.00578	4.61	1/1/2013 8:00	5.54	0.72	0.68	0	13.63
C10	stmF11012	STMF113	302.03	0.01	177	160.38	CIRCULAR	1	1		0.05511	2.35	1/1/2013 8:07	6.94	0.22	0.45	0	5.965
C11	stmH10032	stmH1010049	33.295	0.013	166.5	159.96	CIRCULAR	1.75	1		0.20033	2.52	1/1/2013 8:01	13.55	0.03	0.13	0	6.592
C12	stmH1010049	J3696	10.125	0.01	159.96	156.53	CIRCULAR	1	1		0.36006	4.05	1/1/2013 8:01	12.88	0.15	0.42	0	9.825
C13	stmH1010015	J-HC-27	214.583	0.01	167	151.5	CIRCULAR	0.833	1		0.07242	0.36	1/1/2013 8:00	1.12	0.03	0.56	0.01	0.741
HC-07_1	J-HC-10	J13	338.398	0.04	111.5	110.449	IRREGULAR	0	1	HC-07	0.00311	477.76	1/1/2013 9:12	34.46	0	0.07	0	1860.238
HC-07_2	J13	J-HC-09	466.862	0.04	110.449	109	IRREGULAR	0	1	HC-07	0.0031	477.92	1/1/2013 9:13	3.92	0	0.07	0	1861.169
C14	E35	stmF09033	60.353	0.013	178.87	178.57	CIRCULAR	1	1		0.00497	1.5	1/1/2013 8:05	4.71	0.23	0.66	0.01	5.216
C15	stmF1310010	J-CCT2-02	92.624	0.01	108.3	100	CIRCULAR	1	1		0.08997	0.53	1/1/2013 8:00	1.15	0.04	0.57	0.01	1.331
C16	E21	stmF1310010	21.616	0.01	109	108.5	CIRCULAR	1	1		0.02314	0.06	1/1/2013 8:01	1.75	0	0.09	0	0.134
CCT2-06_2	stmF1310004	J-CCT2-06	188.784	0.04	135.96	133.5	IRREGULAR	0	1	STGM1964	0.01303	31.97	1/1/2013 8:01	3.66	0	0.06	0	56.982
STGM2147_1	J4362	J12	98.605	0.04	179.3	175.501	IRREGULAR	0	1	STGM2147	0.03856	0	1/1/2013 0:00	0	0	0.19	0	0
STGM2147_2	J12	J-CCT3-14	114.225	0.04	175.501	171.1	IRREGULAR	0	1	STGM2147	0.03856	27.37	1/1/2013 8:01	3.17	0.1	0.49	0	59.196
C17	stmI11020	J-SBT1-06	108.721	0.013	185.38	176	CIRCULAR	1	1		0.0866	12.9	1/1/2013 8:52	16.43	1.23	1	4.37	45.478
STGM2160_1	J3708	J14	213.76	0.013	185	184.739	CIRCULAR	2.75	1		0.00122	37.91	1/1/2013 8:10	6.38	2.05	1	1.03	91.042
STGM2160_2	J14	J3694	195.89	0.013	184.739	184.5	CIRCULAR	2.75	1		0.00122	40.44	1/1/2013 8:11	7.47	2.19	0.87	0.01	94.826
C18	stvG10043	J14	3.324	0.01	187	184.739	CIRCULAR	1	1		0.92795	2.8	1/1/2013 7:55	4.68	0.06	0.88	0.01	7.535
C19	stvG10041	J5474	9.675	0.01	191.74	187	CIRCULAR	1	1		0.56199	1.58	1/1/2013 8:00	3.39	0.05	0.57	0.01	3.751

Junctions CIP Model

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
STIF109	181.1	190.56	0.62	183.48	8:00 AM	10.51	2.02	0.001	0.85	0.377	7.083	0	0	0	51.308
STIG1416	121.28	144.05	0.67	123.86	8:34 AM	36.16	6.75	0.003	0.94	0.575	20.195	0	0	0	111.494
STIF0867	193.06	196.92	0.21	193.88	8:00 AM	3.04	0.508	0	0	0	3.04	0	0	0	5.884
STIF0875	190.9	194.32	0.14	191.38	8:00 AM	3.04	0.508	0	0	0	2.94	0	0	0	5.884
STIF1262	145.18	154.18	3.99	149.67	8:00 AM	12.1	2.01	0.018	0	0	4.51	0	0	0	22.468
STIF1287	171.84	174.58	0.22	172.59	8:00 AM	5.31	0.893	0	0	0	1.99	0	0	0	8.718
STIG0890	219.93	226.17	0.86	225.14	8:09 AM	12.18	1.31	-0.001	4.78	3.704	1.033	0	0	0	128.57
J2	188.89	193.89	0.28	192.06	7:18 AM	2.5	0.421	0	1.31	2.169	1.831	0	0	0	5.279
STIG0777	290.71	296.46	0.16	291.26	8:00 AM	1.45	0.243	0	0	0	5.2	0	0	0	3.4
STMG1321	165.57	171.89	0.36	171.89	7:14 AM	6.32	1.06	0	0.96	5.07	0	0	0	0	11.671
STIG1023	187.2	189.5	0.24	188	8:00 AM	6.19	1.04	0.001	0	0	1.5	0	0	0	13.053
J1	203	210.7	0.17	203.54	8:00 AM	1.75	0.328	0	0	0	7.16	0	0	0	4.363
STIF1329	154	163.23	0.35	163.23	7:17 AM	5.68	0.963	0.001	1.26	8.23	0	0.01	0.19	0	11.833
STIG1072	193	199.15	0.34	199.15	7:12 AM	5.31	0.875	0	1.33	5.15	0	0.01	0.12	0	10.407
STIG07112	255.04	258.69	0	255.04	12:00 AM	0	0	0	0	0	3.65	0	0	0	0
STIG108	168.3	174.51	0.16	169.35	8:00 AM	1	0.165	-0.005	0.43	0.051	5.159	0	0	0	1.98
STIG1016	185.1	190.76	0.42	187.62	7:59 AM	6.86	1.19	0	1.61	1.023	3.137	0	0	0	14.809
STIF129	169.71	172.82	0.26	170.67	8:00 AM	5.31	0.893	0	0	0	2.15	0	0	0	8.718
STIG0894	223.3	226.81	0.2	225.93	8:10 AM	11.77	1.34	0.002	0.58	1.135	0.875	0	0	0	127.347
STIG0778	290.53	296.98	0.1	290.87	8:00 AM	1.49	0.243	0	0	0	6.11	0	0	0	3.4
STIF092	199.28	202.75	0.52	202.18	8:07 AM	71.91	13.1	0	0	0	0.57	0	0	0	160.683
STIG1348	162.33	167.717	0.3	166.91	7:48 AM	4.72	0.993	-0.001	1.88	3.582	0.805	0	0	0	21.469
STMG1320	166.4	173.886	0.43	173.89	7:14 AM	6.32	1.06	0	1.42	6.236	0	0	0	0	11.671
STIG1349	161.5	168.13	0.42	166.49	7:48 AM	4.72	0.993	-0.001	2.27	3.989	1.641	0	0	0	21.469
STIF1210	168.92	171.32	0.38	170.45	8:00 AM	5.3	0.893	0.002	0.23	0.028	0.872	0	0	0	8.718
STIF137	150.1	158.77	0.17	150.71	8:00 AM	2.64	0.44	-0.002	0	0	8.06	0	0	0	5.272
STMG1319	164.32	169.547	0.16	165	8:00 AM	6.32	1.06	0	0	0	4.547	0	0	0	11.671
STIH077	264.96	271.4	0.05	265.13	8:00 AM	0.5	0.083	0.002	0	0	6.27	0	0	0	1.317
STIF0876	191.96	195.5	0.21	192.73	8:00 AM	3.04	0.508	0	0	0	2.77	0	0	0	5.884
STIG1075	190.14	198.89	0.33	191.31	8:00 AM	7.65	1.26	-0.009	0	0	7.58	0	0	0	15.021
STIF0874	186.57	194.61	0.22	187.36	8:00 AM	3.04	0.508	0	0	0	7.25	0	0	0	5.884
STIF1030	169.7	174.7	0.26	170.55	8:00 AM	15.09	2.64	-0.003	0	0	4.15	0	0	0	32.588
STIF1324	140	149.53	0.18	140.62	8:00 AM	7.17	1.2	-0.004	0	0	8.91	0	0	0	13.415
STIF132	151.5	157.39	0.26	152.27	8:00 AM	3.52	0.592	0	0	0	5.12	0	0	0	7.23
STIG0710	239.3	243	0.2	239.95	8:00 AM	7.3	1.21	0	0	0	3.05	0	0	0	14.457
STIF0817	200.1	207.25	0.52	201.51	8:01 AM	42.04	6.99	-0.002	0	0	5.74	0	0	0	83.916
STIG1022	188.47	191.42	0.35	191.42	7:18 AM	6.19	1.04	0	1.2	1.7	0	0.01	0.08	0	13.053
STIF0877	194.4	199.12	0.2	195.11	8:00 AM	3.04	0.508	0	0	0	4.01	0	0	0	5.884
STIG09106	196.3	198.4	0.27	197.14	8:02 AM	8.31	1.58	0	0	0	1.26	0	0	0	21.194
STIG0837	222	226.15	0.12	225.13	8:08 AM	0.66	0.11	0	1.33	2.13	1.02	0	0	0	1.222
STIF131	151.4	157.41	0.09	151.68	8:00 AM	3.52	0.592	-0.003	0	0	5.73	0	0	0	7.23
STIF1290	167.61	170.68	0.21	170.34	7:14 AM	5.31	0.893	0	0.9	1.234	0.336	0	0	0	8.718
STIF1138	168	171.75	0.22	168.92	8:01 AM	3.5	0.579	0	0	0	2.83	0	0	0	6.923
STIF1132	172.1	177.93	0.23	173.13	8:00 AM	3.5	0.579	0	0.09	0.027	4.803	0	0	0	6.923
STIF1134	170.4	174.68	0.21	171.17	8:00 AM	3.5	0.579	0.002	0	0	3.51	0	0	0	6.923
STIF1133	171.5	175.32	0.21	172.3	8:00 AM	3.5	0.579	0	0	0	3.02	0	0	0	6.923
STIF1135	168.6	172.99	0.25	169.68	8:00 AM	3.5	0.579	-0.001	0	0	3.31	0	0	0	6.923
STMF101	154.8	170.49	0.32	155.95	8:00 AM	16.1	2.81	0	0	0	14.54	0	0	0	34.835
STMG1325	160.87	166.84	0.25	164.45	7:48 AM	6.73	1.33	0	0.32	2.575	2.395	0	0	0	25.387
STMG1326	158.1	165.58	0.25	161.91	7:48 AM	6.7	1.33	0	0.38	2.812	3.668	0	0	0	25.387
STMG0928	220	230.78	0.38	221.35	8:00 AM	24.84	4.21	-0.001	0	0	9.43	0	0	0	57.828
STMG1036	201	204.87	0.27	201.85	8:02 AM	8.31	1.58	0	0	0	3.02	0	0	0	21.194
STMF1225	156.96	165.62	0.36	158.15	8:00 AM	41.6	7.01	0	0	0	7.47	0	0	0	74.624
STMF1226	157.4	165.49	0.48	159.05	8:00 AM	41.6	7.01	0	0	0	6.44	0	0	0	74.624
STMF1227	158.04	165.95	0.48	159.67	8:00 AM	41.6	7.01	0	0	0	6.28	0	0	0	74.624
STMF116	173.1	179.47	0.36	175.09	7:59 AM	6.35	1.06	0	1.62	0.992	4.378	0	0	0	11.871
STMG121	167	172.685	0.4	172.69	7:15 AM	9.34	1.57	0.003	0.89	4.186	0	0.01	0.28	0	15.528
STMG1232	165.59	172.19	0	165.59	12:00 AM	0	0	0	0	0	6.6	0	0	0	0
STMG1027	195	198.15	0.22	195.64	8:02 AM	8.52	1.61	-0.022	0	0	2.51	0	0	0	21.622
STMG1028	184.5	194.62	0.32	185.55	8:00 AM	23.45	4.2	-0.002	0	0	9.07	0	0	0	51.308
STMG1029	190.3	194.35	0.3	191.23	8:00 AM	23.46	4.22	0.01	0	0	3.12	0	0	0	51.308
STMF107	177.24	182.24	0.35	182.24	7:56 AM	15.66	2.64	0.024	0.14	3.401	0	0.01	1.01	0	32.588
STMG0910	202.75	215.71	0.5	204.45	8:02 AM	24.72	4.21	0	0	0	11.26	0	0	0	57.828
STMG0812	201.1	209.98	1.12	204.96	7:42 AM	66.77	12.3	0	1.57	0.862	5.018	0	0	0	151.359
STMG1021	192	202.62	0.55	193.95	8:02 AM	31.21	5.37	0	0	0	8.67	0	0	0	72.271
STMF1010	153.57	166.92	0.54	155.42	8:06 AM	69.53	12.3	0	0	0	11.5	0	0	0	155.722
STMF1011	150.89	166.64	0.47	152.43	8:06 AM	69.53	12.3	0	0	0	14.21	0	0	0	155.722
STMF113	160.38	168.66	0.21	161.04	8:00 AM	15.02	2.62	0	0	0	7.62	0	0	0	30.876
STMF1012	149.35	166.05	0.49	150.97	8:04 AM	84.18	15	0	0	0	15.08	0	0	0	186.598
STMF134	146.6	152.3	0.25	147.47	8:00 AM	5.68	0.963	0	0	0	4.83	0	0	0	11.833
STMF117	167.22	170	0.45	170	7:14 AM	10.13	1.69	0.002	0.91	1.28	0	0.01	0.23	0	18.386
STMF1217	175	183.81	0.2	175.67	8:00 AM	7.2	1.21	0	0	0	8.14	0	0	0	12.415
STMF1218	168.49	176.93	0.19	169.11	8:00 AM	7.2	1.21	0	0	0	7.82	0	0	0	12.415
STMF1219	162.89	172.64	0.17	163.44	8:00 AM	7.2	1.21	-0.001	0	0	9.2	0	0	0	12.415
STMF1220	160.62	172.34	0.37	161.88	8:00 AM	27.52	4.65	0	0	0	10.46	0	0	0	48.874
STMF1221	159.23	166.8	0.49	160.9	8:00 AM	37.64	6.34	0.001	0	0	5.9	0	0	0	67.26
STMF0910	186	190.99	0.2	186.75	8:00 AM	3.97	0.657	-0.004	0	0	4.24	0	0	0	7.889
STMF0911	186.9	194.19	0.31	189.92	7:12 AM	3.97	0.657	0	1.39	2.016	4.274	0	0	0	7.889
STMG0845	219.9	225.84	0.87	224.96	8:08 AM	57.16	10.4	-0.01	1.46	2.281	0.879	0	0	0	128.57
STMG0846	219.5	228.6	0.9	223.96	8:08 AM	60.45	11.1	0.012	1.31	1.715	4.635	0	0	0	137.32
STMG1310	164.5	169.86	0.43	169.86	7:07 AM	8.32	1.38	0	1.5	4.11	0	0	0	0	15.373
STMG1311	162.2	168.08	0.32	163.45	8:00 AM	15.22	2.54	-0.001	0	0	4.63	0	0	0	28.129
STMG1312	163.1	169.4	0.35	164.38	8:00 AM	8.32	1.38	0	0	0	5.02	0	0	0	15.373
STMG1315	160	166.07	0.03	161.52	8:00 AM	0.89	0.001	0.092	0	0	4.55	0	0	0	0
STMG1316	161	169.41	0.36	164.93	7:40 AM	12.16	1.87	-0.035	0.45	1.43	4.48	0	0	0	30.383
STMG1317	167.41	171.86	3.02	170.98	8:00 AM	5.17	0.865	0.038	0	0	0.88	0	0	0	9.597
STMG1218	161.72	168.32	0	161.72	12:00 AM	0	0	0	0	0	6.6	0	0	0	0
STMG146	157	163.5	0.14	157.46	8:00 AM	4.7	0.781	0	0	0	6.04	0	0	0	9.415
STMG147	128.19	143.81	0.08	128.42	8:00 AM	5.51	1.06	0	0	0	15.39	0	0	0	14.301
STMG149	157.06	162.16	0.18	157.62	8:00 AM	5.51	1.06	0	0	0	4.54	0	0	0	14.301
STMG1322	157.4	165.46	0.69	161.93	7:59 AM	8.35	1.59	0	2.18	3.029	3.531	0	0	0	49.089
STMG1323	157.3	165.38	0.73	161.56	7:59 AM	12.5	2.28	0.001	1.4	1.557	3.823	0	0	0	57.007
STMG1324	157	165.97	0.23	157.73	8:00 AM	12.49	2.28	0	0	0	8.24	0	0	0	57.007
STMF109	181.25	186.25	0.3	182.37	8:00 AM	10.4	1.75	-0.003	0	0	3.88	0	0	0	21.856
STMF0810	196.84	201.41	0.41	198.23	8:00 AM	33.8	5.6	0	0	0	3.18	0	0	0	71.984
STMF0811	191.3	199.91	0.64	193.54	8:01 AM	41.19	6.82	0	0	0	6.37	0	0	0	86.657
STMF0812	189.7	195.65	0.28	190.62	8:01 AM	44.12	7.32	0	0	0	5.03	0	0	0	92.462
STMG1112	181.88	189.35	0.3	182.97	8:00 AM	11.03	1.84	0	0	0	6.38	0	0	0	20.184
STMG0727	234.7	238.6	0.19	235.32	8:00 AM	7.29	1.21	0	0	0	3.28	0	0	0	14.457
STMG0729	232.43	242.92	0.25	233.27	8:01 AM	7.29	1.21	0	0	0	9.65	0	0	0	14.457
STMG1226	165.13	171.86	0.36	171.86	7:15 AM	9.52	1.57	-0.002	0.86	4.981	0	0.01	0.81	0	15.528
STMG1227	163.82	170.55	0.51	170.55	7:13 AM	17.61	2.95	0.002	1.03	4.98	0	0.01	0.69	0	29.487
STMG128	164.5	172.58	0.32	165.71	8:00 AM	11.54	1.93	0.023	0	0	6.87	0	0	0	20.786
STMF131	146.92	155.39	0.18	147.51	8:00 AM	1.43	0.238	0	0	0	7.88	0	0	0	2.842
STMG097	204.55	212.83	0.6	207.12	8:01 AM	24.72	4.21	0	0.08	0.071	5.709	0	0	0	57.828
STMG098	205.33	214.87	0.46	207.32	8:01 AM	24.8	4.21	0	0	0	7.55	0	0	0	57.828
STMF093	189.1	198.12	0.96	196.42	7:59 AM	82.32	15.3	-0.001	1.51	4.315	1.705	0	0	0	187.35
STMF094	189.97	200.16	0.97	197.99	8:00 AM	79.88	14.9	-0.013	1.51	5.016	2.174	0	0	0	181.689
STMG0827	221.54	231.47	0.76	226.89	8:10 AM	45.22	9.07	0.005	1.4	2.596	4.584	0	0	0	104.497
STMG1413	162	170.25	0.32	163.09	8:00 AM	5.35	0.887	0	0	0	7.16	0	0	0	10.109
STMG1414	161	168.82	0.12	161.4	8:00 AM	5.34	0.887	0	0	0	7.42	0	0	0	10.109
STMG0854	219.3	224.23	0.69	223.09	8:08 AM	60.44	11.1	-0.009	0.67	1.036	1.144	0	0	0	137.32
STMG1034	185.1	191.34	0.4	187.6	7:58 AM	6.73	1.13	0	1.32	0.745	3.745	0	0	0	13.7
STMG0732	250.9	255.1	0.15	251.43	8:00 AM	3.7	0.613	0	0	0	3.67	0	0	0	6.891
STMF0932	185.81	193.04	0.9	190.02	7:59 AM	89.6	16.5	0	1.33	1.214	3.016	0	0	0	202.825
STMG1245	166	174.05	0.29	167.06	8:00 AM	6.51	1.09	-0.001	0	0	6.99	0	0	0	11.722
STMG132	157.5	165.48	0.69	162.42	7:59 AM	8.35	1.59	0	2.2	3.425	3.055	0	0	0	49.089
STMG134	158.7	169.36	0.59	162.43	7:40 AM	26.41	4.22	0.001	0.53	1.227	6.933	0	0	0	45.343
STMG135	159.5	170.17	0.51	166.46	7:40 AM	4.56	0.761	-0.003	2.63	5.96	3.71	0	0	0	8.225
STMF121	151	153	0.1	151.31	8:00 AM	3.18	0.533	0	0	0	1.69	0	0	0	5.351
STMF102	169.96	174.96	0.46	172.48	7:38 AM	15.09	2.64	-0.001	0.42	1.022	2.478	0	0	0	32.588
STMF103	181	190.54	0.44	182.49	8:00 AM	27.39	4.86	0	0	0	8.05	0	0	0	59.196
STMG101	188.8	199.99	0.33	190.09	8:00 AM	6.74	1.13	-0.001	0	0	9.9	0	0	0	13.7

Junctions CIP Model

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
STMF091	184.65	190.36	0.65	187.03	8:00 AM	89.6	16.5	0	0	0	3.33	0	0	0	202.825
STMG077	241	246.56	0.36	245.88	7:51 AM	12.92	2.15	0.001	0.25	3.376	0.684	0	0	0	25.332
STMF087	210	215.12	0.38	211.35	8:00 AM	19.51	3.25	0	0	0	3.77	0	0	0	39.421
STMF074	199.28	202.57	0.49	200.94	8:00 AM	28.22	4.67	0	0	0	1.63	0	0	0	61.497
STMF075	200.16	203.47	0.33	201.22	8:00 AM	13.43	2.25	0	0	0	2.25	0	0	0	25.651
STMF076	201.2	205	0.34	202.3	8:00 AM	13.44	2.25	0	0	0	2.7	0	0	0	25.651
STMF122	154	156.6	0.22	154.83	8:00 AM	3.18	0.533	0	0	0	1.77	0	0	0	5.351
STMF118	175.28	186.38	0.25	176.13	8:00 AM	11.02	1.84	-0.001	0	0	10.25	0	0	0	20.184
STMG104	187.9	200.82	0.3	188.94	8:00 AM	6.74	1.13	0.001	0	0	11.88	0	0	0	13.7
STMG1219	162.2	169.2	0.3	163.25	8:00 AM	23.49	3.94	0.001	0	0	5.95	0	0	0	39.319
STMF0716	207.75	213.22	0.31	208.82	8:00 AM	13.45	2.25	0	0	0	4.4	0	0	0	25.651
STMF0713	204.26	207.94	0.3	205.27	8:00 AM	13.45	2.25	0	0	0	2.67	0	0	0	25.651
STMF0720	202.21	204.21	0.16	202.77	8:00 AM	2.08	0.343	-0.001	0	0	1.44	0	0	0	3.841
STMF0833	200.47	202.47	0.17	201.08	8:00 AM	2.08	0.343	0	0	0	1.39	0	0	0	3.841
STMF0827	198.03	201.54	0.14	198.53	7:27 AM	5.61	0.929	0	0	0	3.01	0	0	0	10.487
STMF0829	198.35	201.85	0.22	199.14	8:00 AM	5.61	0.929	0	0	0	2.71	0	0	0	10.487
STMF0830	199.12	203.39	0.27	200.09	8:00 AM	5.61	0.929	0	0	0	3.3	0	0	0	10.487
STMF0831	200.29	206.6	0.27	204.66	7:13 AM	3.53	0.586	0.002	0.97	3.369	1.941	0	0	0	6.646
STMF0826	191.54	199.34	0.69	194.04	8:01 AM	41.22	6.82	0	0	0	5.3	0	0	0	86.657
STMF0825	198	202.9	0.23	198.81	8:00 AM	7.46	1.22	-0.002	0	0	4.09	0	0	0	14.673
STMF0836	192.16	195.75	0.16	192.71	8:00 AM	3	0.496	0	0	0	3.04	0	0	0	5.75
STMF0837	187.2	193.71	0.17	187.78	8:00 AM	3	0.496	0	0	0	5.93	0	0	0	5.75
STMF0842	190.8	196.36	0.55	192.74	8:01 AM	44.13	7.32	0	0	0	3.62	0	0	0	92.462
STMF0843	191.98	195.5	0.24	194.96	7:15 AM	2.98	0.496	-0.002	1.32	1.981	0.539	0	0	0	5.805
STMF0844	192.85	196.68	0.24	196.68	7:19 AM	2.98	0.496	0.001	0.91	2.83	0	0.01	0.13	0	5.805
STMG1412	155.8	168.7	3.18	159.49	8:00 AM	5.34	0.887	0.031	0	0	9.21	0	0	0	10.109
STMF092	198	203.19	0.63	201.87	8:06 AM	75.34	13.9	-0.002	0.74	0.644	1.316	0	0	0	169.937
STMF089	200.13	205.25	0.22	200.92	8:00 AM	7.46	1.23	0.001	0	0	4.33	0	0	0	14.673
STMF088	204.24	209.67	0.21	204.97	8:00 AM	6.85	1.13	-0.001	0	0	4.7	0	0	0	13.474
STMF1013	159.85	174.72	0.08	160.1	8:00 AM	1.05	0.174	-0.004	0	0	14.62	0	0	0	2.014
STMF1014	152.3	171.39	0.33	153.41	8:00 AM	17.13	2.99	0	0	0	17.98	0	0	0	36.85
STMF1022	160.25	171.41	0.08	160.49	8:00 AM	1.34	0.222	0	0	0	10.92	0	0	0	2.613
STMF0913	190.2	203.38	1.15	199.19	8:02 AM	78.64	14.6	0.014	1.58	5.99	4.19	0	0	0	178.528
STMF0823	204.32	210.49	0.29	209	7:12 AM	3.36	0.558	0.002	1.05	3.678	1.492	0	0	0	6.467
STMF0822	203.22	208.68	0.26	204.1	8:00 AM	3.36	0.558	0.001	0	0	4.58	0	0	0	6.467
STMF0821	205.66	212.53	0.24	206.48	8:00 AM	19.5	3.25	0	0	0	6.05	0	0	0	39.421
STMG1210	167.05	173.65	0.38	173.32	7:15 AM	3.06	0.51	0.001	0.89	4.767	0.333	0	0	0	4.991
STMF0816	203.09	208.65	0.17	203.64	8:00 AM	4.54	0.755	-0.001	0	0	5.01	0	0	0	8.709
STMF0815	204.5	212.09	0.13	204.95	8:00 AM	1.19	0.197	0	0	0	7.14	0	0	0	2.243
STMF0814	205	211	0.16	205.54	8:00 AM	1.19	0.197	-0.001	0	0	5.46	0	0	0	2.243
STMF0813	204.29	212.49	0.43	205.76	8:00 AM	42.03	6.99	0	0	0	6.73	0	0	0	83.916
STMG0919	187.81	195.75	0.27	191.27	7:12 AM	3.97	0.657	0	1.24	2.457	4.483	0	0	0	7.889
STMF106	170.2	178.66	0.11	170.9	8:27 AM	1.56	0.259	0.001	0	0	7.76	0	0	0	3.302
STMF105	172	182.75	0.12	172.37	8:00 AM	1.56	0.259	0	0	0	10.38	0	0	0	3.302
STMF086	211.36	217.26	0.33	212.54	8:00 AM	14.86	2.48	0.001	0	0	4.72	0	0	0	30.29
STMF085	207.36	212.43	0.33	208.46	8:00 AM	22.53	3.74	0	0	0	3.97	0	0	0	44.495
STMF0838	203.44	213.24	0.17	204.11	8:00 AM	3.88	0.643	-0.002	0	0	9.13	0	0	0	7.383
STMF097	190.32	196.47	0.2	191	8:00 AM	4.74	0.783	0	0	0	5.47	0	0	0	9.688
STMF0929	192.41	196.71	0.09	192.69	8:00 AM	1.57	0.263	0	0	0	4.02	0	0	0	3.215
STMF0931	180.95	188.91	1.03	188.91	8:45 AM	90.24	16.5	0.002	0.13	4.96	0	0.01	7.23	0	202.825
STMF0927	182.71	188.52	0.17	183.23	8:00 AM	1.5	0.266	0	0	0	5.29	0	0	0	3.802
STMF1222	148.1	164.26	0.52	149.83	8:00 AM	41.6	7.01	0	0	0	14.43	0	0	0	74.624
STMF0926	180.78	185.82	0.6	182.99	8:47 AM	97.36	17.3	-0.006	0	0	2.83	0	0	0	212.513
STMF0845	197.68	201.77	0.16	198.22	8:00 AM	2.98	0.496	0	0	0	3.55	0	0	0	5.805
STMF0835	195.93	201.82	0.18	196.58	8:00 AM	3	0.496	-0.001	0	0	5.24	0	0	0	5.75
STMF1023	160.8	169.06	0.07	161.01	8:00 AM	1.17	0.195	0	0	0	8.05	0	0	0	2.412
STMF081	212.38	217.1	0.18	213.1	8:00 AM	3.17	0.523	0.002	0	0	4	0	0	0	6.277
STMF082	207.57	212.14	0.23	212.14	7:27 AM	3.17	0.523	-0.007	1.18	3.32	0	0.01	0.34	0	6.277
STMG138	159.96	168.26	0.24	167.27	7:38 AM	4.62	0.768	0	0.47	6.309	0.991	0	0	0	8.832
STMG1411	155.62	163.94	0.15	156.13	8:00 AM	4.62	0.768	0	0	0	7.81	0	0	0	8.832
STMG1410	137.22	145.73	0.1	137.55	8:00 AM	4.62	0.768	0	0	0	8.18	0	0	0	8.832
STMG141	154.32	162.3	0.19	154.99	7:57 AM	4.2	0.69	0.001	0	0	7.31	0	0	0	7.824
STMG143	160.47	166.99	0.27	162.03	7:59 AM	3.34	0.556	0	0.95	0.56	4.96	0	0	0	6.595
STMG145	159.65	166.41	0.24	160.49	8:00 AM	4.7	0.781	0	0	0	5.92	0	0	0	9.415
STMG142	160.03	166.77	0.14	160.51	8:00 AM	1.36	0.225	0	0	0	6.26	0	0	0	2.82
STMG144	157.5	164.02	0.23	164.02	7:59 AM	4.17	0.69	0	0.07	5.52	0	0.01	0.11	0	7.824
STMG136	155.05	163.76	0.13	155.47	8:00 AM	5.34	0.887	0	0	0	8.29	0	0	0	10.109
STMF0824	199.23	204.45	0.24	200.08	8:00 AM	7.46	1.22	0	0	0	4.37	0	0	0	14.673
STMF1223	144.7	158.2	0.25	145.48	8:00 AM	46.5	7.82	0	0	0	12.72	0	0	0	84.963
STMG085	211.01	216.49	0.18	215.4	8:31 AM	1.9	0.316	-0.001	0.9	3.139	1.091	0	0	0	3.876
STMG0716	261.67	267.88	0.13	262.09	8:00 AM	2.51	0.425	0.002	0	0	5.79	0	0	0	5.594
STMG0844	216.5	220.29	0.17	217.1	8:00 AM	4.93	0.813	0	0	0	3.19	0	0	0	9.635
STMG0913	203.01	207.92	0.18	203.6	8:00 AM	4.66	0.777	0.039	0	0	4.32	0	0	0	9.253
STMG0914	201.3	208.49	0.4	203.51	8:01 AM	3.31	0.551	0.005	2.79	1.207	4.983	0	0	0	6.326
STMG087	213.97	217.28	0.18	214.62	8:00 AM	3.17	0.523	0	0	0	2.66	0	0	0	6.277
STMG0724	228.95	233.04	0.21	229.63	8:00 AM	4.18	0.692	0	0	0	3.41	0	0	0	8.261
STMG0839	230	237.16	0.21	230.82	8:00 AM	4.94	0.813	0	0	0	6.34	0	0	0	9.635
STMG094	204.63	209.1	0.25	205.54	7:59 AM	5.32	0.777	0.002	0	0	3.56	0	0	0	9.253
STMG0820	220.62	225.39	0.23	221.37	8:00 AM	14.14	2.35	0	0	0	4.02	0	0	0	27.984
STMF084	218.62	225.3	0.49	220.34	8:00 AM	14.87	2.48	0	0	0	4.96	0	0	0	30.29
STMG095	204.18	209.3	0.9	209.3	7:28 AM	4.75	0.783	0.824	3.57	3.875	0	0.56	0.72	0.003	9.253
STMF071	220.65	225.81	0.28	222.31	8:00 AM	10.39	1.74	0	0.32	0.159	3.501	0	0	0	21.466
STMG0813	204.5	210.69	0.83	210.21	7:42 AM	66.77	12.3	0	1.45	2.713	0.477	0	0	0	151.359
STMF072	220.3	226.04	0.33	222.13	8:00 AM	10.39	1.74	0	0.38	0.328	3.912	0	0	0	21.466
STMG0811	210.91	215.9	0.18	211.55	8:00 AM	3.33	0.551	-0.001	0	0	4.35	0	0	0	6.326
STMG0822	224.48	229.21	0.28	225.41	8:00 AM	11.44	1.9	0	0	0	3.8	0	0	0	22.718
STMG0836	210.6	215.44	0.35	211.78	8:01 AM	19.06	3.16	0	0	0	3.66	0	0	0	37.62
STMG071	226.07	230.44	0.29	227.14	8:00 AM	10.39	1.74	0	0	0	3.3	0	0	0	21.466
STMG0725	230.43	233.83	0.19	231.1	8:00 AM	4.18	0.692	0	0	0	2.73	0	0	0	8.261
STMG0717	249.02	252.12	0.18	249.67	8:00 AM	6.78	1.13	0	0	0	2.45	0	0	0	14.171
STMG0818	225.36	228.56	0.41	227.16	8:00 AM	6.77	1.12	-0.003	0.81	0.295	1.405	0	0	0	14.311
STMG0917	190.3	197.63	0.19	193.25	7:38 AM	3.22	0.536	-0.004	0.58	1.947	4.383	0	0	0	6.582
STMG096	202.94	210.51	0.18	204.16	8:00 AM	3.31	0.551	-0.001	0.56	0.216	6.354	0	0	0	6.326
STMG0835	212.96	218.36	0.31	213.99	8:00 AM	19.06	3.16	0	0	0	4.37	0	0	0	37.62
STMG0821	224.82	229.71	0.31	225.84	8:00 AM	11.44	1.9	0	0	0	3.87	0	0	0	22.718
STMG0731	268.21	273.67	0.1	268.53	8:00 AM	1.74	0.297	0	0	0	5.14	0	0	0	3.914
STMG072	222.75	225.85	0.35	224.31	8:00 AM	10.39	1.74	0	0.15	0.065	1.535	0	0	0	21.466
STMF073	221.91	224.37	0.3	223.14	8:00 AM	10.39	1.74	0	0	0	1.23	0	0	0	21.466
STMG0819	218.34	223.23	0.64	221.85	8:06 AM	61.1	11.1	-0.003	0.54	0.76	1.38	0	0	0	137.32
STMG0718	256.68	270.08	0.18	257.33	8:00 AM	4.27	0.709	0	0	0	12.75	0	0	0	8.578
STMG0816	235.61	238.11	0.25	236.51	8:00 AM	6.79	1.12	0	0	0	1.6	0	0	0	14.311
STMG0834	217.11	223.65	0.24	217.89	8:00 AM	14.14	2.35	0	0	0	5.76	0	0	0	27.984
STMG073	226.2	231.3	0.27	227.07	8:00 AM	11.44	1.9	0	0	0	4.23	0	0	0	22.718
STMG0730	262.62	266.77	0.2	263.32	8:00 AM	2.51	0.425	0	0	0	3.45	0	0	0	5.594
STMG0841	220.3	223.9	0.19	220.97	8:00 AM	4.93	0.813	0	0	0	2.93	0	0	0	9.635
STMG0843	214.07	219.37	0.35	215.22	8:01 AM	14.14	2.35	0	0	0	4.15	0	0	0	27.984
STMG0924	218	223.77	0.48	219.59	8:00 AM	4.82	0.796	-0.031	0	0	4.18	0	0	0	9.95
STMG081	204.25	209.96	0.2	204.99	8:00 AM	3.33	0.551	0.001	0	0	4.97	0	0	0	6.326
STMG0810	224.14	227.35	0.15	224.66	8:00 AM	2.72	0.447	-0.002	0	0	2.69	0	0	0	5.266
STMG0847	229.97	233.33	0.29	232.37	7:15 AM	4.19	0.695	0	0.97	1.403	0.957	0	0	0	8.539
STMG0814	218.02	221.32	0.18	218.67	8:00 AM	3.17	0.523	0	0	0	2.65	0	0	0	6.277
STMG0842	230.83	235.93	0.3	233.68	7:11 AM	4.94	0.813	0	1.32	1.852	2.248	0	0	0	9.635
STMG089	221.73	226.53	0.35	222.87	8:00 AM	14.14	2.35	0	0	0	3.66	0	0	0	27.984
STMG0723	264.31	268.01	0.11	264.67	8:00 AM	0.77	0.129	-0.001	0	0	3.34	0	0	0	1.68
STMG086	212.42	217.42	0.61	217.42	7:42 AM	60.52	11.1	0	0.8	2.25	0	0.01	0.92	0	137.32
STMG0840	226.5	230.19	0.17	227.08	8:00 AM	4.93	0.813	0	0	0	3.11	0	0	0	9.635
STMG084	209.23	215.18	0.25	214.45	7:42 AM	1.9	0.316	-0.003	1.22	3.974	0.726	0	0	0	3.876
STMG088	236	238.84	0.44	238.81	7:59 AM	6.79	1.12	0	1.61	1.558	0.032	0	0	0	14.311
STMG083	208.26	214.77	0.66	213.73	7:42 AM	61.95	11.4	0	1.09	2.724	1.036	0	0	0	141.196
STMG0916	191.69	198.82	0.22	195.11	7:43 AM	3.22	0.536	0.001	0.4	2.424	3.706	0	0	0	6.582
STMG074	228.1	233.73	0.22	228.81	8:01 AM	7.29	1.21	0	0	0	4.92	0	0	0	14.457
STMF083	218.19	225.53	0.3	219.22	8:00 AM	14.86	2.48	0	0	0	6.31	0	0	0	30.29
STMG0815	231.5	235.51	0.23	232.38	8:00 AM	6.78	1.12	0	0	0	3.13	0	0	0	14.311

Junctions CIP Model

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
STMG0817	226.04	229.1	0.35	229.1	7:14 AM	6.77	1.12	0	1.35	1.81	0	0	0	0	14.311
STMG082	206.02	211.29	0.67	211.29	7:42 AM	63.66	11.8	0	1.21	2.271	0	0.01	0.23	0	145.082
STMG076	227.4	231.5	0.09	227.7	8:00 AM	4.18	0.692	0	0	0	3.8	0	0	0	8.261
STMG0715	254.03	260.09	0.15	254.55	8:00 AM	4.27	0.709	0	0	0	5.54	0	0	0	8.578
STMG0864	226.19	231.18	0.22	228.1	8:09 AM	4.19	0.695	0	0.42	0.409	3.081	0	0	0	8.539
STMG0837	208	215.01	0.45	209.56	8:00 AM	22.54	3.74	0	0	0	5.45	0	0	0	44.495
STMF078	258.86	262.94	0.19	259.56	8:00 AM	4.27	0.709	0	0	0	3.38	0	0	0	8.578
STMG0930	195.5	203.44	0.16	196.06	8:00 AM	3.22	0.536	0	0	0	7.38	0	0	0	6.582
STMH077	262.39	267.48	0.12	262.78	8:00 AM	2.59	0.431	0	0	0	4.7	0	0	0	5.536
STMG0754	307.92	315.21	0.07	308.15	8:00 AM	1.45	0.243	0	0	0	7.06	0	0	0	3.4
STMG0865	235.06	239.46	0.19	236.19	8:03 AM	8.17	1.35	0	0	0	3.27	0	0	0	20.414
STMG0770	245.78	251.08	0.33	247.07	8:00 AM	7.34	1.22	0	0	0	4.01	0	0	0	14.879
STMG0714	295.85	300.39	0.14	296.31	8:00 AM	3.7	0.613	0	0	0	4.08	0	0	0	6.891
STMG0767	265.52	270.69	0.2	266.21	8:00 AM	7.09	1.18	0	0	0	4.48	0	0	0	14.788
STMG0833	247	252.46	0.26	247.9	8:00 AM	12.11	2.01	0	0	0	4.56	0	0	0	23.58
STMG0858	244.49	250.27	0.23	245.31	8:00 AM	8.17	1.35	0	0	0	4.96	0	0	0	20.414
STMG0771	260.62	265.4	0.21	261.43	8:00 AM	7.09	1.18	0	0	0	3.97	0	0	0	14.788
STMG0830	231.75	238.04	0.52	234.83	8:03 AM	37.54	6.31	0	0.49	0.834	3.206	0	0	0	79.165
STMG0722	242.48	248.22	0.25	243.52	8:00 AM	7.34	1.22	0	0	0	4.7	0	0	0	14.879
STMG0739	245.3	250.5	0.36	246.51	8:00 AM	7.34	1.22	0	0	0	3.99	0	0	0	14.879
STMG0751	286.67	289.91	0.11	287.02	8:01 AM	1.45	0.243	0.001	0	0	2.89	0	0	0	3.4
STMG0829	227.89	235.05	0.58	231.02	8:04 AM	50.18	8.46	0.001	0.11	0.128	4.032	0	0	0	104.497
STMG0710	247.1	248.1	0.21	247.81	8:00 AM	8.52	1.42	0	0	0	0.79	0	0	0	17.528
STMG0849	225.39	231.01	0.62	229.51	8:06 AM	49.62	8.46	-0.001	0.6	1.119	1.501	0	0	0	104.497
STMG0765	340.04	345.64	0.17	340.59	8:00 AM	1.45	0.243	0	0	0	5.05	0	0	0	3.4
STMG0851	238.1	242.82	0.35	239.32	8:00 AM	20.62	3.43	0	0	0	3.5	0	0	0	41.108
STMG0863	223.96	229.51	0.63	228.58	8:07 AM	49.63	8.46	0	0.91	1.616	0.934	0	0	0	104.497
STMG0825	222.92	229.87	0.66	228.02	8:10 AM	53.39	9.14	0	1.12	2.095	1.855	0	0	0	104.497
STMG0911	201.8	208.1	0.24	203.01	8:01 AM	1.75	0.328	0	1.15	0.212	5.088	0	0	0	4.363
STMH073	257	261.49	0.22	261.49	7:15 AM	2.59	0.431	0	0.91	3.491	0	0.01	0.31	0	5.536
STMG099	201.5	208.58	0.42	202.91	8:02 AM	29.51	5.06	0	0	0	5.67	0	0	0	68.449
STMG0857	241.7	247.45	0.23	242.52	8:00 AM	8.17	1.35	0	0	0	4.93	0	0	0	20.414
STMG0762	338.85	344.12	0.08	339.1	8:00 AM	1.45	0.243	0	0	0	5.02	0	0	0	3.4
STMG0713	280.5	284.89	0.1	280.84	8:00 AM	3.7	0.613	0	0	0	4.05	0	0	0	6.891
STMG0734	262.5	270.83	0.14	262.96	8:00 AM	3.7	0.613	0	0	0	7.87	0	0	0	6.891
STMG0859	245.36	250.58	0.3	247.89	7:50 AM	8.17	1.35	0	0.23	1.284	2.686	0	0	0	20.414
STMH081	254.22	260.12	0.46	259.57	7:09 AM	8.42	1.4	0.001	1.57	4.098	0.552	0	0	0	16.689
STMG0853	224.49	229.14	0.23	228.04	8:09 AM	4	0.683	-0.001	1.12	2.047	1.103	0	0	0	0
STMG0768	249.66	253.51	0.27	253.51	7:21 AM	7.34	1.22	0	0.85	2.851	0	0.01	0.43	0	14.879
STMG0750	284.09	289.98	0.16	284.62	8:00 AM	7.09	1.18	0	0	0	5.36	0	0	0	14.788
STMG0824	223.21	230.31	0.62	228.14	8:09 AM	49.63	8.46	0	1.05	1.926	2.174	0	0	0	104.497
STMG0769	254.21	259.52	0.1	254.54	8:00 AM	1.56	0.258	-0.001	0	0	4.98	0	0	0	3.041
STMG102	199.76	210.12	0.41	210.12	7:12 AM	6.75	1.13	-0.001	1.44	9.36	0	0.01	0.38	0	13.7
STMG0766	300.47	305.75	0.07	300.71	8:00 AM	1.34	0.228	0.001	0	0	5.04	0	0	0	3.274
STMG079	244.55	251.96	0.24	245.37	8:00 AM	8.52	1.42	0	0	0	6.59	0	0	0	17.528
STMG0711	250.1	254.87	0.24	253.46	7:35 AM	8.52	1.42	0	0.56	2.356	1.414	0	0	0	17.528
STMG0742	257.32	262.51	0.13	257.74	8:00 AM	2.23	0.375	0.002	0	0	4.77	0	0	0	5.032
STMG0852	234.17	239.07	0.44	236.2	8:02 AM	28.58	4.78	0	0	0	2.87	0	0	0	61.522
STMG0936	210.16	220.95	0.39	211.57	8:00 AM	24.81	4.21	0	0	0	9.38	0	0	0	57.828
STMG0856	239.74	246.97	0.29	240.71	7:46 AM	8.17	1.35	0	0	0	6.26	0	0	0	20.414
STMH076	255.5	259.7	0.24	259.7	7:15 AM	2.59	0.431	0.001	1.34	3.202	0	0.01	0.16	0	5.536
STMG0747	261.2	265.53	0.2	261.9	8:00 AM	7.09	1.18	0	0	0	3.63	0	0	0	14.788
STMG0935	211.3	221.54	0.38	212.68	8:00 AM	24.8	4.21	0	0	0	8.86	0	0	0	57.828
STMG0720	256.47	261.19	0.24	261.19	7:44 AM	8.52	1.42	0.001	0.35	3.47	0	0.01	0.31	0	17.528
STMG103	194.51	205.61	0.21	195.31	8:00 AM	6.75	1.13	0	0	0	10.3	0	0	0	13.7
STMG0749	276.33	282.78	0.18	276.94	8:00 AM	7.09	1.18	0	0	0	5.84	0	0	0	14.788
STMG0848	225.02	231.27	0.62	229.25	8:09 AM	49.63	8.46	0	0.67	1.23	2.02	0	0	0	104.497
STMG0933	214.11	224.36	0.39	215.52	8:00 AM	24.81	4.21	0	0	0	8.84	0	0	0	57.828
STMG0850	229.13	237.33	0.62	231.78	8:04 AM	50.38	8.46	0	0	0	5.55	0	0	0	104.497
STMG0860	250.4	256.06	0.23	251.22	8:00 AM	8.17	1.35	0	0	0	4.84	0	0	0	20.414
STMG0735	243.49	249.49	0.26	244.4	8:00 AM	7.33	1.22	0	0	0	5.09	0	0	0	14.879
STMG0932	223.75	232.47	0.24	224.51	8:00 AM	9.56	1.7	0.001	0	0	7.96	0	0	0	24.842
STMG0831	238.07	243.07	0.25	238.93	8:00 AM	12.85	2.15	0	0	0	4.14	0	0	0	25.332
STMG078	242.4	247.18	0.2	243.07	8:00 AM	8.52	1.42	0	0	0	4.11	0	0	0	17.528
STMG0832	240.5	245.31	0.32	241.66	8:00 AM	12.11	2.01	0	0	0	3.65	0	0	0	23.58
STMG0934	212.83	223.17	0.39	214.24	8:00 AM	24.81	4.21	0	0	0	8.93	0	0	0	57.828
STMG0712	256	261.61	0.15	256.52	8:00 AM	3.7	0.613	0	0	0	5.09	0	0	0	6.891
STMG0755	315.4	318.78	0.08	315.66	8:00 AM	1.35	0.228	0	0	0	3.12	0	0	0	3.274
STMG0937	208.73	219.38	0.4	210.2	8:01 AM	24.81	4.21	0	0	0	9.18	0	0	0	57.828
STMG0738	245.09	250.29	0.24	245.94	8:00 AM	7.34	1.22	0	0	0	4.35	0	0	0	14.879
STMH072	292.3	301.98	0.09	292.59	8:00 AM	2.09	0.349	-0.003	0	0	9.39	0	0	0	4.22
STMG0855	253.08	266.68	0.24	253.94	8:00 AM	8.42	1.4	0	0	0	12.74	0	0	0	16.689
STMH071	269.29	275.64	0.5	270.02	8:00 AM	2.09	0.349	0.078	0	0	5.62	0	0	0	4.22
STMG0733	268.14	274.85	0.08	268.41	8:00 AM	0.5	0.083	-0.002	0	0	6.44	0	0	0	1.317
STMG0744	262.97	268.23	0.12	263.35	8:00 AM	2.23	0.375	0	0	0	4.88	0	0	0	5.032
STMG0761	324	329.73	0.07	324.23	8:00 AM	1.45	0.243	0	0	0	5.5	0	0	0	3.4
STMF0832	203.44	209.97	0.18	204.16	8:00 AM	3.54	0.586	0	0	0	5.81	0	0	0	6.646
STMG0721	264.2	270.54	0.1	264.53	8:00 AM	1.44	0.238	-0.002	0	0	6.01	0	0	0	2.74
STMG1025	182.1	187.45	0.17	183.1	8:00 AM	2.1	0.352	-0.001	0	0	4.35	0	0	0	4.058
STMF0924	183.64	193.32	0.32	184.91	8:00 AM	11.82	1.97	0	0	0	8.41	0	0	0	23.327
STMG0774	261.43	268.38	0.24	262.11	8:00 AM	2.51	0.415	0.001	0	0	6.27	0	0	0	5.124
STMF0922	188.07	199.21	0.34	191.54	7:57 AM	11.82	1.97	0	0.22	1.965	7.675	0	0	0	23.327
STMF0918	200.2	208.07	0.21	200.98	8:00 AM	3.51	0.581	0	0	0	7.09	0	0	0	6.674
STMF0928	194.94	199.96	0.15	195.45	8:00 AM	1.58	0.263	0	0	0	4.51	0	0	0	3.215
STMF0923	186.61	197.57	0.34	190.34	7:57 AM	11.82	1.97	0	0.16	2.227	7.233	0	0	0	23.327
STMF0839	197.51	207.13	0.56	202.17	9:09 AM	3.88	0.643	0.007	3	3.663	4.957	0	0	0	7.383
STMF0921	190.78	201.67	0.29	195.25	7:57 AM	6.66	1.11	0	1.02	3.469	6.421	0	0	0	13.235
STMG075	229.78	234.32	0.22	230.51	8:01 AM	7.29	1.21	0	0	0	3.81	0	0	0	14.457
STMG1024	180.74	186.75	0.35	183.24	7:13 AM	5.54	0.922	-0.003	1.87	1.254	3.506	0	0	0	11.277
STMF0917	189.31	199.98	0.3	192.65	7:57 AM	10.53	1.75	0	0.09	1.841	7.329	0	0	0	20.618
STMF0925	190.26	197.5	0.13	190.7	7:58 AM	1.28	0.215	0.001	0	0	6.8	0	0	0	2.709
STMG1022	183.41	188.61	0.21	184.13	8:00 AM	3.45	0.57	0	0	0	4.48	0	0	0	7.219
STMG1023	182.09	187.14	0.22	183.51	8:00 AM	3.44	0.57	0	0.26	0.165	3.635	0	0	0	7.219
STMF0919	198.53	209.21	0.14	199.01	8:00 AM	3.51	0.581	0	0	0	10.2	0	0	0	6.674
STMF0841	194.31	203.23	0.24	195.13	8:00 AM	3.88	0.643	0	0	0	8.1	0	0	0	7.383
STMG0775	259	264.65	0.12	259.42	8:00 AM	2.51	0.415	0	0	0	5.23	0	0	0	5.124
STMG0777	245.36	250.92	0.18	246	8:00 AM	2.5	0.415	0.001	0	0	4.92	0	0	0	5.124
STMG0776	248.31	256.16	0.1	248.64	8:00 AM	2.51	0.415	0	0	0	7.52	0	0	0	5.124
STMF0840	194.68	203.47	0.18	195.36	8:00 AM	3.88	0.643	0	0	0	8.11	0	0	0	7.383
STMF0916	191.75	207.28	0.16	192.29	7:57 AM	3.88	0.643	0	0	0	14.99	0	0	0	7.383
STMF0915	192.18	205.63	0.22	192.94	8:00 AM	3.88	0.643	0	0	0	12.69	0	0	0	7.383
STMF0930	198.17	203.38	0.12	198.55	8:00 AM	1.58	0.263	0	0	0	4.83	0	0	0	3.215
STMG0772	244.3	247.5	0.19	244.93	8:00 AM	7.3	1.21	0	0	0	2.57	0	0	0	14.457
STMF0914	192.61	205.38	0.18	193.25	8:00 AM	3.88	0.643	0	0	0	12.13	0	0	0	7.383
STMG133	157.92	167.29	0.69	165.22	7:04 AM	9.83	1.63	0	2.22	5.804	2.066	0	0	0	49.089
J3498	159	166.51	0.23	159.77	8:00 AM	2.92	0.575	0	0	0	6.74	0	0	0	8.357
J3514	224.8	227.3	0.26	226.03	8:11 AM	7.86	1.14	0.01	0	0	1.935	0	0	0	22.85
J3516	224.36	227.15	0.15	225.91	8:11 AM	7.5	1.14	-0.002	0.14	0.047	1.243	0	0	0	22.85
J3530	217	219	0.19	217.59	8:01 AM	8.31	1.58	0	0	0	1.41	0	0	0	21.194
J3540	239.5	242.83	0.19	240.19	8:00 AM	6.78	1.13	0	0	0	2.64	0	0	0	14.171
J3664	200.3	205.18	1	202.92	8:08 AM	70.01	12.8	-0.003	0	0	2.26	0	0	0	157.684
J3666	200	203.9	0.53	202.43	8:08 AM	71.31	13.1	0.003	0	0	2.094	0	0	0	160.683
J3688	172.98	177.06	0.3	174.06	8:00 AM	10.13	1.69	-0.001	0	0	3	0	0	0	18.386
J3692	185	191.86	0.45	187.51	7:59 AM	13.58	2.32	0	1.75	1.005	4.355	0	0	0	28.509
J3694	184.5	187.4	0.74	186.49	8:01 AM	54.62	9.67	-0.001	0	0	1.031	0	0	0	123.332
J3700	140	152	0.16	140.41	7:57 AM	4.14	0.69	0.002	0	0	14.235	0	0	0	7.824
J3708	185	190.04	0.92	188.87	8:07 AM	39.57	6.89	0.007	0	0	1.17	0	0	0	91.042
J3728	195.5	202.25	0.5	197.68	8:02 AM	46.47	7.74	0	0	0	4.57	0	0	0	92.626
J3730	194.8	202.42	0.59	196.58	8:03 AM	46.43	7.74	-0.001	0	0	5.84	0	0	0	92.626
J3760	185.9	192.54	1.03	189.25	8:03 AM	90.44	15.1	0.028	0	0	3.29	0	0	0	185.088
J3780	243.1	246.5	0.29	243.84	8:00 AM	7.3	1.21	0	0	0	2.66	0	0	0	14.457
J3838	182.3	191.19	0.32	183.19	8:01 AM	11.8	1.97	-0.015	0	0	8	0	0	0	23.327
J3896	188.7	195.99	0.53	190.53	8:01 AM	38.6	6.63	0.001	0	0	5.46	0	0	0	87.292

Junctions CIP Model

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
J3932	160	165	0.31	160.74	8:05 AM	6.78	1.38	0.006	0	0	4.872	0	0	0	19.388
J3990	182	187	0.09	182.33	8:00 AM	1.5	0.266	0.003	0	0	4.67	0	0	0	3.802
J4040	172.53	177.53	0.33	173.86	8:00 AM	15.63	2.64	0	0	0	3.67	0	0	0	32.588
J-CCT3-18	180	185	0.69	181.71	8:00 AM	98.32	17.3	-0.007	0	0	3.29	0	0	0	212.513
J4058	155	162.28	0.26	160.48	7:15 AM	3.87	0.645	0.001	0.89	4.484	1.796	0	0	0	6.905
J4060	153.98	162.98	0.26	158.41	7:15 AM	3.87	0.645	0	0.87	3.435	4.565	0	0	0	6.905
J4120	199	203	0.56	200.57	8:01 AM	46.52	7.74	0.002	0	0	3.354	0	0	0	92.626
J4142	150	155.68	0.21	150.56	7:46 AM	6.67	1.33	0.002	0	0	24.463	0	0	0	25.387
J4162	196	202	0.57	200.82	8:03 AM	75.34	13.9	0	1.08	1.824	1.176	0	0	0	169.937
J4216	110	114.31	0.13	110.37	8:01 AM	8.6	1.45	0.012	0	0	5.701	0	0	0	18.216
J-CCT3-15	171.4	176.32	0.94	175.11	8:01 AM	95.73	17.6	0.005	1.39	0.882	1.208	0	0	0	216.315
J4298	224.9	227.89	0.55	226.21	8:10 AM	6.77	1.12	-0.006	0	0	1.855	0	0	0	14.311
J4318	180	183	0.78	182.18	8:02 AM	60.27	10.6	0	0	0	2.294	0	0	0	135.299
J4362	179.3	185.39	0	179.3	12:00 AM	0	0	0	0	0	6.09	0	0	0	0
J-CCT1-05	121.5	123.35	0.74	124.78	8:07 AM	28.32	4.92	0.029	0	0	39.834	0	0	0	88.36
STMG1215	168.8	175.4	0.2	175.4	7:15 AM	3.04	0.51	0	0.82	5.6	0	0	0	0	4.991
J4400	227.5	230.93	0	227.82	8:09 AM	1.5	0.012	0.002	0	0	3.11	0	0	0	8.539
J4402	182.41	190.82	0.38	187.39	7:50 AM	10.4	1.75	0.006	0.54	3.484	3.426	0	0	0	21.856
J-CCT1-02	100	150	0.51	101.53	8:03 AM	56.19	10.5	0.003	0	0	51.301	0	0	0	163.419
J4482	176.38	180.82	0.5	178.03	8:02 AM	60.27	10.6	0	0	0	2.824	0	0	0	135.299
J4500	146	152.07	0.13	146.34	8:00 AM	4.04	0.673	0.003	0	0	5.73	0	0	0	8.596
J4526	229.4	230.88	0.13	229.84	8:00 AM	4.19	0.695	0	0	0	1.04	0	0	0	8.539
J4572	150	163.61	0.3	150.78	8:00 AM	12.49	2.28	0.003	0	0	12.83	0	0	0	57.007
J4632	163.5	166.2	0.41	164.38	8:00 AM	6.83	1.38	-0.002	0	0	1.82	0	0	0	19.388
J4634	162.6	166.5	0.2	163.2	8:02 AM	6.8	1.38	0.003	0	0	3.3	0	0	0	19.388
J4708	146.5	152.59	0.05	146.64	8:00 AM	1.43	0.238	-0.033	0	0	5.95	0	0	0	2.842
J4770	185.5	191.72	0.37	188.09	7:34 AM	6.86	1.19	-0.003	1.38	1.093	3.627	0	0	0	14.809
J4818	176	188.53	0.44	180.58	7:12 AM	13.94	2.32	0	1.01	3.077	7.953	0	0	0	25.425
J-CCT3-11	160.41	169	1.29	164.76	8:27 AM	129.92	26.4	0	1.09	0.353	4.237	0	0	0	330.426
J4882	175.58	185.78	0.3	176.68	8:00 AM	11.02	1.84	0	0	0	9.1	0	0	0	20.184
J4888	144	146	0.1	144.34	8:00 AM	4.47	0.745	-0.001	0	0	1.66	0	0	0	8.567
J4894	144.1	150.46	0.1	144.39	8:00 AM	5.67	0.963	-0.005	0	0	6.07	0	0	0	11.833
J4898	172.38	180.52	0.74	174.43	8:03 AM	60.26	10.6	0.001	0	0	6.09	0	0	0	135.299
J4938	184	195.83	0.34	185.06	8:00 AM	10.51	2.02	-0.001	0	0	10.77	0	0	0	51.308
J4946	171.5	173.5	0.4	172.9	7:50 AM	11.74	1.97	0.017	0	0	0.86	0	0	0	23.327
J4948	171.4	173.75	0.23	172.04	8:02 AM	14.79	1.97	0.001	0	0	1.71	0	0	0	23.327
J4972	268.1	274.54	0.1	268.44	8:00 AM	2.09	0.348	0	0	0	6.1	0	0	0	4.22
J5034	154.93	166.68	0.77	158.68	8:06 AM	70.05	12.3	-0.001	0	0	12.284	0	0	0	155.722
J5040	201	207.71	1.07	204.04	8:05 AM	66.78	12.3	-0.001	0	0	3.67	0	0	0	151.359
J5064	217.53	219	0.31	218.54	8:01 AM	8.35	1.58	0.016	0	0	0.99	0	0	0	21.194
J5174	188	193.51	0.72	189.99	8:02 AM	38.6	6.63	0	0	0	3.52	0	0	0	87.292
J5220	188	192.5	0.23	192.5	7:34 AM	2.18	0.392	0.007	0.64	3.501	0	0.01	0.16	0	4.69
J5304	174	182.38	0.6	182.26	7:59 AM	6.35	1.06	-0.001	2.51	7.263	0.117	0	0	0	11.871
J5354	153	163	0.16	153.48	8:00 AM	4.69	0.781	-0.013	0	0	30.105	0	0	0	9.415
J5366	200.41	205.35	1.01	203.49	8:07 AM	66.75	12.3	0.001	0	0	3.249	0	0	0	151.359
J5398	175	183.76	0.25	175.67	8:00 AM	13.94	2.32	-0.042	0	0	8.09	0	0	0	25.425
J5422	167.05	168.79	0.25	167.75	8:00 AM	10.13	1.69	-0.003	0	0	2.018	0	0	0	18.386
STMF126	166.02	170.42	0.26	168.36	7:14 AM	6.69	1.13	0	0.92	1.337	2.063	0	0	0	11.033
J5472	187.5	192.36	0.54	189.4	8:02 AM	38.6	6.63	0	0	0	2.96	0	0	0	87.292
J5474	187	191.77	0.54	188.91	8:07 AM	40.13	6.89	-0.007	0	0	2.86	0	0	0	91.042
J5554	164.69	170.51	0.24	165.47	8:00 AM	20.33	3.45	-0.001	0	0	5.04	0	0	0	36.459
J5576	167.5	171.97	0.65	169.28	8:02 AM	70.1	12.3	0.001	0	0	13.854	0	0	0	155.722
J-CCT3-12	162.9	167.39	1.24	170.71	8:28 AM	139.47	26.1	0.026	0	0	0.908	0	0	0	326.737
J3646	161.58	173.78	0.27	162.47	8:00 AM	12.76	2.18	0.001	0	0	11.31	0	0	0	24.911
J-CCT3-14	171.1	176.5	0.81	173.41	8:01 AM	126.56	23.3	-0.001	0	0	6.408	0	0	0	287.679
J-CCT3-10	160	170	1.05	162.67	8:27 AM	129.92	26.4	0	0	0	14.969	0	0	0	330.426
J-CCT3-06	138	148	0.92	140.45	8:11 AM	150.43	30.4	0.003	0	0	23.593	0	0	0	380.578
J5386	150	170	0.32	150.85	8:01 AM	17.14	2.99	-0.025	0	0	21.844	0	0	0	36.85
J-CCT3-04	128	148	0.96	130.56	8:07 AM	261.14	51	-0.001	0	0	42.796	0	0	0	646.625
J-CCT3-02	112	152	1.57	116.1	8:09 AM	314.31	60.6	0.018	0	0	41.256	0	0	0	753.955
J-CCT1-03	112	162	0.4	113.2	8:01 AM	43.47	7.98	0.001	0	0	50.689	0	0	0	127.078
J-CCT1-04	121	160	0.45	122.38	8:00 AM	39.35	7.28	-0.005	0	0	40.87	0	0	0	119.255
J3786	143.5	163.5	0.73	145.6	8:04 AM	87.08	15.5	-0.012	0	0	27.276	0	0	0	193.679
J-CCT1-07	130	132	0.32	130.94	8:00 AM	18.35	3.25	-0.002	0	0	27.623	0	0	0	68.836
J-CCT3-05	130	150	1.71	134.24	8:08 AM	243.87	47.7	0.008	0	0	29.007	0	0	0	601.165
J-CCT1-06	129.31	139.31	0.35	130.38	8:01 AM	23.67	4.14	-0.022	0	0	42.044	0	0	0	78.945
STMF1224	129.1	152.56	0.64	130.81	8:00 AM	46.5	7.82	-0.03	0	0	26.698	0	0	0	84.963
J-CCT2-05	131	156	0.7	133.06	8:01 AM	48.17	8.1	0.001	0	0	38.518	0	0	0	90.561
J-CCT3-03	120	160	1.16	123.1	8:09 AM	270.78	52.8	0.001	0	0	42.256	0	0	0	668.991
J-CCT3-07	145	155	1.23	148.03	8:28 AM	133.27	27.1	0.001	0	0	14.609	0	0	0	339.543
J-CCT3-08	148	158	1.03	150.63	8:27 AM	132.39	26.9	0	0	0	15.009	0	0	0	337.131
J-CCT3-09	156	166	0.97	158.49	8:27 AM	131.41	26.7	0.001	0	0	15.149	0	0	0	334.518
J-CCT3-13	168.45	171.45	0.81	170.89	8:27 AM	128.06	23.5	-0.028	0	0	6.278	0	0	0	290.981
J-CCT3-16	174.28	179.13	0.67	175.95	8:01 AM	95.87	17.6	-0.001	0	0	3.18	0	0	0	216.315
J-CCT2-04	123	173	0.42	124.28	8:00 AM	52.54	8.84	0	0	0	48.72	0	0	0	99.128
J-CCT2-03	107	150	0.81	109.42	8:01 AM	56.02	9.44	0.001	0	0	46.226	0	0	0	106.358
J-CCT2-02	100	109	0.41	101.09	8:00 AM	65.97	11.1	0.001	0	0	47.556	0	0	0	126.628
J-CCT2-06	133.5	158.5	0.48	134.88	8:01 AM	44.76	7.52	0	0	0	29.319	0	0	0	82.405
STII118	190.63	202.32	0.3	191.73	8:00 AM	8.57	1.44	0	0	0	10.59	0	0	0	13.884
STIH1040	211	218	0.11	211.36	8:00 AM	2.24	0.372	0	0	0	6.64	0	0	0	4.323
STIH1036	190	197.28	0.57	191.44	7:59 AM	35.47	8.84	0	0	0	5.84	0	0	0	105.855
STII0952	251.69	259.1	0.13	252.11	8:00 AM	1.4	0.24	0	0	0	6.99	0	0	0	3.179
STII0962	254	261.65	0.29	254.88	8:01 AM	5	1.02	-0.001	0	0	6.77	0	0	0	13.559
STII0950	252.77	260.32	0.13	253.19	8:00 AM	1.4	0.24	0	0	0	7.13	0	0	0	3.179
STIH12182	179.31	187.08	0.24	180.15	8:00 AM	3.6	0.607	0	0	0	6.93	0	0	0	5.723
STII0953	260	263.29	0.07	260.2	8:00 AM	0.49	0.086	-0.002	0	0	3.09	0	0	0	1.15
STIH118	163.5	170	0.19	164.13	8:00 AM	23.43	3.93	0	0	0	5.87	0	0	0	46.353
STIH081	286.77	288.47	0.1	287.09	8:00 AM	2.82	0.472	0	0	0	1.38	0	0	0	6.232
STII093	233.5	240.03	1.8	236.61	6:43 AM	7.23	3.52	0.002	31.62	2.112	3.418	0	0	0	43.284
STIH1013	201.5	208.96	0.08	201.76	8:00 AM	1.46	0.215	-0.002	0	0	7.2	0	0	0	2.599
STIH146	163.62	166.22	0.18	164.26	8:00 AM	3.97	0.665	0	0	0	1.96	0	0	0	6.839
STII0957	256.62	263.32	0.27	257.46	8:01 AM	5	1.02	0	0	0	5.86	0	0	0	13.559
STIH1033	209	215.86	0.1	209.31	8:00 AM	1.4	0.232	0	0	0	6.55	0	0	0	2.761
STII116	188.91	198.38	0.32	190.09	8:00 AM	8.57	1.44	0	0	0	8.29	0	0	0	13.884
STII151	159.5	167.59	0.31	160.41	8:00 AM	6.44	1.39	0	0	0	7.18	0	0	0	19.262
STII0954	259	260.95	0.11	259.28	8:01 AM	4.98	0.947	-0.008	0	0	3.881	0	0	0	13.784
STII0942	250.05	260.59	0.13	250.46	8:01 AM	1.39	0.24	0	0	0	10.13	0	0	0	3.179
STII0941	252	258.06	0.25	252.66	8:00 AM	4.9	1.29	0	0	0	5.4	0	0	0	18.277
STIH0917	230	242	0.35	230.86	8:34 AM	4.88	1.29	0.007	0	0	11.14	0	0	0	18.277
J3	164	169.8	0.25	164.9	8:00 AM	2.95	0.491	-0.002	0	0	4.9	0	0	0	5.374
STIG1139	186.5	191.5	0.39	188.32	8:01 AM	6.66	1.57	0	1.58	0.322	3.178	0	0	0	17.535
STII0956	257.19	263.76	0.28	258.07	8:01 AM	5	1.02	0	0	0	5.69	0	0	0	13.559
STIL085	276.09	280.14	0.18	276.61	8:00 AM	5.01	1.02	0	0	0	3.53	0	0	0	13.559
STIG1142	186.5	192.43	0.6	188.74	8:03 AM	6.66	1.57	-0.001	2.62	0.74	3.69	0	0	0	17.535
STIH12125	178.25	181.65	0.23	179.02	8:00 AM	3.6	0.607	0	0	0	2.63	0	0	0	5.723
STII0943	249.57	260.13	0.14	250.01	8:01 AM	1.39	0.24	-0.004	0	0	10.12	0	0	0	3.179
STII0948	251.09	259.84	0.13	251.51	8:00 AM	1.39	0.24	0	0	0	8.33	0	0	0	3.179
STIH107	185.07	192.18	0.08	185.33	8:00 AM	2.16	0.363	-0.003	0	0	6.85	0	0	0	4.44
STII0955	257.95	263.87	0.22	258.64	8:01 AM	5	1.02	0	0	0	5.23	0	0	0	13.559
STIH1043	204	210.15	0.1	204.32	8:00 AM	2.28	0.378	0	0	0	5.83	0	0	0	4.421
STII0945	246.63	252.47	0.39	248	8:00 AM	4.9	1.29	0	1.27	0.17	4.47	0	0	0	18.277
STII142	167.62	172.08	0.84	172.08	12:02 AM	4.52	0.754	0.086	1.41	3.212	0	0.01	0.73	0	9.068
STIH145	163.35	167.1	0.67	165.6	7:59 AM	3.97	0.665	0.021	3.91	1.249	1.501	0	0	0	6.839
STII0947	248.11	252.11	0.1	248.37	8:03 AM	1.39	0.24	-0.782	0	0	3.74	0	0	0	3.179
STIH12139	173.26	178.65	0.45	178.65	7:51 AM	8.24	1.37	0.271	0.55	3.439	0	0.01	1.12	0	13.638
STIH1038	197.7	205.31	0.11	198.05	8:00 AM	2.24	0.372	0	0	0	7.26	0	0	0	4.323
STII0961	254.48	261.85	0.24	255.22	8:01 AM	5	1.02	0	0	0	6.63	0	0	0	13.559
STII0944	246.13	252.38	0.22	246.7	8:00 AM	4.9	1.29	0	0	0	5.68	0	0	0	18.277
STIG11113	185.9	192.78	0.5	187.79	8:00 AM	7.79	1.84	0	1.98	0.386	4.994	0	0	0	20.789
STII1179	205.36	212.9	0.54	207.14	8:00 AM	18.32	3.73	0.002	0	0	5.76	0	0	0	46.361
STII0940	252.88	259.13	0.36	254.36	7:59 AM	4.9	1.29	-0.001	1.86	0.479	4.771	0	0	0	18.277
STIH1035	190.9	196.99	0.73	192.73	8:06 AM	26.57	7.44	0	0	0	4.26	0	0	0	89.477
STII11135	198	211.37	0.38	199.18	8:01 AM	24.32	4.74	0	0	0	12.19	0	0	0	56.786

Junctions CIP Model

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
STII11281	201.5	211.48	0.48	203.11	8:01 AM	24.32	4.74	0	0	0	8.37	0	0	0	56.786
J-HCT4-01	163	185	0.7	164.49	8:01 AM	46.34	10.9	-0.018	0	0	24.591	0	0	0	130.231
STMI117	194	208.9	0.43	195.26	8:01 AM	24.32	4.74	0	0	0	13.64	0	0	0	56.786
STMH1027	191.5	205.82	0.35	192.67	8:00 AM	33.15	5.63	-0.001	0	0	13.15	0	0	0	77.762
STMH0918	203.7	214.44	0.35	204.88	8:00 AM	33.14	5.63	0	0	0	9.56	0	0	0	77.762
STMH0919	209.2	217.93	0.35	210.38	7:59 AM	33.14	5.63	0	0	0	7.55	0	0	0	77.762
STMH0920	212	221.44	0.3	212.97	8:00 AM	24.37	4.16	0	0	0	8.47	0	0	0	59.74
STMH0910	229	242.15	0.18	229.43	8:35 AM	4.79	1.29	0.003	0	0	12.72	0	0	0	18.277
STMH1231	171.56	179.71	0.63	173.58	8:00 AM	61.98	11.1	0	0	0	6.13	0	0	0	121.329
STMH132	154.52	164.72	9.57	164.72	8:00 AM	6.86	1.14	0.078	0	0	0.28	0	0	0	13.284
STMI132	143.41	162.13	0.45	144.81	8:00 AM	39.4	7.44	0.001	0	0	17.32	0	0	0	86.353
STMH133	153.5	163.43	0.3	154.58	8:01 AM	10.2	1.78	0	0	0	8.85	0	0	0	20.848
STMH129	180.81	192.18	0.43	182.1	8:01 AM	32.85	6.19	0.001	0	0	10.08	0	0	0	70.669
J4872	204	212.13	0.5	205.5	8:00 AM	24.33	4.74	0	0	0	6.63	0	0	0	56.786
STMH1124	203.3	211.41	0.15	203.81	8:00 AM	3.97	0.659	0	0	0	7.6	0	0	0	7.791
STMH1125	206.69	211.59	0.14	207.13	8:00 AM	3.97	0.659	0	0	0	4.46	0	0	0	7.791
STMH1126	199	205.74	0.33	200.13	8:00 AM	16.92	2.81	0	0	0	5.61	0	0	0	33.061
STMH1127	200.5	212.66	0.34	202.1	8:00 AM	13.61	1.7	0	0	0	10.56	0	0	0	26.219
STMH1129	193	197.9	0.29	194.02	8:00 AM	16.92	2.81	0	0	0	3.88	0	0	0	33.061
STMH1017	192.51	194.61	0.12	192.89	8:00 AM	3.29	0.601	0	0	0	1.72	0	0	0	7.459
STMH091	199.87	209.08	0.23	200.68	8:00 AM	3.56	0.591	-0.001	0	0	8.4	0	0	0	6.564
STMG117	185	192.25	0.5	186.5	8:00 AM	11.76	2.51	0.001	0	0	5.75	0	0	0	28.366
STMG118	183.75	188.9	0.21	184.37	8:00 AM	14.75	3.01	0.009	0	0	4.53	0	0	0	33.738
STMG1228	172	183.21	0.3	173.02	7:59 AM	12.4	2.1	-0.002	0	0	10.19	0	0	0	22.971
STMI151	156.8	164.69	0.35	157.88	8:01 AM	6.76	1.46	0	0	0	6.81	0	0	0	20.036
STMH1144	201.7	207.23	0.3	203.3	8:00 AM	9.82	1.6	-0.001	0	0	3.93	0	0	0	18.707
STMG122	171.5	177.39	0.33	176.22	7:08 AM	3.96	0.666	0	1.41	3.715	1.175	0	0	0	6.398
STMG125	166.96	177.04	0.32	168.02	8:00 AM	12.4	2.1	0.001	0	0	9.02	0	0	0	22.971
STMG126	163	172.1	0.16	163.52	8:00 AM	13.54	2.29	0.001	0	0	8.58	0	0	0	25.115
STMG112	185.51	194.41	0.56	187.36	8:00 AM	11.77	2.51	-0.001	0	0	7.05	0	0	0	28.366
STMG114	191	197.09	0.24	191.85	7:59 AM	6.67	1.12	0	0	0	5.24	0	0	0	12.636
STMH102	174.7	182.28	0.37	176	8:00 AM	21.4	3.59	0	0	0	6.28	0	0	0	41.861
STMH103	169.99	181.1	0.28	170.97	8:00 AM	21.39	3.59	0	0	0	10.13	0	0	0	41.861
STMH104	191.8	199.48	0.26	192.67	8:00 AM	9.85	1.66	0	0	0	6.81	0	0	0	19.255
STMH105	194	201.13	0.22	194.73	8:00 AM	9.85	1.66	0.001	0	0	6.4	0	0	0	19.255
STMG115	187	192.73	0.44	189.13	8:07 AM	6.62	1.57	0	0	0	3.6	0	0	0	17.535
STMH106	197.65	208.36	0.18	198.25	8:00 AM	3.56	0.591	0	0	0	10.11	0	0	0	6.564
STMH111	198.5	201.78	0.21	199.23	8:00 AM	3.3	0.601	0	0	0	2.55	0	0	0	7.459
STMH1011	199	207.82	0.14	199.45	8:00 AM	2.24	0.372	0	0	0	8.37	0	0	0	4.323
STMI111	212.62	219.78	0.51	215.45	7:59 AM	15.44	3.2	-0.003	1.32	1.081	4.329	0	0	0	40.357
STMH114	186.75	200.75	0.36	188.07	8:00 AM	21.43	3.59	0	0	0	12.68	0	0	0	42.667
STMH115	186.02	200.67	0.43	187.51	8:01 AM	21.43	3.59	0	0	0	13.16	0	0	0	42.667
STMH116	184.21	195.52	0.32	185.42	8:00 AM	23.43	3.93	0	0	0	10.1	0	0	0	46.353
STMH117	190.68	195.85	0.43	192.28	8:00 AM	20.55	3.44	0	0	0	3.57	0	0	0	40.804
STMH118	184	189.92	0.21	184.69	8:00 AM	5.8	0.965	0	0	0	5.23	0	0	0	11.206
STMH1110	200.5	204.33	0.52	203.34	7:59 AM	3.53	1.12	0	4.73	1.837	0.993	0	0	0	25.548
STMH1112	202.7	210.97	0.21	203.39	8:00 AM	3.97	0.659	0	0	0	7.58	0	0	0	7.791
STMI112	192.35	203.93	0.18	192.96	8:00 AM	3.7	0.622	-0.001	0	0	10.97	0	0	0	6.027
STMI113	187.8	195.19	0.3	188.89	8:00 AM	8.57	1.44	0	0	0	6.3	0	0	0	13.884
STMI114	185.8	195.93	0.46	187.2	8:01 AM	32.85	6.19	0	0	0	8.73	0	0	0	70.669
STMH127	173.13	181.82	0.5	174.72	8:00 AM	61.98	11.1	0	0	0	7.1	0	0	0	121.329
STMH1212	168.22	173.34	0.2	168.94	8:00 AM	4.22	0.702	0.001	0	0	4.4	0	0	0	20.077
STMH1213	161.3	169.79	0.18	161.86	8:00 AM	4.22	0.702	0	0	0	7.93	0	0	0	20.077
STMH1214	160.3	168.3	0.18	160.93	8:00 AM	4.22	0.702	-0.001	0	0	7.37	0	0	0	20.077
STMH1215	157.22	163.49	0.23	158.01	8:00 AM	6.51	1.09	0	0	0	5.48	0	0	0	24.906
STMH1216	156.42	162.65	0.14	156.86	8:00 AM	6.51	1.09	0	0	0	5.79	0	0	0	24.906
STMH1224	172.96	179.96	0.4	179.96	7:50 AM	7.77	1.37	0	0.46	5.5	0	0.01	0.29	0	13.638
STMH1227	171.54	180.88	0.4	180.88	7:52 AM	7.77	1.37	-0.003	0.38	7.84	0	0.01	0.79	0	13.638
STMH1228	165.5	173.36	0.45	167.95	8:00 AM	3.07	0.51	-0.002	3.7	1.448	5.412	0	0	0	5.804
STMH1230	172.72	176.65	0.3	175.05	7:59 AM	4.54	0.764	0	1.35	1.333	1.597	0	0	0	8.761
STMH1133	181.3	188.43	0.2	181.98	8:00 AM	5.8	0.965	0	0	0	6.45	0	0	0	11.206
STMH1135	185.8	193.24	0.24	186.69	8:00 AM	3.72	0.617	0	0	0	6.55	0	0	0	7.116
STMH1137	177.67	184.99	0.24	178.48	8:00 AM	10.03	1.67	0	0	0	6.51	0	0	0	18.611
STMH096	224	237.93	0.36	225.18	7:59 AM	10.73	1.87	-0.001	0	0	12.75	0	0	0	35.022
STMH098	213	223.88	0.36	214.24	8:00 AM	24.39	4.16	0	0	0	9.64	0	0	0	59.74
STMI1122	204.9	212.91	0.53	206.56	8:00 AM	18.32	3.73	0.001	0	0	6.35	0	0	0	46.361
STMH097	223	232.9	0.29	223.94	8:00 AM	16.51	2.82	0	0	0	8.96	0	0	0	44.788
STMI1140	205.14	210.64	0.51	206.81	8:00 AM	18.32	3.73	-0.002	0	0	3.83	0	0	0	46.361
STMI1141	204.4	215.08	0.46	205.86	8:00 AM	20.33	4.06	-0.001	0	0	9.22	0	0	0	50.118
STMH135	157.7	165.31	0.08	157.96	8:00 AM	2.23	0.372	0	0	0	7.35	0	0	0	4.871
STMH136	149.85	162.87	0.07	150.07	8:00 AM	2.23	0.372	0	0	0	12.8	0	0	0	4.871
STMH137	136.08	148.25	0.06	136.27	8:00 AM	2.23	0.372	0	0	0	11.98	0	0	0	4.871
STMH138	124.75	138.8	0.1	125.07	8:00 AM	2.23	0.372	-0.004	0	0	13.73	0	0	0	4.871
STMH1241	161.94	167.59	0.11	162.29	8:00 AM	3.1	0.514	-0.003	0	0	5.3	0	0	0	5.895
STMH1245	166.12	172.52	0.18	166.58	8:00 AM	3.89	1.06	-0.002	0	0	5.94	0	0	0	13.112
STMH1252	163.82	169.55	0.18	165.32	8:01 AM	0.83	0.139	0.029	1.56	0.496	4.234	0	0	0	1.546
STMH1253	170.83	177.28	0.3	177.28	7:18 AM	10.33	1.74	0	0.75	4.951	0	0.01	0.22	0	16.942
STMH1254	169.5	176.84	0.37	176.77	7:18 AM	10.4	1.74	0.002	0.8	5.771	0.069	0	0	0	16.942
STMH1244	167.19	172.59	0.39	172.59	7:06 AM	3.89	1.06	-0.002	2.15	4.4	0	0	0	0	13.112
STMH1243	168.94	173.54	0.43	172.69	9:13 AM	3.89	1.06	0.002	2.19	2.746	0.854	0	0	0	13.112
STMH1242	169.93	174.17	0.4	173.47	7:05 AM	3.89	1.06	-0.001	2.12	2.536	0.704	0	0	0	13.112
STMH1211	168.5	174.72	0.11	169.02	8:00 AM	4.99	0.425	0.003	0	0	5.7	0	0	0	12.349
STMH1226	169.99	173.7	0.02	170.57	8:00 AM	3.02	0.095	0.019	0	0	3.13	0	0	0	8.761
STMH1221	170.42	174.92	0.03	171.35	8:00 AM	3.03	0.095	0.021	0	0	3.57	0	0	0	8.761
STMH1222	171	176.3	0.27	173.42	7:59 AM	4.54	0.764	-0.003	0.59	0.315	2.885	0	0	0	8.761
STMH1223	172.94	177.04	0.41	176.55	8:00 AM	4.54	0.764	0	1.92	2.608	0.492	0	0	0	8.761
STMH1220	171.26	176.3	0.03	172.04	8:00 AM	3.03	0.095	-0.009	0	0	4.26	0	0	0	8.761
STMH1229	168.72	176.6	0.17	169.4	8:00 AM	3.08	0.51	-0.001	0	0	7.2	0	0	0	5.804
STMH1240	162.29	167.91	0.19	162.9	8:00 AM	3.1	0.514	0.001	0	0	5.01	0	0	0	5.895
STMH1239	164.09	170.19	0.18	164.69	8:00 AM	3.1	0.514	0	0	0	5.5	0	0	0	5.895
STMH1238	165.13	170.46	0.21	165.84	8:00 AM	3.1	0.514	-0.001	0	0	4.62	0	0	0	5.895
STMH1233	170.71	177.21	0.19	171.34	8:00 AM	1.98	0.33	0	0	0	5.87	0	0	0	3.588
STMG1035	189	197.27	0.26	189.85	8:00 AM	4.81	0.795	0	0	0	7.42	0	0	0	9.347
STMG106	190	200.62	0.25	190.86	8:00 AM	4.81	0.795	0	0	0	9.76	0	0	0	9.347
STMG108	188.5	199.31	0.15	189	8:00 AM	4.88	0.795	0	0	0	10.31	0	0	0	9.347
STMH0923	189.37	198.67	0.2	189.98	8:00 AM	12.21	2.18	0	0	0	8.69	0	0	0	29.12
STMG109	184.62	199.67	0.39	186.06	8:00 AM	16.86	2.81	0	0	0	13.61	0	0	0	32.776
STMH107	191.68	199.48	0.1	192.01	8:00 AM	1.97	0.328	0	0	0	7.47	0	0	0	3.975
STMH1014	197.45	207.49	0.12	197.85	8:00 AM	3.69	0.61	0	0	0	9.64	0	0	0	7.181
STMH1021	192.77	200.12	0.09	193.05	8:00 AM	0.99	0.166	0	0	0	7.07	0	0	0	2.095
STMG1010	189.18	201.53	0.31	190.35	8:00 AM	12	2.02	0	0	0	11.18	0	0	0	23.429
STMH0916	191	199.83	0.26	191.91	8:00 AM	12.22	2.18	0	0	0	7.92	0	0	0	29.12
STMH101	189.9	200.2	0.3	190.98	8:00 AM	9.85	1.66	0	0	0	9.22	0	0	0	19.255
STMH109	185	193.12	0.05	185.15	8:00 AM	1.3	0.215	0	0	0	7.97	0	0	0	2.599
STMH1010	193	206.15	0.26	194.02	8:00 AM	8.48	1.4	-0.002	0	0	12.13	0	0	0	16.378
STMH1018	163	189.38	1.71	167.24	7:51 AM	2.16	0.363	-0.006	19.47	3.238	22.142	0	0	0	4.44
STMH0912	204	211.5	0.11	210.04	7:45 AM	1.15	0.181	0	0.49	5.043	1.457	0	0	0	2.064
STMH1116	213.23	216.28	0.14	213.71	8:00 AM	3.82	0.635	0	0	0	2.57	0	0	0	7.512
STMH1128	203.8	216.85	0.17	204.35	8:00 AM	3.82	0.635	0	0	0	12.5	0	0	0	7.512
STMH1022	186.19	193.13	0.09	186.48	8:00 AM	0.99	0.166	0	0	0	6.65	0	0	0	2.095
STMH1024	205.02	212.81	0.16	212.31	7:45 AM	1.09	0.181	-0.001	0.38	6.289	0.501	0	0	0	2.064
STMH0913	195.61	206.53	0.34	201.24	7:40 AM	12.22	2.18	0	0.74	4.382	5.288	0	0	0	29.12
STMH0911	200.85	211.62	0.43	209.7	7:45 AM	12.22	2.18	0	1.26	7.599	1.921	0	0	0	29.12
STMH108	187	196.12	0.07	187.21	8:00 AM	1.97	0.328	-0.001	0	0	8.91	0	0	0	3.975
STMH1015	205	216.24	0.16	205.5	8:00 AM	1.4	0.232	0	0	0	10.74	0	0	0	2.761
STMH1013	204.8	214.21	0.08	205.07	8:00 AM	1.4	0.232	0	0	0	9.14	0	0	0	2.761
STMH125	177.69	185.76	0.15	178.18	8:00 AM	3.63	0.607	0	0	0	7.58	0	0	0	5.723
STMG1015	181.87	191.3	0.19	182.47	8:00 AM	16.8	2.81	0	0	0	8.83	0	0	0	32.776
STMG1019	177.8	190.81	0.34	178.99	8:00 AM	21.4	3.59	0	0	0	11.82	0	0	0	41.861
STMI122	182.11	192.56	0.36	183.35	8:00 AM	11.21	1.88	-0.001	0	0	9.21	0	0	0	19.158
STMI121	179.45	189.85	0.24	180.21	8:00 AM	11.2	1.88	-0.002	0	0	9.64	0	0	0	19.158
STMH128	173.6	186.62	0.92	176.43	8:00 AM	55.78	10.1	0	0	0	10.19	0	0	0	110.238
STMH1248	160.76	169.57	0.15	161.27	8:00 AM	4.32	0.706	-0.002	0	0	8.3	0	0	0	9.692

Junctions CIP Model

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
STMH1311	154.6	165.61	0.12	155	8:00 AM	3.3	0.548	0	0	0	10.61	0	0	0	6.596
STMI1312	157.19	167.06	0.25	157.8	8:00 AM	4.95	1.31	0	0	0	9.26	0	0	0	18.504
STMH093	195.22	204.4	0.1	195.55	7:59 AM	2.64	0.431	0	0	0	8.85	0	0	0	5.028
STMI135	152.82	166.12	0.35	154.05	8:00 AM	6.78	1.14	0	0	0	12.07	0	0	0	11.28
STMI0911	259.63	264.49	0.21	260.25	8:00 AM	5.01	1.02	0	0	0	4.24	0	0	0	13.559
STMH095	196.44	204.94	0.19	197.15	8:00 AM	2.61	0.431	0	0	0	7.79	0	0	0	5.028
STMI081	305.96	310.66	0.19	306.53	8:00 AM	5.02	1.02	0	0	0	4.13	0	0	0	13.559
STMH1312	147.62	162.43	0.09	147.92	8:00 AM	2.65	0.44	-0.003	0	0	14.51	0	0	0	5.851
STMI141	154.9	167.62	0.27	155.85	8:00 AM	6.78	1.14	-0.001	0	0	11.77	0	0	0	11.28
STMH1313	153.35	163.34	0.09	153.66	8:00 AM	2.65	0.44	0	0	0	9.68	0	0	0	5.851
STMH1310	147.1	159.92	0.29	148.54	7:59 AM	3.3	0.548	-0.002	1.25	0.442	11.378	0	0	0	6.596
STMI131	151.8	167.53	0.18	152.38	8:00 AM	6.78	1.14	-0.001	0	0	15.15	0	0	0	11.28
STMH094	195.8	204.52	0.2	196.5	7:59 AM	2.61	0.431	0	0	0	8.02	0	0	0	5.028
STMI1311	154.39	162.6	0.18	154.82	8:00 AM	4.94	1.31	0.001	0	0	7.78	0	0	0	18.504
STMG1223	170.31	176.14	0.27	171.27	8:00 AM	3.96	0.666	0	0	0	4.87	0	0	0	6.398
J-HC-39	229.6	245	0.8	231.75	8:09 AM	102.32	21.8	0	0	0	15.647	0	0	0	386.931
J3474	189.28	201.53	0.35	190.47	8:00 AM	9.85	1.66	0	0	0	11.06	0	0	0	19.255
J-HCT3-09	170.5	177.09	0.42	171.94	8:00 AM	69.71	12.5	0.001	0	0	5.15	0	0	0	134.967
J3504	160	164.33	0.16	160.44	8:00 AM	3.97	0.665	0.001	0	0	21.255	0	0	0	6.839
J-HC-18	128	154.69	2.19	133.78	9:00 AM	448.8	115	0.002	0	0	30.389	0	0	0	1699.197
J3588	209.9	215.23	0.55	211.21	8:02 AM	15.37	3.2	0.011	0	0	4.02	0	0	0	40.357
STMH1315	158.1	169.3	0.32	159.27	8:00 AM	10.21	1.78	0.001	0	0	10.03	0	0	0	20.848
J3612	174	178.04	0.22	174.86	8:00 AM	3.85	0.643	0	0	0	3.18	0	0	0	6.723
J3614	172	178.25	0.22	172.72	8:00 AM	6.58	1.1	-0.012	0	0	5.53	0	0	0	11.029
J3628	188	194.25	0.52	191.24	8:34 AM	9.11	1.57	0.195	0	0	3.01	0	0	0	17.535
J3630	187.5	191.1	0.39	189.17	8:08 AM	6.58	1.57	0	0	0	1.93	0	0	0	17.535
J6	164	169.4	0.35	167.26	7:58 AM	3.97	0.665	-0.001	2.02	2.263	2.137	0	0	0	6.839
J3696	156.53	166.6	0.21	157.11	8:01 AM	26.43	4.48	-0.089	0	0	9.49	0	0	0	53.782
J-HC-32	167	180	1.14	169.1	8:36 AM	281.16	67.1	0.153	0	0	34.02	0	0	0	1152.936
J3762	187.4	195.63	0.31	188.52	8:00 AM	8.57	1.44	0	0	0	7.11	0	0	0	13.884
J-HCT3-07	164.6	173.02	1.05	167.87	8:02 AM	69.69	12.5	0.002	0	0	5.15	0	0	0	134.967
J-HC-26	140.4	146.12	1.96	145.59	8:51 AM	369.7	91.6	0.021	0	0	26.159	0	0	0	1442.68
J3872	185.8	193.2	0.49	187.53	8:00 AM	7.78	1.84	0.001	0	0	5.67	0	0	0	20.789
J3936	398	415	0.52	409.52	7:45 AM	33.39	6.87	0	1.28	10.024	5.476	0	0	0	129.636
J3938	387	397	0.44	388.11	8:00 AM	36.59	7.4	0	0	0	8.89	0	0	0	137.04
J-HC-08	105.4	140	3.54	111	7:45 AM	483.63	128	0.035	0	0	36.771	0	0	0	1878.682
J4002	182.8	191.93	0.34	183.68	8:00 AM	13.72	2.43	-0.04	0	0	17.155	0	0	0	32.705
J-HC-35	178.7	185.18	1.23	182.16	8:35 AM	255.98	61.1	0	0	0	35.232	0	0	0	1070.324
J4042	176	204	0.08	176.26	7:59 AM	2.61	0.431	-0.005	0	0	27.74	0	0	0	5.028
J4050	258	262.32	0.15	258.4	8:40 AM	2.34	0.562	0.084	0	0	3.92	0	0	0	8.14
J4066	186	192.01	0.48	187.91	8:00 AM	7.77	1.84	0	2.02	0.413	4.097	0	0	0	20.789
J4068	186.1	192.39	0.49	188.11	8:01 AM	7.77	1.84	0	2.23	0.512	4.278	0	0	0	20.789
J4098	152	157.41	0.16	152.51	8:00 AM	12.47	2.16	-0.032	0	0	20.087	0	0	0	26.144
J4160	147.33	154.38	0.3	148.19	8:01 AM	26.67	5.31	0.001	0	0	6.19	0	0	0	63.425
J4198	160	165.68	0.2	160.58	8:00 AM	13.92	2.32	0	0	0	16.793	0	0	0	25.543
J4200	153	155.5	0.17	153.57	8:00 AM	13.91	2.32	0	0	0	16.803	0	0	0	25.543
J4234	187.2	195.74	0.29	188.22	8:00 AM	8.57	1.44	0	0	0	7.52	0	0	0	13.884
J-HC-29	153.5	160	1.14	156.94	8:42 AM	309.43	73.9	0.017	0	0	9.446	0	0	0	1228.876
J4282	169.7	174.01	0.34	170.71	8:00 AM	13.58	2.27	-0.129	0	0	3.3	0	0	0	23.246
J4290	162.4	169.88	0.28	163.39	8:00 AM	16.12	2.7	0	0	0	6.49	0	0	0	28.301
J4370	228.8	234.77	0.77	229.99	8:00 AM	10.18	4.45	0.002	0	0	4.78	0	0	0	55.54
J4398	141	160.6	0.22	141.7	8:00 AM	13.91	2.32	-0.108	0	0	22.126	0	0	0	25.543
J-HC-43	348.3	365	0.88	357.18	8:00 AM	46.09	9.88	0	4.3	7.382	7.818	0	0	0	180.739
J-HC-42	344.2	351.66	0.52	345.55	8:00 AM	52.16	11	-0.001	0	0	29.846	0	0	0	197.568
J4504	146.42	159.19	0.27	147.15	8:00 AM	6.51	1.09	-0.056	0	0	19.976	0	0	0	24.906
J4554	312	319.7	0.23	312.61	8:00 AM	4.46	1.11	0	0	0	7.09	0	0	0	19.23
J4556	310	318.92	0.16	310.4	8:01 AM	15.12	2.95	-0.561	0	0	8.52	0	0	0	47.074
J4576	313	319.25	0.08	313.25	8:05 AM	14.25	3.04	-0.003	0	0	24.2	0	0	0	54.547
J4608	101	163.45	0.68	103.58	9:49 AM	76.03	1.52	-0.065	0	0	59.87	0	0	0	11.86
J4610	100	156.64	1.1	156.64	9:02 AM	56.47	5.07	15.077	4.43	53.788	0	0.01	50.85	0.002	55.697
J4620	176.3	186.56	0.22	186.22	8:01 AM	2.83	0.471	0	0.06	8.924	0.336	0	0	0	5.22
J4628	242.1	252.54	0.18	242.5	8:01 AM	4.9	1.29	-0.007	0	0	10.04	0	0	0	18.277
J4636	176.5	183.62	0.32	177.43	8:03 AM	8.17	1.37	-0.182	0	0	6.19	0	0	0	13.638
J4642	157.2	168.22	0.05	157.34	8:00 AM	0.99	0.166	0.001	0	0	10.88	0	0	0	2.095
J4668	164.65	173.34	0.39	173.34	7:16 AM	10.43	1.74	0.001	0.89	7.19	0	0.01	0.78	0	16.942
J4690	355.6	362.56	0.28	356.37	8:01 AM	36.49	7.4	-0.006	0	0	26.752	0	0	0	137.04
J-HCT4-03	168	190	0.82	169.68	8:01 AM	39.32	9.61	0.003	0	0	20.32	0	0	0	115.272
J4734	264	268.25	1.77	267.77	01/01/2013 14:37 PM	4.85	2.95	-0.001	20.83	2.765	0.485	0	0	0	47.074
J4738	226	234.54	0.56	227.1	8:00 AM	27.72	7.44	-0.021	0	0	8.458	0	0	0	89.477
J4740	194	202.86	0.7	195.78	8:06 AM	27.52	7.44	0.04	0	0	7.778	0	0	0	89.477
J4784	190	195.85	0.44	191.28	8:33 AM	6.68	1.12	-0.268	0	0	4.57	0	0	0	12.636
J4862	120	130	0.18	120.5	8:00 AM	5.9	0.981	-0.064	0	0	21.195	0	0	0	11.471
J4918	202	207.52	0.21	203.3	8:00 AM	3.97	0.659	0	0	0	4.22	0	0	0	7.791
J5012	234	240.45	1.66	236.75	01/01/2013 20:04 PM	13.9	2.36	2.212	0	0	3.7	0	0	0	30.523
J5026	226	239.1	0.25	226.76	8:00 AM	6.07	1.09	0.002	0	0	12.34	0	0	0	27.553
J5046	228	234.16	0.48	228.85	8:00 AM	10.16	4.45	0.001	0	0	5.31	0	0	0	55.54
J5084	233	238.3	0.44	233.58	01/01/2013 16:00 PM	4.15	3.41	0	0	0	4.72	0	0	0	43.284
J5090	244	260.75	0.68	245.97	8:32 AM	107.25	24.7	0.035	0	0	22.48	0	0	0	458.919
J5110	192.5	197.58	0.33	193.65	8:00 AM	20.55	3.44	0	0	0	3.93	0	0	0	40.804
J5190	231.2	238.26	0.5	231.84	01/01/2013 16:00 PM	4.15	3.41	0.001	0	0	6.42	0	0	0	43.284
J5242	260	262.15	0.15	260.33	8:32 AM	2.37	0.561	-0.08	0	0	1.82	0	0	0	8.14
STMH1314	163	169.9	0.27	164.06	8:00 AM	6.88	1.15	0	0	0	5.84	0	0	0	12.514
J5266	185.66	193.01	0.06	185.86	8:00 AM	0.99	0.166	-0.001	0	0	7.15	0	0	0	2.095
J5284	252	280.67	0.29	252.77	8:01 AM	6.4	1.1	-0.532	0	0	27.9	0	0	0	16.228
J5324	436.5	460	0.34	439.3	7:59 AM	9.77	2.17	0	1.34	1.799	20.701	0	0	0	38.713
J5326	434	439.48	0.13	434.31	8:00 AM	9.77	2.17	0.002	0	0	13.132	0	0	0	38.713
J5444	212.42	219.78	0.54	215.08	7:59 AM	15.45	3.2	0.001	1.72	1.159	4.701	0	0	0	40.357
J5450	280	288.9	0.13	280.33	8:03 AM	2.82	0.472	-3.286	0	0	8.57	0	0	0	6.232
J5480	228.1	240.29	0.25	228.89	8:00 AM	6.08	1.09	-0.012	0	0	11.4	0	0	0	27.553
J5484	211.8	218.48	0.45	213.12	8:00 AM	15.44	3.2	-0.01	0	0	5.36	0	0	0	40.357
J5510	180.53	188.52	0.2	181.2	8:00 AM	5.8	0.965	0	0	0	7.32	0	0	0	11.206
J5560	165	168.88	0.4	166.8	8:10 AM	18.03	3.04	0.109	0	0	2.08	0	0	0	31.934
J5562	164	171.13	0.38	165	8:00 AM	21.74	4	-0.004	0	0	6.13	0	0	0	44.92
J-HCT4-05	176.5	188.79	0.56	177.83	8:00 AM	36.14	9.07	0.001	0	0	14.932	0	0	0	108.699
STIH144	160.75	165.49	0.19	161.36	8:00 AM	3.97	0.665	0	0	0	4.13	0	0	0	6.839
STIH1012	201.6	208.95	0.16	202.14	7:59 AM	1.28	0.215	0.003	0	0	6.81	0	0	0	2.599
J5628	264.5	271.1	1.87	268.46	01/01/2013 14:35 PM	14.89	2.97	0.561	0	0	2.64	0	0	0	47.074
J5640	158.5	164.04	0.25	159.18	8:00 AM	8.57	1.42	-0.066	0	0	23.638	0	0	0	17.512
STMI096	256	258.65	0.35	256.62	8:47 AM	6.91	3.51	0.005	0	0	2.03	0	0	0	55.214
J-HC-04	100	145	2.47	106.69	9:19 AM	588.96	161	0.004	0	0	52.989	0	0	0	2272.563
J4974	156.4	163.4	0.08	156.64	8:01 AM	8.53	1.72	0.001	0	0	38.467	0	0	0	23.659
J4688	357	364.24	0.55	358.36	8:00 AM	36.52	7.4	0	0	0	7.251	0	0	0	137.04
J-HC-41	304.9	309.25	0.46	306.18	8:03 AM	51.98	11	-0.003	0	0	29.916	0	0	0	197.568
J-HC-38	203.5	230	1.49	207.39	8:13 AM	219.07	49.5	-0.006	0	0	31.519	0	0	0	892.449
J-HC-31	164.5	180	1.68	168.39	8:37 AM	307.89	73.5	0.013	0	0	32.23	0	0	0	1224.436
J-HC-27	151.5	170	1.94	155.18	8:43 AM	366.71	90.5	-0.009	0	0	27.669	0	0	0	1428.126
J-HC-10	111.5	155	1.54	114.4	9:06 AM	479.32	127	0.01	0	0	40.6	0	0	0	1860.238
J-HC-06	105	145	3.89	110.98	7:45 AM	554.83	150	0.065	0	0	43.125	0	0	0	2125.908
J-HC-05	101	160	2.09	106.72	9:18 AM	590.45	160	0.04	0	0	53.959	0	0	0	2257.46
J-HCT2-03	141	160	0.47	142.15	8:01 AM	39.4	7.44	0.025	0	0	42.04	0	0	0	86.353
J-HCT2-02	120	160	0.52	121.28	8:02 AM	44.57	8.56	0.041	0	0	41.91	0	0	0	101.95
J-HCT3-08	170.2	175	0.53	171.73	8:00 AM	69.71	12.5	-0.001	0	0	5.281	0	0	0	134.967
J-HCT3-06	164.4	170	1.18	167.38	8:02 AM	72.55	13	0	0	0	9.659	0	0	0	140.771
J-HC-17	127	160	1.54	130.45	9:01 AM	499.6	115	-0.002	0	0	39.283	0	0	0	1699.197
J-HC-25	139.3	160	2.23	144.4	8:54 AM	366.52	92.2	0.003	0	0	29.287	0	0	0	1450.633
J-HCT4-04	175.6	195	0.73	177.12	8:01 AM	37.41	9.28	0.002	0	0	17.88	0	0	0	111.298
J-HCT4-06	185	195	0.71	186.43	8:00 AM	36.2	9.07	0.002	0	0	14.832	0	0	0	108.699
STMH1026	172	187.5	0.45	173.23	8:00 AM	33.14	5.63	-0.157	0	0	25.043	0	0	0	77.762
J-HC-34	177	190	1.82	181.01	8:35 AM	263.28	63	0.002	0	0	30.56	0	0	0	1098.708
J4956	240	254.2	0.7	241.78	8:33 AM	112.3	26.5	0.001	0	0	28.621	0	0	0	486.127
J-HC-40	294	330	0.76	296.05	8:06 AM	96.43	20.1	0.004	0	0	33.95	0	0	0	361.561
J-HC-33	169	195	0.68	170.68	8:34 AM	270.36	64.7	0.004	0	0	32.89	0	0	0	1120.231
J-HC-19	129	155	2.58	134.46	9:01 AM	410.9	106	0.013	0	0	36.635	0	0	0	1604.831

Junctions CIP Model

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
J-HC-37	196	220	1.32	199.33	8:37 AM	233.11	53.1	0.043	0	0	35.362	0	0	0	946.528
J-HCT3-01	132.64	165	0.59	133.95	8:05 AM	94.82	17.4	-0.022	0	0	47.795	0	0	0	199.829
J-HCT3-03	155	165	0.29	155.78	8:02 AM	84.46	15.4	-0.003	0	0	15.206	0	0	0	171.016
J-HCT3-05	162.3	170	1.17	165.28	8:02 AM	73.35	13.1	0	0	0	9.659	0	0	0	142.318
J-HCT3-04	160.4	165	1.4	163.8	8:02 AM	77.18	14.2	0	0	0	9.239	0	0	0	155.43
J35	253.8	256.69	0.15	254.16	8:07 AM	10.09	1.97	-2.192	0	0	3.801	0	0	0	27.344
J-HC-36	180.5	187	1.74	184.38	8:39 AM	247.7	59.3	0.017	0	0	34.812	0	0	0	1041.79
J-HC-15	125	140	1.41	128.08	9:04 AM	449.36	116	0.003	0	0	39.653	0	0	0	1722.143
J-HC-20	133.8	143.8	2.28	139.16	8:58 AM	403.54	103	0.002	0	0	36.735	0	0	0	1579.288
J-HC-21	136	146	2.26	141.34	8:56 AM	398.51	102	0.002	0	0	36.755	0	0	0	1561.085
J-HC-23	137.76	147.76	2.51	143.84	8:55 AM	384.6	97.9	0.001	0	0	35.903	0	0	0	1517.249
J-HC-22	137	147	3.02	143.69	8:55 AM	395.77	101	0.002	0	0	35.405	0	0	0	1550.987
J-HC-24	139	149	2.1	144.29	8:54 AM	383.16	97.3	-0.001	0	0	36.693	0	0	0	1510.779
J-HCT4-02	166.4	188.4	0.66	167.56	8:01 AM	41.18	9.93	0.014	0	0	24.921	0	0	0	119.088
J-HC-28	151.8	170	2.21	156.17	8:41 AM	326.29	78.3	0.007	0	0	13.83	0	0	0	1282.658
J-HC-30	162	180	2.43	166.86	8:36 AM	308.1	73.9	-0.007	0	0	13.14	0	0	0	1228.876
J-HC-03	97.2	168.5	2.48	103.64	9:22 AM	591.09	165	-0.002	0	0	64.86	0	0	0	2328.259
J-HC-07	105.3	140	3.63	111	7:45 AM	486.21	129	0.013	0	0	36.671	0	0	0	1890.152
J-HC-16	126	147	1.59	129.43	8:55 AM	457.2	116	0.002	0	0	39.303	0	0	0	1718.441
J-HC-13	117	140	2.46	121.78	9:07 AM	462.96	122	0.009	0	0	31.693	0	0	0	1794.656
J-HC-14	120.5	150	2.63	125.51	9:06 AM	460.31	121	0.017	0	0	37.723	0	0	0	1782.099
J-HC-12	115.43	140	2.67	120.3	9:07 AM	465.97	123	0.005	0	0	31.603	0	0	0	1807.58
J-HC-11	112.5	119	1.58	115.46	9:06 AM	472.85	125	0.01	0	0	39.411	0	0	0	1833.724
J-HCT3-02	146.8	155	0.37	147.75	8:03 AM	92.48	17	0.009	0	0	33.937	0	0	0	193.978
J-HCT2-01	107	165	0.66	108.59	8:04 AM	54.78	10.5	-0.098	0	0	56.41	0	0	0	131.552
J-HC-09	109	145	1.32	111.46	9:09 AM	483.72	128	-0.01	0	0	39.911	0	0	0	1878.682
STMG1213	167.5	174	0.12	167.89	8:00 AM	3.96	0.666	-0.008	0	0	6.11	0	0	0	6.398
STII141	167.21	173.9	1.2	168.68	12:02 AM	4.81	0.759	0.23	0	0	5.22	0	0	0	9.068
STIJ0917	226.69	235.97	0.38	231.39	8:00 AM	9.08	1.55	0	1.33	3.452	4.578	0	0	0	32.163
STIJ0919	225.32	235.16	0.3	228.05	8:00 AM	9.08	1.55	0	0.11	1.482	7.108	0	0	0	32.163
STIJ0915	216.42	225.09	0.41	221	8:00 AM	9.1	1.55	0	1.4	3.331	4.089	0	0	0	32.163
STIJ0924	221.3	230.64	0.26	224.75	8:00 AM	9.09	1.55	0	0.38	2.201	5.889	0	0	0	32.163
STIJ10111	215.6	221.89	0.38	218.78	8:00 AM	9.1	1.55	0	1.25	1.925	3.115	0	0	0	32.163
STIJ0923	224.31	232.92	0.24	226.65	8:00 AM	9.08	1.55	0	0.03	1.092	6.268	0	0	0	32.163
STIJ0927	219.25	228.25	0.27	223.14	8:00 AM	9.1	1.55	0	0.62	2.642	5.108	0	0	0	32.163
STIJ10112	215.31	221.89	0.39	217.99	8:00 AM	9.11	1.55	0.001	1.18	1.43	3.9	0	0	0	32.163
STIJ0916	226.92	235.59	0.42	232.15	8:00 AM	9.07	1.55	-0.004	1.38	3.978	3.442	0	0	0	32.163
STII0991	226.87	235.7	0.56	228.64	8:15 AM	26.73	5.56	0	0	0	7.06	0	0	0	82.303
STIJ0911	232.75	239.68	0.16	233.29	8:00 AM	6.02	1.14	0.009	0	0	6.39	0	0	0	18.223
STIJ081	253.03	261.07	0.32	259.58	7:37 AM	5.41	0.996	0.002	1.29	5.554	1.486	0	0	0	16.281
STIJ1064	212.68	221.34	0.17	213.29	8:00 AM	3.99	0.671	0	0	0	8.05	0	0	0	6.613
STII1245	160	167.67	0.39	161.35	8:00 AM	22.3	3.64	0.001	0	0	6.32	0	0	0	42.285
STII0986	229.64	238.48	0.61	231.89	8:15 AM	25.52	5.3	0	0.18	0.046	6.594	0	0	0	79.012
STII09106	249.39	257.74	0.36	250.55	7:59 AM	11.85	2.49	0	0	0	7.19	0	0	0	36.104
STIJ1069	194.56	202.19	0.17	195.16	8:01 AM	3.99	0.671	0	0	0	7.03	0	0	0	6.613
STIJ1066	198.06	206.48	0.18	198.7	8:01 AM	3.99	0.671	0	0	0	7.78	0	0	0	6.613
STII1194	193.95	202.49	0.71	202.49	7:20 AM	20.63	3.38	-0.008	1.74	5.541	0	0.01	0.36	0	38.373
STII0965	256.31	262.57	0.13	256.74	8:00 AM	1.28	0.218	0	0	0	5.83	0	0	0	2.734
STIJ102	216	223.89	0.12	216.32	8:00 AM	3.8	0.627	0	0	0	7.57	0	0	0	7.338
STII1030	220.8	229.41	0.42	222.03	8:16 AM	27.63	5.77	0	0	0	7.38	0	0	0	84.471
STII1050	215.72	223.64	0.42	217.29	8:03 AM	27.63	5.77	0	0	0	6.35	0	0	0	84.471
STII09125	248.36	254.25	0.34	249.79	8:00 AM	5.42	0.996	0	0.66	0.181	4.459	0	0	0	16.281
STIJ1070	190.71	198.43	0.2	191.39	8:01 AM	3.99	0.671	-0.001	0	0	7.04	0	0	0	6.613
STIK116	164.54	173	0.14	164.94	8:00 AM	4.4	0.944	0	0	0	8.06	0	0	0	17.896
STIJ1063	218.91	227.26	0.17	219.51	8:00 AM	3.99	0.671	0	0	0	7.75	0	0	0	6.613
STII0913	235	242.98	0.36	236.62	8:14 AM	15.31	2.27	-0.002	0	0	6.36	0	0	0	71.722
STII1055	213.5	221.11	0.16	214.04	8:00 AM	1.81	0.299	0	0	0	7.07	0	0	0	3.52
STIJ1021	215.79	223.18	0.23	216.52	8:00 AM	3.67	0.687	0.003	0	0	6.66	0	0	0	32.571
STII09103	250.92	259.42	0.37	252.17	8:00 AM	11.9	2.49	0	0	0	7.25	0	0	0	36.104
STII092	233.85	240.58	0.33	239.53	7:10 AM	4.78	0.791	0	1.47	4.426	1.054	0	0	0	9.778
STII1034	223.24	226.14	0.26	226.14	8:01 AM	9.15	1.58	0.003	0.11	1.651	0	0.01	0.22	0	22.781
STII09111	247.51	252.83	0.27	248.41	8:00 AM	5.41	0.996	0	0	0	4.42	0	0	0	16.281
STII0983	232.3	238.26	0	232.3	12:00 AM	0	0	0	0	0	5.96	0	0	0	0
STII0968	254.2	260.11	0.09	254.48	8:00 AM	1.28	0.218	0	0	0	5.63	0	0	0	2.734
STII09104	252.46	259.49	0.3	253.36	8:00 AM	11.91	2.49	0	0	0	6.13	0	0	0	36.104
STII09100	224.82	233.6	0.41	226.03	8:15 AM	26.73	5.56	0	0	0	7.57	0	0	0	82.303
STII0916	230.8	236.94	0.12	231.2	8:00 AM	1.57	0.259	0	0	0	5.74	0	0	0	2.929
STII1149	203.31	211.36	0.16	203.82	8:00 AM	2.04	0.35	0.002	0	0	7.54	0	0	0	3.874
J-SBT4-05	167.77	173	0.09	168	8:01 AM	4.3	0.631	-0.245	0	0	5	0	0	0	9.33
STII0967	255.36	261.56	0.09	255.66	8:00 AM	1.28	0.218	0	0	0	5.9	0	0	0	2.734
STII09124	247.94	253.53	0.3	248.95	8:00 AM	5.42	0.996	0	0	0	4.58	0	0	0	16.281
STII0972	242.5	251.43	1.09	244.59	8:31 AM	8.58	2.65	0.034	0	0	6.84	0	0	0	45.102
STII1027	211	220.35	0.69	216.34	8:03 AM	29.86	6.41	-0.001	1.57	2.838	4.012	0	0	0	112.363
STII0992	226.18	235.09	0.56	227.96	8:15 AM	26.73	5.56	0	0	0	7.13	0	0	0	82.303
STII135	159.82	172.66	0.72	168.55	7:25 AM	20.32	3.41	0.008	1.54	6.705	4.105	0	0	0	37.592
STML1146	197.83	206	0.14	198.27	8:00 AM	10.34	1.74	-0.005	0	0	7.73	0	0	0	19.153
STII0970	249.55	255.98	0.1	249.87	8:00 AM	1.28	0.218	0	0	0	6.11	0	0	0	2.734
STII1080	207.16	213.16	0.6	209.15	8:00 AM	55.13	11.1	0	0	0	4.01	0	0	0	167.806
STIJ1062	220	228.39	0.21	220.77	8:00 AM	3.99	0.671	0	0	0	7.62	0	0	0	6.613
STII0966	255.84	261.68	0.14	256.32	8:00 AM	1.28	0.218	0	0	0	5.36	0	0	0	2.734
STII0977	240.65	247.71	0.31	241.4	8:03 AM	10.39	3.02	0	0	0	6.31	0	0	0	49.659
STII10109	223	231.69	0.41	224.22	8:16 AM	26.73	5.56	0	0	0	7.47	0	0	0	82.303
STII0926	230.4	236.93	0.13	230.81	8:00 AM	1.57	0.259	0	0	0	6.12	0	0	0	2.929
STII0990	227.59	238.2	0.56	229.36	8:15 AM	26.73	5.56	0	0	0	8.84	0	0	0	82.303
STII1056	213	220.4	0.13	213.44	8:00 AM	1.81	0.299	-0.003	0	0	6.96	0	0	0	3.52
STIJ1060	223.73	229.64	0.17	224.33	8:00 AM	3.99	0.671	0	0	0	5.31	0	0	0	6.613
STIJ1061	222.82	230.99	0.2	223.53	8:00 AM	3.99	0.671	0	0	0	7.46	0	0	0	6.613
J4094	185	190	0.2	185.49	8:04 AM	54.89	9.91	0.035	0	0	8.739	0	0	0	129.247
STII09126	248.74	255.77	0.35	250.59	7:59 AM	5.41	0.996	0	0.92	0.597	5.183	0	0	0	16.281
STII1028	213.2	223.07	0.49	217.17	7:45 AM	29.86	6.41	0	0.66	1.471	5.899	0	0	0	112.363
STII1033	224.79	227.89	0.27	227.89	8:01 AM	6.58	1.15	0	0.06	1.851	0	0.01	0.14	0	17.032
STII0988	228.75	239.62	0.55	230.47	8:15 AM	25.52	5.3	0	0	0	9.15	0	0	0	79.012
STII1029	217.94	225.72	0.42	219.18	8:16 AM	27.63	5.77	0	0	0	6.54	0	0	0	84.471
STII102	204.2	212.63	0.47	210.26	7:56 AM	14.68	2.42	0.001	0.87	4.309	2.371	0	0	0	28.259
STII0928	233.7	240.48	0.34	235.17	8:15 AM	15.29	2.27	0	0	0	5.31	0	0	0	71.722
STIJ1065	207.91	216.48	0.17	208.49	8:00 AM	3.99	0.671	0	0	0	7.99	0	0	0	6.613
STII09101	253.18	260.99	0.47	255.15	8:00 AM	11.9	2.49	0	1.09	0.472	5.838	0	0	0	36.104
STII0982	232.49	240.24	0.36	233.37	8:04 AM	10.39	3.02	0.009	0	0	6.87	0	0	0	49.659
STII104	233.15	239.5	0.23	234	8:00 AM	4.78	0.791	0	0	0	5.5	0	0	0	9.778
STII0975	242.11	251	0.42	243.22	8:03 AM	10.39	3.02	0	0	0	7.78	0	0	0	49.659
STIJ1234	160.31	164.61	0.07	160.55	8:00 AM	1.71	0.283	0	0	0	4.06	0	0	0	3.398
STII0985	230.09	237.43	0.62	232.45	8:15 AM	25.52	5.3	-0.004	0	0	4.98	0	0	0	79.012
STII081	249.94	257.98	0.35	253.97	7:37 AM	5.41	0.996	-0.002	1.63	2.832	4.008	0	0	0	16.281
STII0915	229.7	236.61	0.12	230.09	8:00 AM	1.57	0.259	-0.002	0	0	6.52	0	0	0	2.929
STII0980	236.84	243.95	0.31	237.57	8:04 AM	10.39	3.02	0	0	0	6.38	0	0	0	49.659
STII1078	204.07	210.07	0.5	205.66	8:00 AM	59.17	11.7	0	0	0	4.41	0	0	0	175.31
STII137	161.23	173.12	0.66	172.61	7:24 AM	16.61	2.72	0	1.56	9.383	0.507	0	0	0	29.866
STII1359	160.75	173.19	0.71	171.81	7:24 AM	16.67	2.79	0	0.84	6.816	1.384	0	0	0	30.718
STMI149	158.85	172.23	0.75	167.12	7:25 AM	25.62	4.28	0	1.48	6.023	5.107	0	0	0	48.833
STMI1174	192.91	198.42	0.4	194.43	7:59 AM	19.21	3.14	0.001	0	0	3.99	0	0	0	35.919
STMI1175	188.72	194.82	0.24	189.52	8:00 AM	18.56	3.14	0	0	0	5.3	0	0	0	35.919
STMI1176	178.28	184.85	0.28	179.24	8:00 AM	18.53	3.14	0	0	0	5.61	0	0	0	35.919
STMI1020	223.16	226.97	0.34	224.42	7:58 AM	10.48	1.76	0	0	0	2.55	0	0	0	20.721
STMI1021	211.58	215.18	0.29	212.59	7:58 AM	14.51	2.42	0	0	0	2.59	0	0	0	28.259
STMI1022	214	223.04	0.42	216.05	8:02 AM	17.63	3.19	0.014	0	0	6.99	0	0	0	39.726
STMI099	228.23	241.67	0.55	229.95	8:15 AM	25.52	5.3	0	0	0	11.72	0	0	0	79.012
STMI0910	229	235.57	0.2	229.6	7:56 AM	10.55	2.01	0	0	0	5.97	0	0	0	26.412
STMI148	157.99	174.81	0.71	165.85	7:25 AM	25.62	4.28	0	1.25	5.609	8.961	0	0	0	48.833
STML1132	190.42	202.9	0.27	191.25	8:01 AM	10.77	1.84	0.001	0	0	11.65	0	0	0	33.084
STMI1012	211.4	219.92	0.55	215.38	8:02 AM	20.27	3.66	-0.005	0.53	0.927	4.543	0	0	0	45.427
STMI1013	222.05	230.44	0.15	222.53	8:00 AM	1.78	0.296	-0.012	0	0	7.91	0	0	0	3.448
STMI126	175	181.57	0.11	175.64	8:00 AM	3.76	0.307	0	0	0	5.93	0	0	0	17.552
STMI127	174.3	180.14	0.27	175.25	8:00 AM	15.24	2.31	-0.001	0	0	4.89	0	0	0	25.062

Junctions CIP Model

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
STMI128	173	180.18	0.31	174.08	8:00 AM	20.41	3.31	-0.001	0	0	6.1	0	0	0	37.319
STMI129	185	194.19	0.19	185.69	8:00 AM	5.88	0.983	0	0	0	8.5	0	0	0	10.878
STMI1015	213.55	221.8	0.34	217.73	7:48 AM	11.92	2.05	-0.004	0.8	2.34	4.07	0	0	0	27.892
STMI1017	206.55	215.32	0.4	208.02	7:59 AM	14.02	2.31	0.005	0	0	7.3	0	0	0	38.141
STMI1019	199.5	209.28	0.7	204.76	8:18 AM	93.26	14.7	-0.008	0	0	4.52	0	0	0	194.926
STMJ092	222.67	232.52	0.45	225.84	7:08 AM	6.91	1.23	-0.004	2.84	2.171	6.679	0	0	0	25.447
STMJ1222	133.4	138.19	0.19	134.02	8:00 AM	10.58	1.76	0	0	0	4.17	0	0	0	21.925
STMJ1223	139.5	145.03	0.19	140.13	8:00 AM	10.58	1.76	0	0	0	4.9	0	0	0	21.925
STMI1110	206.93	213.85	0.17	207.52	7:58 AM	3.26	0.54	-0.003	0	0	6.33	0	0	0	6.025
STMI1113	193.31	203.03	1.14	202.95	7:20 AM	92.15	18.9	0.004	1.76	6.126	0.084	0	0	0	241.442
STMI1114	194	203	1.03	203	7:20 AM	78.61	15.5	-0.001	1.69	5.5	0	0.01	1.09	0	203.069
STMI1115	186.78	204.18	0.73	189.21	8:09 AM	92.99	19.1	0	0	0	14.97	0	0	0	243.56
STMI101	230.23	234.61	0.23	231.07	8:00 AM	4.77	0.791	0.004	0	0	3.54	0	0	0	9.778
STMI103	210.8	220.69	0.46	214.99	8:02 AM	20.28	3.66	-0.002	0.78	1.187	5.703	0	0	0	45.427
STMI104	208.3	220.31	1.05	214.93	8:02 AM	49.47	10.1	-0.003	1.16	1.735	5.375	0	0	0	157.79
STMI105	215.2	223.5	0.38	216.47	7:52 AM	15.75	2.88	0	0	0	7.03	0	0	0	36.491
STMI1121	203.84	212.58	0.32	209.11	8:02 AM	17.95	2.96	0.001	0.09	3.269	3.471	0	0	0	34.284
STMI106	222.18	225.78	0.23	222.96	7:59 AM	10.75	1.76	0.001	0	0	2.82	0	0	0	20.721
STMI107	226.24	230.94	0.34	227.79	8:02 AM	10.57	1.76	-0.001	0.02	0.047	3.153	0	0	0	20.721
STMI109	216.25	223.33	0.25	217.06	7:56 AM	15.74	2.88	0.001	0	0	6.27	0	0	0	36.491
STMI1226	159	169	0.19	159.62	8:00 AM	22.29	3.64	-0.001	0	0	9.38	0	0	0	42.285
STMI1177	185.02	200.95	0.73	187.17	8:18 AM	92.86	19.1	0	0	0	13.78	0	0	0	243.56
STMI093	223.04	232.83	0.35	224.16	7:56 AM	10.55	2.01	0	0	0	8.67	0	0	0	26.412
STMI094	226.07	235.97	0.3	227.01	7:56 AM	10.55	2.01	0	0	0	8.96	0	0	0	26.412
STMI137	162.42	174.01	0.66	174.01	7:24 AM	16.56	2.72	-0.023	1.43	9.28	0	0.01	0.07	0	29.866
STMI138	163.98	175.56	0.66	175.56	7:19 AM	13.75	2.2	0.026	1.32	9.583	0	0.01	2.99	0	24.003
STMI123	166.55	177.28	0.47	177.3	7:23 AM	5.79	0.973	-0.005	0.83	8.749	0	0.01	1.74	0	10.984
STMI1310	160.3	172.62	0.76	170.17	7:25 AM	20.32	3.41	0.001	1.61	7.865	2.455	0	0	0	37.592
STMI124	180.75	187.53	0.27	182.91	7:27 AM	4.45	0.763	-0.001	0.83	1.163	4.617	0	0	0	9.601
STMI1123	189.65	206.15	0.86	193.9	7:39 AM	92.98	19.1	0.001	1.49	1.25	12.25	0	0	0	243.56
STMI1124	188.46	204.67	0.84	192.36	7:39 AM	92.99	19.1	0	1.26	0.902	12.308	0	0	0	243.56
STMI1010	232.65	239.99	0.24	233.5	8:00 AM	4.77	0.791	-0.001	0	0	6.49	0	0	0	9.778
STMI095	232.85	244.02	0.75	239.77	7:10 AM	4.78	0.791	0.039	2.14	5.568	4.252	0	0	0	9.778
STMI142	158.2	173.58	0.71	165.63	7:25 AM	25.62	4.28	0	1.33	5.179	7.951	0	0	0	48.833
STMI143	159.08	173.03	0.74	167.59	7:25 AM	25.62	4.28	-0.001	1.47	6.221	5.439	0	0	0	48.833
STMI144	156.95	174.57	0.62	169.81	7:25 AM	25.62	4.28	-0.001	0.74	10.611	4.759	0	0	0	48.833
STMJ1244	170	175.94	0.3	171.15	8:00 AM	10.29	1.71	0	0	0	4.79	0	0	0	18.796
STMI1167	193.54	199.41	0.18	194.46	8:00 AM	4.01	0.662	0	0	0	4.95	0	0	0	7.21
STMJ1015	218.73	223.66	0.18	219.38	8:00 AM	3.8	0.627	0	0	0	4.28	0	0	0	7.338
STMI1172	198.19	204.63	0.16	198.74	8:00 AM	2.47	0.409	0	0	0	5.89	0	0	0	4.563
STMJ105	212.09	221.33	0.47	213.78	8:00 AM	15.9	2.71	0.001	0	0	7.55	0	0	0	55.581
STMI1162	189.01	193.87	0.11	189.37	8:00 AM	1.47	0.244	0.001	0	0	4.5	0	0	0	2.784
STMI1168	194.76	201.96	0.19	195.4	8:00 AM	3.99	0.662	0	0	0	6.56	0	0	0	7.21
STMJ119	207.67	214.53	0.1	208.01	8:00 AM	1.53	0.253	0	0	0	6.52	0	0	0	2.647
STMI102	213.03	219.89	0.18	215.48	8:01 AM	2.88	0.478	0.004	0.68	1.197	4.413	0	0	0	5.701
STMJ106	212.77	222.19	0.43	214.48	8:00 AM	12.25	2.02	-0.001	0	0	7.71	0	0	0	23.01
STMI091	220.03	229.89	0.32	221.04	7:56 AM	10.54	2.01	0	0	0	8.85	0	0	0	26.412
STMJ102	213.81	221.62	0.4	216.35	7:59 AM	7.62	1.26	0	0.97	1.043	5.267	0	0	0	14.293
STMJ1013	219.3	228.02	0.23	220.1	8:00 AM	3.81	0.627	0	0	0	7.92	0	0	0	7.338
STMI092	220.75	228.98	0.4	221.97	7:56 AM	10.54	2.01	0	0	0	7.01	0	0	0	26.412
STMJ1128	214.51	218.82	0.11	214.88	8:00 AM	1.65	0.275	0	0	0	3.94	0	0	0	2.972
STMJ117	199.99	206.82	0.1	200.32	8:00 AM	1.53	0.253	0	0	0	6.5	0	0	0	2.647
STMJ108	209.51	224.35	0.76	211.82	8:00 AM	34.13	5.73	0	0	0	12.53	0	0	0	77.335
STMI108	209.79	220.98	0.34	211.04	8:00 AM	10.51	1.71	0	0	0	9.94	0	0	0	31.412
STMJ1110	210.16	216.08	0.09	210.47	8:00 AM	1.53	0.253	0	0	0	5.61	0	0	0	2.647
STMJ1113	207.14	211.47	0.09	207.44	8:00 AM	1.65	0.275	-0.002	0	0	4.03	0	0	0	2.972
STMJ104	211.5	221.26	0.44	212.98	8:00 AM	20.25	3.43	0	0	0	8.28	0	0	0	64.063
STMJ122	183.38	188.66	0.17	183.96	8:00 AM	3.09	0.516	-0.004	0	0	4.7	0	0	0	5.256
STMI1170	196.84	202.68	0.16	197.39	8:00 AM	2.47	0.409	0	0	0	5.29	0	0	0	4.563
STMJ1111	203.2	210.45	0.14	203.68	8:00 AM	2.47	0.409	0	0	0	6.77	0	0	0	4.563
STMJ116	198.86	205.84	0.12	199.25	8:00 AM	1.53	0.253	0	0	0	6.59	0	0	0	2.647
STMJ1127	208.87	212.99	0.1	209.21	8:00 AM	1.65	0.275	0	0	0	3.78	0	0	0	2.972
STMI1169	196.34	203.34	0.19	196.97	8:00 AM	3.99	0.662	0	0	0	6.37	0	0	0	7.21
STMJ1011	220.37	229.52	0.27	224.27	7:13 AM	3.81	0.627	0.001	1	2.895	5.255	0	0	0	7.338
STMJ1126	219.3	223.49	0.11	219.68	8:00 AM	1.65	0.275	-0.001	0	0	3.81	0	0	0	2.972
STMI1220	181.41	186.31	0.17	181.98	8:00 AM	3.6	0.596	0.002	0	0	4.33	0	0	0	6.681
STMI1164	190.45	194.94	0.08	190.7	8:00 AM	0.57	0.094	0	0	0	4.24	0	0	0	1.066
STMI1160	187.86	194.96	0.21	188.6	8:00 AM	3.6	0.596	0	0	0	6.36	0	0	0	6.681
STMI1014	217.26	225.12	0.42	218.51	7:57 AM	13.97	2.58	0	0	0	6.61	0	0	0	33.044
STMJ1114	196.97	204.87	0.33	198.13	8:00 AM	11.52	1.92	-0.001	0	0	6.74	0	0	0	21.167
STMJ091	222.46	232.94	0.29	223.51	8:00 AM	6.91	1.23	0.001	0	0	9.43	0	0	0	25.447
STMJ107	210.16	224.1	0.59	212.32	8:00 AM	30.36	5.11	-0.001	0	0	11.78	0	0	0	69.997
STMI1144	187.23	193.53	0.17	187.81	8:00 AM	3.6	0.596	-0.001	0	0	5.72	0	0	0	6.681
STMJ118	203.56	210.39	0.1	203.89	8:00 AM	1.53	0.253	0	0	0	6.5	0	0	0	2.647
STMI1023	219.69	226.18	0.1	220.01	8:00 AM	1.12	0.188	-0.002	0	0	6.17	0	0	0	2.283
STMJ123	176.8	182.23	0.36	182.23	7:13 AM	10.3	1.71	0.003	1.03	4.18	0	0.01	0.73	0	18.796
STMI1163	189.92	196.24	0.09	190.2	8:00 AM	0.57	0.094	-0.001	0	0	6.04	0	0	0	1.066
STMJ1214	178.72	183.13	0.17	180.15	8:00 AM	2.5	0.411	-0.002	0.23	0.184	2.976	0	0	0	4.521
STMJ1213	180.53	185.14	0.16	181.1	8:00 AM	2.5	0.411	0	0	0	4.04	0	0	0	4.521
STMI1173	199.33	206.67	0.17	199.92	8:00 AM	2.47	0.409	0	0	0	6.75	0	0	0	4.563
STMI1171	197.53	203.54	0.16	198.09	8:00 AM	2.47	0.409	0	0	0	5.45	0	0	0	4.563
STMI1018	208.3	219.28	0.26	209.19	8:00 AM	10.43	1.71	-0.004	0	0	10.09	0	0	0	31.412
STMJ103	213.12	221.55	0.42	214.97	8:00 AM	10.27	1.69	0	0.32	0.098	6.582	0	0	0	19.264
STMI125	180.4	186.25	0.33	185.5	7:20 AM	4.41	0.739	0.001	0.88	3.854	0.746	0	0	0	7.51
STMJ1136	178.62	191.82	0.24	179.45	8:00 AM	5.09	0.845	-0.001	0	0	12.37	0	0	0	10.466
STMJ1132	175.66	181.21	0.23	176.39	8:00 AM	5.08	0.845	0.001	0	0	4.82	0	0	0	10.466
STMJ1133	174.87	180.81	0.18	175.45	8:00 AM	5.08	0.845	0	0	0	5.36	0	0	0	10.466
STMI1214	157.09	166.72	0.24	157.88	8:00 AM	31.19	5.21	-0.001	0	0	8.84	0	0	0	58.437
STMK121	160.93	166.67	0.24	161.76	8:00 AM	8.88	1.47	0	0	0	4.91	0	0	0	18.527
STMJ1119	183.51	193.37	0.24	184.23	8:00 AM	3.81	0.768	0.001	0	0	9.14	0	0	0	11.185
STMJ1238	168.99	178.49	0.16	169.48	8:00 AM	6.93	1.23	0	0	0	9.01	0	0	0	15.973
STMK1214	170.13	179.9	0.16	170.64	8:00 AM	3.88	0.662	0	0	0	9.26	0	0	0	9.567
STMJ1230	160.57	162.69	0.16	161.1	8:00 AM	1.71	0.283	0	0	0	1.59	0	0	0	3.398
STMK123	178.61	183.96	0.07	178.85	8:00 AM	1.24	0.205	-0.001	0	0	5.11	0	0	0	2.745
STMJ1236	165.95	178.43	0.23	166.67	8:01 AM	9.26	1.62	0.004	0	0	11.76	0	0	0	20.137
STMK1212	183.98	197.98	0.16	184.51	8:00 AM	4.74	0.791	0	0	0	13.47	0	0	0	10.586
STMJ125	181.17	185.96	0.09	181.46	8:00 AM	0.86	0.141	0.005	0	0	4.5	0	0	0	1.656
STMJ1226	159.59	169.98	0.24	160.45	8:00 AM	12.7	2.1	0	0	0	9.53	0	0	0	26.994
STMI1217	178.84	185.16	0.21	179.57	8:00 AM	3.91	0.65	-0.001	0	0	5.59	0	0	0	7.16
STMI1222	172.59	178.66	0.18	173.19	8:00 AM	6.58	1.09	-0.001	0	0	5.47	0	0	0	12.092
STMK1122	196.81	204.19	0.29	204.19	7:41 AM	8.36	1.49	0	0.88	6.38	0	0	0	0	24.347
STMK1115	155.74	169.24	0.2	156.41	8:00 AM	3.58	0.621	-0.002	0	0	12.83	0	0	0	8.662
STMK1219	210.12	227.48	0.08	210.36	8:00 AM	1.08	0.182	0	0	0	17.12	0	0	0	2.632
STMJ1235	170.33	176.93	0.26	171.19	8:00 AM	12.39	2.08	0	0	0	5.74	0	0	0	26.021
STMK1116	162.55	171.62	0.14	163.02	8:00 AM	3.38	0.568	-0.006	0	0	8.6	0	0	0	7.296
STMK124	164.12	169.3	0.25	164.99	8:00 AM	5.29	0.881	0.001	0	0	4.31	0	0	0	11.305
STMJ1121	186.07	195.26	0.27	189.21	7:52 AM	3.81	0.768	0	0.68	2.14	6.05	0	0	0	11.185
STMK118	169.71	178.16	0.18	170.36	8:00 AM	3.8	0.631	0	0	0	7.8	0	0	0	9.33
STMK1120	172.58	180.18	0.13	173	8:00 AM	3.39	0.568	0	0	0	7.18	0	0	0	7.296
STMJ1010	185.18	193.33	0.08	185.43	8:00 AM	0.83	0.137	-0.006	0	0	7.9	0	0	0	1.523
STMJ1215	172.85	178.89	0.16	173.36	8:00 AM	2.33	0.384	0	0	0	5.53	0	0	0	4.163
STMI1223	181.2	187.87	0.13	181.62	8:00 AM	1.6	0.266	0	0	0	6.25	0	0	0	2.887
STMJ1210	168.84	174.54	0.37	170.2	8:00 AM	13.02	2.2	0	0	0	4.34	0	0	0	25.061
STMK1210	169.93	178.44	0.13	170.38	8:00 AM	4.05	0.669	0	0	0	8.06	0	0	0	8.208
STMJ1219	127.73	133.34	0.15	128.2	8:00 AM	3	0.543	0	0	0	5.14	0	0	0	6.612
STMK1223	263.91	272.88	0.12	264.29	8:00 AM	2.73	0.459	0	0	0	8.59	0	0	0	6.598
STMK117	173.5	180.82	0.16	174.06	8:00 AM	3.8	0.631	0	0	0	6.76	0	0	0	9.33
STMJ124	174.83	179.96	0.3	175.91	8:00 AM	10.3	1.71	0	0	0	4.05	0	0	0	18.796
STMJ129	171.98	177	0.28	172.98	8:00 AM	10.29	1.71	0	0	0	4.02	0	0	0	18.796
STMK128	162.01	171.59	0.27	167.24	7:16 AM	4.05	0.669	0	0.92	4.231	4.349	0	0	0	8.208
STMK1226	208.13	221.22	0.09	208.42	8:00 AM	2.73	0.459	0	0	0	12.8	0	0	0	6.598
STMI1210	168.81	175.71	0.13	169.24	8:00 AM	3.91	0.65	-0.001	0	0	6.47	0	0	0	7.16
STMK1220	242.37	254.86	0.06	242.56	8:00 AM	1.08	0.182	0	0	0	12.3	0	0	0	2.632

Junctions CIP Model

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
STMK1222	259.18	269.43	0.07	259.39	8:00 AM	1.08	0.182	0	0	0	10.04	0	0	0	2.632
STMI1225	182.19	187.05	0.15	182.7	8:00 AM	1.6	0.266	0	0	0	4.35	0	0	0	2.887
STMK1233	189.66	196.45	0.13	190.1	8:00 AM	1.35	0.223	0	0	0	6.35	0	0	0	2.784
STMK119	168.4	177.26	0.26	169.36	8:00 AM	3.8	0.631	0	0	0	7.9	0	0	0	9.33
STMK1112	210	218.58	0.11	210.36	8:00 AM	3.8	0.631	0	0	0	8.22	0	0	0	9.33
STMK1211	188.97	197.21	0.12	189.39	8:00 AM	4.05	0.669	0	0	0	7.82	0	0	0	8.208
STMK1231	219.71	228.03	0.11	220.07	8:00 AM	3.06	0.511	0	0	0	7.96	0	0	0	6.827
STMK1119	167.33	175.55	0.18	167.97	8:00 AM	3.39	0.568	0	0	0	7.58	0	0	0	7.296
STMK122	163.17	171.35	0.26	164.05	8:00 AM	8.88	1.47	0	0	0	7.3	0	0	0	18.527
STMJ1234	166.39	173.8	0.28	167.31	8:00 AM	12.38	2.08	0	0	0	6.49	0	0	0	26.021
STMK1235	156.63	167.17	0.23	157.41	8:00 AM	3.58	0.621	0	0	0	9.76	0	0	0	8.662
STMJ1138	171.55	178.22	0.27	172.46	8:00 AM	12.39	2.08	0	0	0	5.76	0	0	0	26.021
STMK1118	165.41	174.14	0.17	165.97	8:00 AM	3.38	0.568	0	0	0	8.17	0	0	0	7.296
STMK1228	166.09	170.32	0.14	166.55	8:00 AM	4.41	0.734	0	0	0	3.77	0	0	0	9.61
STMK1111	190.91	200.03	0.12	191.29	8:00 AM	3.8	0.631	0	0	0	8.74	0	0	0	9.33
STMJ1141	184	198.14	0.14	184.43	8:00 AM	3.43	0.601	0	0	0	13.71	0	0	0	7.795
STMJ1120	184.6	192.95	0.24	185.34	8:00 AM	3.81	0.768	0	0	0	7.61	0	0	0	11.185
STMJ128	167.85	175.55	0.4	169.19	8:00 AM	18.78	3.15	0.001	0	0	6.36	0	0	0	35.526
STMJ127	170.29	176.67	0.23	171.06	8:00 AM	5.76	0.949	-0.002	0	0	5.61	0	0	0	10.465
STMK1216	204.42	215.41	0.1	204.73	8:00 AM	2.8	0.481	0	0	0	10.68	0	0	0	7.265
STMJ1232	164.8	173.07	0.19	165.41	8:00 AM	12.38	2.08	0	0	0	7.66	0	0	0	26.021
STMK129	163.14	171.85	0.29	168.31	7:16 AM	4.05	0.669	0.001	0.96	4.172	3.538	0	0	0	8.208
STMJ1231	165.26	172.49	0.31	166.25	8:00 AM	12.39	2.08	0	0	0	6.24	0	0	0	26.021
STMJ1142	181.8	196.18	0.14	182.23	8:00 AM	3.43	0.601	0	0	0	13.95	0	0	0	7.795
STMK1215	174.52	184.97	0.12	174.9	8:00 AM	2.8	0.481	0	0	0	10.07	0	0	0	7.265
STMI1224	181.67	186.62	0.14	182.16	8:00 AM	1.6	0.266	0	0	0	4.46	0	0	0	2.887
STMK1113	154	167.79	0.36	156.12	8:40 AM	23.2	5.36	-0.003	0	0	11.67	0	0	0	83.389
STMJ1217	173.99	182.19	0.17	174.57	8:00 AM	2.33	0.384	0	0	0	7.62	0	0	0	4.163
STMJ1233	159.41	172.31	0.38	160.66	8:01 AM	21.62	3.7	-0.002	0	0	11.65	0	0	0	46.158
STMJ1134	184.75	193.71	0.12	185.16	8:00 AM	3.63	0.603	-0.001	0	0	8.55	0	0	0	7.437
STMI1221	173.35	179.03	0.21	174.05	8:00 AM	6.58	1.09	0	0	0	4.98	0	0	0	12.092
STMJ1228	142.4	152.27	0.23	143.24	8:00 AM	12.7	2.1	0	0	0	9.03	0	0	0	26.994
STMJ1224	155.98	163.93	0.18	156.59	8:00 AM	10.58	1.76	0	0	0	7.34	0	0	0	21.925
STMJ1237	163.11	175.75	0.2	163.73	8:01 AM	9.24	1.62	0	0	0	12.02	0	0	0	20.137
STMJ1012	181.23	191.54	0.15	181.69	8:00 AM	4.62	0.904	0.002	0	0	9.85	0	0	0	12.708
STMK116	179.68	190.07	0.21	180.45	8:00 AM	8.36	1.49	0	0	0	9.62	0	0	0	24.347
STMK113	164.46	171.39	0.33	165.61	8:00 AM	8.36	1.49	0	0	0	5.78	0	0	0	24.347
STMI1211	165.11	175.91	0.32	166.19	8:00 AM	31.19	5.21	0	0	0	9.72	0	0	0	58.437
STMI1218	180.87	187.24	0.12	181.26	8:00 AM	1.6	0.266	0	0	0	5.98	0	0	0	2.887
STMJ1218	135.56	144.3	0.15	136.03	8:00 AM	3.01	0.543	0	0	0	8.27	0	0	0	6.612
STMK1121	190.2	198.25	0.22	190.99	8:00 AM	8.37	1.49	0	0	0	7.26	0	0	0	24.347
STMK1117	164.26	173.18	0.18	164.84	8:00 AM	3.38	0.568	0	0	0	8.34	0	0	0	7.296
STMK1217	221.37	232.04	0.06	221.55	8:00 AM	0.96	0.171	0.001	0	0	10.49	0	0	0	3.185
STMK111	164.77	172.01	0.1	165.08	8:00 AM	3.88	0.662	0	0	0	6.93	0	0	0	9.567
STMJ1135	172.13	184.24	0.39	173.41	8:00 AM	8.7	1.45	0	0	0	10.83	0	0	0	17.903
STMI1219	176.01	181.12	0.23	176.79	8:00 AM	6.58	1.09	-0.001	0	0	4.33	0	0	0	12.092
STMK127	160.59	170.32	0.26	164.53	7:17 AM	4.05	0.669	-0.001	0.96	2.937	5.793	0	0	0	8.208
STMK1232	248.53	252.93	0.1	248.87	8:00 AM	3.06	0.511	0	0	0	4.06	0	0	0	6.827
STMJ1229	138.19	150.41	0.25	139.1	8:00 AM	12.7	2.1	0	0	0	11.31	0	0	0	26.994
STMK1224	244.69	253.15	0.11	245.04	8:00 AM	2.73	0.459	0	0	0	8.11	0	0	0	6.598
STMJ1239	160.72	175.82	0.35	161.81	8:01 AM	9.24	1.62	0.001	0	0	14.01	0	0	0	20.137
STMK1218	247.63	257.77	0.06	247.8	8:00 AM	0.96	0.171	0	0	0	9.97	0	0	0	3.185
STMJ1212	176.56	181.07	0.14	177.06	8:00 AM	2.18	0.358	0.001	0	0	4.01	0	0	0	3.955
STMJ1220	125.95	134.11	0.21	126.63	8:00 AM	13.58	2.3	0	0	0	7.48	0	0	0	28.537
STMJ1211	169.3	173.57	0.22	170.32	8:00 AM	2.73	0.487	0.001	0	0	3.25	0	0	0	6.265
STMI1165	183.22	188.69	0.15	183.73	8:00 AM	1.6	0.266	0	0	0	4.96	0	0	0	2.887
STMI1215	170.24	177.14	0.18	170.84	8:00 AM	3.91	0.65	0	0	0	6.3	0	0	0	7.16
STMK1229	188.72	195.11	0.11	189.09	8:00 AM	4.41	0.734	0	0	0	6.02	0	0	0	9.61
STMJ1216	172.18	179.11	0.1	172.51	8:00 AM	2.33	0.384	0	0	0	6.6	0	0	0	4.163
STMK1221	244.72	256	0.09	244.99	8:00 AM	1.08	0.182	0	0	0	11.01	0	0	0	2.632
STMK1225	239.49	249.01	0.09	239.77	8:00 AM	2.73	0.459	0	0	0	9.24	0	0	0	6.598
STMI1216	175.24	180.86	0.17	175.82	8:00 AM	3.91	0.65	0.001	0	0	5.04	0	0	0	7.16
STMI1212	165.74	175.94	0.39	167.03	8:00 AM	27.29	4.56	0	0	0	8.91	0	0	0	51.277
STMK1230	209.01	216.02	0.1	209.35	8:00 AM	3.06	0.511	0	0	0	6.67	0	0	0	6.827
STMJ1225	158.36	166.67	0.25	159.2	8:00 AM	8.87	1.47	0	0	0	7.47	0	0	0	18.527
STMJ1143	176	184.27	0.16	176.48	8:00 AM	3.42	0.601	0.001	0	0	7.79	0	0	0	7.795
STMJ1227	146.32	156.32	0.24	147.19	8:00 AM	12.7	2.1	0	0	0	9.13	0	0	0	26.994
STMK126	176.34	185.72	0.16	176.88	8:00 AM	4.73	0.791	0	0	0	8.84	0	0	0	10.586
STMK114	165.22	172.51	0.26	166.16	8:00 AM	8.36	1.49	0	0	0	6.35	0	0	0	24.347
STMK1110	177.71	187.16	0.15	178.22	8:00 AM	3.8	0.631	0	0	0	8.94	0	0	0	9.33
STMK1227	193.74	207.53	0.12	194.12	8:00 AM	2.73	0.459	0	0	0	13.41	0	0	0	6.598
STMJ121	179.24	184.58	0.16	179.81	8:00 AM	2.18	0.358	-0.001	0	0	4.77	0	0	0	3.955
STMJ126	173.71	178.85	0.21	174.45	8:00 AM	5.77	0.949	-0.001	0	0	4.4	0	0	0	10.465
STMK115	173.64	181.48	0.19	174.31	8:00 AM	8.36	1.49	0	0	0	7.17	0	0	0	24.347
STMK125	169.53	176.15	0.08	169.8	8:00 AM	0.88	0.146	-0.002	0	0	6.35	0	0	0	1.695
STMK1213	180.96	190.25	0.07	181.17	8:00 AM	1.08	0.181	-0.001	0	0	9.08	0	0	0	2.302
J-SB-06	119	125	1.51	122.95	9:19 AM	533.3	142	0.106	0	0	38.602	0	0	0	2336.289
STMI1233	178	182.86	0.17	179.78	7:59 AM	6.97	1.26	-0.001	0.62	0.278	3.082	0	0	0	17.552
STML1232	179.2	183.3	0.32	183.05	7:19 AM	2.8	0.549	0.006	0.94	2.85	0.25	0	0	0	10.141
STMI1229	179.71	185.43	0.31	184	7:20 AM	7.58	1.06	0.006	0.79	2.792	1.428	0	0	0	17.652
STMI1228	176.5	182.97	0.45	181.13	7:11 AM	10.8	2	0.001	1.44	3.133	1.837	0	0	0	25.062
STMI1227	174.4	180.52	0.36	175.7	8:00 AM	10.79	2	0.001	0	0	4.82	0	0	0	25.062
STMI1234	175	181.62	0.44	179.57	7:11 AM	10.79	2	-0.001	1.42	3.072	2.048	0	0	0	25.062
STMI139	165.23	177.12	0.64	177.12	7:21 AM	13.75	2.2	0.017	1.1	9.642	0	0.01	2.6	0	24.003
J-SBT1-07	180	197.02	0.53	181.54	8:01 AM	104.34	21.1	0	0	0	18.51	0	0	0	278.942
J3522	212	221.63	0.46	213.63	8:00 AM	15.89	2.71	0	0	0	8	0	0	0	55.581
J3524	217.58	225.11	0.29	223.08	7:48 AM	9.15	1.58	0.003	0.46	4.202	2.028	0	0	0	22.781
J-SBT1-02	138.8	152.64	1.93	148.77	8:49 AM	208.02	40.9	0.22	0	0	29.544	0	0	0	488.333
J3668	235.5	241.58	0.31	236.77	8:14 AM	10.68	1.8	0.06	0	0	4.81	0	0	0	29.354
J3852	218.54	225.64	0.14	219.01	8:00 AM	2.88	0.478	0	0	0	6.63	0	0	0	5.701
J3960	182.33	189.04	0.2	183.52	8:00 AM	2.72	0.471	0.001	0.03	0.193	5.517	0	0	0	6.489
STMJ115	190.96	195.48	0.15	191.48	8:00 AM	1.47	0.244	-0.001	0	0	4	0	0	0	2.784
J4092	202	209.33	0.28	202.7	8:42 AM	7.01	1.48	0.002	0	0	6.63	0	0	0	21.507
J4114	234	239.15	0.29	235.24	8:35 AM	4.31	0.848	0.018	0	0	3.91	0	0	0	12.731
J4116	242	247.5	0.14	242.42	8:00 AM	2.03	0.423	0.001	0	0	5.08	0	0	0	6.848
J4118	241.5	246.08	0.24	242.1	8:01 AM	4.34	0.848	-0.017	0	0	3.98	0	0	0	12.731
J4122	209.5	220.14	0.74	215.12	8:02 AM	29.86	6.41	-0.002	1.92	3.12	5.02	0	0	0	112.363
J4150	175	180.51	0.18	175.61	8:00 AM	4.43	0.763	0.001	0	0	4.9	0	0	0	9.601
J4268	245	251.01	0.21	245.6	8:01 AM	9.71	1.8	-0.027	0	0	5.41	0	0	0	29.354
J4270	243	250.64	0.32	243.93	8:01 AM	9.68	1.8	0.063	0	0	6.71	0	0	0	29.354
J4284	174.8	184.88	1.21	181	8:43 AM	54.74	9.9	0.017	0	0	3.88	0	0	0	129.247
J-SBT7-02	173	179.48	0.94	175.05	8:31 AM	47.01	11.3	0.011	0	0	12.003	0	0	0	143.242
J4292	179.9	185.1	0.23	180.67	8:00 AM	4.45	0.763	-0.001	0	0	4.43	0	0	0	9.601
J-SBT4-04	163.59	171.93	0.26	164.38	8:00 AM	16.62	3.09	0	0	0	7.55	0	0	0	51.81
J4424	202	204.82	0.32	203.74	8:29 AM	29.77	3	0.479	0	0	1.76	0	0	0	47.508
J4426	200.5	207	0.38	207.06	7:58 AM	43.76	3.02	0.007	0.19	3.057	0	0.01	21.87	0.001	47.508
J4	179.71	184.2	0.31	184.2	7:20 AM	5.87	0.872	-0.003	0.77	2.892	0	0.01	0.69	0	10.141
STMJ1022	219.49	227.5	0.22	220.28	8:00 AM	10.74	1.86	0	0	0	7.22	0	0	0	32.571
J4834	197	209.42	0.6	209.43	7:20 AM	20.63	3.38	0	1.62	10.425	0	0.01	4.33	0	38.373
J4848	243	250.92	0.77	245.64	8:34 AM	14.19	2.92	0.037	0	0	5.28	0	0	0	42.368
J4990	167.85	179	0.06	168.01	8:00 AM	2.33	0.384	-0.014	0	0	10.99	0	0	0	4.163
J-SB-15	260.2	270	0.66	261.48	8:31 AM	87.14	25.3	0.04	0	0	31.422	0	0	0	465.116
J5124	233	235.36	0.2	233.59	8:44 AM	3.82	0.848	0.001	0	0	1.77	0	0	0	12.731
J5176	209.16	215.69	0.44	210.43	8:01 AM	34.13	5.73	-0.002	0	0	5.26	0	0	0	77.335
J5178	205	210.38	0.21	205.54	8:02 AM	49.06	8.43	0.026	0	0	8.689	0	0	0	107.74
J5216	206	211.34	0.76	207.73	7:58 AM	17.48	2.95	-1.086	0	0	3.61	0	0	0	47.508
J5236	252	258.59	0.14	252.47	8:00 AM	2.38	0.424	0.021	0	0	6.12	0	0	0	6.264
STMI1161	188.4	195.56	0.08	188.65	8:00 AM	0.57	0.094	0.001	0	0	6.91	0	0	0	1.066
J5382	214.65	219.14	0.11	214.95	8:00 AM	9.11	1.55	-0.002	0	0	4.19	0	0	0	32.163
J-SB-12	152.7	156.33	2	159.82	9:21 AM	268.77	70.3	0.057	0	0	27.125	0	0	0	1228.946
J-SBT6-02	143.4	170	1.09	146.51	8:00 AM	60.95	13	0	0	0	23.49	0	0	0	219.13
STML1131	194.81	207.4	0.24	195.59	8:00 AM	10.77	1.84	-0.005	0	0	11.81	0	0	0	33.084
J-SB-02	106.1	130	1.39	109.2	9:52 AM	804.93	249	-0.008	0	0	54.303	0	0	0	3966.226

Junctions CIP Model

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
J-SB-05	117.1	125	2.26	122.52	9:21 AM	497.42	141	0.004	0	0	2.48	0	0	0	2336.289
J-SB-16	267	272.2	0.63	268.6	8:30 AM	87.14	25.3	0	0	0	3.6	0	0	0	465.116
J-SB-03	108.6	140	3.4	115.15	9:57 AM	673.5	191	0.204	0	0	51.942	0	0	0	2946.759
J-SB-04	115.9	125	2.94	121.61	9:29 AM	501.77	144	0.05	0	0	36.964	0	0	0	2364.827
J-SBT1-01	137.8	150	1.25	140.47	8:49 AM	180.28	44.5	-0.71	0	0	55.822	0	0	0	546.746
J-SB-11	151	153.16	2.01	154.98	8:23 AM	249.94	74.8	0.003	0	0	2.331	0	0	0	1296.455
J-SBT6-01	143	160	0.42	144.14	8:05 AM	156.14	34.5	-0.025	0	0	27	0	0	0	599.98
J-SB-09	139	165	1.97	143.25	9:09 AM	428.33	122	0.044	0	0	46.361	0	0	0	2056.217
J-SB-14	224	235	0.83	225.69	8:07 AM	129.47	33.2	0.022	0	0	32.977	0	0	0	578.392
J-SBT1-04	154.61	180	1.23	157.96	8:00 AM	150	31	-0.001	0	0	36.164	0	0	0	376.734
J-SBT1-05	157.4	180	0.89	160.07	8:00 AM	143.15	29.8	0	0	0	28.169	0	0	0	358.372
J-SBT1-06	176	185	0.96	178.53	7:59 AM	123.03	26.3	0.001	0	0	28.309	0	0	0	318.196
STIL11186	172.5	179	0.13	172.92	8:00 AM	1.99	0.329	0	0	0	6.08	0	0	0	4.257
STIL11185	171.7	179	0.07	171.91	8:00 AM	1.99	0.329	0	0	0	7.09	0	0	0	4.257
J-SB-13	177	185	1.18	179.69	8:36 AM	235.91	61.9	-0.038	0	0	31.977	0	0	0	1091.407
STIK117	167.96	175	0.24	168.81	8:01 AM	3.81	0.631	0.003	0	0	6.19	0	0	0	9.33
J-SBT4-03	161.31	170	0.23	161.93	8:01 AM	16.62	3.09	-0.061	0	0	11.735	0	0	0	51.81
J-SBT4-02	153.6	157	0.98	156.16	8:40 AM	23.05	4.19	0.395	0	0	10.917	0	0	0	67.431
J4032	155	160	0.26	155.77	8:00 AM	25.62	4.28	0.001	0	0	11.251	0	0	0	48.833
J-SBT1-09	188.95	196.5	0.08	189.19	8:01 AM	10.77	1.84	-0.001	0	0	19.81	0	0	0	33.084
J-SBT1-08	182	199.21	0.3	182.8	7:59 AM	103.61	20.9	0	0	0	23.25	0	0	0	276.643
J-SBT1-03	152.2	175	1.25	155.59	8:03 AM	155.79	32	-0.276	0	0	36.124	0	0	0	387.611
STMJ1242	136.14	145	0.12	136.47	8:00 AM	12.7	2.1	-0.157	0	0	8.53	0	0	0	26.994
J-SB-07	126.6	150	3.06	132.05	8:39 AM	448.86	134	-0.014	0	0	37.102	0	0	0	2236.449
STMK1114	144.32	160	0.6	148.92	7:42 AM	22.26	5.36	0	2.51	3.35	11.08	0	0	0	83.389
J-SBT4-01	140.54	145	0.24	141.17	7:42 AM	22.26	5.36	-0.034	0	0	26.813	0	0	0	83.389
J-SB-08	134	160	3.14	139.9	9:42 AM	433.73	125	0.019	0	0	44.711	0	0	0	2097.876
J-SBT5-01	169.2	180	0.21	169.85	8:00 AM	18.4	3.21	-0.263	0	0	27.665	0	0	0	41.66
J-SBT7-01	168	170	0.44	169.05	8:31 AM	51.77	12.4	-0.029	0	0	13.003	0	0	0	159.782
J-SB-10	150	155	1.45	153.31	9:10 AM	298.57	87.1	-0.019	0	0	3.001	0	0	0	1456.237
J-SBT7-03	189.88	193.59	0.18	190.36	8:01 AM	3.99	0.671	-0.099	0	0	13.573	0	0	0	6.613
J-SBT3-01	147.7	160	0.3	148.57	8:02 AM	31.87	5.52	-0.252	0	0	16.555	0	0	0	72.846
STII09112	247.12	253.42	0.17	247.66	8:00 AM	5.41	0.996	0	0	0	5.76	0	0	0	16.281
J5	247.57	255	0.27	248.2	8:01 AM	11.85	2.49	-0.016	0	0	6.8	0	0	0	36.104
J7	172.43	175.26	0.3	173.5	8:02 AM	13.91	2.32	0.046	0	0	1.995	0	0	0	25.425
J8	169	171.35	0.19	170.36	8:00 AM	5.3	0.893	0	0	0	0.99	0	0	0	8.718
J9	167.6	171.8	0.12	168	8:00 AM	1.39	0.234	-0.001	0	0	3.8	0	0	0	2.316
stmI11045	205.08	215	0.21	205.77	8:00 AM	8.31	1.39	0	0	0	9.23	0	0	0	15.278
stmI11047	193.43	205	0.28	194.37	8:00 AM	8.93	1.47	0	0	0	10.63	0	0	0	20.804
stmI11048	189.85	205	0.34	192.41	8:50 AM	9.3	1.53	0.01	0	0	12.59	0	0	0	21.441
stmI11052	194.85	206	0.26	195.67	8:00 AM	6.61	1.13	0	0	0	10.33	0	0	0	11.64
stmI11053	197.28	207	0.27	198.13	8:00 AM	6.61	1.13	0	0	0	8.87	0	0	0	11.64
stmI11054	197.93	208	0.28	198.84	8:00 AM	6.61	1.13	0	0	0	9.16	0	0	0	11.64
stmI11056	188.81	204	0.48	192.41	8:50 AM	18.54	3.11	0.029	0	0	11.59	0	0	0	37.712
stmI11049	192.52	204	0.31	193.53	8:00 AM	9.27	1.58	0	0	0	10.47	0	0	0	16.271
stmI11029	201.53	214	0.26	202.38	8:00 AM	8.41	1.41	0	0	0	11.62	0	0	0	13.931
stmI11030	197.62	207.67	0.23	198.38	8:01 AM	8.41	1.41	0	0	0	9.29	0	0	0	13.931
stmJ11001	210.2	225.607	0.47	212.54	7:58 AM	8.41	1.41	0	1.06	0.841	13.066	0	0	0	13.931
stmI11039	204.8	221	0.26	205.66	8:00 AM	8.41	1.41	0	0	0	15.34	0	0	0	13.931
stmJ11002	206.6	225	0.28	207.53	7:59 AM	8.71	1.41	0	0	0	17.47	0	0	0	13.931
stmG11016	191.4	197.87	0.39	192.96	8:00 AM	6.67	1.12	0	0.21	0.058	4.912	0	0	0	12.636
stmG10020	192.3	199.998	0.45	194.88	8:00 AM	6.67	1.12	0	0.97	1.078	5.12	0	0	0	12.636
stmG10038	191.8	198	0.36	193.52	8:00 AM	6.67	1.12	0	0.38	0.224	4.476	0	0	0	12.636
stmH11041	189.64	202	0.21	190.39	8:00 AM	6.63	1.11	-0.002	0	0	11.61	0	0	0	11.581
stmH11042	185.01	198	0.37	186.3	8:00 AM	16.1	2.7	0	0	0	11.7	0	0	0	28.114
stmH12034	168.73	185	0.36	169.94	8:02 AM	16.1	2.7	0	0	0	15.06	0	0	0	28.114
stmH12035	167.91	184	0.35	169.07	8:02 AM	16.1	2.7	0	0	0	14.93	0	0	0	28.114
stmG12034	153.99	168	0.32	155.04	8:00 AM	17.49	2.94	0	0	0	12.96	0	0	0	30.552
stmG12036	157.34	171	0.27	158.22	8:00 AM	17.49	2.94	0	0	0	12.78	0	0	0	30.552
stmF12016	175.6	185	0.24	176.42	8:00 AM	4.71	0.789	0	0	0	8.58	0	0	0	8.124
stmG11013	185.06	191.884	0.34	186.98	7:59 AM	7.42	1.24	0	0.52	0.419	4.905	0	0	0	13.634
stmF08048	196.08	205	4.18	200.96	7:56 AM	0.62	0.109	0.133	47.25	3.621	4.039	0	0	0	1.199
stmF08049	196.9	205	3.37	200.97	7:58 AM	0.61	0.109	5.248	46.59	1.57	4.03	0	0	0	1.199
stmF08050	196.99	211	3.28	201.82	1:25 AM	0.58	0.058	8.189	46.58	2.33	9.18	0	0	0	0.644
stmG10040	191.74	198	0.33	197.2	7:22 AM	1.95	0.326	0.002	0.88	4.456	0.804	0	0	0	3.751
stvG10041	191.74	194	0.05	191.89	8:00 AM	1.95	0.326	-0.001	0	0	2.85	0	0	0	3.751
stmG10042	186.92	192	0.32	187.74	8:02 AM	2.16	0.369	-0.001	0	0	4.26	0	0	0	7.531
stvG10043	187	192	0.06	187.68	8:05 AM	3.65	0.456	0	0	0	4.32	0	0	0	7.531
stvG10044	186.52	191	0.01	186.7	8:04 AM	3.33	0.086	0	0	0	4.3	0	0	0	7.531
stmG10045	186.5	191	0.06	186.7	7:51 AM	0.34	0.058	0.01	0	0	4.3	0	0	0	8.221
stmG10046	186.51	195	0.32	188.36	7:59 AM	7.42	1.24	0.002	0.28	0.35	6.64	0	0	0	13.634
stmG10047	187.55	193	0.12	188.42	8:00 AM	0.88	0.136	-0.013	0	0	4.58	0	0	0	1.616
stmG07079	264.9	264	0.01	264.94	8:00 AM	0.14	0.022	0	0	0	1.21	0	0	0	6.498
stmG07080	267.89	266	0	267.89	12:00 AM	0	0	0	0	0	1.25	0	0	0	6.498
stmG07081	271.2	270	0	271.2	12:00 AM	0	0	0	0	0	1	0	0	0	0
stmI12035	166.03	175	0.2	166.67	8:00 AM	1.9	0.334	0	0	0	8.33	0	0	0	4.965
stmI12036	165.95	171	0.14	166.42	8:00 AM	1.9	0.334	0	0	0	4.58	0	0	0	4.965
stmF11012	177	181	0.1	177.32	8:07 AM	2.74	0.436	-0.011	0	0	3.68	0	0	0	5.965
stmG11020	178.44	185	0.18	179.06	8:01 AM	1.51	0.264	0	0	0	5.94	0	0	0	3.607
stmG11021	177.65	183	0.19	178.26	8:01 AM	1.74	0.305	0.007	0	0	4.74	0	0	0	4.165
stmG11022	180.76	192	0.12	181.15	8:00 AM	0.85	0.148	0	0	0	10.85	0	0	0	2.016
stmG11023	181.57	192	0.08	181.82	8:00 AM	0.46	0.081	0	0	0	10.18	0	0	0	1.109
stmG11024	177.36	182	0.23	178.13	8:03 AM	2.47	0.436	-0.002	0	0	3.87	0	0	0	5.965
stmG11025	178.95	188	0.21	179.65	8:00 AM	1.51	0.264	0	0	0	8.35	0	0	0	3.607
stmF11013	177.05	181	0.22	177.79	8:03 AM	2.34	0.436	0.013	0	0	3.21	0	0	0	5.965
stmI15003	156.03	164	0.45	156.65	8:01 AM	0.14	0.023	0.434	0	0	7.35	0	0	0	0.307
stmF09033	178.31	186	0.34	180.01	8:04 AM	3.51	0.829	-0.002	1.11	0.438	5.992	0	0	0	12.167
stmF09034	179.47	188	0.24	180.57	8:03 AM	2.06	0.474	0.005	0	0	7.43	0	0	0	6.951
stmF09035	177.62	184	0.36	178.74	8:03 AM	3.51	0.829	0	1.07	0.115	5.265	0	0	0	12.167
stmI15004	162.57	166	0.05	162.73	8:00 AM	0.35	0.062	-0.007	0	0	3.27	0	0	0	0.774
stmG08067	256.1	256	0	256.1	12:00 AM	0	0	0	0	0	1	0	0	0	4.08
stmG08068	257.03	257	0	257.03	12:15 AM	0	0	0	0	0	1	0	0	0	4.08
stmG08069	251.25	259	4.4	257.03	01/01/2013 15:26 PM	1.51	0.256	0.52	37.18	2.084	1.966	0	0	0	3.59
stmG08070	254.3	265	1.93	257.03	01/01/2013 14:04 PM	1.52	0.257	0.459	0	0	7.97	0	0	0	3.59
stmG10048	191.9	196.4	0.18	192.52	8:00 AM	2.04	0.341	0	0	0	3.88	0	0	0	4.136
stmG10049	192.42	196.79	0.19	193.09	8:00 AM	2.04	0.341	-0.002	0	0	3.7	0	0	0	4.136
stmG10050	193.07	197.29	0.13	193.49	8:00 AM	0.86	0.142	0.003	0	0	3.8	0	0	0	1.643
stmF09036	180.7	191	0.93	182.96	8:00 AM	23.43	4.2	0.008	0	0	8.04	0	0	0	51.308
stmI13014	164.7	172	0.16	172	7:23 AM	3.88	0.076	-0.002	0.78	6.1	0	0.01	1.6	0	0.852
stmH10031	171	176	0.18	171.56	8:01 AM	2.52	0.468	0	0	0	4.44	0	0	0	6.592
stmH10033	181.92	182	0.07	182.14	8:00 AM	0.8	0.136	0	0	0	1.03	0	0	0	1.907
stmH10034	176.4	181	0.08	176.63	8:00 AM	1.74	0.332	0	0	0	4.37	0	0	0	4.685
stmH10035	171.95	181	0.27	172.72	8:00 AM	1.74	0.332	-0.002	0	0	8.28	0	0	0	4.685
stmH1310003	166.88	171	0.18	167.51	8:00 AM	3.94	0.657	0	0	0	3.49	0	0	0	7.14
stmG1210033	158.15	169	0.37	159.39	8:00 AM	29.11	4.87	-0.001	0	0	9.61	0	0	0	50.359
stmG1210034	155.6	162	0.42	157.07	8:00 AM	29.11	4.87	0	0	0	4.93	0	0	0	50.359
stmG1210035	154.95	164	0.49	156.65	8:00 AM	29.11	4.87	0	0	0	7.35	0	0	0	50.359
stmG1210037	153.32	168	0.39	154.75	8:00 AM	29.1	4.87	0	0	0	13.25	0	0	0	50.359
stmF1210011	152.42	167	0.53	154.26	8:00 AM	29.1	4.87	0.001	0	0	12.74	0	0	0	50.359
stmF1310001	151.44	164	0.57	153.5	8:00 AM	38.38	6.19	-0.001	0	0	10.5	0	0	0	68.688
stmF1310002	150.08	164	0.61	152.23	8:00 AM	38.37	6.19	0	0	0	11.77	0	0	0	68.688
stmF1310003	149.47	156	0.16	149.99	8:00 AM	38.37	6.19	0	0	0	6.01	0	0	0	68.688
stmF1310010	108.5	115	0.04	108.63	8:00 AM	0.53	0.092	0	0	0	6.37	0	0	0	1.331
stmF1310011	110.6	123	0.06	110.78	8:00 AM	0.47	0.082	0	0	0	12.22	0	0	0	1.197
stmG0710063	240.8	242	0.17	241.13	11:10 AM	1.11	0.493	0.002	0	0	0.87	0	0	0	7.893
stmG0710068	274.87	291	0.12	275.28	8:00 AM	1.3	0.208	0	0	0	15.72	0	0	0	2.98
stmG0710069	257.47	260	0.15	258.02	8:00 AM	3.33	0.541	0	0	0	1.98	0	0	0	7.893
stmG0710088	277.58	289	0.08	277.85	8:00 AM	0.52	0.083	0	0	0	11.15	0	0	0	1.215
stmH10032	170.22	171	0.07	170.42	8:01 AM	2.52	0.468	0	0	0	1.55	0	0	0	6.592
stmH10028	186.83	193	0.1	187.17	8:00 AM	1.53	0.256	0	0	0	5.83	0	0	0	3.233
stmF0610006	236.26	243.31	1.45	239.61	7:21 AM	8.97	4.09	0	17.08	1.633	3.697	0	0	0	70.243
stmF07021	213.38	219	0.36	214.32	8:09 AM	6	1.08	0.001	0	0	4.68	0	0	0	16.02
stmF07022	215.31	218	0.25	216.17	8:01 AM	6.57	1.09	0	0	0	1.83	0	0	0	16.02

Junctions CIP Model

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
stmF07023	215.9	219	0.28	216.88	8:00 AM	6.63	1.09	0	0	0	2.12	0	0	0	16.02
stmF07024	239	249	0.09	239.31	8:00 AM	0.99	0.159	-0.001	0	0	9.69	0	0	0	2.346
stmF07025	228.21	239.5	0.14	228.67	8:01 AM	2.61	0.438	0	0	0	10.83	0	0	0	6.483
stmF06000	241.42	246	0.04	241.55	8:00 AM	0.31	0.05	0	0	0	4.45	0	0	0	0.728
stmH1010057	190.92	200	0.12	191.33	8:00 AM	1.53	0.256	0	0	0	8.67	0	0	0	3.233
stmH1010049	159.96	168	0.08	160.22	8:01 AM	4.05	0.725	0	0	0	7.78	0	0	0	9.825
stmH1010052	179.52	188	0.08	179.79	8:00 AM	1.53	0.256	0	0	0	8.21	0	0	0	3.233
stmH1010051	167.8	184	0.09	168.1	8:00 AM	1.53	0.256	0	0	0	15.9	0	0	0	3.233
stmH1010016	186.4	197	6.06	192.82	8:00 AM	0.36	0.06	0.96	0	0	4.18	0	0	0	0.741
stmH13019	161.06	169	0.08	161.3	8:00 AM	0.35	0.062	0	0	0	7.7	0	0	0	0.931
stmH13018	160.29	168	0.07	160.51	8:00 AM	0.35	0.062	0	0	0	7.49	0	0	0	0.931
stmH13020	157.01	168	0.06	157.21	8:34 AM	0.29	0.056	0.002	0	0	10.79	0	0	0	0.931
stmH13021	156.51	167	0.04	156.62	8:35 AM	0.29	0.056	0.001	0	0	10.38	0	0	0	0.931
stmH13017	159.69	168	0.07	159.92	8:00 AM	0.35	0.062	0	0	0	8.08	0	0	0	0.931
stmH1310004	167.1	171	0.21	167.92	8:00 AM	3.94	0.657	0	0	0	3.08	0	0	0	7.14
stmG07078	258.65	265	3.9	263.7	01/01/2013 19:59 PM	1.84	0.297	0.208	39.3	2.796	1.304	0	0	0	4.376
stmG0710067	241.93	251	0.16	242.52	8:00 AM	3.33	0.541	0.007	0	0	8.48	0	0	0	7.893
stcoG1108	184.3	193	0.08	184.55	8:00 AM	0.46	0.081	0	0	0	8.45	0	0	0	1.109
stcoI13000	165.1	173	0.18	173	7:23 AM	2.67	0.067	-0.019	0.76	6.9	0	0.01	2.57	0	0.746
stcoH1004	180.04	183	2.03	182.4	8:00 AM	0.8	0.136	0.13	0	0	0.6	0	0	0	1.907
stiF08081	197.25	204	3.02	201.15	1:25 AM	0.28	0.047	1.54	46.79	2.649	2.851	0	0	0	0.555
stiG10088	197.79	206	0.13	198.22	8:00 AM	1.95	0.326	-0.003	0	0	7.78	0	0	0	3.751
stiG10090	187	192	0.24	187.74	8:01 AM	1.79	0.309	0.023	0	0	4.26	0	0	0	3.78
stiG10091	186.92	191	0.18	187.68	8:05 AM	0.46	0.079	0	0	0	3.32	0	0	0	8.501
stiG10092	187.53	191	0	187.53	12:00 AM	0	0	0	0	0	3.47	0	0	0	0
stiG10093	187.51	191	0.08	187.77	8:01 AM	0.34	0.058	0.011	0	0	3.23	0	0	0	0.691
stiG10094	188.76	193	0.08	189.02	8:00 AM	0.35	0.058	-0.004	0	0	3.98	0	0	0	0.691
stiG10095	189.43	193	0.08	189.69	8:00 AM	0.35	0.058	-0.001	0	0	3.31	0	0	0	0.691
stiG10096	187.55	193	0.17	188.42	8:00 AM	0.02	0	26.195	0	0	4.58	0	0	0	0
stiG10097	187.73	193	0.11	188.43	8:00 AM	0.82	0.136	0	0	0	4.57	0	0	0	1.616
stiG10098	187.93	194	0.42	188.63	8:00 AM	0.82	0.136	0.029	0	0	5.37	0	0	0	1.616
stiG10099	189.22	194	0.13	189.64	8:00 AM	0.82	0.136	0	0	0	4.36	0	0	0	1.616
stiG10100	186.78	194	1.56	188.66	8:00 AM	0.02	0	27.131	47.27	0.883	5.337	0	0	0	0
stiG08137	255.95	258	0.74	257.04	01/01/2013 16:00 PM	0.52	0.086	0.526	34.04	0.085	0.965	0	0	0	1.056
stiG08138	255.11	264	1.32	257.07	01/01/2013 14:04 PM	0.52	0.086	0.737	35.31	0.948	6.932	0	0	0	1.056
stiG08139	254.66	264	1.65	257.06	01/01/2013 15:29 PM	0.52	0.085	0.414	36.07	1.398	6.942	0	0	0	1.056
stiH080005	265.05	270	0.05	265.21	8:00 AM	0.14	0.023	0	0	0	4.79	0	0	0	0.341
stiH080006	264.69	271	0.05	264.84	8:00 AM	0.14	0.023	0.001	0	0	6.16	0	0	0	0.341
stiH080007	264.39	272	0.06	264.59	8:00 AM	0.24	0.039	0	0	0	7.41	0	0	0	0.587
stiG080143	263.1	271	0.09	263.39	8:00 AM	1	0.172	0	0	0	7.61	0	0	0	2.534
stiH080010	266.62	272	0.05	266.76	8:00 AM	0.1	0.017	0.001	0	0	5.24	0	0	0	0.246
stiH080011	264.4	272	1.96	266.53	8:00 AM	0.1	0.017	1.145	0	0	5.47	0	0	0	0.246
stiG080141	264.02	271	0.07	264.24	8:00 AM	0.34	0.063	0	0	0	6.76	0	0	0	0.92
stiG080140	263.57	271	0.07	263.79	8:00 AM	0.34	0.063	0	0	0	7.21	0	0	0	0.92
stiG10103	192.74	196.37	0.2	193.35	8:00 AM	1.18	0.199	0	0	0	3.02	0	0	0	2.493
stiG10104	193.51	197.94	0.13	193.92	8:00 AM	0.86	0.142	0	0	0	4.02	0	0	0	1.643
stiG10105	193.76	197.94	0.12	194.16	8:00 AM	0.86	0.142	0	0	0	3.78	0	0	0	1.643
stiG09110	194.47	198.27	0.13	194.88	8:00 AM	0.86	0.142	0	0	0	3.39	0	0	0	1.643
stiG09112	192.2	198.95	2.95	196.04	1:07 AM	0.24	0.038	2.714	46.88	2.089	2.911	0	0	0	0.429
stiG10108	189.63	194.72	1	192.04	01/01/2013 16:37 PM	2.17	0.481	-8.622	5.19	1.049	2.681	0	0	0	4.136
stiG10109	189.29	195.09	1.33	191.86	01/01/2013 16:37 PM	1.92	0.415	-0.502	23.62	1.375	3.225	0	0	0	4.136
stiH10069	183.27	182	0	183.27	12:00 AM	0	0	0	0	0	2	0	0	0	0
stiH10070	177.12	180	0.09	177.4	8:00 AM	1.74	0.332	0	0	0	2.6	0	0	0	4.685
stiH10071	176.84	180	0.12	177.21	8:00 AM	1.74	0.332	0	0	0	2.79	0	0	0	4.685
stiG1210032	159.82	169	0.23	160.85	8:00 AM	5.62	0.929	0	0.29	0.029	8.151	0	0	0	11.04
stiF1310017	113.4	113	0.03	113.5	8:00 AM	0.06	0.009	0.002	0	0	0.9	0	0	0	0.134
stiF1310018	112	115	0.03	112.09	8:00 AM	0.06	0.009	0.001	0	0	2.91	0	0	0	0.134
stiF1310019	111.8	118	0.03	111.89	8:00 AM	0.06	0.009	0	0	0	6.11	0	0	0	0.134
stiG0710062	240.9	244	0.23	241.34	11:10 AM	1.11	0.493	0.002	0	0	2.66	0	0	0	7.893
stiG0710071	258.97	261	0.16	259.52	8:00 AM	3.33	0.541	0	0	0	1.48	0	0	0	7.893
stiG0710072	259.46	265	0.14	259.95	8:00 AM	1.28	0.21	0	0	0	5.05	0	0	0	3.11
stiG0710073	261.52	266	0.12	261.94	8:00 AM	2.05	0.331	0	0	0	4.06	0	0	0	4.783
stiG0710074	263.89	268	0.05	264.06	8:00 AM	0.25	0.04	0	0	0	3.94	0	0	0	0.598
stiG0710075	264.82	271	0.06	265.01	8:00 AM	0.25	0.04	0	0	0	5.99	0	0	0	0.598
stiG0710076	262.26	269	0.14	262.74	8:00 AM	1.81	0.29	0	0	0	6.26	0	0	0	4.185
stiG0710077	262.62	272	0.16	263.18	8:00 AM	1.81	0.29	0	0	0	8.82	0	0	0	4.185
stiG0710078	263.44	273	0.07	263.68	8:00 AM	0.37	0.059	0	0	0	9.32	0	0	0	0.872
stiG0710079	273.76	284	0.08	274.02	8:00 AM	1.44	0.231	0	0	0	9.98	0	0	0	3.313
stiG0710080	274.48	286	0.04	274.61	8:00 AM	0.14	0.023	0.001	0	0	11.39	0	0	0	0.333
stiG0710081	275.38	291	0.14	275.89	8:00 AM	1.3	0.208	0	0	0	15.11	0	0	0	2.98
stiG0710082	277.98	292	0.05	278.13	8:00 AM	0.27	0.044	0	0	0	13.87	0	0	0	0.639
stiG0710083	277.02	290	0.13	277.46	8:00 AM	1.03	0.165	-0.001	0	0	12.54	0	0	0	2.341
stiG0710084	277.23	291	0.09	277.52	8:00 AM	0.51	0.082	0	0	0	13.48	0	0	0	1.126
stiG0710085	278.3	286	0.09	278.61	8:00 AM	0.52	0.083	0	0	0	7.39	0	0	0	1.215
stiG0710086	278.67	283	0.1	279	8:00 AM	0.52	0.083	0	0	0	4	0	0	0	1.215
stiG07124	262.3	270	1.09	263.83	9:49 AM	1.84	0.298	0.481	14.29	0.159	6.171	0	0	0	4.376
stiG07123	260.5	266	2.44	263.73	11:35 AM	1.84	0.297	0.215	38.73	2.027	2.273	0	0	0	4.376
stiG07117	266.9	271	0	266.9	12:00 AM	0	0	0	0	0	4.1	0	0	0	0
stiG07130	263.9	267	0	263.9	12:00 AM	0	0	0	0	0	3.1	0	0	0	0
stiG07120	265.83	272	0	265.83	12:00 AM	0	0	0	0	0	6.17	0	0	0	0
stiG07126	263.1	274	0.47	263.85	9:49 AM	0.49	0.079	0.095	0	0	10.15	0	0	0	1.162
stiG07134	263.55	277	0.15	263.95	8:00 AM	1.35	0.218	0.016	0	0	13.05	0	0	0	3.213
stiG07125	262.7	273	0.79	263.84	9:49 AM	1.84	0.298	0.095	0	0	9.16	0	0	0	4.376
stiG07131	263.5	267	0.11	263.68	9:49 AM	0.06	0.001	3.115	0	0	3.32	0	0	0	0
stiH10023	193.33	196.397	0.04	193.47	8:00 AM	0.21	0.035	0.001	0	0	2.927	0	0	0	0.43
stiG0610001	245.69	250.69	0.03	245.8	8:00 AM	0.2	0.031	0	0	0	4.89	0	0	0	0.458
stiF0610004	241.92	247.02	0.04	242.05	8:00 AM	0.2	0.031	-0.021	0	0	4.97	0	0	0	0.458
stiF0610005	237.77	243.22	1.16	241.19	8:00 AM	8.97	4.09	0	15.57	2.321	2.029	0	0	0	70.243
stiF07040	216.5	220	0.19	217.24	8:01 AM	7.41	1.09	0.001	0	0	2.76	0	0	0	16.02
stiF06006	240.01	243	0.22	240.56	8:00 AM	0.99	0.159	0.005	0	0	2.44	0	0	0	2.346
stiF07042	234.09	240	0.07	234.33	8:01 AM	0.99	0.159	0.001	0	0	5.67	0	0	0	2.346
stiF07043	222.85	228	0.06	223.06	8:01 AM	0.98	0.159	0	0	0	4.94	0	0	0	2.346
stiF07044	219.45	226	0.11	219.82	8:01 AM	0.98	0.159	0	0	0	6.18	0	0	0	2.346
stiF07048	218.8	225	0.09	219.12	8:01 AM	0.98	0.159	0.002	0	0	5.88	0	0	0	2.346
stiF07045	217.25	222	0.25	218.18	8:01 AM	4.02	0.667	0	0	0	3.82	0	0	0	9.841
stiF07046	217.64	223	0.2	218.35	8:01 AM	3.03	0.507	0	0	0	4.65	0	0	0	7.496
stiF07047	218.09	224	0.19	218.74	8:01 AM	3.03	0.507	0	0	0	5.26	0	0	0	7.496
stiF07055	217.01	221	0.06	217.24	7:45 AM	0.22	0.03	-0.003	0	0	3.76	0	0	0	0.431
stiF07051	218.4	223	0.08	218.73	8:01 AM	0.43	0.069	0	0	0	4.27	0	0	0	1.012
stiF07052	228.79	238	0.22	229.62	8:01 AM	2.62	0.438	-0.001	0	0	8.38	0	0	0	6.483
stiF06005	229.47	239	0.06	229.68	8:00 AM	0.3	0.049	0.008	0	0	9.32	0	0	0	0.714
stiF07059	218.32	222	0.12	218.73	8:00 AM	1.1	0.179	0	0	0	3.27	0	0	0	2.639
stiF07060	217.93	220	0.1	218.26	8:00 AM	0.77	0.124	0.001	0	0	1.74	0	0	0	1.833
stiF07061	218.23	221	0.07	218.45	8:00 AM	0.25	0.04	0	0	0	2.55	0	0	0	0.59
stiF06000	243.17	247	0.04	243.3	8:00 AM	0.31	0.05	0	0	0	3.7	0	0	0	0.728
stiF06001	236.4	243	0.08	236.68	8:00 AM	0.63	0.101	0	0	0	6.32	0	0	0	1.479
stiF06002	242.53	241	0.03	242.63	8:00 AM	0.32	0.051	0	0	0	0.9	0	0	0	0.751
stiF06003	235.7	244	0.04	235.85	8:00 AM	0.63	0.101	0	0	0	8.15	0	0	0	1.479
stiF06004	230.35	242	0.18	231.01	8:00 AM	2.32	0.39	-0.001	0	0	10.99	0	0	0	5.769
stiF07062	218.95	223	0.09	219.26	8:00 AM	0.52	0.084	0	0	0	3.74	0	0	0	1.243
stiF07063	219.69	223	0.09	219.97	8:00 AM	0.52	0.084	0	0	0	3.03	0	0	0	1.243
stiF07064	231.24	248	0.18	231.89	8:00 AM	1.7	0.289	0	0	0	16.11	0	0	0	4.29
stiF06007	231.68	250	0.16	232.23	8:00 AM	1.7	0.289	0	0	0	17.77	0	0	0	4.29
stiF06008	231.98	248	0.19	232.63	8:00 AM	1.7	0.289	0	0	0	15.37	0	0	0	4.29
stiH1010058	195	200	0.06	195.19	8:00 AM	1.53	0.256	0	0	0	4.81	0	0	0	3.233
stiH1010017	192.49	194	0.04	192.61	8:00 AM	0.36	0.06	0	0	0	1.39	0	0	0	0.741
stiH1010018	193.23	198	0.04	193.35	8:00 AM	0.15	0.025	0.001	0	0	4.65	0	0	0	0.312
stiH1010019	186.24	189	0.03	186.35	8:00 AM	0.36	0.06	-0.001	0	0	2.65	0	0	0	0.741
stiG11129	186.37	192	0.03	186.46	8:00 AM	0.23	0.039	0.001	0	0	5.54	0	0	0	0.527
stiI15008	163.82	167	0.08	164.07	8:00 AM	1.11	0.196	0	0	0	2.93	0	0	0	2.464
stiG11123	182.36	188	0.03	182.46	8:00 AM	0.28	0.048	0	0	0	5.54	0	0	0	0.65
stiI15013	162.76	168	0.05	162.91	8:00 AM	0.12	0.021	0	0	0	5.09	0	0	0	0.268
stiG11124	178.68	183	0.05	178.85	8:00 AM	0.24	0.041	0	0	0	4.15	0	0	0	0.558

Junctions CIP Model

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
stiF07057	217.03	220	0.22	217.77	8:00 AM	1.86	0.303	0	0	0	2.23	0	0	0	4.472
stiI15012	163.12	168	0.05	163.27	8:00 AM	0.12	0.021	0.001	0	0	4.73	0	0	0	0.268
stiF09090	190.13	200	0.07	190.31	8:00 AM	0.33	0.075	0	0	0	9.69	0	0	0	1.101
stiG11126	177.87	183	0.07	178.26	8:01 AM	0.24	0.041	0.001	0	0	4.74	0	0	0	0.558
stiF09083	181.02	188	0.21	181.6	8:00 AM	1.54	0.355	0	0	0	6.4	0	0	0	5.216
stiF09087	184.06	191	0.1	184.34	8:01 AM	0.68	0.158	-0.001	0	0	6.66	0	0	0	2.321
stiG11132	177.3	181	0.21	178	8:07 AM	2.33	0.436	0	0	0	3	0	0	0	5.965
stiI15006	166.96	168	0.1	167.29	8:00 AM	1.11	0.196	0	0	0	0.71	0	0	0	2.464
stiG11125	178.15	183	0.07	178.36	8:00 AM	0.24	0.041	0.001	0	0	4.64	0	0	0	0.558
stiF09081	184.06	188	0.12	184.38	8:00 AM	2.06	0.474	0	0	0	3.62	0	0	0	6.951
stiG11130	182.49	192	0.02	182.57	8:00 AM	0.16	0.028	0	0	0	9.43	0	0	0	0.381
stiF09089	192.63	200	0.08	192.84	8:00 AM	0.33	0.075	0	0	0	7.16	0	0	0	1.101
stiF09091	185.21	195	0.09	185.45	8:01 AM	0.32	0.075	0	0	0	9.55	0	0	0	1.101
stiF09082	181.02	188	0.24	181.66	8:00 AM	0.86	0.197	0	0	0	6.34	0	0	0	2.895
stiG11127	177.77	183	0.09	178.07	8:02 AM	0.73	0.131	0	0	0	4.93	0	0	0	1.8
stiI15004	162.19	168	0.04	162.31	8:00 AM	0.14	0.023	-0.019	0	0	5.69	0	0	0	0.307
stiG11134	181.53	189	0.04	181.64	8:00 AM	0.38	0.069	0	0	0	7.36	0	0	0	0.941
stiI15010	163.88	167	0.07	164.08	8:00 AM	0.23	0.04	0	0	0	2.92	0	0	0	0.507
stiI15011	163.02	166	0.07	163.23	8:00 AM	0.23	0.04	0	0	0	2.77	0	0	0	0.507
stiG11131	182.13	193	0.07	182.35	8:00 AM	0.46	0.081	0	0	0	10.65	0	0	0	1.109
stiI15007	166.14	168	0.1	166.45	8:00 AM	1.11	0.196	0	0	0	1.55	0	0	0	2.464
stiI12052	176.75	181	0.07	176.97	8:00 AM	0.53	0.088	0	0	0	4.03	0	0	0	0.935
stiI15014	162.62	167	0.06	162.78	8:00 AM	0.12	0.021	0.001	0	0	4.22	0	0	0	0.268
stiF07054	216.67	220	0.1	217.26	8:01 AM	0.92	0.116	0.083	0	0	2.74	0	0	0	1.706
stiF09088	185.47	191	0.08	185.68	8:00 AM	0.36	0.083	0	0	0	5.32	0	0	0	1.22
stiF07058	217.85	221	0.13	218.3	8:00 AM	1.1	0.179	0	0	0	2.7	0	0	0	2.639
stiF09084	180.65	188	0.2	181.22	8:00 AM	1.54	0.355	0.03	0	0	6.78	0	0	0	5.216
stiH13057	161.34	169	0.1	161.62	8:00 AM	0.35	0.062	0	0	0	7.38	0	0	0	0.931
stiG07122	260	266	2.82	263.72	12:12 PM	1.84	0.296	0.287	39.07	2.52	2.28	0	0	0	4.376
stiG0710070	251.05	258	0.11	251.42	8:00 AM	3.33	0.541	0	0	0	6.58	0	0	0	7.893
E1	237.91	243	1.82	243	7:09 AM	17.42	4.65	0	18.61	4.09	0	6.3	8.65	0.595	69.785
E6	260.5	264	2.39	263.7	01/01/2013 17:23 PM	0.02	0	33.469	38.84	2.196	0.304	0	0	0	0
E14	193.17	199	2	196.32	1:07 AM	0.22	0.037	0.307	46.88	2.151	2.679	0	0	0	0.429
E16	186.5	188	0.01	186.55	8:04 AM	0.42	0.048	-0.015	0	0	2.95	0	0	0	8.221
E17	184.11	191	0.3	185.88	7:59 AM	7.42	1.24	-0.002	0.56	0.265	5.125	0	0	0	13.634
E29	155.28	158	1.2	156.73	8:00 AM	1.11	0.24	0.063	0	0	1.27	0	0	0	3.316
E31	170.69	172	0.02	170.84	7:24 AM	0.48	0.01	0.005	0	0	1.16	0	0	0	0.107
E34	243.8	251	0	243.8	12:00 AM	0	0	0	0	0	7.2	0	0	0	0
E38	153.24	168	0.56	154.9	8:00 AM	29.1	4.87	0	0	0	13.1	0	0	0	50.359
E42	179.84	182	0.09	180.11	8:00 AM	0.8	0.136	0	0	0	2.1	0	0	0	1.907
E45	202.49	218	0.29	203.48	8:00 AM	8.41	1.41	0	0	0	14.52	0	0	0	13.931
E43	209.7	224	0.33	210.89	7:57 AM	8.41	1.41	0	0	0	13.11	0	0	0	13.931
E44	209.6	224	0.17	210.16	7:58 AM	9.51	1.41	0	0	0	13.84	0	0	0	13.931
E47	199.19	211	0.26	200.05	8:00 AM	8.41	1.41	0	0	0	10.95	0	0	0	13.931
E48	198.34	210	0.26	199.2	8:00 AM	8.41	1.41	0	0	0	10.8	0	0	0	13.931
stiI11067	200.98	213	0.26	201.84	8:00 AM	8.41	1.41	0	0	0	11.16	0	0	0	13.931
stiI11151	194.65	205	1	196.49	8:00 AM	8.93	1.47	0.041	0	0	8.51	0	0	0	20.804
stiI11016	184.74	195	1.58	192.36	8:49 AM	18.68	3.11	-0.019	3.56	3.884	2.636	0	0	0	37.712
stiI11145	202.22	212	0.24	203.01	8:00 AM	8.31	1.39	0	0	0	8.99	0	0	0	15.278
stiI11152	194.24	204	1.41	196.48	8:00 AM	8.93	1.47	0.054	0	0	7.52	0	0	0	20.804
stiI11108	186.96	198	0.61	192.39	8:50 AM	18.46	3.11	-0.039	2.56	2.41	5.61	0	0	0	37.712
stiI11149	197.97	207	0.37	199.06	8:00 AM	8.3	1.39	-0.001	0	0	7.94	0	0	0	15.278
stiI11148	199.49	209	0.25	200.31	8:00 AM	8.3	1.39	0.001	0	0	8.69	0	0	0	15.278
stiI11272	186.1	197	0.67	192.38	8:51 AM	4.43	0.753	-0.001	4.18	4.784	4.616	0	0	0	7.766
stiI11111	196.51	206	0.21	197.18	8:00 AM	6.61	1.13	0	0	0	8.82	0	0	0	11.64
stiI11150	195.24	207	0.41	196.5	8:00 AM	8.93	1.47	0.003	0	0	10.5	0	0	0	20.804
stiI10107	212.84	218.964	0.64	215.87	7:59 AM	9.5	2.05	0	1.75	1.529	3.095	0	0	0	25.874
stiI11279	194.019	206	0.33	195.11	8:00 AM	9.27	1.58	0	0	0	10.89	0	0	0	16.271
stiG12281	149.69	164	0.33	150.79	8:00 AM	17.49	2.94	0	0	0	13.21	0	0	0	30.552
stiG12280	149.49	164	0.39	150.71	8:00 AM	21.95	3.69	0	0	0	13.29	0	0	0	37.903
stiG12279	151.69	166	0.3	152.66	8:00 AM	17.49	2.94	0	0	0	13.34	0	0	0	30.552
stiG12277	149.89	164	0.32	150.93	8:00 AM	17.49	2.94	0	0	0	13.07	0	0	0	30.552
stiG12278	150.8	165	0.32	151.85	8:00 AM	17.49	2.94	0	0	0	13.15	0	0	0	30.552
stiG12182	160.9	177	0.33	162	8:01 AM	16.33	2.74	0	0	0	15	0	0	0	28.496
stiH11099	198.88	210	0.22	199.62	8:00 AM	4.86	0.815	0.002	0	0	10.38	0	0	0	8.479
stiG12123	155.91	166	0.32	156.95	8:03 AM	17.96	3.02	0	0	0	9.05	0	0	0	31.348
stiG12183	162.61	180	0.33	163.71	8:01 AM	16.33	2.74	0	0	0	16.29	0	0	0	28.496
stiH11126	182.42	194	0.38	183.71	8:00 AM	16.1	2.7	0	0	0	10.29	0	0	0	28.114
stiH12057	177.8	189	0.38	179.07	8:01 AM	16.1	2.7	0	0	0	9.93	0	0	0	28.114
stiH12078	159.18	170	0.37	160.41	8:03 AM	17.96	3.02	0	0	0	9.59	0	0	0	31.348
stiF12043	179.62	187	0.19	180.26	8:00 AM	4.38	0.734	0	0	0	6.74	0	0	0	7.558
stiH11117	188.95	201	0.36	190.2	8:00 AM	16.11	2.7	0.001	0	0	10.8	0	0	0	28.114
stiH11103	197.13	207	0.17	197.68	8:01 AM	4.86	0.815	0	0	0	9.32	0	0	0	8.479
stiH11097	199.57	210	0.26	200.45	8:00 AM	4.86	0.815	0	0	0	9.55	0	0	0	8.479
stiH12102	161.07	173	0.37	162.31	8:02 AM	17.96	3.02	0	0	0	10.69	0	0	0	31.348
stiH11100	197.99	209	0.25	198.84	8:01 AM	4.86	0.815	-0.001	0	0	10.16	0	0	0	8.479
stiH12044	172.84	186	0.36	174.04	8:01 AM	16.1	2.7	0	0	0	11.96	0	0	0	28.114
stiH12099	162.71	178	0.37	163.95	8:02 AM	17.96	3.02	0	0	0	14.05	0	0	0	31.348
stiH12059	180.29	190	0.26	181.15	8:01 AM	16.1	2.7	0	0	0	8.85	0	0	0	28.114
stiH11095	200.09	210	0.26	200.97	8:00 AM	4.86	0.815	0	0	0	9.03	0	0	0	8.479
stiG12224	181.5	190	0.21	182.18	8:00 AM	4.38	0.734	0	0	0	7.82	0	0	0	7.558
stiG12209	178.11	185	0.48	179.68	8:00 AM	16.33	2.74	-0.001	0	0	5.32	0	0	0	28.496
stiH12055	177.01	187	0.37	178.24	8:01 AM	16.1	2.7	0	0	0	8.76	0	0	0	28.114
stiH12047	181.44	192	0.38	182.73	8:01 AM	16.1	2.7	0	0	0	9.27	0	0	0	28.114
stiG12187	175.62	184	0.41	176.99	8:00 AM	16.33	2.74	0	0	0	7.01	0	0	0	28.496
stiH11110	194	202	0.06	194.19	8:00 AM	1.78	0.298	0	0	0	7.81	0	0	0	3.102
stiG12184	173.059	182	0.18	173.62	8:00 AM	16.33	2.74	0	0	0	8.38	0	0	0	28.496
stiF12044	179.05	186.304	0.2	179.71	8:00 AM	4.38	0.734	0	0	0	6.594	0	0	0	7.558
stiG12153	160.18	175	0.35	161.33	8:01 AM	16.33	2.74	0	0	0	13.67	0	0	0	28.496
stiH11036	195	205	0.16	195.51	8:01 AM	4.86	0.815	0	0	0	9.49	0	0	0	8.479
stiG12201	176.36	185	0.4	177.71	8:00 AM	16.33	2.74	-0.001	0	0	7.29	0	0	0	28.496
stiG12149	158.95	172	0.33	160.03	8:01 AM	16.33	2.74	0	0	0	11.97	0	0	0	28.496
stiH12077	160.29	171	0.37	161.52	8:03 AM	17.96	3.02	0	0	0	9.48	0	0	0	31.348
stiG12110	154.83	166	0.23	155.6	8:00 AM	4.46	0.748	0	0	0	10.4	0	0	0	7.351
stiF12049	176.51	185	0.2	177.18	8:00 AM	4.38	0.734	0	0	0	7.82	0	0	0	7.558
stiG12152	159.37	174	0.34	160.49	8:01 AM	16.33	2.74	0	0	0	13.51	0	0	0	28.496
stiG12124	147.82	165	0.18	148.37	8:01 AM	39.87	6.7	-0.001	0	0	16.63	0	0	0	69.251
stiH11125	183.21	195	0.37	184.5	8:00 AM	16.1	2.7	0	0	0	10.5	0	0	0	28.114
stiH11111	194.24	202	0.14	194.69	8:00 AM	1.78	0.298	0	0	0	7.31	0	0	0	3.102
stiH12101	162.06	176	0.37	163.29	8:02 AM	17.96	3.02	0	0	0	12.71	0	0	0	31.348
stiH11043	191.98	203	0.16	192.48	8:01 AM	4.86	0.815	-0.001	0	0	10.52	0	0	0	8.479
stiH11104	195.4	206	0.24	196.16	8:01 AM	4.86	0.815	0	0	0	9.84	0	0	0	8.479
stiH11120	187.28	199	0.25	188.1	8:00 AM	16.1	2.7	0	0	0	10.9	0	0	0	28.114
stiG12129	156.33	166	0.19	156.96	8:00 AM	3.42	0.571	0	0	0	9.04	0	0	0	5.702
stiH11124	183.99	197	0.37	185.28	8:00 AM	16.1	2.7	0	0	0	11.72	0	0	0	28.114
stiG12186	175.23	183	0.38	176.5	8:00 AM	16.33	2.74	0	0	0	6.5	0	0	0	28.496
stiG12122	157.92	168	0.32	158.99	8:03 AM	17.96	3.02	0	0	0	9.01	0	0	0	31.348
stiG12154	178.54	185	0.4	179.98	8:00 AM	16.33	2.74	0.001	0	0	5.02	0	0	0	28.496
stiH12054	176.31	187	0.24	177.08	8:01 AM	16.1	2.7	0	0	0	9.92	0	0	0	28.114
stiH11112	194.65	202.229	0.14	195.1	8:00 AM	1.78	0.298	0	0	0	7.129	0	0	0	3.102
stiF12012	177.96	186	0.2	178.62	8:00 AM	4.38	0.734	0	0	0	7.38	0	0	0	7.558
stiG12185	174.94	183	0.23	175.66	8:00 AM	16.33	2.74	0	0	0	7.34	0	0	0	28.496
stiH11118	188.12	200	0.37	189.42	8:00 AM	16.1	2.7	0	0	0	10.58	0	0	0	28.114
stiG12203	177.7	185	0.37	178.94	8:00 AM	16.33	2.74	0	0	0	6.06	0	0	0	28.496
stiG12128	155.15	166	0.19	155.79	8:00 AM	3.42	0.571	0.001	0	0	10.21	0	0	0	5.702
stiG12202	176.9	185	0.37	178.14	8:00 AM	16.33	2.74	0.001	0	0	6.86	0	0	0	28.496
E50	174.2	181	0	174.2	12:00 AM	0	0	0	0	0	6.8	0	0	0	4.685
E51	174.2	181	0	174.2	12:00 AM	0	0	0	0	0	6.8	0	0	0	4.685
E52	174.2	181	0	174.2	12:00 AM	0	0	0	0	0	6.8	0	0	0	4.685
E53	171.91	176	0.27	172.66	8:01 AM	0.8	0.136	0	0	0	3.34	0	0	0	6.592
E54	171.91	176	0.27	172.67	8:01 AM	0.8	0.137	0	0	0	7.53	0	0	0	6.592
E55	171.91	176	0.27	172.67	8:01 AM	0.03	0.001	0.076	0	0	3.33	0	0	0	4.685
E56	171.91	176	0.27	172.66	8:01 AM	0.8	0.136	0	0	0	3.34	0	0	0	6.592

Junctions CIP Model

Name	Invert Elev. (ft)	Rim Elev. (ft)	Avg. Depth (ft)	Max. HGL (ft)	Time Max. HGL (M/D/Y)	Max. Total Inflow (cfs)	Total inflow (MG)	Flow Error (%)	Hours Surcharged (h)	Max. Surcharge (ft)	Min. Freeboard (ft)	Hours Flooded (h)	Max. Flood Rate (cfs)	Total Flood Vol. (MG)	Contributing Area (ac)
E57	171.91	176	0.26	172.65	8:01 AM	2.52	0.468	0.001	0	0	3.35	0	0	0	6.592
E58	214.76	233	0.37	221.04	7:24 AM	5.95	1.15	0.007	1.23	5.035	11.955	0	0	0	14.483
E59	215.89	223	0.23	216.73	8:00 AM	8.31	1.39	0	0	0	6.27	0	0	0	15.278
E60	207.89	215	0.24	208.73	8:00 AM	8.31	1.39	0	0	0	6.27	0	0	0	15.278
E61	197.41	204	0.08	197.66	8:00 AM	0.37	0.062	0	0	0	6.34	0	0	0	0.637
E62	198.16	206	0.08	198.42	8:00 AM	0.37	0.062	0	0	0	7.58	0	0	0	0.637
E63	197.53	206	0.18	198.14	8:00 AM	2.66	0.45	0	0	0	7.86	0	0	0	4.631
E64	199.61	207	0.18	200.22	8:00 AM	2.66	0.45	0	0	0	6.78	0	0	0	4.631
E65	201.87	210	0.18	202.48	8:00 AM	2.66	0.45	0	0	0	7.52	0	0	0	4.631
E66	187.96	197	0.63	194.13	7:59 AM	4.43	0.754	0.024	3.96	5.171	2.869	0	0	0	7.766
E67	210.4	219	0.13	210.82	8:00 AM	2.01	0.333	-0.001	0	0	8.18	0	0	0	3.757
E68	206.5	214	0.18	207.15	8:00 AM	2.01	0.333	0.001	0	0	6.85	0	0	0	3.757
E69	203.79	211	0.38	208.08	7:59 AM	4.86	0.815	0	1.55	3.293	2.917	0	0	0	8.479
E70	202.54	211	0.38	204.85	7:58 AM	4.86	0.815	0	1.07	0.987	6.153	0	0	0	8.479
E71	202.28	211	0.33	204.13	7:59 AM	4.86	0.815	0	1.06	0.652	6.871	0	0	0	8.479
E72	201.7	211	0.22	202.45	8:00 AM	4.86	0.815	0	0	0	8.55	0	0	0	8.479
E73	201.19	211	0.24	201.96	8:00 AM	4.86	0.815	0	0	0	9.04	0	0	0	8.479
E74	203.34	211	0.18	203.97	8:00 AM	1.86	0.312	0	0	0	7.03	0	0	0	3.234
E75	202.4	210	0.18	203.04	8:00 AM	1.86	0.312	0	0	0	6.96	0	0	0	3.234
E76	201.53	209	0.15	202.05	8:00 AM	1.86	0.312	0	0	0	6.95	0	0	0	3.234
E77	199.11	206	0.13	199.56	8:00 AM	1.86	0.312	0	0	0	6.44	0	0	0	3.234
E78	195.01	202	0.14	195.47	8:01 AM	1.86	0.312	0	0	0	6.53	0	0	0	3.234
E79	190.75	198	0.14	191.2	8:01 AM	1.86	0.312	0	0	0	6.8	0	0	0	3.234
E80	186.37	194	0.13	186.82	8:02 AM	1.86	0.312	0	0	0	7.18	0	0	0	3.234
E81	182.38	191	0.15	182.87	8:02 AM	1.86	0.312	0	0	0	8.13	0	0	0	3.234
E82	178.71	186	0.13	179.12	8:02 AM	1.86	0.312	0	0	0	6.88	0	0	0	3.234
E83	177.36	186	0.14	177.82	8:02 AM	1.86	0.312	0	0	0	8.18	0	0	0	3.234
E84	176.34	184	0.14	176.79	8:03 AM	1.86	0.312	0	0	0	7.21	0	0	0	3.234
E85	173.56	182	0.13	174.01	8:03 AM	1.86	0.312	0	0	0	7.99	0	0	0	3.234
E86	172.16	181	0.13	172.61	8:03 AM	1.86	0.312	0	0	0	8.39	0	0	0	3.234
E87	170.85	179	0.14	171.32	8:03 AM	1.86	0.312	0	0	0	7.68	0	0	0	3.234
E88	169.16	178	0.14	169.65	8:03 AM	1.86	0.312	0	0	0	8.35	0	0	0	3.234
E89	164.17	177	0.17	164.72	8:04 AM	1.86	0.312	0	0	0	12.28	0	0	0	3.234
E90	169.03	177	0.09	169.33	7:15 AM	1.04	0.176	0	0	0	7.67	0	0	0	1.65
E91	168.44	176	0.11	168.81	7:15 AM	1.04	0.176	0	0	0	7.19	0	0	0	1.65
E92	168.11	176	0.1	168.44	7:15 AM	1.04	0.176	0	0	0	7.56	0	0	0	1.65
E93	167.29	175	0.1	167.62	7:15 AM	1.04	0.176	0	0	0	7.38	0	0	0	1.65
E94	166.56	174	0.1	166.89	7:15 AM	1.04	0.176	0	0	0	7.11	0	0	0	1.65
E95	165.09	173	0.11	165.45	8:00 AM	1.04	0.176	0	0	0	7.55	0	0	0	1.65
E97	162.7	170	0.11	163.05	8:00 AM	1.04	0.176	0	0	0	6.95	0	0	0	1.65
E98	160.11	168	0.11	160.46	8:00 AM	1.04	0.176	0	0	0	7.54	0	0	0	1.65
E99	158.69	166	0.09	158.97	8:00 AM	1.04	0.176	0	0	0	7.03	0	0	0	1.65
E100	158.27	167	0.17	158.84	8:00 AM	3.42	0.571	-0.001	0	0	8.16	0	0	0	5.702
E101	169.38	169	0.08	169.62	7:59 AM	3.42	0.571	0	0	0	1.01	0	0	0	5.702
E102	161.96	171	7.43	170.24	7:12 AM	3.42	0.573	0.154	47.13	6.84	0.76	0	0	0	5.702
E103	162.43	171	6.97	170.29	7:14 AM	2.28	0.383	0.144	47.11	6.61	0.71	0	0	0	3.758
E104	167.14	175	2.39	170.77	7:56 AM	2.28	0.384	0.164	47.04	2.53	4.23	0	0	0	3.758
E105	167.91	177	1.66	171.09	7:58 AM	2.28	0.384	0.086	0.99	0.336	5.914	0	0	0	3.758
E106	170.42	174	0.07	170.63	8:00 AM	1.13	0.19	-0.001	0	0	3.37	0	0	0	1.943
E107	171.07	178	0.17	171.63	8:00 AM	1.14	0.19	0	0	0	6.37	0	0	0	1.943
E108	171.19	178	0.14	171.66	8:00 AM	2.28	0.384	0	0	0	6.34	0	0	0	3.758
E109	181.19	188	0.06	181.4	8:00 AM	0.33	0.055	0	0	0	6.6	0	0	0	0.565
E110	179.82	187	0.07	180.05	8:00 AM	0.33	0.055	0	0	0	6.95	0	0	0	0.565
E111	178.89	185	0.06	179.08	8:00 AM	0.33	0.055	0	0	0	5.92	0	0	0	0.565
E112	177.36	184	0.06	177.55	8:00 AM	0.33	0.055	0	0	0	6.45	0	0	0	0.565
E113	179.44	186	0.07	179.68	8:00 AM	0.33	0.055	0.001	0	0	6.32	0	0	0	0.565
E114	187.02	197	0.64	192.84	8:38 AM	4.44	0.754	0.018	4.23	4.723	4.157	0	0	0	7.766
E115	191.5	198	0.36	193.08	8:00 AM	6.67	1.12	0	0.23	0.08	4.92	0	0	0	12.636
J10	187.25	196	0.64	193.04	8:32 AM	4.43	0.754	-0.016	4.14	4.69	2.96	0	0	0	7.766
J11	130.415	137.415	0.1	130.7	8:04 AM	10.44	2.26	0.004	0	0	38.422	0	0	0	31.179
J13	110.449	150.798	1.65	113.53	9:08 AM	479.49	127	0.014	0	0	39.29	0	0	0	1861.169
stmF1310004	135.96	150	0.57	137.61	8:00 AM	38.37	6.19	-0.001	0	0	23.373	0	0	0	68.688
J12	175.5	180	0.44	176.63	8:01 AM	27.38	4.86	-0.004	0	0	3.37	0	0	0	59.196
J14	182	189	0.17	182.55	8:04 AM	4.44	0.761	0.004	0	0	6.45	0	0	0	8.409
J15	188	193	0.16	193	7:36 AM	2	0.334	0.006	0.63	4	0	0.01	0.16	0	3.67
J16	193	196	0.12	193.41	8:00 AM	2	0.334	0	0	0	2.59	0	0	0	3.67
J17	196	199	0.09	196.29	8:00 AM	1.27	0.212	0.008	0	0	2.71	0	0	0	2.349
J18	185	195	0.38	189.95	8:01 AM	3.27	0.546	-0.004	0	0	5.05	0	0	0	6.019
J19	195	198	0.09	195.3	8:00 AM	1.3	0.216	0	0	0	2.7	0	0	0	2.39
J20	184.5	193	0.36	188.54	8:02 AM	4.49	0.761	0.004	0	0	4.46	0	0	0	8.409
J21	183.5	191	0.29	185.75	8:03 AM	4.46	0.761	0	0	0	5.25	0	0	0	8.409
J22	193	196	0	193	12:00 AM	0	0	0	0	0	3	0	0	0	0
J23	188	191	0	188	12:00 AM	0	0	0	0	0	3	0	0	0	0
J24	150.012	159.355	0.3	151.24	7:50 AM	21.1	3.13	0	0	0	8.115	0	0	0	40.65
J25	184.739	188.66	0.87	187.86	7:43 AM	39.21	7.27	-0.001	0.71	0.376	0.795	0	0	0	94.822
J26	183.299	186.073	0.8	185.4	8:03 AM	54.97	9.72	0.001	0	0	0.92	0	0	0	124.022
J27	191.194	201.001	0.55	193.14	8:03 AM	31.18	5.37	0.001	0	0	7.861	0	0	0	72.271
J28	158	166.975	0.65	160.89	7:40 AM	41.61	6.75	0	0.41	0.39	6.085	0	0	0	73.471
J29	164	174	0.28	164.96	8:00 AM	10.04	1.59	-0.002	0	0	9.04	0	0	0	27.52
J31	160	170.846	0.5	167.45	7:17 AM	21.85	3.46	0.001	0.92	5.447	3.399	0	0	0	37.118
J32	157	170	0.37	158.25	8:00 AM	50.42	8.21	0	0	0	11.75	0	0	0	90.344

Conduits CIP Model

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
STGM1972	STMF0929	STMF097	35.04	0.012	192.41	190.32	CIRCULAR	1	1		0.05975	1.57	1/1/2013 8:00	4.28	0.17	0.48	0	3.215
STGM3920	STMG1027	STMG1029	247.32	0.013	195	190.5	CIRCULAR	2.75	1		0.0182	8.52	1/1/2013 8:02	7.55	0.12	0.25	0	21.622
STGM1148	STMG0718	STMG0715	112.61	0.012	256.68	254.03	CIRCULAR	1	1		0.02354	4.27	1/1/2013 8:00	9.02	0.72	0.58	0	8.578
STGM987	J3514	J3516	46.07	0.013	224.8	224.36	CIRCULAR	1.5	1		0.00955	7.5	1/1/2013 8:14	9.42	0.73	0.91	0.01	22.85
STGM1372	STMG0860	STMG0859	218.3	0.012	250.4	245.36	CIRCULAR	1.25	1		0.02309	8.17	1/1/2013 8:00	7.68	0.77	0.83	0.01	20.414
STGM2210	J3530	STMG1036	313.92	0.012	217	201	CIRCULAR	1.5	1		0.05103	8.31	1/1/2013 8:01	9.97	0.32	0.48	0	21.194
STGM1828	STMG0714	STMG0713	260.82	0.012	295.85	280.5	CIRCULAR	1	1		0.05896	3.7	1/1/2013 8:00	12.62	0.39	0.4	0	6.891
STGM3553	STMG0863	STMG0824	88.38	0.013	223.96	223.21	CIRCULAR	3	1		0.00849	49.63	1/1/2013 7:58	9.09	0.81	1	0.01	104.497
STGM3732	STMF0917	STMF0922	113.88	0.012	189.31	188.07	CIRCULAR	1.5	1		0.01089	10.53	1/1/2013 8:00	6.69	0.89	1	0.01	20.618
STGM3293	STMG0837	STMF085	132.48	0.013	208	207.36	CIRCULAR	2.75	1		0.00483	22.53	1/1/2013 8:00	7.93	0.61	0.48	0	44.495
STGM2013	STMG0852	STMG0830	242.28	0.012	234.17	231.75	CIRCULAR	2.25	1		0.00999	28.47	1/1/2013 8:01	8.12	0.85	0.95	0.01	61.522
STGM2999	STMG144	STMG141	261.49	0.013	157.5	154.32	CIRCULAR	1	1		0.01216	4.2	1/1/2013 7:59	6.27	1.07	0.84	0.01	7.824
STGM938	J4572	J-CCT1-07	509.71	0.04	150	130	IRREGULAR	0	1	STGM938	0.03927	12.48	1/1/2013 8:00	3.5	0.13	0.38	0	57.007
STGM3167	STMG1411	STMG1410	226.8	0.013	155.62	137.22	CIRCULAR	1	1		0.0814	4.62	1/1/2013 8:00	14.72	0.45	0.42	0	8.832
STGM2311	STMG0851	STMG0852	262.28	0.012	238.1	234.17	CIRCULAR	2	1		0.01499	20.62	1/1/2013 8:00	8.56	0.69	0.8	0.01	41.108
STGM575	STMG087	STMF081	115.51	0.013	213.97	212.38	CIRCULAR	1	1		0.01377	3.17	1/1/2013 8:00	5.83	0.76	0.68	0	6.277
STGM4047	STMG0815	STMG0817	310.8	0.013	231.5	226.04	CIRCULAR	1.25	1		0.01757	6.77	1/1/2013 8:00	6.08	0.79	0.85	0.01	14.311
STGM3439	STMF101	STMF1014	92.59	0.013	154.8	152.3	CIRCULAR	1.5	1		0.02701	16.09	1/1/2013 8:01	11.3	0.93	0.75	0	34.835
STGM1532	J3664	J3666	375.26	0.04	200.3	200	IRREGULAR	0	1	STGM1532	0.0008	69.92	1/1/2013 7:47	2.18	0.4	0.56	0	157.684
STGM800	STIF092	STMF092	33.63	0.013	199.28	198	CIRCULAR	3	1		0.03809	71.93	1/1/2013 8:16	15.83	0.55	0.98	0.01	160.683
STGM2761	STIF1262	OF_J3682	295.71	0.013	149	93	CIRCULAR	1	1		0.19286	12.1	1/1/2013 8:00	21.89	0.77	0.66	0	22.468
STGM4201	STMG0824	STMG0825	24.087	0.013	223.21	222.92	CIRCULAR	3	1		0.01204	49.64	1/1/2013 7:58	8.69	0.68	1	0.01	104.497
STGM1212	J3692	J3694	59.55	0.013	185	184.5	CIRCULAR	1.5	1		0.0084	13.58	1/1/2013 8:00	7.68	1.41	1	1.34	28.509
STGM1741	STMF0824	STMF0825	108.34	0.012	199.23	198	CIRCULAR	1.5	1		0.01135	7.46	1/1/2013 8:00	7.42	0.62	0.55	0	14.673
STGM1093	STMG1310	STMG1312	262.42	0.013	164.5	163.1	CIRCULAR	1.25	1		0.00534	8.32	1/1/2013 8:00	6.78	1.76	1	0.45	15.373
STGM753	STMG1414	STMG1412	20.93	0.013	161	158.8	CIRCULAR	1.5	1		0.1057	5.34	1/1/2013 8:00	9.17	0.16	0.36	0	10.109
STGM3444	STMG145	STMG146	267.282	0.013	159.65	157	CIRCULAR	1.25	1		0.00992	4.7	1/1/2013 8:00	7.24	0.73	0.52	0	9.415
STGM4119	STMG0739	STMG0738	113.48	0.012	245.3	245.09	CIRCULAR	1.5	1		0.00185	7.34	1/1/2013 8:00	5.69	1.5	0.69	0.01	14.879
STGM2499	J3728	J3730	25.52	0.013	195.5	194.8	CIRCULAR	2	1		0.02744	46.43	1/1/2013 8:02	15.1	1.24	0.95	0.01	92.626
STGM1534	STMF078	STMG0718	121.38	0.012	258.86	256.68	CIRCULAR	1	1		0.01796	4.27	1/1/2013 8:00	7.61	0.83	0.67	0	8.578
STGM3369	STMG1323	STMG1324	461.326	0.013	157.3	157	CIRCULAR	1.75	1		0.00065	12.49	1/1/2013 8:00	6.86	3.09	0.71	0.01	57.007
STGM1885	STMF0812	J3760	35.38	0.013	189.7	185.9	CIRCULAR	3	1		0.10803	44.12	1/1/2013 8:01	9.01	0.2	0.65	0.01	92.462
STGM865	STMF0923	STMF0924	335.94	0.012	186.61	183.64	CIRCULAR	1.5	1		0.00884	11.82	1/1/2013 7:59	7.13	1.1	0.92	0.01	23.327
STGM1261	STMG0772	J3780	33.872	0.013	244.3	243.1	CIRCULAR	1.5	1		0.03545	7.3	1/1/2013 8:00	9.28	0.37	0.46	0	14.457
STGM8	STMF1012	J3786	98.24	0.013	149.35	143.5	CIRCULAR	2.75	1		0.05965	84.18	1/1/2013 8:04	19.73	0.65	0.68	0	186.598
STGM1727	STMF0821	STMF0813	18.68	0.013	205.66	204.29	CIRCULAR	2	1		0.07354	19.5	1/1/2013 8:00	10.48	0.32	0.57	0	39.421
STGM298	STMG0715	STMG0717	113.45	0.012	254.03	249.02	CIRCULAR	1	1		0.0442	4.27	1/1/2013 8:00	8.99	0.53	0.58	0	8.578
STGM533	STMG0816	STMG0815	279.18	0.013	235.61	231.5	CIRCULAR	1.25	1		0.01472	6.78	1/1/2013 8:00	7.32	0.87	0.71	0	14.311
STGM2486	STMG098	STMG097	101.94	0.013	205.33	204.55	CIRCULAR	2.5	1		0.00765	24.72	1/1/2013 8:01	5.59	0.69	0.9	0.01	57.828
STGM1524	STMF0932	STMF091	155.4	0.013	185.81	184.65	CIRCULAR	3	1		0.00746	89.6	1/1/2013 8:00	13.44	1.55	0.9	0.01	202.825
STGM32	STMG0817	STMG0818	123.07	0.013	226.04	225.36	CIRCULAR	1.25	1		0.00553	6.77	1/1/2013 8:00	5.52	1.41	1	1.33	14.311
STGM2845	STMF0823	STMF0822	328.26	0.012	204.32	203.22	CIRCULAR	1	1		0.00335	3.36	1/1/2013 8:00	4.38	1.5	0.94	0.01	6.467
STGM2383	STMF0924	J3838	130.71	0.012	183.64	182.3	CIRCULAR	1.5	1		0.01025	11.8	1/1/2013 8:00	8.7	1.02	0.72	0.01	23.327
STGM1325	STMG077	STMG0831	274.44	0.012	241	238.07	CIRCULAR	1.5	1		0.01068	12.85	1/1/2013 8:00	9.06	1.09	0.79	0.01	25.332
STGM1417	J3700	J-CCT1-03	113.79	0.04	140	118	IRREGULAR	0	1	STGM1417	0.19706	4.14	1/1/2013 7:57	5.71	0	0.03	0	7.824
STGM2669	STMF0720	STMF0833	216.18	0.012	202.21	200.47	CIRCULAR	1	1		0.00805	2.08	1/1/2013 8:00	4.34	0.6	0.59	0	3.841
STGM3652	STMG0761	STMG0754	144.35	0.012	324	307.92	CIRCULAR	1	1		0.11209	1.45	1/1/2013 8:00	10.86	0.11	0.23	0	3.4
STGM348	STMG0844	STMG0835	82.49	0.013	216.5	212.96	CIRCULAR	1	1		0.04295	4.93	1/1/2013 8:00	7.33	0.67	0.8	0.01	9.635
STGM1276	STMF0814	STMF0815	163.18	0.012	205	204.5	CIRCULAR	1	1		0.00306	1.19	1/1/2013 8:00	3.07	0.56	0.49	0	2.243
STGM3527	STMG1025	STMG1024	231.24	0.012	182.1	180.74	CIRCULAR	1.25	1		0.00588	2.1	1/1/2013 8:01	2.1	0.39	0.9	0.01	4.058
STGM2167	STMF0829	STMF0827	26.43	0.012	198.35	198.03	CIRCULAR	1.25	1		0.01211	5.61	1/1/2013 8:00	8.98	0.73	0.51	0	10.487
STGM196	STIF0867	STIF0876	176.06	0.012	193.06	191.96	CIRCULAR	1	1		0.00625	3.04	1/1/2013 8:00	4.55	1	0.79	0	5.884
STGM3379	STIG1349	STMG1325	138.16	0.013	161.5	160.87	CIRCULAR	1	1		0.00456	4.72	1/1/2013 7:48	6.12	1.96	1	0.32	21.469
STGM1615	STMF1227	STMF1226	52.798	0.013	158.04	157.4	CIRCULAR	3	1		0.01212	41.6	1/1/2013 8:00	10.53	0.57	0.55	0	74.624
STGM742	STMG072	STMF073	113.54	0.013	222.75	221.95	CIRCULAR	1.5	1		0.00705	10.39	1/1/2013 8:00	6.15	1.18	0.91	0.01	21.466
STGM4170	STMG0751	STMG0750	133.36	0.012	286.67	284.09	CIRCULAR	1	1		0.01935	1.44	1/1/2013 8:01	4.35	0.27	0.44	0	3.4
STGM3871	STMH077	STMH073	121.71	0.012	262.39	257	CIRCULAR	1	1		0.04433	2.59	1/1/2013 8:00	6.15	0.32	0.69	0.01	5.536
STGM3524	STMF071	STMF072	18.5	0.013	220.65	220.3	CIRCULAR	1.5	1		0.01892	10.39	1/1/2013 8:00	6.88	0.72	1	0.01	21.466
STGM612	STMF0835	STMF0836	338.43	0.012	195.93	192.16	CIRCULAR	1	1		0.01114	3	1/1/2013 8:00	6.1	0.74	0.6	0	5.75
STGM4043	J3932	J-CCT1-02	814.56	0.04	160	140	IRREGULAR	0	1	STGM4043	0.02456	6.7	1/1/2013 8:05	2.89	0.01	0.13	0	19.388
STGM970	STMG0936	STMG0937	97.5	0.012	210.16	208.73	CIRCULAR	2	1		0.01467	24.81	1/1/2013 8:00	10.27	0.84	0.72	0	57.828
STGM1234	J4400	J3514	87.11	0.012	227.5	224.8	CIRCULAR	1	1		0.03101	1.49	1/1/2013 8:09	2.72	0.22	0.66	0.01	8.539
STGM592	STMF0919	STMF0921	204.53	0.012	198.53	190.78	CIRCULAR	1	1		0.03792	3.51	1/1/2013 8:00	5.63	0.47	0.74	0.01	6.674
STGM414	STMF0914	STMF0915	30.203	0.012	192.61	192.18	CIRCULAR	1.25	1		0.01424	3.88	1/1/2013 8:00	5.48	0.46	0.56	0	7.383
STGM725	STMG0829	STMG0849	291.42	0.013	227.89	225.39	CIRCULAR	3	1		0.00858	49.62	1/1/2013 7:58	9.33	0.8	1	0.01	104.497
STGM2961	STMF0913	STMF094	89.48	0.013	190.2	189.97	CIRCULAR	3	1		0.00257	78.64	1/1/2013 8:13	11.12	2.33	1	1.51	178.528
STGM4140	STMF076	STMF075	208.34	0.013	201.2	200.16	CIRCULAR	3	1		0.00499	13.43	1/1/2013 8:00	5.88	0.29	0.36	0	25.651
STGM2280	STMG1023	STMG1024	237.16	0.012	182.09	180.74	CIRCULAR	1.25	1		0.00569	3.44	1/1/2013 8:00	2.85	0.65	1	0.01	7.219
STGM3768	STMF102	STIF1030	43.14	0.013	169.96	169.7	CIRCULAR	1.5	1		0.00603	15.09	1/1/2013 8:00	10.3	1.85	0.78	0.01	32.588
STGM2277	STMF0911	STMF0910	190.7	0.013	186.9	186	CIRCULAR	1	1		0.00472	3.97	1/1/2013 8:00	5.45	1.62	0.87	0.01	7.889
STGM3894	STMG0937	STMG098	259.26	0.012	208.73	205.33	CIRCULAR	2	1		0.01312	24.8	1/1/2013 8:01	8.96	0.88	0.86	0	57.828
STGM118	J3990	J-CCT3-16	122.8	0.04	182	174.3	TRAPEZOIDAL	1	1		0.06283	1.5	1/1/2013 8:00	1.36	0.12	0.66	0.01	3.802
STGM245	J3516	STIG0894	32.53	0.04	224.36	223.3	IRREGULAR	0	1	STGM245	0.0326	7.94	1/1/2013 8:18	1.49	0.07	1	0.01	22.85
C2	J1	STMG0911	162.77	0.013	203	201.8	CIRCULAR	1	1		0.00737	1.75	1/1/2013 8:00	2.7	0.57	0.77	0.01	4.363
STGM1342	J3780	STIG0710	192.39	0.04	243.1	239.3	IRREGULAR	0	1	STGM1342	0.01976	7.3	1/1/2013 8:00	2.94	0.11	0.31	0	14.457
STGM3545	STMG088	STMG0816	190.57	0.013	236	235.61	CIRCULAR	1.25	1		0.00205	6.79	1/1/2013 7:59	6.04	2.32	0.86	0.01	14.311
STGM1192	STMF1011	STMF1012	28.91	0.013	150.89	149.51	CIRCULAR	2.75	1		0.04779	69.53	1/1/2013 8:06	20.34	0.6	0.56	0	155.722
STGM1663	STMF0926	J-CCT3-18	22.5	0.013	180.78	180	CIRCULAR	3	1		0.03469	98.32	1/1/2013 8:00	21.63	0.79	0.63	0	212.513
STGM3330	STIF0875	STIF0874	139.69	0.012	190.9	186.82	CIRCULAR	1	1		0.02922	3.04	1/1/2013 8:00	7.61	0.46	0.51	0	5.884
STGM2269	STMG0865	STMG0852	21.085	0.012	235.06	234.17	CIRCULAR	1.5	1		0.04225	8.28	1/1/2013 8:05	5.47	0.35	0.88	0.01	20.414
STGM3264	STMG0723	STMG0730	312.45	0.012	264.31	262.62	CIRCULAR	1	1		0.00541	0.77	1/1/2013 8:00	1.83	0.27	0.53	0	1.68
STGM1831	J4058	J4060	127.67	0.013	155	153.98	CIRCULAR	1	1		0.00799	3.87	1/1/2013 7:59	4.93	1.21	1	0.87	6.905
STGM890	STMG0842	STMG0839	125.782	0.012	230.83	230	CIRCULAR	1	1		0.0066	4.94	1/1/2013 8:00	6.58	1.57	0.91	0.01	9.635
STGM1492	STMF089	STMF0824	60.05	0.012	200.13	199.23	CIRCULAR	1.5	1		0.01499	7.46	1/1/2013 8:00	7.56	0.54	0.55	0	14.673
STGM3846	STMG1312	STMG1311	257.7	0.013	163.1	162.2	CIRCULAR	1.75	1		0.00349	8.31	1/1/2013 8:00	4.65	0.89	0.72	0	15.373
STGM3618	STMF1010	STMF1011	88.5	0.013	153.57	151.14	CIRCULAR	2.75	1		0.02747	69.53	1/1/2013 8:06	16.37	0.79	0.67	0	155.722
STGM4284	J3730	J3760	636.28	0.04	194.8	185.9	IRREGULAR	0	1	STGM4284	0.01399	46.4	1/1/2013 8:03	2.57	0.16	0.58	0	92.626
STGM1091	STMF0845	STMF0844	260	0.012	197.68	192.85	CIRCULAR	1	1		0.01858	2.98	1/1/2013 8:00	5.06	0.57	0.77	0.01	5.805
STGM2489	STMG0821	STMG0822	63.19	0.013	224.82	224.48	CIRCULAR	2.75	1		0.00538	11.44	1/1/2013 8:00	6.04	0.29	0.36	0	22.718
STGM2438	STMF0842	STMF0812	141.56	0.013	190.8	189.7	CIRCULAR	3	1		0.00777	44.12	1/1/2013 8:01	13.26	0.75	0.48	0	92.462
STGM2596	STMG099	STMG1021	836.73	0.013	201.5	192	CIRCULAR	2.75	1		0.01135	29.48	1/1/2013 8:02	7.76	0.52	0.61	0	68.449
STGM2371	STMF0816	J4120	160.17	0.012	203.09	199	CIRCULAR	1.25	1		0.02554	4.54	1/1/2013 8:00	4.79	0.41	0.72	0.01	8.709
STGM485	STIF1329	STMF134	504.185	0.013	154	146.6	CIRCULAR	1	1		0.01468	5.68	1/1/2013 8:00	7.43	1.32	0.94	0.01	11.833
STGM1339	STMG1326	J4142	231.32	0.013	158.1	150	CIRCULAR	1	1		0.03504	6.67	1/1/2013 7:46	10.89	1	0.78	0.01	25.387
STGM5	STMG0755	STMG0766	249.07	0.012	315.4	300.47	CIRCULAR	1	1		0.06005	1.34	1/1/2013 8:00	8.87	0.14	0.25	0	3.274
STGM2405	STMG0749	STMG0767	238.61	0.012	276.33	265.52	CIRCULAR	1.25	1		0.04535	7.09	1/1/2013 8:00	11.02	0.48	0.52	0	14.788
STGM3766	STMG0733	STIH077	354.44	0.012	268.14	264.96	CIRCULAR	1	1		0.00897	0.5	1/1/2013 8:00	3.92	0.14	0.22	0	1.317
STGM4127	STMG0775	STMG0776	286.94	0.012	259	248.31	CIRCULAR	1	1		0.03728	2.51	1/1/2013 8:00	9.43	0.34	0.37	0	5.124
STGM1971	STMG138	STMG1411	284.02	0.013	159.96	155.62	CIRCULAR	1	1		0.01528	4.62	1/1/2013 7:59	7.57	1.05	0.75	0.01	8.832
STGM464	STMG083	STMG082	142.61	0.013	208.26	206.02	CIRCULAR	2.75	1		0.01571	61.95	1/1/2013 8:25	11.84	0.93	1	0.01	141.196
STGM1085	STMG1317	STMG1316	291.93	0.013	170.25	162	CIRCULAR	1	1		0.02827	5.17	1/1/2013 8:00	8.44	0.86	0.86	0.01	9.597
STGM2903	STIG1022	STIG1023	277.56	0.013	188.47	187.2	CIRCULAR	1.25	1		0.00458	6.19	1/1/2013 8:00	5.75	1.42	0.82	0.01	13.053
STGM1182	STMF107	J4040	265.62	0.013	177.24	172.53	CIRCULAR	1.5	1		0.01773	15.63	1/1/2013 8:00	9.25	1.12	0.94	0.01	32.588
STGM959	STMG0928	STMG0933	364.15	0.012	220	214.11	CIRCULAR	2	1		0.01618	24.81	1/1/2013 8:00	10.77	0.8	0.69	0	57.828
STGM276	STMG0828	STMG0827	119.753	0.013	222.44	221.54	CIRCULAR	2.75	1		0.00752	45.22	1/1/2013 8:26	7.89	0.99	1	0.01	104.497
STGM4226	STIF1030	STMF101	277.624	0.013	169.7	154.8	CIRCULAR	1.5	1		0.05375	15.09	1/1/2013 8:00	12.1	0.62	0.67	0	32.588
STGM1718	STIF0876	STIF0875	153.62	0.012	191.96	190.9	CIRCULAR	1	1		0.0069	3.04	1/1/2013 8:00	5.9	0.95	0.62	0	5.884
STGM1952	STMG075	STMG074	129.07	0.013	229.78	228.1	CIRCULAR	2	1		0.01302	7.29	1/1/2013 8:01	7.17	0.28	0.36	0	14.457
STGM277	STMG0853	STMG0825	90.77	0.012	224.49	222.92	CIRCULAR	1.5	1		0.0173	4.06	1/1/2013 7:28	2.88	0.27	1	0.01	0
STGM427	STMH073	STMH076	168.93	0.012	257	255.5	CIRCULAR	1	1		0.00888	2.59	1/1/2013 8:00	4.61	0.71	1	0.01	5.536
STGM52	STMG1319	STIG1348	242.54	0.013	164.32	162.33	CIRCULAR	0.833	1		0.00821	1.22	1/1/2013 7:12	2.74	0.62	0.91	0.01	11.671
STGM1326	STMG0935	STMG0936	74.51	0.012	211.3	210.16	CIRCULAR	2	1		0.0153	24.81	1/1/2013 8:00	10.6	0.82	0.7	0	57.828
STGM2101	STMG096	STMG0914	78.9	0.013	202.94	201.3	CIRCULAR	1	1		0.02079	3.31	1/1/2013 8:00	4.25	0.65	1	0.01	6.326
STGM2064	STMG0818	J4298	253.61	0.013	225.36	224.9	CIRCULAR	1.5	1		0.00181	6.77	1/1/2013 8:00	3.94	1.51	0.94	0.01	14.311
STGM2857	STMG0771	STMG0720	132.95	0.013	260.62	256.47	CIRCULAR	1.25	1		0.03123	7.09	1/1/2013 8:00	8.55	0.62	0.83	0.01	14.788

Conduits CIP Model

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
STGM2796	STMF0836	STMF0837	274.73	0.012	192.16	187.2	CIRCULAR	1	1		0.01806	3	1/1/2013 8:00	6.58	0.58	0.56	0	5.75
STGM320	STMG0713	STMG0734	123.588	0.012	280.5	262.5	CIRCULAR	1	1		0.14721	3.7	1/1/2013 8:00	12.58	0.25	0.4	0	6.891
STGM915	J5174	J5472	56.72	0.04	188	187.5	IRREGULAR	0	1	STGM915	0.00882	38.6	1/1/2013 8:01	2.54	0.52	0.71	0	87.292
STGM3908	STMF1221	STMF1227	134.503	0.013	159.23	158.04	CIRCULAR	3	1		0.00885	37.63	1/1/2013 8:00	9.44	0.6	0.55	0	67.26
STGM275	STMF075	STMF074	154.86	0.013	200.16	199.28	CIRCULAR	3	1		0.00568	13.43	1/1/2013 8:00	4.32	0.27	0.45	0	25.651
STGM1548	STMG084	STMG083	160.9	0.013	209.23	208.26	CIRCULAR	1.25	1		0.00603	1.9	1/1/2013 7:59	1.55	0.38	1	0.01	3.876
STGM2992	STMG0721	STMG0720	257.03	0.013	264.2	256.47	CIRCULAR	1	1		0.03009	1.44	1/1/2013 8:00	3.11	0.23	0.66	0.01	2.74
STGM2909	J-CCT1-05	STIG1416	87.689	0.013	121.5	121.28	CIRCULAR	2	1		0.00251	26.85	1/1/2013 8:10	8.55	2.37	1	0.94	88.36
STGM2213	STMG0853	STMG0864	213.31	0.012	224.49	226.19	CIRCULAR	1.5	1		-0.00797	4	1/1/2013 7:50	5.92	0.39	1	0.01	0
STGM2556	STMF0810	STMF0826	392.4	0.013	196.84	191.54	CIRCULAR	3	1		0.01351	33.78	1/1/2013 8:00	6.98	0.44	0.65	0	71.984
STGM171	STMG102	STMG103	309.85	0.013	199.76	194.51	CIRCULAR	1	1		0.01695	6.75	1/1/2013 8:00	9.07	1.46	0.9	0.01	13.7
STGM1223	STMG103	STMG101	151.79	0.013	194.51	188.8	CIRCULAR	1	1		0.03764	6.74	1/1/2013 8:00	9.07	0.98	0.9	0.01	13.7
STGM833	STMF1218	STMF1219	229.63	0.013	168.49	162.89	CIRCULAR	2	1		0.02439	7.2	1/1/2013 8:00	9.39	0.2	0.29	0	12.415
STGM1854	J4298	J3514	251.92	0.04	224.9	224.8	IRREGULAR	0	1	STGM1854	0.0004	6.73	1/1/2013 7:57	1.14	0.17	0.4	0	14.311
STGM2848	STMG0810	STMG089	175.49	0.013	224.14	221.73	CIRCULAR	1.25	1		0.01373	2.72	1/1/2013 8:00	3.19	0.36	0.66	0	5.266
STGM1895	STMG0864	J4400	28.26	0.012	226.19	227.5	CIRCULAR	1	1		-0.04641	1.5	1/1/2013 8:08	2.73	0.18	0.66	0.01	8.539
STGM3780	STIF0817	J4120	231.16	0.04	200.1	199	IRREGULAR	0	1	STGM3780	0.00476	42	1/1/2013 8:01	1.55	0.21	0.54	0	83.916
STGM870	STMF1013	STMF1014	180.99	0.012	159.85	152.3	CIRCULAR	1	1		0.04175	1.05	1/1/2013 8:00	2.04	0.13	0.62	0.01	2.014
STGM4476	STIF1210	J8	38.86	0.012	168.92	169	CIRCULAR	1.5	1		-0.00206	5.3	1/1/2013 8:00	5.63	1.03	0.95	0.01	8.718
STGM2904	STMG0711	STMG0710	76.12	0.012	250.1	247.1	CIRCULAR	1	1		0.03944	8.52	1/1/2013 8:00	12.19	1.11	0.85	0.01	17.528
STGM415	STMF0918	STMF0919	170.29	0.012	200.2	198.53	CIRCULAR	1	1		0.00981	3.51	1/1/2013 8:00	6.75	0.92	0.63	0	6.674
STGM3665	STMF0916	STMF0917	117.1	0.012	191.75	189.31	CIRCULAR	1.25	1		0.02084	3.88	1/1/2013 7:57	4.48	0.38	0.72	0.01	7.383
STGM929	STIG1072	STIG1075	281.88	0.013	193	190.14	CIRCULAR	1	1		0.01015	5.31	1/1/2013 8:00	6.76	1.48	1	1.02	10.407
STGM272	STMF0844	STMF0843	164.01	0.012	192.85	191.98	CIRCULAR	1	1		0.0053	2.98	1/1/2013 8:00	3.97	1.06	1	0.44	5.805
STGM3535	J3666	STIF092	23.22	0.013	200	199.28	CIRCULAR	3	1		0.03102	71.91	1/1/2013 8:16	17.17	0.61	0.89	0	160.683
STGM2591	STIG0777	STIG0778	30.22	0.012	290.71	290.53	CIRCULAR	0.833	1		0.00596	1.49	1/1/2013 8:00	5.03	0.81	0.53	0	3.4
STGM4293	J4318	J4482	185.52	0.04	180	176.38	IRREGULAR	0	1	STGM4293	0.01952	60.27	1/1/2013 8:02	6.75	0.14	0.43	0	135.299
STGM1494	STMF094	STMF093	109.65	0.013	189.97	189.1	CIRCULAR	3	1		0.00793	79.88	1/1/2013 8:13	11.3	1.34	1	1.51	181.689
STGM1309	STMG0811	STMG081	426.3	0.013	210.91	204.25	CIRCULAR	1	1		0.01562	3.33	1/1/2013 8:00	5.89	0.75	0.69	0	6.326
STGM1455	STMG0831	STMG0850	269.98	0.012	238.07	229.13	CIRCULAR	1.5	1		0.03313	12.85	1/1/2013 8:00	8.63	0.62	0.79	0.01	25.332
STGM252	STMG0710	STMG079	94.24	0.012	247.1	244.55	CIRCULAR	1.5	1		0.02707	8.52	1/1/2013 8:00	9.42	0.45	0.51	0	17.528
STGM3734	STMF093	STMF0932	419.25	0.013	189.1	185.81	CIRCULAR	3	1		0.00785	82.32	1/1/2013 8:02	11.65	1.39	1	1.33	187.35
STGM1679	STIF137	J4500	272.63	0.013	150.1	146	CIRCULAR	1	1		0.01504	2.64	1/1/2013 8:00	7.18	0.61	0.48	0	5.272
STGM2016	STMF0815	STMF0816	262.58	0.012	204.5	203.09	CIRCULAR	1	1		0.00537	1.19	1/1/2013 8:00	3	0.42	0.5	0	2.243
STGM1964	J4142	J-CCT2-06	265.89	0.04	150	133.5	IRREGULAR	0	1	STGM1964	0.06218	6.66	1/1/2013 7:46	1.66	0	0.04	0	25.387
STGM3561	STMH081	STMG0855	285.25	0.012	254.22	253.08	CIRCULAR	1.25	1		0.004	8.42	1/1/2013 8:00	7.63	1.9	0.84	0.01	16.689
STGM2468	STMG0847	J4526	120.27	0.012	229.97	229.4	CIRCULAR	1	1		0.00474	4.19	1/1/2013 8:00	6.93	1.58	0.72	0.01	8.539
STGM2735	STMF1220	STMF1221	93.947	0.013	160.62	159.23	CIRCULAR	3	1		0.0148	27.52	1/1/2013 8:00	8.02	0.34	0.49	0	48.874
STGM4149	STMF092	J4162	87.57	0.013	198	196	CIRCULAR	3	1		0.02284	75.34	1/1/2013 8:15	16.64	0.75	1	0.01	169.937
STGM3861	STMG1324	J4572	112	0.013	157	150	CIRCULAR	1.5	1		0.06262	12.49	1/1/2013 8:00	14.08	0.48	0.5	0	57.007
STGM1500	STIG0890	STMG0845	14	0.013	219.93	219.9	CIRCULAR	1.5	1		0.00214	12.18	1/1/2013 8:17	6.89	2.51	1	1.97	128.57
STGM447	STMF0827	STMF0810	21.87	0.012	198.03	196.84	CIRCULAR	1.5	1		0.05449	5.61	1/1/2013 8:00	5.02	0.21	0.62	0	10.487
STGM4322	STMG0730	STMG0716	157.377	0.012	262.62	261.67	CIRCULAR	1	1		0.00604	2.51	1/1/2013 8:00	5.52	0.84	0.56	0	5.594
STGM186	STMG0813	STMG0812	144.61	0.024	204.5	201.1	CIRCULAR	3	1		0.02352	66.77	1/1/2013 7:48	9.45	1.21	1	1.42	151.359
STGM2237	STMF084	STMF083	223.38	0.013	218.62	218.19	CIRCULAR	2	1		0.00192	14.86	1/1/2013 8:00	6.46	1.5	0.69	0.01	30.29
STGM2046	J4632	J4634	252.01	0.04	163.5	162.6	IRREGULAR	0	1	STGM2046	0.00357	6.8	1/1/2013 8:01	1.31	0.05	0.31	0	19.388
STGM140	STMG1036	STIG09106	446.37	0.012	201	196.3	CIRCULAR	1.75	1		0.01053	8.31	1/1/2013 8:02	7.27	0.47	0.48	0	21.194
STGM3710	STIG1016	J3692	25.97	0.013	185.1	185	CIRCULAR	1.5	1		0.00385	6.86	1/1/2013 7:59	3.88	1.05	1	0.47	14.809
STGM1740	STMG143	STMG145	183.36	0.013	160.47	159.65	CIRCULAR	1	1		0.00447	3.34	1/1/2013 8:00	4.42	1.4	0.92	0.01	6.595
STGM4013	STMG1315	STMG1323	64.94	0.013	160	158	CIRCULAR	2	1		0.03081	0.89	1/1/2013 7:10	0.52	0.02	0.88	0.01	0
STGM3619	STMG0716	STMG0717	418.18	0.012	261.67	249.02	CIRCULAR	1	1		0.03026	2.51	1/1/2013 8:00	5.86	0.37	0.54	0	5.594
STGM4276	STMF131	J4708	122.12	0.013	146.92	146.5	CIRCULAR	1	1		0.00344	1.43	1/1/2013 8:00	5.55	0.68	0.36	0	2.842
STGM2290	STMG0776	STMG0777	132.164	0.013	248.31	245.36	CIRCULAR	3	1		0.02233	2.5	1/1/2013 8:00	3.39	0.03	0.16	0	5.124
STGM1922	STMG0724	STMG076	138.04	0.013	228.95	227.4	CIRCULAR	1.5	1		0.01123	4.18	1/1/2013 8:00	8.4	0.38	0.32	0	8.261
STGM78	STMG073	STMG0821	139.83	0.013	226.2	224.82	CIRCULAR	2.75	1		0.00987	11.44	1/1/2013 8:00	6.31	0.22	0.34	0	22.718
STGM755	STMG0735	STMG0722	107.48	0.012	243.49	242.48	CIRCULAR	1.5	1		0.0094	7.34	1/1/2013 8:00	6.83	0.66	0.65	0	14.879
STGM1021	STMG078	STMG0851	129.26	0.012	242.4	238.1	CIRCULAR	1.5	1		0.03328	8.52	1/1/2013 8:00	7.43	0.41	0.63	0	17.528
STGM1872	STMG1232	STMG1218	543.34	0.013	165.59	161.72	CIRCULAR	1	1		0.00712	0	1/1/2013 0:00	0	0	0	0	0
STGM3611	STMG149	STMG147	283.29	0.013	157.06	128.19	CIRCULAR	1	1		0.10244	5.51	1/1/2013 8:00	19.04	0.48	0.4	0	14.301
STGM4141	STMH076	STMH081	129.45	0.012	255.5	254.22	CIRCULAR	1	1		0.00989	2.59	1/1/2013 8:00	3.29	0.67	1	0.01	5.536
STGM2842	STMG0819	STMG086	456.63	0.013	218.34	212.42	CIRCULAR	2.75	1		0.01297	60.52	1/1/2013 8:25	12.03	1	1	0.11	137.32
STGM1431	J4938	STIF109	412.68	0.013	184	181.1	CIRCULAR	2	1		0.00703	10.51	1/1/2013 8:00	4.07	0.55	0.77	0.01	51.308
STGM163	J4948	OF_J4952	68.13	0.04	171.4	169.5	IRREGULAR	0	1	STGM163	0.0279	11.86	1/1/2013 8:02	1.88	0.05	0.27	0	23.327
STGM3607	STMF0840	STMF0841	26.76	0.012	194.68	194.31	CIRCULAR	1.25	1		0.01383	3.88	1/1/2013 8:00	5.06	0.47	0.6	0	7.383
STGM443	STIG0710	STMG0727	231.094	0.013	239.3	234.7	CIRCULAR	2	1		0.01991	7.29	1/1/2013 8:00	8.45	0.23	0.32	0	14.457
STGM3974	STMF087	STMF0821	321.61	0.013	210	205.66	CIRCULAR	2	1		0.0135	19.5	1/1/2013 8:00	11.19	0.74	0.54	0	39.421
STGM200	J4770	STIG1016	89.7	0.013	185.5	185.1	CIRCULAR	1.5	1		0.00446	6.86	1/1/2013 7:59	3.88	0.98	1	0.03	14.809
STGM2605	STMG121	STMG1226	320.68	0.013	167	165.13	CIRCULAR	1.5	1		0.00583	9.52	1/1/2013 7:15	5.59	1.19	1	0.87	15.528
STGM1638	J4526	STMG0864	43.44	0.012	229.4	226.19	CIRCULAR	1	1		0.0741	4.19	1/1/2013 8:00	9.2	0.4	0.72	0.01	8.539
STGM3426	STMG0856	STMG0865	498.59	0.012	239.74	235.06	CIRCULAR	1.5	1		0.00939	8.17	1/1/2013 8:00	7.56	0.74	0.69	0	20.414
STGM3785	STIG1075	J3896	525.14	0.013	190.14	188.7	CIRCULAR	2	1		0.00274	7.64	1/1/2013 8:00	3.1	0.65	0.75	0	15.021
STGM1604	STMF074	STMF0810	478.09	0.013	199.28	196.84	CIRCULAR	3	1		0.0051	28.19	1/1/2013 8:00	7.82	0.59	0.51	0	61.497
STGM1631	STMF0826	STMF0811	107.61	0.013	191.54	191.3	CIRCULAR	3	1		0.00223	41.19	1/1/2013 8:01	6.87	1.31	0.79	0.01	86.657
STGM2801	STMG0855	STMG0833	279.26	0.012	253.08	247	CIRCULAR	1.25	1		0.02178	8.41	1/1/2013 8:00	9.13	0.81	0.7	0	16.689
STGM3781	STIG0837	STIG0890	21.45	0.013	222	219.93	CIRCULAR	1	1		0.09696	0.95	1/1/2013 7:15	1.69	0.09	1	0.01	1.222
STGM3276	STIF109	stmF09036	51.28	0.013	181.1	181	CIRCULAR	1.5	1		0.00195	10.51	1/1/2013 8:00	5.95	2.27	1	1.49	51.308
STGM1435	STMG0729	STMG075	322.97	0.013	232.43	229.78	CIRCULAR	2	1		0.00821	7.29	1/1/2013 8:01	6.41	0.36	0.39	0	14.457
STGM4468	J4882	STMF118	25.31	0.012	175.58	175.28	CIRCULAR	1.5	1		0.01185	11.02	1/1/2013 8:00	9.03	0.89	0.65	0	20.184
STGM3044	STMF0839	STMF0840	249.349	0.012	194.68	197.51	CIRCULAR	1	1		-0.01135	3.88	1/1/2013 8:00	5.14	50.21	0.92	0.01	7.383
STGM2988	STMG0924	J5064	1248.08	0.013	218	217.53	CIRCULAR	2	1		0.00038	4.79	1/1/2013 8:00	2.22	1.09	0.65	0.01	9.95
STGM1645	J4634	J3932	39.03	0.012	162.6	160	CIRCULAR	1	1		0.06676	6.78	1/1/2013 8:02	12.13	0.68	0.67	0	19.388
STGM975	STMF0833	STMF0830	226.5	0.012	200.47	199.12	CIRCULAR	1	1		0.00596	2.08	1/1/2013 8:00	3.11	0.7	0.79	0	3.841
STGM893	J4894	J4216	516.78	0.04	144.1	110	IRREGULAR	0	1	STGM893	0.06613	5.66	1/1/2013 8:00	2.54	0.04	0.25	0	11.833
STGM2681	STMG0722	STMG077	137.03	0.012	242.48	241	CIRCULAR	1.5	1		0.0108	7.42	1/1/2013 7:51	5.26	0.63	0.85	0.01	14.879
STGM3122	STMG0932	STMG0928	231.52	0.012	223.75	220	CIRCULAR	2	1		0.0162	9.55	1/1/2013 8:00	5.77	0.31	0.53	0	24.842
STGM2443	J4482	J4898	167.9	0.013	176.38	172.38	CIRCULAR	3	1		0.02383	60.26	1/1/2013 8:02	13.17	0.59	0.62	0	135.299
STGM4289	STMG0769	STMG0768	151.74	0.012	254.21	249.66	CIRCULAR	1	1		0.03	1.56	1/1/2013 8:00	3.06	0.23	0.66	0.01	3.041
STGM3596	STMG0839	STMG0840	194.36	0.012	230	226.5	CIRCULAR	1	1		0.01801	4.93	1/1/2013 8:00	8.42	0.95	0.7	0	9.635
STGM4199	STMG1028	J4938	34.74	0.013	184.5	184	CIRCULAR	1.5	1		0.01439	10.51	1/1/2013 8:00	7.89	0.83	0.71	0	51.308
STGM2693	STMF134	J4894	171.26	0.013	146.6	144.1	CIRCULAR	1.25	1		0.0146	5.67	1/1/2013 8:00	10.1	0.73	0.47	0	11.833
STGM1540	STMF0825	STMF0826	490.32	0.012	198	191.54	CIRCULAR	1.5	1		0.01318	7.45	1/1/2013 8:00	5.1	0.57	0.77	0.01	14.673
STGM166	STMG0845	STMG0846	88.453	0.013	219.9	219.5	CIRCULAR	2.75	1		0.00452	57.16	1/1/2013 8:26	9.62	1.61	1	1.31	128.57
STGM3052	STMG1226	STMG1227	225.11	0.013	165.13	163.82	CIRCULAR	1.75	1		0.00582	9.34	1/1/2013 8:00	3.88	0.77	1	0.01	15.528
STGM1340	J4946	J4948	19.12	0.013	171.5	171.4	CIRCULAR	1.5	1		0.00523	14.79	1/1/2013 7:50	11.58	1.95	0.68	0.01	23.327
STGM2358	STMG0814	STMG087	289.73	0.013	218.02	213.97	CIRCULAR	1	1		0.01398	3.17	1/1/2013 8:00	5.87	0.75	0.65	0	6.277
STGM3936	STMG132	STMG1322	78.4	0.013	157.5	157.4	CIRCULAR	1.5	1		0.00128	8.35	1/1/2013 8:00	4.73	2.23	1	2.18	49.089
STGM2941	STMH071	J4972	26.24	0.013	269.69	268.1	CIRCULAR	1	1		0.06071	2.09	1/1/2013 8:00	8.96	0.24	0.34	0	4.22
STGM1799	STMG097	STMG0910	199.9	0.024	204.55	202.75	CIRCULAR	2.5	1		0.009	24.72	1/1/2013 8:01	5.62	1.17	0.84	0.01	57.828
STGM1838	STMG0717	J3540	150.61	0.013	249.02	239.5	CIRCULAR	1	1		0.06334	6.78	1/1/2013 8:00	12.15	0.76	0.67	0	14.171
STGM618	STMG1024	J4318	119.61	0.012	180.74	180	CIRCULAR	1.25	1		0.00619	5.54	1/1/2013 8:00	4.51	1.01	1	0.06	11.277
STGM3164	J4972	STMH077	125.01	0.012	268.1	262.39	CIRCULAR	1	1		0.04572	2.09	1/1/2013 8:00	8.04	0.25	0.37	0	4.22
STGM1370	STMG0744	STMG0742	155.83	0.012	262.97	257.32	CIRCULAR	1	1		0.03628	2.23	1/1/2013 8:00	7.69	0.3	0.4	0	5.032
STGM244	STMF0811	STMF0842	160.92	0.013	191.3	190.8	CIRCULAR	3	1		0.00311	41.2	1/1/2013 8:01	7.83	1.11	0.7	0.01	86.657
STGM4268	STMG0911	STMG099	50.25	0.012	201.8	201.5	CIRCULAR	1	1		0.00597	1.75	1/1/2013 8:00	2.23	0.59	1	0.01	4.363
STGM4418	STMG0774	STMG0775	245.07	0.012	261.5	259	CIRCULAR	1	1		0.0102	2.51	1/1/2013 8:00	6.18	0.64	0.51	0	5.124
STGM3028	STIF0877	STIF0867	159.22	0.012	194.4	193.06	CIRCULAR	1	1		0.00842	3.04	1/1/2013 8:00	4.72	0.86	0.77	0	5.884
STGM4306	STMF0928	STMF0929	311.61	0.012	194.94	192.41	CIRCULAR	1	1		0.00812	1.57	1/1/2013 8:00	5.51	0.45	0.39	0	3.215
STGM3722	STMG0777	STMG0772	138.627	0.012	245.36	244.3	CIRCULAR	1	1		0.00765	2.5	1/1/2013 8:00	4.76	0.74	0.64	0	5.124
STGM2021-A	J4898	J5576	466.11	0.04	172.38	167.5	IRREGULAR	0	1	STGM2021	0.01047	60.22	1/1/2013 8:03	4.22	0.17	0.38	0	135.299
STGM868	STMG0734	STMG0712	133.31	0.012	262.5	256	CIRCULAR	1	1		0.04882	3.7	1/1/2013 8:00	9.65	0.43	0.49	0	6.891
STGM2506	J2	STIG1022	134.81	0.013	188.89	188.47	CIRCULAR	1	1		0.00312	2.5	1/1/2013 8:00	3.19	1.26	1	0.99	5.279
STGM420	STMG082	STMG0813	96.98	0.013	206.02	204.5	CIRCULAR	3	1		0.01568	63.67	1/1/2013 7:48	9.69	0.76	1	0.01	145.082
STGM1067	STMG0712	STMG0732	159.35	0.012	256	250.9	CIRCULAR	1	1		0.03202	3.7	1/1/2013 8:00	8.87	0.54	0.52	0	6.891
STGM2219	STIF1135	STIF1138	57.79	0.013	168.6	168.3	CIRCULAR	1	1		0.00519	3.5	1/1/2013 8:00	4.7	1.36	0.9	0.01	6.923
STGM4215	STMG0812	J5040	26.01	0.024	201.1	201	CIRCULAR	3	1		0.00384	66.78	1/1/2013 7:48	9.45	2.98	1	0.73	151.359

Conduits CIP Model

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
STGM2082	STMG0833	STMG0832	258.68	0.012	247	240.5	CIRCULAR	1.5	1		0.02514	12.11	1/1/2013 8:00	9.35	0.67	0.69	0	23.58
STGM1959	J5064	J3530	53.19	0.013	217.53	217	CIRCULAR	1.5	1		0.00996	8.31	1/1/2013 8:01	8.71	0.79	0.53	0	21.194
STGM2656	STMF0922	STMF0923	165.99	0.012	188.07	186.61	CIRCULAR	1.5	1		0.0088	11.82	1/1/2013 8:00	6.89	1.11	1	0.16	23.327
STGM402	STMF081	STMF082	340.4	0.013	212.38	207.57	CIRCULAR	1	1		0.01413	3.17	1/1/2013 7:51	6.02	0.75	0.86	0.01	6.277
STGM1993	STMF073	STMF071	102.299	0.013	221.91	220.65	CIRCULAR	1.5	1		0.01232	10.39	1/1/2013 8:00	7.35	0.89	0.91	0.01	21.466
STGM2165	STMF0915	STMF0916	66.109	0.012	192.18	191.75	CIRCULAR	1.25	1		0.0065	3.88	1/1/2013 8:00	6.02	0.69	0.52	0	7.383
STGM2710	J5034	STMF1010	137.49	0.013	154.93	153.77	CIRCULAR	2.75	1		0.00844	69.53	1/1/2013 8:06	11.82	1.43	0.97	0.01	155.722
STGM2829	STMG079	STMG078	121.1	0.012	244.55	242.4	CIRCULAR	1.5	1		0.01776	8.52	1/1/2013 8:00	9.75	0.56	0.5	0	17.528
STGM3399	STMF109	STMF107	303.04	0.013	181.25	177.34	CIRCULAR	1.5	1		0.0129	10.67	1/1/2013 8:00	7.07	0.89	0.87	0.01	21.856
STGM442	STMG0820	STMG0834	132.51	0.013	220.62	217.11	CIRCULAR	2.75	1		0.0265	14.14	1/1/2013 8:00	10.49	0.16	0.28	0	27.984
STGM1868	STMG0742	STMG0768	299.76	0.012	257.32	249.66	CIRCULAR	1	1		0.02556	2.23	1/1/2013 8:00	3.91	0.36	0.71	0.01	5.032
STGM2737	STMG1022	STMG1023	220.18	0.012	183.41	182.09	CIRCULAR	1.25	1		0.006	3.44	1/1/2013 8:00	4.44	0.64	0.79	0.01	7.219
STGM2759	STMG0832	STMG0851	249.76	0.013	240.5	238.1	CIRCULAR	1.75	1		0.00961	12.11	1/1/2013 8:00	6.97	0.78	0.68	0	23.58
STGM3883	STMG0919	STMF0911	104.441	0.013	187.81	186.9	CIRCULAR	1	1		0.00871	3.97	1/1/2013 7:59	5.06	1.19	1	0.92	7.889
STGM156	STMG147	STIG1416	8	0.013	128.19	121.28	CIRCULAR	1	1		1.71406	5.51	1/1/2013 8:00	10.85	0.12	0.62	0.01	14.301
STGM1858	STMF1022	J-CCT3-08	145.3	0.012	160.25	152	CIRCULAR	1.25	1		0.05687	1.34	1/1/2013 8:00	8.15	0.08	0.19	0	2.613
CCT1-03	J-CCT1-04	J-CCT1-03	335.09	0.04	121	112	IRREGULAR	0	1	CCT1-03	0.02687	39.35	1/1/2013 8:01	5.78	0	0.03	0	119.255
STGM3207	STMG0825	STMG0828	47.26	0.013	222.92	222.44	CIRCULAR	3	1		0.01016	53.38	1/1/2013 7:50	8.8	0.79	1	0.01	104.497
STGM2687	STMG1227	STMG1219	278.73	0.013	163.82	162.2	CIRCULAR	1.75	1		0.00581	17.61	1/1/2013 7:59	8.53	1.46	0.8	0.01	29.487
STGM541	STMF086	STMF087	127.52	0.013	211.36	210	CIRCULAR	2	1		0.01067	14.86	1/1/2013 8:01	7.12	0.64	0.63	0	30.29
STGM149	STMF0716	STMF0713	226.91	0.013	207.75	204.26	CIRCULAR	1.75	1		0.01538	13.45	1/1/2013 8:00	9.03	0.68	0.59	0	25.651
STGM4158	J4708	J4216	331.99	0.04	146.5	110	IRREGULAR	0	1	STGM4158	0.11061	1.42	1/1/2013 8:00	0.9	0.01	0.25	0	2.842
STGM3315	STMF082	STMG0813	254.79	0.013	207.57	204.5	CIRCULAR	1.25	1		0.01205	3.17	1/1/2013 7:51	2.99	0.45	1	0.01	6.277
STGM2786	J4402	STMF109	198.95	0.013	182.41	181.25	CIRCULAR	1.5	1		0.00583	10.4	1/1/2013 8:00	6.46	1.3	0.87	0.01	21.856
STGM1882	STIG1416	J-CCT1-04	41.84	0.013	121.28	121	CIRCULAR	2	1		0.00669	36.16	1/1/2013 8:07	12.77	1.95	0.85	0.01	111.494
STGM3319	STMG0858	STMG0857	120.16	0.012	244.49	241.7	CIRCULAR	1.25	1		0.02323	8.17	1/1/2013 8:00	9.58	0.77	0.66	0	20.414
STGM3314	STMG0846	STMG0854	66.913	0.013	219.5	219.3	CIRCULAR	2.75	1		0.00299	60.44	1/1/2013 7:43	10.33	2.09	1	0.67	137.32
STGM3741	STMF0930	STMF0928	183.81	0.012	198.17	194.94	CIRCULAR	1	1		0.01758	1.58	1/1/2013 8:00	4.68	0.31	0.44	0	3.215
STGM3905	STMF1226	STMF1225	38.703	0.013	157.4	156.96	CIRCULAR	3	1		0.01137	41.6	1/1/2013 8:00	12.61	0.58	0.47	0	74.624
STGM3292	STMF0822	STMF0816	55.01	0.012	203.22	203.09	CIRCULAR	1	1		0.00236	3.36	1/1/2013 8:00	5.57	1.79	0.72	0.01	6.467
STGM3029	STIG1348	STIG1349	38.93	0.013	162.33	161.5	CIRCULAR	1	1		0.02133	4.72	1/1/2013 7:48	6.01	0.91	1	0.01	21.469
STGM2969	J3896	J5174	64.76	0.013	188.7	188	CIRCULAR	2.75	1		0.01081	38.6	1/1/2013 8:01	8.79	0.7	0.69	0	87.292
STGM3642	STMF0931	STMF0926	54.63	0.013	180.95	180.78	CIRCULAR	3	1		0.00311	92.63	1/1/2013 8:00	15.12	2.49	0.84	0.01	202.825
STGM2271	STMG0822	STMG089	262.18	0.013	224.48	221.73	CIRCULAR	2.25	1		0.01049	11.44	1/1/2013 8:00	6.4	0.36	0.46	0	22.718
STGM65	STMG0836	STMG0837	296.642	0.013	210.6	208	CIRCULAR	2.75	1		0.00877	19.05	1/1/2013 8:01	6.45	0.38	0.5	0	37.62
STGM1576	STMF0843	STMF0842	195.75	0.012	191.98	190.8	CIRCULAR	1	1		0.00603	2.98	1/1/2013 8:00	3.79	0.99	1	0.02	5.805
STGM339	STMF116	J3688	31.51	0.013	173.1	172.98	CIRCULAR	1	1		0.00381	6.36	1/1/2013 8:00	8.09	2.89	1	0.85	11.871
STGM4160	STMG0914	J3664	67.14	0.013	201.3	201	CIRCULAR	1	1		0.00447	3.31	1/1/2013 8:00	4.22	1.39	1	1.3	6.326
STGM3945	STMF1219	STMF1220	91.8	0.013	162.89	160.62	CIRCULAR	2.75	1		0.02474	7.2	1/1/2013 8:00	4.71	0.09	0.33	0	12.415
STGM3615	J5220	J4770	571.05	0.013	188	185.5	CIRCULAR	1	1		0.00438	2.18	1/1/2013 8:00	2.77	0.92	1	0.01	4.69
STGM2549	STMG0720	STMG0711	151.52	0.012	256.47	250.1	CIRCULAR	1	1		0.04208	8.52	1/1/2013 8:00	11.16	1.08	1	0.34	17.528
STGM633	STMG0830	STMG0850	254.58	0.012	231.75	229.13	CIRCULAR	2.25	1		0.01029	37.54	1/1/2013 8:00	9.44	1.1	1	0.3	79.165
STGM2407	STMG089	STMG0820	199.44	0.013	221.73	220.62	CIRCULAR	2.75	1		0.00557	14.14	1/1/2013 8:00	7.82	0.36	0.34	0	27.984
STGM916	STMG1410	STIG1416	57.63	0.013	137.22	121.28	CIRCULAR	1	1		0.28782	4.62	1/1/2013 8:00	8.3	0.24	0.67	0.01	8.832
STGM1356	STMG0859	STMG0858	97.01	0.012	245.36	244.49	CIRCULAR	1.25	1		0.00897	8.17	1/1/2013 8:00	7.7	1.23	0.83	0.01	20.414
STGM2430	STMG1219	tmG1210033	82.06	0.013	162.2	158.25	CIRCULAR	1.75	1		0.04819	23.49	1/1/2013 8:00	14.81	0.68	0.63	0	39.319
STGM1702	STMF0831	STMF0830	275.76	0.012	200.29	199.12	CIRCULAR	1	1		0.00424	3.53	1/1/2013 8:00	4.51	1.4	0.99	0.01	6.646
STGM104	STMG0766	STMG0750	203.98	0.012	300.47	284.09	CIRCULAR	1	1		0.08056	1.34	1/1/2013 8:00	4.85	0.12	0.38	0	3.274
STGM2711	STMG0738	STMG0735	142.83	0.012	245.09	243.49	CIRCULAR	1.5	1		0.0112	7.33	1/1/2013 8:00	6.88	0.61	0.59	0	14.879
STGM3224	STMG141	J3700	202.59	0.013	154.32	150	CIRCULAR	1	1		0.02133	4.14	1/1/2013 7:57	7.35	0.8	0.67	0	7.824
STGM498	STMG0770	STMG0739	134.29	0.012	245.78	245.3	CIRCULAR	1.5	1		0.00357	7.34	1/1/2013 8:00	4.66	1.08	0.83	0.01	14.879
STGM543	STMG0841	STMG0844	137.77	0.012	220.3	216.5	CIRCULAR	1	1		0.02759	4.93	1/1/2013 8:00	9.41	0.77	0.63	0	9.635
STGM3769	STMG0834	STMG0843	128.08	0.013	217.11	214.07	CIRCULAR	2.75	1		0.02374	14.14	1/1/2013 8:00	7.65	0.17	0.35	0	27.984
STGM4204	STMG0857	STMG0856	84.24	0.012	241.7	239.74	CIRCULAR	1.25	1		0.02327	8.17	1/1/2013 8:00	8.74	0.77	0.71	0	20.414
STGM1861	STMF097	STMF0926	435.24	0.012	190.32	184.19	CIRCULAR	1.25	1		0.01409	4.73	1/1/2013 8:00	6.99	0.57	0.54	0	9.688
STGM3724	STMF091	STMF0931	173.83	0.013	184.65	180.95	CIRCULAR	3	1		0.02129	90.24	1/1/2013 8:00	13.76	0.93	0.9	0.01	202.825
STGM2406	J5304	STMF116	225.41	0.013	174	173.1	CIRCULAR	1	1		0.00399	6.35	1/1/2013 7:59	8.09	2.82	1	1.62	11.871
STGM2635	STIF1287	STIF129	205.82	0.013	171.84	169.71	CIRCULAR	1.5	1		0.01035	5.31	1/1/2013 8:00	5.34	0.5	0.57	0	8.718
STGM3838	STMG1215	STMG1210	86.67	0.013	168.8	167.05	CIRCULAR	1	1		0.0202	3.06	1/1/2013 7:15	4.5	0.6	1	0.01	4.991
STGM2457	STMG0827	STMG0845	271.274	0.013	221.54	219.93	CIRCULAR	2.75	1		0.00594	45.22	1/1/2013 8:26	7.61	1.11	1	1.2	104.497
STGM1563	STMG128	STMG1316	719.4	0.013	164.5	162	CIRCULAR	1.5	1		0.00348	5.61	1/1/2013 8:03	4.2	0.91	0.9	0.01	20.786
STGM2791	STMG0765	STMG0762	247.44	0.012	340.04	338.85	CIRCULAR	1	1		0.00481	1.45	1/1/2013 8:00	4.87	0.54	0.4	0	3.4
STGM4305	STIG07112	STMG0772	357.72	0.013	255.3	244.3	CIRCULAR	1.5	1		0.03076	0	1/1/2013 0:00	0	0	0.21	0	0
STGM70	STMG0840	STMG0841	154.61	0.012	226.5	220.3	CIRCULAR	1	1		0.04013	4.93	1/1/2013 8:00	9.57	0.64	0.62	0	9.635
STGM2055	STMG146	J5354	65.29	0.013	157	153	CIRCULAR	1.25	1		0.06138	4.69	1/1/2013 8:00	11.12	0.29	0.38	0	9.415
STGM751	J5040	J5366	153.29	0.04	201	200.41	IRREGULAR	0	1	STGM751	0.00385	66.75	1/1/2013 7:48	3.14	0.4	0.48	0	151.359
STGM2699	STMF0813	STIF0817	242.87	0.013	204.29	200.1	CIRCULAR	3	1		0.01725	42.04	1/1/2013 8:00	12.54	0.48	0.48	0	83.916
STGM1483	STMG094	STMG0913	230.65	0.013	204.63	203.01	CIRCULAR	1.25	1		0.00702	4.66	1/1/2013 7:59	6.06	0.86	0.6	0	9.253
STGM3911	STMG0762	STMG0761	195.62	0.012	338.85	324	CIRCULAR	1	1		0.07613	1.45	1/1/2013 8:00	9.97	0.14	0.24	0	3.4
STGM3268	STMG0848	STMG0863	129.63	0.013	225.02	223.96	CIRCULAR	3	1		0.00818	49.63	1/1/2013 7:58	9.23	0.82	1	0.01	104.497
STGM3139	J5354	J-CCT1-05	243.13	0.04	153	121.5	IRREGULAR	0	1	STGM3139	0.13066	4.69	1/1/2013 8:00	2.9	0	0.06	0	9.415
STGM4474	STIF129	STIF1210	138.769	0.013	169.71	168.92	CIRCULAR	1.5	1		0.00569	5.3	1/1/2013 8:00	4.51	0.67	0.82	0.01	8.718
STGM2798	STMF0830	STMF0829	120.14	0.012	199.12	198.35	CIRCULAR	1.25	1		0.00641	5.61	1/1/2013 8:00	6.06	1	0.7	0.01	10.487
STGM1656	STMG1321	STMG1319	249.5	0.013	165.57	164.32	CIRCULAR	1.25	1		0.00501	6.32	1/1/2013 8:00	6.29	1.38	0.77	0.01	11.671
STGM3119	STMF105	STMF106	83.834	0.013	172	170.2	CIRCULAR	1	1		0.02148	1.56	1/1/2013 8:00	5.94	0.3	0.51	0	3.302
STGM3886	STMG076	STMG073	9.14	0.013	227.4	226.2	CIRCULAR	2.25	1		0.13244	4.18	1/1/2013 8:00	5.09	0.04	0.26	0	8.261
STGM3000	STMG0854	STMG0819	96.47	0.013	219.3	218.34	CIRCULAR	2.75	1		0.00995	61.1	1/1/2013 7:42	11.19	1.16	1	0.54	137.32
STGM1136	J4060	OF_J5408	312.83	0.013	153.98	151.48	CIRCULAR	1	1		0.00799	3.87	1/1/2013 8:00	5.13	1.21	0.92	0.01	6.905
STGM1544	STMG0835	STMG0836	164.3	0.013	212.96	210.6	CIRCULAR	2.75	1		0.01437	19.06	1/1/2013 8:00	8.5	0.3	0.4	0	37.62
STGM18	J4040	STMF102	126.75	0.013	172.53	169.96	CIRCULAR	1.5	1		0.02028	15.09	1/1/2013 8:00	8.84	1.01	0.94	0.01	32.588
STGM1384	STIG0778	STMG0751	174.31	0.012	290.53	286.67	CIRCULAR	1	1		0.02215	1.45	1/1/2013 8:00	5.94	0.25	0.35	0	3.4
STGM66	STMG0934	STMG0935	106.74	0.012	212.83	211.3	CIRCULAR	2	1		0.01434	24.8	1/1/2013 8:00	10.59	0.85	0.7	0	57.828
STGM3497	STMG0732	STMG0833	127.09	0.012	250.9	247	CIRCULAR	1	1		0.0307	3.7	1/1/2013 8:00	6.17	0.55	0.71	0	6.891
STGM3180	J5422	STMF1221	150.14	0.04	167.05	159.23	IRREGULAR	0	1	STGM3180	0.05216	10.13	1/1/2013 8:00	1.89	0.04	0.44	0	18.386
STGM3411	STMH072	STMH071	271.29	0.012	292.3	269.29	CIRCULAR	1	1		0.08512	2.09	1/1/2013 8:00	5.16	0.19	0.51	0	4.22
STGM961	STMG0754	STIG0777	154.58	0.012	307.92	290.71	CIRCULAR	1	1		0.11203	1.45	1/1/2013 8:00	5.16	0.11	0.39	0	3.4
STGM741	STMG142	STMG145	47.996	0.013	160.03	159.65	CIRCULAR	1	1		0.00792	1.36	1/1/2013 8:00	2.45	0.43	0.66	0	2.82
STGM4212	STIH077	STMH077	55.97	0.013	264.96	262.39	CIRCULAR	1	1		0.04597	0.5	1/1/2013 8:00	2.77	0.07	0.28	0	1.317
STGM2463	STMF0927	J3990	133.43	0.012	182.71	182	CIRCULAR	1	1		0.00532	1.5	1/1/2013 8:00	4.71	0.53	0.42	0	3.802
STGM1672	STMG0727	STMG0729	113.743	0.013	234.7	232.43	CIRCULAR	2.25	1		0.01996	7.29	1/1/2013 8:00	6.54	0.17	0.32	0	14.457
STGM4138	STMG0930	STMG0916	165.97	0.013	195.5	191.69	CIRCULAR	1	1		0.02296	3.22	1/1/2013 8:00	5.74	0.6	0.78	0.01	6.582
STGM3214	STMG086	STMG083	251.78	0.013	212.42	208.26	CIRCULAR	2.75	1		0.01652	60.52	1/1/2013 8:25	12.24	0.89	1	0.01	137.32
STGM3835	STMG1034	J3692	17.08	0.013	185.1	185	CIRCULAR	1.5	1		0.00585	6.74	1/1/2013 8:00	3.81	0.84	1	0.1	13.7
STGM685	STMG1320	STMG1321	264.39	0.013	166.4	165.57	CIRCULAR	1.25	1		0.00314	6.32	1/1/2013 8:00	5.15	1.75	1	0.96	11.671
STGM1017	STMG1029	STMG1028	201.15	0.013	190.3	184.5	CIRCULAR	3	1		0.02885	23.45	1/1/2013 8:00	11.53	0.21	0.33	0	51.308
STGM2997	STMF0925	STMF0922	296.93	0.012	190.26	188.07	CIRCULAR	1	1		0.00738	1.3	1/1/2013 7:58	2.15	0.39	0.72	0.01	2.709
STGM1303	STMF083	STMF086	436.54	0.013	218.19	211.36	CIRCULAR	2	1		0.01565	14.86	1/1/2013 8:00	8.36	0.53	0.55	0	30.29
STGM963	J3838	J4946	602.8	0.04	182.3	171.5	IRREGULAR	0	1	STGM963	0.01792	11.74	1/1/2013 8:01	2.07	0.19	0.51	0	23.327
STGM2135	STMG0767	STMG0747	146.44	0.012	265.52	261.2	CIRCULAR	1.25	1		0.02951	7.09	1/1/2013 8:00	10.25	0.59	0.55	0	14.788
STGM2595	STMG0747	STMG0771	17.7	0.012	261.2	260.62	CIRCULAR	1.25	1		0.03279	7.09	1/1/2013 8:00	10.07	0.56	0.6	0	14.788
STGM1333	STMG135	STMG134	261.41	0.013	159.5	158.7	CIRCULAR	1	1		0.00306	4.56	1/1/2013 8:00	5.8	2.31	1	2.17	8.225
STGM1815	STMG085	STMG084	216.61	0.013	211.01	209.23	CIRCULAR	1.25	1		0.00822	1.9	1/1/2013 7:59	3.6	0.32	1	0.01	3.876
STGM1834	J5472	J5474	63.41	0.013	187.5	187	CIRCULAR	2.75	1		0.00789	38.59	1/1/2013 8:02	9.43	0.82	0.69	0	87.292
STGM1012	STMF088	STMF089	180.82	0.012	204.24	200.13	CIRCULAR	1.25	1		0.02274	6.85	1/1/2013 8:00	8.77	0.65	0.61	0	13.474
STGM4320	STMG104	STMG1034	689.83	0.013	187.9	185.1	CIRCULAR	1.75	1		0.00406	6.73	1/1/2013 8:00	3.27	0.67	0.8	0.01	13.7
STGM1242	J5474	J3708	206.65	0.04	187	185	IRREGULAR	0	1	STGM1242	0.00968	39.57	1/1/2013 8:03	1.68	0.08	0.74	0	91.042
STGM3236	STMG0913	STMF092	331.04	0.013	203.01	199.23	CIRCULAR	2	1		0.01142	4.65	1/1/2013 8:00	5.82	0.19	0.65	0.01	9.253
STGM1327	STIF132	STIF131	60.15	0.013	151.5	151.4	CIRCULAR	1.25	1		0.00166	3.52	1/1/2013 8:00	7.15	1.34	0.42	0.01	7.23
STGM2686	STMF113	STMF1012	137.44	0.013	160.38	153.43	CIRCULAR	2.75	1		0.05063	15.01	1/1/2013 8:00	13.71	0.13	0.24	0	30.876
STGM779	STIG09106	STMG1027	27.28	0.012	196.3	196	CIRCULAR	1.75	1		0.011	8.31	1/1/2013 8:02	7.33	0.46	0.48	0	21.194
STGM3703	STMG0750	STMG0749	106.7	0.012	284.09	276.33	CIRCULAR	1.25	1		0.07292	7.09	1/1/2013 8:00	13.05	0.38	0.45	0	14.788
STGM539	STMF085	STMF0813	222.27	0.013	207.36	204.29	CIRCULAR	3	1		0.01381	22.53	1/1/2013 8:00	7.79	0.29	0.43	0	44.495
STGM1485	STMF0910	STMF103	335.12	0.013	186	181	CIRCULAR	1	1		0.01492	3.97	1/1/2013 8:00	5.44	0.91	0.87	0.01	7.889
STGM3386	STMG0910	STMG099	312.09	0.013	202.75	201.5	CIRCULAR	2.75	1		0.00401	24.72	1/1/2013 8:02	7.13	0.74	0.57	0	57.828
STGM3930	STMF1223	STMF1224	73.01	0.013	144.7	129.1	CIRCULAR	3	1		0.21872	46.5	1/1/2013 8:00	16.76	0.15	0.42	0	84.963

Conduits CIP Model

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
STGM1942	STMF0713	STMF076	281.159	0.013	204.26	201.2	CIRCULAR	2.25	1		0.01088	13.44	1/1/2013 8:00	7.35	0.42	0.47	0	25.651
STGM3132	STMF1225	STMF1222	253.95	0.013	156.96	148.1	CIRCULAR	3	1		0.03491	41.6	1/1/2013 8:00	12.18	0.33	0.49	0	74.624
STGM1139	STMF0832	STMF0831	225.12	0.012	203.44	200.29	CIRCULAR	1	1		0.01399	3.53	1/1/2013 8:00	4.92	0.77	0.86	0.01	6.646
STGM1641	J4120	J3728	172.539	0.04	199	195.5	IRREGULAR	0	1	STGM1641	0.02029	46.47	1/1/2013 8:01	4.18	0.08	0.38	0	92.626
STGM3901	STMG0933	STMG0934	88.11	0.012	214.11	212.83	CIRCULAR	2	1		0.01453	24.81	1/1/2013 8:00	10.5	0.84	0.7	0	57.828
STGM3465	J5366	J3664	51	0.013	200.41	200.3	CIRCULAR	3	1		0.00216	66.73	1/1/2013 7:49	9.77	2.15	0.94	0.01	151.359
STGM2847	STMF072	STMF084	183.2	0.013	220.3	218.62	CIRCULAR	1.5	1		0.00917	10.39	1/1/2013 8:00	5.88	1.03	1	0.33	21.466
STGM831	STMF0921	STMF0917	94.18	0.012	190.78	189.31	CIRCULAR	1	1		0.01561	6.66	1/1/2013 8:00	8.48	1.38	1	0.9	13.235
STGM694	J8	STIF1290	63.77	0.012	169	167.61	CIRCULAR	1.5	1		0.0218	5.31	1/1/2013 8:01	7.52	0.32	0.95	0.01	8.718
STGM1380	STMG0850	STMG0829	185.31	0.013	229.13	227.89	CIRCULAR	3	1		0.00669	50.18	1/1/2013 7:59	9.16	0.92	0.94	0.01	104.497
STGM3808	STMG1325	STMG1326	87.79	0.013	160.87	158.1	CIRCULAR	1	1		0.03157	6.7	1/1/2013 7:48	9.09	1.06	1	0.24	25.387
STGM2078	STMG074	STMG073	159.57	0.013	228.1	226.2	CIRCULAR	2.25	1		0.01191	7.29	1/1/2013 8:01	5.86	0.22	0.35	0	14.457
STGM3173	STMG0843	STMG0835	205.42	0.013	214.07	212.96	CIRCULAR	2.75	1		0.0054	14.13	1/1/2013 8:01	6.45	0.36	0.4	0	27.984
STGM3402	STMG0768	STMG0770	160.54	0.012	249.66	245.78	CIRCULAR	1	1		0.02418	7.34	1/1/2013 8:00	9.35	1.22	1	0.83	14.879
STGM2763	STMG081	STMG096	105.72	0.013	204.25	202.94	CIRCULAR	1	1		0.01239	3.31	1/1/2013 8:00	5.89	0.84	0.87	0.01	6.326
STGM602	STIG108	J5576	97.56	0.013	168.3	167.5	CIRCULAR	1	1		0.0082	1	1/1/2013 8:00	1.27	0.31	1	0.01	1.98
STGM3091	STMF1222	STMF1223	295	0.013	148.1	144.7	CIRCULAR	3	1		0.01153	41.59	1/1/2013 8:00	14.84	0.58	0.42	0	74.624
STGM1602	STMG071	STMG072	247.03	0.013	226.07	222.75	CIRCULAR	1.5	1		0.01344	10.39	1/1/2013 8:00	6.57	0.85	0.86	0.01	21.466
STGM3105	J3540	STMG071	248.27	0.013	239.5	226.07	CIRCULAR	1	1		0.05417	6.77	1/1/2013 8:00	9.58	0.82	0.84	0.01	14.171
STGM2057	STMG1322	STMG1323	58.633	0.013	157.4	157.3	CIRCULAR	1.5	1		0.00171	8.36	1/1/2013 7:59	4.73	1.93	1	2.12	49.089
STGM1778	STMG0731	STMG0730	134.3	0.012	268.21	262.62	CIRCULAR	1	1		0.04166	1.74	1/1/2013 8:00	4.33	0.22	0.51	0	3.914
STGM173	STMG0916	STMG0917	154.32	0.013	191.69	190.3	CIRCULAR	1	1		0.00901	3.22	1/1/2013 8:00	5.31	0.95	1	0.01	6.582
STGM4059	STMF0838	STMF0839	251.88	0.012	203.44	197.51	CIRCULAR	1	1		0.02355	3.88	1/1/2013 8:00	5.56	0.66	0.83	0.01	7.383
STGM3489	J-CCT3-12	J-CCT3-11	106.77	0.024	162.9	160.41	CIRCULAR	3.5	1		0.02333	128.58	1/1/2013 8:28	13.36	1.54	1	1.57	326.737
STGM2281	STMG095	STMG094	311.18	0.013	204.18	204.63	CIRCULAR	1.25	1		-0.00145	5.32	1/1/2013 7:58	4.73	2.16	0.86	0.01	9.253
STGM583	STMG1112	J4882	511.93	0.012	181.88	175.58	CIRCULAR	1.5	1		0.01231	11.02	1/1/2013 8:00	7.98	0.87	0.73	0	20.184
STGM1601	STMF1217	STMF1218	227.98	0.013	175	168.49	CIRCULAR	1.5	1		0.02857	7.2	1/1/2013 8:00	9.83	0.41	0.43	0	12.415
STGM2705	STIF1132	STIF1133	73.19	0.013	172.1	171.6	CIRCULAR	1	1		0.00683	3.5	1/1/2013 8:00	4.73	1.19	0.9	0.01	6.923
STGM2973	STIF1133	STIF1134	98.06	0.013	171.5	170.5	CIRCULAR	1	1		0.0102	3.5	1/1/2013 8:00	5.22	0.97	0.8	0	6.923
STGM1249	STIF1138	J-CCT3-04	351.76	0.013	168	165	CIRCULAR	1	1		0.00853	3.48	1/1/2013 8:01	4.89	1.06	0.86	0.01	6.923
STGM555	STIF1134	STIF1135	157.51	0.013	170.4	168.7	CIRCULAR	1	1		0.01079	3.5	1/1/2013 8:00	4.93	0.94	0.88	0	6.923
STGM1879	STMG1218	mG1210034	120.718	0.013	161.72	145	CIRCULAR	1.5	1		0.13985	0	1/1/2013 0:00	0	0	0.49	0	0
STGM2021-8	J5576	J5034	463.9	0.04	167.5	155.33	IRREGULAR	0	1	P31	0.02624	70.05	1/1/2013 8:02	5	0.01	0.16	0	155.722
STGM3252	J3498	STMG149	242.41	0.013	159	157.06	CIRCULAR	1	1		0.008	2.92	1/1/2013 8:00	5.26	0.92	0.67	0	8.357
STGM1156	STMG1413	STMG1414	317.37	0.013	162	161	CIRCULAR	1.5	1		0.00315	5.34	1/1/2013 8:00	6.11	0.91	0.5	0	10.109
STGM1606	STMG1412	STMG136	220.44	0.013	158.8	155.05	CIRCULAR	1.5	1		0.01701	5.34	1/1/2013 8:00	8.95	0.39	0.37	0	10.109
STGM3518	J3646	STMF113	49.33	0.013	161.58	160.38	CIRCULAR	1.75	1		0.02433	12.76	1/1/2013 8:00	12.39	0.52	0.44	0	24.911
STGM2982	J3688	STMF117	467.39	0.013	172.98	167.22	CIRCULAR	1.5	1		0.01232	10.13	1/1/2013 8:00	6.26	0.87	0.86	0.01	18.386
STGM2690	STMG0725	STMG0724	66.43	0.013	230.43	228.95	CIRCULAR	1	1		0.02228	4.18	1/1/2013 8:00	7.43	0.79	0.67	0	8.261
STGM738	STMF118	J3646	476.76	0.013	175.28	161.58	CIRCULAR	1.5	1		0.02875	11.02	1/1/2013 8:00	10.32	0.62	0.58	0	20.184
STGM43	J3760	OF_J4000	49.68	0.013	185.9	185.5	CIRCULAR	3	1		0.00805	90.14	1/1/2013 8:03	12.85	1.51	0.97	0.01	185.088
STGM4016	STMG101	STMG104	246.17	0.013	188.8	187.9	CIRCULAR	1.5	1		0.00366	6.74	1/1/2013 8:00	4.57	1.06	0.78	0.01	13.7
STGM2536	STMF117	J5422	122.22	0.013	167.22	167.05	CIRCULAR	1.5	1		0.00139	10.13	1/1/2013 8:00	7.31	2.59	0.73	0.01	18.386
STGM1273	J-CCT3-11	J-CCT3-10	66.95	0.024	160.41	160	CIRCULAR	4	1		0.00612	129.92	1/1/2013 8:27	11.61	2.13	0.83	0.01	330.426
STGM567	STMF1014	J5386	133.15	0.013	152.3	150	CIRCULAR	2	1		0.01728	17.14	1/1/2013 8:00	11.22	0.58	0.49	0	36.85
STGM3636	STMF121	OF_J3954	100.49	0.013	151	132	CIRCULAR	1	1		0.19255	3.18	1/1/2013 8:00	15.54	0.2	0.31	0	5.351
STGM3038	STMF122	STMF121	302.54	0.013	154	151	CIRCULAR	1	1		0.00992	3.18	1/1/2013 8:00	6.87	0.89	0.57	0	5.351
STGM4177	STMF0841	STMF0914	315.31	0.012	194.31	192.61	CIRCULAR	1.25	1		0.00539	3.88	1/1/2013 8:00	5.21	0.76	0.58	0	7.383
STGM486	STMG0849	STMG0848	48.57	0.013	225.39	225.02	CIRCULAR	3	1		0.00762	49.63	1/1/2013 7:58	9.18	0.85	1	0.01	104.497
STGM3587	STIG0894	STIG0890	72.59	0.013	223.3	219.933	CIRCULAR	1.5	1		0.04643	11.71	1/1/2013 8:17	6.63	0.52	1	0.01	127.347
STGM3203	STMG0917	STMF0932	273.38	0.013	190.3	185.81	CIRCULAR	1	1		0.01643	3.22	1/1/2013 8:00	4.15	0.7	1	0.01	6.582
STGM1769	STMG133	STMG132	299.65	0.013	157.92	157.5	CIRCULAR	1.5	1		0.0014	8.35	1/1/2013 8:00	4.73	2.12	1	2.19	49.089
STGM1039	STMG1245	STMG128	279.09	0.013	166	164.5	CIRCULAR	1.5	1		0.00537	6.51	1/1/2013 8:00	4.68	0.85	0.75	0	11.722
STGM2095	J4818	J5398	137.01	0.013	176	175	CIRCULAR	1.5	1		0.0073	13.94	1/1/2013 8:00	10.16	1.55	0.72	0.01	25.425
STGM2776	STMG1316	STMG133	356.74	0.013	162	157.92	CIRCULAR	1.5	1		0.01144	1.73	1/1/2013 7:18	1.44	0.15	1	0.01	30.383
STGM4172	J4216	OF_J4218	232.48	0.04	110	90	IRREGULAR	0	1	STGM4172	0.08635	8.57	1/1/2013 8:01	3.61	0	0.06	0	18.216
STGM4234	J4500	OF_J5512	337.29	0.04	146	82.5	IRREGULAR	0	1	STGM4234	0.19169	4.04	1/1/2013 8:00	5.01	0	0.09	0	8.596
STGM3334	STIF131	J-CCT2-03	196.5	0.013	151.4	107	CIRCULAR	1.25	1		0.23195	3.52	1/1/2013 8:00	6.94	0.11	0.61	0.01	7.23
STGM2827	STMG136	J-CCT1-06	286.06	0.013	155.05	130	CIRCULAR	1.5	1		0.08791	5.34	1/1/2013 8:00	13.16	0.17	0.28	0	10.109
STGM2390	J4888	J-CCT2-04	85.23	0.013	144	123	CIRCULAR	1	1		0.25423	4.47	1/1/2013 8:00	9.56	0.25	0.67	0.01	8.567
STGM2972	STIF1324	J-CCT2-02	493.04	0.013	140	100	CIRCULAR	1	1		0.0814	7.17	1/1/2013 8:00	10.52	0.71	0.81	0.01	13.415
STGM2996	STMF0837	OF_J5574	42.35	0.012	187.2	186.8	CIRCULAR	1.25	1		0.00945	3	1/1/2013 8:00	5.37	0.44	0.46	0	5.75
STGM3141	STMF1023	J-CCT3-07	109.36	0.012	160.8	150	CIRCULAR	1	1		0.09924	1.17	1/1/2013 8:00	9.79	0.1	0.21	0	2.412
STGM3634	STMF106	J-CCT3-13	37.85	0.013	170.2	169	CIRCULAR	1	1		0.03172	1.56	1/1/2013 8:00	3.22	0.25	0.85	0.01	3.302
STGM406	STIF0874	OF_J4224	30.81	0.012	186.57	186.4	CIRCULAR	1	1		0.00552	3.04	1/1/2013 8:01	4.69	1.06	0.77	0.01	5.884
STGM4167	J-CCT3-15	J-CCT3-14	30.84	0.013	171.4	171.1	CIRCULAR	2.5	1		0.00973	95.73	1/1/2013 8:01	19.75	2.37	0.96	0.01	216.315
C3	STMF126	J5554	58.7	0.013	166.02	164.69	CIRCULAR	1	1		0.02266	6.69	1/1/2013 8:00	9.21	1.25	0.89	0.01	11.033
C5	J9	STMF126	119.29	0.013	167.6	166.02	CIRCULAR	1	1		0.01325	1.39	1/1/2013 8:00	2.5	0.34	0.7	0.01	2.316
STGM1830	STIF1290	STMF126	13.38	0.013	167.61	166.02	CIRCULAR	0.666	1		0.11968	5.31	1/1/2013 8:00	15.23	1.27	1	1.01	8.718
STGM3778_a	J-CCT3-18	J-CCT3-16	440	0.04	180	174.28	IRREGULAR	0	1	STGM3778	0.013	94.38	1/1/2013 8:00	3.23	0.25	0.6	0	212.513
CCT3T1-01	STMF1224	J-CCT3-02	369.82	0.04	129.1	112	IRREGULAR	0	1	C46	0.04629	46.48	1/1/2013 8:00	7.31	0	0.1	0	84.963
CCT3-01	J-CCT3-02	OF_J-CCT3-01	1160.83	0.04	112	99	IRREGULAR	0	1	C54	0.0112	313.03	1/1/2013 8:09	6.96	0	0.09	0	753.955
CCT3-08	J-CCT3-10	J-CCT3-09	214.57	0.04	160	156	IRREGULAR	0	1	CCT3-06	0.01865	129.92	1/1/2013 8:27	6.22	0.01	0.15	0	330.426
CCT3T2-01	J3786	J-CCT3-05	751.82	0.04	143.5	130	IRREGULAR	0	1	C57	0.01796	87.05	1/1/2013 8:04	2.67	0	0.11	0	193.679
CCT3-04	J-CCT3-06	J-CCT3-05	318.86	0.04	138	130	IRREGULAR	0	1	CCT3-04	0.0251	150.25	1/1/2013 8:11	4.15	0	0.13	0	380.578
CCT3-10	J-CCT3-14	J-CCT3-13	187.66	0.04	171.1	168.45	IRREGULAR	0	1	C50	0.01412	126.54	1/1/2013 8:01	5.17	0.04	0.27	0	287.679
CCT3T3-01	J5386	J-CCT3-06	411.07	0.04	150	138	IRREGULAR	0	1	CCT3T3-01	0.0292	17.11	1/1/2013 8:01	2.03	0	0.07	0	36.85
CCT1-05	J-CCT1-07	J-CCT1-06	60.53	0.04	130	129.31	IRREGULAR	0	1	CCT1-05	0.0114	18.33	1/1/2013 8:00	2.42	0	0.04	0	68.836
CCT1-01	J-CCT1-02	OF_J-CCT1-01	913.01	0.04	100	76	IRREGULAR	0	1	CCT1-01	0.0263	56.09	1/1/2013 8:03	5.9	0	0.03	0	163.419
CCT2-03	J-CCT2-04	J-CCT2-03	175.81	0.04	123	107	IRREGULAR	0	1	CCT2-03	0.09139	52.52	1/1/2013 8:00	4.29	0	0.04	0	99.128
CCT3-03	J-CCT3-04	J-CCT3-03	643.74	0.04	128	120	IRREGULAR	0	1	C55	0.01243	261.09	1/1/2013 8:07	4.65	0	0.06	0	646.625
CCT3-02	J-CCT3-03	J-CCT3-02	1459.74	0.04	120	112	IRREGULAR	0	1	C55	0.00548	270.2	1/1/2013 8:09	3.26	0	0.08	0	668.991
HWY240_1	J-CCT3-05	J-CCT3-04	194.76	0.04	130	128	IRREGULAR	0	1	HWY240_1	0.01027	243.75	1/1/2013 8:08	9.97	0	0.1	0	601.165
CCT3-05	J-CCT3-07	J-CCT3-06	571.25	0.04	145	138	IRREGULAR	0	1	CCT3-06	0.01225	133.27	1/1/2013 8:28	5.68	0.01	0.16	0	339.543
CCT3-06	J-CCT3-08	J-CCT3-07	148.81	0.04	148	145	IRREGULAR	0	1	CCT3-06	0.02016	132.39	1/1/2013 8:27	5.28	0.01	0.16	0	337.131
CCT3-07	J-CCT3-09	J-CCT3-08	303.31	0.04	156	148	IRREGULAR	0	1	CCT3-06	0.02638	131.41	1/1/2013 8:27	6.39	0.01	0.14	0	334.518
CCT3-09	J-CCT3-13	J-CCT3-12	393.35	0.04	168.45	162.9	IRREGULAR	0	1	C50	0.01411	127.99	1/1/2013 8:02	3.29	0.04	0.59	0	290.981
STGM3778_b	J-CCT3-16	J-CCT3-15	194.91	0.04	174.28	171.4	IRREGULAR	0	1	STGM3778	0.01478	95.73	1/1/2013 8:01	2.36	0.24	0.8	0.01	216.315
CCT1-02	J-CCT1-03	J-CCT1-02	593.88	0.04	112	100	IRREGULAR	0	1	CCT1-02	0.02021	43.42	1/1/2013 8:01	3.61	0	0.03	0	127.078
CCT1-04	J-CCT1-06	J-CCT1-05	688.44	0.04	129.31	121.5	IRREGULAR	0	1	CCT1-04	0.01135	23.63	1/1/2013 8:01	1.49	0	0.05	0	78.945
CCT2-04	J-CCT2-05	J-CCT2-04	693.94	0.04	131	123	IRREGULAR	0	1	CCT2-04	0.01153	48.14	1/1/2013 8:01	5.07	0	0.04	0	90.561
CCT2-02	J-CCT2-03	J-CCT2-02	538.9	0.04	107	100	IRREGULAR	0	1	CCT2-02	0.01299	55.97	1/1/2013 8:01	7.07	0	0.04	0	106.358
CCT2-01	J-CCT2-02	OF_J-CCT2-01	67.12	0.04	100	97	IRREGULAR	0	1	CCT2-01	0.04474	65.95	1/1/2013 8:00	1.38	0	0.11	0	126.628
CCT2-05	J-CCT2-06	J-CCT2-05	167.43	0.04	133.5	131	IRREGULAR	0	1	CCT2-05	0.01493	44.74	1/1/2013 8:01	2.62	0	0.06	0	82.405
STGM1575	J3474	STMG1010	20.17	0.013	189.28	189.18	CIRCULAR	1.75	1		0.00496	9.85	1/1/2013 8:00	5.87	0.88	0.67	0	19.255
STGM1393	J3504	J4862	255.43	0.04	160	120	IRREGULAR	0	1	STGM1393	0.15855	3.97	1/1/2013 8:00	4.63	0	0.02	0	6.839
STGM3138	STMH1313	STMH1312	49.44	0.012	153.35	147.62	CIRCULAR	1	1		0.11668	2.65	1/1/2013 8:00	13.24	0.2	0.3	0	5.851
STGM228	J5484	J3588	294.72	0.04	211.8	209.9	IRREGULAR	0	1	STGM2598	0.00645	15.37	1/1/2013 8:00	1.8	0.17	0.55	0	40.357
STGM2497	STMH1315	STMH133	432.6	0.013	158.1	153.5	CIRCULAR	1.5	1		0.01063	10.2	1/1/2013 8:00	7.19	0.94	0.75	0	20.848
STGM1579	J3612	J3614	93.21	0.013	174	173	CIRCULAR	1	1		0.01073	3.85	1/1/2013 8:00	5.44	1.04	0.85	0.01	6.723
STGM3836	J3938	J4688	348.87	0.04	387	357	IRREGULAR	0	1	STGM3836	0.08631	36.52	1/1/2013 8:00	6.13	0	0.14	0	137.04
STGM4460	J3628	J3630	62.23	0.013	188	187.5	CIRCULAR	1	1		0.00803	6.58	1/1/2013 8:46	8.38	2.06	1	2.42	17.535
STGM3868	J6	STIH145	134.69	0.013	164	163.35	CIRCULAR	1	1		0.00483	3.97	1/1/2013 8:00	5.06	1.61	1	1.51	6.839
STGM4009	STII0943	STII0947	281.36	0.012	249.57	248.11	CIRCULAR	1.5	1		0.00519	1.39	1/1/2013 8:01	4.42	0.17	0.23	0	3.179
HC-27	J-HC-33	J-HC-32	583.24	0.04	169	167	IRREGULAR	0	1	HC-27	0.00343	270.24	1/1/2013 8:34	2.1	0	0.06	0	1120.231
HC-28	J-HC-34	J-HC-33	754.96	0.04	177	169	IRREGULAR	0	1	HC-28	0.0106	263.28	1/1/2013 8:35	10.13	0	0.08	0	1098.708
STGM1958	STMI1140	STMI1122	39.18	0.013	205.14	204.9	CIRCULAR	2	1		0.00613	18.32	1/1/2013 8:01	6.56	1.03	0.83	0.01	46.361
STGM1860	STMI113	J3762	43.66	0.013	187.8	187.4	CIRCULAR	1.5	1		0.00916	8.57	1/1/2013 8:00	6.12	0.85	0.74	0	13.884
STGM139	STIH144	J3504	62.53	0.013	160.75	160	CIRCULAR	1.5	1		0.012	3.97	1/1/2013 8:00	7.25	0.35	0.35	0	6.839
STGM2308	STIH0917	STMH0910	189.84	0.013	230	229	CIRCULAR	1.5	1		0.00527	4.79	1/1/2013 8:34	6.56	0.63	0.43	0	18.277
STGM1260	STMH137	STMH138	23.01	0.012	136.08	124.75	CIRCULAR	1	1		0.56573	2.23	1/1/2013 8:00	14.11	0.08	0.25	0	4.871
STGM1528	STII0961	STII0962	47.79	0.012	254.48	254	CIRCULAR	1.5	1		0.01004	5	1/1/2013 8:01	5.13	0.44	0.54	0	13.559
STGM1864	STII0957	STII0961	215.88	0.013	256.62	254.48	CIRCULAR	1.25	1		0.00991	5	1/1/2013 8:01	6.13	0.78	0.63	0	13.559
STGM3620	STII0942	STII0943	51.3	0.012	250.05	249.77	CIRCULAR	1.5	1		0.00546	1.39	1/1/2013 8:01	3.52	0.17	0.28	0	3.179
STGM937	STIH12125	STMH125	90.37	0.013	178.25	177.69	CIRCULAR	1.25	1		0.0062	3.63	1/1/2013 8:00	5.85	0.71	0.5	0	5.723

Conduits CIP Model

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
STGM4250	J3872	STMG112	166.88	0.013	185.8	185.51	CIRCULAR	2	1		0.00174	7.79	1/1/2013 8:07	2.99	0.83	0.9	0	20.789
STGM1719	STII0947	J5012	522.97	0.04	248.11	234	IRREGULAR	0	1	STGM1719	0.02699	1.38	1/1/2013 8:03	1.59	0.02	0.6	0.01	3.179
STGM3407	STIH1013	STMH109	184	0.013	201.5	185	CIRCULAR	1	1		0.09004	1.3	1/1/2013 8:00	11.39	0.12	0.2	0	2.599
STGM2660	STMH1227	J-HCT3-09	345.42	0.013	171.54	170.5	CIRCULAR	1.5	1		0.00301	7.77	1/1/2013 8:08	4.47	1.35	0.98	0.01	13.638
STGM4205	STMH0920	STMH0919	54.95	0.013	212	209.2	CIRCULAR	2	1		0.05102	24.37	1/1/2013 8:00	14.15	0.48	0.54	0	59.74
STGM2754	J3936	J3938	164.31	0.013	398	387	CIRCULAR	1.5	1		0.0671	33.39	1/1/2013 8:00	20.44	1.23	0.87	0.01	129.636
STGM4036	STII0950	STII0952	174.08	0.012	252.77	251.89	CIRCULAR	1.5	1		0.00506	1.4	1/1/2013 8:00	3.43	0.17	0.28	0	3.179
STGM3453	STMH1116	STMH1128	184.87	0.013	213.23	203.8	CIRCULAR	1	1		0.05108	3.82	1/1/2013 8:00	9.29	0.47	0.52	0	7.512
STGM2515	STMH104	STMH101	122.45	0.013	191.8	189.9	CIRCULAR	1.75	1		0.01552	9.85	1/1/2013 8:00	7.14	0.5	0.56	0	19.255
STGM4279	STII0953	STII0954	78.29	0.012	260	259	CIRCULAR	1.5	1		0.01277	0.49	1/1/2013 8:00	2.69	0.04	0.16	0	1.15
STGM712	STIG1142	STIG1139	114.71	0.013	186.5	186.5	CIRCULAR	1.5	1		0	6.66	1/1/2013 8:45	3.77	21.47	1	1.58	17.535
STGM4198	STMH0913	STMH0916	214.49	0.012	195.61	191	CIRCULAR	1.25	1		0.0215	12.22	1/1/2013 8:00	10.83	1.19	0.86	0.01	29.12
STGM194	STMH093	J4042	166.75	0.013	195.22	176	CIRCULAR	1	1		0.11604	2.61	1/1/2013 7:59	13.58	0.22	0.29	0	5.028
STGM3971	J4050	STMI096	50.12	0.013	258	257	CIRCULAR	1.5	1		0.01996	2.31	1/1/2013 8:40	6.1	0.16	0.27	0	8.14
STGM1044	J4068	J4066	41.97	0.012	186.1	186	CIRCULAR	1.5	1		0.00238	7.77	1/1/2013 8:06	4.4	1.4	1	2.02	20.789
STGM2598	J3588	STII1179	306.81	0.04	209.9	207.9	IRREGULAR	0	1	STGM2598	0.00652	15.22	1/1/2013 8:02	2.31	0.17	0.44	0	40.357
STGM1476	STMH097	STMH098	388.33	0.013	223	213	CIRCULAR	2	1		0.02576	16.44	1/1/2013 8:00	9.37	0.45	0.55	0	44.788
STGM329	STMH106	STMH105	266.07	0.013	197.65	194	CIRCULAR	1.25	1		0.01372	3.55	1/1/2013 8:00	5.37	0.47	0.53	0	6.564
STGM2658	J5562	J4160	453.58	0.04	164	147.33	IRREGULAR	0	1	STGM2658	0.03678	21.73	1/1/2013 8:00	5.07	0.02	0.19	0	44.92
STGM3906	STMH094	STMH093	78.28	0.013	195.8	195.22	CIRCULAR	1	1		0.00741	2.64	1/1/2013 7:59	6.52	0.86	0.51	0	5.028
STGM311	J4198	J4200	250.76	0.04	160	153	IRREGULAR	0	1	STGM311	0.02793	13.91	1/1/2013 8:00	3.08	0	0.03	0	25.543
STGM2425	STMH101	J3474	67.9	0.013	189.9	189.28	CIRCULAR	1.75	1		0.00913	9.85	1/1/2013 8:00	5.99	0.65	0.65	0	19.255
STGM3568	J4234	STMI114	33.66	0.013	187.2	186.85	CIRCULAR	1.5	1		0.0104	8.57	1/1/2013 8:00	6.73	0.8	0.68	0	13.884
HC-24	J-HC-30	J-HC-29	1068.52	0.04	162	153.5	IRREGULAR	0	1	HC-24	0.00796	309.43	1/1/2013 8:39	4.35	0.04	0.32	0	1228.876
STGM3445	STMI135	STMI131	340.1	0.012	152.82	151.8	CIRCULAR	1.5	1		0.003	6.78	1/1/2013 8:00	6.08	1.09	0.6	0.01	11.28
STGM1229	STIH1040	STMH1011	233.9	0.013	211	199	CIRCULAR	1	1		0.05137	2.24	1/1/2013 8:00	7.48	0.28	0.41	0	4.323
STGM1382	STMH1226	STMH1211	47.59	0.012	169.99	169.52	CIRCULAR	1.25	1		0.00988	3.02	1/1/2013 8:00	5.47	0.43	0.46	0	8.761
STGM2704	STII0940	STII0941	77.93	0.012	252.88	252.2	CIRCULAR	1	1		0.00873	4.9	1/1/2013 8:00	6.35	1.36	0.96	0.01	18.277
STGM1142	J3762	J4234	24.91	0.013	187.4	187.2	CIRCULAR	1.5	1		0.00803	8.57	1/1/2013 8:00	6.36	0.91	0.71	0	13.884
STGM2498	STII11135	STMI117	36.59	0.013	198	197	CIRCULAR	2	1		0.02734	24.32	1/1/2013 8:01	12.67	0.65	0.59	0	56.786
STGM1908	STMH1239	STMH1240	278.71	0.012	164.09	162.29	CIRCULAR	1.5	1		0.00646	3.1	1/1/2013 8:00	4.64	0.34	0.4	0	5.895
STGM857	STMH117	STMH114	443.31	0.013	190.68	186.75	CIRCULAR	2	1		0.00887	20.55	1/1/2013 8:00	8.36	0.96	0.73	0	40.804
STGM28	J4200	J4398	66.07	0.013	153	141	CIRCULAR	1.5	1		0.1847	13.91	1/1/2013 8:00	19.52	0.31	0.42	0	25.543
STGM4085	STMG106	STMG1035	183.85	0.013	190	189	CIRCULAR	1.5	1		0.00544	4.81	1/1/2013 8:00	4.64	0.62	0.57	0	9.347
STGM3809	STIH145	STIH146	105.04	0.013	163.35	163.62	CIRCULAR	1	1		-0.00257	3.97	1/1/2013 7:59	5.75	2.2	0.82	0.01	6.839
HCT4-03	J-HCT4-03	J-HCT4-02	92.5	0.04	168	166.4	IRREGULAR	0	1	HCT4-04	0.0173	39.31	1/1/2013 8:01	6.09	0	0.09	0	115.272
STGM1713	J5640	J-HC-09	472.66	0.04	158.5	109	IRREGULAR	0	1	STGM1713	0.10531	8.56	1/1/2013 8:00	6.53	0	0.06	0	17.512
STGM2096_S	STMH0919	STMH0918	109.42	0.013	209.2	203.7	CIRCULAR	2	1		0.05033	33.14	1/1/2013 8:00	17.22	0.65	0.59	0	77.762
STGM1173	STMI1311	J4160	152.33	0.013	154.39	147.33	CIRCULAR	2	1		0.0464	4.94	1/1/2013 8:00	6.14	0.1	0.32	0	18.504
STGM3060	STMI081	STIL085	647.64	0.012	305.96	276.09	CIRCULAR	1	1		0.04617	5.01	1/1/2013 8:00	11.48	0.6	0.54	0	13.559
STGM525	STMH1253	STMH1254	74.1	0.013	170.83	169.5	CIRCULAR	1.5	1		0.01795	10.4	1/1/2013 7:18	7.2	0.74	1	0.01	16.942
STGM3271	J-HC-43	J-HC-42	49.15	0.013	348.3	346.2	CIRCULAR	1.5	1		0.04277	46.09	1/1/2013 8:00	26.08	2.12	1	4.29	180.739
STGM748	STMH1216	J4504	72.45	0.013	156.42	146.42	CIRCULAR	1.25	1		0.13936	6.51	1/1/2013 8:00	11.48	0.27	0.47	0	24.906
STGM383	STMH1011	STIH1038	53.74	0.013	199	197.7	CIRCULAR	1	1		0.0242	2.24	1/1/2013 8:00	7.55	0.4	0.4	0	4.323
STGM37	STMH1135	STMH118	319.98	0.013	185.8	184.3	CIRCULAR	1.25	1		0.00469	3.72	1/1/2013 8:00	4.27	0.84	0.67	0	7.116
STGM24	J4556	J5628	1003.7	0.04	310	265	IRREGULAR	0	1	STGM24	0.04488	14.89	1/1/2013 8:01	2	0	0.36	0	47.074
STGM1925	STIH1038	STMH1010	85.77	0.013	197.7	193	CIRCULAR	1	1		0.05488	2.24	1/1/2013 8:00	3.99	0.27	0.68	0.01	4.323
STGM2451	STMI0911	STII0955	80.03	0.012	259.63	257.95	CIRCULAR	1.25	1		0.021	5	1/1/2013 8:00	7.71	0.49	0.52	0	13.559
STGM1397	STMH1110	STMH1126	362.86	0.013	200.5	199	CIRCULAR	1	1		0.00413	3.35	1/1/2013 7:13	4.29	1.46	1	0.97	25.548
STGM2566	STMI114	STMH129	334	0.013	185.8	180.81	CIRCULAR	2.75	1		0.01494	32.85	1/1/2013 8:01	11.36	0.51	0.49	0	70.669
STGM1330	J4554	J4556	47.81	0.013	312	311	CIRCULAR	1.25	1		0.02092	4.46	1/1/2013 8:00	7.52	0.48	0.49	0	19.23
STGM2979	STMH133	J4098	65.59	0.013	153.5	152	CIRCULAR	1.25	1		0.02288	10.19	1/1/2013 8:01	12.44	1.04	0.64	0.01	20.848
STGM3558	STMI112	STII118	163.79	0.013	192.35	190.63	CIRCULAR	1.5	1		0.0105	3.7	1/1/2013 8:00	3.61	0.34	0.57	0	6.027
STGM2998	STMH107	STMH108	66.82	0.013	191.68	187	CIRCULAR	1	1		0.07021	1.97	1/1/2013 8:00	11.48	0.21	0.27	0	3.975
STGM855	J5326	J4576	941.85	0.04	434	313	IRREGULAR	0	1	STGM855	0.12954	9.71	1/1/2013 8:01	4.72	0	0.02	0	38.713
STGM2439	STMH095	STMH094	86.27	0.013	196.44	195.8	CIRCULAR	1	1		0.00742	2.61	1/1/2013 8:00	4.43	0.85	0.7	0	5.028
STGM218	STIH107	STMH1018	127.41	0.013	185.07	163	CIRCULAR	1	1		0.17588	2.16	1/1/2013 8:00	4.16	0.14	0.63	0.01	4.44
STGM2442	J4608	J4610	1370.89	0.04	101	100	IRREGULAR	0	1	STGM2442	0.00073	72.65	1/1/2013 9:02	0.98	1.18	0.95	0.01	11.86
STGM3855	J4628	STIH0917	253.21	0.04	242.1	230	IRREGULAR	0	1	STGM3855	0.04784	4.88	1/1/2013 8:01	1.32	0.03	0.45	0	18.277
STGM2215	J5266	J4642	492.27	0.013	185.66	157.2	CIRCULAR	2	1		0.05791	0.99	1/1/2013 8:00	7.66	0.02	0.09	0	2.095
STGM1992-A	J4668	J4290	348.04	0.013	164.65	162.4	CIRCULAR	1.5	1		0.00646	10.44	1/1/2013 7:18	6.8	1.24	0.83	0.01	16.942
STGM614	STMH111	STMH1017	415.87	0.013	198.5	192.51	CIRCULAR	1	1		0.01441	3.29	1/1/2013 8:00	7.41	0.77	0.55	0	7.459
STGM3862	J4688	J4690	40.22	0.04	357	355.6	IRREGULAR	0	1	STGM3836	0.03483	36.49	1/1/2013 8:00	8.1	0.01	0.12	0	137.04
STGM219	STMH1212	STMH1213	366.97	0.013	168.22	161.31	CIRCULAR	1	1		0.01883	4.22	1/1/2013 8:00	7	0.86	0.72	0	20.077
STGM4274	STMH127	STMH1231	80.71	0.013	173.13	171.56	CIRCULAR	4	1		0.01946	61.98	1/1/2013 8:00	11.27	0.31	0.45	0	121.329
STGM1763	STMH1220	STMH1221	225.79	0.012	171.26	170.42	CIRCULAR	1.25	1		0.00372	3.03	1/1/2013 8:00	3.4	0.71	0.68	0	8.761
STGM3952	J4738	J4740	1596.66	0.04	226	194	IRREGULAR	0	1	STGM3952	0.02005	27.52	1/1/2013 8:00	2.78	0	0.15	0	89.477
STGM2288	J4282	J5560	877.68	0.04	169.7	165	IRREGULAR	0	1	STGM2288	0.00536	13.46	1/1/2013 8:00	1.4	0.05	0.38	0	23.246
STGM2173	STMH1144	STMH1110	252.1	0.013	201.7	200.5	CIRCULAR	1	1		0.00476	1.43	1/1/2013 10:04	2.2	0.58	1	0.01	18.707
STGM2680	STII0941	STII0945	191.59	0.012	252	246.83	CIRCULAR	1	1		0.02699	4.9	1/1/2013 8:00	7.18	0.77	0.83	0.01	18.277
STGM2205	STMH098	STMH0920	42.95	0.013	213	212	CIRCULAR	2	1		0.02329	24.37	1/1/2013 8:00	13.66	0.71	0.55	0	59.74
STGM3771	STMH102	STMH103	272.3	0.013	174.7	169.99	CIRCULAR	2	1		0.0173	21.39	1/1/2013 8:00	11.6	0.72	0.57	0	41.861
STGM2734	STMG114	J4784	78.62	0.013	191	190	CIRCULAR	1.5	1		0.01272	6.68	1/1/2013 8:00	5.64	0.56	0.67	0	12.636
STGM4334	STMH1024	STMH0912	206.64	0.012	205.02	204	CIRCULAR	1	1		0.00494	1.15	1/1/2013 8:12	4.46	0.42	1	0.01	2.064
STGM2778	STMI131	STMI132	235.77	0.012	151.8	143.41	CIRCULAR	1.5	1		0.03561	6.78	1/1/2013 8:00	5.94	0.32	0.66	0	11.28
STGM355	STMH1230	STMH1222	116.35	0.012	172.72	172.1	CIRCULAR	1	1		0.00533	4.54	1/1/2013 8:00	5.79	1.61	1	0.59	8.761
STGM3290	STMH1221	STMH1226	227.89	0.012	170.42	169.99	CIRCULAR	1.25	1		0.00189	3.02	1/1/2013 8:00	3.93	0.99	0.6	0	8.761
STGM3610	STIL085	STMI0911	412.58	0.012	276.09	259.63	CIRCULAR	1.25	1		0.03993	5.01	1/1/2013 8:00	9.22	0.36	0.45	0	13.559
STGM2584	STMH1222	STMH1220	226.82	0.012	172.1	171.26	CIRCULAR	1	1		0.0037	3.03	1/1/2013 8:00	4.11	1.29	0.89	0.01	8.761
STGM167	STMI1141	J4872	35.79	0.013	204.4	204	CIRCULAR	2	1		0.01118	20.33	1/1/2013 8:00	8.16	0.85	0.74	0	50.118
STGM2180	STMH1213	STMH1214	39.05	0.013	161.31	160.3	CIRCULAR	1.25	1		0.02587	4.22	1/1/2013 8:00	7.37	0.41	0.47	0	20.077
STGM1362	J-HC-42	J-HC-41	911.23	0.04	344.2	304.9	IRREGULAR	0	1	STGM1362	0.04317	51.98	1/1/2013 8:01	6.34	0	0.04	0	197.568
STGM3990	STMG108	STMG109	127.61	0.013	188.5	184.62	CIRCULAR	1.75	1		0.03042	4.86	1/1/2013 8:00	3.57	0.18	0.55	0	9.347
STGM3599	STIG1139	J4068	81.44	0.012	186.5	186.1	CIRCULAR	1.5	1		0.00491	6.66	1/1/2013 8:45	3.8	0.83	1	0.01	17.535
STGM3183	STII0956	STII0957	78.78	0.012	257.19	256.62	CIRCULAR	1.25	1		0.00724	5	1/1/2013 8:01	5.58	0.84	0.69	0	13.559
STGM1313	STMH1112	J4918	118.56	0.013	202.7	202	CIRCULAR	1.75	1		0.0059	3.97	1/1/2013 8:00	3.83	0.33	0.57	0	7.791
STGM3239	STII151	STMI151	314.32	0.013	159.5	157	CIRCULAR	1.5	1		0.00795	6.42	1/1/2013 8:00	5.71	0.69	0.61	0	19.262
STGM952	STIH1043	STMH1014	81.9	0.013	204	197.45	CIRCULAR	1	1		0.08023	2.28	1/1/2013 8:00	8.97	0.23	0.36	0	4.421
STGM4082	J4740	STIH1035	115.86	0.024	194	190.9	CIRCULAR	2.25	1		0.02677	26.57	1/1/2013 8:06	7.78	0.97	0.8	0	89.477
STGM2917	J5012	STII093	73.59	0.013	234	233.5	CIRCULAR	1	1		0.00679	3.71	1/2/2013 1:06	4.72	1.26	1	10.1	30.523
STGM2111	J4002	J-HC-32	377.6	0.04	182.8	167	IRREGULAR	0	1	STGM2111	0.04188	13.69	1/1/2013 8:00	4.98	0	0.08	0	32.705
STGM1652	STMH1310	J-HCT3-02	116.83	0.012	147.1	146.8	CIRCULAR	1	1		0.00257	3.3	1/1/2013 8:00	4.24	1.69	0.97	0.01	6.596
STGM3954	STMH103	J3696	206.48	0.013	169.99	156.53	CIRCULAR	1.75	1		0.06533	21.39	1/1/2013 8:00	20.58	0.53	0.45	0	41.861
STGM3432	J5026	STMH096	260.73	0.013	226	224	CIRCULAR	2	1		0.00767	6.07	1/1/2013 8:00	4.02	0.31	0.49	0	27.553
STGM1345	STMG118	J-HC-22	551.11	0.012	183.75	139	CIRCULAR	2	1		0.08147	14.75	1/1/2013 8:00	10.83	0.21	0.66	0.01	33.738
STGM2516	STMH1014	STMH1010	64.99	0.013	197.45	193	CIRCULAR	1.25	1		0.06863	3.69	1/1/2013 8:00	5.26	0.22	0.57	0	7.181
STGM2985	STMH114	STMH115	40.44	0.013	186.75	186.02	CIRCULAR	2	1		0.01805	21.43	1/1/2013 8:00	9.09	0.7	0.7	0	42.667
STGM2194	STMH1128	STMH1127	152.93	0.013	203.8	200.5	CIRCULAR	1.25	1		0.02158	3.81	1/1/2013 8:00	4.03	0.4	0.72	0.01	7.512
STGM1018	STMH1223	STMH1230	107.63	0.012	172.94	172.72	CIRCULAR	1	1		0.00204	4.54	1/1/2013 7:59	5.79	2.6	1	1.35	8.761
STGM900	STMH1233	STMH1211	313.39	0.013	170.71	169.52	CIRCULAR	1.25	1		0.0038	1.97	1/1/2013 8:00	3.42	0.5	0.48	0	3.588
STGM3054	STMG1010	STMG109	316.75	0.013	189.18	184.62	CIRCULAR	1.5	1		0.0144	12	1/1/2013 8:00	7.36	0.95	0.87	0	23.429
STGM3923	STMH1124	STMH1112	28.03	0.013	203.3	202.7	CIRCULAR	1.75	1		0.02141	3.97	1/1/2013 8:00	5.48	0.17	0.34	0	7.791
STGM2830	STII093	J5084	172.1	0.013	233.5	233	CIRCULAR	1	1		0.00291	4.15	01/01/2013 16:00 PM	6.25	2.16	0.79	0.01	43.284
STGM2558	J4576	J5090	1209.42	0.04	313	244	IRREGULAR	0	1	STGM2558	0.05715	13.92	1/1/2013 8:05	0.34	0	0.05	0	54.547
STGM3548	STMH1311	STMH1310	113.81	0.012	154.6	147.1	CIRCULAR	1	1		0.06604	3.3	1/1/2013 8:00	5.63	0.33	0.7	0.01	6.596
STGM1060	STMH1245	J-HCT3-04	156.88	0.012	166.12	160.4	CIRCULAR	1.25	1		0.03649	3.89	1/1/2013 8:00	4.35	0.29	0.68	0.01	13.112
STGM1334	STMH1129	J5110	18.78	0.013	193	192.5	CIRCULAR	2	1		0.02663	16.92	1/1/2013 8:01	9.75	0.46	0.54	0	33.061
STGM1150	STMH091	STMH106	384.74	0.013	199.87	197.65	CIRCULAR	1.25	1		0.00577	3.56	1/1/2013 8:00	4.98	0.72	0.56	0	6.564
STGM1859	STMI117	STMI114	547.89	0.013	194	187.8	CIRCULAR	2.75	1		0.01132	24.31	1/1/2013 8:01	9.13	0.43	0.46	0	56.786
STGM2132	STMH1010	STIH1036	162.93	0.013	193	190	CIRCULAR	1.25	1		0.01842	8.47	1/1/2013 8:00	7.24	0.97	0.91	0.01	16.378
STGM4297	STMH1214	STMH1215	185.32	0.013	160.3	157.22	CIRCULAR	1.25	1		0.01662	4.22	1/1/2013 8:00	5.89	0.51	0.57	0	20.077
STGM2732	STMH1013	STMH1014	122.52	0.013	204.8	197.45	CIRCULAR	1	1		0.0601	1.4	1/1/2013 8:00	6.12	0.16	0.33	0	2.761
STGM3539	STMG1223	STMG1213	526.28	0.013	170.31	167.5	CIRCULAR	1.25	1		0.00534	3.96	1/1/2013 8:00	5.87	0.84	0.54	0	6.398
STGM1726	J5084	J5190	52.95	0.013	233	231.2	CIRCULAR	1	1		0.03401	4.15	01/01/2013 16:00 PM	8.26	0.63	0.61	0	43.284
STGM1690	STII0944	J4628	83.25	0.012	246.13	242.1	CIRCULAR	1	1		0.04847	4.9	1/1/2013 8:00	12.99	0.58	0.48	0	18.277

Conduits CIP Model

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
STGM3759	STMG125	STMG126	305.96	0.013	166.96	163	CIRCULAR	2	1		0.01294	12.4	1/1/2013 8:00	10.8	0.48	0.39	0	22.971
STGM285	STIH1033	STMH1015	112.94	0.013	209	205	CIRCULAR	1	1		0.03544	1.4	1/1/2013 8:00	4.68	0.21	0.41	0	2.761
STGM2730	STII118	STII116	199.97	0.013	190.63	188.91	CIRCULAR	1.5	1		0.0086	8.57	1/1/2013 8:00	5.95	0.88	0.76	0	13.884
STGM1000	STMH1312	J-HCT3-01	119.96	0.012	147.62	132.64	CIRCULAR	1	1		0.12586	2.65	1/1/2013 8:00	11.04	0.19	0.65	0.01	5.851
STGM1533	STMH0923	J4002	158.61	0.013	189.37	182.8	CIRCULAR	3	1		0.04146	12.21	1/1/2013 8:00	8.98	0.09	0.25	0	29.12
STGM630	STII0945	STII0944	47.83	0.012	246.63	246.33	CIRCULAR	1	1		0.00627	4.9	1/1/2013 8:00	6.34	1.6	0.96	0.01	18.277
STGM1312	STMH096	STMH097	202.67	0.013	224	223	CIRCULAR	2	1		0.00493	10.83	1/1/2013 7:59	6.39	0.68	0.53	0	35.022
STGM3629	J3614	J4282	388.69	0.04	172	169.7	IRREGULAR	0	1	STGM3629	0.00592	6.57	1/1/2013 8:00	1.42	0.05	0.3	0	11.029
STGM241	J3630	STMG115	238.99	0.013	187.5	187	CIRCULAR	2.75	1		0.00209	6.62	1/1/2013 8:45	2.8	0.27	0.69	0	17.535
STGM4217	J5242	J4050	531.29	0.04	260	258	IRREGULAR	0	1	STGM4217	0.00376	2.34	1/1/2013 8:32	0.52	0.05	0.33	0	8.14
STGM3474	J5046	J4738	138.02	0.013	228	226	CIRCULAR	2	1		0.01449	10.15	1/1/2013 8:00	6.7	0.37	0.49	0	55.54
STGM526	STMH1015	STMH1013	50.12	0.013	205	204.8	CIRCULAR	1	1		0.00399	1.4	1/1/2013 8:00	5	0.62	0.39	0	2.761
STGM461	STMG1019	STMH102	153.15	0.013	177.8	174.7	CIRCULAR	2	1		0.02025	21.4	1/1/2013 8:00	10.42	0.66	0.62	0	41.861
STGM1862	J-HC-18	J-HC-17	203.4	0.013	128	127	CIRCULAR	6	1		0.00492	499.6	1/1/2013 9:01	21.7	1.68	0.76	0.01	1699.197
STGM2191	STMH135	STMH136	39.53	0.013	157.7	149.85	CIRCULAR	1	1		0.20262	2.23	1/1/2013 8:00	15.31	0.14	0.24	0	4.871
STGM1685	STMH1022	J5266	21.48	0.013	186.19	185.66	CIRCULAR	1	1		0.02468	0.99	1/1/2013 8:00	6.68	0.18	0.24	0	2.095
STGM2874	STIH12182	STIH12125	196.41	0.013	179.31	178.35	CIRCULAR	1.25	1		0.00489	3.6	1/1/2013 8:00	4.31	0.8	0.64	0	5.723
STGM2644	STMH0912	STMH0911	53.61	0.012	204	200.85	CIRCULAR	1	1		0.05886	1.21	1/1/2013 8:15	2.19	0.13	1	0.01	2.064
STGM3202	J4690	J-HC-40	762.6	0.04	355.6	294	IRREGULAR	0	1	STGM3202	0.08104	36.35	1/1/2013 8:01	2.73	0	0.05	0	137.04
STGM3123	J5284	J5090	621.51	0.04	252	244	IRREGULAR	0	1	STGM3123	0.01287	6.27	1/1/2013 8:01	1.54	0	0.19	0	16.228
STGM2831	J4734	STMI096	552.44	0.013	264	257	CIRCULAR	1	1		0.01267	4.85	01/01/2013 14:36 PM	6.28	1.21	0.95	0.01	47.074
STGM3225	STII0948	STII0942	164.56	0.012	251.09	250.25	CIRCULAR	1.5	1		0.0051	1.39	1/1/2013 8:01	3.44	0.17	0.28	0	3.179
STGM98	STMG109	STMG1015	220.28	0.013	184.62	181.87	CIRCULAR	1.75	1		0.01249	16.8	1/1/2013 8:00	11.55	0.95	0.58	0	32.776
STGM3325	J5324	J5326	45.89	0.013	436.5	434	CIRCULAR	1	1		0.05456	9.77	1/1/2013 8:00	17.92	1.17	0.66	0.01	38.713
STGM2291	STMH125	J4636	54.12	0.013	177.69	176.5	CIRCULAR	1.5	1		0.02199	3.6	1/1/2013 8:00	4.76	0.23	0.47	0	5.723
STGM793	J4066	STIG11113	26.81	0.012	186	185.9	CIRCULAR	1.5	1		0.00373	7.79	1/1/2013 8:08	4.41	1.12	1	1.68	20.789
STGM3927	STMG1228	STMG125	449.4	0.013	172	166.96	CIRCULAR	2	1		0.01122	12.4	1/1/2013 7:59	7.53	0.52	0.52	0	22.971
STGM1114	STMH1252	J-HCT3-05	39.3	0.012	163.82	162.3	CIRCULAR	1	1		0.03871	0.83	1/1/2013 7:59	1.63	0.11	1	0.01	1.546
STGM1484	J4918	STMH1144	38.51	0.013	202	201.7	CIRCULAR	1.75	1		0.00779	3.98	1/1/2013 8:00	2.75	0.28	0.83	0	7.791
STGM4004	STMH129	STMH128	443.57	0.013	180.81	173.6	CIRCULAR	3	1		0.01626	32.84	1/1/2013 8:01	6.37	0.39	0.69	0	70.669
STGM2459	STIH12139	STMH1224	90.38	0.013	173.26	172.96	CIRCULAR	1.25	1		0.00332	7.77	1/1/2013 8:07	6.33	2.09	1	1.21	13.638
STGM522	STMG1035	STMG108	111.08	0.013	189	188.5	CIRCULAR	1.5	1		0.0045	4.88	1/1/2013 8:00	6.35	0.69	0.45	0	9.347
STGM2326	STMH1021	STMH1022	263.42	0.013	192.77	186.19	CIRCULAR	1	1		0.02499	0.99	1/1/2013 8:00	5.31	0.18	0.29	0	2.095
STGM177	STMH1248	J-HCT3-03	182.8	0.012	160.76	155	CIRCULAR	1.25	1		0.03153	4.32	1/1/2013 8:00	6.79	0.35	0.51	0	9.692
HC-11	J-HC-14	J-HC-13	998.06	0.04	120.5	117	IRREGULAR	0	1	HC-11	0.00351	459.64	1/1/2013 9:06	3.35	0.01	0.13	0	1782.099
STGM2500	J5110	STMH117	81.34	0.013	192.5	190.68	CIRCULAR	2	1		0.02238	20.55	1/1/2013 8:00	8.93	0.61	0.69	0	40.804
STGM231	J3	STMH1314	357.44	0.013	164	163	CIRCULAR	1.25	1		0.0028	2.94	1/1/2013 8:00	2.88	0.86	0.78	0	5.374
STGM3072	STMI1312	STMI1311	168.29	0.013	157.19	154.39	CIRCULAR	1.75	1		0.01664	4.94	1/1/2013 8:00	8.24	0.24	0.3	0	18.504
STGM3278	STMH0916	STMH0923	40.17	0.012	191	189.37	CIRCULAR	1.25	1		0.04061	12.21	1/1/2013 8:00	15.64	0.87	0.61	0	29.12
STGM1814	J4160	STMI132	89.7	0.013	147.33	143.75	CIRCULAR	3.5	1		0.03994	26.65	1/1/2013 8:01	13.23	0.13	0.27	0	63.425
STGM3166	STMI122	STMI121	491.04	0.013	182.11	179.45	CIRCULAR	2	1		0.00542	11.2	1/1/2013 8:00	7.12	0.67	0.5	0	19.158
STGM3572	STMH1126	STMH1129	385.85	0.013	199	193	CIRCULAR	2	1		0.01555	16.92	1/1/2013 8:01	9.83	0.6	0.54	0	33.061
STGM192	STMH1228	J-HCT3-06	72.05	0.013	165.5	164.4	CIRCULAR	1	1		0.01527	3.08	1/1/2013 8:00	3.92	0.7	1	0.01	5.804
STGM233	STMH1018	J-HC-30	140.54	0.013	163	162	CIRCULAR	1	1		0.00712	2.16	1/1/2013 8:00	3.36	0.72	1	0.01	4.44
STGM1720	STIH081	J5450	45.64	0.013	286.77	281	CIRCULAR	1	1		0.12745	2.82	1/1/2013 8:00	12.99	0.22	0.32	0	6.232
STGM1598	STMH136	STMH137	42.86	0.012	149.85	136.08	CIRCULAR	1	1		0.33926	2.23	1/1/2013 8:00	19.3	0.1	0.2	0	4.871
STGM1418	STMI1122	STMI1141	101.09	0.013	204.9	204.4	CIRCULAR	2	1		0.00495	18.33	1/1/2013 8:01	6.99	1.15	0.78	0.01	46.361
STGM3337	STMH1137	J4198	581.15	0.013	177.67	161	CIRCULAR	1.5	1		0.0287	10.03	1/1/2013 8:00	10.37	0.56	0.54	0	18.611
STGM3528	J4620	STMG1228	785.82	0.013	176.3	172	CIRCULAR	1	1		0.00547	2.8	1/1/2013 7:51	3.64	1.06	1	0.06	5.22
STGM351	J4636	STIH12139	375.55	0.04	176.5	173.26	IRREGULAR	0	1	STGM351	0.00863	8.24	1/1/2013 7:51	1.27	0.12	0.74	0.01	13.638
STGM425	STMH128	STMH127	415.46	0.013	173.6	173.13	CIRCULAR	3.5	1		0.00113	55.75	1/1/2013 8:00	8.72	1.65	0.63	0.01	110.238
STGM551	STII1179	STMI1140	50	0.013	205.36	205.14	CIRCULAR	2	1		0.0044	18.32	1/1/2013 8:01	6.36	1.22	0.86	0.01	46.361
STGM407	J5480	J5026	184.32	0.013	228.1	226	CIRCULAR	1.5	1		0.01139	6.07	1/1/2013 8:00	6.6	0.54	0.52	0	27.553
STGM610	J5444	J5484	86.75	0.013	212.42	211.8	CIRCULAR	1.5	1		0.00715	15.44	1/1/2013 8:00	8.96	1.74	0.94	0.01	40.357
STGM1204	STMH1017	J-HCT4-01	153.14	0.013	192.51	178	CIRCULAR	1	1		0.09518	3.29	1/1/2013 8:00	12.21	0.3	0.38	0	7.459
STGM396	STIH1035	STIH1036	38.48	0.024	190.9	190	CIRCULAR	2.25	1		0.0234	27.47	1/1/2013 8:06	8.95	1.07	0.72	0.01	89.477
STGM1068	STMH1133	J5510	46.01	0.013	181.3	180.53	CIRCULAR	1.5	1		0.01674	5.8	1/1/2013 8:00	7.46	0.43	0.45	0	11.206
STGM129	STMH0910	J5480	634.59	0.013	229	228.1	CIRCULAR	1.5	1		0.00142	0.72	1/1/2013 8:35	1.4	0.18	0.4	0	18.277
STGM319	STII0955	STII0956	37.85	0.013	257.95	257.19	CIRCULAR	1.25	1		0.02008	5	1/1/2013 8:01	6.2	0.55	0.63	0	13.559
STGM4256	STMH1127	STMH1126	268.38	0.013	200.5	199	CIRCULAR	1.75	1		0.00559	13.59	1/1/2013 8:00	6.76	1.15	0.78	0.01	26.219
STGM2313	STMH1243	STMH1244	299.24	0.012	168.94	167.19	CIRCULAR	1	1		0.00585	3.89	1/1/2013 7:59	4.96	1.32	1	2.15	13.112
STGM286	STMI141	STMI135	312.47	0.012	154.9	152.82	CIRCULAR	1.5	1		0.00666	6.78	1/1/2013 8:00	4.93	0.73	0.73	0	11.28
STGM107	STMG112	STMG117	297.47	0.013	185.51	185	CIRCULAR	2	1		0.00171	11.76	1/1/2013 8:00	4.18	1.26	0.84	0.01	28.366
STGM3242	STMG1015	STMG1019	29.2	0.013	181.87	177.8	CIRCULAR	2	1		0.14076	16.8	1/1/2013 8:00	12.31	0.2	0.45	0	32.776
STGM480	J5560	J5562	66.13	0.013	165	164	CIRCULAR	1.5	1		0.01512	16.35	1/1/2013 8:11	10.43	1.27	0.83	0.01	31.934
STGM2535	STMG117	STMG118	441.47	0.013	185	183.75	CIRCULAR	2	1		0.00283	11.76	1/1/2013 8:01	6.93	0.98	0.53	0	28.366
STGM1867	J-HCT4-05	J-HCT4-04	69.01	0.013	176.5	175.6	CIRCULAR	4	1		0.01304	36.13	1/1/2013 8:01	9.01	0.22	0.36	0	108.699
STGM2240	STMH118	STMH1133	153.33	0.013	184	181.5	CIRCULAR	1.5	1		0.01631	5.8	1/1/2013 8:00	7.32	0.43	0.46	0	11.206
STGM910	STIG11113	J3872	49.37	0.012	185.9	185.8	CIRCULAR	1.5	1		0.00203	7.78	1/1/2013 8:08	4.4	1.52	1	1.35	20.789
STGM674	STMH1229	STMH1228	221.01	0.012	168.72	165.5	CIRCULAR	1	1		0.01457	3.07	1/1/2013 8:00	4.38	0.66	0.84	0.01	5.804
STGM3730	J5510	STMH1137	162.18	0.013	180.53	177.67	CIRCULAR	1.5	1		0.01764	5.8	1/1/2013 8:00	6.68	0.42	0.49	0	11.206
STGM2366	STMH115	STMH116	226.96	0.013	186.02	184.21	CIRCULAR	2.25	1		0.00798	21.43	1/1/2013 8:01	8.61	0.77	0.6	0	42.667
HCT4-04	J-HCT4-04	J-HCT4-03	310.09	0.04	175.6	168	IRREGULAR	0	1	HCT4-04	0.02452	37.38	1/1/2013 8:01	4.77	0	0.1	0	111.298
STGM1793	STMH1231	J-HCT3-09	111.29	0.013	171.56	170.5	CIRCULAR	3.5	1		0.00953	61.98	1/1/2013 8:00	13.12	0.63	0.49	0	121.329
STGM3431	STMH1215	STMH1216	41.39	0.013	157.22	156.42	CIRCULAR	1.25	1		0.01933	6.51	1/1/2013 8:00	10.8	0.73	0.49	0	24.906
STGM128	STIH146	STIH144	125.9	0.013	163.62	160.75	CIRCULAR	1	1		0.0228	3.97	1/1/2013 8:00	7.68	0.74	0.63	0	6.839
STGM4187	STIH1012	STIH1013	34.76	0.013	201.6	201.5	CIRCULAR	1	1		0.00288	1.46	1/1/2013 7:59	5.25	0.76	0.39	0	2.599
STGM1358	STMI111	J5444	18.08	0.013	212.62	212.42	CIRCULAR	1.5	1		0.01106	15.45	1/1/2013 8:00	8.74	1.4	1	1.54	40.357
STGM3128	J5628	J4734	38.97	0.013	264.5	264	CIRCULAR	1	1		0.01283	4.85	01/01/2013 14:31 PM	6.18	1.2	1	20.83	47.074
STGM3704	STMG115	STIG1142	120.61	0.013	187	186.5	CIRCULAR	1.5	1		0.00415	6.66	1/1/2013 8:45	3.77	0.98	1	0.03	17.535
STGM3263	STII0952	STII0948	79.25	0.012	251.69	251.29	CIRCULAR	1.5	1		0.00505	1.39	1/1/2013 8:00	3.43	0.17	0.28	0	3.179
STGM2226	STMH132	J5640	108.9	0.013	164	158.5	CIRCULAR	1	1		0.05057	6.86	1/1/2013 8:00	11.72	0.86	0.7	0	13.284
STGM619	STMH1211	STMH1212	124.79	0.013	169.52	168.22	CIRCULAR	1	1		0.01042	0	1/1/2013 0:00	0	0	0.36	0	12.349
STGM3602	STMH1224	STMH1227	429.88	0.013	172.96	171.54	CIRCULAR	1.5	1		0.0033	7.77	1/1/2013 8:08	4.4	1.29	1	0.37	13.638
STGM1294	STII0962	J35	46.3	0.012	254	253.8	CIRCULAR	1.5	1		0.00432	5.14	1/1/2013 8:01	7.44	0.69	0.41	0	13.559
STGM1350	J3696	J-HC-28	138.62	0.04	156.53	152	IRREGULAR	0	1	STGM1350	0.0327	26.42	1/1/2013 8:01	0.85	0.02	0.6	0.01	53.782
STGM3389	STII11281	STII11135	83.81	0.013	201.5	200.5	CIRCULAR	2	1		0.01193	24.32	1/1/2013 8:01	8.97	0.98	0.81	0	56.786
VILLA_CULVERT_2	HC-29	J-HC-28	58.16	0.013	153.5	151.8	CIRCULAR	5	1		0.02924	262.14	1/1/2013 8:42	15.92	0.59	0.78	0	1228.876
STGM2041	STMH105	STMH104	75.87	0.013	194	191.8	CIRCULAR	1.75	1		0.02901	9.85	1/1/2013 8:00	9.16	0.36	0.46	0	19.255
STGM496	STMH1240	STMH1241	56.71	0.012	162.29	161.94	CIRCULAR	1.5	1		0.00617	3.1	1/1/2013 8:00	6.37	0.35	0.32	0	5.895
STGM193	J5190	J4370	359.92	0.013	231.2	228.8	CIRCULAR	2	1		0.00667	4.15	01/01/2013 16:00 PM	3.69	0.22	0.45	0	43.284
STGM3680	J4784	J3628	465.92	0.04	190	188	IRREGULAR	0	1	STGM3680	0.00429	6.48	1/1/2013 7:48	1.11	0.04	0.58	0	12.636
STGM1226	STMI121	STMH128	273.08	0.013	179.45	173.6	CIRCULAR	2.25	1		0.02143	11.2	1/1/2013 8:00	3.96	0.25	0.67	0.01	19.158
STGM2096_3	STMH0918	STMH1027	241.47	0.013	203.7	191.5	CIRCULAR	2	1		0.05059	33.15	1/1/2013 8:00	17.26	0.65	0.59	0	77.762
STGM2103	STMI132	J-HCT2-03	99.6	0.013	143.41	141.33	CIRCULAR	2.75	1		0.02089	39.4	1/1/2013 8:00	12.96	0.52	0.51	0	86.353
STGM3810	STMH1254	J4668	579.22	0.013	169.5	164.65	CIRCULAR	1.5	1		0.00837	10.43	1/1/2013 7:18	5.94	1.09	1	0.78	16.942
STGM2530	J4642	J3696	20.59	0.04	157.2	156.53	IRREGULAR	0	1	STGM1350	0.03256	0.99	1/1/2013 8:00	0.29	0	0.12	0	2.095
C9	J4872	STII11281	412.8	0.013	204	201.8	CIRCULAR	3	1		0.00533	24.32	1/1/2013 8:01	6.89	0.5	0.5	0	56.786
STGM3756	J4370	J5046	214.41	0.04	228.8	228	IRREGULAR	0	1	STGM3756	0.00373	10.16	1/1/2013 8:00	1.84	0.04	0.23	0	55.54
STGM3848	STMG122	STMG1223	261.1	0.013	171.5	170.31	CIRCULAR	1	1		0.00456	3.96	1/1/2013 7:59	5.06	1.64	0.98	0.01	6.398
STGM545	STMH1125	STMH1124	105.92	0.013	206.69	203.3	CIRCULAR	1.75	1		0.03202	3.97	1/1/2013 8:00	7.53	0.14	0.27	0	7.791
STGM658	J-HCT3-09	J-HCT3-08	48.59	0.013	170.5	170.2	CIRCULAR	2	5		0.00617	69.71	1/1/2013 8:00	5.56	0.78	0.74	0	134.967
STGM1956	STMH1314	STMH1315	461.14	0.013	163	158.1	CIRCULAR	1.25	1		0.01063	6.87	1/1/2013 8:00	5.99	1.03	0.89	0.01	12.514
STGM3712	STMH116	STIH118	309.98	0.013	184.21	163.5	CIRCULAR	1.5	1		0.06696	23.43	1/1/2013 8:00	20.58	0.86	0.61	0	46.353
STGM3682	STIH1036	J-HCT4-06	63.43	0.024	190	185	CIRCULAR	2.25	1		0.07907	34.82	1/1/2013 8:01	13.03	0.74	0.64	0	105.855
STGM143	STMG126	J-HC-18	212.04	0.013	163	128.5	CIRCULAR	2	1		0.1649	13.54	1/1/2013 8:00	11.18	0.15	0.63	0.01	25.115
STGM2577	STMH109	J-HCT4-04	20.29	0.013	185	175.6	CIRCULAR	1	1		0.52277	1.29	1/1/2013 8:00	3.82	0.05	0.58	0.01	2.599
STGM2743	J-HC-26	J-HC-25	232.18	0.013	140.4	139.3	CIRCULAR	6.5	1		0.00474	364.25	1/1/2013 8:50	12.94	1.01	0.79	0.01	1442.68
STGM1768	STIH118	J-HC-24	72.09	0.013	163.5	139	CIRCULAR	1.5	1		0.36136	23.43	1/1/2013 8:00	17.44	0.37	0.71	0.01	46.353
STGM615	J5450	J-HC-37	1211.19	0.04	280	196	IRREGULAR	0	1	STGM615	0.06952	2.67	1/1/2013 8:03	2.37	0	0.55	0.01	6.232
STGM1002	STMH108	J-HCT4-03	60.61	0.013	187	168	CIRCULAR	1	1		0.33012	1.97	1/1/2013 8:00	4.46	0.1	0.6	0.01	3.975
STGM2096_5	STMH1027	STMH1026	384.43	0.013	191.5	172	CIRCULAR	2	1		0.05079	33.14	1/1/2013 8:00	16.82	0.65	0.6	0	77.762
STGM2478	J4398	J-HC-19	342.19	0.04	141	129	IRREGULAR	0	1	STGM2478	0.03509	13.9	1/1/2013 8:00	2.35	0	0.13	0	25.543
STGM962	STMH1238	STMH1239	205.94	0.012	165.13	164.09	CIRCULAR	1.25	1		0.00505	3.1	1/1/2013 8:00	4.73	0.62	0.53	0	5.895
STGM2928	STMH0911	STMH0913	318.56	0.012	200.85	195.61	CIRCULAR	1.25	1		0.01645	12.22	1/1/2013 8:00	9.96	1.36	1	0.74	29.12

Conduits CIP Model

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
STGM2587	STMH1242	STMH1243	113.78	0.012	169.93	168.94	CIRCULAR	1	1		0.0087	3.89	1/1/2013 8:00	4.96	1.08	1	1.37	13.112
STGM3056	STII116	STMI113	160.87	0.013	188.91	187.8	CIRCULAR	1.5	1		0.0069	8.57	1/1/2013 8:00	5.96	0.98	0.76	0	13.884
STGM546	STMH1144	STMH1127	359.94	0.013	201.7	200.5	CIRCULAR	1.75	1		0.00333	9.8	1/1/2013 8:00	4.29	1.07	0.91	0.01	18.707
STGM1508	J-HC-41	J-HC-40	436.48	0.04	304.9	294	IRREGULAR	0	1	STGM1508	0.02498	51.6	1/1/2013 8:03	2.88	0.01	0.13	0	197.568
STGM1480	J4042	J-HC-33	68.29	0.013	176	169	CIRCULAR	2	1		0.10305	2.61	1/1/2013 7:59	7.92	0.04	0.47	0	5.028
STGM2342	J4504	J-HC-13	173.05	0.04	146.42	117	IRREGULAR	0	1	STGM2342	0.17252	6.51	1/1/2013 8:00	7.13	0	0.13	0	24.906
STGM2534	STMI151	J4974	48.57	0.013	156.8	156.4	CIRCULAR	1.25	1		0.00824	7.29	1/1/2013 8:01	11.08	1.24	0.53	0.01	20.036
STGM4325	STMH1244	STMH1245	194.74	0.012	167.19	166.12	CIRCULAR	1	1		0.00549	3.89	1/1/2013 8:00	6.33	1.36	0.73	0.01	13.112
STGM2986	J4862	J-HC-07	94.32	0.04	120	105.3	IRREGULAR	0	1	STGM2986	0.15778	5.89	1/1/2013 8:00	5.62	0	0.14	0	11.471
STGM3381	STMI096	J-HC-36	2189.4	0.013	256	181	CIRCULAR	1.5	1		0.03428	6.91	1/1/2013 8:47	8.84	0.36	0.71	0.01	55.214
STGM3729	J4098	J-HC-11	324.65	0.04	152	112.5	IRREGULAR	0	1	STGM3729	0.12258	12.47	1/1/2013 8:00	3.43	0	0.08	0	26.144
STGM4228	J-HC-35	J-HC-34	87.5	0.013	178.7	177	CIRCULAR	5	1		0.01943	255.98	1/1/2013 8:36	16.28	0.71	0.75	0	1070.324
STGM4240	J4610	J-HC-03	540.28	0.013	100	99	CIRCULAR	2	1		0.00185	11.82	1/1/2013 7:27	3.98	1.21	1	4.79	55.697
STGM428	STMH1241	J-HCT3-03	131.69	0.012	161.94	155	CIRCULAR	1.5	1		0.05277	3.1	1/1/2013 8:00	5.37	0.12	0.38	0	5.895
STGM727	STMH138	J-HC-12	141.82	0.012	124.75	115.43	CIRCULAR	1	1		0.06586	2.23	1/1/2013 8:00	5.11	0.22	0.66	0.01	4.871
STGM734	J-HCT3-07	J-HCT3-06	44.9	0.013	164.6	164.4	CIRCULAR	3	1		0.00445	69.57	1/1/2013 8:02	9.85	1.56	1	0.01	134.967
STGM74	J5090	J4956	96.08	0.013	244	240	CIRCULAR	3	1		0.04167	103.81	1/1/2013 8:32	22.36	0.76	0.62	0	458.919
HC-05	J-HC-08	J-HC-07	43.74	0.04	105.4	105.3	IRREGULAR	0	1	HC-07	0.00229	483.42	1/1/2013 9:11	50	0	0.13	0	1878.682
HC-02	J-HC-05	J-HC-04	219.17	0.04	101	100	IRREGULAR	0	1	HC-02	0.00456	585.54	1/1/2013 9:19	50	0	0.1	0	2257.46
HC-03	J-HC-06	J-HC-05	1465.1	0.04	105	101	IRREGULAR	0	1	HC-03	0.00273	553.59	1/1/2013 9:12	3.27	0.01	0.17	0	2125.908
HCT2-03	J-HCT2-03	J-HCT2-02	833.65	0.04	141	120	IRREGULAR	0	1	HCT2-02	0.0252	39.31	1/1/2013 8:01	41.24	0	0.03	0	86.353
HC-09	J-HC-12	J-HC-11	640.08	0.04	115.43	112.5	IRREGULAR	0	1	HC-11	0.00458	465.94	1/1/2013 9:07	6.55	0.01	0.11	0	1807.58
HCT3-07	J-HCT3-08	J-HCT3-07	270.93	0.04	170.2	164.6	IRREGULAR	0	1	HCT3-07	0.02067	69.69	1/1/2013 8:00	2.47	0.03	0.35	0	134.967
HCT3-05	J-HCT3-05	J-HCT3-04	128.31	0.04	162.3	160.4	IRREGULAR	0	1	HCT3-04	0.01481	73.34	1/1/2013 8:02	4.66	0.02	0.25	0	142.318
HCT5-01	STMH1026	J-HC-31	480.46	0.04	172	164.5	IRREGULAR	0	1	HCT5-01	0.01561	33.08	1/1/2013 8:00	3	0	0.09	0	77.762
HC-26	J-HC-32	J-HC-31	822.12	0.04	167	164.5	IRREGULAR	0	1	HC-26	0.00304	280.59	1/1/2013 8:36	50	0	0.08	0	1152.936
HC-22	J-HC-27	J-HC-26	1572.93	0.04	151.5	140.4	IRREGULAR	0	1	HC-22	0.00706	365.47	1/1/2013 8:43	3.32	0.01	0.14	0	1428.126
HCT6-01	J4956	J-HC-38	1557.59	0.04	240	203.5	IRREGULAR	0	1	HCT6-01	0.02344	112.2	1/1/2013 8:33	2.73	0	0.09	0	486.127
HC-25	J-HC-31	J-HC-30	181.33	0.04	164.5	162	IRREGULAR	0	1	HC-24	0.01379	306.65	1/1/2013 8:37	3.29	0.03	0.34	0	1224.436
HCT4-05	J-HCT4-06	J-HCT4-05	263.03	0.04	185	176.5	IRREGULAR	0	1	HCT4-04	0.03233	36.14	1/1/2013 8:00	5.89	0	0.08	0	108.699
STGM2361_a	J-HC-04	J-HC-03	735.03	0.013	100	97.2	CIRCULAR	8	1		0.00381	588.9	1/1/2013 9:21	13.39	1.05	0.82	0.01	2272.563
HCT4_01	J-HCT4-01	J-HC-27	359.43	0.04	163	151.5	IRREGULAR	0	1	HCT4-01	0.03201	46.3	1/1/2013 8:01	2.9	0	0.12	0	130.231
HCT3-03	J-HCT3-03	J-HCT3-02	570.05	0.04	155	146.8	IRREGULAR	0	1	HCT3-03	0.01439	84.4	1/1/2013 8:02	2.35	0	0.05	0	171.016
HC-30	J-HC-37	J-HC-36	1759.95	0.04	196	180.5	IRREGULAR	0	1	HC-30	0.00881	229.86	1/1/2013 8:37	4	0	0.09	0	946.528
HC-19	J-HC-23	J-HC-22	154.85	0.04	137.76	137	IRREGULAR	0	1	HC-20	0.00491	384.5	1/1/2013 8:54	2.84	0	0.15	0	1517.249
HC-15	J-HC-19	J-HC-18	293.09	0.04	129	128	IRREGULAR	0	1	HC-15	0.00341	420.54	1/1/2013 9:01	3.74	0.01	0.16	0	1604.831
HC-31	J-HC-38	J-HC-37	691.07	0.04	203.5	196	IRREGULAR	0	1	HC-31	0.01085	218.44	1/1/2013 8:14	5.28	0	0.1	0	892.449
HC-33	J-HC-40	J-HC-39	1817.65	0.04	294	229.6	IRREGULAR	0	1	HC-33	0.03545	94.99	1/1/2013 8:06	7.38	0	0.12	0	361.561
HCT3-06	J-HCT3-06	J-HCT3-05	146.07	0.04	164.4	162.3	IRREGULAR	0	1	HCT3-04	0.01438	72.55	1/1/2013 8:02	5.25	0.02	0.24	0	140.771
HCT3-01	J-HCT3-01	J-HC-06	1105.73	0.04	132.64	105	IRREGULAR	0	1	HCT3-01	0.025	94.53	1/1/2013 8:05	50	0	0.07	0	199.829
HCT2-02	J-HCT2-02	J-HCT2-01	687.64	0.04	120	107	IRREGULAR	0	1	HCT2-02	0.01891	44.36	1/1/2013 8:02	50	0	0.03	0	101.95
HCT3-04	J-HCT3-04	J-HCT3-03	376.24	0.04	160.4	155	IRREGULAR	0	1	HCT3-04	0.01435	77.17	1/1/2013 8:02	11.16	0.02	0.17	0	155.43
STGM761_a	STII0954	J35	320.92	0.04	259	253.8	IRREGULAR	0	1	STGM761	0.01621	4.95	1/1/2013 8:01	1.05	0	0.08	0	13.784
STGM761_b	J35	J5012	1224.76	0.04	253.8	234	IRREGULAR	0	1	STGM761	0.01617	9.57	1/1/2013 8:07	0.99	0	0.36	0	27.344
HC-29	J-HC-36	J-HC-35	355.65	0.04	180.5	178.7	IRREGULAR	0	1	HC-30	0.00506	247.46	1/1/2013 8:38	4.16	0	0.09	0	1041.79
C1	STMG1213	J-HC-16	349.23	0.013	167.5	126	CIRCULAR	1	1		0.11968	3.95	1/1/2013 8:00	8	0.32	0.69	0.01	6.398
HC-16	J-HC-20	J-HC-19	751.91	0.04	133.8	129	IRREGULAR	0	1	HC-18	0.00638	403.46	1/1/2013 8:58	5.52	0.01	0.13	0	1579.288
HC-17	J-HC-21	J-HC-20	348.39	0.04	136	133.8	IRREGULAR	0	1	HC-18	0.00631	398.44	1/1/2013 8:56	5.55	0.01	0.13	0	1561.085
HC-21	J-HC-25	J-HC-24	236.22	0.04	139.3	139	IRREGULAR	0	1	HC-21	0.00127	366.04	1/1/2013 8:51	2.38	0.01	0.15	0	1450.633
HC-18	J-HC-22	J-HC-21	568.5	0.04	137	136	IRREGULAR	0	1	HC-18	0.00176	395.71	1/1/2013 8:55	4.41	0.01	0.14	0	1550.987
HC-20	J-HC-24	J-HC-23	254.64	0.04	139	137.76	IRREGULAR	0	1	HC-20	0.00487	382.76	1/1/2013 8:53	3.51	0	0.14	0	1510.779
HCT4-02	J-HCT4-02	J-HCT4-01	203.63	0.04	166.4	163	IRREGULAR	0	1	HCT4-02	0.0167	41.18	1/1/2013 8:01	50	0	0.05	0	119.088
HC-23	J-HC-28	J-HC-27	179.15	0.04	151.8	151.5	IRREGULAR	0	1	HC-23	0.00167	326.26	1/1/2013 8:41	2.64	1.08	0.89	0.01	1282.658
VILLA_CULVERT_1	HC-29	J-HC-28	58.93	0.013	153.5	151.8	CIRCULAR	2.5	1		0.02886	46.86	1/1/2013 8:43	9.55	0.67	1	0.01	1228.876
STGM2361_b	J-HC-03	OF_J-HC-02	559.52	0.013	97.2	95	CIRCULAR	8	1		0.00393	586.2	1/1/2013 9:22	13.82	1.02	0.79	0.01	2328.259
HC-04	J-HC-07	J-HC-06	623.66	0.04	105.3	105	IRREGULAR	0	1	HC-07	0.00048	486.18	1/1/2013 9:13	1.76	0.01	0.14	0	1890.152
HC-10	J-HC-13	J-HC-12	342.39	0.04	117	115.43	IRREGULAR	0	1	HC-11	0.00459	462.85	1/1/2013 9:07	3.51	0.01	0.13	0	1794.656
HC-12	J-HC-15	J-HC-14	941.48	0.04	125	120.5	IRREGULAR	0	1	HC-12	0.00478	445.89	1/1/2013 9:04	2.38	0	0.09	0	1722.143
HC-08	J-HC-11	J-HC-10	373.11	0.04	112.5	111.5	IRREGULAR	0	1	HC-07	0.00268	472.81	1/1/2013 9:06	18.19	0	0.07	0	1833.724
HCT3-02	J-HCT3-02	J-HCT3-01	566.6	0.04	146.8	132.64	IRREGULAR	0	1	HCT3-02	0.025	92.3	1/1/2013 8:03	2.94	0	0.03	0	193.978
HCT2-01	J-HCT2-01	J-HC-05	680.12	0.04	107	101	IRREGULAR	0	1	HCT2-02	0.00882	54.49	1/1/2013 8:04	24.37	0	0.08	0	131.552
HC-13	J-HC-16	J-HC-15	338.8	0.04	126	125	IRREGULAR	0	1	HC-12	0.00295	448.34	1/1/2013 8:55	3.47	0	0.08	0	1718.441
HC-06	J-HC-09	J-HC-08	394.15	0.04	109	105.4	IRREGULAR	0	1	HC-07	0.00913	483.63	1/1/2013 9:09	50	0	0.09	0	1878.682
HC-14	J-HC-17	J-HC-16	331.3	0.04	127	126	IRREGULAR	0	1	HC-12	0.00302	451.77	1/1/2013 9:01	3.21	0	0.08	0	1699.197
STGM3238	STII142	STII141	197.21	0.012	167.62	167.21	CIRCULAR	1.25	1		0.00208	4.52	1/1/2013 8:00	3.68	1.42	1	1.37	9.068
STGM2953	STII141	OF_J5066	151.71	0.012	167.21	166.9	CIRCULAR	1.5	1		0.00204	4.81	1/1/2013 0:00	3.43	0.94	0.99	0.01	9.068
HC-32	J-HC-39	J-HC-38	784.65	0.04	229.6	203.5	IRREGULAR	0	1	HC-33	0.03328	102.03	1/1/2013 8:09	4.42	0	0.17	0	386.931
STGM203	STMJ1213	STMJ1214	166.28	0.012	180.53	178.72	CIRCULAR	1	1		0.01089	2.5	1/1/2013 8:00	5.53	0.62	0.79	0.01	4.521
STGM3598	STMJ1013	STMJ1015	120.66	0.012	219.3	218.73	CIRCULAR	1.25	1		0.00472	3.8	1/1/2013 8:00	5.14	0.79	0.58	0	7.338
STGM3031	STMJ121	STMJ1212	309.61	0.012	179.24	176.56	CIRCULAR	1	1		0.00866	2.18	1/1/2013 8:00	5.1	0.61	0.53	0	3.955
STGM2811	STMJ1217	STMJ1215	189.45	0.012	173.99	172.85	CIRCULAR	1.25	1		0.00602	2.33	1/1/2013 8:00	4.56	0.43	0.43	0	4.163
STGM3192	STMI093	STMI092	113.07	0.024	223.04	220.75	CIRCULAR	2	1		0.02026	10.54	1/1/2013 7:56	5.52	0.6	0.59	0	26.412
STGM3285	J3522	STMJ104	164.18	0.013	212	211.5	CIRCULAR	2.25	1		0.00305	15.89	1/1/2013 8:00	5.44	0.93	0.69	0	55.581
STGM2707	STMI1165	STMI1225	158.65	0.012	183.22	182.19	CIRCULAR	1	1		0.00649	1.6	1/1/2013 8:00	3.97	0.51	0.51	0	2.887
STGM746	STII0985	STII0986	52.03	0.012	230.09	229.84	CIRCULAR	2	1		0.0048	25.52	1/1/2013 8:15	8.12	1.5	1	0.18	79.012
STGM3955	STMJ1214	STMJ123	209.62	0.012	178.72	176.8	CIRCULAR	1.25	1		0.00916	2.56	1/1/2013 8:04	2.67	0.38	1	0.01	4.521
STGM3595	STMI126	STMI127	23.77	0.013	175	174.3	CIRCULAR	1	1		0.02946	3.76	1/1/2013 8:00	5.65	0.61	0.79	0	17.552
STGM1949	STMI1017	J5216	86.43	0.013	206.55	206	CIRCULAR	2	1		0.00636	14.03	1/1/2013 8:00	5.22	0.78	0.8	0	38.141
STGM3344	STII135	STMI143	181.71	0.013	159.82	159.37	CIRCULAR	2	1		0.00248	20.32	1/1/2013 8:00	6.47	1.8	1	1.47	37.592
STGM646	STIJ1065	STIJ1066	368.72	0.012	207.91	198.26	CIRCULAR	1	1		0.02618	3.99	1/1/2013 8:00	8.43	0.64	0.58	0	6.613
STGM3282	STMK118	STMK119	73.01	0.012	169.71	168.4	CIRCULAR	1	1		0.01795	3.8	1/1/2013 8:00	5.62	0.73	0.8	0	9.33
STGM2885	STMJ117	STMJ116	53.36	0.012	199.99	198.86	CIRCULAR	1.25	1		0.02118	1.53	1/1/2013 8:00	5.25	0.15	0.29	0	2.647
STGM2593	STMK114	STMK113	51.05	0.013	165.22	164.46	CIRCULAR	1.5	1		0.01489	8.36	1/1/2013 8:00	6.34	0.65	0.7	0	24.347
STGM3176	STII0913	STII0928	170.12	0.013	235	233.7	CIRCULAR	1.75	1		0.00764	15.29	1/1/2013 8:14	6.86	1.1	0.88	0.01	71.722
STGM1130	STII10109	STII1030	118.5	0.013	223	220.8	CIRCULAR	2.5	1		0.01857	26.73	1/1/2013 8:16	11.17	0.48	0.49	0	82.303
STGM72	STII0965	STII0966	36.45	0.012	256.31	256.04	CIRCULAR	1	1		0.00741	1.28	1/1/2013 8:00	3.96	0.39	0.43	0	2.734
STGM1083	STII1033	STII1034	140.72	0.013	224.79	223.24	CIRCULAR	1.25	1		0.01102	6.58	1/1/2013 8:00	6.37	0.97	1	0.01	17.032
STGM1646	J3668	STII0913	55.01	0.013	235.5	235	CIRCULAR	1.75	1		0.00909	10.54	1/1/2013 8:14	5.02	0.7	0.83	0	29.354
STGM3550	STMJ1113	STMJ1114	289.75	0.012	207.14	196.97	CIRCULAR	1.25	1		0.03512	1.65	1/1/2013 8:00	2.28	0.13	0.58	0	2.972
STGM824	STII09126	STII09125	128.03	0.012	248.74	248.36	CIRCULAR	1.25	1		0.00297	5.42	1/1/2013 8:00	4.41	1.42	1	0.66	16.281
STGM1064	STMI095	STII104	248.72	0.013	232.85	233.15	CIRCULAR	1.25	1		-0.00121	4.78	1/1/2013 8:00	4.34	2.13	0.84	0.01	9.778
STGM3792	STMI102	STMI1012	49.89	0.013	213.03	212.2	CIRCULAR	1.25	1		0.01664	2.92	1/1/2013 7:42	5.53	0.35	1	0.01	5.701
STGM876	STIJ0911	STMJ092	399.79	0.013	232.75	222.67	CIRCULAR	1	1		0.02522	3.23	1/1/2013 8:00	4.98	0.57	0.77	0.01	18.223
STGM2171	STMJ104	STMJ107	331.65	0.013	211.5	210.21	CIRCULAR	3	1		0.00389	20.24	1/1/2013 8:00	4.59	0.49	0.6	0	64.063
STGM4396	STIJ0923	STIJ0924	106.36	0.012	224.31	221.3	CIRCULAR	1.25	1		0.02831	9.09	1/1/2013 8:00	9.84	0.77	1	0.01	32.163
STGM736	STMJ1225	STMJ1224	175.02	0.012	158.36	155.98	CIRCULAR	1.75	1		0.0136	8.87	1/1/2013 8:00	9.39	0.44	0.42	0	18.527
STGM4407	STIJ10111	STIJ10112	37.59	0.013	215.6	215.31	CIRCULAR	1.25	1		0.00772	9.11	1/1/2013 8:00	7.42	1.61	1	1.18	32.163
STGM1306	STMJ1127	STMJ1113	73.7	0.012	208.87	207.14	CIRCULAR	1.25	1		0.02348	1.65	1/1/2013 8:00	6.71	0.15	0.25	0	2.972
STGM1105	STMK117	STMK118	143.64	0.012	173.5	169.71	CIRCULAR	1	1		0.02639	3.8	1/1/2013 8:00	7.66	0.61	0.6	0	9.33
STGM1701	STMI094	STMI093	255.54	0.012	226.07	223.04	CIRCULAR	1.75	1		0.01186	10.55	1/1/2013 7:56	7.15	0.56	0.59	0	26.412
STGM3631	STMJ127	STMJ128	263.08	0.012	170.29	167.85	CIRCULAR	1.5	1		0.00928	5.76	1/1/2013 8:00	4.33	0.53	0.7	0	10.465
STGM3563	STMI1020	STMI106	114.64	0.013	223.16	222.18	CIRCULAR	1.5	1		0.00855	10.75	1/1/2013 7:58	8.42	1.11	0.68	0.01	20.721
STGM3689	STMI1310	STII135	191.12	0.013	160.3	159.85	CIRCULAR	2	1		0.00235	20.32	1/1/2013 8:00	6.47	1.85	1	1.54	37.592
STGM1824	STMJ105	J3522	28.17	0.013	212.09	212	CIRCULAR	2	1		0.00319	15.89	1/1/2013 8:00	5.7	1.24	0.83	0.01	55.581
STGM2050	STMK115	STMK114	111.34	0.012	173.64	165.22	CIRCULAR	1	1		0.07584	8.36	1/1/2013 8:00	12.32	0.79	0.81	0	24.347
STGM1144	STMK1120	STMK1119	90.65	0.012	172.58	167.33	CIRCULAR	1	1		0.05801	3.39	1/1/2013 8:00	8.02	0.36	0.53	0	7.296
STGM3926	STMI1019	STMI1114	350.81	0.013	199.5	194	CIRCULAR	3.5	1		0.01568	75.99	1/1/2013 8:46	9.64	0.6	1	0.01	194.926
STGM2255	STMK125	STMK124	243.75	0.012	169.53	164.12	CIRCULAR	1	1		0.0222	0.88	1/1/2013 8:00	1.92	0.15	0.57	0	1.695
STGM3352	STII1034	J3524	241.98	0.013	223.24	217.63	CIRCULAR	1.25	1		0.02319	9.15	1/1/2013 8:01	8.89	0.93	1	0.01	22.781
STGM608	STMJ1223	STMJ1222	95.32	0.012	139.5	133.4	CIRCULAR	1.5	1		0.06413	10.58	1/1/2013 8:00	15.16	0.37	0.42	0	21.925
STGM2072	STMI1160	STMI1144	101.41	0.012	187.86	187.23	CIRCULAR	1.25	1		0.00621	3.6	1/1/2013 8:00	5.49	0.65	0.53	0	6.681
STGM2715	STII09124	STII09111	110.47	0.012	247.94	247.61	CIRCULAR	1.5	1		0.00299	5.41	1/1/2013 8:00	4.56	0.87	0.64	0	16.281
STGM3728	STMK1226	STMK1227	91.97	0.012	208.13	193.74	CIRCULAR	1	1		0.15842	2.73	1/1/2013 8:00	11.99	0.18	0.33	0	6.598
STGM352	STII1245	STMI1226	77.05	0.012	160	159	CIRCULAR	2	1		0.01298	22.29	1/1/2013 8:00	14.46	0.8	0.49	0	42.285
STGM2834	STMI1144	STMI1220	426.96	0.012	187.23	181.41	CIRCULAR	1.25	1		0.01363	3.6	1/1/2013 8:00	6.49	0.44	0.46	0	6.681

Conduits CIP Model

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
STGM434	STMK127	STMJ1226	167.85	0.012	160.59	159.59	CIRCULAR	1	1		0.00596	4.05	1/1/2013 8:00	5.33	1.36	0.93	0.01	8.208
STGM4376	STIJ0917	STIJ0919	192.83	0.012	226.69	225.32	CIRCULAR	1.25	1		0.0071	9.08	1/1/2013 8:00	7.4	1.54	1	0.11	32.163
STGM4360	STMJ1236	STMJ1237	122.26	0.013	165.95	163.11	CIRCULAR	2	1		0.02324	9.24	1/1/2013 8:01	9.98	0.27	0.34	0	20.137
STGM3638	STMK122	STMK121	208.17	0.012	163.17	160.93	CIRCULAR	1.75	1		0.01076	8.88	1/1/2013 8:00	7.63	0.5	0.49	0	18.527
STGM2863	STMJ1226	STMJ1227	267.81	0.012	159.59	146.32	CIRCULAR	1.25	1		0.04961	12.7	1/1/2013 8:00	14.08	0.81	0.69	0	26.994
STGM4181	STMJ1111	STMI1173	211.74	0.012	203.2	199.33	CIRCULAR	1	1		0.01828	2.47	1/1/2013 8:00	5.76	0.47	0.54	0	4.563
STGM1422	STMK1119	STMK1118	112.82	0.013	167.33	165.41	CIRCULAR	1	1		0.01702	3.38	1/1/2013 8:00	6.88	0.73	0.6	0	7.296
STGM1444	STMJ1229	STMJ1242	38.73	0.012	138.19	136.14	CIRCULAR	1.25	1		0.053	12.7	1/1/2013 8:00	21	0.79	0.49	0	26.994
STGM1405	STMK1223	STMK1224	353.27	0.012	263.91	244.69	CIRCULAR	1	1		0.05449	2.73	1/1/2013 8:00	10.42	0.3	0.37	0	6.598
STGM4239	STMJ1142	STMJ1143	263.73	0.013	181.8	176	CIRCULAR	2	1		0.022	3.42	1/1/2013 8:00	6.34	0.1	0.23	0	7.795
STGM3371	STMK1210	STMK129	108.45	0.012	169.93	163.14	CIRCULAR	1	1		0.06273	4.05	1/1/2013 8:00	6.64	0.42	0.73	0.01	8.208
STGM201	STMI1113	STMI1123	445.13	0.013	193.31	189.65	CIRCULAR	3	1		0.00822	92.16	1/1/2013 8:18	13.04	1.52	1	1.49	241.442
STGM91	STMI1217	STMI1216	430.83	0.012	178.84	175.24	CIRCULAR	1.25	1		0.00836	3.91	1/1/2013 8:00	6.02	0.61	0.52	0	7.16
STGM2225	STMJ125	STMJ126	495.9	0.012	181.17	173.71	CIRCULAR	1	1		0.01505	0.86	1/1/2013 8:00	2.11	0.18	0.52	0	1.656
STGM1305	STMJ1121	STMJ1120	211.46	0.012	186.07	184.6	CIRCULAR	1	1		0.00695	3.81	1/1/2013 8:00	5.25	1.18	0.87	0.01	11.185
STGM3189	STMK1235	STMK1115	180.84	0.012	156.63	155.74	CIRCULAR	1.25	1		0.00492	3.58	1/1/2013 8:00	4.81	0.73	0.58	0	8.662
STGM1978	STII09111	STII09112	77.13	0.012	247.51	247.12	CIRCULAR	1.5	1		0.00506	5.41	1/1/2013 8:00	6.46	0.67	0.48	0	16.281
STGM1917	STII09125	STII09124	139.85	0.012	248.36	247.94	CIRCULAR	1.25	1		0.003	5.42	1/1/2013 8:00	4.64	1.41	0.91	0.01	16.281
STGM2889	STMI1164	STMI1163	48.7	0.012	190.45	189.92	CIRCULAR	1	1		0.01088	0.57	1/1/2013 8:00	3.41	0.14	0.27	0	1.066
STGM693	STMJ115	STMI1162	339.05	0.012	190.96	189.01	CIRCULAR	1	1		0.00575	1.47	1/1/2013 8:00	4.4	0.5	0.44	0	2.784
STGM2755	STMI1172	STMI1171	54.37	0.012	198.19	197.53	CIRCULAR	1	1		0.01214	2.47	1/1/2013 8:00	5.52	0.58	0.55	0	4.563
STGM281	STIJ1066	STIJ1069	174.93	0.012	198.06	194.56	CIRCULAR	1	1		0.02001	3.99	1/1/2013 8:01	7.81	0.73	0.62	0	6.613
STGM3951	STII0926	STII0915	98.22	0.013	230.4	229.7	CIRCULAR	1.75	1		0.00713	1.57	1/1/2013 8:00	3.81	0.12	0.23	0	2.929
STGM1026	STMI1218	STMI1217	123.78	0.012	180.87	178.84	CIRCULAR	1	1		0.0164	1.6	1/1/2013 8:00	3.54	0.32	0.56	0	2.887
STGM984	STII0916	STII0926	51.08	0.013	230.8	230.4	CIRCULAR	1.75	1		0.00783	1.57	1/1/2013 8:00	3.78	0.11	0.23	0	2.929
STGM4123	STMI092	STMI091	68.87	0.024	220.75	220.03	CIRCULAR	2.25	1		0.01046	10.54	1/1/2013 7:56	5.36	0.61	0.5	0	26.412
STGM4122	J4092	J4094	929.08	0.04	202	189.43	IRREGULAR	0	1	STGM4122	0.01353	6.15	1/1/2013 8:08	1.72	0.08	0.47	0	21.507
STGM4090	J4118	J4114	433.3	0.04	241.5	234	IRREGULAR	0	1	STGM4090	0.01731	4.31	1/1/2013 8:01	1.51	0.03	0.43	0	12.731
STGM3882	STMI1022	STMI1012	270.81	0.013	214	212.2	CIRCULAR	2.25	1		0.00665	17.43	1/1/2013 8:01	6.71	0.69	0.95	0.01	39.726
STGM4001	J4116	J4118	54.14	0.013	242	241.5	CIRCULAR	2	1		0.00924	2.03	1/1/2013 8:00	3.27	0.09	0.25	0	6.848
STGM323	STMI1170	STMI1169	58.54	0.012	196.84	196.34	CIRCULAR	1.25	1		0.00854	2.47	1/1/2013 8:00	4.33	0.38	0.47	0	4.563
STGM3159	STII1027	J4122	239.23	0.013	211	209.5	CIRCULAR	2.5	1		0.00627	29.86	1/1/2013 8:08	6.64	0.92	1	0.01	112.363
STGM4067	STMI1115	STMI1177	89.15	0.013	186.78	185.02	CIRCULAR	3	1		0.01975	92.86	1/1/2013 8:09	16.03	0.99	0.76	0	243.56
STGM3546	STIJ081	STII081	219.62	0.012	253.03	250.14	CIRCULAR	1	1		0.01316	5.41	1/1/2013 8:00	6.89	1.22	1	1.03	16.281
STGM2729	STII1029	STII1050	118.53	0.013	217.94	215.72	CIRCULAR	2.5	1		0.01873	27.63	1/1/2013 8:16	11.31	0.49	0.56	0	84.471
STGM1360	STMJ1010	STMJ1012	157.23	0.012	185.18	181.23	CIRCULAR	1	1		0.02513	0.83	1/1/2013 8:00	3.81	0.14	0.35	0	1.523
STGM3521	J4292	J4150	661.17	0.013	179.9	175	CIRCULAR	1.5	1		0.00741	4.43	1/1/2013 8:00	5.63	0.49	0.46	0	9.601
STGM835	STMJ1218	STMJ1219	252.65	0.012	135.56	127.73	CIRCULAR	1	1		0.03101	3	1/1/2013 8:00	8.34	0.44	0.47	0	6.612
STGM1994	STII104	STMI1010	59.22	0.013	233.15	232.65	CIRCULAR	1.25	1		0.00844	4.77	1/1/2013 8:00	5.38	0.8	0.68	0	9.778
STGM504	STMK1122	STMK1121	203.6	0.012	196.81	190.2	CIRCULAR	1	1		0.03248	8.37	1/1/2013 8:00	11.27	1.2	0.9	0.01	24.347
STGM885	STMJ1141	STMJ1142	95.19	0.013	184	181.8	CIRCULAR	2	1		0.02312	3.43	1/1/2013 8:00	6.94	0.1	0.21	0	7.795
STGM4081	STII0928	STII0985	185.77	0.012	233.7	232.3	CIRCULAR	1.75	1		0.00754	15.29	1/1/2013 8:15	7.14	1.03	0.83	0.01	71.722
STGM921	STMJ126	STMJ127	220.45	0.012	173.71	170.29	CIRCULAR	1.25	1		0.01552	5.76	1/1/2013 8:00	7.41	0.66	0.61	0	10.465
STGM1194	STMJ1219	STMJ1220	59.39	0.012	127.73	125.95	CIRCULAR	1	1		0.02998	3	1/1/2013 8:00	6.41	0.45	0.58	0	6.612
STGM391	STMI1114	STMI1113	83.65	0.013	194	193.32	CIRCULAR	3.5	1		0.00813	78.62	1/1/2013 8:46	8.17	0.87	1	0.01	203.069
STGM3989	STMK1218	STMK1217	177.25	0.012	247.63	221.37	CIRCULAR	1	1		0.14981	0.96	1/1/2013 8:00	10.29	0.06	0.18	0	3.185
STGM3560	J4268	J4270	218.63	0.04	245	243	IRREGULAR	0	1	STGM3560	0.00915	9.68	1/1/2013 8:01	0.75	0.03	0.28	0	29.354
STGM623	STMI1223	STMI1218	26.98	0.012	181.2	180.87	CIRCULAR	1	1		0.01223	1.6	1/1/2013 8:00	5.31	0.37	0.41	0	2.887
STGM2304-A	STMJ129	STMJ1244	147.16	0.012	171.98	170	CIRCULAR	1.5	1		0.01346	10.29	1/1/2013 8:00	7.6	0.78	0.72	0	18.796
STGM1581	STMK119	STIK117	140.69	0.012	168.4	167.96	CIRCULAR	1.25	1		0.00313	3.81	1/1/2013 8:00	4.02	0.97	0.72	0	9.33
STGM627	J4284	J-SBT7-02	142.83	0.013	174.8	174.2	CIRCULAR	2	1		0.0042	41.47	1/1/2013 8:43	13.2	2.83	1	2.09	129.247
STGM757	J4150	STMI128	60.18	0.013	175	173	CIRCULAR	1	1		0.03325	4.42	1/1/2013 8:00	6.54	0.68	0.8	0.01	9.601
STGM356	STMI124	J4292	103.8	0.013	180.75	179.9	CIRCULAR	1	1		0.00819	4.45	1/1/2013 8:00	6.07	1.38	0.88	0.01	9.601
STGM4405	STIJ0927	STIJ0915	120.44	0.012	219.25	216.42	CIRCULAR	1.25	1		0.0235	9.1	1/1/2013 8:00	7.42	0.85	1	0.01	32.163
STGM3039	STMJ124	STMJ129	259.82	0.012	174.83	171.98	CIRCULAR	1.5	1		0.01097	10.29	1/1/2013 8:00	7.88	0.86	0.69	0	18.796
STGM334	STII1080	STII1078	162.62	0.013	207.16	204.07	CIRCULAR	2.5	1		0.019	55.11	1/1/2013 8:00	14.67	0.97	0.72	0	167.806
STGM1040	STII0983	STII0916	197.63	0.013	232.3	230.8	CIRCULAR	1.75	1		0.00759	0	1/1/2013 0:00	0	0	0.11	0	0
STGM1893	STMK1224	STMK1225	63.74	0.012	244.69	239.49	CIRCULAR	1	1		0.08185	2.73	1/1/2013 8:00	12.96	0.25	0.31	0	6.598
STGM2380	STMI1161	STMI1160	48.22	0.012	188.4	187.86	CIRCULAR	1	1		0.0112	0.57	1/1/2013 8:00	1.47	0.14	0.49	0	1.066
STGM1611	STMI1177	J-SBT1-08	153.25	0.013	185.02	182	CIRCULAR	3.5	1		0.01971	93.1	1/1/2013 8:18	24.31	0.66	0.42	0	243.56
STGM773	STII0968	STII0970	113.46	0.012	254.2	249.75	CIRCULAR	1	1		0.03925	1.28	1/1/2013 8:00	7.22	0.17	0.28	0	2.734
STGM3464	STII081	STII09126	157.19	0.012	249.94	248.74	CIRCULAR	1	1		0.00763	5.41	1/1/2013 8:00	6.89	1.61	1	1.59	16.281
STGM3674	J4424	J4426	131.89	0.013	202	200.5	CIRCULAR	3.5	1		0.01137	43.76	1/1/2013 8:37	7.72	0.41	0.75	0.01	47.508
STGM760	STMI143	STMI149	83.39	0.013	159.08	158.85	CIRCULAR	2.25	1		0.00276	25.62	1/1/2013 8:00	6.44	1.58	1	1.48	48.833
STGM1213	STII1056	STMI108	205.69	0.013	213	209.79	CIRCULAR	1	1		0.01561	1.81	1/1/2013 8:00	2.98	0.41	0.72	0.01	3.52
STGM2230	STMI1167	STMI1174	51.22	0.012	193.54	192.91	CIRCULAR	1.5	1		0.0123	4.74	1/1/2013 7:57	3.34	0.38	0.81	0.01	7.21
STGM3873	STMK111	J-SBT4-04	7.2	0.012	164.77	163.59	CIRCULAR	1.25	1		0.16614	3.88	1/1/2013 8:00	7.83	0.14	0.44	0	9.567
STGM794	STMJ1132	STMJ1133	149.18	0.012	175.66	174.87	CIRCULAR	2	1		0.0053	5.08	1/1/2013 8:00	5.67	0.28	0.33	0	10.466
STGM3452	STMK1217	STMK1216	140.96	0.012	221.37	204.42	CIRCULAR	1	1		0.12113	0.96	1/1/2013 8:00	6.49	0.07	0.24	0	3.185
STGM2823	STMK1222	STMK1221	168.6	0.012	259.18	244.72	CIRCULAR	1	1		0.08608	1.08	1/1/2013 8:00	7.4	0.1	0.24	0	2.632
STGM2871	STMK1214	STMK111	168.79	0.012	170.13	164.77	CIRCULAR	1.25	1		0.03177	3.88	1/1/2013 8:00	10.98	0.31	0.33	0	9.567
STGM3145	STMJ107	STMJ108	191.99	0.013	210.16	209.61	CIRCULAR	3	1		0.00286	30.33	1/1/2013 8:00	5.5	0.85	0.73	0	69.997
STGM2113	STIK116	J-SBT4-04	28.53	0.013	164.54	163.59	CIRCULAR	2.75	1		0.03332	4.4	1/1/2013 8:00	4.9	0.05	0.22	0	17.896
STGM2666	STMK1118	STMK1117	83.16	0.012	165.41	164.26	CIRCULAR	1.25	1		0.01383	3.38	1/1/2013 8:00	6.19	0.41	0.46	0	7.296
STGM1650	STMK124	STMK122	178.58	0.012	164.12	163.17	CIRCULAR	1.5	1		0.00532	5.29	1/1/2013 8:00	4.96	0.64	0.58	0	11.305
STGM4020	STMJ1119	STMJ1012	268.34	0.012	183.51	181.23	CIRCULAR	1.25	1		0.0085	3.8	1/1/2013 8:00	6.69	0.59	0.47	0	11.185
STGM2832	STMI148	STMI144	427.19	0.013	157.99	156.95	CIRCULAR	2.25	1		0.00243	25.62	1/1/2013 8:00	6.44	1.68	1	0.74	48.833
STGM4517	J4	STML1232	170.66	0.012	179.71	179.2	CIRCULAR	1	1		0.00299	2.8	1/1/2013 7:20	3.56	1.33	1	0.94	10.141
STGM1211	STMI106	STMI1021	401.16	0.013	222.18	211.58	CIRCULAR	1.75	1		0.02643	10.54	1/1/2013 7:59	8.71	0.41	0.51	0	20.721
STGM2906	STII1030	STII1029	150.14	0.013	220.8	217.94	CIRCULAR	2.5	1		0.01905	27.63	1/1/2013 8:16	11.43	0.49	0.49	0	84.471
STGM3914	STMJ1011	STMJ1013	220.26	0.012	220.37	219.3	CIRCULAR	1	1		0.00486	3.81	1/1/2013 8:00	5.1	1.41	0.9	0.01	7.338
STGM554	STII0991	STII0992	98.28	0.012	226.87	226.38	CIRCULAR	2.5	1		0.00499	26.73	1/1/2013 8:15	7.22	0.85	0.71	0	82.303
STGM4465	J4122	STMI104	37.02	0.013	209.5	209.3	CIRCULAR	2.5	1		0.0054	29.87	1/1/2013 8:08	6.5	0.99	1	0.18	112.363
STGM3690	STML1146	STML1131	109.06	0.013	197.83	194.81	CIRCULAR	1	1		0.0277	2.36	1/1/2013 8:00	4.7	0.4	0.61	0	19.153
STGM3296	STMJ091	STMJ1022	261.03	0.013	222.46	219.49	CIRCULAR	1.25	1		0.01138	6.91	1/1/2013 8:00	7.12	1	0.74	0.01	25.447
STGM3068	STMK129	STMK128	184.01	0.012	163.14	162.01	CIRCULAR	1	1		0.00614	4.05	1/1/2013 8:00	5.16	1.34	1	0.92	8.208
STGM1627	STMI1168	STMI1167	97.81	0.012	194.76	193.54	CIRCULAR	1.25	1		0.01247	4.01	1/1/2013 8:00	6.48	0.51	0.62	0	7.21
STGM2864	STMJ119	STMJ118	214	0.012	207.67	203.56	CIRCULAR	1.25	1		0.01921	1.53	1/1/2013 8:00	5.8	0.16	0.27	0	2.647
STGM4327	STMJ1133	STMJ1135	216.05	0.012	174.87	172.13	CIRCULAR	2	1		0.01268	5.08	1/1/2013 8:00	3.54	0.18	0.47	0	10.466
STGM3243	STMI1173	STMI1172	117.26	0.012	199.33	198.19	CIRCULAR	1	1		0.00972	2.47	1/1/2013 8:00	5.36	0.65	0.57	0	4.563
STGM4253	STII0972	STII0975	63.18	0.013	243.16	242.36	CIRCULAR	1.25	1		0.01266	8.58	1/1/2013 8:31	7.1	1.18	0.96	0.01	45.102
STGM440	STMK1219	STMK1216	125.52	0.012	210.12	204.42	CIRCULAR	1	1		0.04546	1.08	1/1/2013 8:00	6.15	0.13	0.28	0	2.632
STGM528	STII0980	STII0982	187.51	0.012	236.84	232.69	CIRCULAR	2	1		0.02214	10.39	1/1/2013 8:04	10	0.29	0.37	0	49.659
STGM3624	STII0966	STII0967	54.19	0.012	255.84	255.56	CIRCULAR	1	1		0.00517	1.28	1/1/2013 8:00	3.46	0.46	0.48	0	2.734
STGM3442	STMJ1231	STMJ1232	65.16	0.013	165.26	164.8	CIRCULAR	2.75	1		0.00706	12.38	1/1/2013 8:00	8.63	0.28	0.29	0	26.021
STGM737	STMJ1233	J-SBT3-01	355.47	0.024	159.41	147.7	CIRCULAR	3	1		0.03296	21.61	1/1/2013 8:01	9.7	0.33	0.35	0	46.158
STGM2412	STMI1175	STMI1176	161.77	0.012	188.72	178.28	CIRCULAR	1.75	1		0.06467	18.53	1/1/2013 8:00	15.33	0.42	0.5	0	35.919
STGM2099	J5236	J4848	330.61	0.013	252	245	CIRCULAR	1	1		0.02118	2.37	1/1/2013 8:00	6.45	0.46	0.54	0	6.264
STGM2002	STMI1215	STMI1210	122.95	0.012	170.24	168.81	CIRCULAR	1.5	1		0.01163	3.91	1/1/2013 8:00	7.34	0.32	0.34	0	7.16
STGM3829	STMK1212	STMK126	155.71	0.012	183.98	176.34	CIRCULAR	1	1		0.04912	4.73	1/1/2013 8:00	11.08	0.55	0.53	0	10.586
STGM3637	STMJ1224	STMJ1223	237.24	0.012	155.98	139.5	CIRCULAR	1.5	1		0.06963	10.58	1/1/2013 8:00	15.24	0.35	0.42	0	21.925
STGM692	STMI1010	STMI101	282.8	0.013	232.655	230.23	CIRCULAR	1.25	1		0.00858	4.77	1/1/2013 8:00	5.41	0.8	0.68	0	9.778
STGM3131	STIJ102	STMJ108	32.25	0.013	216.03	209.51	CIRCULAR	1.5	1		0.20643	3.8	1/1/2013 8:00	3.47	0.08	0.6	0.01	7.338
STGM1013	STMJ1136	STMJ1132	488.25	0.012	178.62	175.66	CIRCULAR	1.5	1		0.00606	5.08	1/1/2013 8:00	5.49	0.57	0.52	0	10.466
STGM297	STII0977	STII0980	98.58	0.012	240.65	237.34	CIRCULAR	1.5	1		0.0336	10.39	1/1/2013 8:04	11.79	0.5	0.5	0	49.659
STGM2866	STMI1123	STMI1124	92.16	0.013	189.65	188.46	CIRCULAR	3	1		0.01291	92.99	1/1/2013 8:13	13.15	1.23	1	1.26	243.56
STGM2295	STMI1225	STMI1224	82.17	0.012	182.19	181.67	CIRCULAR	1	1		0.00633	1.6	1/1/2013 8:00	4.06	0.52	0.5	0	2.887
STGM4335	J4426	STMI1019	97.01	0.013	200.5	199.5	CIRCULAR	3.5	1		0.01031	41.51	1/1/2013 8:39	4.74	0.41	1	0.01	47.508
STGM3715	STMK126	STMJ1226	356.03	0.012	176.34	159.59	CIRCULAR	1	1		0.0471	4.73	1/1/2013 8:00	8.1	0.57	0.7	0	10.586
STGM4022	STMJ1114	STMI1174	548.25	0.012	196.97	192.91	CIRCULAR	1.75	1		0.00741	11.51	1/1/2013 8:00	5.9	0.78	0.77	0	21.167
STGM580	STMJ1238	STMJ1236	55.4	0.013	168.99	165.95	CIRCULAR	2	1		0.05496	6.93	1/1/2013 8:00	8.68	0.13	0.3	0	15.973
STGM943	STII0970	STII0972	209.97	0.012	249.55	244.59	CIRCULAR	1	1		0.02363	1.28	1/1/2013 8:00	6.02	0.22	0.32	0	2.734
STGM547	STII09101	STII09104	106.46	0.012	253.18	252.66	CIRCULAR	1.5	1		0.00488	11.91	1/1/2013 8:00	6.92	1.5	0.94	0.01	36.104
STGM2106	STMK1228	STMK124	53.83	0.012	166.09	164.12	CIRCULAR	1.5	1		0.03662	4.41	1/1/2013 8:00	5.84	0.2	0.44	0	9.61
STGM2621	STMJ1211	STMJ1210	111.61	0.012	169.3	168.84	CIRCULAR	1.25	1		0.00412	2.73	1/1/2013 8:00	2.44	0.61	0.91	0.01	6.265

Conduits CIP Model

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
STGM493	STIJ1061	STIJ1062	179.58	0.012	222.82	220.2	CIRCULAR	1	1		0.01459	3.99	1/1/2013 8:00	6.67	0.86	0.71	0	6.613
STGM3457	STMI1121	J4834	344.86	0.013	203.84	197	CIRCULAR	2	1		0.01984	18.11	1/1/2013 7:59	8.08	0.57	1	0.01	34.284
STGM2235	STMI1023	STMI1014	127.01	0.013	219.69	217.26	CIRCULAR	1	1		0.01914	1.12	1/1/2013 8:00	2.03	0.23	0.66	0.01	2.283
STGM621	STMK1229	STMK1228	210.43	0.012	188.72	166.09	CIRCULAR	1.25	1		0.10817	4.41	1/1/2013 8:00	12.41	0.19	0.33	0	9.61
STGM2429	STMJ1215	STMJ1216	72.51	0.012	172.85	172.18	CIRCULAR	1.25	1		0.00924	2.33	1/1/2013 8:00	6.38	0.35	0.34	0	4.163
STGM3147	STMJ1012	J-SBT5-01	292.92	0.012	181.23	169.2	CIRCULAR	1.5	1		0.0411	4.62	1/1/2013 8:00	7.84	0.2	0.37	0	12.708
STGM3915	STMK1231	STMK1230	123.83	0.012	219.71	209.01	CIRCULAR	1	1		0.08673	3.06	1/1/2013 8:00	12.51	0.27	0.35	0	6.827
STGM1043	STMJ1228	STMJ1229	79.65	0.012	142.4	138.19	CIRCULAR	1.25	1		0.05293	12.7	1/1/2013 8:00	13.9	0.79	0.7	0	26.994
STGM1667	STMI1171	STMI1170	61.87	0.012	197.53	196.84	CIRCULAR	1	1		0.01115	2.47	1/1/2013 8:00	5.51	0.6	0.55	0	4.563
STGM408	STMI0910	STMI094	42.9	0.013	229	226.07	CIRCULAR	1.75	1		0.06846	10.55	1/1/2013 7:56	10.33	0.25	0.44	0	26.412
STGM448	STMK1227	STMK1212	180.4	0.012	193.74	183.98	CIRCULAR	1	1		0.05418	2.73	1/1/2013 8:00	7.87	0.3	0.45	0	6.598
STGM346	STMI1110	STMI1121	250.05	0.013	206.93	203.84	CIRCULAR	1.25	1		0.01236	3.28	1/1/2013 7:58	3.94	0.46	0.74	0.01	6.025
STGM585	STMK1115	STMK1113	215.05	0.012	155.74	154	CIRCULAR	1.25	1		0.00809	3.57	1/1/2013 8:00	4.38	0.57	0.77	0.01	8.662
STGM2043	STMJ1143	STMJ1238	498.83	0.013	176	168.99	CIRCULAR	2	1		0.01405	3.42	1/1/2013 8:00	5.81	0.13	0.24	0	7.795
STGM223	STMI107	STMI1020	361.44	0.013	226.24	223.16	CIRCULAR	1.5	1		0.00852	10.48	1/1/2013 7:58	6.36	1.08	0.92	0.01	20.721
STGM1637	STMJ1216	J4990	84.36	0.012	172.18	167.85	CIRCULAR	1.5	1		0.0514	2.33	1/1/2013 8:00	12.04	0.09	0.17	0	4.163
STGM3260	STII09104	STII09103	36.04	0.012	252.46	251.59	CIRCULAR	1.5	1		0.02415	11.9	1/1/2013 8:00	10.73	0.67	0.6	0	36.104
STGM1757	STII0915	STMI0910	86.79	0.013	229.7	229	CIRCULAR	1.75	1		0.00807	1.57	1/1/2013 8:00	2.87	0.11	0.28	0	2.929
STGM2977	STIJ1234	STMJ1224	27.85	0.012	160.31	155.98	CIRCULAR	0.833	1		0.15739	1.71	1/1/2013 8:00	6.08	0.18	0.51	0	3.398
STGM3212	STMJ118	STMJ117	176.04	0.012	203.56	199.99	CIRCULAR	1.25	1		0.02028	1.53	1/1/2013 8:00	5.91	0.15	0.26	0	2.647
STGM3850	STMI1174	STMI1175	350.14	0.012	192.91	188.72	CIRCULAR	1.75	1		0.01197	18.56	1/1/2013 8:00	11.07	0.99	0.66	0	35.919
STGM901	J-SBT7-02	J-SBT7-01	590	0.04	173	168	IRREGULAR	0	1	STGM901	0.00847	46.97	1/1/2013 8:31	4.28	0.01	0.11	0	143.242
STGM1784	STMI099	STII0990	89.94	0.012	228.23	227.79	CIRCULAR	2.5	1		0.00489	25.52	1/1/2013 8:15	7.08	0.82	0.69	0	79.012
STGM4406	STIJ0915	STIJ10111	123.65	0.012	216.42	215.6	CIRCULAR	1.25	1		0.00663	9.1	1/1/2013 8:00	7.42	1.6	1	1.25	32.163
STGM2036	STMK1121	STMK116	208.22	0.012	190.2	179.68	CIRCULAR	1	1		0.05059	8.36	1/1/2013 8:00	12.67	0.96	0.78	0	24.347
STGM2709	STMI149	STMI142	287.43	0.013	158.85	158.2	CIRCULAR	2.25	1		0.00226	25.62	1/1/2013 8:00	6.44	1.74	1	1.33	48.833
STGM4076	STMI1210	STMI1211	97.27	0.012	168.81	165.11	CIRCULAR	1.5	1		0.03807	3.91	1/1/2013 8:00	4.45	0.18	0.5	0	7.16
STGM2622	STII1028	STII1027	118.31	0.013	213.2	211	CIRCULAR	2.5	1		0.0186	29.86	1/1/2013 8:08	8.6	0.53	1	0.01	112.363
STGM3283	STMI1220	STMI1219	378.83	0.012	181.41	176.01	CIRCULAR	1.25	1		0.01426	3.6	1/1/2013 8:00	5.32	0.43	0.54	0	6.681
STGM4395	STIJ0919	STIJ0923	80.11	0.012	225.32	224.31	CIRCULAR	1.25	1		0.01261	9.08	1/1/2013 8:00	8.45	1.16	1	0.03	32.163
STGM1943	STMJ1210	STMJ128	155.82	0.012	168.84	167.85	CIRCULAR	1.75	1		0.00635	13.02	1/1/2013 8:00	6.54	0.95	0.77	0	25.061
STGM1742	STMK123	STMK122	247.8	0.012	178.61	163.17	CIRCULAR	1	1		0.06243	1.24	1/1/2013 8:00	2.75	0.13	0.56	0	2.745
STGM1965	STMI1012	STMI103	92.52	0.013	211.4	211	CIRCULAR	2.25	1		0.00432	20.28	1/1/2013 8:00	6.27	1	1	0.08	45.427
STGM3789	STMK128	STMK127	201.91	0.012	162.01	160.59	CIRCULAR	1	1		0.00703	4.05	1/1/2013 8:00	5.16	1.25	1	0.91	8.208
STGM973	J4114	J5124	121.72	0.013	234	233	CIRCULAR	1	1		0.00822	3.82	1/1/2013 8:35	5.89	1.18	0.8	0.01	12.731
STGM2899	STMK121	STMJ1225	198.51	0.012	160.93	158.36	CIRCULAR	1.75	1		0.01295	8.87	1/1/2013 8:00	7.85	0.45	0.48	0	18.527
STGM4314	STMJ1015	STIJ102	135.22	0.013	218.73	216.03	CIRCULAR	1	1		0.01997	3.8	1/1/2013 8:00	7.04	0.76	0.65	0	7.338
STGM392	STII1078	STMI1019	20.23	0.013	204.07	203.28	CIRCULAR	2.5	1		0.03908	59.18	1/1/2013 8:00	18.02	0.73	0.63	0	175.31
STGM3022	J5176	J5178	185.64	0.04	209.16	205	IRREGULAR	0	1	STGM3022	0.02241	34.12	1/1/2013 8:01	6.28	0.02	0.18	0	77.335
STGM1074	STMJ1134	STMJ1135	246.83	0.012	184.75	172.13	CIRCULAR	1.25	1		0.0512	3.63	1/1/2013 8:00	4.21	0.23	0.66	0.01	7.437
STGM1287	STII09103	STII09106	122.73	0.012	250.92	249.59	CIRCULAR	1.5	1		0.01084	11.85	1/1/2013 8:00	7.65	1	0.85	0.01	36.104
STGM2654	STMJ1237	STMJ1239	64.28	0.013	163.11	160.72	CIRCULAR	2	1		0.03721	9.24	1/1/2013 8:01	7.19	0.21	0.43	0	20.137
STGM3172	STII1194	STMI1113	66.47	0.013	193.95	193.31	CIRCULAR	3	1		0.00963	20.63	1/1/2013 7:59	3.36	0.32	1	0.01	38.373
STGM3216	STMK1213	STMK1214	134.5	0.012	180.96	170.13	CIRCULAR	1	1		0.08078	1.08	1/1/2013 8:00	4.29	0.1	0.36	0	2.302
STGM3551	STMK1221	STMK1220	65.63	0.012	244.72	242.37	CIRCULAR	1	1		0.03583	1.08	1/1/2013 8:00	7.91	0.15	0.23	0	2.632
STGM3668	STMK1225	STMK1226	173.81	0.012	239.49	208.13	CIRCULAR	1	1		0.18344	2.73	1/1/2013 8:00	15.16	0.17	0.28	0	6.598
STGM1739	J-SBT4-04	J-SBT4-03	68.43	0.013	163.59	161.31	CIRCULAR	2.75	1		0.03334	16.62	1/1/2013 8:00	13.81	0.17	0.26	0	51.81
STGM274	STMJ1230	STIJ1234	40.15	0.012	160.57	160.31	CIRCULAR	1	1		0.00648	1.71	1/1/2013 8:00	6.13	0.55	0.39	0	3.398
STGM735	STMJ1232	STMJ1233	111.44	0.013	164.8	159.41	CIRCULAR	2.75	1		0.04842	12.38	1/1/2013 8:00	7.03	0.11	0.34	0	26.021
STGM1265	J5216	J4424	585.21	0.04	206	202	IRREGULAR	0	1	STGM1265	0.00684	21.43	1/1/2013 8:02	2.85	1.04	1	0.14	47.508
STGM3370	STMI1211	STMI1214	138.11	0.012	165.11	157.09	CIRCULAR	2	1		0.05817	31.19	1/1/2013 8:00	21.65	0.53	0.47	0	58.437
STGM1289	J4834	STII1194	311.55	0.013	197	193.95	CIRCULAR	2	1		0.00979	20.63	1/1/2013 7:59	6.7	0.92	1	0.01	38.373
STGM1946	STMK1232	STMK1231	271.03	0.012	248.53	219.71	CIRCULAR	1	1		0.10694	3.06	1/1/2013 8:00	12.67	0.24	0.35	0	6.827
STGM3819	STMK1230	STMK1229	204.5	0.012	209.01	188.72	CIRCULAR	1	1		0.09971	3.06	1/1/2013 8:00	12.2	0.25	0.36	0	6.827
STGM767	STMI127	STMI128	64.17	0.013	174.3	173	CIRCULAR	2	1		0.02026	14.55	1/1/2013 8:00	9.21	0.45	0.51	0	25.062
STGM3827	STMK1116	STMK1113	320.28	0.012	162.55	154	CIRCULAR	1.25	1		0.0267	3.38	1/1/2013 8:00	5.5	0.3	0.69	0.01	7.296
STGM2662	STII092	STMI095	217.42	0.013	233.85	232.95	CIRCULAR	1.25	1		0.00414	4.78	1/1/2013 8:00	3.89	1.15	1	0.78	9.778
STGM866	STMI1015	STMI108	340.41	0.013	213.55	210	CIRCULAR	1.25	1		0.01043	8.73	1/1/2013 8:01	7.22	1.32	0.96	0.01	27.892
STGM3469	STMI142	STMI148	85.97	0.013	158.2	157.99	CIRCULAR	2.25	1		0.00244	25.62	1/1/2013 8:00	6.44	1.67	1	1.24	48.833
STGM3656	STMJ1128	STMJ1127	253.64	0.012	214.51	208.87	CIRCULAR	1	1		0.02224	1.65	1/1/2013 8:00	6.62	0.29	0.35	0	2.972
STGM4372	STIJ0916	STIJ0917	44.34	0.012	226.92	226.69	CIRCULAR	1.25	1		0.00519	9.08	1/1/2013 8:00	7.4	1.8	1	1.33	32.163
STGM2844	STIK117	J-SBT4-05	62.36	0.012	167.96	167.77	CIRCULAR	1.25	1		0.00305	4.3	1/1/2013 8:00	8.59	1.11	0.43	0.01	9.33
STGM2543	STMK1215	STMK1214	81.52	0.012	174.52	170.13	CIRCULAR	1	1		0.05393	2.8	1/1/2013 8:00	8.2	0.31	0.45	0	7.265
STGM56	STMJ1120	STMJ1119	161.53	0.012	184.6	183.51	CIRCULAR	1.25	1		0.00675	3.81	1/1/2013 8:00	5.09	0.66	0.59	0	11.185
STGM1004	J5124	STMI0910	143.28	0.013	233	229	CIRCULAR	1	1		0.02793	3.82	1/1/2013 8:36	8.66	0.64	0.59	0	12.731
STGM239	STMK1220	STMK1219	239.65	0.012	242.37	210.12	CIRCULAR	1	1		0.13581	1.08	1/1/2013 8:00	8.68	0.08	0.22	0	2.632
STGM856	STMI1163	STMI1161	186.55	0.012	189.92	188.4	CIRCULAR	1	1		0.00815	0.57	1/1/2013 8:00	3.43	0.16	0.26	0	1.066
STGM578	STMK1233	STMK1229	116.15	0.012	189.66	188.72	CIRCULAR	1	1		0.00809	1.35	1/1/2013 8:00	4.54	0.39	0.4	0	2.784
STGM3678	STMI1169	STMI1168	125.96	0.012	196.34	194.76	CIRCULAR	1.25	1		0.01254	3.99	1/1/2013 8:00	6.41	0.51	0.51	0	7.21
STGM3512	STMI1162	STMI1160	61.6	0.012	189.01	187.86	CIRCULAR	1	1		0.01867	1.47	1/1/2013 8:00	3.33	0.28	0.55	0	2.784
STGM2965	STMI1219	STMI1221	220.03	0.012	176.01	173.35	CIRCULAR	1.5	1		0.01209	6.58	1/1/2013 8:00	7.55	0.53	0.49	0	12.092
STGM4408	STIJ10112	J5382	111.42	0.012	215.31	214.65	CIRCULAR	1.25	1		0.00592	9.11	1/1/2013 8:00	11.42	1.69	0.62	0.01	32.163
STGM4400	STIJ0924	STIJ0927	90.37	0.012	221.3	219.25	CIRCULAR	1.25	1		0.02269	9.1	1/1/2013 8:00	9.2	0.86	1	0.01	32.163
STGM3346	STMJ1227	STMJ1228	80.34	0.012	146.32	142.4	CIRCULAR	1.25	1		0.04885	12.7	1/1/2013 8:00	14.26	0.82	0.68	0	26.994
STGM825	STMI1018	STMI1017	129.94	0.013	208.3	206.6	CIRCULAR	2	1		0.01308	10.43	1/1/2013 8:00	5.72	0.4	0.58	0	31.412
STGM4222	STMJ108	J5176	335.76	0.013	209.56	209.16	CIRCULAR	3	1		0.00119	34.13	1/1/2013 8:01	7.89	1.48	0.59	0.01	77.335
STGM2839	STMI1021	STII102	331.75	0.013	211.58	204.2	CIRCULAR	1.75	1		0.02225	14.68	1/1/2013 7:59	7.25	0.62	0.79	0.01	28.259
STGM2060	STMI1214	J-SBT1-02	123.54	0.012	157.09	138.8	CIRCULAR	2	1		0.1497	31.19	1/1/2013 8:00	13.33	0.33	0.7	0.01	58.437
STGM1504	STII0990	STII0991	105.96	0.012	227.59	227.07	CIRCULAR	2.5	1		0.00491	26.73	1/1/2013 8:15	7.21	0.86	0.71	0	82.303
STGM3324	STMJ1135	STMJ1138	316.81	0.012	172.13	171.55	CIRCULAR	2	1		0.00183	8.69	1/1/2013 8:00	4.95	0.83	0.55	0	17.903
STGM2936	STII0982	STII0985	198.93	0.012	232.49	230.29	CIRCULAR	2	1		0.01106	10.39	1/1/2013 8:04	6.02	0.4	0.72	0.01	49.659
STGM1080	STMI091	STMI1014	251.97	0.013	220.03	217.26	CIRCULAR	1.75	1		0.01099	10.54	1/1/2013 7:56	6.42	0.63	0.65	0	26.412
STGM2971	STMK1112	STMK1111	154.89	0.012	210	190.91	CIRCULAR	1	1		0.1242	3.8	1/1/2013 8:00	14.23	0.28	0.37	0	9.33
STGM501	STMJ1234	STMJ1231	116.59	0.013	166.39	165.26	CIRCULAR	2.75	1		0.00969	12.39	1/1/2013 8:00	6.76	0.24	0.35	0	26.021
STGM2785	STMI1216	STMI1215	311.59	0.012	175.24	170.24	CIRCULAR	1.25	1		0.01605	3.91	1/1/2013 8:00	6.87	0.44	0.47	0	7.16
STGM2861	STIJ1060	STIJ1061	30.32	0.012	223.73	223.02	CIRCULAR	1	1		0.02342	3.99	1/1/2013 8:00	8.08	0.68	0.6	0	6.613
STGM3651	STMI105	STMI1022	162.04	0.013	215.2	214	CIRCULAR	2.25	1		0.00741	15.78	1/1/2013 7:57	6.41	0.59	0.73	0	36.491
STGM1822	STMJ1235	STMJ1234	227.71	0.012	170.33	166.39	CIRCULAR	2	1		0.01731	12.38	1/1/2013 8:00	9.19	0.38	0.44	0	26.021
STGM953	STMJ1138	STMJ1235	85.21	0.012	171.55	170.33	CIRCULAR	2	1		0.01432	12.39	1/1/2013 8:00	9.26	0.42	0.44	0	26.021
STGM3134	STIJ1063	STIJ1064	250.7	0.012	218.91	212.88	CIRCULAR	1	1		0.02406	3.99	1/1/2013 8:00	8.16	0.67	0.6	0	6.613
STGM2476	STMJ106	STMJ105	253.29	0.013	212.77	212.09	CIRCULAR	2	1		0.00268	12.24	1/1/2013 8:00	4.3	1.04	0.85	0.01	23.01
STGM1099	STII0967	STII0968	33.18	0.012	255.36	254.4	CIRCULAR	1	1		0.02895	1.28	1/1/2013 8:00	6.48	0.2	0.3	0	2.734
STGM2880	STII102	STMI1121	66.46	0.013	204.2	203.84	CIRCULAR	1.5	1		0.00542	14.68	1/1/2013 7:59	8.39	1.9	1	0.4	28.259
STGM2731	STMJ1022	STIJ1021	320.7	0.013	219.49	215.84	CIRCULAR	1	1		0.01138	3.67	1/1/2013 8:00	5.51	0.96	0.79	0	32.571
STGM1647	STMJ1239	STMJ1233	158.32	0.024	160.72	159.41	CIRCULAR	3	1		0.00827	9.24	1/1/2013 8:01	3.63	0.28	0.39	0	20.137
STGM4459	STII09112	J4268	78.42	0.013	247.12	245	CIRCULAR	1.75	1		0.02704	5.41	1/1/2013 8:00	7.91	0.21	0.33	0	16.281
STGM3490	STII0992	STII09100	234.44	0.012	226.18	225.02	CIRCULAR	2.5	1		0.00495	26.73	1/1/2013 8:15	7.2	0.86	0.71	0	82.303
STGM2771	J3852	STMI102	247.29	0.013	218.54	213.03	CIRCULAR	1.25	1		0.02229	2.88	1/1/2013 8:00	6.4	0.3	0.69	0.01	5.701
STGM777	STMI1124	STMI1115	129.71	0.013	188.46	186.78	CIRCULAR	3	1		0.01295	92.99	1/1/2013 8:13	13.83	1.22	0.91	0.01	243.56
STGM3193	STMJ123	STMJ124	178.13	0.012	176.8	174.83	CIRCULAR	1.25	1		0.01106	10.3	1/1/2013 8:00	8.64	1.4	0.93	0.01	18.796
STGM1241	J-SB-12	J-SB-11	184.99	0.013	152.7	151	CIRCULAR	4	1		0.00919	234.77	1/1/2013 9:21	18.7	1.7	1	0.01	1228.946
STGM3717	STMI108	STMI1018	220.7	0.013	209.79	208.5	CIRCULAR	1.75	1		0.00585	10.43	1/1/2013 8:00	5.8	0.86	0.7	0	31.412
STGM487	STMI1212	STMI1211	55.67	0.012	165.74	165.11	CIRCULAR	2.75	1		0.01132	27.28	1/1/2013 8:00	11.14	0.45	0.43	0	51.277
STGM2234	STMK1211	STMK1210	228.68	0.012	188.97	169.93	CIRCULAR	1	1		0.08355	4.05	1/1/2013 8:00	12.39	0.36	0.43	0	8.208
STGM2399	STII0986	STII0988	78.25	0.012	229.64	229.25	CIRCULAR	2	1		0.00498	25.52	1/1/2013 8:15	8.31	1.47	0.94	0.01	79.012
STGM413	STMJ116	STMI1169	235.37	0.012	198.86	196.34	CIRCULAR	1.25	1		0.01071	1.53	1/1/2013 8:00	3.24	0.21	0.41	0	2.647
STGM2905	STII09100	STII10109	111.88	0.012	224.82	223	CIRCULAR	2.5	1		0.01627	26.73	1/1/2013 8:15	11.32	0.47	0.49	0	82.303
STGM2694	J4270	J3668	872.47	0.04	243	236	IRREGULAR	0	1	STGM2694	0.00802	10.68	1/1/2013 8:12	2.12	0.05	0.3	0	29.354
STGM1231	STII0988	STMI099	65.64	0.012	228.75	228.43	CIRCULAR	2.5	1		0.00488	25.52	1/1/2013 8:15	7.08	0.82	0.69	0	79.012
STGM822	STMI103	STMI104	72.28	0.013	210.8	210.2	CIRCULAR	3	1		0.0083	20.28	1/1/2013 8:00	7.25	0.33	1	0.01	45.427
STGM1277	STMK1110	STMK117	114.69	0.012	177.71	173.5	CIRCULAR	1	1		0.03673	3.8	1/1/2013 8:00	8.89	0.51	0.54	0	9.33
STGM523	STMI101	STMI107	468.44	0.013	230.23	226.24	CIRCULAR	1.25	1		0.00852	4.76	1/1/2013 8:00	4.34	0.8	0.84	0.01	9.778
STGM2081	STMJ103	STMJ106	121.1	0.013	213.12	212.77	CIRCULAR	1.75	1		0.00289	10.27	1/1/2013 8:00	4.28	1.21	0.99	0.01	19.264
STGM3851	STMK1111	STMK1110	134.32	0.012	190.91	177.71	CIRCULAR	1	1		0.09875	3.8	1/1/2013 8:00	11.21	0.31	0.45	0	9.33
STGM946	STMJ1212	STMJ126	217.37	0.012	176.56	173.71	CIRCULAR	1	1		0.01311	2.18	1/1/2013 8:00	4.26	0.49	0.62	0	3.955

Conduits CIP Model

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
STGM2032	STMI128	STII1245	601.64	0.012	173	160	CIRCULAR	2	1		0.02161	20.4	1/1/2013 8:00	10.22	0.57	0.61	0	37.319
STGM4021	STIJ1062	STIJ1063	74.1	0.012	220	219.11	CIRCULAR	1	1		0.01201	3.99	1/1/2013 8:00	6.13	0.94	0.77	0	6.613
STGM2217	STMJ122	STMJ123	420.81	0.012	183.38	176.8	CIRCULAR	1	1		0.01564	3.09	1/1/2013 8:00	4.64	0.64	0.79	0.01	5.256
STGM527	STIJ1070	J-SBT7-03	83.44	0.012	190.71	189.88	CIRCULAR	1.25	1		0.00995	3.99	1/1/2013 8:01	7.16	0.57	0.46	0	6.613
STGM3714	STIJ1069	STIJ1070	160.43	0.012	194.56	190.71	CIRCULAR	1	1		0.024	3.99	1/1/2013 8:01	7.55	0.67	0.64	0	6.613
STGM1031	STMK1216	STMK1215	236.86	0.012	204.42	174.52	CIRCULAR	1	1		0.12725	2.8	1/1/2013 8:00	11.66	0.2	0.34	0	7.265
STGM3804	STIJ1064	STIJ1065	199.43	0.012	212.68	208.11	CIRCULAR	1	1		0.02292	3.99	1/1/2013 8:00	8	0.68	0.61	0	6.613
STGM1359	J5382	J5178	136.08	0.04	214.65	205	IRREGULAR	0	1	STGM1359	0.07109	9	1/1/2013 8:00	1.72	0.09	0.55	0	32.163
STGM1948_a	J5178	J4094	903.36	0.04	205	185	IRREGULAR	0	1	STGM1948	0.02214	48.92	1/1/2013 8:02	14.54	0	0.06	0	107.74
STGM4173	STMJ1110	STMJ119	89.51	0.012	210.16	207.67	CIRCULAR	1.25	1		0.02783	1.53	1/1/2013 8:00	6.13	0.13	0.26	0	2.647
STGM14	STMK116	STMK115	108.82	0.012	179.68	173.64	CIRCULAR	1	1		0.05559	8.36	1/1/2013 8:00	13.78	0.92	0.72	0	24.347
STGM3365	STII1050	STII1028	132.55	0.013	215.72	213.2	CIRCULAR	2.5	1		0.01902	27.87	1/1/2013 8:14	10.62	0.49	0.81	0.01	84.471
STGM197	STMK1117	STMK1116	134.51	0.012	164.26	162.55	CIRCULAR	1.25	1		0.01271	3.38	1/1/2013 8:00	6.92	0.43	0.42	0	7.296
STGM1348	STMJ1222	STMJ1220	110.4	0.012	133.4	125.95	CIRCULAR	1.5	1		0.06764	10.58	1/1/2013 8:00	14.39	0.36	0.43	0	21.925
STGM1034	STMJ092	STMJ091	61.1	0.013	222.67	222.46	CIRCULAR	1	1		0.00344	6.91	1/1/2013 8:00	8.8	3.31	1	0.25	25.447
STGM3110	STMK1114	J-SBT4-01	61.55	0.012	144.32	140.54	CIRCULAR	1.25	1		0.06153	22.26	1/1/2013 7:42	22.49	1.28	0.75	0.01	83.389
STGM283	STII0975	STII0977	121.82	0.012	242.11	240.85	CIRCULAR	1.5	1		0.01034	10.39	1/1/2013 8:03	7.41	0.9	0.74	0	49.659
STGM1126	J3524	STMI1015	177.86	0.013	217.58	214.14	CIRCULAR	1.25	1		0.01934	9.15	1/1/2013 8:01	8.25	1.02	1	0.02	22.781
STGM17	STMJ128	STMI1212	450.16	0.012	167.85	165.74	CIRCULAR	2.75	1		0.00469	18.77	1/1/2013 8:01	6.69	0.48	0.48	0	35.526
STGM1460	STMJ1126	STMJ1128	240.75	0.012	219.3	214.51	CIRCULAR	1	1		0.0199	1.65	1/1/2013 8:00	6.12	0.3	0.38	0	2.972
C52	J4990	STMJ1236	75.72	0.04	167.85	165.95	IRREGULAR	0	1	C52	0.0251	2.33	1/1/2013 8:00	0.32	0	0.11	0	4.163
STGM452	STML1132	J-SBT1-09	89.83	0.013	190.42	188.95	CIRCULAR	2.5	1		0.01637	10.77	1/1/2013 8:01	14.05	0.21	0.21	0	33.084
STGM1321	STML1131	STML1132	245.22	0.013	194.81	190.42	CIRCULAR	2.25	1		0.01791	10.77	1/1/2013 8:00	8.43	0.26	0.36	0	33.084
STGM55	STMI125	STMI1229	202.77	0.013	180.4	179.71	CIRCULAR	1.25	1		0.0034	4.41	1/1/2013 7:59	3.6	1.17	1	0.84	7.51
STGM4525	STMI1233	STMI126	382.78	0.012	178	175	CIRCULAR	1	1		0.00784	3.76	1/1/2013 8:00	5.63	1.1	0.82	0.01	17.552
STGM4524	STML1232	STMI1233	416.61	0.012	179.2	178	CIRCULAR	1	1		0.00288	2.8	1/1/2013 7:20	4.26	1.35	1	0.8	10.141
STGM4510	STMI1234	STMI1227	138.44	0.013	175	174.4	CIRCULAR	1.5	1		0.00433	10.79	1/1/2013 7:59	6.3	1.56	0.93	0.01	25.062
STGM4512	STMI1228	STMI1234	293.17	0.012	176.5	175	CIRCULAR	1.5	1		0.00512	10.79	1/1/2013 8:00	6.11	1.33	1	1.42	25.062
STGM4509	STMI1227	STMI127	11.77	0.013	174.4	174.3	CIRCULAR	1.5	1		0.0085	11.48	1/1/2013 8:00	8.1	1.19	0.75	0.01	25.062
STGM4514	STMI1229	STMI1228	645.87	0.012	179.71	176.5	CIRCULAR	1.5	1		0.00497	7.58	1/1/2013 7:59	4.29	0.94	1	0.01	17.652
STGM3149	STMI123	STMI139	436.5	0.013	166.55	165.48	CIRCULAR	2	1		0.00245	6.91	1/1/2013 7:23	2.73	0.62	1	0.01	10.984
STGM3997	STMI139	STMI138	486.87	0.013	165.23	163.98	CIRCULAR	2	1		0.00257	13.75	1/1/2013 7:23	4.38	1.2	1	0.72	24.003
STGM4542	STMI138	STMI137	499.53	0.013	163.98	162.73	CIRCULAR	2	1		0.0025	13.75	1/1/2013 7:23	4.5	1.22	1	0.73	24.003
STGM4556	STII137	STII1359	137.91	0.013	161.23	160.75	CIRCULAR	2	1		0.00348	16.67	1/1/2013 7:23	5.3	1.25	1	0.77	29.866
STGM2664	STMI137	STII137	341.84	0.013	162.42	161.23	CIRCULAR	2	1		0.00348	16.61	1/1/2013 7:23	5.29	1.24	1	0.77	29.866
STGM321	STII1359	STMI1310	184.13	0.013	160.75	160.3	CIRCULAR	2	1		0.00244	16.64	1/1/2013 8:00	5.3	1.49	1	1.54	30.718
STGM1206	STMI1013	STMI109	361.98	0.024	222.05	216.25	CIRCULAR	1.75	1		0.01603	1.78	1/1/2013 8:00	2.31	0.16	0.37	0	3.448
STGM2304-B	STMJ1244	STMJ1210	113.39	0.012	170	168.84	CIRCULAR	1.5	1		0.01023	10.29	1/1/2013 8:00	6.52	0.89	0.84	0	18.796
STGM3779	STII1149	STML1146	421.95	0.013	203.31	197.83	CIRCULAR	1	1		0.01299	2.04	1/1/2013 8:00	5.53	0.5	0.48	0	3.874
STGM2682	J3960	STMI124	180.02	0.013	182.33	180.75	CIRCULAR	1	1		0.00878	2.73	1/1/2013 8:03	3.69	0.82	1	0.01	6.489
STGM3931	STMI1176	J-SBT1-05	182.65	0.012	178.28	172.07	CIRCULAR	1.75	1		0.03402	18.51	1/1/2013 8:00	13.67	0.58	0.55	0	35.919
STGM3752	STMK113	J-SBT4-04	142.09	0.013	164.46	163.59	CIRCULAR	1.5	1		0.00612	8.36	1/1/2013 8:00	6.91	1.02	0.65	0.01	24.347
STGM6	J-SBT1-07	J-SBT1-06	106.51	0.013	180	176	CIRCULAR	5	1		0.03758	103.55	1/1/2013 8:01	13.8	0.21	0.41	0	278.942
STGM4063	STMJ102	STMJ103	259.05	0.013	213.81	213.12	CIRCULAR	1.5	1		0.00266	7.62	1/1/2013 8:00	4.31	1.41	1	0.89	14.293
STGM304	STIJ1021	STMJ105	483.12	0.013	215.79	212.09	CIRCULAR	1.25	1		0.00766	3.66	1/1/2013 8:00	3.51	0.65	0.79	0.01	32.571
STGM1954	STMI1222	STMI1212	231.45	0.012	172.59	165.74	CIRCULAR	1.5	1		0.02961	6.58	1/1/2013 8:00	5.62	0.34	0.63	0	12.092
STGM314	STII1055	STII1056	63.77	0.013	213.5	213	CIRCULAR	1	1		0.00784	1.81	1/1/2013 8:00	4.69	0.57	0.49	0	3.52
STGM886	STMI1221	STMI1222	45.3	0.012	173.35	172.59	CIRCULAR	1.5	1		0.01678	6.58	1/1/2013 8:00	8.95	0.45	0.43	0	12.092
STGM3943	STMI1224	STMI1223	63.42	0.012	181.67	181.2	CIRCULAR	1	1		0.00741	1.6	1/1/2013 8:00	4.58	0.48	0.46	0	2.887
STGM210	STMI109	STMI105	34.25	0.013	216.25	215.2	CIRCULAR	2.75	1		0.03067	15.75	1/1/2013 7:57	7.78	0.17	0.38	0	36.491
STGM3669	STMI1014	STMI109	287.71	0.013	217.26	216.25	CIRCULAR	2.75	1		0.00351	13.97	1/1/2013 7:57	6.88	0.45	0.37	0	33.044
STGM3339	STMI144	J4032	516.75	0.013	156.95	155	CIRCULAR	2.25	1		0.00377	25.62	1/1/2013 8:00	9.02	1.35	0.67	0.01	48.833
STGM3345	STMI129	J-SBT1-03	501.35	0.013	185	165	CIRCULAR	1	1		0.03992	5.87	1/1/2013 8:00	10.12	0.82	0.69	0	10.878
STGM3459	J-SBT1-02	J-SBT1-01	131.72	0.013	138.8	137.8	CIRCULAR	3	1		0.00759	165.6	1/1/2013 8:49	23.95	2.85	0.94	0.01	488.333
STGM3617	STMK1113	STMK1114	73.11	0.012	154	144.32	CIRCULAR	1.25	1		0.13358	22.26	1/1/2013 7:42	18.57	0.87	1	0.01	83.389
STGM4243	STMI1226	J-SBT1-02	107.71	0.012	159	138.8	CIRCULAR	2	1		0.19093	22.29	1/1/2013 8:00	10.22	0.21	0.65	0.01	42.285
STGM1948_b	J4094	J4284	257.12	0.04	185	175	IRREGULAR	0	1	STGM1948	0.03892	54.74	1/1/2013 8:04	1.84	0	0.35	0	129.247
STGM796	STMJ1220	J-SB-04	35.81	0.013	125.95	123.4	CIRCULAR	1.75	1		0.07139	13.58	1/1/2013 8:00	15.65	0.32	0.39	0	28.537
SB-00	J-SB-02	OF_J-SB-01	16.1	0.04	106.1	105	IRREGULAR	0	1	SB-01	0.06848	804.85	1/1/2013 9:52	13.04	0	0.05	0	3966.226
STGM3824	J-SB-05	J-SB-04	141.22	0.013	117.1	115.9	CIRCULAR	7	1		0.0085	495.6	1/1/2013 9:16	15.18	0.84	0.79	0	2336.289
STGM2828	J-SBT6-02	J-SBT6-01	306.49	0.013	143.4	143.2	CIRCULAR	4	1		0.00065	60.84	1/1/2013 8:00	6.66	1.66	0.68	0.01	219.13
SPRINGBROOK_CULVERT	J-SB-16	J-SB-15	113.32	0.013	267	260.2	CIRCULAR	3	1		0.06012	87.14	1/1/2013 8:30	25.95	0.53	0.48	0	465.116
SB-01	J-SB-03	J-SB-02	1344.6	0.04	108.6	106.1	IRREGULAR	0	1	SB-01	0.00186	640.79	1/1/2013 9:55	3.97	0.01	0.08	0	2946.759
SB-02	J-SB-04	J-SB-03	4551.46	0.04	115.9	108.6	IRREGULAR	0	1	SB-02	0.0016	494.14	1/1/2013 9:29	1.99	0.01	0.14	0	2364.827
SBT1-01	J-SBT1-01	J-SB-03	2511.66	0.04	137.8	108.6	IRREGULAR	0	1	SBT1-01	0.01163	180.13	1/1/2013 8:49	4.76	0	0.08	0	546.746
SBT6-01	J-SBT6-01	J-SB-09	1562.56	0.04	143	139	IRREGULAR	0	1	SBT6-01	0.00256	152.38	1/1/2013 8:05	0.72	0	0.09	0	599.98
SBT7-01	J-SBT7-01	J-SB-10	683.85	0.04	168	150	IRREGULAR	0	1	SBT7-01	0.02633	51.74	1/1/2013 8:31	1.7	0.14	0.67	0.01	159.782
SBT2-01	STMJ1242	J-SB-06	236.35	0.04	136.14	119	IRREGULAR	0	1	SBT2-01	0.07271	12.68	1/1/2013 8:00	2.49	0.02	0.59	0.01	26.994
SB-11	J-SB-15	J-SB-14	1149.21	0.04	260.2	224	IRREGULAR	0	1	SB-11	0.03152	86.53	1/1/2013 8:31	50	0	0.05	0	465.116
HAYES_CULVERT	SBT1-05	J-SBT1-04	105.23	0.024	157.4	154.61	CIRCULAR	6	1		0.02652	143.03	1/1/2013 8:00	10.09	0.38	0.5	0	358.372
SBT1-04	J-SBT1-06	J-SBT1-05	645.44	0.04	176	157.4	IRREGULAR	0	1	SBT1-04	0.02883	122.76	1/1/2013 7:59	7.29	0	0.08	0	318.196
STGM4128	STIL11186	STIL11185	36.12	0.012	172.5	171.7	CIRCULAR	1	1		0.02215	1.99	1/1/2013 8:00	9.29	0.35	0.32	0	4.257
STGM3287	STIL11185	J-SBT1-05	38.37	0.012	171.7	160.86	CIRCULAR	1	1		0.29451	1.99	1/1/2013 8:00	16.66	0.1	0.21	0	4.257
SB-10	J-SB-14	J-SB-13	2491.27	0.04	224	177	IRREGULAR	0	1	SB-10	0.01887	125.98	1/1/2013 8:07	50	0	0.06	0	578.392
SB-09	J-SB-13	J-SB-12	2246.78	0.04	177	152.7	IRREGULAR	0	1	SB-09	0.01082	230.88	1/1/2013 8:36	2.74	0	0.14	0	1091.407
SBT4-03	J-SBT4-03	J-SBT4-02	410.71	0.04	161.31	153.6	IRREGULAR	0	1	SBT4-03	0.01878	16.54	1/1/2013 8:01	1.18	0	0.13	0	51.81
SBT4-04	J-SBT4-05	J-SBT4-02	329.17	0.04	167.77	153.6	IRREGULAR	0	1	SBT4-04	0.04309	3.79	1/1/2013 8:01	0.72	0	0.32	0	9.33
SBT4-02	J-SBT4-02	STMK1113	197.84	0.04	153.6	154	IRREGULAR	0	1	SBT4-02	-0.00202	17.89	1/1/2013 9:16	1.53	0	0.17	0	67.431
SBT1-03	J-SBT1-04	J-SBT1-03	283.9	0.04	154.61	152.2	IRREGULAR	0	1	SBT1-02	0.00849	149.95	1/1/2013 8:00	4.88	0	0.09	0	376.734
SBT1-06	J-SBT1-09	J-SBT1-08	68.4	0.04	188.95	186	IRREGULAR	0	1	SBT1-05	0.04317	10.76	1/1/2013 8:01	2.08	0	0.01	0	33.084
SBT1-05	J-SBT1-08	J-SBT1-07	139.18	0.04	182	180	IRREGULAR	0	1	SBT1-05	0.01437	103.15	1/1/2013 7:59	1.79	0	0.06	0	276.643
SBT1-02	J-SBT1-03	J-SBT1-02	1575.84	0.04	152.2	138.8	IRREGULAR	0	1	SBT1-02	0.0085	154.94	1/1/2013 8:03	3.24	0	0.17	0	387.611
STGM988	J4032	J-SB-02	403.63	0.04	155	110	IRREGULAR	0	1	STGM988	0.11219	25.6	1/1/2013 8:00	7.4	0	0.06	0	48.833
SB-03	J-SB-06	J-SB-05	437.16	0.04	119	117.1	IRREGULAR	0	1	SB-03	0.00435	497.42	1/1/2013 9:13	1.84	0.4	0.88	0.01	2336.289
SBT5-01	J-SBT5-01	J-SB-08	860.12	0.04	169.2	134	IRREGULAR	0	1	SBT5-01	0.04096	18.27	1/1/2013 8:00	2.56	0	0.11	0	41.66
SB-04	J-SB-07	J-SB-06	2464.84	0.04	126.6	119	IRREGULAR	0	1	SB-04	0.00308	505.66	1/1/2013 8:57	2.79	0	0.11	0	2236.449
SBT4-01	J-SBT4-01	J-SB-07	283.33	0.04	140.54	126.6	IRREGULAR	0	1	SBT4-01	0.04926	22.25	1/1/2013 7:42	1.13	0	0.11	0	83.389
SB-06	J-SB-09	J-SB-08	1627.27	0.04	139	134	IRREGULAR	0	1	SB-06	0.00307	423.25	1/1/2013 9:09	2.8	0	0.1	0	2056.217
SB-05	J-SB-08	J-SB-07	2409.13	0.04	134	126.6	IRREGULAR	0	1	SB-05	0.00307	416.45	1/1/2013 9:48	2.67	0	0.13	0	2097.876
SB-08	J-SB-11	J-SB-10	536.75	0.04	151	150	IRREGULAR	0	1	SB-07	0.00186	249.88	1/1/2013 9:13	2.53	0.17	0.58	0	1296.455
SB-07	J-SB-10	J-SB-09	1031.15	0.04	150	139	IRREGULAR	0	1	SB-07	0.01067	298.37	1/1/2013 9:10	4	0.08	0.6	0	1456.237
SBT7-02	J-SBT7-03	J-SBT7-02	381.64	0.04	189.88	173	IRREGULAR	0	1	STGM901	0.04427	3.99	1/1/2013 8:01	0.69	0	0.09	0	6.613
SBT3-01	J-SBT3-01	J-SB-06	873.91	0.04	147.7	119	IRREGULAR	0	1	SBT3-01	0.03286	31.77	1/1/2013 8:02	2.36	0	0.13	0	72.846
STGM1593	J4848	STII0913	498.81	0.013	244	235	CIRCULAR	1	1		0.01805	5.1	1/1/2013 7:40	6.61	1.06	1	0.88	42.368
STGM133	STII09106	J5	144.01	0.012	249.39	247.57	CIRCULAR	1.5	1		0.01264	11.85	1/1/2013 8:00	10.83	0.93	0.59	0	36.104
C4	J5	J4848	282.37	0.04	247.57	244	IRREGULAR	0	1	C4	0.01264	11.83	1/1/2013 8:01	1.94	0.26	0.74	0.01	36.104
STGM2689b	J5554	STMF1220	53.12	0.013	164.69	160.62	CIRCULAR	2	1		0.07684	20.32	1/1/2013 8:00	12.69	0.32	0.51	0	36.459
STGM3520_1	J5398	J7	526.33	0.04	175	172.43	IRREGULAR	0	1	STGM3520	0.00488	13.91	1/1/2013 8:00	0.94	0.05	0.28	0	25.425
STGM1876	J7	J5554	293.92	0.013	172.43	164.69	CIRCULAR	1.5	1		0.02634	13.67	1/1/2013 8:02	11.99	0.8	0.62	0	25.425
C6	J4162	STMF0913	134.01	0.013	196	190.2	CIRCULAR	3	1		0.04332	75.34	1/1/2013 8:15	11.14	0.54	1	0.01	169.937
stgm3116	E99	stiG12110	104.942	0.013	158.69	155.43	CIRCULAR	1	1		0.03108	1.04	1/1/2013 8:00	5.92	0.17	0.28	0	1.65
stgm0797	stiG12123	stiG12124	51.13	0.013	155.91	155.16	CIRCULAR	2.5	1		0.01467	17.96	1/1/2013 8:03	9.3	0.36	0.42	0	31.348
stgm5640	E34	stmG0710067	2	0.013	243.8	243.18	CIRCULAR	1	1		0.32606	0	1/1/2013 0:00	0	0	0	0	0
stgm5639	stmG0710067	stiG0710061	45.07	0.013	241.93	241.01	CIRCULAR	1	1		0.02042	3.33	1/1/2013 8:00	6.91	0.65	0.59	0	7.893
stgm5638	stiG0710070	stmG0710067	70.41	0.013	251.05	243.66	CIRCULAR	1	1		0.10554	3.33	1/1/2013 8:00	12.72	0.29	0.37	0	7.893
stgm5637	stmG0710069	stiG0710070	245.74	0.013	257.47	251.2	CIRCULAR	1	1		0.02552	3.33	1/1/2013 8:00	7.53	0.58	0.55	0	7.893
stgm5636	stiG0710071	stmG0710069	36.8	0.013	258.97	258.05	CIRCULAR	1	1		0.02501	3.33	1/1/2013 8:00	7.47	0.59	0.55	0	7.893
stgm5635	stiG0710072	stiG0710071	33	0.013	259.46	259.28	CIRCULAR	1	1		0.00545	1.28	1/1/2013 8:00	3.42	0.49	0.48	0	3.11
stgm5634	stiG0710073	stiG0710071	97.21	0.013	261.52	259.17	CIRCULAR	1	1		0.02418	2.05	1/1/2013 8:00	6.52	0.37	0.42	0	4.783
stgm5633	stiG0710074	stiG0710073	158.75	0.013	263.89	261.92	CIRCULAR	1	1		0.01241	0.24	1/1/2013 8:00	2.8	0.06	0.17	0	0.598
stgm5632	stiG0710075	stiG0710074	33	0.012	264.82	264.62	CIRCULAR	1	1		0.00606	0.25	1/1/2013 8:00	2.31	0.08	0.19	0	0.598
stgm5631	stiG0710076	stiG0710073	35.03	0.013	262.26	261.84	CIRCULAR	1	1		0.01199	1.81	1/1/2013 8:00	4.87	0.46	0.48	0	4.185
stgm5630	stiG0710077	stiG0710076	37.66	0.013	262.62	262.36	CIRCULAR	1	1		0.0069	1.81	1/1/2013 8:00	3.95	0.61	0.56	0	4.185
stgm5629	stiG0710078	stiG0710077	33	0.013	263.44	263.2	CIRCULAR	1	1		0.00727	0.37	1/1/2013 8:00	2.62	0.12	0.24	0	0.872
stgm5628	stiG0710079	stiG0710077	147.89	0.013	273.76	263.08	CIRCULAR	1	1		0.0724	1.44	1/1/2013 8:00	8.77	0.15	0.26	0	3.313

Conduits CIP Model

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
stgm5627	stiG0710080	stiG0710079	33	0.013	274.48	274.06	CIRCULAR	1	1		0.01273	0.14	1/1/2013 8:00	2.4	0.04	0.13	0	0.333
stgm5626	stmG0710068	stiG0710079	90.72	0.013	274.87	273.91	CIRCULAR	1	1		0.01058	1.29	1/1/2013 8:00	4.26	0.35	0.41	0	2.98
stgm5625	stiG0710081	stmG0710068	38.18	0.013	275.38	275.2	CIRCULAR	1	1		0.00471	1.3	1/1/2013 8:00	3.36	0.53	0.49	0	2.98
stgm5624	stiG0710082	stiG0710081	33	0.013	277.98	277.2	CIRCULAR	1	1		0.02364	0.27	1/1/2013 8:00	3.63	0.05	0.15	0	0.639
stgm5623	stiG0710083	stiG0710081	262.51	0.013	277.02	275.65	CIRCULAR	1	1		0.00522	1.02	1/1/2013 8:00	3.15	0.4	0.43	0	2.341
stgm5622	stiG0710084	stiG0710083	33	0.013	277.23	277.03	CIRCULAR	1	1		0.00606	0.51	1/1/2013 8:00	2	0.18	0.36	0	1.126
stgm5621	stmG0710088	stiG0710083	34.21	0.013	277.58	277.28	CIRCULAR	1	1		0.00877	0.52	1/1/2013 8:00	3.08	0.15	0.27	0	1.215
stgm5620	stiG0710085	stmG0710088	150.42	0.013	278.3	277.6	CIRCULAR	1	1		0.00465	0.52	1/1/2013 8:00	2.53	0.21	0.31	0	1.215
stgm5619	stiG0710086	stiG0710085	35	0.013	278.67	278.55	CIRCULAR	1	1		0.00343	0.52	1/1/2013 8:00	2.45	0.25	0.31	0	1.215
stgm5618	stiG0710062	stmG0710063	16.5	0.013	240.8	240.09	CIRCULAR	1	1		0.04307	1.11	1/1/2013 11:10	4	0.4	0.39	0	7.893
stgm5617	stiG0710061	stiG0710062	4	0.013	240.9	240.86	CIRCULAR	1	1		0.01	1.11	1/1/2013 11:10	3.23	1.98	0.45	0.01	7.893
stgm5616	stmG0710063	E3	114.76	0.013	238.75	234.75	CIRCULAR	1	1		0.03488	1.11	1/1/2013 11:10	4.95	0.23	0.33	0	7.893
stgm5267	stiG080141	stiG080140	47.21	0.013	264.02	263.6	CIRCULAR	1	1		0.0089	0.34	1/1/2013 8:00	2.75	0.1	0.22	0	0.92
stgm5265	stiG080140	stiG080143	35	0.013	263.57	263.3	CIRCULAR	1	1		0.00771	0.34	1/1/2013 8:00	2.62	0.11	0.22	0	0.92
stgm5264	stiH080011	stiH080007	35	0.012	266.4	266.19	CIRCULAR	1	1		0.006	0.1	1/1/2013 8:00	1.77	0.03	0.13	0	0.246
stgm5263	stiH080010	stiH080011	40.29	0.013	266.62	266.45	CIRCULAR	1	1		0.00422	0.1	1/1/2013 8:00	1.58	0.04	0.14	0	0.246
stgm5261	stiG080143	stmG08070	239.1	0.013	263.1	257.37	CIRCULAR	1	1		0.02397	1	1/1/2013 8:00	5.33	0.18	0.29	0	2.534
stgm5260	stiH080007	stiG080143	200.56	0.013	264.39	263.2	CIRCULAR	1	1		0.00593	0.24	1/1/2013 8:00	2.16	0.09	0.2	0	0.587
stgm5259	stiH080006	stiH080007	40.32	0.013	264.69	264.44	CIRCULAR	1	1		0.0062	0.14	1/1/2013 8:00	1.87	0.05	0.15	0	0.341
stgm5258	stiH080005	stiH080006	65.23	0.013	265.05	264.69	CIRCULAR	1	1		0.00552	0.14	1/1/2013 8:00	1.82	0.05	0.15	0	0.341
stgm5256	stiG08137	stiG08138	139.01	0.013	255.95	255.12	CIRCULAR	1	1		0.00597	0.52	1/1/2013 8:00	2.69	0.19	1	0.01	1.056
stgm5255	stiG08138	stiG08139	86.09	0.013	255.11	254.53	CIRCULAR	1	1		0.00674	0.52	1/1/2013 8:00	2.55	0.2	1	0.01	1.056
stgm5254	stiG08139	stmG08070	25.13	0.013	254.66	254.54	CIRCULAR	1	1		0.00478	0.52	1/1/2013 8:00	2.58	0.21	1	0.01	1.056
stgm5253	stmG08069	stiG08136	22.81	0.013	251.86	251.25	CIRCULAR	1	1		0.02675	1.51	1/1/2013 8:01	3.19	0.26	1	0.01	3.59
stgm5252	stmG08069	stmG08068	72.21	0.013	253.95	251.21	CIRCULAR	1	1		0.03797	0	1/1/2013 0:00	0	0	0.5	0.01	3.59
stgm5251	stmG08070	stmG08069	164.49	0.013	254.31	252.53	CIRCULAR	1	1		0.01082	1.51	1/1/2013 8:00	4.48	0.41	1	0.01	3.59
stgm5248	stiG08136	stmG08068	9	0.013	250.98	250.8	CIRCULAR	1	1		0.02	0	1/1/2013 0:00	0	0	0.5	0	4.08
stgm5247	stmG08068	stmG08067	171.1	0.013	250.75	250.36	CIRCULAR	1	1		0.00228	0	1/1/2013 0:00	0	0	0	0	4.08
stgm5246	stmG08067	STMG0860	20.2	0.013	250.01	250.75	CIRCULAR	1	1		-0.03666	0	1/1/2013 0:00	0	0	0.24	0	4.08
stgm4961	stiG07134	stiG07125	52.14	0.013	263.55	262.9	CIRCULAR	1	1		0.01247	1.35	1/1/2013 8:00	4.58	0.34	0.61	0	3.213
stgm4949	stiG07131	stmG07078	84.967	0.013	263.5	259.9	CIRCULAR	1	1		0.04241	0.06	1/1/2013 9:48	0.14	0.01	0.59	0.01	0
stgm4948	stmG07081	stiG07131	95.16	0.013	264.1	263.7	CIRCULAR	1	1		0.0042	0	1/1/2013 0:00	0	0	0	0	0
stgm4947	stiG07123	stiG07122	23.304	0.013	260.5	260.2	CIRCULAR	1	1		0.01287	1.84	1/1/2013 8:00	5.03	0.46	1	0.01	4.376
stgm4946	stiG07124	stiG07123	269.795	0.013	262.3	260.7	CIRCULAR	1	1		0.00593	1.84	1/1/2013 8:00	3.82	0.67	1	0.01	4.376
stgm4945	stiG07130	stiG07124	43.577	0.013	263.9	262.67	CIRCULAR	1	1		0.02824	0	1/1/2013 0:00	0	0	0.5	0	0
stgm4944	stiG07125	stiG07124	33.406	0.013	262.7	262.5	CIRCULAR	1	1		0.00599	1.84	1/1/2013 8:00	3.87	0.67	1	0.01	4.376
stgm4943	stiG07126	stiG07125	35.764	0.013	263.1	262.9	CIRCULAR	1	1		0.00559	0.49	1/1/2013 8:00	2.2	0.18	0.84	0	1.162
stgm4941	stmG07080	E4	113.502	0.013	254.8	247.5	CIRCULAR	1.25	1		0.06445	0	1/1/2013 0:00	0	0	0	0	6.498
stgm4940	stmG07079	stmG07080	318.845	0.013	257.2	255	CIRCULAR	1.25	1		0	0	1/1/2013 0:00	0	0	0.02	0	6.498
stgm4939	stiG07121	stmG07079	10.316	0.013	257.5	257.4	CIRCULAR	1.25	1		0.00969	0.14	1/1/2013 8:00	2.71	0	0.52	0.01	6.174
stgm4938	E6	stmG07078	19.995	0.013	260.5	259.9	CIRCULAR	1	1		0.03002	0.02	1/1/2013 8:56	0.04	0	1	0.01	0
stgm4937	stmG07078	stiG07121	22.645	0.013	258.65	258.4	CIRCULAR	1	1		0.01104	1.82	1/1/2013 8:00	4.45	0.49	1	0.01	4.376
stgm4936	stiG07122	stmG07078	36.458	0.013	260	258.9	CIRCULAR	1	1		0.03019	1.84	1/1/2013 8:00	6.7	0.3	1	0.01	4.376
stgm4935	stiG07120	stiG07122	217.71	0.013	265.83	260.2	CIRCULAR	1	1		0.02587	0	1/1/2013 0:00	0	0	0.5	0	0
stgm4933	stiG07117	stiG07120	147.023	0.013	266.9	266.03	CIRCULAR	1	1		0.00592	0	1/1/2013 0:00	0	0	0	0	0
stgm4641	stmF08050	stmF08049	231.627	0.013	196.99	196.9	CIRCULAR	2.5	1		0.00039	0.55	1/1/2013 1:25	0.24	0.07	1	0.01	0.644
stgm4640	stiF08081	stmF08049	150.399	0.013	197.25	196.9	CIRCULAR	1.25	1		0.00233	0.28	1/1/2013 7:59	0.35	0.09	1	0.01	0.555
stgm4638	stmF08049	stmF08048	10.459	0.013	196.9	196.34	CIRCULAR	1	1		0.05362	0.62	1/1/2013 8:00	0.78	0.07	1	0.01	1.199
stgm4637	stmF08048	STMF089	13.599	0.013	196.08	196.05	CIRCULAR	1	1		0.00221	0.61	1/1/2013 7:56	1.98	0.03	0.89	0.01	1.199
stgm5105	stiF09082	stiF09083	40.08	0.013	181.02	180.9	CIRCULAR	1	1		0.00299	0.86	1/1/2013 8:00	1.7	4.81	0.61	0.01	2.895
stgm5101	stmF09035	J-CCT3-14	39	0.013	177.62	177.52	CIRCULAR	1	1		0.00256	3.51	1/1/2013 8:04	4.72	1.95	0.9	0.01	12.167
stgm5100	stmF09033	stmF09035	129.27	0.013	178.31	177.62	CIRCULAR	1	1		0.00534	3.51	1/1/2013 8:03	4.47	1.35	1	1.07	12.167
stgm5099	stmF09034	stmF09033	180.5	0.013	179.47	178.57	CIRCULAR	1	1		0.00499	2.02	1/1/2013 8:03	3.46	0.8	1	0.01	6.951
stgm5098	stiF09081	stmF09034	67.65	0.013	184.06	179.6	CIRCULAR	1	1		0.06607	2.06	1/1/2013 8:00	6.19	0.22	0.64	0	6.951
stgm5097	stiF09084	E35	33.4	0.013	180.65	180.56	CIRCULAR	1	1		0.00269	1.66	1/1/2013 8:00	5.05	0.9	0.45	0	5.216
stgm5096	stiF09083	stiF09084	34.72	0.013	181.02	180.9	CIRCULAR	1	1		0.00346	1.54	1/1/2013 8:00	3.44	0.73	0.55	0	5.216
stgm5095	stiF09088	stiF09087	35.38	0.013	185.47	185.08	CIRCULAR	1	1		0.01102	0.36	1/1/2013 8:00	3.01	0.1	0.21	0	1.22
stgm5094	stiF09087	stiF09083	212.06	0.013	184.06	181.27	CIRCULAR	1	1		0.01316	0.68	1/1/2013 8:01	3.49	0.17	0.3	0	2.321
stgm5093	stiF09091	stiF09087	206.71	0.013	185.21	184.13	CIRCULAR	1	1		0.00522	0.32	1/1/2013 8:01	2.27	0.13	0.24	0	1.101
stgm5092	stiF09090	stiF09091	157.66	0.013	190.13	187.38	CIRCULAR	1	1		0.01745	0.32	1/1/2013 8:00	3.44	0.07	0.18	0	1.101
stgm5091	stiF09089	stiF09090	39.36	0.013	192.63	192.28	CIRCULAR	1	1		0.00889	0.33	1/1/2013 8:00	2.71	0.1	0.21	0	1.101
stgm4911	stiG10093	stmG10045	225	0.013	187.51	186.52	CIRCULAR	1	1		0.0044	0.34	1/1/2013 8:01	2.22	0.15	0.25	0	0.691
stgm4910	stiG10092	stmG10045	6.595	0.013	187.53	187.5	CIRCULAR	1	1		0.00455	0	1/1/2013 0:00	0	0	0	0	0
stgm4909	stmG10045	E16	8	0.013	186.5	186.5	CIRCULAR	3	1		0	0.42	1/1/2013 8:04	4.21	0.06	0.04	0	8.221
stgm4908	stvG10044	stmG10045	13	0.013	186.52	186.52	CIRCULAR	3	1		0	0.12	1/1/2013 7:50	1.47	0.02	0.06	0	7.531
stgm4907	stvG10043	stvG10044	196.448	0.013	186.83	186.62	CIRCULAR	3	1		0.00107	3.33	1/1/2013 8:06	3.13	0.11	0.21	0	7.531
stgm4906	stvG10043	stiG10091	9.184	0.013	187	186.92	CIRCULAR	1	1		0.00871	0.53	1/1/2013 7:40	2.83	0.16	0.72	0	7.531
stgm4905	stiG10090	stmG10042	6.083	0.013	187	186.92	CIRCULAR	1	1		0.01315	1.79	1/1/2013 8:00	2.93	0.44	0.78	0	3.78
stgm4904	stmG10042	stvG10043	97	0.013	186.92	186.92	CIRCULAR	3	1		0	2.13	1/1/2013 8:00	2.98	0.11	0.25	0	7.531
stgm4903	stvG10041	stmG10042	316	0.013	187.24	186.92	CIRCULAR	3	1		0.00101	0.37	1/1/2013 8:00	0.58	0	0.16	0	3.751
stgm4902	stmG10040	stvG10041	232.926	0.013	191.74	189.29	CIRCULAR	1	1		0.01052	1.95	1/1/2013 8:00	4.19	26.42	0.57	0.01	3.751
stgm4900	stiG10088	stmG10040	302	0.013	197.79	191.74	CIRCULAR	1	1		0.02004	1.95	1/1/2013 8:00	3.24	0.39	0.72	0.01	3.751
stgm5003	stiG11123	stmG11025	19.47	0.013	182.36	179.3	CIRCULAR	1	1		0.15914	0.28	1/1/2013 8:00	5.63	0.02	0.22	0	0.65
stgm5002	stiG11134	stmG11025	12.531	0.013	181.53	179.3	CIRCULAR	1	1		0.18085	0.38	1/1/2013 8:00	6.46	0.03	0.23	0	0.941
stgm4979	stcoG1108	stiG11131	157.602	0.013	184.3	182.81	CIRCULAR	1	1		0.00945	0.46	1/1/2013 8:00	3.07	0.13	0.25	0	1.109
stgm4978	stiG11131	stmG11023	29.93	0.013	182.13	181.72	CIRCULAR	1	1		0.0137	0.46	1/1/2013 8:00	3.5	0.11	0.22	0	1.109
stgm4977	stmG11023	stmG11022	67.052	0.013	181.57	180.96	CIRCULAR	1	1		0.0091	0.46	1/1/2013 8:00	3.02	0.14	0.25	0	1.109
stgm4976	stiG11130	stmG11022	10.355	0.013	182.49	180.84	CIRCULAR	1	1		0.16141	0.16	1/1/2013 8:00	2.65	0.01	0.19	0	0.381
stgm4975	stiG11129	stmG11022	46.301	0.013	186.37	180.86	CIRCULAR	1	1		0.11986	0.23	1/1/2013 8:00	3.16	0.02	0.19	0	0.527
stgm4974	stmG11022	stmG11025	246.098	0.013	180.76	179.44	CIRCULAR	1	1		0.00536	0.85	1/1/2013 8:00	3	0.33	0.39	0	2.016
stgm4973	stmG11025	stmG11020	150.493	0.013	178.95	178.57	CIRCULAR	1	1		0.00253	1.51	1/1/2013 8:00	3.01	0.84	0.61	0	3.607
stgm4972	stmG11020	stmG11021	159.575	0.013	178.44	177.84	CIRCULAR	1	1		0.00376	1.51	1/1/2013 8:01	3.27	0.69	0.57	0	3.607
stgm4971	stiG11124	stiG11125	33.778	0.013	178.68	178.28	CIRCULAR	1	1		0.01184	0.24	1/1/2013 8:00	2.74	0.06	0.17	0	0.558
stgm4970	stiG11125	stiG11126	19.508	0.013	178.15	178.05	CIRCULAR	1	1		0.00513	0.24	1/1/2013 8:00	2.08	0.09	0.21	0	0.558
stgm4969	stiG11126	stmG11021	20.295	0.013	177.87	177.67	CIRCULAR	1	1		0.00986	0.24	1/1/2013 8:00	0.93	0.07	0.49	0	0.558
stgm4968	stmG11021	stmG11024	40.94	0.013	177.65	177.55	CIRCULAR	1.33	1		0.00244	1.74	1/1/2013 8:01	3.06	0.46	0.44	0	4.165
stgm4967	stiG11127	stmG11024	11.403	0.013	177.77	177.55	CIRCULAR	1	1		0.0193	0.73	1/1/2013 8:00	2.76	0.15	0.44	0	1.8
stgm4966	stmG11024	stiG11133	24.714	0.013	177.36	177.3	CIRCULAR	1.33	1		0.00243	2.47	1/1/2013 8:00	3.26	0.66	0.57	0	5.965
stgm4965	stiG11133	stiG11132	9.09	0.013	177.3	177.3	CIRCULAR	1	1		0	2.33	1/1/2013 8:07	3.79	6.24	0.73	0.01	5.965
stgm4964	stiG11132	stmF11013	39.048	0.013	177.3	177.05	CIRCULAR	1	1		0.0064	2.34	1/1/2013 8:07	3.91	0.82	0.72	0	5.965
stgm4963	stmF11013	stmF11012	15.263	0.013	177.05	177	CIRCULAR	1	1		0.00328	2.74	1/1/2013 8:04	6.7	1.34	0.53	0.01	5.965
stgm4920	stmG10046	stmG11013	283.146	0.013	186.51	184.11	CIRCULAR	1.5	1		0.00848	7.42	1/1/2013 7:59	4.72	0.99	1	0.01	13.634
stgm4919	stiG10100	stiG10098	13	0.013	186.78	187.93	CIRCULAR	1	1		-0.08881	0.02	1/1/2013 0:44	0.82	0	0.85	0.01	0
stgm4918	stiG10099	stiG10098	185	0.013	189.22	188.44	CIRCULAR	1	1		0.00422	0.82	1/1/2013 8:00	2.82	0.35	0.4	0	1.616
stgm4917	stiG10098	stiG10097	61	0.013	188.24	187.93	CIRCULAR	1	1		0.00508	0.82	1/1/2013 8:00	2.94	0.32	0.44	0	1.616
stgm4916	stiG10097	stmG10047	28.231	0.013	187.73	187.55	CIRCULAR	1	1		0.00638	0.86	1/1/2013 8:02	3.03	0.3	0.78	0	1.616
stgm4915	stiG10096	stmG10047	11.402	0.013	187.74	187.55	CIRCULAR	1	1		0.01667	0.03	1/1/2013 8:02	0.12	0.01	0.78	0	0
stgm4914	stmG10047	stmG10046	145	0.013	187.35	186.71	CIRCULAR	1	1		0.00441	1.01	1/1/2013 8:03	1.72	0.37	0.93	0.01	1.616
stgm4913	stiG10095	stiG10094	151	0.013	189.43	188.76	CIRCULAR	1	1		0.00444	0.35	1/1/2013 8:00	2.15	0.15	0.26	0	0.691
stgm4912	stiG10094	stiG10093	287	0.013	188.76	187.51	CIRCULAR	1	1		0.00436	0.34	1/1/2013 8:00	2.13	0.15	0.26	0	0.691
stgm4642	stmG10038	E115	110.017	0.013	191.8	191.5	CIRCULAR	1.5	1		0.00273	6.67	1/1/2013 8:00	3.78	1.22	1	0.23	12.636
stgm4423	stiG12154	stiG12209	55.242	0.013	178.54	178.21	CIRCULAR	2.167	1		0.00597	16.33	1/1/2013 8:00	6.22	0.75	0.67	0	28.496
stgm4308	E113	E111	79.306	0.013	179.44	178.99	CIRCULAR	1	1		0.00567	0.33	1/1/2013 8:00	2.32	0.12	0.24	0	0.565
stgm3889	stiF12044	stiF12012	90.874	0.013	179.05	178.05	CIRCULAR	1.5	1		0.011	4.38	1/1/2013 8:00	5.88	0.4	0.44	0	7.558
stgm3884	stiG12153	stiG12152	83.517	0.013	160.18	159.47	CIRCULAR	2.5	1		0.0085	16.33	1/1/2013 8:01	7.42	0.43	0.46	0	28.496
stgm3664	stmF12016	stmF1217	99.755	0.013	175.6	173.88	CIRCULAR	1.5	1		0.01724	4.71	1/1/2013 8:00	5.38	0.58	0.5	0	8.124
stgm3630	stiF12049	stmF12016	13.231	0.013	176.51	176.37	CIRCULAR	1.5	1		0.01058	4.38	1/1/2013 8:00	5.8	0.41	0.44	0	7.558
stgm3600	stiG12209	stiG12203	137.691	0.013	178.11	177.8	CIRCULAR	2.5	1		0.00225	16.33	1/1/2013 8:00	5.47	0.84	0.59	0	28.496
stgm3533	E110	E113	59.744	0.013	179.82	179.44	CIRCULAR	1	1		0.00636	0.33	1/1/2013 8:00	2.36	0.12	0.23	0	0.565
stgm3266	stiG12152	stiG12149	34.837	0.013	159.37	159.05	CIRCULAR	2.5	1		0.00919	16.33	1/1/2013 8:01	7.64	0.42	0.45	0	28.496
stgm3229	E109	E110	126.926	0.013	181.19	179.92	CIRCULAR	1	1		0.01001	0.33	1/1/2013 8:00	2.83	0.09	0.21	0	0.565
stgm3222	E111	E112	104.71	0.013	178.89	177.56	CIRCULAR	1	1		0.0127	0.33	1/1/2013 8:00	3.08	0.08	0.19	0	0.565
stgm3220	stiG12203	stiG12202	107.092	0.013	177.7	177	CIRCULAR	2.5	1		0.00654	16.33	1/1/2013 8:00	6.73	0.49	0.5	0	28.496
stgm3136	stiG12187	stiG12186	65.315	0.013	175.62	175.32	CIRCULAR	2.5	1		0.00459	16.33	1/1/2013 8:00	5.94	0.59	0.55	0	28.496
stgm2929	stiF12012	stiF12049	112.727	0.013	177.96	176.71	CIRCULAR	1.5	1		0.01109	4.38	1/1/2013 8:00	5.9	0.4	0.44	0	7.558

Conduits CIP Model

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
stgm2894	stiG12186	stiG12185	48.749	0.013	175.23	174.94	CIRCULAR	2.5	1		0.00595	16.33	1/1/2013 8:00	8.92	0.52	0.4	0	28.496
stgm2749	stmG11013	E17	214.873	0.013	185.06	184.11	CIRCULAR	1.5	1		0.00442	7.42	1/1/2013 7:59	4.77	1.06	1	0.51	13.634
stgm2272	stiG12201	stiG12187	129.384	0.013	176.36	175.72	CIRCULAR	2.5	1		0.00495	16.33	1/1/2013 8:00	6.06	0.57	0.54	0	28.496
stgm2094	stiG12184	stiG12183	78.986	0.013	173.059	161.1	CIRCULAR	2.5	1		0.15317	16.33	1/1/2013 8:00	11.46	0.11	0.33	0	28.496
stgm1826	stiG12183	stiG12182	153.662	0.013	162.61	161.1	CIRCULAR	2.5	1		0.00983	16.33	1/1/2013 8:01	7.83	0.4	0.44	0	28.496
stgm1801	stiG12202	stiG12201	66.164	0.013	176.9	176.46	CIRCULAR	2.5	1		0.00665	16.33	1/1/2013 8:00	6.71	0.49	0.5	0	28.496
stgm1190	E115	stmG11016	30.224	0.013	191.5	191.4	CIRCULAR	1.5	1		0.00331	6.67	1/1/2013 8:00	3.78	1.1	1	0.21	12.636
stgm1175	stiF12043	stiF12044	27.046	0.013	179.62	179.3	CIRCULAR	1.5	1		0.01183	4.38	1/1/2013 8:00	6.04	0.38	0.43	0	7.558
stgm1138	stmG10020	stmG10038	330.265	0.013	192.3	191.8	CIRCULAR	1.5	1		0.00151	6.67	1/1/2013 8:00	3.78	1.63	1	0.38	12.636
stgm0801	stiG12224	stiF12043	185.842	0.013	181.5	179.72	CIRCULAR	1.5	1		0.00958	4.38	1/1/2013 8:00	5.59	0.43	0.46	0	7.558
stgm0681	E112	stmF12016	37.754	0.013	177.36	176.87	CIRCULAR	1	1		0.01298	0.33	1/1/2013 8:00	3.11	0.08	0.19	0	0.565
stgm0170	stiG12182	stiG12153	63.101	0.013	160.9	160.28	CIRCULAR	2.5	1		0.00983	16.33	1/1/2013 8:01	7.83	0.4	0.44	0	28.496
stgm0109	stiG12185	stiG12184	39.013	0.013	174.94	173.09	CIRCULAR	2.5	1		0.04747	16.33	1/1/2013 8:00	13.84	0.18	0.29	0	28.496
stgm0079	stmG11016	stmG114	209.26	0.013	191.4	190.8	CIRCULAR	1.5	1		0.00287	6.67	1/1/2013 8:00	4.64	1.45	0.78	0.01	12.636
stgm5582	stiF1310019	E21	12	0.013	111.8	111.7	CIRCULAR	1	1		0.00833	0.06	1/1/2013 8:00	2.5	0.02	0.07	0	0.134
stgm5581	stiF1310018	stiF1310019	25	0.012	112	111.8	CIRCULAR	1	1		0.008	0.06	1/1/2013 8:00	1.59	0.02	0.09	0	0.134
stgm5580	stiF1310017	stiF1310018	28	0.013	113.4	113.25	CIRCULAR	1	1		0.00536	0.06	1/1/2013 8:00	1.42	0.02	0.1	0	0.134
stgm5566	stmF1310008	stmF1310004	22	0.013	149.47	136.18	CIRCULAR	3	1		0.75804	38.37	1/1/2013 8:00	19.28	0.07	0.32	0	68.688
stgm5565	stmF1310009	stmF1310003	101	0.013	150.08	149.73	CIRCULAR	3	1		0.00347	38.37	1/1/2013 8:00	7.33	0.98	0.69	0	68.688
stgm5564	stmF1310010	stmF1310002	215	0.013	151.44	150.41	CIRCULAR	3	1		0.00479	38.37	1/1/2013 8:00	7.5	0.83	0.68	0	68.688
stgm5560	stmF1210011	stmF1310001	181	0.013	152.42	151.75	CIRCULAR	3	1		0.0037	29.11	1/1/2013 8:00	6.62	0.72	0.6	0	50.359
stgm5557	stmG1210037	stmF1210011	64	0.013	153.32	152.42	CIRCULAR	3	1		0.01406	29.1	1/1/2013 8:00	7.42	0.37	0.54	0	50.359
stgm5556	E38	stmG1210037	23	0.013	153.24	153.32	CIRCULAR	3	1		-0.00348	29.1	1/1/2013 8:00	7.94	0.74	0.51	0	50.359
stgm5551	stmG1210035	E38	271	0.013	154.95	153.57	CIRCULAR	3	1		0.00509	29.1	1/1/2013 8:00	7.07	0.61	0.57	0	50.359
stgm5550	stmG1210034	stmG1210035	55	0.013	155.16	155.08	CIRCULAR	3	1		0.00145	29.11	1/1/2013 8:00	8.24	0.45	0.51	0	50.359
stgm5548	stmG1210033	stmG1210034	113	0.013	158.15	155.83	CIRCULAR	2.5	1		0.02054	29.11	1/1/2013 8:00	11.94	0.5	0.5	0	50.359
stgm5547	stiG1210032	stmG1210033	14	0.013	159.82	159.56	CIRCULAR	1	1		0.01857	5.62	1/1/2013 8:00	7.23	1.16	0.97	0.01	11.04
stgm5090	stmH13021	J13	78.52	0.013	149.4	149.3	CIRCULAR	1	1		0.00127	0.29	1/1/2013 8:35	5.96	0.03	0.11	0	0.931
stgm5080	stmH13017	stiH13054	19.24	0.012	159.69	159.57	CIRCULAR	1	1		0.00624	0.35	1/1/2013 8:01	2.59	0.12	0.23	0	0.931
stgm4496	stiG12279	stiG12278	64.99	0.013	151.69	150.8	CIRCULAR	3	1		0.0137	17.49	1/1/2013 8:00	8.35	0.22	0.34	0	30.552
stgm4495	stiG12281	stiG12280	10.07	0.013	149.69	149.59	CIRCULAR	3	1		0.00993	17.49	1/1/2013 8:00	7.38	0.26	0.37	0	30.552
stgm4494	stiG12277	stiG12281	9.722	0.013	149.89	149.79	CIRCULAR	3	1		0.01029	17.49	1/1/2013 8:00	8.03	0.26	0.35	0	30.552
stgm4318	E107	E106	180.486	0.013	171.07	170.52	CIRCULAR	1	1		0.00305	1.13	1/1/2013 8:00	2.87	0.58	0.5	0	1.943
stgm4073	E105	E104	85.119	0.013	167.91	167.24	CIRCULAR	1	1		0.00787	2.28	1/1/2013 7:58	2.91	0.72	1	0.01	3.758
stgm3670	E100	stiG12129	113.456	0.013	158.27	156.57	CIRCULAR	1.25	1		0.01499	3.42	1/1/2013 8:00	6.21	0.43	0.46	0	5.702
stgm3534	stmG12034	stiG12279	168.987	0.013	153.99	151.69	CIRCULAR	2.5	1		0.01361	17.49	1/1/2013 8:00	9.38	0.37	0.4	0	30.552
stgm3525	stiG12280	stiG12124	167.478	0.013	149.49	147.82	CIRCULAR	3	1		0.00997	21.95	1/1/2013 8:00	12.61	0.33	0.29	0	37.903
stgm3297	E101	E100	29.728	0.013	159.38	158.37	CIRCULAR	1.25	1		0.03399	3.42	1/1/2013 7:59	12.12	0.08	0.29	0	5.702
stgm3129	stiG12128	stiG12110	27.521	0.013	155.15	154.92	CIRCULAR	1.5	1		0.00836	3.42	1/1/2013 8:00	4.57	0.36	0.44	0	5.702
stgm2843	stiG12110	stiG12280	55.473	0.013	154.83	154.46	CIRCULAR	1.5	1		0.00667	4.46	1/1/2013 8:00	4.9	0.52	0.51	0	7.351
stgm2741	stiG12149	stmG12036	135.037	0.013	158.95	157.53	CIRCULAR	2.5	1		0.01052	16.33	1/1/2013 8:01	8.03	0.39	0.43	0	28.496
stgm2310	E103	E102	38.483	0.013	162.43	162.15	CIRCULAR	1.25	1		0.00728	2.29	1/1/2013 7:59	1.86	0.41	1	0.01	3.758
stgm2261	E106	E102	75.389	0.013	170.42	162.4	CIRCULAR	1	1		0.10699	1.13	1/1/2013 8:00	2.28	0.1	0.61	0.01	1.943
stgm2231	E102	E101	86.103	0.013	161.96	159.48	CIRCULAR	1.25	1		0.02881	3.42	1/1/2013 7:59	4.47	0.18	0.6	0.01	5.702
stgm1847	stmG12036	stmG12034	129.398	0.013	157.34	153.99	CIRCULAR	2.5	1		0.0259	17.49	1/1/2013 8:00	10.01	0.26	0.39	0	30.552
stgm1512	stiG12129	stiG12128	123.03	0.013	156.33	155.35	CIRCULAR	1.5	1		0.00797	3.42	1/1/2013 8:00	4.89	0.36	0.42	0	5.702
stgm0887	E104	E103	124.354	0.013	167.14	162.68	CIRCULAR	1	1		0.03589	2.28	1/1/2013 7:59	2.91	0.34	1	0.01	3.758
stgm0564	E108	E105	69.186	0.013	171.19	169.75	CIRCULAR	1	1		0.02082	2.28	1/1/2013 8:00	5.07	0.44	0.73	0.01	3.758
stgm0012	stiG12278	stiG12277	81.671	0.013	150.8	149.98	CIRCULAR	3	1		0.01004	17.49	1/1/2013 8:00	7.96	0.26	0.35	0	30.552
stgm5439	stmH10031	stmH10032	48.8	0.013	171	166.5	CIRCULAR	1	1		0.09261	2.52	1/1/2013 8:01	9.26	0.56	0.38	0	6.592
stgm5438	E42	E54	61	0.013	179.84	178.95	CIRCULAR	1.25	1		0.01459	0.8	1/1/2013 8:00	4.1	0.1	0.22	0	1.907
stgm5437	stiH10069	E42	4.6	0.013	183.27	180.21	CIRCULAR	2	1		0.89094	0	1/1/2013 0:00	0	0	0	0	0
stgm5435	stcoH1004	stmH10033	74.2	0.013	181.92	180.04	CIRCULAR	1	1		0.02535	0.8	1/1/2013 8:00	3.27	6.14	0.35	0.01	1.907
stgm5434.1	E56	E57	34.8	0.013	171.91	171.91	CIRCULAR	1.5	1		0	0.8	1/1/2013 8:02	0.92	1.43	0.49	0.01	6.592
stgm5433	E52	E55	113	0.013	174.2	171.91	CIRCULAR	2	1		0.02027	0	1/1/2013 0:00	0	0	0.19	0	4.685
stgm5432	E51	E53	113	0.013	174.2	171.91	CIRCULAR	2	1		0.02027	0	1/1/2013 0:00	0	0	0.19	0	4.685
stgm5431	E50	E56	113	0.013	174.2	171.91	CIRCULAR	2	1		0.02027	0	1/1/2013 0:00	0	0	0.19	0	4.685
stgm5430	stmH10035	E57	113	0.013	171.95	171.91	CIRCULAR	2	1		0.00035	1.74	1/1/2013 8:00	1.6	0.41	0.38	0	4.685
stgm5429.1	E51	E52	29.4	0.013	174.2	171.95	CIRCULAR	2	1		0.07676	0	1/1/2013 0:00	0	0	0	0	4.685
stgm5428	stmH10034	stmH10035	20.5	0.013	176.4	174.37	CIRCULAR	1.5	1		0.09951	1.74	1/1/2013 8:00	9.9	0.05	0.16	0	4.685
stgm5427	stiH10070	stiH10071	5	0.013	177.12	176.84	CIRCULAR	1.5	1		0.05609	1.74	1/1/2013 8:00	6.22	0.07	0.22	0	4.685
stgm5426	stiH10071	stmH10034	15	0.013	176.84	176.6	CIRCULAR	1.5	1		0.016	1.74	1/1/2013 8:00	5.2	0.13	0.24	0	4.685
stgm4507	stmI11048	stmI11056	43.624	0.013	189.85	189.59	CIRCULAR	3	1		0.00596	9.28	1/1/2013 7:58	5.52	0.18	0.9	0	21.441
stgm4478	E94	E95	85.797	0.013	166.56	165.19	CIRCULAR	1	1		0.01597	1.04	1/1/2013 8:00	4.66	0.23	0.33	0	1.65
stgm4443	stiH11099	stiH11100	114.672	0.013	198.66	198.09	CIRCULAR	1.75	1		0.00497	4.86	1/1/2013 8:00	5.01	0.37	0.42	0	8.479
stgm4428	stiH11111	stiH11110	19.136	0.013	194.24	194.1	CIRCULAR	1.5	1		0.00732	1.78	1/1/2013 8:00	3.96	0.2	0.3	0	3.102
stgm4329	E80	E81	220.246	0.013	186.37	182.78	CIRCULAR	1	1		0.0163	1.86	1/1/2013 8:02	5.5	0.41	0.45	0	3.234
stgm4309	E87	E88	109.137	0.013	170.85	169.36	CIRCULAR	1	1		0.01365	1.86	1/1/2013 8:03	5.15	0.45	0.47	0	3.234
stgm4287	stiH12044	stmH12034	60.313	0.013	172.84	172.41	CIRCULAR	2.5	1		0.00713	16.1	1/1/2013 8:01	6.93	0.46	0.48	0	28.114
stgm4257	E67	E68	164.59	0.013	210.4	206.5	CIRCULAR	1	1		0.0237	2.01	1/1/2013 8:00	4.7	0.37	0.53	0	3.757
stgm4237	stiH11118	stiH11120	76.205	0.013	188.12	187.44	CIRCULAR	2	1		0.00892	16.1	1/1/2013 8:00	7.47	0.75	0.65	0	28.114
stgm4216	stiH11043	stmH11041	88.232	0.013	191.98	189.74	CIRCULAR	2	1		0.0254	4.86	1/1/2013 8:01	6.57	0.13	0.29	0	8.479
stgm4154	stmI11053	stiI11111	111.52	0.013	197.28	196.61	CIRCULAR	2	1		0.00601	6.61	1/1/2013 8:00	5.19	0.38	0.43	0	11.64
stgm4143	E71	E72	67.902	0.013	202.28	201.95	CIRCULAR	1	1		0.00486	4.86	1/1/2013 7:59	6.29	1.96	0.95	0.01	8.479
stgm4132	E61	stmI11048	59.303	0.013	197.41	197.04	CIRCULAR	1	1		0.00624	0.37	1/1/2013 8:00	2.48	0.13	0.25	0	0.637
stgm4074	E90	E91	21.787	0.013	169.03	168.54	CIRCULAR	1	1		0.0225	1.04	1/1/2013 7:15	5.27	0.2	0.3	0	1.65
stgm4051	E91	E92	23.521	0.013	168.44	168.21	CIRCULAR	1	1		0.00978	1.04	1/1/2013 7:15	3.91	0.3	0.37	0	1.65
stgm4045	E58	stmI111	317.286	0.013	214.75	212.84	CIRCULAR	1.25	1		0.00602	5.95	1/1/2013 8:00	4.85	1.18	1	0.76	14.483
stgm4042	E72	E73	24.573	0.013	201.7	201.39	CIRCULAR	1.25	1		0.01262	4.86	1/1/2013 8:00	6.34	0.67	0.6	0	8.479
stgm3893	stiH11124	stiH11125	91.38	0.013	183.99	183.3	CIRCULAR	2.167	1		0.00755	16.1	1/1/2013 8:00	7.05	0.66	0.59	0	28.114
stgm3890	stiH11036	stiH11043	125.876	0.013	195	192.08	CIRCULAR	2	1		0.0232	4.86	1/1/2013 8:01	7.75	0.14	0.25	0	8.479
stgm3858	stiH11104	stiH11036	62.286	0.013	195.4	195.1	CIRCULAR	2	1		0.00482	4.86	1/1/2013 8:01	4.4	0.31	0.38	0	8.479
stgm3793	stiH12055	stiH12054	91.316	0.013	177.01	176.41	CIRCULAR	2.5	1		0.00657	16.1	1/1/2013 8:01	6.72	0.48	0.49	0	28.114
stgm3772	stiH11100	stiH11103	133.544	0.013	197.99	197.22	CIRCULAR	1.5	1		0.00577	4.86	1/1/2013 8:01	4.73	0.61	0.56	0	8.479
stgm3720	stiI11108	stiI11016	94.792	0.013	186.96	185.48	CIRCULAR	3	1		0.01562	18.68	1/1/2013 7:54	6.73	0.22	1	0.01	37.712
stgm3677	E85	E86	81.834	0.013	173.56	172.25	CIRCULAR	1	1		0.01601	1.86	1/1/2013 8:03	5.46	0.41	0.45	0	3.234
stgm3661	E82	E83	58.912	0.013	178.71	177.46	CIRCULAR	1	1		0.02122	1.86	1/1/2013 8:02	6.06	0.36	0.41	0	3.234
stgm3491	stmI11039	E45	196.431	0.013	204.6	202.49	CIRCULAR	1.75	1		0.01074	8.41	1/1/2013 8:00	6.49	0.49	0.53	0	13.931
stgm3467	stmI11029	stiI11067	57.281	0.013	201.53	200.98	CIRCULAR	2	1		0.0096	8.41	1/1/2013 8:00	6.53	0.38	0.43	0	13.931
stgm3397	stiI11152	stmI11047	57.342	0.013	194.24	195.39	CIRCULAR	2.42	1		-0.02006	8.93	1/1/2013 8:00	3.09	0.17	0.6	0	20.804
stgm3363	E114	stiI11272	80.449	0.013	187.02	186.6	CIRCULAR	1	1		0.00522	4.43	1/1/2013 8:00	5.65	1.72	1	1.3	7.766
stgm3332	stiI11016	stmI11020	78.645	0.013	185.38	184.74	CIRCULAR	3	1		0.00814	18.76	1/1/2013 7:38	5.77	7.89	1	3.48	37.712
stgm3307	stiH12077	stiH12078	126.596	0.013	160.29	159.27	CIRCULAR	2.5	1		0.00806	17.96	1/1/2013 8:03	7.45	0.49	0.49	0	31.348
stgm3235	stiH11110	stmH11041	15.656	0.013	194	190.25	CIRCULAR	1.5	1		0.24671	1.78	1/1/2013 8:00	13.65	0.03	0.13	0	3.102
stgm3188	stmI11052	stiI11279	74.46	0.013	194.85	194.33	CIRCULAR	2	1		0.00698	6.61	1/1/2013 8:00	5.48	0.35	0.41	0	11.64
stgm3162	E73	stiH11095	184.68	0.013	201.19	200.34	CIRCULAR	2	1		0.0046	4.86	1/1/2013 8:00	4.33	0.32	0.39	0	8.479
stgm3146	E83	E84	61.233	0.013	177.36	176.44	CIRCULAR	1	1		0.01503	1.86	1/1/2013 8:03	5.34	0.43	0.46	0	3.234
stgm3133	E64	E63	175.718	0.013	199.61	197.53	CIRCULAR	1	1		0.01184	2.66	1/1/2013 8:00	5.32	0.69	0.61	0	4.631
stgm3055	stmH12035	stiH12099	288.621	0.013	167.91	165.62	CIRCULAR	2.5	1		0.00793	16.1	1/1/2013 8:02	7.21	0.44	0.46	0	28.114
stgm2993	stiH11103	stiH11104	56.728	0.013	197.13	195.65	CIRCULAR	1.5	1		0.0261	4.86	1/1/2013 8:01	8.28	0.29	0.37	0	8.479
stgm2915	E92	E93	46.112	0.013	168.11	167.39	CIRCULAR	1	1		0.01562	1.04	1/1/2013 7:15	4.63	0.23	0.33	0	1.65
stgm2869	stmH11041	stiH11117	38.383	0.013	189.64	189.05	CIRCULAR	2	1		0.01537	6.63	1/1/2013 8:00	4.56	0.24	0.47	0	11.581
stgm2685	E84	E85	174.281	0.013	176.34	173.65	CIRCULAR	1	1		0.01544	1.86	1/1/2013 8:03	5.39	0.42	0.45	0	3.234
stgm2655	stiH11126	stiH12047	117.918	0.013	182.42	181.542	CIRCULAR	2.167	1		0.00745	16.1	1/1/2013 8:01	7.01	0.67	0.6	0	28.114
stgm2631	stmI11030	stmL1131	177.829	0.013	197.62	195.01	CIRCULAR	2	1		0.01468	8.41	1/1/2013 8:01	7.67	0.31	0.38	0	13.931
stgm2552	stiI11150	stiI11151	97.203	0.013	195.24	194.75	CIRCULAR	2.42	1		0.00504	8.93	1/1/2013 8:00	2.98	0.33	0.62	0	20.804
stgm2548	stiG12122	stiG12123	144.045	0.013	157.92	156	CIRCULAR	2.5	1		0.01333	17.96	1/1/2013 8:03	8.98	0.38	0.43	0	31.348
stgm2513	stiH11112	stiH11111	55.702	0.013	194.65	194.24	CIRCULAR	1.5	1		0.00736	1.78	1/1/2013 8:00	3.96	0.2	0.3	0	3.102
stgm2504	E62	E61	129.822	0.013	198.16	197.52	CIRCULAR	1	1		0.00493	0.37	1/1/2013 8:00	2.33	0.15	0.26	0	0.637
stgm2479	J10	E114	31.198	0.013	187.25	187.12	CIRCULAR	1	1		0.00417	4.44	1/1/2013 7:59	5.66	1.93	1	1.79	7.766
stgm2420	E97	E98	199.59	0.013	162.7	160.2	CIRCULAR	1	1		0.01253	1.04	1/1/2013 8:00	4.27	0.26	0.35	0	1.65
stgm2418	stiH12059	stiH12057	74.21	0.013	180.29	178.05	CIRCULAR	2.167	1		0.0302	16.1	1/1/2013 8:01	10.54	0.33	0.43	0	28.114
stgm2415	stmH11042	stiH11124	121.261	0.013	185.01	184.09	CIRCULAR	2.167	1		0.00759	16.1	1/1/2013 8:00	7.07	0.66	0.59	0	28.114
stgm2396	E79	E80	276.842	0.013	190.75	186.46	CIRCULAR	1	1		0.0155	1.86	1/1/2013 8:01	5.4	0.42	0.45	0	3.234
stgm2389	E60	stmI11045	72.231	0.013	207.89	206.02	CIRCULAR	1.25	1		0.0259	8.31	1/1/2013 8:00	9.41	0.8	0.68	0	15.278

Conduits CIP Model

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
stgm2379	stiH11095	stiH11097	85.969	0.013	200.09	199.67	CIRCULAR	1.5	1		0.00489	4.86	1/1/2013 8:00	4.62	0.66	0.58	0	8.479
stgm2324	stiH11125	stiH11126	90.832	0.013	183.21	182.52	CIRCULAR	2.167	1		0.0076	16.1	1/1/2013 8:00	7.07	0.66	0.59	0	28.114
stgm2186	E93	E94	45.635	0.013	167.29	166.56	CIRCULAR	1	1		0.016	1.04	1/1/2013 7:15	4.67	0.23	0.33	0	1.65
stgm2166	stil11067	E47	191.106	0.013	200.98	199.19	CIRCULAR	2	1		0.00937	8.41	1/1/2013 8:00	6.5	0.38	0.43	0	13.931
stgm2151	stil11149	stmL1146	142.352	0.013	197.97	195.8	CIRCULAR	2.167	1		0.01525	8.3	1/1/2013 8:00	7.16	0.95	0.35	0	15.278
stgm2092	stiH12102	stiH12077	85.821	0.013	161.07	160.39	CIRCULAR	2.5	1		0.00792	17.96	1/1/2013 8:03	7.41	0.49	0.5	0	31.348
stgm2088	E66	J10	120.449	0.013	187.96	187.35	CIRCULAR	1	1		0.00506	4.43	1/1/2013 7:59	5.64	1.75	1	1.59	7.766
stgm2014	stmH12034	stmH12035	104.489	0.013	168.73	168.01	CIRCULAR	2.5	1		0.00689	16.1	1/1/2013 8:02	6.84	0.47	0.48	0	28.114
stgm2005	E88	E89	41.416	0.013	169.16	168.67	CIRCULAR	1	1		0.01183	1.86	1/1/2013 8:04	4.88	0.48	0.49	0	3.234
stgm1970	E68	STMl1141	196.019	0.013	206.5	205.4	CIRCULAR	1	1		0.00561	2.01	1/1/2013 8:00	3.87	0.75	0.63	0	3.757
stgm1886	stiH11097	stiH11099	130.358	0.013	199.57	198.91	CIRCULAR	1.5	1		0.00506	4.86	1/1/2013 8:00	4.63	0.65	0.57	0	8.479
stgm1863	stmJ11002	stml11039	195.328	0.013	206.6	204.6	CIRCULAR	1.75	1		0.01024	8.41	1/1/2013 8:00	6.77	0.55	0.51	0	13.931
stgm1821	E95	E97	195.883	0.013	165.09	162.8	CIRCULAR	1	1		0.01169	1.04	1/1/2013 8:00	4.17	0.27	0.36	0	1.65
stgm1820	stil11148	stil11149	116.46	0.013	199.49	198.22	CIRCULAR	2	1		0.01091	8.3	1/1/2013 8:00	6.76	0.35	0.41	0	15.278
stgm1809	stil11145	stil11148	208.3	0.013	202.22	199.59	CIRCULAR	2	1		0.01263	8.3	1/1/2013 8:00	7.24	0.33	0.39	0	15.278
stgm1802	E74	E75	163.803	0.013	203.31	202.49	CIRCULAR	1	1		0.00501	1.86	1/1/2013 8:00	3.73	0.73	0.61	0	3.234
stgm1791	E98	E99	112.544	0.013	160.11	158.79	CIRCULAR	1	1		0.01173	1.04	1/1/2013 8:00	4.17	0.27	0.35	0	1.65
stgm1781	stiH12057	stiH12055	116.707	0.013	177.8	177.11	CIRCULAR	2.5	1		0.00591	16.1	1/1/2013 8:01	6.46	0.51	0.51	0	28.114
stgm1737	stml11056	stil11108	209.92	0.013	188.81	187.06	CIRCULAR	2.92	1		0.00834	18.46	1/1/2013 7:54	7.5	0.33	1	0.01	37.712
stgm1721	stil11279	stml11049	112.774	0.013	194.019	193.45	CIRCULAR	2	1		0.00505	9.27	1/1/2013 8:00	5.31	0.58	0.54	0	16.271
stgm1716	E48	stml11030	55.317	0.013	198.34	197.83	CIRCULAR	2	1		0.00922	8.41	1/1/2013 8:01	6.47	0.39	0.43	0	13.931
stgm1694	stml11045	stil11145	137.175	0.013	205.08	202.32	CIRCULAR	2	1		0.02012	8.31	1/1/2013 8:00	8.57	0.26	0.35	0	15.278
stgm1683	stiH12101	stiH12102	109.5	0.013	162.06	161.17	CIRCULAR	2.5	1		0.00813	17.96	1/1/2013 8:02	7.48	0.49	0.49	0	31.348
stgm1677	E45	stml11029	114.004	0.013	202.49	201.64	CIRCULAR	1.75	1		0.00746	8.41	1/1/2013 8:00	5.98	0.61	0.57	0	13.931
stgm1515	E86	E87	74.235	0.013	172.16	170.95	CIRCULAR	1	1		0.0163	1.86	1/1/2013 8:03	5.5	0.41	0.45	0	3.234
stgm1498	E81	E82	311.83	0.013	182.38	178.81	CIRCULAR	1	1		0.01145	1.86	1/1/2013 8:02	4.82	0.49	0.49	0	3.234
stgm1406	stil11111	stml11052	98.72	0.013	196.51	195.05	CIRCULAR	2	1		0.01479	6.61	1/1/2013 8:00	7.2	0.24	0.33	0	11.64
stgm1385	E70	E71	38.155	0.013	202.54	202.477	CIRCULAR	1	1		0.00165	4.86	1/1/2013 7:59	6.19	3.36	1	1.06	8.479
stgm1352	E78	E79	279.989	0.013	195.01	190.85	CIRCULAR	1	1		0.01486	1.86	1/1/2013 8:01	5.32	0.43	0.46	0	3.234
stgm1183	stml11054	stml11053	66.26	0.013	197.93	197.53	CIRCULAR	1.75	1		0.00604	6.61	1/1/2013 8:00	5.21	0.54	0.52	0	11.64
stgm1049	E77	E78	256.218	0.013	199.11	195.11	CIRCULAR	1	1		0.01561	1.86	1/1/2013 8:01	5.41	0.42	0.45	0	3.234
stgm0947	E89	stiH12099	42.155	0.013	164.17	163.96	CIRCULAR	1.25	1		0.00498	1.86	1/1/2013 8:04	3.61	0.41	0.44	0	3.234
stgm0931	stiH12047	stiH12059	141.929	0.013	181.44	180.38	CIRCULAR	2.167	1		0.00747	16.1	1/1/2013 8:01	7.02	0.67	0.6	0	28.114
stgm0918	stiH11117	stiH11118	73.165	0.013	188.95	188.22	CIRCULAR	2	1		0.00998	16.1	1/1/2013 8:00	7.81	0.71	0.62	0	28.114
stgm0879	stml11049	stml11056	97.349	0.013	192.52	191.89	CIRCULAR	2	1		0.00647	9.27	1/1/2013 8:01	5.82	0.51	0.51	0	16.271
stgm0877	stiH12078	stiG12122	143.263	0.013	159.18	158.02	CIRCULAR	2.5	1		0.0081	17.96	1/1/2013 8:03	7.47	0.49	0.49	0	31.348
stgm0829	stiH12099	stiH12101	69.254	0.013	162.71	162.16	CIRCULAR	2.5	1		0.00794	17.96	1/1/2013 8:02	7.41	0.49	0.49	0	31.348
stgm0756	stiH11120	stmH11042	49.453	0.013	187.28	185.26	CIRCULAR	2	1		0.04088	16.1	1/1/2013 8:00	11.3	0.35	0.46	0	28.114
stgm0754	E75	E76	154.277	0.013	202.4	201.62	CIRCULAR	1	1		0.00506	1.86	1/1/2013 8:00	3.71	0.74	0.61	0	3.234
stgm0669	E63	stil11279	43.913	0.013	197.53	197.01	CIRCULAR	1	1		0.01184	2.66	1/1/2013 8:00	5.32	0.69	0.61	0	4.631
stgm0665	stml11047	stml11048	134.816	0.013	193.43	192.72	CIRCULAR	2.5	1		0.00527	8.93	1/1/2013 8:00	5.3	0.3	0.38	0	20.804
stgm0606	E59	E60	299.305	0.013	215.89	207.99	CIRCULAR	1.25	1		0.0264	8.31	1/1/2013 8:00	9.48	0.79	0.67	0	15.278
stgm0598	E65	E64	183.696	0.013	201.87	199.7	CIRCULAR	1	1		0.01181	2.66	1/1/2013 8:00	5.31	0.69	0.61	0	4.631
stgm0586	E69	E70	175.107	0.013	203.79	202.86	CIRCULAR	1	1		0.00531	4.86	1/1/2013 8:00	6.19	1.87	1	1.07	8.479
stgm0387	stil11272	stml11020	66.721	0.013	186.1	185.78	CIRCULAR	1.5	1		0.0048	4.43	1/1/2013 7:59	4.28	0.61	1	0.01	7.766
stgm0384	E47	E48	91.209	0.013	199.19	198.34	CIRCULAR	2	1		0.00932	8.41	1/1/2013 8:00	6.48	0.38	0.43	0	13.931
stgm0340	stmL1146	stil11150	28.59	0.013	195.54	195.34	CIRCULAR	2.42	1		0.007	7.98	1/1/2013 8:00	6.02	0.07	0.33	0	19.153
stgm0230	stil10107	stml111	49.443	0.013	212.84	212.87	CIRCULAR	1.5	1		-0.00061	9.5	1/1/2013 8:00	5.37	3.67	1	0.01	25.874
stgm0205	stiH12054	stiH12044	91.164	0.013	176.31	172.94	CIRCULAR	2.5	1		0.03699	16.1	1/1/2013 8:01	9.65	0.2	0.37	0	28.114
stgm0123	stil11151	stil11152	57.316	0.013	194.65	194.34	CIRCULAR	2.42	1		0.00541	8.93	1/1/2013 8:00	2.2	0.32	0.82	0	20.804
stgm0020	E76	E77	245.153	0.013	201.53	199.23	CIRCULAR	1	1		0.00938	1.86	1/1/2013 8:00	4.48	0.54	0.52	0	3.234
stgm5242	stil15014	stml15004	15.5	0.013	162.62	162.57	CIRCULAR	1	1		0.00323	0.12	1/1/2013 8:00	1.49	0.06	0.16	0	0.268
stgm5241	stil15013	stil15014	28.82	0.013	162.76	162.62	CIRCULAR	1	1		0.00486	0.12	1/1/2013 8:00	1.53	0.05	0.16	0	0.268
stgm5240	stil15012	stil15013	29.26	0.013	163.12	162.96	CIRCULAR	1	1		0.00547	0.12	1/1/2013 8:00	1.75	0.05	0.14	0	0.268
stgm5239	stil15011	stml15004	89.59	0.013	163.02	162.57	CIRCULAR	1	1		0.00502	0.23	1/1/2013 8:00	2.34	0.09	0.18	0	0.507
stgm5238	stil15010	stil15011	132.09	0.013	163.88	163.22	CIRCULAR	1	1		0.005	0.23	1/1/2013 8:00	2.04	0.09	0.2	0	0.507
stgm5236	stil15008	OF1	36.23	0.013	163.82	162.03	CIRCULAR	1	1		0.04947	1.11	1/1/2013 8:00	7.11	0.14	0.25	0	2.464
stgm5235	stil15007	stil15008	101.13	0.013	166.14	164.02	CIRCULAR	1	1		0.02097	1.11	1/1/2013 8:00	5.23	0.21	0.31	0	2.464
stgm5234	stil15006	stil15007	33.84	0.013	166.96	166.34	CIRCULAR	1	1		0.01832	1.11	1/1/2013 8:00	4.98	0.23	0.33	0	2.464
stgm5006	E29	J4974	33	0.013	155.48	155.28	CIRCULAR	1.5	1		0.00606	1.11	1/1/2013 8:00	1.26	0.06	0.5	0	3.316
stgm5005	stml15003	J4974	35	0.013	156.03	155.53	CIRCULAR	1	1		0.01429	0.14	1/1/2013 8:00	0.43	0.04	0.43	0	0.307
stgm5004	stil15004	stml15003	348	0.013	162.19	156.28	CIRCULAR	1	1		0.01699	0.14	1/1/2013 8:00	1.08	0.03	0.24	0	0.307
stgm4954	stml12036	STIl1245	8	0.013	165.95	165.84	CIRCULAR	1	1		0.01375	1.9	1/1/2013 8:00	5.19	0.45	0.47	0	4.965
stgm4953	stml12035	stml12036	39.274	0.013	166.03	165.95	CIRCULAR	1	1		0.00204	1.9	1/1/2013 8:00	4.24	1.18	0.55	0.01	4.965
stgm4952	stil12052	STMl128	31.113	0.013	176.75	176.16	CIRCULAR	1	1		0.01897	0.53	1/1/2013 8:00	4.08	0.11	0.22	0	0.935
stgm1618	E44	stmJ11002	38.011	0.013	209.6	206.6	CIRCULAR	1.5	1		0.07917	8.71	1/1/2013 7:57	9.96	0.29	0.5	0	13.931
stgm0949	E43	E44	16.76	0.013	209.7	209.6	CIRCULAR	1.5	1		0.00597	9.51	1/1/2013 7:57	8.93	1.17	0.58	0.01	13.931
stgm2392	stmJ11001	E43	247.064	0.013	210.2	209.7	CIRCULAR	1.5	1		0.00202	8.41	1/1/2013 7:59	5.04	1.78	0.9	0.01	13.931
stgm5691	stmF0610006	stoF0610007	36.874	0.013	236.26	236.22	CIRCULAR	1	1		0.00108	8.97	1/1/2013 7:57	11.42	48.36	1	13.53	70.243
stgm5692	stiF0610005	stmF0610006	24.614	0.013	237.77	236.98	CIRCULAR	1	1		0.03211	8.97	1/1/2013 7:57	11.42	1.41	1	13.09	70.243
stgm5693	stiG0610003	stiF0610004	81.53	0.013	245.69	241.92	CIRCULAR	1	1		0.04629	0.2	1/1/2013 8:00	3.55	0.03	0.12	0	0.458
stgm5694	stiF0610004	stiF0610005	205.635	0.013	241.57	237.87	CIRCULAR	1	1		0.018	0.19	1/1/2013 8:00	1.11	0.04	0.57	0.01	0.458
stgm5695	E1	stiF0610005	30.384	0.013	237.91	237.87	CIRCULAR	1	1		0.00132	8.87	01/01/2013 13:06 PM	11.3	6.86	1	15.57	69.785
stgm5166	stiF07038	stmF07021	61.96	0.012	213.96	213.77	CIRCULAR	1.67	1		0.00307	6	1/1/2013 8:09	4.69	0.72	0.57	0	16.02
stgm5167	stmF07021	E33	10.09	0.012	213.38	213.45	CIRCULAR	1.67	1		-0.00694	6	1/1/2013 8:09	5.18	0.48	0.52	0	16.02
stgm5168	stmF07022	stiF07038	45.29	0.012	215.31	215	CIRCULAR	1.67	1		0.00684	6.57	1/1/2013 8:01	5.79	0.52	0.51	0	16.02
stgm5169	stmF07023	stmF07022	80.65	0.012	215.9	215.56	CIRCULAR	1.67	1		0.00422	6.57	1/1/2013 8:01	4.97	0.67	0.58	0	16.02
stgm5170	stiF07040	stmF07023	30.52	0.012	216.4	215.56	CIRCULAR	1.67	1		0.02753	6.63	1/1/2013 8:01	6.06	0.31	0.52	0	16.02
stgm5171	stiF07054	stiF07040	1	0.013	216.67	216.65	CIRCULAR	1	1		0.02	1.54	1/1/2013 8:02	3.53	0.31	0.56	0	1.706
stgm5172	stiF07055	stiF07054	32.2	0.013	217.01	216.89	CIRCULAR	1	1		0.00373	0.24	1/1/2013 7:45	1.61	0.11	0.29	0	0.431
stgm5173	stiF07045	stiF07040	113.7	0.013	217.25	216.75	CIRCULAR	1.25	1		0.0044	4.01	1/1/2013 8:01	4.41	0.94	0.7	0	9.841
stgm5174	stiF07048	stiF07045	84.9	0.013	218.8	217.45	CIRCULAR	1	1		0.0159	0.98	1/1/2013 8:01	2.78	0.22	0.52	0	2.346
stgm5175	stiF07044	stiF07048	35.6	0.013	219.45	219.13	CIRCULAR	1	1		0.00899	0.98	1/1/2013 8:01	3.73	0.29	0.37	0	2.346
stgm5176	stiF07043	stiF07044	40.6	0.013	222.85	219.13	CIRCULAR	1	1		0.09201	0.98	1/1/2013 8:01	5.23	0.1	0.29	0	2.346
stgm5177	stiF07046	stiF07045	35.3	0.013	217.64	217.4	CIRCULAR	1.25	1		0.0068	3.03	1/1/2013 8:01	3.98	0.57	0.6	0	7.496
stgm5178	stiF07042	stiF07043	244.6	0.013	234.09	222.95	CIRCULAR	1	1		0.04559	0.98	1/1/2013 8:01	6.68	0.13	0.24	0	2.346
stgm5179	stmF07024	stiF07042	248.8	0.013	239	234.09	CIRCULAR	1	1		0.01974	0.99	1/1/2013 8:00	5.53	0.2	0.28	0	2.346
stgm5180	stiF06006	stmF07024	232.1	0.013	240.1	239.1	CIRCULAR	1	1		0.00431	0.99	1/1/2013 8:00	2.98	0.42	0.44	0	2.346
stgm5181	stiF07047	stiF07046	38.5	0.013	218.09	217.79	CIRCULAR	1.25	1		0.00779	3.03	1/1/2013 8:01	4.72	0.53	0.52	0	7.496
stgm5182	stiF07051	stiF07047	35.7	0.013	218.4	218.14	CIRCULAR	1	1		0.00728	0.43	1/1/2013 8:00	1.46	0.14	0.47	0	1.012
stgm5183	stmF07025	stiF07047	345.3	0.013	228.21	218.29	CIRCULAR	1	1		0.02874	2.61	1/1/2013 8:01	7.41	0.43	0.46	0	6.483
stgm5184	stiF07052	stmF07025	86.5	0.013	228.79	228.39	CIRCULAR	1	1		0.00462	2.61	1/1/2013 8:01	4.07	1.08	0.76	0.01	6.483
stgm5185	stiF06005	stiF07052	35.3	0.013	229.47	229.21	CIRCULAR	1	1		0.00737	0.3	1/1/2013 8:00	2.34	0.1	0.31	0	0.714
stgm5690	stiH1010058	stmH1010057	14	0.013	195	191.12	CIRCULAR	1	1		0.28844	1.53	1/1/2013 8:00	13.9	0.08	0.2	0	3.233
stgm5670	stiH1010019	stiH1010019	56	0.013	186.24	179.42	CIRCULAR	1	1		0.1227	0.36	1/1/2013 8:00	7.13	0.03	0.11	0	0.741
stgm5686	stmH10028	stmH1010052	227	0.013	186.83	179.82	CIRCULAR	1	1		0.0309	1.53	1/1/2013 8:00	6.58	0.24	0.34	0	3.233
stgm5687	stmH1010052	stmH1010051	148	0.013	179.52	168	CIRCULAR	1	1		0.07807	1.53	1/1/2013 8:00	9.17	0.15	0.27	0	3.233
stgm5667	stiH10023	stmH1010016	37	0.013	193.33	192.59	CIRCULAR	1	1		0.02	0.21	1/1/2013 8:00	2.1	0.04	0.19	0	0.43
stgm5671	stiH1010019	stmH1010015	42	0.013	179.22	177.66	CIRCULAR	1	1		0.03717	0.36	1/1/2013 8:00	7.86	0.02	0.11	0	0.741
stgm5669	stmH1010016	stiH1010017	70	0.013	192.49	186.44	CIRCULAR	1	1		0.08675	0.36	1/1/2013 8:00	2.67	2.64	0.23	0.01	0.741
stgm5668	stiH1010015	stmH1010016	42	0.013	193.23	192.59	CIRCULAR	1	1		0.01524	0.15	1/1/2013 8:00	1.53	0.03	0.18	0	0.312
stgm5685	stmH1010051	stmH1010049	144	0.013	167.8	160.8	CIRCULAR	1	1		0.04867	1.53	1/1/2013 8:00	7.75	0.19	0.3	0	3.233
stgm5689	stmH1010057	stmH10028	248	0.013	190.92	187.2	CIRCULAR	1	1		0.015	1.53	1/1/2013 8:00	5.06	0.35	0.41	0	3.233
stgm5089	stmH13020	stmH13021	51	0.012	156.51	149.72	CIRCULAR	1	1		0.13433	0.29	1/1/2013 8:34	3.78	0.08	0.15	0	0.931
stgm5088	stiH13054	stmH13020	92.36	0.012	157.01	156.61	CIRCULAR	1	1		0.00433	0.29	1/1/2013 8:34	1.55	2.3	0.29	0.01	0.931
stgm5086	stmH13019	stmH13018	105	0.012	161.06	160.48	CIRCULAR	1	1		0.00552	0.35	1/1/2013 8:00	2.48	0.12	0.24	0	0.931
stgm5087	stmH13018	stmH13017	74	0.012	160.29	159.74	CIRCULAR	1	1		0.00743	0.35	1/1/2013 8:00	2.75	0.11	0.22	0	0.931
stgm5084	stiH13057	stmH13019	33.19	0.012	161.34	161.27	CIRCULAR	1	1		0.00211	0.35	1/1/2013 8:00	2.11	0.2	0.26	0	0.931
stgm5200	stiF07057	stiF07040	158.2	0.013	217.03	216.75	CIRCULAR	1.25	1		0.00177	1.86	1/1/2013 8:00	2.94	0.68	0.51	0	4.472
stgm5201	stiF07058	stiF07057	71.8	0.013	217.85	217.45	CIRCULAR	1	1		0.00557	1.09	1/1/2013 8:00	3.26	0.41	0.44	0	2.639
stgm5202	stiF07059	stiF07058	35.5	0.013	218.32	218.05	CIRCULAR	1	1		0.00761	1.1	1/1/2013 8:00	3.61	0.35	0.41	0	2.639
stgm5203	stiF07061	stiF07060	35.1	0.013	218.23	218.08	CIRCULAR	1	1		0.00427	0.25	1/1/2013 8:00	2.05	0.11	0.21	0	0.59
stgm5204	stiF07060	stiF07057	61.9	0.013	217.93	217.43	CIRCULAR	1	1		0.00808	0.77	1/1/2013 8:00	3.34	0.24	0.34	0	1.833
stgm5205	stiF06000	stmF06000	28	0.013	243.17	241.54	CIRCULAR	1	1		0.05831	0.31	1/1/2013 8:00	5.17	0.04	0.13	0	0.728
stgm5206	stmF06000	stiF06001	85	0.013	241.42	236.6	CIRCULAR	1	1		0.0568	0.31	1/1/2013 8:00	5.12	0.04	0.13	0	0.728

Conduits CIP Model

Name	Inlet Node	Outlet Node	Length (ft)	Roughness	Inlet Elev. (ft)	Outlet Elev. (ft)	Cross-Section	Geom1 (ft)	Barrels	Transect	Slope (ft/ft)	Max. |Flow| (cfs)	Time Max. Flow (M/D/Y)	Max. |Velocity| (ft/s)	Max/Full Flow	Max/Full Depth	Capacity Limited (h)	Contributing Area (ac)
stgm5207	stiF06002	stiF06001	38	0.013	242.53	236.63	CIRCULAR	1	1		0.15717	0.32	1/1/2013 8:00	7.37	0.02	0.1	0	0.751
stgm5208	stiF06001	stiF06003	35	0.013	236.4	236.03	CIRCULAR	1	1		0.01057	0.63	1/1/2013 8:00	3.48	0.17	0.28	0	1.479
stgm5209	stiF06003	stiF06004	38	0.013	235.7	230.42	CIRCULAR	1	1		0.14031	0.63	1/1/2013 8:00	3.09	0.05	0.37	0	1.479
stgm5210	stiF06004	stiF07052	218.8	0.013	230.35	228.79	CIRCULAR	1	1		0.00713	2.32	1/1/2013 8:00	3.69	0.77	0.74	0	5.769
stgm5211	stiF06008	stiF06007	61.62	0.013	231.98	231.78	CIRCULAR	1	1		0.00325	1.7	1/1/2013 8:00	3.43	0.84	0.6	0	4.29
stgm5212	stiF06007	stiF07064	37.5	0.013	231.68	231.44	CIRCULAR	1	1		0.0064	1.7	1/1/2013 8:00	3.8	0.59	0.55	0	4.29
stgm5213	stiF07064	stiF06004	146.5	0.013	231.24	230.65	CIRCULAR	1	1		0.00403	1.69	1/1/2013 8:00	3.44	0.75	0.6	0	4.29
stgm5215	stiF07063	stiF07062	71.1	0.013	219.69	219.2	CIRCULAR	1	1		0.00689	0.52	1/1/2013 8:00	2.83	0.18	0.28	0	1.243
stgm5216	stiF07062	stiF07060	173.3	0.013	218.95	218.08	CIRCULAR	1	1		0.00502	0.52	1/1/2013 8:00	2.57	0.2	0.3	0	1.243
stgm5284	stiG10105	stiG10104	33	0.013	193.76	193.61	CIRCULAR	1	1		0.00455	0.86	1/1/2013 8:00	2.96	0.36	0.4	0	1.643
stgm5285	stiG10104	stmG10050	55	0.013	193.51	193.27	CIRCULAR	1	1		0.00436	0.86	1/1/2013 8:00	2.92	0.36	0.4	0	1.643
stgm5286	stmG10050	stmG10049	119	0.013	193.07	192.57	CIRCULAR	1	1		0.0042	0.86	1/1/2013 8:00	2.39	0.37	0.47	0	1.643
stgm5302	stiG10103	stmG10049	58	0.013	192.74	192.67	CIRCULAR	1	1		0.00121	1.18	1/1/2013 8:00	2.78	0.95	0.53	0	2.493
stgm5289	stiG09110	stiG10105	132	0.013	194.47	193.86	CIRCULAR	1	1		0.00462	0.86	1/1/2013 8:00	2.92	0.35	0.4	0	1.643
stgm5291	E14	stiG09112	34	0.013	193.17	192.85	CIRCULAR	1	1		0.00941	0.23	1/1/2013 8:00	1.16	0.07	1	0.01	0.429
stgm5292	stiG09112	STMG1027	96	0.013	192.2	186.09	CIRCULAR	1.75	1		0.06378	0.22	1/1/2013 7:59	0.18	0.01	0.68	0.01	0.429
stgm5293	stmG10049	stmG10048	68	0.013	192.42	192.1	CIRCULAR	1	1		0.00471	2.04	1/1/2013 8:00	3.82	0.83	0.64	0	4.136
stgm5294	stmG10048	stiG10107	28	0.013	191.9	191.73	CIRCULAR	1	1		0.00607	2.04	1/1/2013 8:00	4.01	0.73	0.62	0	4.136
stgm5295	stiG10107	stiG10108	8	0.013	190.1	189.99	CIRCULAR	1	1		0.01375	2.17	01/01/2013 16:38 PM	3.95	0.52	1	0.01	4.136
stgm5296	stiG10108	stiG10109	30	0.013	189.63	189.49	CIRCULAR	1	1		0.00467	1.92	1/1/2013 8:15	2.45	0.79	1	1.62	4.136
stgm5297	stiG10109	STMG1029	44	0.013	189.29	188.71	CIRCULAR	1	1		0.01318	1.92	1/1/2013 8:15	2.54	0.36	0.96	0.01	4.136
stgm5298	STMF103	J12	310.7	0.013	179.55	177	CIRCULAR	2.25	1		0.00821	27.38	1/1/2013 8:00	9.77	0.78	0.66	0	59.196
stgm5299	stmF09036	STMF103	52.67	0.013	180.7	179.8	CIRCULAR	2.25	1		0.01709	23.43	1/1/2013 8:00	6.63	1	0.83	0.01	51.308
stgm5300	STMG1028	stmF09036	423.04	0.013	182.93	180.8	CIRCULAR	2.25	1		0.00504	12.93	1/1/2013 8:00	4.25	0.45	0.71	0	51.308
stgm5307	E31	stmI13014	40	0.013	170.69	164.9	CIRCULAR	1	1		0.14629	0.43	1/1/2013 7:24	4.16	0.03	0.58	0.01	0.107
stgm5308	stcoI13000	stmI13014	57.56	0.013	165.1	164.9	CIRCULAR	1	1		0.00347	2.29	1/1/2013 7:23	3.34	1.09	1	0.01	0.746
stgm5310	stmI13014	STII1359	42.21	0.013	164.7	163.99	CIRCULAR	1	1		0.01682	3.47	1/1/2013 7:23	4.48	0.75	1	0.01	0.852
stgm5577	stmF1310011	mF1310010	48	0.013	110.6	108.5	CIRCULAR	1	1		0.04379	0.47	1/1/2013 8:00	6.06	0.06	0.15	0	1.197
stgm5460	stmH131000	STMH1314	168	0.013	161.73	160.54	CIRCULAR	1	1		0.00708	3.94	1/1/2013 8:00	5.73	0.73	0.82	0.01	7.14
stgm5458	stmH131006	mH1310003	18	0.013	162.34	161.89	CIRCULAR	1	1		0.02501	3.94	1/1/2013 8:00	6.45	1	0.73	0	7.14
stgm5429	stmH10035	E50	29.4	0.013	174.2	174.2	CIRCULAR	2	1		0	0	1/1/2013 0:00	0	0	0	0	4.685
stgm5429.2	E50	E51	29.4	0.013	174.2	174.2	CIRCULAR	2	1		0	0	1/1/2013 0:00	0	0	0	0	4.685
stgm5434.2	E54	E53	34.8	0.013	171.91	171.91	CIRCULAR	1.5	1		0	0.8	1/1/2013 8:00	0.89	1.42	0.51	0.01	6.592
stgm5434.3	E53	E56	34.8	0.013	171.91	171.91	CIRCULAR	1.5	1		0	0.8	1/1/2013 8:01	0.91	1.42	0.5	0.01	6.592
stgm5434	E55	E54	34.8	0.013	171.91	171.91	CIRCULAR	1.5	1		0	0.03	1/1/2013 7:06	0.25	0.04	0.51	0	4.685
stgm5434.4	E57	stmH10031	34.8	0.013	171.91	171.91	CIRCULAR	1.5	1		0	2.52	1/1/2013 8:01	3.31	4.48	0.45	0.01	6.592
stgm5438.1	stmH10033	E42	61	0.013	179.84	178.95	CIRCULAR	1.25	1		0.01459	0.8	1/1/2013 8:00	4.73	0.07	0.2	0	1.907
HCT1-01_1	J4974	J11	380.045	0.04	156.4	130.415	IRREGULAR	0	1	HCT-01	0.06853	7.96	1/1/2013 8:01	2.09	0	0.01	0	23.659
HCT1-01_2	J11	OF_J-HC-01	566.245	0.04	130.415	91.7	IRREGULAR	0	1	HCT-01	0.06853	10.31	1/1/2013 8:04	2.8	0	0.01	0	31.179
C7	stiG12124	J-HC-18	74.471	0.01	147.82	128	CIRCULAR	4	1	HC-15	0.2761	39.87	1/1/2013 8:01	6.76	0.04	0.57	0.01	69.251
C8	E17	STMG1112	385.827	0.01	184.11	181.88	CIRCULAR	1.25	1		0.00578	7.42	1/1/2013 8:00	6.26	1.16	0.93	0.01	13.634
C10	stmF11012	STMF113	302.03	0.01	177	160.38	CIRCULAR	1	1		0.05511	2.35	1/1/2013 8:07	6.64	0.22	0.48	0	5.965
C11	stmH10038	mH1010049	33.295	0.013	166.5	159.96	CIRCULAR	1.75	1		0.20033	2.52	1/1/2013 8:01	13.55	0.03	0.13	0	6.592
C12	stmH1010049	J3696	10.125	0.01	159.96	156.53	CIRCULAR	1	1		0.36006	4.05	1/1/2013 8:01	12.88	0.15	0.42	0	9.825
C13	stmH1010015	J-HC-27	214.583	0.01	167	151.5	CIRCULAR	0.833	1		0.07242	0.36	1/1/2013 8:00	1.12	0.03	0.56	0.01	0.741
HC-07_1	J-HC-10	J13	338.398	0.04	111.5	110.449	IRREGULAR	0	1	HC-07	0.00311	479.24	1/1/2013 9:06	39.34	0	0.07	0	1860.238
HC-07_2	J13	J-HC-09	466.862	0.04	110.449	109	IRREGULAR	0	1	HC-07	0.0031	479.46	1/1/2013 9:08	50	0	0.07	0	1861.169
C14	E35	stmF09033	60.353	0.013	178.87	178.57	CIRCULAR	1	1		0.00497	1.5	1/1/2013 8:05	4.71	0.23	0.66	0.01	5.216
C15	stmF1310010	J-CCT2-02	92.624	0.01	108.3	100	CIRCULAR	1	1		0.08997	0.53	1/1/2013 8:00	1.15	0.04	0.57	0.01	1.331
C16	E21	stmF1310010	21.616	0.01	109	108.5	CIRCULAR	1	1		0.02314	0.06	1/1/2013 8:01	1.75	0	0.09	0	0.134
CCT2-06_2	stmF1310004	J-CCT2-06	188.784	0.04	135.96	133.5	IRREGULAR	0	1	STGM1964	0.01303	38.37	1/1/2013 8:01	3.96	0	0.06	0	68.688
STGM2147_1	J4362	J12	98.617	0.04	179.3	175.5	IRREGULAR	0	1	STGM2147	0.03856	0	1/1/2013 0:00	0	0	0.19	0	0
STGM2147_2	J12	J-CCT3-14	114.213	0.04	175.5	171.1	IRREGULAR	0	1	STGM2147	0.03855	27.37	1/1/2013 8:01	2.38	0.1	0.59	0	59.196
C17	STMG0828	STIG0894	245.297	0.01	222.44	223.3	CIRCULAR	1	1		-0.00351	4.3	1/1/2013 7:50	5.48	1.57	1	0.01	104.497
C18	J17	J18	302.979	0.01	196	189.5	CIRCULAR	1	1		0.02146	1.27	1/1/2013 8:00	6.61	0.19	0.37	0	2.349
C19	J18	J20	294.23	0.01	185	184.5	CIRCULAR	1	1		0.0017	3.2	1/1/2013 8:01	4.08	1.68	1	1.53	6.019
C20	J20	J21	302.077	0.01	184.5	183.5	CIRCULAR	1	1		0.00331	4.46	1/1/2013 8:01	5.68	1.67	1	1.29	8.409
C21	J21	J14	289.767	0.01	183.5	182	CIRCULAR	1	1		0.00518	4.44	1/1/2013 8:03	6.8	1.33	0.78	0.01	8.409
C22	J14	STMG1228	786.3	0.01	182	172	CIRCULAR	1.5	1		0.01272	4.44	1/1/2013 8:04	4.94	0.29	0.52	0	8.409
C23	J23	J14	318.428	0.01	188	186	CIRCULAR	1.5	1		0.00628	0	1/1/2013 0:00	0	0	0	0	0
C24	J22	J21	314.665	0.01	193	188	CIRCULAR	1	1		0.01589	0	1/1/2013 0:00	0	0	0	0	0
C25	J19	J20	302.983	0.01	195	189	CIRCULAR	1	1		0.01981	1.3	1/1/2013 8:00	6.47	0.2	0.3	0	2.39
C26	J16	J15	322.115	0.01	193	188	CIRCULAR	1	1		0.01552	2	1/1/2013 8:00	6.06	0.35	0.7	0.01	3.67
C27	J15	J18	296.023	0.01	188	185	CIRCULAR	1	1		0.01013	2	1/1/2013 8:00	3.08	0.43	1	0.01	3.67
STGM1992-B_1	J4290	J24	314.832	0.013	162.4	150.012	CIRCULAR	1.5	1		0.03938	16.12	1/1/2013 8:00	11.86	0.77	0.74	0	28.301
STGM1992-B_2	J24	J-HC-14	279.858	0.013	150.012	139	CIRCULAR	1.5	1		0.03938	21.4	1/1/2013 7:50	13.7	1.03	0.91	0.01	40.65
C29	STMH1222	STMH1242	99.586	0.01	171	169.93	CIRCULAR	1	1		0.01075	2.37	1/1/2013 7:05	4.31	0.49	1	0.01	8.761
C28	STMH1211	J24	902.856	0.01	168.5	150.012	CIRCULAR	1.5	1		0.02048	4.99	1/1/2013 8:00	4.82	0.26	0.58	0	12.349
C30	STMI1233	STMI1228	32.05	0.01	178	176.5	CIRCULAR	1.5	1		0.04685	4.58	1/1/2013 7:11	4.4	0.15	1	0.01	17.552
C31	J4	STMI1229	81.422	0.01	179.81	179.71	CIRCULAR	1.5	1		0.00123	3.25	1/1/2013 7:20	2.34	0.68	1	0.02	10.141
C32	stmI11020	J-SBT1-06	108.721	0.013	185.38	176	CIRCULAR	1	1		0.0866	12.81	1/1/2013 9:06	16.31	1.22	1	4.35	45.478
C33	stmI15004	STMI151	280.609	0.01	162.57	156.8	CIRCULAR	1	1		0.02057	0.35	1/1/2013 8:00	0.74	0.05	0.58	0.01	0.774
C34	STMI104	STII1080	630.365	0.01	208.3	207.16	CIRCULAR	2.5	1		0.00181	49.46	1/1/2013 8:02	10.65	2.18	0.9	0.01	157.79
C35	J4848	STII0972	338.257	0.01	243	242.5	CIRCULAR	1.5	1		0.00148	7.64	1/1/2013 8:38	4.32	1.46	1	2.95	42.368
STGM2160_1	J3708	J25	214.089	0.013	185	184.739	CIRCULAR	2.75	1		0.00122	39.21	1/1/2013 8:07	6.6	2.12	1	0.71	91.042
STGM2160_2	J25	J3694	195.561	0.013	184.739	184.5	CIRCULAR	2.75	1		0.00122	38.28	1/1/2013 8:07	7.04	2.07	0.86	0.01	94.822
C36	stvG10043	J25	3.294	0.01	187	184.739	CIRCULAR	1	1		0.94386	2.92	1/1/2013 8:23	4.66	0.06	0.84	0.01	7.531
C37	stvG10041	J5474	9.675	0.01	191.74	187	CIRCULAR	1	1		0.56199	1.58	1/1/2013 8:00	3.39	0.05	0.57	0.01	3.751
STGM1335_1	J3694	J26	106.667	0.04	184.5	183.299	IRREGULAR	0	1	STGM1335	0.01126	54.61	1/1/2013 8:01	3.2	0.36	0.68	0	123.332
STGM1335_2	J26	J4318	246.933	0.04	183.299	180.52	IRREGULAR	0	1	STGM1335	0.01125	54.88	1/1/2013 8:03	3.82	0.36	0.63	0	124.022
C38	E16	J26	0.824	0.01	186.5	183.299	CIRCULAR	1	1		-999	0.37	1/1/2013 8:04	0.88	0	0.52	0.01	8.221
C39	stvG10044	J3694	1.078	0.01	186.52	184.5	CIRCULAR	1	1		-999	3.32	1/1/2013 8:05	6.88	0.05	0.59	0.01	7.531
STGM3150_1	STMG1021	J27	167.25	0.013	192	191.194	CIRCULAR	2.75	1		0.00482	31.18	1/1/2013 8:03	6.95	0.85	0.71	0	72.271
STGM3150_2	J27	J3896	517.53	0.013	191.194	188.7	CIRCULAR	2.75	1		0.00482	31.18	1/1/2013 8:03	7.2	0.85	0.68	0	72.271
C40	STIJ0911	STIJ0916	813.268	0.01	232.75	226.92	CIRCULAR	1.25	1		0.00717	2.77	1/1/2013 8:00	2.94	0.39	0.72	0.01	18.223
C41	STMJ1022	STMJ107	695.608	0.01	219.49	210.16	CIRCULAR	1.25	1		0.01341	7.05	1/1/2013 8:00	6.58	0.72	0.82	0.01	32.571
STGM516	STMG1311	J28	263	0.013	162	158	CIRCULAR	1.75	1		0.01521	15.22	1/1/2013 8:00	6.95	0.76	0.86	0.01	28.129
C43	STMG134	J28	409.713	0.01	158.7	158	CIRCULAR	2.5	1		0.00171	26.41	1/1/2013 8:00	5.38	1.2	1	0.41	45.343
C44	J28	J32	343.305	0.01	158	157	CIRCULAR	2.5	1		0.00291	41.61	1/1/2013 8:00	10.81	1.45	0.75	0.01	73.471
C47	J29	J31	744.494	0.01	164	160	CIRCULAR	2	1		0.00537	10.02	1/1/2013 8:00	4.11	0.46	0.74	0.01	27.52
C48	J31	STMG134	350.618	0.01	160	158.7	CIRCULAR	2	1		0.00371	21.85	1/1/2013 8:00	6.96	1.22	1	0.92	37.118
C42	STMG1316	J31	255	0.01	161	160	CIRCULAR	2	1		0.00392	12.13	1/1/2013 7:38	4.69	0.66	1	0.01	30.383
C46	STMG128	J29	265.632	0.01	164.5	164	CIRCULAR	1.5	1		0.00188	6.31	1/1/2013 8:00	4.62	1.06	0.72	0.01	20.786
C45	STMI1015	STII1028	263.972	0.01	213.55	213.2	CIRCULAR	1.5	1		0.00133	3.51	1/1/2013 7:31	2.67	0.71	1	0.01	27.892
C49	STMH0910	J-HC-34	1455.06	0.01	229	177	CIRCULAR	1.25	1		0.03576	4.07	1/1/2013 8:35	4.64	0.26	0.67	0.01	18.277
C50	J32	OF2	2819.607	0.01	157	57	CIRCULAR	2.5	1		0.03549	50.38	1/1/2013 8:00	20.47	0.5	0.5	0	90.344
C54	STIG1023	J4402	717.875	0.01	187.2	182.41	CIRCULAR	1.5	1		0.00667	6.17	1/1/2013 8:00	4.25	0.55	0.77	0.01	13.053
C53	STMG1210	STMG121	53.102	0.01	167.05	167	CIRCULAR	1.5	1		0.00094	3.07	1/1/2013 7:15	1.74	0.73	1	0.16	4.991
C57	STMG1319	stmF1310001	462.167	0.01	163.32	151.44	CIRCULAR	1	1		0.02571	6.22	1/1/2013 8:00	8.83	0.8	0.84	0.01	11.671

Appendix C: Channel Vulnerability Data

Section 4

Stream Channel Vulnerability Assessment

Section 4 documents the stream channel vulnerability assessment that was conducted to evaluate and assess existing and potential future channel conditions in the streams within Newberg. The field visits for this assessment occurred between October 15 and 17, 2013.

The primary objectives of the stream channel vulnerability assessment included the following:

- Assess existing physical channel conditions relative to the current flow regime and level of development.
- Identify existing problem areas, including areas of bank instability or excessive erosion.
- Assess the potential for future channel issues that could occur as a result of increased flows or watershed changes.

Figure 4-1 shows the location of mapped stream channels, floodplains, and stream corridor zoning within the City of Newberg.

4.1 Methods

The methodology used in this stream vulnerability assessment included:

1. review of existing documentation;
2. qualitative field assessment of selected stream channels within the City limits; and
3. comparison of hydrologic and hydraulic modeling results to observed channel morphology.

4.1.1 Data Review

Several data sources were reviewed prior to conducting the field assessment. The list of sources and description of contents is shown below.

City of Newberg Data – City staff occasionally walk stream channels within the city to assess water quality conditions and document outfall conditions. The City provided photos and data sheets to BC, documenting previously observed conditions. The City also provided photos of past flood events, documenting water elevations resulting from high flows. These data were reviewed relative to current data, and were used to augment the field data collected in October 2013, since not all stream channel reaches were walked within the timeframe allotted for this project.

George Fox University Data – George Fox University (GFU) students have been collecting data and conducting restoration projects in the reach of Hess Creek that runs through the GFU campus. The City provided BC with stream channel cross section data collected by the students. Additionally, Clyde Thomas, facility manager and stream restoration facilitator at GFU provided details on work that is being conducted on Hess Creek on the GFU campus.

City GIS Data – City GIS data were reviewed prior to conducting the stream visit, including the following:

- stormwater infrastructure
- zoning

- streams and wetlands
- floodplains
- city boundary
- aerial photograph
- LiDAR imagery

Chehalem Watershed Assessment–The Yamhill Basin Council conducted a Chehalem Watershed Assessment in June 2001 through an Oregon Watershed Enhancement Board (OWEB) grant and local matching funds (Yamhill Basin Council. 2001). The Chehalem Watershed includes Chehalem Creek, Hess Creek, and Spring Brook. This document was reviewed specifically for information about the stream channels that are situated in Newberg, including Hess Creek, tributaries of Spring Brook, and a small tributary of Chehalem Creek. Regional geologic information was obtained from this report, as well as information on fish habitat and barriers, wetlands, and other watershed characteristics.

4.1.2 Field Assessment

A field assessment was conducted between October 15 and October 17, 2013, during a relatively dry period, with no measured rainfall in the previous 5 days. Approximately 3 miles of stream channel were walked, including portions of the following reaches, shown on Figure 4-1. The field assessment included the following reaches:

- Hess Creek
  - Upstream of Villa Road in the vicinity of Mountainview Drive (upper reach)
  - George Fox University (middle reach)
  - Hoover Park (middle reach)
  - Corinne Drive Tributary
  - Wynooski Street/Wastewater Treatment Plant (lower reach)
- Chehalem Creek Tributary
  - Upstream of Hwy 240 to Columbia Drive
  - Upstream of Sunnycrest Road
- Spring Brook
  - Benjamin Road and Lake Shore Drive reach (outside City limits)
  - West Tributary between Fred Meyer (Hayes Road) and Fernwood Road (West Tributary reach)

General observations of bank and bed materials, vegetation, erosion, general confinement, and outfalls were made. Photos were taken to document conditions, and occasional measurements of bankfull widths and depths were taken with a stadia rod (in tenths of feet). Latitude and longitude coordinates along with elevations were recorded using a hand-held GPS unit.

The field data and locations of photographs were recorded in a field notebook. Field notes were scanned, and data and photos were transferred to excel spreadsheets. These field notes are provided in Appendix C.

LEGEND

- FLOODWAY
- 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- 0.1 PCT ANNUAL CHANCE FLOOD HAZARD
- STREAM CORRIDOR
- STREAMS
- RAILROAD
- URBAN GROWTH BOUNDARY (UGB)
- CITY LIMITS
- TAX LOTS

Tangen Creek
Harvey Creek
Hess Creek
Chehalem Creek
Willamette River
Spring Brook
Section Observed
Section Walked
Section Observed
Section Walked
Section Walked
Section Walked
Section Walked
Section Observed
Section Walked
Section Walked
Section Observed
N
0 0.25 0.5 1 Miles

STORMWATER MASTER PLAN UPDATE

FIGURE 4-1. MAPPED STREAM CHANNELS, FLOODPLAINS, AND STREAM CORRIDOR ZONING

NEWBERG, OREGON

City of Newberg

Brown AND Caldwell

JUNE 2014

4.1.3 Flow modeling

A PC-SWMM hydrologic and hydraulic model was constructed to evaluate existing and future stream flows based on predicted land use changes (described in Section 3). Existing conditions modeled flows were compared to observed channel morphology to evaluate patterns and potential morphological changes that might occur with increased flows as predicted in the future condition models.

4.2 Results

Descriptions of the general stream channel characteristics in the reaches observed during our field investigation are provided in Table 4-1 and with more detail in Appendix C. In general, the condition of stream channels within the city limits are variable and likely dependent on a number of factors including riparian conditions (i.e., width of riparian area and vegetation); stream channel gradient and valley confinement; land uses in the general vicinity; and stormwater outfall locations.

4.2.1 Geologic Conditions and Erosivity

The predominant geology of Hess Creek and the other tributaries within the city is Willamette silt (Yamhill Basin Council, 2001), lacustrine (lake) and fluvial (river) deposits consisting of unconsolidated and semi-consolidated silt, clay, sand and gravel. With the exception of the upper reaches of Hess Creek in the vicinity of Mountainview Drive, the bed and bank material of all of the stream channels that were walked consisted of silt and clay. Downstream of Mountainview Drive, conglomerate (mixed sand and small rounded gravel) was observed in the banks. Upstream of Mountainview Drive, bedrock (siltstone) was present in the streambed.

The geologic material for which these stream channels are situated are resistant to slumping and can result in nearly vertical banks. Erosion was observed downstream of culverts or outfalls where flow was concentrated. Outside of these predictable locations where flow is concentrated erosion was also observed in several reaches where blocks of silt have caved into the channel. This type of bank failure is most likely a result of destabilization from undercut banks, animal activity (burrows from mountain beavers or nutria), surface disturbance, or soil saturation. This type of erosion was observed most notably in the Chehalem Creek tributary upstream of Highway 240, the Crestview reach of Hess Creek upstream of the railroad, and the lower reach of Hess Creek near the confluence with the Corinne Drive Tributary.

4.2.1.1 Specific Problem Areas

Below are specific problem areas or poor conditions that were noted during our stream walks. These are locations where restoration, repair or maintenance projects should be considered.

4.2.1.1.1 Chehalem Tributary

- Hill slope failure upstream of Highway 240 on the west bank. Re-vegetation and stabilization would prevent future slumping.
- Beaver dam at Sheridan Road crossing (downstream of Highway 240). The beaver dam observed during our stream walk was removed; however, this location is likely prone to beaver activity and should be monitored to ensure beavers do not get re-established. The road fill above the culvert is at least 30 feet high, and a large storm event that coincides with a culvert blockage could have devastating consequences.

Table 4-1. Summary of Stream Channel Characteristics

Stream	Segment	Location of modeled flow	Drainage area (acres)	2-year max total inflow (cfs)		Percent change	2-year unit discharge (cfs/acre)		Average bankfull width (ft)	Average bankfull depth (ft)	Average gradient (ft/ft)
				Existing	Future		Existing	Future			
Chehalem Tributary	North of Hwy 240	Creekside Lane and Creekside Court	329.5	42.5	45	5.56	0.13	0.14	8	4	0.016
	South of Hwy 240	West Sheridan Street (downstream side)	753	132.5	136.5	2.93	0.18	0.18	6	4	0.006
Hess Creek	North of Mountainview Drive	Edgewood Drive and Aldersgate Drive	946.5	56.2	62.5	10.08	0.06	0.07	9	3	0.008
	Mountainview Drive to Villa Road/Railroad	Crestview Drive	1,135.20	72.1	80.6	10.55	0.06	0.07	9	3	0.008
	Villa Road/Railroad to Hwy 99W	Fulton Street (downstream side)	1,451.10	100.2	110.7	9.49	0.07	0.08	10	3	0.005
	Hwy 99W to City Limit (near Wynooski Street)	Merlin Lane	1,861.70	174.4	181.8	4.07	0.09	0.10	11	2.5	0.002
Spring Brook	West Tributary, Hwy 99W to City Limit (Fernwood Road)	Hayes Street	358.4	74.4	80.6	7.69	0.21	0.22	7	3	0.012
	North of Hwy 99W near Benjamin Road	Benjamin Road	465.1	21.4	22.5	4.89	0.05	0.05	8	3	0.008

4.2.1.1.2 Hess Creek

- Upstream of Mountainview Drive, a stormwater ditch outfalls above Hess Creek on the hill slope. This discharge has resulted in extensive erosion at the outfall. Additional energy dissipation should be installed in this area, and consideration extending pipe directly to Hess Creek would help alleviate the hill slope erosion.
- In the reach above the railroad (Crestview), the stream has eroded material away from a sanitary sewer manhole that is now located in the stream channel. This manhole should be inspected for integrity and evaluated with respect to potential future impacts to channel migration and erosion.
- GFU has spent a lot of time and energy on the restoration of Hess Creek through the campus. Care should be taken to minimize changes to flow or hydraulics (such as Fulton Street culvert) that could negatively impact the restoration that has occurred.
- Significant erosion is occurring at the outfall location of the detention pond located on the Corinne Drive tributary to Hess Creek.

4.2.1.1.3 General Problem Observations

- Erosion is occurring at numerous stormwater outfalls and culvert crossings throughout the city. Outfalls and culvert crossing should be designed with sufficient energy dissipation with a mix of material sizes or geotextile fabric to minimize erosion of the fine grained silt.
- Invasive vegetation species such as reed canary grass, blackberries, and nightshade are prevalent in all the stream reaches (except GFU where restoration work as occurred). There are many opportunities to improve riparian vegetation conditions along Hess Creek (especially in the lower reach) and other Newberg tributaries.

4.2.2 Channel Geomorphology

Channel dimensions were plotted against drainage area and modeled 2-year discharges to evaluate for potential relationships between channel shape and flow conditions.

There is a fairly good correlation of drainage area to bankfull channel width for the stream channels walked in October 2013 (Figure 4-2).

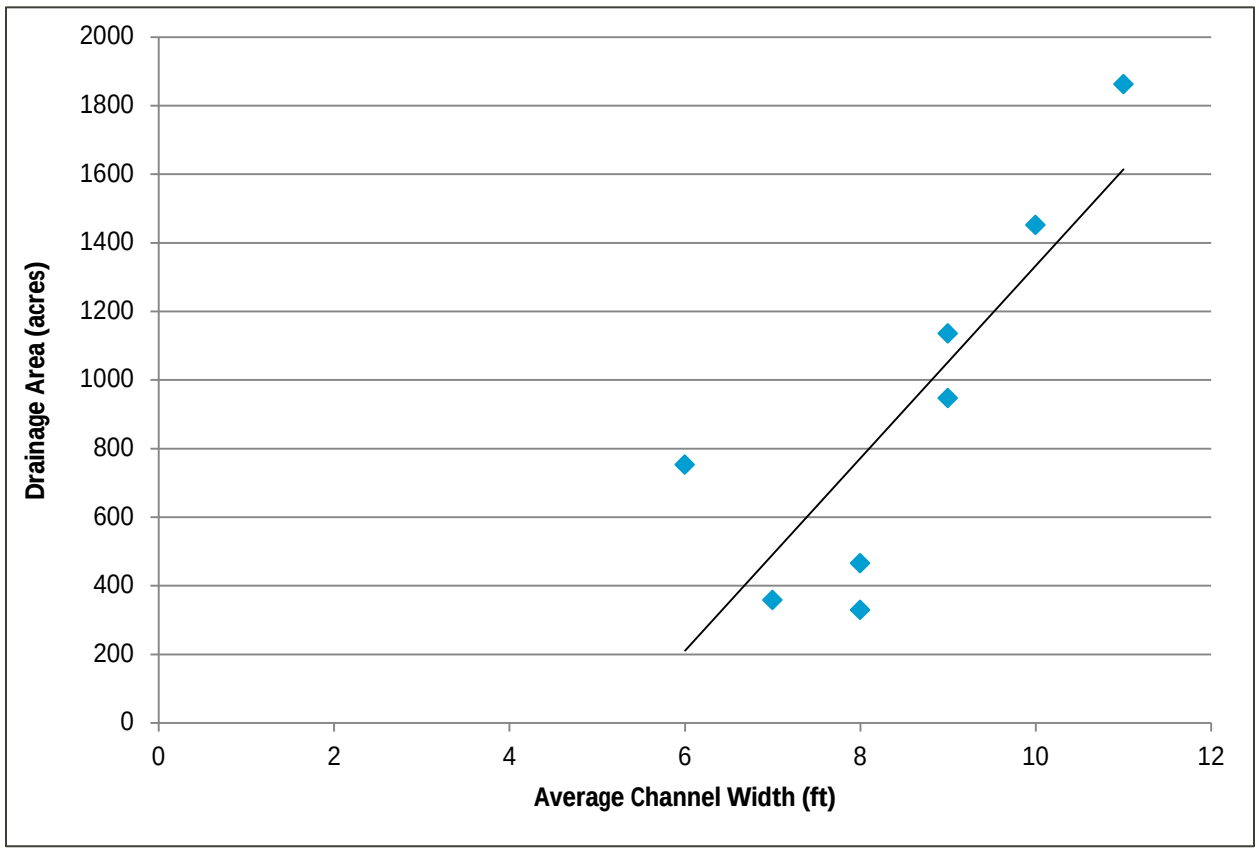


Figure 4-2. Drainage area versus channel width

However, a correlation was not found between discharge and stream channel width (Figure 4-3) or area (Figure 4-4).

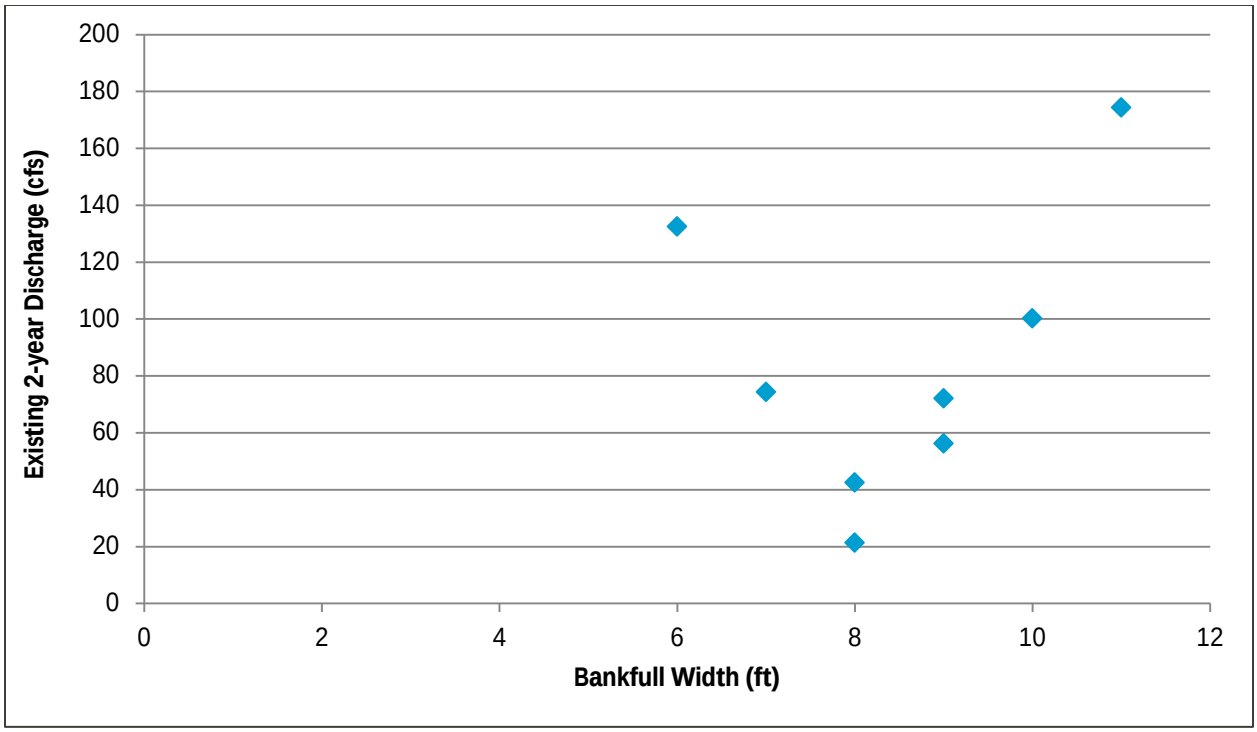


Figure 4-3. Existing 2-year discharge versus bankfull width

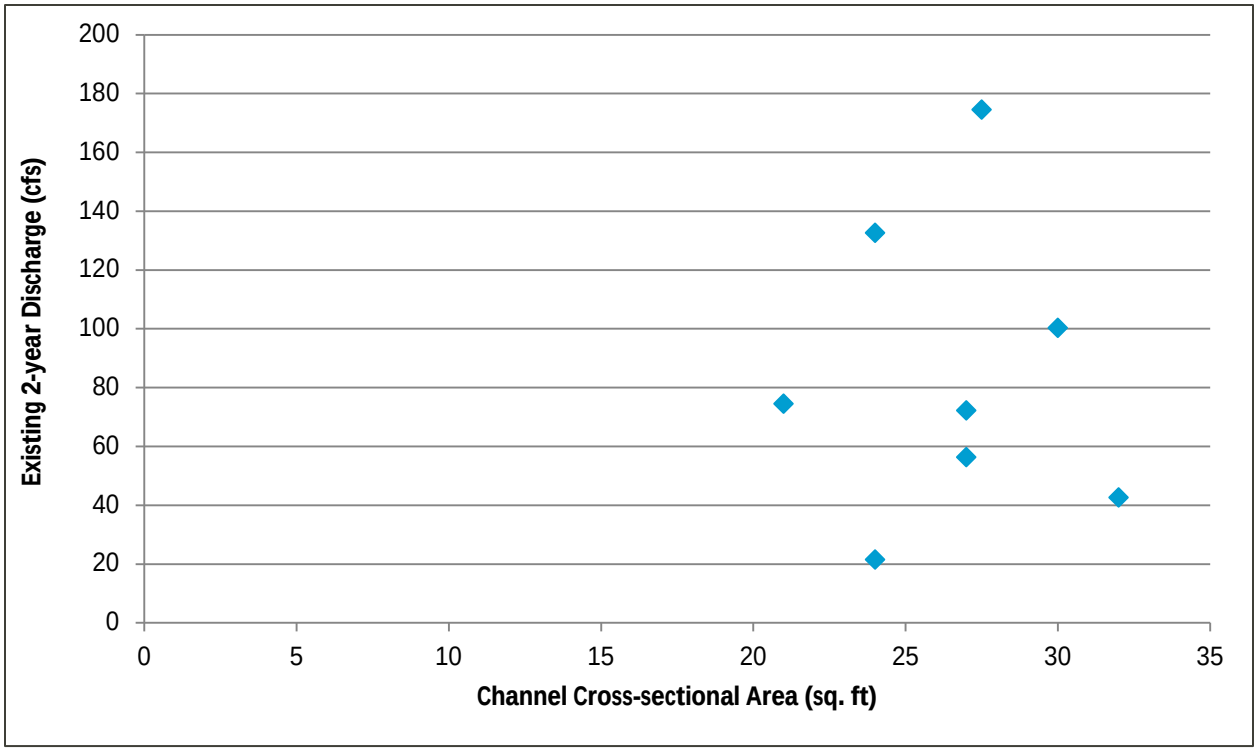


Figure 4-4. Existing 2-year discharge versus channel cross-sectional area

Figures 4-3 and 4-4 indicate that other factors besides stream channel discharge are likely influencing the geomorphology of stream channels in Newberg. For instance, constrictions in the stream channels such as culvert crossings tend to dampen the impact of peak flows and resulting erosion in downstream reaches. Examples of this include the Fulton Street culvert upstream of GFU, and the Sheridan Street crossing on the Chehalem Tributary on the west side of the city. Additionally, wide floodplains for which stream channels have room to move, and where overbank flooding can occur without risk of damage to infrastructure also dampens the erosive effects of high stream flow discharges.

The stream channel section with the highest unit area discharge (0.21 cfs/acre) is the Spring Brook tributary downstream of Hayes Street. This reach of stream channel was in relatively good condition despite the high velocity discharges it experiences relative to the overall drainage area. This could be because there are retention/detention facilities upstream that were not included in the model, the fairly wide riparian area that consists of large trees and native vegetation, and the connection of the stream channel to its floodplain. Flow control or stormwater detention in other parts of the city could have positive effects for stream channel conditions as well.

The City has designated "stream corridor zoning," limiting the type and location of development near stream channels based on a study completed in 1995 to comply with statewide planning Goal 5, "Open Spaces, Scenic and Historic Areas, and Natural Resources." The stream corridor zoning coincides with the natural floodplain area of stream channels within the city limits, providing fairly wide and undeveloped riparian areas in some cases.

4.2.3 Future Conditions

The area of the city that is expected to further develop in the next several years is located north of Mountainview Drive where large agricultural properties will be converted to residential developments. Flow increases are predicted for the upper reaches of Hess Creek based on modeling results. These increases will be less apparent downstream because of hydraulic conditions in the middle reaches (culvert crossings, etc.). The reach that is most vulnerable to increased flows is upstream of the railroad tracks (Crestview), where erosion is already prevalent.

Based on the modeling effort, flow increases are also expected on the west tributary of Spring Brook, particularly as the Austin Property is developed.

Future development of the South Industrial Area is located outside (downstream) of the modeling limits for this Stormwater Master Plan. Design standards to protect streams evaluated in this study should be carried into the South Industrial Area to protect existing stream channels.

No future flooding in the open stream channels is predicted for the 10-year flows based on hydraulic modeling, however, stream channel erosion could occur if measures aren't taken to control flows, maintain wide riparian areas and open floodplains, or dissipate energy at outfall locations and culvert crossings.

4.3 Recommendations

The City has already taken steps that help alleviate channel erosivity by designating stream corridors for protection in the zoning code. Other measures that should be considered to reduce potential future channel impacts include the following:

- Encourage or require new development to maximize infiltration of stormwater runoff when soil conditions allow. The infiltration of stormwater runoff reduces the impact of increase flows on stream corridors and is critical to the reduction of the channel forming annual flow events.
- Require flow control measures for smaller storms for new development. The 24-hour synthetic storms used for sizing detention can be conservative and therefore the small channel forming flows

are not addressed in the standards. Although this will not fully address all smaller storm events we recommend adding half the 2-year, 24-hour storm as a flow control storm in addition to the larger storms.

- Ensure culvert crossings, stormwater outfalls, and stream channel crossings (bridges) are designed and installed properly (e.g., aligned with stream flow and include energy dissipation) to minimize erosion downstream.
- Conduct regular field screenings of outfalls and other areas of previously observed erosion to document changes in bank conditions and identify locations for stream bank stability projects. Allocating at least one day per month for stream observation would allow City staff to visit areas of concern several times a year on a rotational basis.
- Vegetation does contribute to stream bank stability, and if invasive species such as reed canary grass are removed, replacement vegetation should be planted immediately.

CITY OF NEWBERG
STREAM VULNERABILITY ASSESSMENT STREAM REACH DESCRIPTIONS

Chehalem Creek Tributary, Upstream of Sunnycrest Road

Stream
Chehalem Creek Newberg Tributary

Reach
Lower Reach (upstream of Sunnycrest)

General Characteristics

Gradient:	≈ 0.006 ft/ft
Valley Width:	100 – 150 feet
Planform:	Meandering
Average BFW:	≈ 6 ft
Average BFD:	≈ 4 ft
Substrate:	Silt
Vegetation:	Blackberries, ferns, mixed forest.
Beaver Activity:	Upstream of Sheridan Road culvert.

Issues
Some bank erosion and slumps.

Aerial view of Chehalem Creek Tributary, Sunnycrest (W 1st St) Reach

CITY OF NEWBERG
STREAM VULNERABILITY ASSESSMENT STREAM REACH DESCRIPTIONS

Typical stream section above Highway 240

Stream
Chehalem Creek Newberg Tributary

Reach
Upper Reach (upstream of Hwy 240)

General Characteristics

Gradient:	≈ 0.016 ft/ft
Valley Width:	50 – 100 feet
Planform:	Relatively straight
Average BFW:	≈ 8 ft
Average BFD:	≈ 4 ft
Substrate:	Silt
Vegetation:	Blackberries, ferns, narrow mixed forest.
Beaver Activity:	None

Issues
Bank slumps, erosion and hillslope failures.

Aerial view of Chehalem Creek Tributary, upstream Hwy 240 reach

CITY OF NEWBERG
STREAM VULNERABILITY ASSESSMENT STREAM REACH DESCRIPTIONS

Photo of Corrine Drive Tributary channel upstream of detention pond/lake (bottom photo).

Stream
Hess Creek

Reach
East Tributary (Corrine Drive)

General Characteristics

Gradient:	≈ 0.01 ft/ft
Valley Width:	<100 feet
Planform:	Relatively straight
Average BFW:	≈ 5 ft (City data)
Average BFD:	≈ 2.7 ft (City data)
Substrate:	Silt above detention pond, and downstream at confluence
Vegetation:	Mixed
Beaver Activity:	None

Issues
Erosion at detention pond outlet. Channel incision downstream (City data).

Aerial view of Hess Creek, Corrine Drive Tributary

CITY OF NEWBERG
STREAM VULNERABILITY ASSESSMENT STREAM REACH DESCRIPTIONS

Hess Creek channel about WWTP

Stream
Hess Creek

Reach
Lower Reach (WWTP)

General Characteristics

Gradient:	≈ 0.002 ft/ft
Valley Width:	250 – 300 feet
Planform:	Meandering
Average BFW:	≈ 9 ft
Average BFD:	≈ 4 ft
Substrate:	Silt
Vegetation:	Reed canary grass, blackberries
Beaver Activity:	No recent activity observed.

Issues
Invasive vegetation. Very long piped section downstream of WWTP.

Aerial view of Hess Creek, WWTP reach.

CITY OF NEWBERG
STREAM VULNERABILITY ASSESSMENT STREAM REACH DESCRIPTIONS

Example photos of stream reach above Crestview. Significant bank erosion in this reach.

Stream
Hess Creek

Reach
Upper Reach (Above Crestview)

General Characteristics

Gradient:	≈ 0.008 ft/ft
Valley Width:	100 – 150 feet
Planform:	Meandering
Average BFW:	≈ 9 feet
Average BFD:	≈ 3 feet
Substrate:	Silt (loose and thick in places)
Vegetation:	Residential pasture, blackberries, reed canary grass
Beaver Activity:	Moderate

Issues
Bank erosion (exposed sewer manhole)
Culvert of unknown purpose

Aerial view of Hess Creek, Crestview Reach

CITY OF NEWBERG
STREAM VULNERABILITY ASSESSMENT STREAM REACH DESCRIPTIONS

Photo of mainstem Hess Creek at confluence with Corrine Drive Tributary

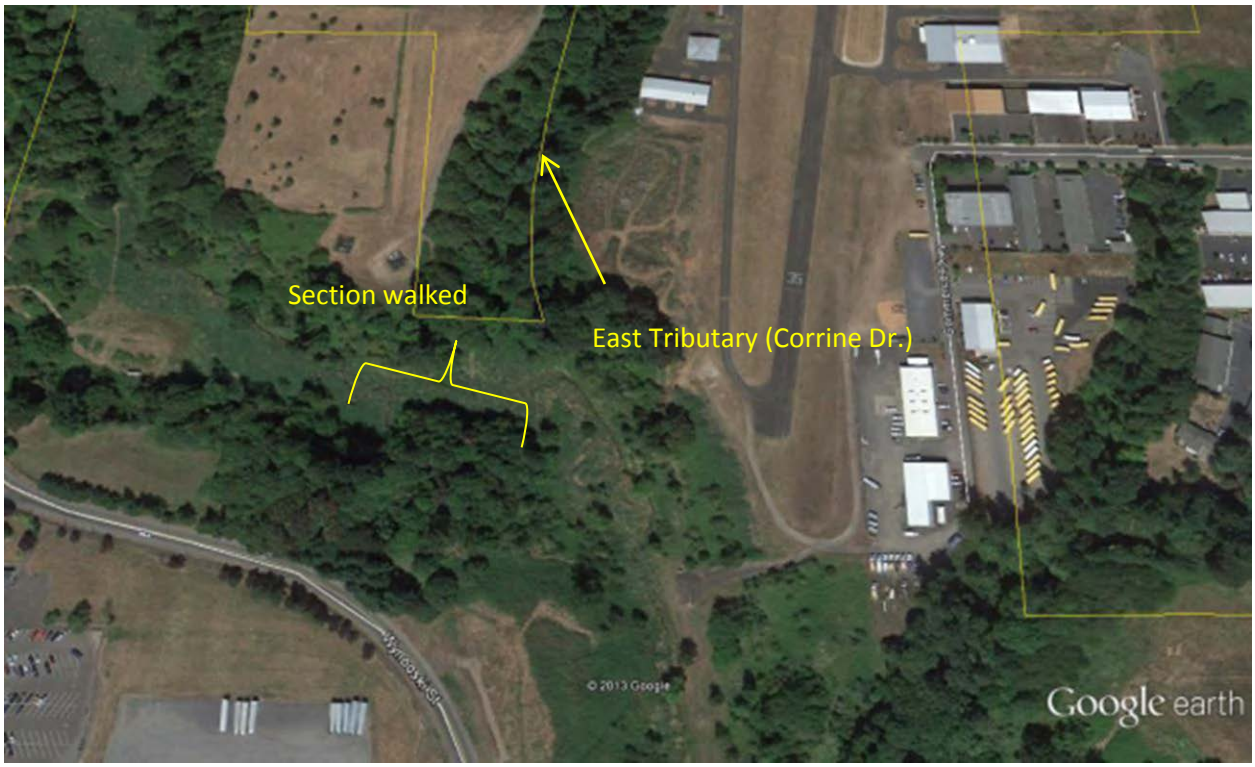
Stream
Hess Creek

Reach
Lower Reach (Near Confluence with East Trib)

General Characteristics

Gradient:	≈ 0.002 ft/ft
Valley Width:	200 – 300 feet
Planform:	Meandering
Average BFW:	≈ 11 feet
Average BFD:	≈ 2.5 feet
Substrate:	Silt
Vegetation:	Reed canary grass, blackberries, mixed vegetation along slopes at forest edge.
Beaver Activity:	None

Issues
Fair amount of bank slumping in this reach



Aerial view of Hess Creek, East Tributary Confluence Reach

CITY OF NEWBERG
STREAM VULNERABILITY ASSESSMENT STREAM REACH DESCRIPTIONS

Typical stream section upstream of NE Benjamin Road

Stream
Spring Brook Mainstem

Reach
Upper Reach (Upstream of Benjamin Road)

General Characteristics

Gradient:	≈ 0.008 ft/ft
Valley Width:	100 – 150 feet
Planform:	Meandering
Average BFW:	≈ 8 ft
Average BFD:	≈ 3 ft
Substrate:	Silt
Vegetation:	Shrubs, lawn (residential areas)
Beaver Activity:	None

Issues
Flooding at Benjamin Road during larger events

Aerial view of Spring Brook in the vicinity of NE Benjamin Road

CITY OF NEWBERG
STREAM VULNERABILITY ASSESSMENT STREAM REACH DESCRIPTIONS

Example photos of Hess Creek through Hoover Park (downstream of Hwy 99), and flooding during January 2011.

Stream
Hess Creek

Reach
Lower Reach (Hoover Park)

General Characteristics

Gradient:	≈ 0.006 ft/ft
Valley Width:	200 – 300 feet
Planform:	Channelized
Average BFW:	≈ 8 feet
Average BFD:	≈ 3 feet
Substrate:	Silt
Vegetation:	Lawn, blackberries and reed canary grass in undeveloped areas.
Beaver Activity:	None

Issues
Park flooding during larger storms.

Aerial view of Hess Creek, Hoover Park reach

CITY OF NEWBERG
STREAM VULNERABILITY ASSESSMENT STREAM REACH DESCRIPTIONS

Example photos of stream reach below Mountainview Drive. Residential drainage pipes enter channel on west side.

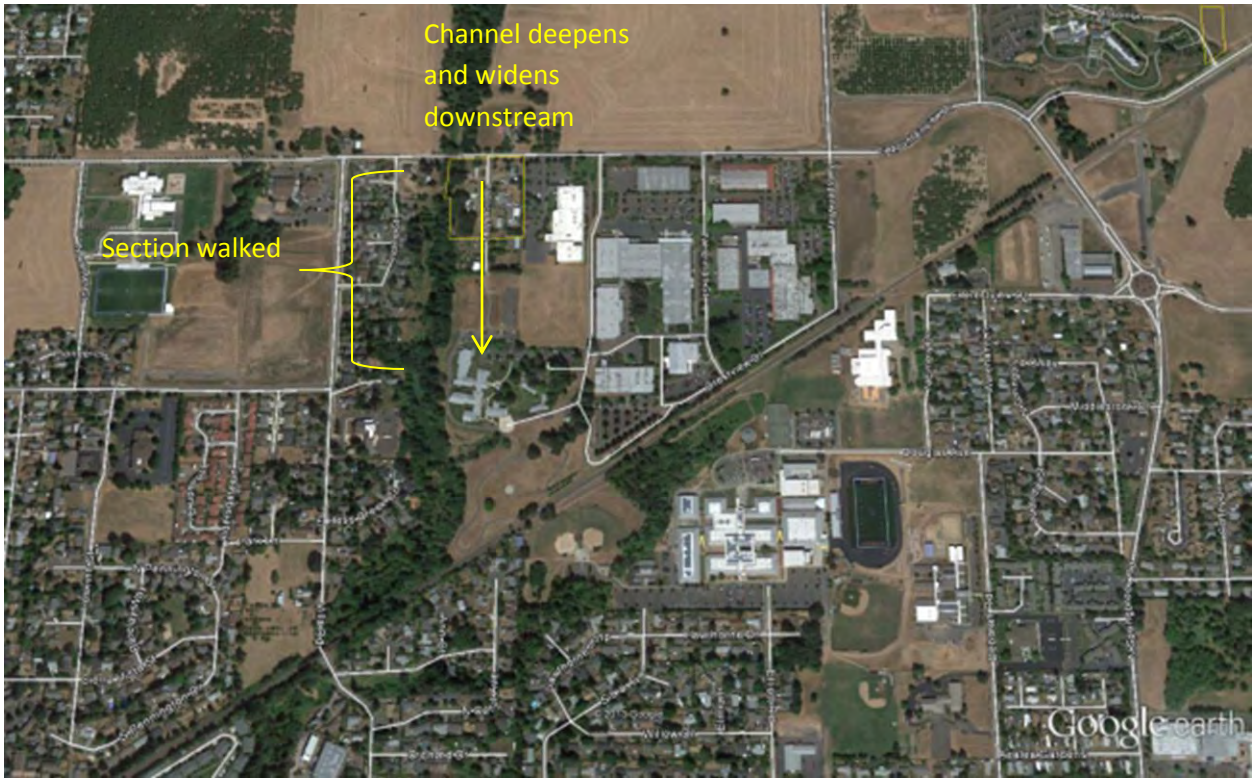
Stream
Hess Creek

Reach
Upper Reach (Below Mtn. View Dr.)

General Characteristics

Gradient:	≈ 0.008 ft/ft
Valley Width:	100 -150 feet
Planform:	Meandering
Average BFW:	≈ 7 feet (3 – 12)
Average BFD:	≈ 3 feet (2 - 10
Substrate:	Primarily silt, some gravel
Vegetation:	Residential landscaping, lawn, trees adjacent to channel
Beaver Activity:	None

Issues
Downcutting. Some bank erosion.



Aerial view of Hess Creek, Mountainview downstream

CITY OF NEWBERG
STREAM VULNERABILITY ASSESSMENT STREAM REACH DESCRIPTIONS

One of many beaver dams in the Hess Creek reach above Mountainview Drive

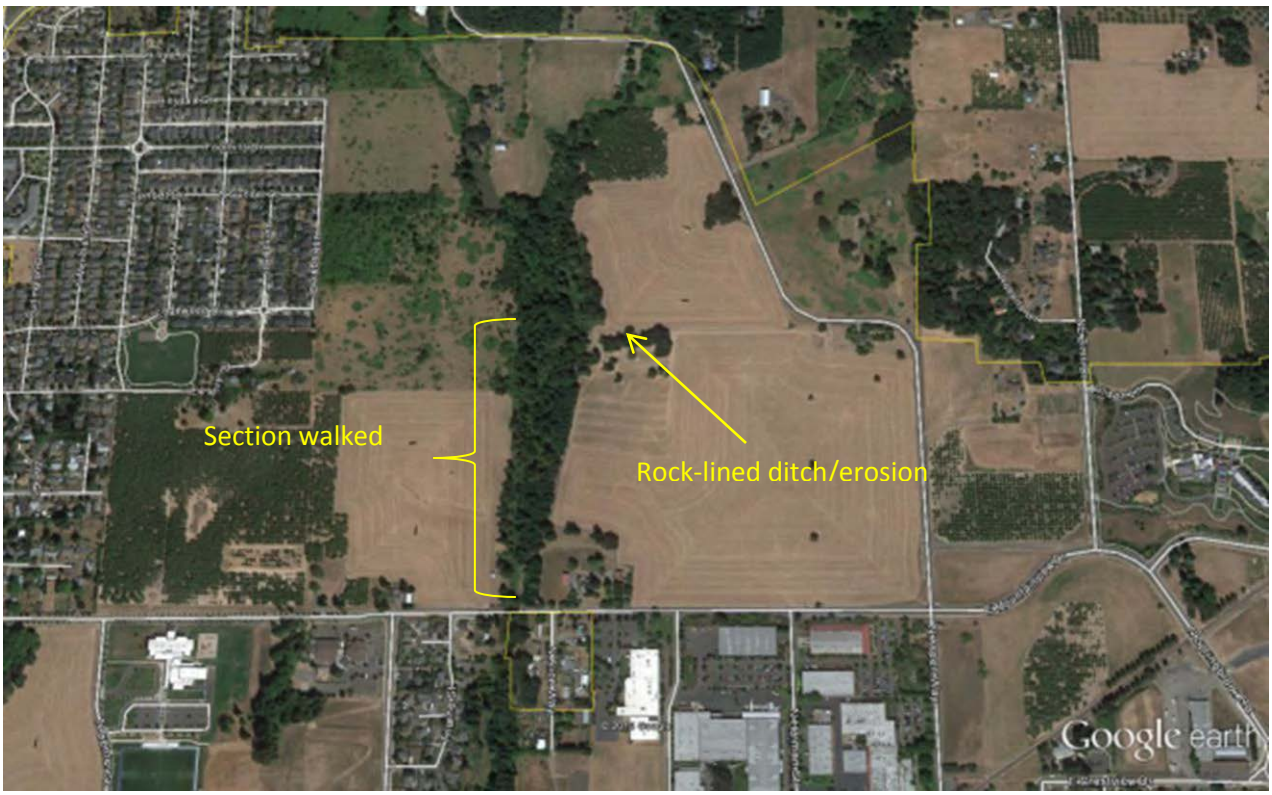
Stream
Hess Creek

Reach
Upper Reach (Above Mtn. View Dr.)

General Characteristics

Gradient:	≈ 0.008 ft/ft
Valley Width:	100 – 150 feet
Planform:	Meandering
Average BFW:	≈ 9 feet
Average BFD:	≈ 3 feet
Substrate:	Primarily silt, some gravel, bedrock above Mountainview Dr
Vegetation:	Narrow forested riparian area, reed canary grass
Beaver Activity:	Significant

Issues
Significant erosion at ditch outfall



Aerial view of Hess Creek, Mountainview Drive Reach

CITY OF NEWBERG
STREAM VULNERABILITY ASSESSMENT STREAM REACH DESCRIPTIONS

Typical stream section between Fernwood Rd and Hayes St

Stream
Spring Brook West Tributary

Reach
Upper Reach (Upstream of Fernwood)

General Characteristics

Gradient:	≈ 0.012 ft/ft
Valley Width:	50 – 100 feet
Planform:	Relatively straight
Average BFW:	≈ 7 ft
Average BFD:	≈ 3 ft
Substrate:	Silt
Vegetation:	Mixed forest. Fairly nice riparian area.
Beaver Activity:	None

Issues
Many groundwater seeps, especially on west bank.

Aerial view of Spring Brook West Tributary in the vicinity of E Fernwood Rd

CITY OF NEWBERG
STREAM VULNERABILITY ASSESSMENT STREAM REACH DESCRIPTIONS

Example photo of Hess Creek through GFU campus

Stream
Hess Creek

Reach
Middle Reach (George Fox University)

General Characteristics

Gradient:	≈ 0.005 ft/ft
Valley Width:	150 – 200 feet
Planform:	Meandering
Average BFW:	≈ 10 feet
Average BFD:	≈ 3 feet
Substrate:	Silt
Vegetation:	Native plants (significant restoration activity)
Beaver Activity:	None

Issues
No significant issues. GFU has and continues to restore reach.

Aerial view of Hess Creek, George Fox University Reach

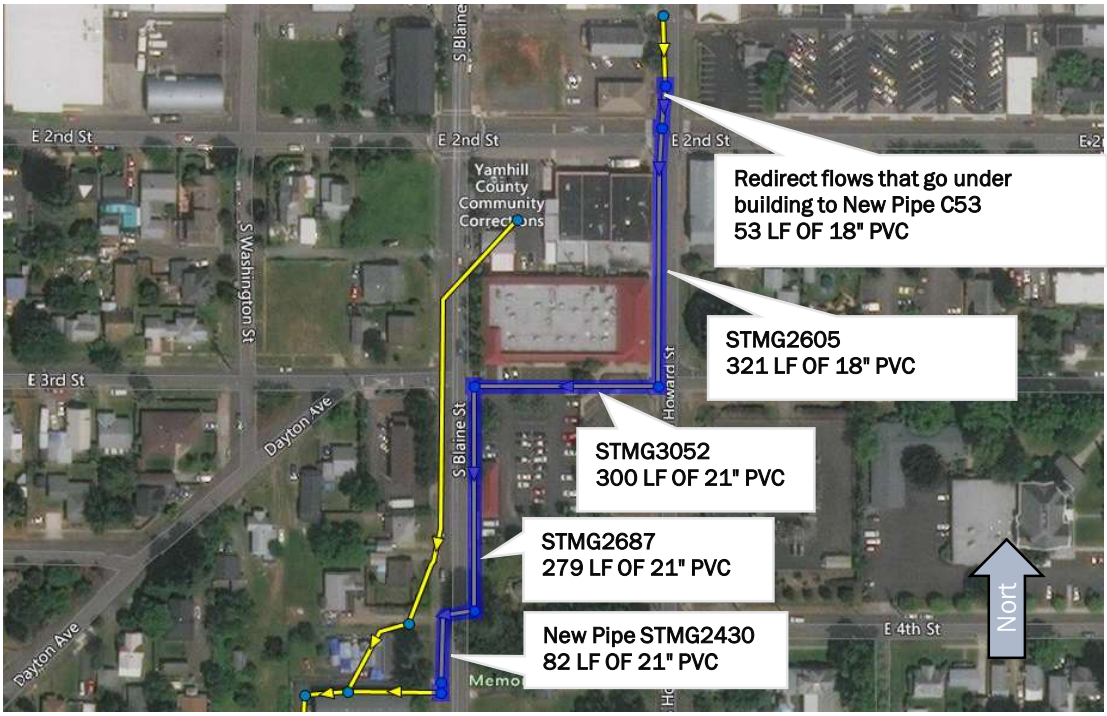
Appendix D: CIP Fact Sheets and Cost Estimate

C-A: S Blaine St. Improvements (Priority 2)

Drainage	Chehalem Creek
Flooding Occcurs	2 year event
Contributing Drainage Area	39 acres
In 2014 CIP?	Yes, but updated for new design criteria
Objective(s) Addressed	Pipe replacement of those under structure, pipe material replacement, maintenance replacement,flood control

Project Description:

Decommission the stormwater pipes which are in private property and add/upsize pipes to 18" and 21" to convey flows and connect to the new stormwater system along S Blaine St. A previous project ended at 5th street, this is the rest of the previous project.



Cost Estimate:

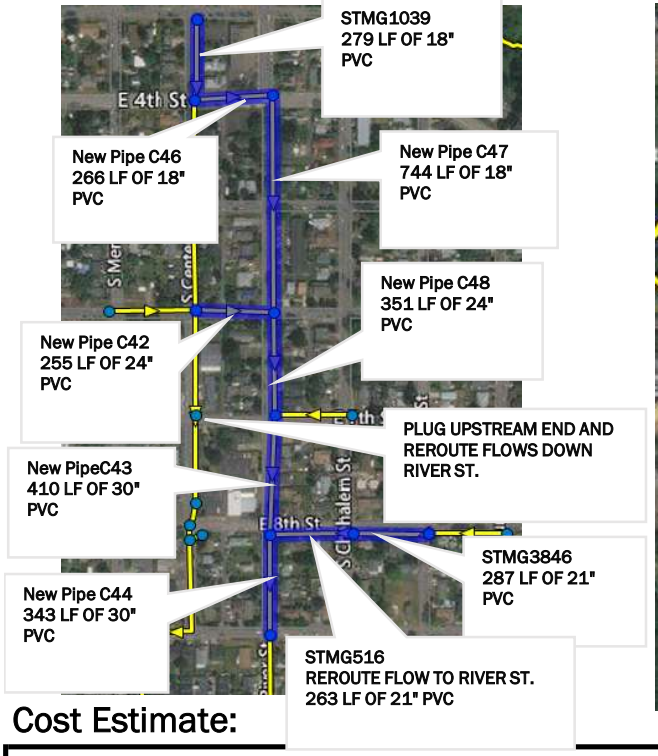
Description	Quantity	Unit	Unit Cost	Total Costs
18" PVC Pipeline	374	LF	$ 147	$ 54,978
21" PVC Pipeline	661	LF	$ 176	$ 116,336
Capital Expenses Subtotal				**$ 171,314**
Mobilization/Demobilization	10%	LS		$ 17,131
Traffic Control	5%	LS		$ 8,566
Erosion Control	2%	LS		$ 3,426
Construction Cost Subtotal				**$ 200,437**
Construction Contingency	30%	LS		$ 60,131
Capital Expense Total				**$ 260,569**
Engineering	20%	LS		$ 52,114
Legal and Administrative	5%	LS		$ 13,028
Capital Implementation Cost Total				**$ 325,711**

C-B: S Center St. Improvements (Priority 1)

Drainage	Chehalem Creek
Flooding Occcurs	2 year event
Contributing Drainage Area	100 acres
In 2014 CIP?	Yes, but flows are routed differently
Objective(s) Addressed	Flood control, PACP report, maintenance replacement, avoiding private property

Project Description:

Flooding along E 8th St, E 7th St, and S Center St occurs. There are proposed improvements to River St. and the Center St. flooding can be routed along a new trunk line in River St. to the river. This will include upsizing some existing stormwater pipes.



Cost Estimate:

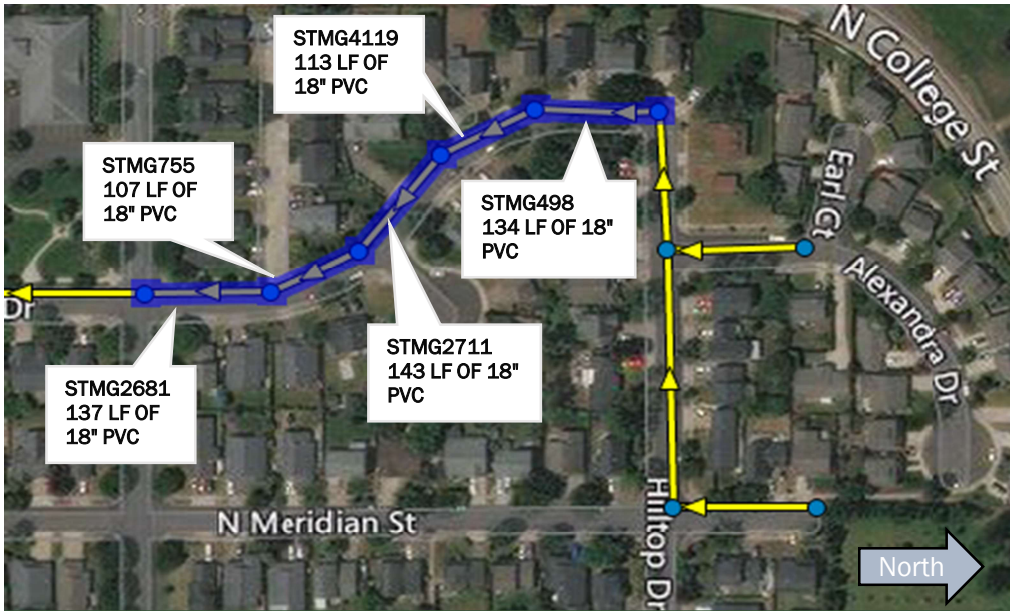
Description	Quantity	Unit	Unit Cost	Total Costs
18" PVC Pipeline	1289	LF	$ 147	$ 189,483
21" PVC Pipeline	550	LF	$ 176	$ 96,800
24" PVC Pipeline	606	LF	$ 191	$ 115,746
30" PVC Pipeline	3604	LF	$ 241	$ 868,564
Capital Expenses Subtotal				**$ 1,270,593**
Mobilization/Demobilization	10%	LS		$ 127,059
Traffic Control	5%	LS		$ 63,530
Erosion Control	2%	LS		$ 25,412
Construction Cost Subtotal				**$ 1,486,594**
Construction Contingency	30%	LS		$ 445,978
Capital Expense Total				**$ 1,932,572**
Engineering	20%	LS		$ 386,514
Legal and Administrative	5%	LS		$ 96,629
Capital Implementation Cost Total				**$ 2,415,715**

C-C: Oxford St. Improvements - Section 1 (Priority 1)

Drainage	Chehalem Creek
Flooding Occcurs	2 year event
Contributing Drainage Area	166 acres
In 2014 CIP?	Yes, but flows are routed differently
Objective(s) Addressed	Flood control

Project Description:

Flow is currently restricted by undersized pipes that are upsized to reduce flooding.



Cost Estimate:

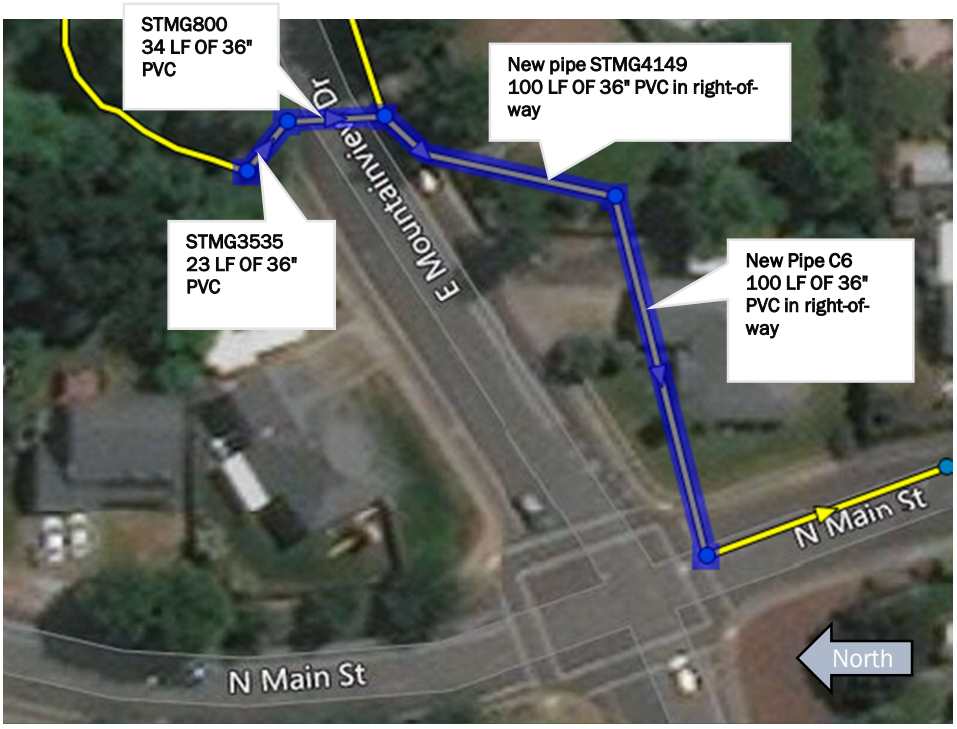
Description	Quantity	Unit	Unit Cost	Total Costs
18" PVC Pipeline	634	LF	$ 147	$ 93,198
Capital Expenses Subtotal				**$ 93,198**
Mobilization/Demobilization	10%	LS		$ 9,320
Traffic Control	5%	LS		$ 4,660
Erosion Control	2%	LS		$ 1,864
Construction Cost Subtotal				**$ 109,042**
Construction Contingency	30%	LS		$ 32,712
Capital Expense Total				**$ 141,754**
Engineering	20%	LS		$ 28,351
Legal and Administrative	5%	LS		$ 7,088
Capital Implementation Cost Total				**$ 177,193**

C-C: Oxford St. Improvements - Section 2 (Priority 1)

Drainage	Chehalem Creek
Flooding Occcurs	2 year event
Contributing Drainage Area	166 acres
In 2014 CIP?	Yes, but flows are routed differently
Objective(s) Addressed	Flood control, avoid private property

Project Description:

Flow is currently restricted by undersized pipes that are upsized to reduce flooding. The new pipes will be in the right-of-way, and not under private property.



Cost Estimate:

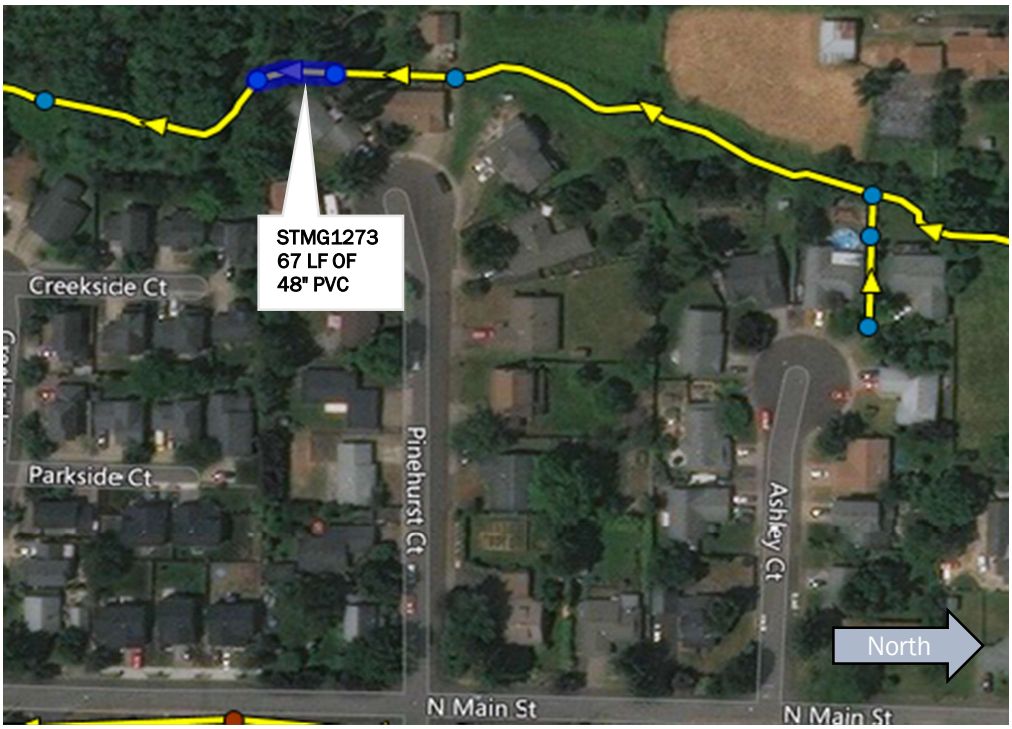
Description	Quantity	Unit	Unit Cost	Total Costs
36" PVC Pipeline	257	LF	$ 292	$ 75,044
Capital Expenses Subtotal				**$ 75,044**
Mobilization/Demobilization	10%	LS		$ 7,504
Traffic Control	5%	LS		$ 3,752
Erosion Control	2%	LS		$ 1,501
Construction Cost Subtotal				**$ 87,801**
Construction Contingency	30%	LS		$ 26,340
Capital Expense Total				**$ 114,142**
Engineering	20%	LS		$ 22,828
Legal and Administrative	5%	LS		$ 5,707
Capital Implementation Cost Total				**$ 142,677**

C-C: Oxford St. Improvements - Section 3 (Priority 1)

Drainage	Chehalem Creek
Flooding Occcurs	2 year event
Contributing Drainage Area	166 acres
In 2014 CIP?	Yes, but flows are routed differently
Objective(s) Addressed	Flood control

Project Description:

Flow is currently restricted by undersized pipes that are upsized to reduce flooding.



Cost Estimate:

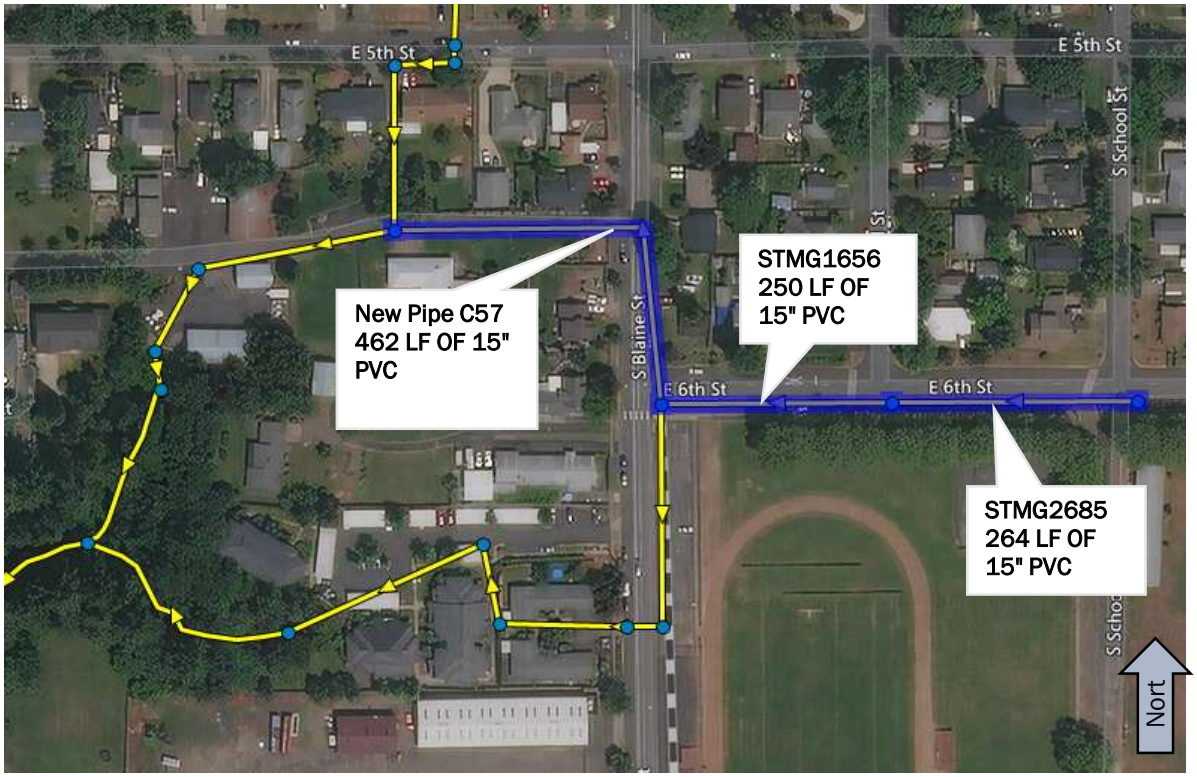
Description	Quantity	Unit	Unit Cost	Total Costs
48" PVC Pipeline	67	LF	$ 354	$ 23,718
Short Pipe Surcharge	1	%	30%	$ 7,115
Capital Expenses Subtotal				**$ 30,833**
Mobilization/Demobilization	10%	LS		$ 3,083
Traffic Control	5%	LS		$ 1,542
Erosion Control	2%	LS		$ 617
Construction Cost Subtotal				**$ 36,075**
Construction Contingency	30%	LS		$ 10,823
Capital Expense Total				**$ 46,898**
Engineering	20%	LS		$ 9,380
Legal and Administrative	5%	LS		$ 2,345
Capital Implementation Cost Total				**$ 58,622**

C-D: 6th & Blaine St. Improvements (Priority 2)

Drainage	Chehalem Creek
Flooding Occcurs	2 year event
Contributing Drainage Area	25.4 acres
In 2014 CIP?	No
Objective(s) Addressed	Flood control, PACP report

Project Description:

Flow is currently restricted by undersized pipes that are upsized to reduce flooding.



Cost Estimate:

Description	Quantity	Unit	Unit Cost	Total Costs
15" PVC Pipeline	976	LF	$ 121	$ 118,096
Capital Expenses Subtotal				**$ 118,096**
Mobilization/Demobilization	10%	LS		$ 11,810
Traffic Control	5%	LS		$ 5,905
Erosion Control	2%	LS		$ 2,362
Construction Cost Subtotal				**$ 138,172**
Construction Contingency	30%	LS		$ 41,452
Capital Expense Total				**$ 179,624**
Engineering	20%	LS		$ 35,925
Legal and Administrative	5%	LS		$ 8,981
Capital Implementation Cost Total				**$ 224,530**

C-E: Pinehurst Dr. Improvements (Priority 2)

Drainage	Chehalem Creek
Flooding Occcurs	2 year event
Contributing Drainage Area	13 acres
In 2014 CIP?	No
Objective(s) Addressed	Flood control

Project Description:

Flow is constricted through pipes in park, so flow should be routed through Pinehurst Dr. and line through the park can be abandoned.

Cost Estimate:

Description	Quantity	Unit	Unit Cost	Total Costs
15" PVC Pipeline	467	LF	$ 121	$ 56,507
18" PVC Pipeline	919	LF	$ 147	$ 135,093
Capital Expenses Subtotal				**$ 191,600**
Mobilization/Demobilization	10%	LS		$ 19,160
Traffic Control	5%	LS		$ 9,580
Erosion Control	2%	LS		$ 3,832
Construction Cost Subtotal				**$ 224,172**
Construction Contingency	30%	LS		$ 67,252
Capital Expense Total				**$ 291,424**
Engineering	20%	LS		$ 58,285
Legal and Administrative	5%	LS		$ 14,571
Capital Implementation Cost Total				**$ 364,280**

C-F: Crater Ln. Improvements (Priority 3)

Drainage	Chehalem Creek
Flooding Occcurs	Less than 1 hr @ 25 year event
Contributing Drainage Area	142 acres
In 2014 CIP?	No
Objective(s) Addressed	Flood control

Project Description:

Flow is currently restricted by undersized pipes that are upsized to reduce flooding.

Cost Estimate:

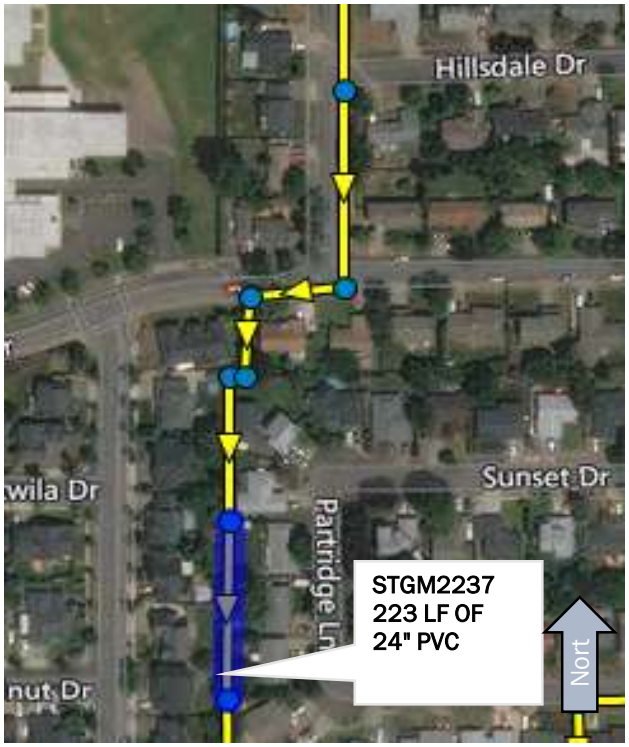
Description	Quantity	Unit	Unit Cost	Total Costs
24" PVC Pipeline	26	LF	$ 191	$ 4,966
Short Pipe Surcharge	1	%	30%	$ 1,490
Capital Expenses Subtotal				**$ 6,456**
Mobilization/Demobilization	10%	LS		$ 646
Traffic Control	5%	LS		$ 323
Erosion Control	2%	LS		$ 129
Construction Cost Subtotal				**$ 7,553**
Construction Contingency	30%	LS		$ 2,266
Capital Expense Total				**$ 9,819**
Engineering	20%	LS		$ 1,964
Legal and Administrative	5%	LS		$ 491
Capital Implementation Cost Total				**$ 12,274**

C-G: Partridge Ln. Improvements (Priority 3)

Drainage	Chehalem Creek
Flooding Occcurs	Only 6 min. @ 25 year event
Contributing Drainage Area	30 acres
In 2014 CIP?	No
Objective(s) Addressed	Flood control

Project Description:

Flow is currently restricted by undersized pipes that are upsized to reduce flooding.



Cost Estimate:

Description	Quantity	Unit	Unit Cost	Total Costs
24" PVC Pipeline	223	LF	$ 191	$ 42,593
Capital Expenses Subtotal				**$ 42,593**
Mobilization/Demobilization	10%	LS		$ 4,259
Traffic Control	5%	LS		$ 2,130
Erosion Control	2%	LS		$ 852
Construction Cost Subtotal				**$ 49,834**
Construction Contingency	30%	LS		$ 14,950
Capital Expense Total				**$ 64,784**
Engineering	20%	LS		$ 12,957
Legal and Administrative	5%	LS		$ 3,239
Capital Implementation Cost Total				**$ 80,980**

C-H: Illinois St. Improvements (Priority 2)

Drainage	Chehalem Creek
Flooding Occcurs	10 year event
Contributing Drainage Area	2 acres
In 2014 CIP?	No
Objective(s) Addressed	Flood control

Project Description:

Flow is currently restricted by undersized pipes that are upsized to reduce flooding.

Cost Estimate:

Description	Quantity	Unit	Unit Cost	Total Costs
18" PVC Pipeline	498	LF	$ 147	$ 73,206
Capital Expenses Subtotal				**$ 73,206**
Mobilization/Demobilization	10%	LS		$ 7,321
Traffic Control	5%	LS		$ 3,660
Erosion Control	2%	LS		$ 1,464
Construction Cost Subtotal				**$ 85,651**
Construction Contingency	30%	LS		$ 25,695
Capital Expense Total				**$ 111,346**
Engineering	20%	LS		$ 22,269
Legal and Administrative	5%	LS		$ 5,567
Capital Implementation Cost Total				**$ 139,183**

C-I: Ditch & Pinehurst Dr. Improvements (Priority 2)

Drainage	Chehalem Creek
Flooding Occcurs	2 year event
Contributing Drainage Area	136 acres
In 2014 CIP?	No
Objective(s) Addressed	Flood control, PACP report

Project Description:

Flow is currently restricted by undersized pipes that are upsized to reduce flooding.

Cost Estimate:

Description	Quantity	Unit	Unit Cost	Total Costs
24" PVC Pipeline	525	LF	$ 191	$ 100,275
36" PVC Pipeline	168	LF	$ 292	$ 49,056
Capital Expenses Subtotal				**$ 149,331**
Mobilization/Demobilization	10%	LS		$ 14,933
Traffic Control	5%	LS		$ 7,467
Erosion Control	2%	LS		$ 2,987
Construction Cost Subtotal				**$ 174,717**
Construction Contingency	30%	LS		$ 52,415
Capital Expense Total				**$ 227,132**
Engineering	20%	LS		$ 45,426
Legal and Administrative	5%	LS		$ 11,357
Capital Implementation Cost Total				**$ 283,916**

C-J: Charles St. Improvements (Priority 3)

Drainage	Chehalem Creek
Flooding Occcurs	10 year event
Contributing Drainage Area	12 acres
In 2014 CIP?	
Objective(s) Addressed	Flood control

Project Description:

Flow is currently restricted by undersized pipes that are upsized to reduce flooding. Trenchless methods will likely be needed since this line goes through residential yards. Considering the relatively small amount of flooding that occurs in the area (0.02 inches at the 25-year event), and the relative difficulty of construction under these conditions, it may be better to leave this project undone.

Cost Estimate:

Description	Quantity	Unit	Unit Cost	Total Costs
15" PVC Pipeline	171	LF	$ 121	$ 20,691
Short Pipe Surcharge	1	%	30%	$ 6,207
Capital Expenses Subtotal				**$ 26,898**
Mobilization/Demobilization	10%	LS		$ 2,690
Traffic Control	5%	LS		$ 1,345
Erosion Control	2%	LS		$ 538
Construction Cost Subtotal				**$ 31,471**
Construction Contingency	30%	LS		$ 9,441
Capital Expense Total				**$ 40,912**
Engineering	20%	LS		$ 8,182
Legal and Administrative	5%	LS		$ 2,046
Capital Implementation Cost Total				**$ 51,140**

C-K: Center St. Improvements (Priority 3)

Drainage	Chehalem Creek
Flooding Occcurs	25 year event
Contributing Drainage Area	58 acres
In 2014 CIP?	No
Objective(s) Addressed	Flood control

Project Description:

Flow is currently restricted by undersized pipes that are upsized to reduce flooding.

Cost Estimate:

Description	Quantity	Unit	Unit Cost	Total Costs
30" PVC Pipeline	302	LF	$ 241	$ 72,782
Capital Expenses Subtotal				**$ 72,782**
Mobilization/Demobilization	10%	LS		$ 7,278
Traffic Control	5%	LS		$ 3,639
Erosion Control	2%	LS		$ 1,456
Construction Cost Subtotal				**$ 85,155**
Construction Contingency	30%	LS		$ 25,546
Capital Expense Total				**$ 110,701**
Engineering	20%	LS		$ 22,140
Legal and Administrative	5%	LS		$ 5,535
Capital Implementation Cost Total				**$ 138,377**

C-L: N Edwards St. Improvements (Priority 1)

Drainage	Hess Creek
Flooding Occcurs	2 year event
Contributing Drainage Area	19 acres
In 2014 CIP?	Yes, but updated for new design criteria
Objective(s) Addressed	Flood control, pipe material

Project Description:

Flow is currently restricted by undersized pipes that are upsized to reduce flooding. There are also several streets with no pipes that are experiencing flooding. There are new pipes added in those areas.

Cost Estimate:

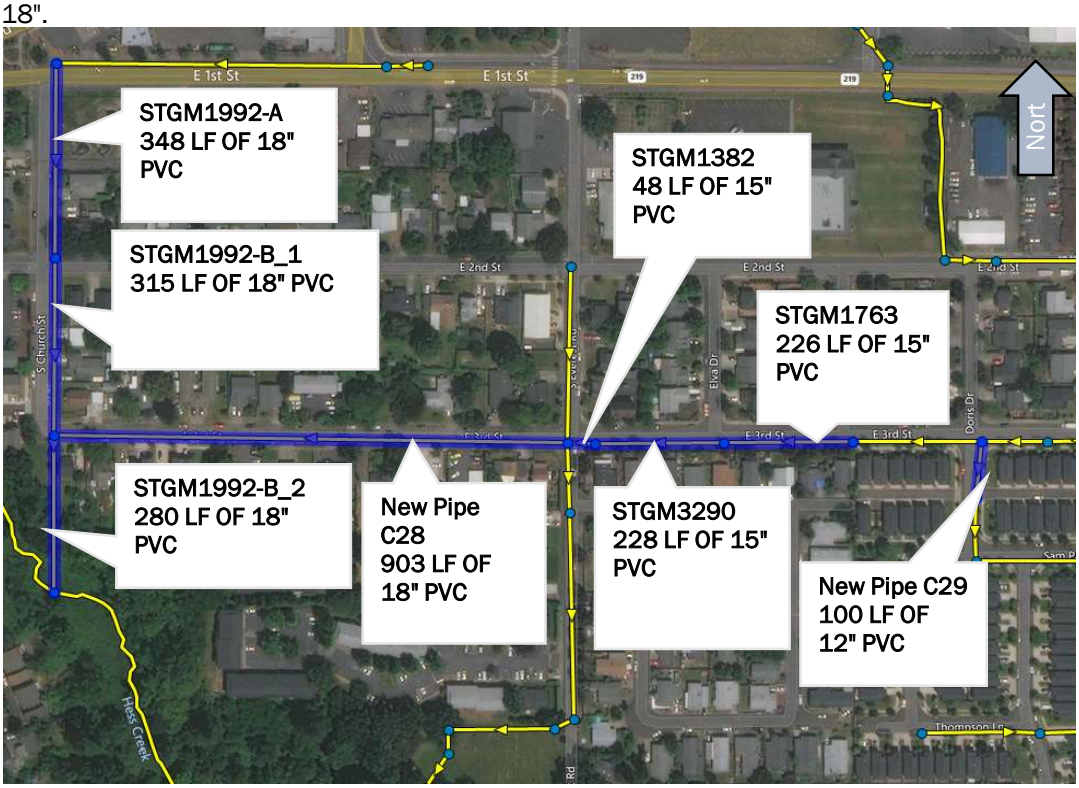
Description	Quantity	Unit	Unit Cost	Total Costs
12" PVC Pipeline	2740	LF	$ 87	$ 238,380
18" PVC Pipeline	786	LF	$ 147	$ 115,542
24" PVC Pipeline	967	LF	$ 191	$ 184,697
Capital Expenses Subtotal				**$ 538,619**
Mobilization/Demobilization	10%	LS		$ 53,862
Traffic Control	5%	LS		$ 26,931
Erosion Control	2%	LS		$ 10,772
Construction Cost Subtotal				**$ 630,184**
Construction Contingency	30%	LS		$ 189,055
Capital Expense Total				**$ 819,239**
Engineering	20%	LS		$ 163,848
Legal and Administrative	5%	LS		$ 40,962
Capital Implementation Cost Total				**$ 1,024,049**

C-M: E Third St. Improvements (Priority 1)

Drainage	Hess Creek
Flooding Occcurs	2 year event
Contributing Drainage Area	28 acres
In 2014 CIP?	Yes, but updated for new design criteria
Objective(s) Addressed	Flood control, pipe material

Project Description:

Flow is currently restricted by undersized pipes that are upsized to reduce flooding. To completely remove flooding in the area, along E First. Coordination is needed with ODOT to upsize the pipes in 1st street to 18".



Cost Estimate:

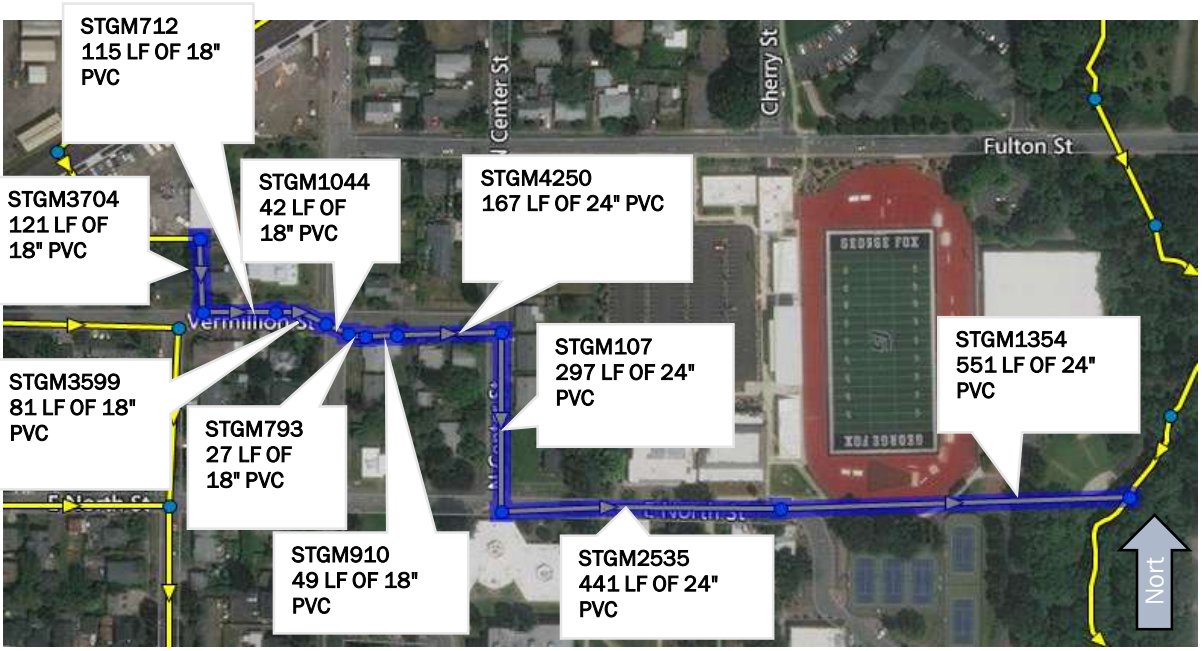
Description	Quantity	Unit	Unit Cost	Total Costs
12" PVC Pipeline	100	LF	$ 87	$ 8,700
15" PVC Pipeline	502	LF	$ 121	$ 60,742
18" PVC Pipeline	1846	LF	$ 147	$ 271,362
Capital Expenses Subtotal				**$ 340,804**
Mobilization/Demobilization	10%	LS		$ 34,080
Traffic Control	5%	LS		$ 17,040
Erosion Control	2%	LS		$ 6,816
Construction Cost Subtotal				**$ 398,741**
Construction Contingency	30%	LS		$ 119,622
Capital Expense Total				**$ 518,363**
Engineering	20%	LS		$ 103,673
Legal and Administrative	5%	LS		$ 25,918
Capital Implementation Cost Total				**$ 647,954**

C-N: E North St. Improvements (Priority 1)

Drainage	Hess Creek
Flooding Occcurs	2 year event
Contributing Drainage Area	25 acres
In 2014 CIP?	No
Objective(s) Addressed	Flood control, pipe material

Project Description:

Flow is currently restricted by undersized pipes that are upsized to reduce flooding.



Cost Estimate:

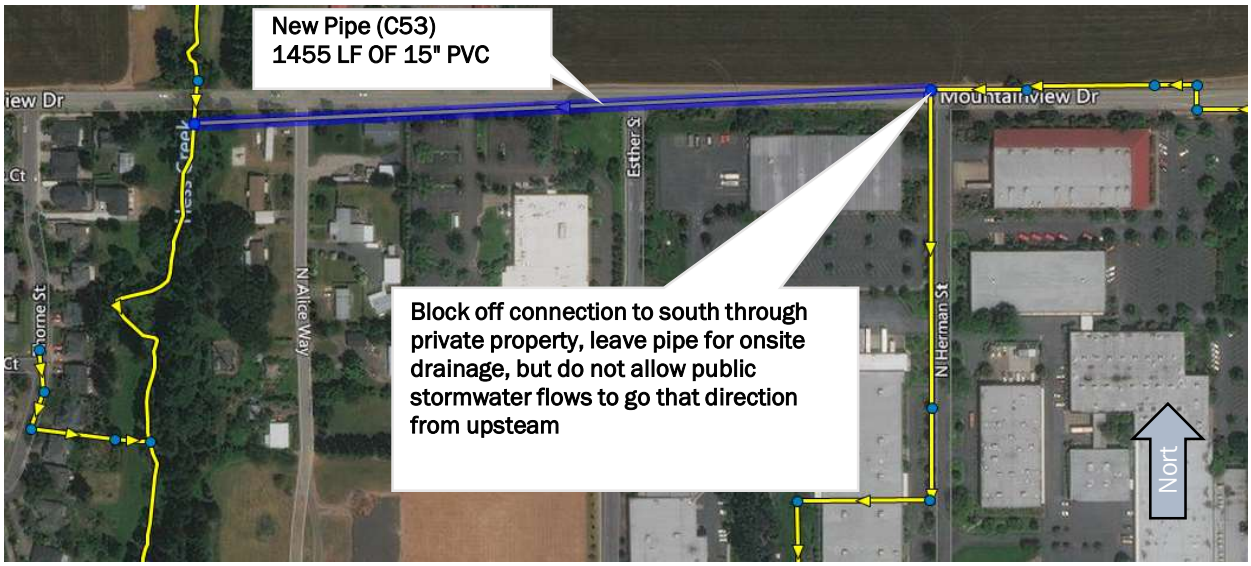
Description	Quantity	Unit	Unit Cost	Total Costs
18" PVC Pipeline	435	LF	$ 147	$ 63,945
24" PVC Pipeline	1456	LF	$ 191	$ 278,096
Capital Expenses Subtotal				**$ 342,041**
Mobilization/Demobilization	10%	LS		$ 34,204
Traffic Control	5%	LS		$ 17,102
Erosion Control	2%	LS		$ 6,841
Construction Cost Subtotal				**$ 400,188**
Construction Contingency	30%	LS		$ 120,056
Capital Expense Total				**$ 520,244**
Engineering	20%	LS		$ 104,049
Legal and Administrative	5%	LS		$ 26,012
Capital Implementation Cost Total				**$ 650,305**

C-O: Mountainview Dr. Improvements (Priority 3)

Drainage	Hess Creek
Flooding Occcurs	10 year event
Contributing Drainage Area	78 acres
In 2014 CIP?	No
Objective(s) Addressed	Flood control

Project Description:

There is flooding because major upland flows come through lines on private property, so it is proposed they will be rerouted west Mountianview Dr.



Cost Estimate:

Description	Quantity	Unit	Unit Cost	Total Costs
15" PVC Pipeline	1455	LF	$ 121	$ 176,055
Capital Expenses Subtotal				**$ 176,055**
Mobilization/Demobilization	10%	LS		$ 17,606
Traffic Control	5%	LS		$ 8,803
Erosion Control	2%	LS		$ 3,521
Construction Cost Subtotal				**$ 205,984**
Construction Contingency	30%	LS		$ 61,795
Capital Expense Total				**$ 267,780**
Engineering	20%	LS		$ 53,556
Environmental Permitting for New Outfall	1	LS		$ 50,000
Legal and Administrative	5%	LS		$ 13,389
Capital Implementation Cost Total				**$ 384,725**

C-P: Crestview Dr. Improvements (Priority 2)

Drainage	Hess Creek
Flooding Occcurs	10 year event
Contributing Drainage Area	29 acres
In 2014 CIP?	No
Objective(s) Addressed	Flood control

Project Description:

Flow is currently restricted by undersized pipes that are upsized to reduce flooding.

Cost Estimate:

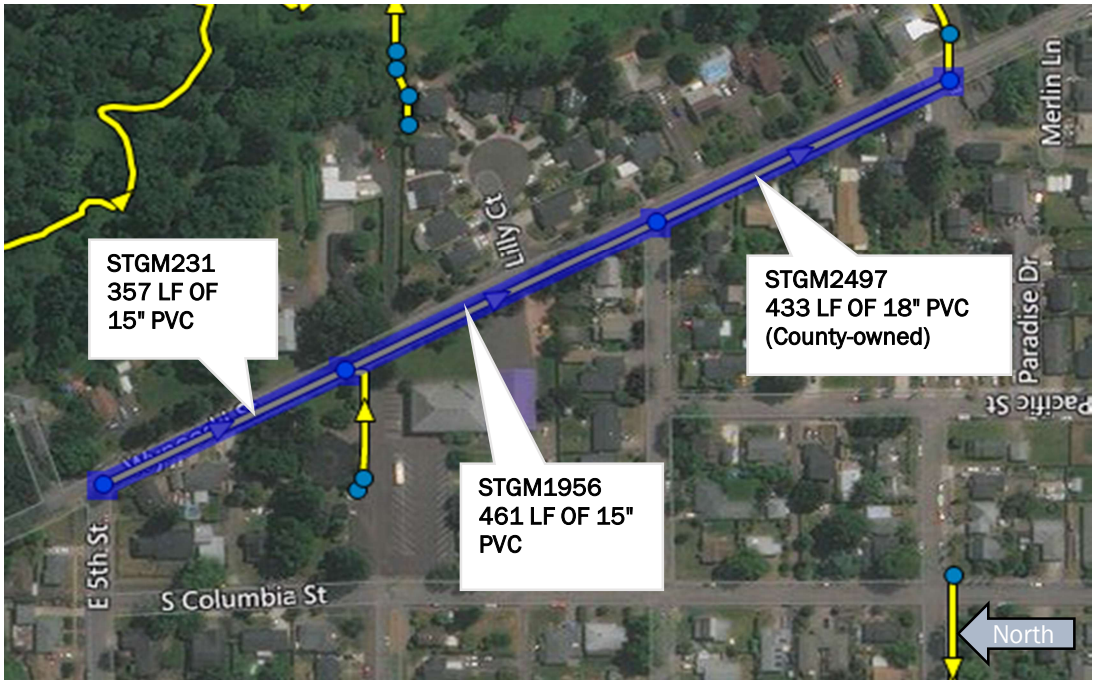
Description	Quantity	Unit	Unit Cost	Total Costs
15" PVC Pipeline	573	LF	$ 121	$ 69,333
Capital Expenses Subtotal				**$ 69,333**
Mobilization/Demobilization	10%	LS		$ 6,933
Traffic Control	5%	LS		$ 3,467
Erosion Control	2%	LS		$ 1,387
Construction Cost Subtotal				**$ 81,120**
Construction Contingency	30%	LS		$ 24,336
Capital Expense Total				**$ 105,455**
Engineering	20%	LS		$ 21,091
Legal and Administrative	5%	LS		$ 5,273
Capital Implementation Cost Total				**$ 131,819**

C-Q: Wynooski St. Improvements (Priority 1)

Drainage	Hess Creek
Flooding Occcurs	2 year event
Contributing Drainage Area	21 acres
In 2014 CIP?	No
Objective(s) Addressed	Flood control, pipe material, PACP report

Project Description:

Flow is currently restricted by undersized pipes that are upsized to reduce flooding. Some of the pipes are within the segment of Wynooski St. That is in County Jurisdiction.



Cost Estimate:

Description	Quantity	Unit	Unit Cost	Total Costs
15" PVC Pipeline	818	LF	$ 121	$ 98,978
18" PVC Pipeline	433	LF	$ 147	$ 63,651
Capital Expenses Subtotal				**$ 162,629**
Mobilization/Demobilization	10%	LS		$ 16,263
Traffic Control	5%	LS		$ 8,131
Erosion Control	2%	LS		$ 3,253
Construction Cost Subtotal				**$ 190,276**
Construction Contingency	30%	LS		$ 57,083
Capital Expense Total				**$ 247,359**
Engineering	20%	LS		$ 49,472
Legal and Administrative	5%	LS		$ 12,368
Capital Implementation Cost Total				**$ 309,198**

C-R: 2nd St. Crossing (Priority 2)

Drainage	Spring Brook Creek
Flooding Occcurs	2 year event
Contributing Drainage Area	10.5 acres
In 2014 CIP?	No
Objective(s) Addressed	Flood control

Project Description:

The city reports that the houses along mountain view have undersized laterals, so the properties flood before the mainlines flood, but the mainlines are still undersized. The easiest fix is to redirect flows from one line in 2nd St, to the other line in 2nd St.

Cost Estimate:

Description	Quantity	Unit	Unit Cost	Total Costs
18" PVC Pipeline	113	LF	$ 147	$ 16,611
Short Pipe Surcharge	1	%	30%	$ 4,983
Capital Expenses Subtotal				**$ 21,594**
Mobilization/Demobilization	10%	LS		$ 2,159
Traffic Control	5%	LS		$ 1,080
Erosion Control	2%	LS		$ 432
Construction Cost Subtotal				**$ 25,265**
Construction Contingency	30%	LS		$ 7,580
Capital Expense Total				**$ 32,845**
Engineering	20%	LS		$ 6,569
Legal and Administrative	5%	LS		$ 1,642
Capital Implementation Cost Total				**$ 41,056**

C-S: E 2nd St. @ River St. Improvements (Priority 3)

Drainage	Hess Creek
Flooding Occcurs	10 year event
Contributing Drainage Area	6 acres
In 2014 CIP?	No
Objective(s) Addressed	Flood control

Project Description:

Flow is currently restricted by undersized pipes that are upsized to reduce flooding.

Cost Estimate:

Description	Quantity	Unit	Unit Cost	Total Costs
15" PVC Pipeline	526	LF	$ 121	$ 63,646
Capital Expenses Subtotal				**$ 63,646**
Mobilization/Demobilization	10%	LS		$ 6,365
Traffic Control	5%	LS		$ 3,182
Erosion Control	2%	LS		$ 1,273
Construction Cost Subtotal				**$ 74,466**
Construction Contingency	30%	LS		$ 22,340
Capital Expense Total				**$ 96,806**
Engineering	20%	LS		$ 19,361
Legal and Administrative	5%	LS		$ 4,840
Capital Implementation Cost Total				**$ 121,007**

C-T: E 2nd St. @ Ardus St. Improvements (Priority 3)

Drainage	Hess Creek
Flooding Occcurs	10 year event
Contributing Drainage Area	13.6 acres
In 2014 CIP?	No
Objective(s) Addressed	Flood control

Project Description:

Flow is currently restricted by undersized pipes that are upsized to reduce flooding.

Cost Estimate:

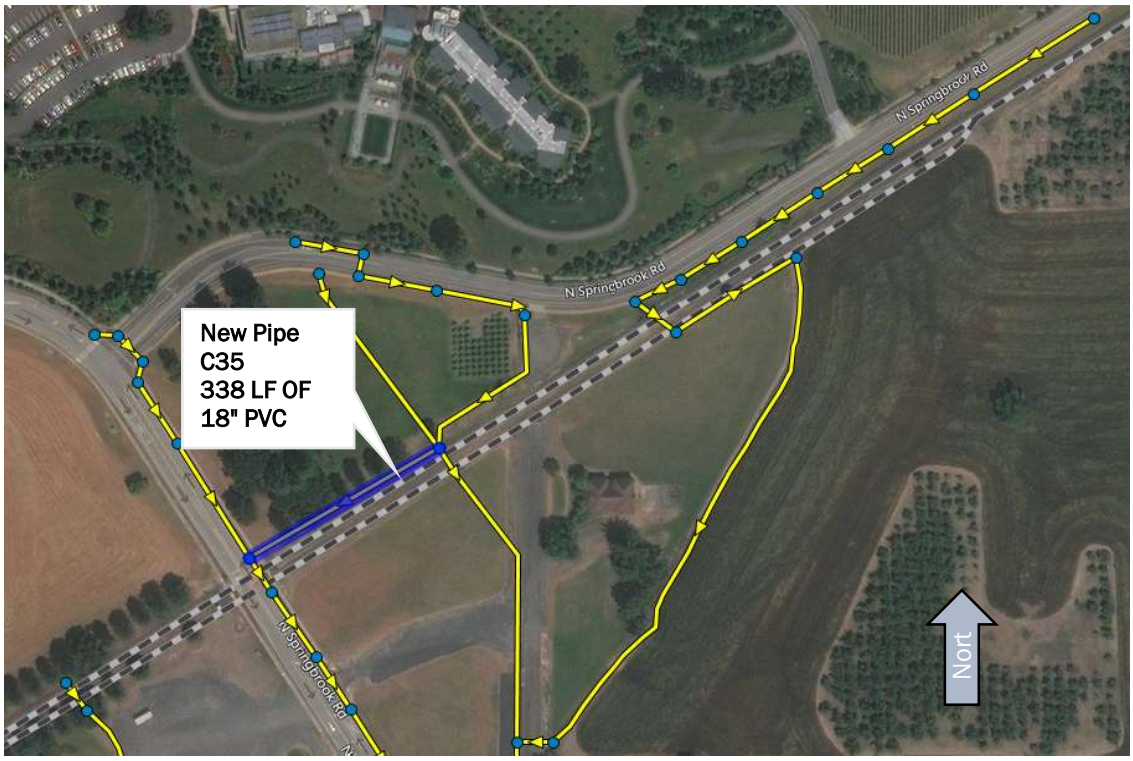
Description	Quantity	Unit	Unit Cost	Total Costs
18" PVC Pipeline	775	LF	$ 147	$ 113,925
Capital Expenses Subtotal				**$ 113,925**
Mobilization/Demobilization	10%	LS		$ 11,393
Traffic Control	5%	LS		$ 5,696
Erosion Control	2%	LS		$ 2,279
Construction Cost Subtotal				**$ 133,292**
Construction Contingency	30%	LS		$ 39,988
Capital Expense Total				**$ 173,280**
Engineering	20%	LS		$ 34,656
Legal and Administrative	5%	LS		$ 8,664
Capital Implementation Cost Total				**$ 216,600**

C-U: N Springbrook Rd. Improvements - Section 1 (Priority 1)

Drainage	Spring Brook Creek
Flooding Occcurs	2 year event
Contributing Drainage Area	173 acres
In 2014 CIP?	Yes, but updated for new design criteria
Objective(s) Addressed	Flood control

Project Description:

Modeling shows flooding problems along N Springbrook Rd. Upsize the stormwater pipes along N Springbrook Rd to 30" diameter and connect the system to the existing system to the south. It also includes a new pipe on the north end that distributes flow.



Cost Estimate:

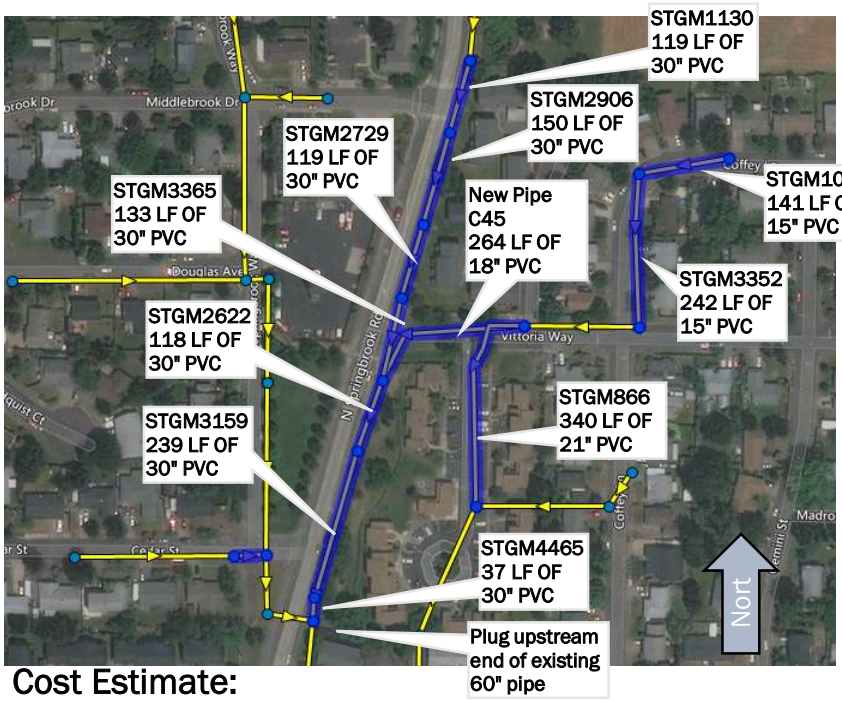
Description	Quantity	Unit	Unit Cost	Total Costs
18" PVC Pipeline	338	LF	$ 147	$ 49,686
Capital Expenses Subtotal				**$ 49,686**
Mobilization/Demobilization	10%	LS		$ 4,969
Traffic Control	5%	LS		$ 2,484
Erosion Control	2%	LS		$ 994
Construction Cost Subtotal				**$ 58,133**
Construction Contingency	30%	LS		$ 17,440
Capital Expense Total				**$ 75,572**
Engineering	20%	LS		$ 15,114
Legal and Administrative	5%	LS		$ 3,779
Capital Implementation Cost Total				**$ 94,466**

C-U: N Springbrook Rd. Improvements - Section 2 (Priority 1)

Drainage	Spring Brook Creek
Flooding Occcurs	2 year event
Contributing Drainage Area	173 acres
In 2014 CIP?	Yes, but updated for new design criteria
Objective(s) Addressed	Flood control

Project Description:

Modeling shows flooding problems along N Springbrook Rd. Upsize the stormwater pipes along N Springbrook Rd to 30" diameter and connect the system to the existing system to the south. It also includes a new pipe on the north end that distributes flow.



Cost Estimate:

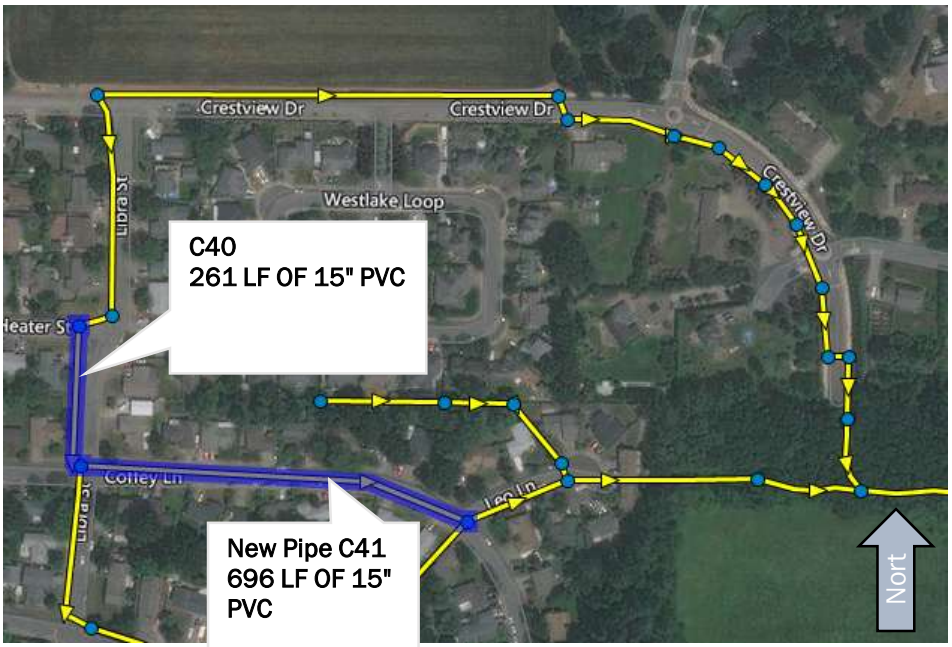
Description	Quantity	Unit	Unit Cost	Total Costs
15" PVC Pipeline	383	LF	$ 121	$ 46,343
18" PVC Pipeline	264	LF	$ 147	$ 38,808
21" PVC Pipeline	340	LF	$ 176	$ 59,840
30" PVC Pipeline	1728	LF	$ 241	$ 416,448
36" PVC Pipeline	66	LF	$ 292	$ 19,272
Capital Expenses Subtotal				**$ 580,711**
Mobilization/Demobilization	10%	LS		$ 58,071
Traffic Control	5%	LS		$ 29,036
Erosion Control	2%	LS		$ 11,614
Construction Cost Subtotal				**$ 679,432**
Construction Contingency	30%	LS		$ 203,830
Capital Expense Total				**$ 883,261**
Engineering	20%	LS		$ 176,652
Legal and Administrative	5%	LS		$ 44,163
Capital Implementation Cost Total				**$ 1,104,077**

C-V: Libra St. Improvements (Priority 2)

Drainage	Spring Brook Creek
Flooding Occcurs	2 year event
Contributing Drainage Area	33 acres
In 2014 CIP?	Yes, but rerouted
Objective(s) Addressed	Flood control, Reduce Maintenance Frequency

Project Description:

Modeling shows flooding problems along Libra St. This system needs frequent maintenance to address silt accumulation. This project works in combination with a project that is currently underway in Crestview Dr. That project is shown as complete in this plan.



Cost Estimate:

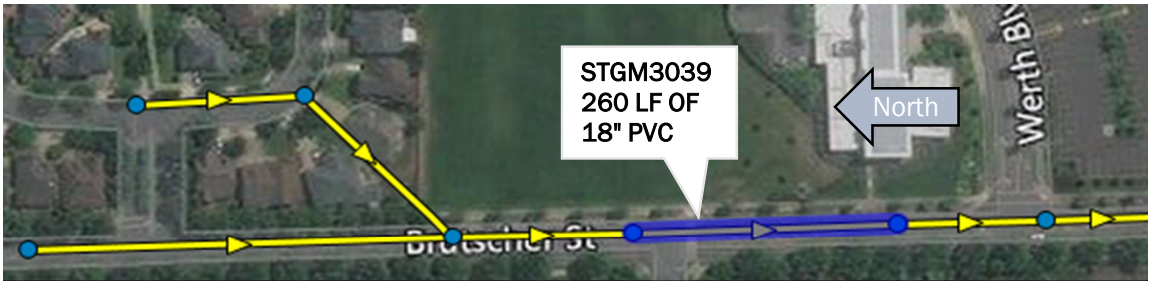
Description	Quantity	Unit	Unit Cost	Total Costs
15" PVC Pipeline	957	LF	$ 121	$ 115,797
Capital Expenses Subtotal				**$ 115,797**
Mobilization/Demobilization	10%	LS		$ 11,580
Traffic Control	5%	LS		$ 5,790
Erosion Control	2%	LS		$ 2,316
Construction Cost Subtotal				**$ 135,482**
Construction Contingency	30%	LS		$ 40,645
Capital Expense Total				**$ 176,127**
Engineering	20%	LS		$ 35,225
Legal and Administrative	5%	LS		$ 8,806
Capital Implementation Cost Total				**$ 220,159**

C-W: Brutscher St. Improvements (Priority 3)

Drainage	Spring Brook Creek
Flooding Occcurs	10 year event
Contributing Drainage Area	19 acres
In 2014 CIP?	Yes, but updated for new design criteria
Objective(s) Addressed	Flood control

Project Description:

Flow is currently restricted by undersized pipes that are upsized to reduce flooding.



Cost Estimate:

Description	Quantity	Unit	Unit Cost	Total Costs
18" PVC Pipeline	260	LF	$ 147	$ 38,220
Capital Expenses Subtotal				**$ 38,220**
Mobilization/Demobilization	10%	LS		$ 3,822
Traffic Control	5%	LS		$ 1,911
Erosion Control	2%	LS		$ 764
Construction Cost Subtotal				**$ 44,717**
Construction Contingency	30%	LS		$ 13,415
Capital Expense Total				**$ 58,133**
Engineering	20%	LS		$ 11,627
Legal and Administrative	5%	LS		$ 2,907
Capital Implementation Cost Total				**$ 72,666**

Description	Unit	Quantity	Unit Cost*	Total Costs
Pipe Unit Cost				
PVC Inlet Lead (12", 2-5' Deep)	LF		$1	
12" PVC Pipeline	LF		$87	
15" PVC Pipeline	LF		$121	
18" PVC Pipeline	LF		$147	
21" PVC Pipeline	LF		$176	
24" PVC Pipeline	LF		$191	
27" PVC Pipeline	LF		$224	
30" PVC Pipeline	LF		$241	
33" PVC Pipeline	LF		$274	
36" PVC Pipeline	LF		$292	
42" PVC Pipeline	LF		$333	
48" PVC Pipeline	LF		$354	
60" PVC Pipeline	LF		$509	
Channel	LF		$300	

*Unit costs include trenching, backfill, manholes, pavement resortation, and catch basins. They are based on recent projects and previous estimates. They are only preliminary estimates to use for budgeting purchases and are not a garuntee of future pricing. The cost of construction and building materials is continually changing.

West Bank Chehalem Creek
Streambank Erosion

Hess Creek (DS of Mountainview Drive)
Residential Stormwater Outfall

Corrine Tributary to Hess Creek
Detention Pond Outfall Retrofit

Project Name	A-1: Streambank Protection Improvements
Drainage	Hess Creek, Chehalem Creek, and Spring Brook
Contributing Drainage Area	N/A
Associated Modeled Pipes/Conduits	N/A
Objective(s) Addressed	Water Quality, Stream Restoration

Project Description

The stream channel assessment identified problem areas in the creek where erosion was significant.

A. West Bank Chehalem Creek (Upstream of Hwy 240)
   - This project addresses stream bank protection and riparian restoration and landscaping along the west bank of Chehalem Creek.

B. Hess Creek (Downstream of Mountainview Drive)
   - This project addresses an outfall improvement, stream bank protection, and riparian restoration and landscaping along Hess Creek.

C. Corinne Tributary to Hess Creek
   - This project addresses an outfall improvement, stream bank protection, and riparian restoration and landscaping at the detention pond outfall along Corinne Tributary.

D. Two Additional Outfall Protection and Bank Restoration Projects
   - This cost accounts for two additional outfall protection and bank restoration projects. The locations are to be determined upon City field investigation.

Estimated Planning Cost (2014 dollars, rounded to the thousand)

Capital Expense Sub-total (See Appendix E for details)	$ 100,000
Mobilization/Demobilization (10%)	$ 10,000
Traffic Control/Utility Relocation (5%)	$ 5,000
Erosion Control (2%)	$ 2,000
Construction Cost Sub-total	$ 117,000
Construction Contingency (30%)	$ 35,100
Capital Expense Total	$ 152,100
Engineering and Permitting (20%)	$ 30,400
Construction Administration (5%)	$ 7,600
Capital Project Implementation Cost Total	**$190,100**
Existing to Future % Flow Increase[1]	**N/A**

Design Assumptions/Notes: Additional project locations to be determined through stream channel observations.

[1] *Existing to future percent flow increase is based on the 25-year percent peak flow increase from the contributing drainage area between the existing and future land use scenarios for each CIP.*

Appendix E: Figures from 2014 SWMP

LEGEND

HYDROLOGIC SOIL GROUP (HSG)

- A (HIGHEST INFILTRATION)
- B
- C
- D (LOWEST INFILTRATION)
- WATER
- URBAN GROWTH BOUNDARY (UGB)
- STREAMS
- STREETS

N

0 0.25 0.5 1 Miles

STORMWATER MASTER PLAN UPDATE

FIGURE 2-3. SOILS MAP

NEWBERG, OREGON

City of Newberg

Brown AND Caldwell

JUNE 2014

LEGEND

IMPERVIOUS AREAS

- BUILDINGS
- HOMES
- PAVEMENT
- GENERAL ROW
- CITY CENTER/HWY 99 ROW
- TAXLOTS
- URBAN GROWTH BOUNDARY (UGB)
- CITY LIMIT
- STREETS
- STREAMS

Tangen Creek
Hess Creek
Harvey Creek
Spring Brook
Willamette River
Chehalem Creek

N

0 0.25 0.5 1 Miles

STORMWATER MASTER PLAN UPDATE

FIGURE 2-4. EXISTING IMPERVIOUS AREAS

NEWBERG, OREGON

City of Newberg

Brown AND Caldwell

JUNE 2014

Appendix F: Attributes for Shapefile Submittal by Developments

The following attributes should be included by engineers submitting shapefiles to the City as part of developments.

Pipes/Channels

Attribute	What it is	Input Value Options
enabled	Is it actively enabled in the system	"1' if active, "0" if not
lifecycles	What life cycle	"Active" "Abandoned" or "Removed"
material	Pipe material	"ZZZ" "XXX" "VCP" "SP" "RCP" "PVC-P" "PVC" "PE" "Not Known "DIP" "CMP" "CAS" " "
crosssecti	Shape of Cross section	"C"
upstream	Upstream invert elevation of pipe	In ft. in the NAVD88
downstream	downstream invert elevation of pipe	In ft. in the NAVD88
pipesize	Diameter of	pipe in inches
installdat	Date pipe was installed	date
type	Type of stormwater pipe	"Abandoned" "Collector" "Collector-Pvt" "Removed" "Trench Drain"
Roadtype	What type of road is it in	"major collector" "minor arterial" etc.
PipeLength	Length of pipe	In feet
Owner	Owner of pipe	"Newberg" "ODOT" "County" "Private"
Up_Node	The node (catch basin or manhole) upstream of pipe	The unique ID of the the node upstream
Down_Node	The node (catch basin or manhole) downstream of pipe	The unique ID of the node downstream
SLOPE	Slope of pipe	In percent

Outlets

Attribute	What it is	Input Value Options
enabled	Is it actively enabled in the system	“true” or “false”
installdate	Date pipe was installed	date
Location description	Description of location	location
lifecyclestatus	What life cycle	“Active” “Abandoned” or “Removed”
outletdimension	Diameter of outlet	pipe in inches
SubtypeCD	type	“outlet”
OutletInvertElevation	Invert elevation	Elevation in ft.
GroundElev	Elevation of ground	Elevation in ft.
Outletshape	Shape of outlet	“Circular”, “open channel”, “trapezoid”
Material	Pipe material	“ZZZ” “XXX” “VCP” “SP” “RCP” “PVC-P” “PVC” “PE” “Not Known “DIP” “CMP” “CAS” “ ”
Owner	Owner of facility	“Newberg” “ODOT” “County” “Private”

Inlets

Attribute	What it is	Input Value Options
enabled	Is it actively enabled in the system	“true” or “false”
locationdescription	Description of location	location
lifecyclestatus	What life cycle	“Active” “Abandoned” or “Removed”
SubtypeCD	type	“1”
date_obs	Date observed	Date
collectmethod	How was elevation determined	Text
pelican	Is a pelican present	“Present” and “Not Present”
grate	How many grates are there	“Single”, “Double”, “None” <null>
type	Description of inlet type	Text
installdate	Date pipe was installed	date
Owner	Owner of facility	“Newberg” “ODOT” “County” “Private”
Fish Marker	Is it labeled for fish	“YES”, “Yes” or <null>
Sump	Lowest IE or sump elevation, whatever is lowest	Elevation in ft.
Ground	Ground elevation	Elevation in ft.

Manholes

Attribute	What it is	Input Value Options
enabled	Is it actively enabled in the system	“true” or “false”
locationdescription	Description of location	location
lifecyclestatus	What life cycle	“Active” “Abandoned” or “Removed”
AccessDiameter	Diameter of access hole	Diameter in inches
AccessType	Type of cover	“Cover” “Lid” “door”
invertelevation	Lid elevation	Elevation in ft.
wallmaterial	What are the walls made out of	“concrete” “Precast”
SubtypeCD	type	“Manhole” “Vault”
editorname	Name of editor	Name
Lastupdate	Time of last update	Date and time
date_obs	Date observed	Date
collectmethod	How was elevation determined	Text
installdate	Date pipe was installed	date
Owner	Owner of facility	“Newberg” “ODOT” “County” “Private”
Sump	Lowest IE or sump elevation, whatever is lowest	Elevation in ft.
Ground	Ground elevation	Elevation in ft.