A RESOLUTION CONSIDERING, ADOPTING AND ACCEPTING THE 2022 STORM DRAINAGE MASTER PLAN) **RESOLUTION NO. 2022-17**

WHEREAS, the City Council for the City of Lebanon has considered the 2022 Lebanon Storm Drainage Master Plan on July 27, 2022 where the City Council had the opportunity to consider, review and confer with staff; and,

WHEREAS, a final draft copy of the 2022 Storm Drainage Master Plan has been available to the general public for public review and comment since August 4, 2022; and

NOW, THEREFORE, be it resolved by the Lebanon City Council as follows:

SECTION 1: The City Council hereby approves, accepts and adopts the 2022 Storm Drainage Master Plan as presented to the City Council at its regularly scheduled meeting on October 12, 2022, and the plan as attached to this Resolution as Exhibit A, which is incorporated herein as if fully set forth at this point.

SECTION 2: This Resolution shall be effective immediately upon its passage.

Passed by the Lebanon City Council and executed by the Council President on this 12th day of October 2022, by a vote of 5 yeas and 0 nays.

CITY OF LEBANON, OREGON

Paul R. Aziz, Mayor ☐
Michelle Steinhebel, Council President ☒

ATTESTED:

Kim Scheafer, MMC, City Recorder

EXHIBIT A

Storm Drainage Master Plan

City of Lebanon

May 4, 2022

Lebanon OREGON

DAVID EVANS AND ASSOCIATES INC.

City of Lebanon Storm Drainage Master Plan

May 2022

Prepared for

City of Lebanon

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ACKNOWLEDGMENTS

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Executive Summary

Chapter 1

Lebanon OREGON

DAVID EVANS AND ASSOCIATES INC.

1.0 Introduction

This Stormwater Drainage Master Plan (SDMP) is an update to the City of Lebanon (City) 1989 SDMP. It is intended to be a user-friendly guidance tool for assessing, planning, and achieving goals for future stormwater management system improvements within Lebanon over a 20-year planning horizon. The target audience is City staff, elected officials, developers, and anyone interested in stormwater management improvements in Lebanon. This SDMP includes comprehensive analysis of the City's drainage systems to help identify critical short-term and long-term drainage issues and provides a corresponding list of prioritized capital improvement plan (CIP) projects intended to help alleviate them. Prioritized project descriptions, estimated costs, and supporting figures are provided.

Although this SDMP is strongly focused on conveyance deficiencies, water quality, and flooding, it also includes a recommended funding mechanism to support financing of the design and construction of CIP projects along with ongoing expenses for operation and maintenance needs. This SDMP also recommends design standards for new development and redevelopment and addresses the City's Total Maximum Daily Load (TMDL) pollution discharge thresholds and corresponding requirements.

1.1 Storm Drainage Master Plan Goals and Objectives

This updated SDMP has the following goals and objectives:

1. Analyze the City's existing and future stormwater system capacities to identify potential deficiencies and needed improvements. The improvements considered include but are not limited to:
    - Pipe and ditch conveyance upgrades to increase capacity and alleviate flooding
    - Local and regional detention considerations to alleviate flooding by taking pressure off conveyance systems
    - Water quality treatment to help meet the Department of Environmental Quality (DEQ) TMDL pollution discharge targets
    - Diversion of stormwater currently discharging into the Santiam-Albany Canal (Canal)
2. Develop a CIP with a prioritized list of projects that address stormwater system deficiencies (existing and future). The CIP includes:
    - A description of the City's existing stormwater system
    - A project prioritization matrix based on key project benefits
    - A project summary for each prioritized project, including a description, a concept-level figure, planning-level cost estimate, and timeline to complete
    - A system overview of considered and recommended projects
    - A hydraulic model that can be used to assess system responses to improvements and basin changes/developments
3. Analyze the City's existing funding mechanisms and utility rates, and make recommendations that support financing of stormwater infrastructure improvements and operation and maintenance expenditures.
4. Review the City's current stormwater management design standards and make recommendations that align with existing regulatory requirements and trends.
5. Provide system maintenance recommendations to help improve overall system performance.

This SDMP is intended to address and support the goals and objectives listed above, be easy to use, and be easy to update for future revisions.

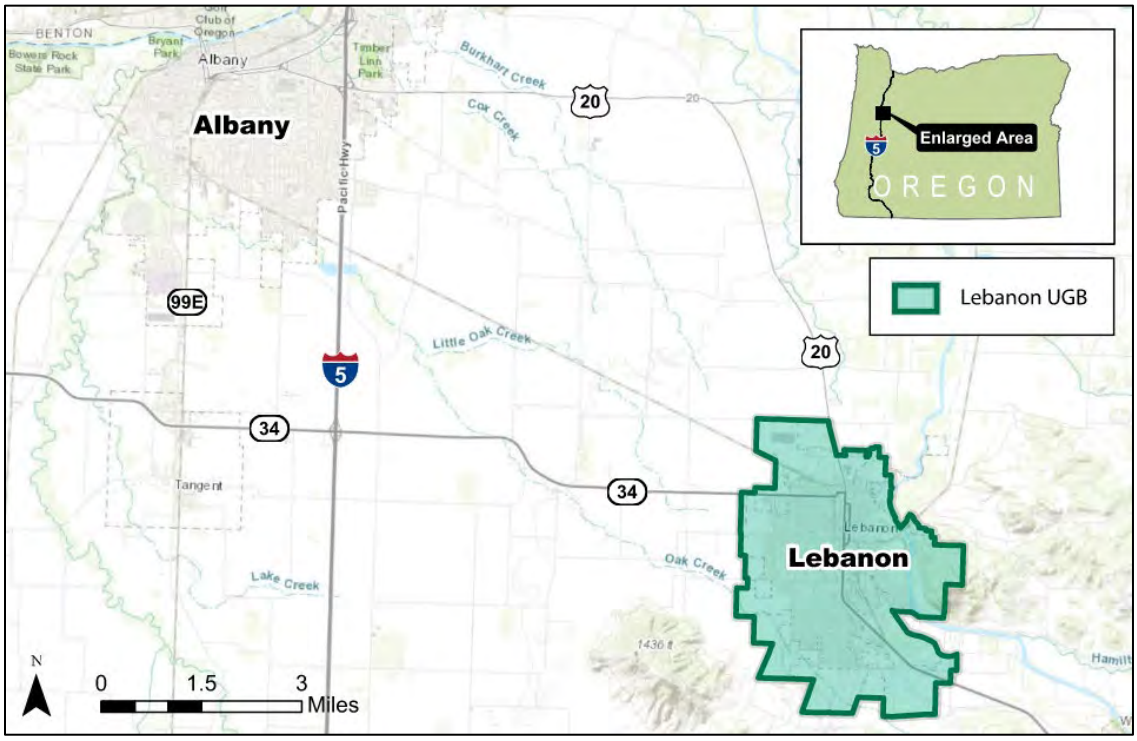
1.2 Background

The City of Lebanon is in Linn County, on the far east side of the central Willamette Valley, approximately 8 miles east of Interstate 5 (Figure 1.2-1). The SDMP study area includes the City of Lebanon's urban growth boundary, which is approximately 4,355 acres, as shown on Figure 1.2-1. There are four major watershed within the study area: The South Fork of the Santiam River (Santiam River), Burkhart Creek, Oak Creek, and the Santiam-Albany Canal (Canal). There are also several smaller watersheds including Marks Slough, Cheadle Lake, Little Oak Creek, and connections to underground injection control systems (UICs) throughout the city. Figure 1.2-2 shows the major watersheds.

The City's 1989 SDMP provided a comprehensive hydrologic and hydraulic analysis of existing and future conditions, CIP project development, design standards review, and water quality recommendations. The 1989 SDMP estimated future conditions up to the year 2005. This update to the SDMP is driven by the City's wish to reevaluate current and future conditions of the stormwater system and to reflect current regulatory requirements with a planning horizon of year 2045.

In addition to capacity and water quality conditions throughout the City's existing stormwater system, diverting stormwater runoff from the Canal is also a key consideration of this updated SDMP. The need for diversion of stormwater runoff from the Canal is a result of the Santiam-Albany Canal General Agreement (Agreement) between the City of Albany and the City of Lebanon, which requires the City to complete a refinement plan as part of its SDMP. The purpose of the refinement plan is to identify a long-term comprehensive strategy to remove stormwater from entering the Canal, which is used by the City of Albany as a secondary drinking water source.

Figure 1.2-1 – Regional Vicinity Map



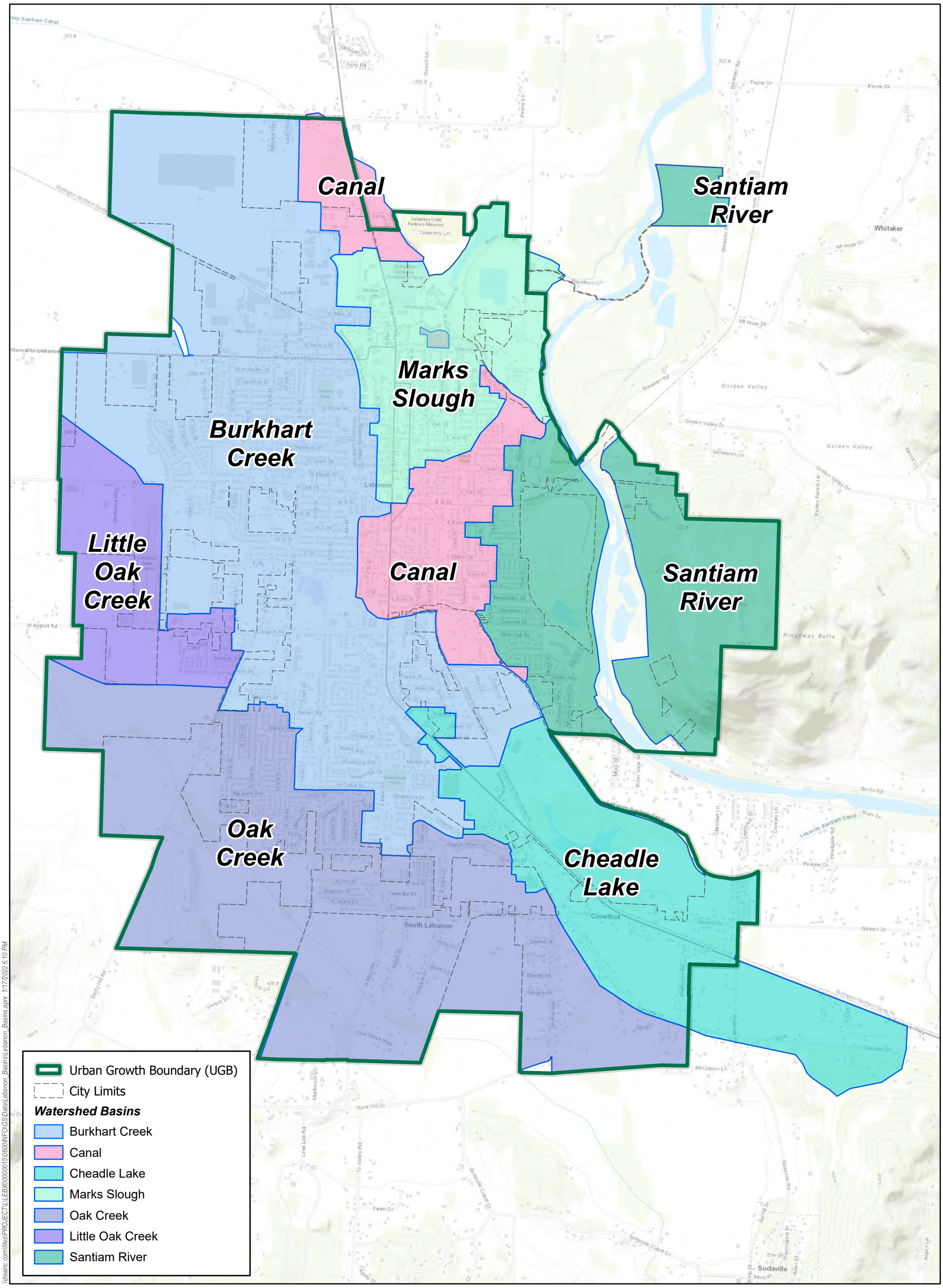


Figure 1.2-2 Watershed Overview Map

Lebanon Storm Drainage Master Plan

DAVID EVANS AND ASSOCIATES INC.

Lebanon

1.3 Approach

Development of this SDMP and the recommended CIP projects started with City and David Evans and Associates, Inc. (DEA) collaborating to determine key goals and objectives for the updated SDMP. This collaborative approach established that the primary focus of this SDMP should be stormwater system conveyance limitations and localized flooding problems. In addition to existing conveyance deficiencies, the development of this SDMP also included the following potential CIP projects and actions:

- Canal diversions
- Disconnections from the sanitary sewer and corresponding flow redirection opportunities
- Decommissioning of UIC facilities
- System extensions needed to support future development conveyance
- Management of water quality and quantity (stormwater management facilities)

Once the goals and objectives were established, the project assessment and analysis began. This step included researching past studies and recommended projects, interviewing City staff about known problems, conducting field reconnaissance visits, and performing a hydrologic and hydraulic analysis of the City's stormwater infrastructure. Evaluation of the drainage system used the modeling software XPSWMM. Four models were developed—one each to represent the stormwater systems in each of the four major watersheds listed above.

The stormwater system models were used to assess and identify areas of insufficient conveyance capacity and corresponding flooding. Proposed improvements to alleviate capacity limitations and flooding were added to the existing system models. The model results with the proposed improvements were then used to inform the conveyance and stormwater management CIP projects. The next step was to prioritize the potential projects based on a matrix of selection criteria established in collaboration between DEA and the City. A total of 139 potential CIP projects were identified, and 21 of those were prioritized and recommended for design and construction.

1.4 Summary of Findings and Recommendations

1.4.1 Analysis of Existing System Capacity

The hydrologic and hydraulic analysis identified stormwater system capacity issues in approximately 15 percent of the existing stormwater system analyzed. These capacity issues included conveyance deficiencies in piped systems and open channel systems. Chapter 3, Hydrologic and Hydraulic Development, and Appendices A through C provide details of the hydrologic and hydraulic modeling results.

1.4.2 Capital Improvement Plan and Prioritized Projects

A key outcome of this SDMP, summarizing recommended stormwater infrastructure improvements, is the CIP and the identification of prioritized project recommendations. The CIP is intended to provide the City with a comprehensive action plan to identify current and future stormwater infrastructure issues, and to propose improvements needed to address those issues and effectively manage stormwater runoff within the city limits. In developing the CIP, 139 projects were identified as potential projects to address an existing or future stormwater infrastructure need. Each of these projects was then assessed using a set of weighting criteria to prioritize the top 21 recommended projects, as listed in Table 1.4-1, below. Of the top 21 projects, 5 projects are identified as potential candidates that the City could design and/or construct with its own staff and resources. Chapter 4 (the

CIP) provides detailed information on the identification process, prioritization methodology, project descriptions, maps, and planning-level cost estimates for these projects.

Table 1.4-1 – Top 21 Prioritized CIP Projects

Rank	Score	CIP Project ID	Project Name	Total Project Cost
				(2021 Dollars)
1	92	BC-023	Ditch Improvements Redwood Ave.	$269,918
2*	91	BC-022	Ditch Improvements Birch St.	$56,985
3	74	SA-004	Elmore St. Canal Diversion	$3,113,078
4	71	SR-017	Cascade Dr. Dual Pipes	$66,338
5	68	SA-010	S. Main St. 36-inch Canal Diversion	$590,150
6	67	SA-014	Santiam Hwy.	$99,180
7	66	SR-020	SW Santiam Hwy.	$1,390,536
8	66	BC-052	Tangent St. Outfall South	$218,399
9*	63	OC-009	Baker St. and Crowfoot Rd.	$19,412
10*	63	OC-014	Airport Dr.	$36,047
11*	62	OC-001	Oak St. at Lebanon Pkwy.	$42,601
12	62	SR-013	2nd St.	$437,538
13	61	BC-050	Vine St. Outfall	$928,363
14	61	BC-051	Tangent St. Outfall North	$316,579
15	57	SA-005	Grant St. Combined Sewer Diversion	$256,288
16	57	SA-013	2nd St. Canal Diversion	$160,588
17	57	SA-018	UIC Decommissioning	$1,126,418
18	57	BC-015	3rd St. Combined Sewer Diversion	$387,730
19*	52	OC-011	Lebanon Pkwy.	$28,547
20	41	BC-034	5th St. and Airport Rd.	$44,225
21	41	BC-056	Cedar Dr.	$509,313

* Prioritized projects identified as being within the capabilities of the City to complete with its own staff and resources.

1.4.3 Funding Recommendations

Based on the funding analysis performed by Steve Donovan (Donavan Enterprises, Inc.) as part of this SDMP, it is recommended that the City revise its stormwater rate structure so that it is based on measured impervious surface area for each lot. Under the proposed rate structure, all developed properties would be billed on a basis of rate per impervious square footage. Once the City completes the recommended rate structure revision, the City will need to assess the associated rates needed to fund its revenue requirements. See Chapter 4 for an in-depth funding analysis and implementation strategy recommendations.

1.4.4 Guidelines for Storm Drainage Facility Planning within Development Sites

The City's stormwater management standards include public and private development requirements that are intended to provide guidance to design professionals and ensure consistency in the safety and quality of infrastructure improvements that align with goals related to conveyance, pollution reduction, and flood alleviation. It is recommended that the City defer to the City of Albany *Division E Stormwater Management Engineering Standards*, the Oregon Department of Transportation Hydraulics Manual, or other standards as approved by the City Engineer. Chapter 2 of this SDMP provides more detail and supporting information on development standards.

Regulatory Framework and Development Standards

Chapter 2

Lebanon OREGON

DAVID EVANS AND ASSOCIATES INC.

2.0 Introduction

The City of Lebanon is a DEQ Designated Management Agency (DMA) and a stormwater utility. Accordingly, it provides stormwater drainage facilities for the collection and disposal of stormwater discharge from properties and public rights-of-way in the city. As a utility, the City provides a stormwater management service essential to public health, safety, and welfare. The design and construction of infrastructure needed to manage stormwater runoff must comply with standards that ensure these services. Section 2.1, Stormwater Management Design Standards, provides recommendations for updating the standards.

As a DMA, the City must submit an annual TMDL report. TMDLs are the maximum thresholds for pollution discharges into downstream receiving waters. Construction and post-construction best management practices (BMPs) implemented on City maintenance, capital improvement, and private development projects play a key role in managing TMDL pollution reduction targets. This SDMP proposes improvement projects, practices, and standards that will help the City reduce pollution discharges, including those listed in the TMDLs. These proposed projects, practices, and standards will also protect natural resources. In addition, the SDMP includes recommendations for funding mechanisms. All of these activities are ones that the City must include and discuss in its annual TMDL reporting. See Section 2.2, Regulatory Framework, for more detail concerning the City's TMDL requirements, including a discussion of the City's requirements for a TMDL Implementation Plan.

2.1 Stormwater Management Design Standards

The City's stormwater management design standards include public and private development requirements, which are intended to provide guidance to design professionals and ensure consistency in the safety and quality of infrastructure improvements that align with conveyance, pollution reduction, and flood alleviation goals. The standards are not intended to supersede equal or better designs that are creative or offer cost savings. However, any equal or better design variances must be pre-approved by, and are at the discretion of, the City Engineer.

Part of the development of this SDMP was to assess the City's current stormwater management design standards and recommend updates or revisions as needed. The current design standards, first developed as part of the City's 1989 SDMP, are outdated and do not align well with the City's TMDL Implementation Plan. As the TMDL Implementation Plan develops, coordination with DEQ is recommended regarding the development and timing of a definitive set of design standards specific to the City. In the interim, due to the similarity in stormwater system size and contributing environmental conditions, it is recommended that the City of Lebanon use the City of Albany stormwater management engineering standards, or the Oregon Department of Transportation Hydraulic Manual, or others as approved by the City Engineer.

There are, however, certain elements of other referenced design standards that do not align well with the City's needs. Exceptions to those design standards include, but are not be limited to, the following:

- Fee in-lieu of stormwater management is not applicable.
- Impervious Area Reduction Credits are not applicable.
- City public mainline or trunkline conveyance pipes and stormwater laterals shall be no smaller than 12-inch and 10-inch diameters, respectively.
- Electronic design and as-built drawings must be provided to the City in current AutoCAD Civil 3D version and PDF.
- The City's detention design storm will continue to be the 10-year, 24-hour storm.
- The maximum water depth in surface stormwater management facilities (ponds, etc.) is 3 feet.

Reference to standards from other cities or agencies in the SDMP shall be superseded if the City develops new standards before any updates of this SDMP occur.

2.2 Regulatory Framework

2.2.1 City of Lebanon TMDL Program

This SDMP supports and is therefore connected to the City's TMDL pollutants allocation requirements for impaired waters, as discussed in this section.

According to the Clean Water Act (federal law), each state must develop TMDL allocations for its impaired waters. According to the Environmental Protection Agency (EPA), a TMDL is the calculation of the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that particular pollutant. A TMDL determines a pollutant reduction target and allocates the necessary load reductions to the source or sources of the pollutant. The EPA is the federal Clean Water Act regulatory agency, and the Oregon DEQ is the corresponding state regulatory agency.

Some of the creeks collecting runoff from Lebanon drain to the South Santiam River. The majority of runoff drains directly to the Willamette River. The Canal also collects City stormwater runoff, which drains to the Calapooia River near its confluence with the Willamette River. All of these systems fall within the DEQ's TMDL for the Willamette Basin. The rivers and streams in the Willamette Basin support fish and wildlife, including threatened native populations of Chinook salmon and steelhead trout. The Willamette Basin system also includes bullhead, rainbow, and cutthroat trout, and other aquatic life that are culturally and economically significant to the basin.

As identified in the DEQ 2006 Willamette Basin Water Quality Management Plan (WQMP), TMDLs for the Willamette Basin include temperature, bacteria, and mercury. In 2019 the DEQ Revised Willamette Basin Mercury TMDL WQMP set new requirements for the mercury TMDL. The 2006 DEQ WQMP requirements remain in effect for bacteria and temperature.

Largely based on population size, DEQ requires DMAs such as the City to submit TDML Implementation Plans describing how the DMA is and will be addressing TMDL allocations. At a minimum, the City's TMDL Implementation Plan must be documented in an annual report. Every fifth year, DMAs must submit a TMDL evaluation report in place of the annual report. This evaluation report can be the submittal of a populated DEQ TMDL Five Year Review form.

Activities that the City must report on in the TMDL Implementation Plan or annual and evaluation reports include but are not limited to:

- Riparian area protection
- Stream restoration
- Wetland protection
- Drinking water/source water protection
- Tree protection
- Illicit discharge detection and elimination
- Post-construction stormwater management
- Revenue generation

- Construction stormwater management
- Pollution prevention in municipal operations and maintenance
- Public education, outreach, and participation

This SDMP proposes improvements related to some of the activities listed above and thus supports the development of the TMDL Implementation Plan. Of those activities, the recommended projects, practices, and standards in this SDMP will most directly help reduce pollution runoff related to post-construction stormwater management. Related to drinking water/source water protection, proposed improvements involving the Canal will help protect a City of Albany drinking water source. The revenue generation activity is directly affected by the funding mechanisms proposed in this SDMP. Any project or practice that reduces pollution or excessive amounts of stormwater that would otherwise go into streams and wetlands directly supports wetland, stream, and riparian area protection activities. Preparation of this updated SDMP will be a key development to include in the City's annual TMDL Implementation Plan report as progress.

2.2.2 TMDL Stakeholders and Partners and Their Roles

Within and around Lebanon, a number of other agencies and entities besides the City affect TMDLs. All of them have the potential to be partners in pollution reduction efforts and efforts to stay within TMDL thresholds. Although not directly related to the development of this SDMP, potential partnering opportunities could become part of future master planning and project selection efforts.

2.2.2.1 Linn County, DEQ DMA, and NPDES MS4 Phase II General Permit

Linn County (County) owns a significant amount of land within the city limits—specifically roads. Largely because of the County's population size, it also has been deemed a DMA, in addition to being a National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Phase II permittee. Accordingly, the County's TMDL stormwater management and reporting requirements differ from and are more conservative than the City's requirements. Where City and County stormwater infrastructure combine, or where the runoff from one impacts the other, it is recommended that the City seek collaboration and possibly partnering opportunities with the County that will best serve all stakeholders involved.

2.2.2.2 The South Santiam Watershed Council

The South Santiam Watershed Council (SSWC) is a nonprofit organization that promotes and assists with voluntary, nonregulatory conservation efforts to improve the quality of the watershed. Although the SSWC does not have direct TMDL responsibilities, its goals and objectives align with the City's TMDL program. Goals and objectives of the SSWC that are similar to those of the City include but are not limited to:

- Obtaining of funding to carry out projects upstream and downstream or partner with other agencies on projects
- Work with landowners to help improve riparian areas
- Programs to educate the community on the importance of the health of the watershed

Whenever the City and the SSWC propose activities that relate to their common goals, it is recommended that the City seek opportunities for collaboration and possibly partnering with the council to best serve all stakeholders involved.

2.2.2.3 The City of Albany

The City of Albany is also a DMA and must submit its own TMDL Implementation Plan. There is some overlap with the City of Lebanon's TMDL Implementation Plan, because the City of Albany and the City of Lebanon share usage

of the Canal. In 2016, the two cities entered into a canal usage Intergovernmental Agreement (the Santiam-Albany Canal General Agreement, or "Agreement") that superseded previous agreements. Under the Agreement, the City of Albany owns the Canal, and in general, the City of Lebanon will seek permission for any new improvements or modifications to existing infrastructure proposed within Canal rights-of-way or easements. The City of Lebanon will also minimize the discharges of City stormwater runoff into the Canal and will meet development or redevelopment water quality and detention requirements when discharge into the Canal is unavoidable.

2.2.2.4 Agriculture Partners

Agricultural activities in and around the city can have a direct impact on watershed health based on the quality of the stormwater runoff from their practices, the level of protection of wetlands and riparian areas, and the amount of shade provided on streams adjacent to or running through properties. It is beyond the scope of this SDMP, but as the TMDL Implementation Plan develops, and if agricultural practices become more of a focus, it is recommended that the City seek educational and partnering opportunities with any stakeholders interested in riparian and wetland area protection, stream restoration, and pollution reduction. These stakeholders could include but may not be limited to:

- Farms
- Schools
- Oregon Department of Fish and Wildlife
- National Marine Fisheries Service
- Department of State Lands
- South Santiam Watershed Council (SSWC)
- Oregon DEQ
- U.S. Army Corps of Engineers

Hydrologic and Hydraulic Development

Chapter 3

Lebanon OREGON

DAVID EVANS AND ASSOCIATES INC.

3.0 Introduction

Building a hydrologic and hydraulic model that accurately represents the City's drainage patterns and corresponding infrastructure is key to effective stormwater master planning. Hydrology and hydrologic modeling represents overland flow of stormwater that is anticipated to be generated and collected within the City's stormwater sewer. Hydraulics and hydraulic modeling represents how this flow is transported through the City's stormwater sewer. These models are used to help assess existing and future conditions, and to model potential improvements to reduce flooding and take pressure off the existing stormwater system. Peak design flows and volumes are routed through the existing condition model to estimate conveyance deficiencies, and then potential system improvements are modeled that inform potential CIP projects (see Chapter 4, Capital Improvement Plan).

This SDMP effort uses the XPSWMM model for the stormwater master planning analysis. It was selected for its combined hydrology and hydraulic calculations, its user-friendly interface, its ability to import Geographic Information Systems (GIS) data, and the City's familiarity with the software (the City uses XPSWMM for sanitary sewer modeling). XPSWMM version 2019 was used for the SDMP analysis. It is based on EPA's Storm Water Management Model (SWMM), which was developed in the 1970s as a comprehensive urban runoff model for continuous and event-based simulations. XPSWMM provides full dynamic hydraulic calculations that provide the user with estimations of the depth and velocity of stormwater flow at any point in time.

3.0.1 Hydrologic Analysis

An initial step to building a hydrologic and hydraulic model is to complete a hydrologic analysis that defines the amount of runoff generated within each watershed. This step involves reviewing study area characteristics, including local topography, soils, land use, and precipitation data. Lebanon is in Linn County, Oregon, on the far east side of the central Willamette Valley. The city is approximately 4,355 acres in size and has a Mediterranean-type climate, with mild wet winters and warm dry summers (see Section 3.2.1). Major watersheds within the city limits are the Santiam River, Burkhart Creek, Oak Creek, and the Canal. These major watersheds were divided into drainage basins representing locations where flow enters the City stormwater system. Appendix A show the watersheds and drainage basins delineated as part of this SDMP. The average basin size is 9 acres; there are smaller basins in the downtown central business commercial district and large basins in the outlying areas of the city (see Section 3.2.1). The analysis included developing flows for the existing and future development conditions. Future conditions and flows (full buildout) were estimated using the steps above and accounting for future growth and corresponding zoning from the City's Comprehensive Plan (see Sections 3.1.3 and 3.3).

3.0.2 Hydraulic Analysis

The next step in model building is to define how the generated runoff (from the hydrologic analysis) moves through the City's stormwater system. Hydraulic model development includes defining underground conveyance pipe and open channel (ditch) components. GIS databases can be a great source of input information. However, during the summer of 2020, a data gap analysis found that there was significant data missing from the City's GIS database (see Appendix D). Subsequently, the City completed a survey of the stormwater system (see Section 3.4), and this data was used to complete the hydraulic model. Four models were built for the hydraulic analysis, one each to correspond with the four major watersheds referred to in the previous section: Burkhart Creek, Oak Creek, the Canal, and the Santiam River (including Marks Slough, Cheadle Lake, Santiam River, and UICs).

3.1 Study Area Characteristics

This section provides details of the SDMP study area, describing the local climate, topography, soils, and land use conditions used to develop the hydrologic and hydraulic models.

3.1.1 Climate and Rainfall

Lebanon is located east of the Willamette River in the Willamette Valley zone of the Oregon Climate Service. The climate is generally mild throughout the year and features cool, wet winters and warm, dry summers. Average annual precipitation in Lebanon is approximately 57 inches. Annual primary precipitation occurs in November, December, January, and February. Storms during the winter rainy season are often of long duration, extending two to three days. Shorter duration events are typical in spring and last a few hours. Snowfall is minimal: Most years record little snowfall, and the mean annual snowfall for this area is between 5 inches and 10 inches.

Hydrologic calculations were performed using a Natural Resources Conservation Service (NRCS) Type 1A 24-hour rainfall distribution. A Type 1A 24-hour distribution is a good representation and typically is used in the Northwest for analyses in urban setttings. Precipitation depths were obtained from a 2008 Oregon Climate Service study, which provides detailed rainfall depths throughout Oregon using a special mapping methodology. Results are provided at a 2,625-foot (800-meter) grid resolution and represent the most current and detailed rainfall study in Oregon. Corresponding depths for the Lebanon area are listed in Table 3.1-1.

Table 3.1-1 – Design Storm Precipitation Depths – Lebanon, Oregon Area

Recurrence Interval	Rainfall Depth
Years	Inches
2	2.40
10	3.27
25	3.83
50	4.26
100	4.70
500	5.77

3.1.2 Topography and Soils

Lebanon is located at the base of the Cascade mountain range, at the eastern boundary of the Willamette Valley. The only area in the city with steep slopes is the area east of the Santiam River, which includes the Ridgeway Butte area. It is relatively undeveloped forested land that drains directly into the Santiam River. The rest of Lebanon has relatively flat terrain. Generally, the ground slopes downward from the southeastern city limits to the northwestern city limits, with a change in elevation of approximately 55 feet over 23,250 feet (4.4 miles) for an average slope of 0.2 percent (see Figure 3.1-1).

The study area has several soil types as classified by U.S. Department of Agriculture (USDA) soil texture. The three predominant soil types, making up approximately 85 percent of the study area, have been identified as: Silty Silt Loam, Silt Loam, and Gravelly Clay Loam (see Figure 3.1-2). These soils are generally classified as hydrologic group C, C/D, and D. Group C and D soils have slow to very slow infiltration rates when thoroughly wet. These moderately fine to fine textured soils have a layer that impedes the downward movement of water, making it difficult for effective infiltration of stormwater and creating areas that are susceptible to flooding. In addition to these predominant soil types, approximately 15 percent of the study area is defined as hydrologic soil group A or B, which are defined as well draining soils. However, these soils tend to be concentrated around the Santiam River, and corresponding high groundwater in the area may impede the use of infiltration stormwater management.

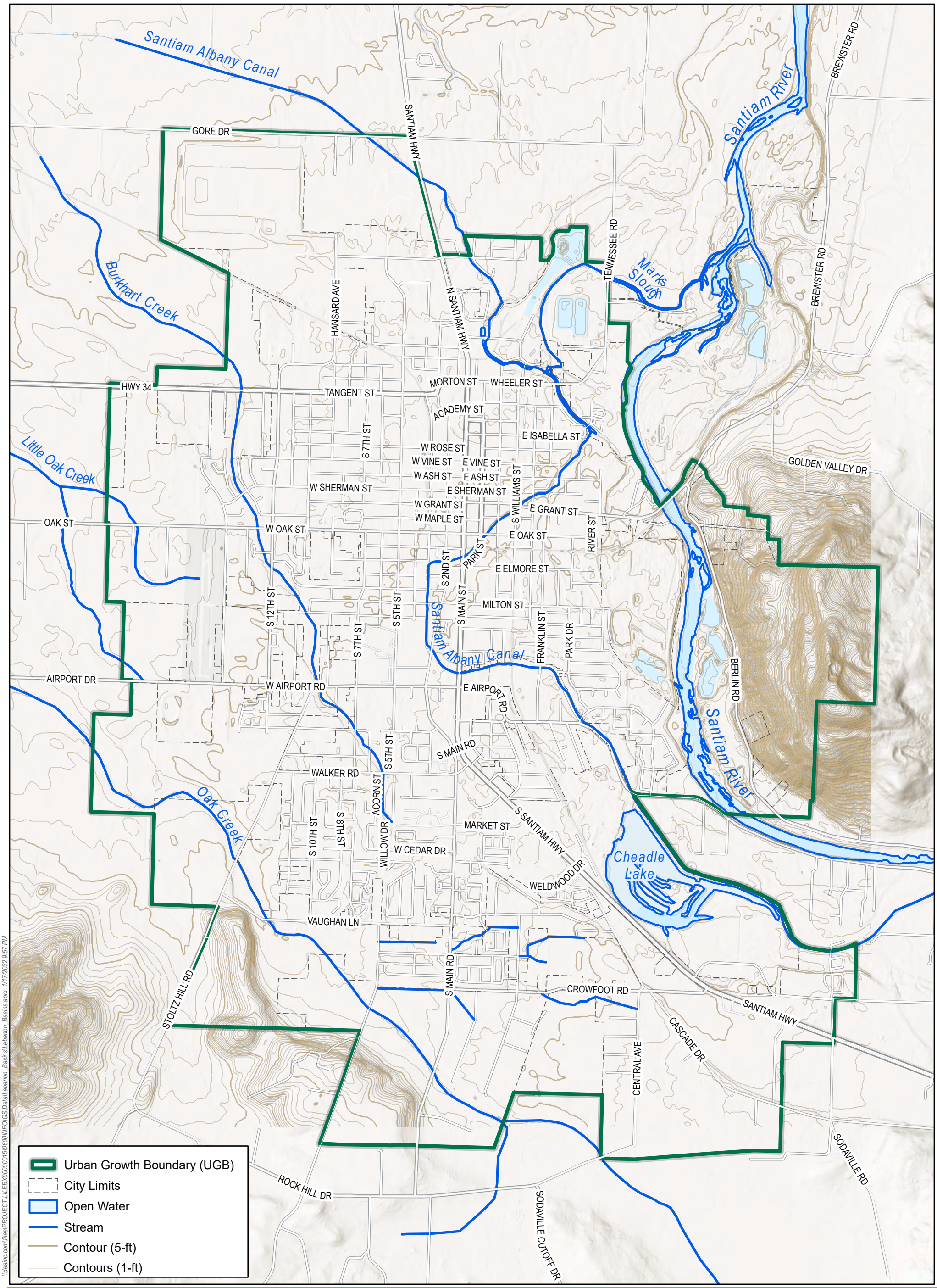


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Figure 3.1-1 Topographic Map

Lebanon Storm Drainage Master Plan

N

0 0.25 0.5 1 Miles

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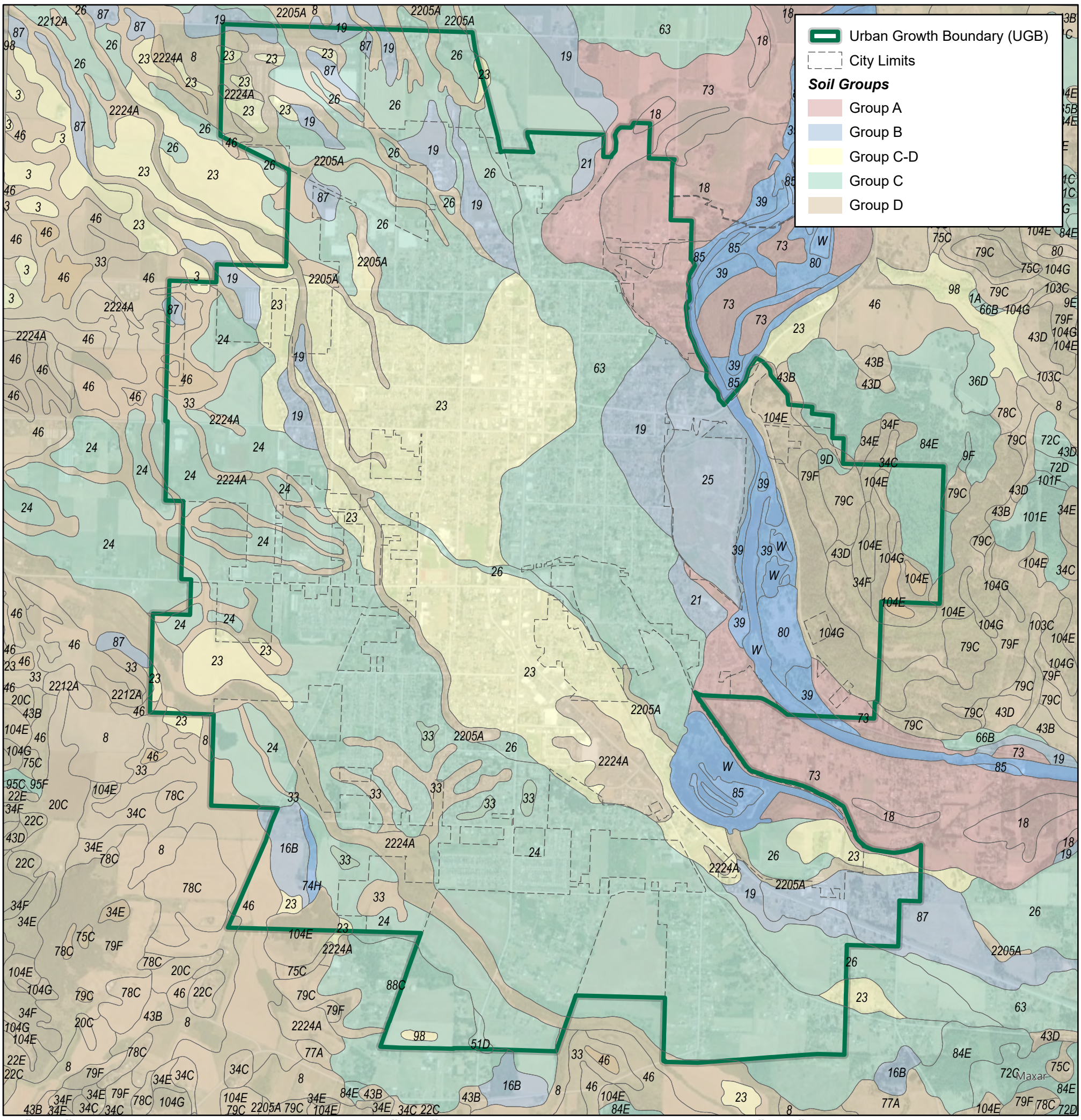

Soil ID	Soil Name
1A	Abiqua silty clay loam, 0 to 3 percent slopes
8	Bashaw silty clay
18	Camas gravelly sandy loam
19	Chapman loam
21	Chehalis silty clay loam
23	Clackamas gravelly silt loam
24	Clackamas variant silt loam
25	Cloquato silt loam
26	Coburg silty clay loam
33	Dayton silt loam
39	Fluvents-Fluvaquents complex, nearly level
46	Holcomb silt loam
63	Malabon silty clay loam
73	Newberg fine sandy loam
80	Pits
85	Riverwash
87	Salem gravelly silt loam
98	Waldo silty clay loam
99	Wapato silty clay loam
101C	Willakenzie clay loam, 2 to 12 percent slopes
101D	Willakenzie clay loam, 12 to 20 percent slopes

Soil ID	Soil Name
101E	Willakenzie clay loam, 20 to 30 percent slopes
101F	Willakenzie clay loam, 30 to 50 percent slopes
103C	Witham silty clay, 2 to 12 percent slopes
104E	Witzel very cobbly loam, 3 to 30 percent slopes
104G	Witzel very cobbly loam, 30 to 70 percent slopes
105C	Witzel variant very cobbly silt loam, 0 to 12 percent slopes
16B	Briedwell silt loam, 0 to 7 percent slopes
20C	Chehalem silt loam, 3 to 12 percent slopes
2205A	Conser silty clay loam, 0 to 3 percent slopes
2224A	Courtney gravelly silty clay loam, 0 to 3 percent slopes
22C	Chehulpum silt loam, 3 to 12 percent slopes
34C	Dixonville silty clay loam, 3 to 12 percent slopes
34E	Dixonville silty clay loam, 12 to 30 percent slopes
34F	Dixonville silty clay loam, 30 to 50 percent slopes
35C	Dixonville-Philomath-Hazelair complex, 3 to 12 percent slopes
35E	Dixonville-Philomath-Hazelair complex, 12 to 35 percent slopes
36D	Dupee silt loam, 3 to 20 percent slopes
43B	Hazelair silty clay loam, 2 to 7 percent slopes
43D	Hazelair silty clay loam, 7 to 20 percent slopes
51C	Jory silty clay loam, 2 to 12 percent slopes
51D	Jory silty clay loam, 12 to 20 percent slopes

Soil ID	Soil Name
65B	Marcola cobbly silty clay loam, 2 to 7 percent slopes
66B	McAlpin silty clay loam, 3 to 6 percent slopes
72C	Nekia silty clay loam, 2 to 12 percent slopes
72D	Nekia silty clay loam, 12 to 20 percent slopes
74H	Ochrepts, very steep
75C	Panther silty clay loam, 2 to 12 percent slopes
77A	Pengra silt loam, 1 to 4 percent slopes
78C	Philomath silty clay, 3 to 12 percent slopes
79C	Philomath cobbly silty clay, 3 to 12 percent slopes
79F	Philomath cobbly silty clay, 12 to 45 percent slopes
84E	Ritner cobbly silty clay loam, 2 to 30 percent slopes
84G	Ritner cobbly silty clay loam, 30 to 60 percent slopes
88C	Salkum silty clay loam, 8 to 15 percent slopes
9C	Bellpine silty clay loam, 3 to 12 percent slopes
9D	Bellpine silty clay loam, 12 to 20 percent slopes
9E	Bellpine silty clay loam, 20 to 30 percent slopes
9F	Bellpine silty clay loam, 30 to 50 percent slopes
W	Water

Figure 3.1-2 Hydrologic Soil Group and Soil Type Map

Lebanon Storm Drainage Master Plan

N

0 0.5 1 Miles

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Lebanon

3.1.3 Existing Development and Future Land Use

Lebanon's existing land use primarily consists of low-density residential with areas of commercial and industrial land uses. Vacant lands are located along the city boundaries and to a lesser extent in small pockets throughout the city. A City GIS layer based on aerial imagery taken in 2020 provides the data for the existing condition impervious areas. Full buildout (future) condition impervious areas were calculated based on the City's Comprehensive Plan designations for future zoning and vacant land uses. The Comprehensive Plan zones areas for ultimate development as single family residential, mixed density residential, mixed use, and commercial or industrial (see Figure 3.1-3). More than 53 percent of the currently undeveloped land is zoned as residential (calculated as the sum of single family and mixed density). Residential developments are anticipated to occur primarily in the west and south sides of the city. Additional small-scale infill development will occur throughout the city.

Of the undeveloped land, approximately 29 percent is zoned as industrial, primarily at the north and west edges of the city limits. Approximately 17 percent of undeveloped land is zoned as mixed use, and just 0.5 percent is zoned as commercial. The locations of proposed mixed use and commercial developments surround the existing urban city core near existing commercial areas. Proposed industrial, mixed use, and commercial developments will result in relatively large areas of impervious surfaces, which will generate significant amounts of pollution and stormwater runoff that will need to be managed.

A City GIS layer provided land-use designations per tax lot, including vacant land designated as "unbuildable." For calculating future impervious area, these unbuildable vacant areas were removed. SDMP planning areas were then determined to represent areas that would likely be developed or be redeveloped at full buildout conditions. The result is the estimated full buildout impervious percentages shown in Table 3.1-2 below for the various land use types. Comprehensive plan land uses were assigned to the areas of vacant/under-developed land, and then amounts of impervious area were assigned to the land uses based on the percentages in Table 3.1-2. The total of these future impervious area amounts was then added to the existing impervious area to arrive at an overall full-buildout impervious area per basin. Engineering judgment was used to determine when an area was likely to redevelop into a higher density development. For example, some lots that were not identified as being vacant were included, because they have large pervious areas that could be subdivided and developed. Figure 3.1-4 shows the areas anticipated to be developed in the full buildout conditions.

Table 3.1-2 – Land Use Impervious Percentage

Land Use Classification	Impervious Percentage
	%
Mixed Use	80
Single Family Residential	45
Mixed Density Residential	72
Industrial	90
Commercial	80

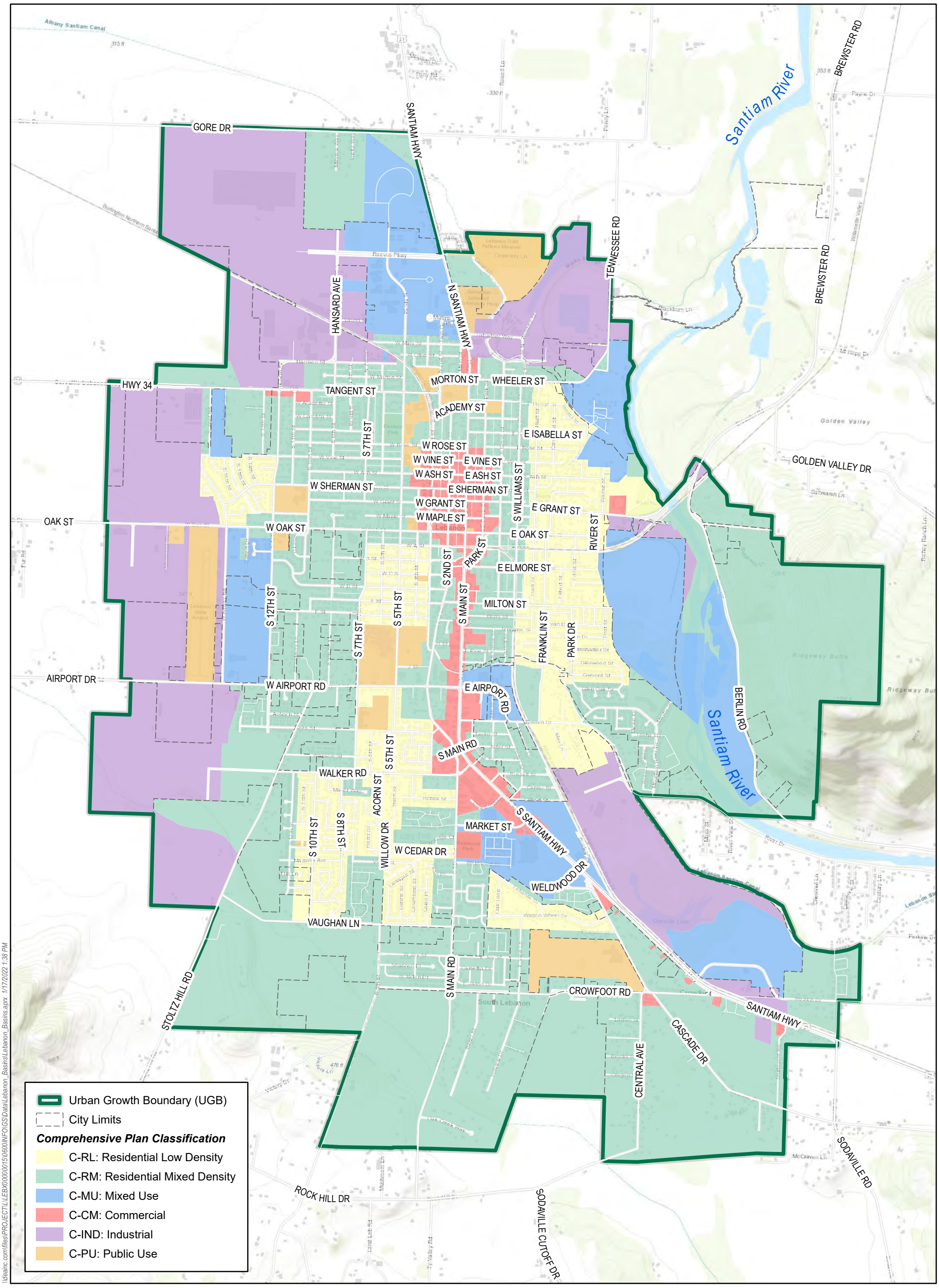

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Figure 3.1-3 Comprehensive Plan

Lebanon Storm Drainage Master Plan

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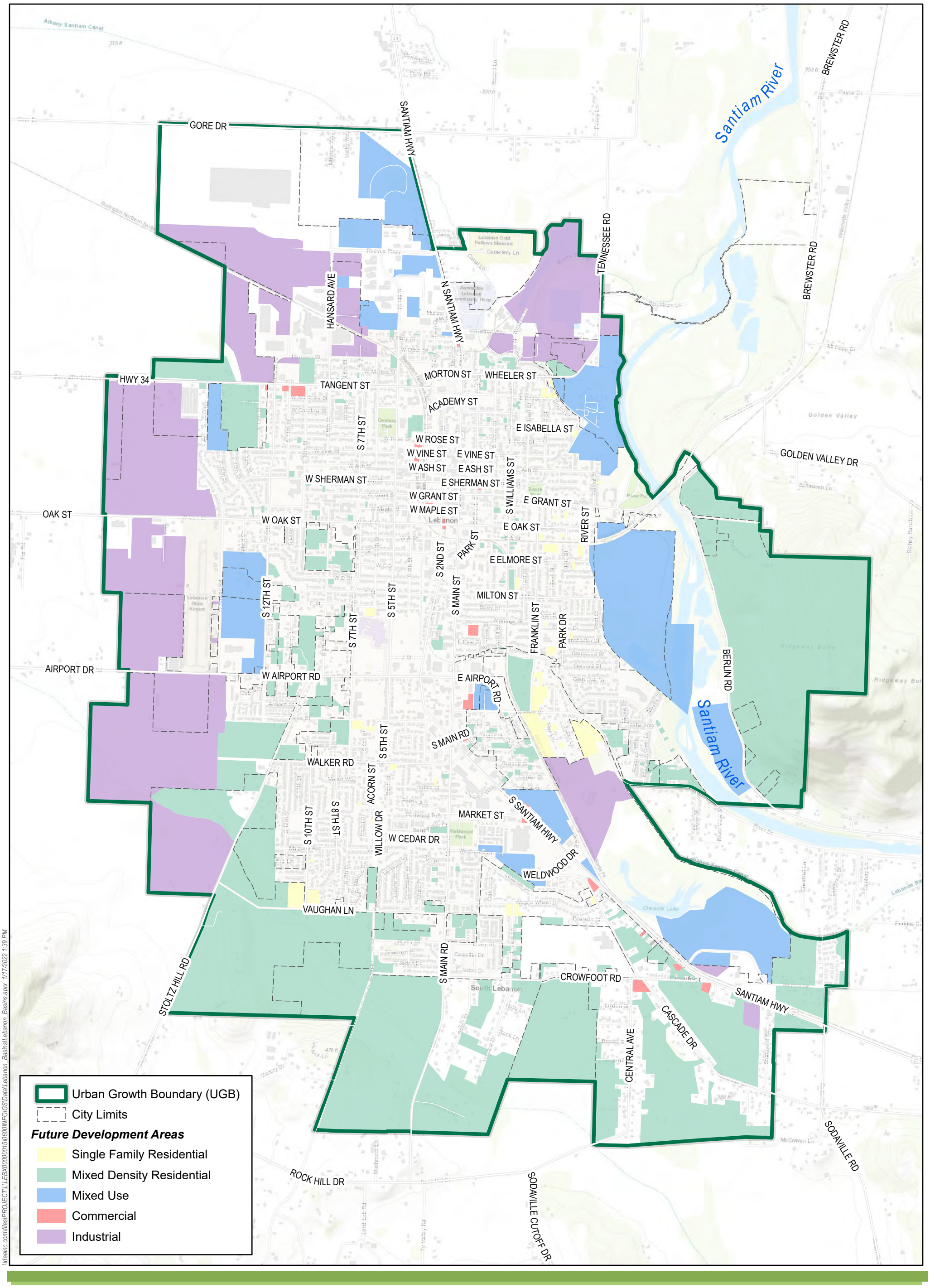

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Figure 3.1-4 Future Development Area Map

Lebanon Storm Drainage Master Plan

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3.1.4 Floodplain Impacts

Floodplain information was researched to determine the anticipated backwater elevations on the analyzed conveyance system. Portions of the city are located within a Federal Emergency Management Agency (FEMA) floodplain, from the Santiam River and Oak Creek (see Figure 3.1-5). According to the FEMA Flood Insurance Study, major flood events that have occurred in the study area include a flood event in December 1964, when the South Santiam River overflowed into the Canal and flooded 42 blocks in downtown Lebanon. Other significant flood events occurred in March 1931, December 1945, and February 1996. In general, flood discharges have been reduced because of mitigation from the Green Peter and Foster dams (providing 270,000 acre-feet of flood-control storage), which were constructed in 1966.

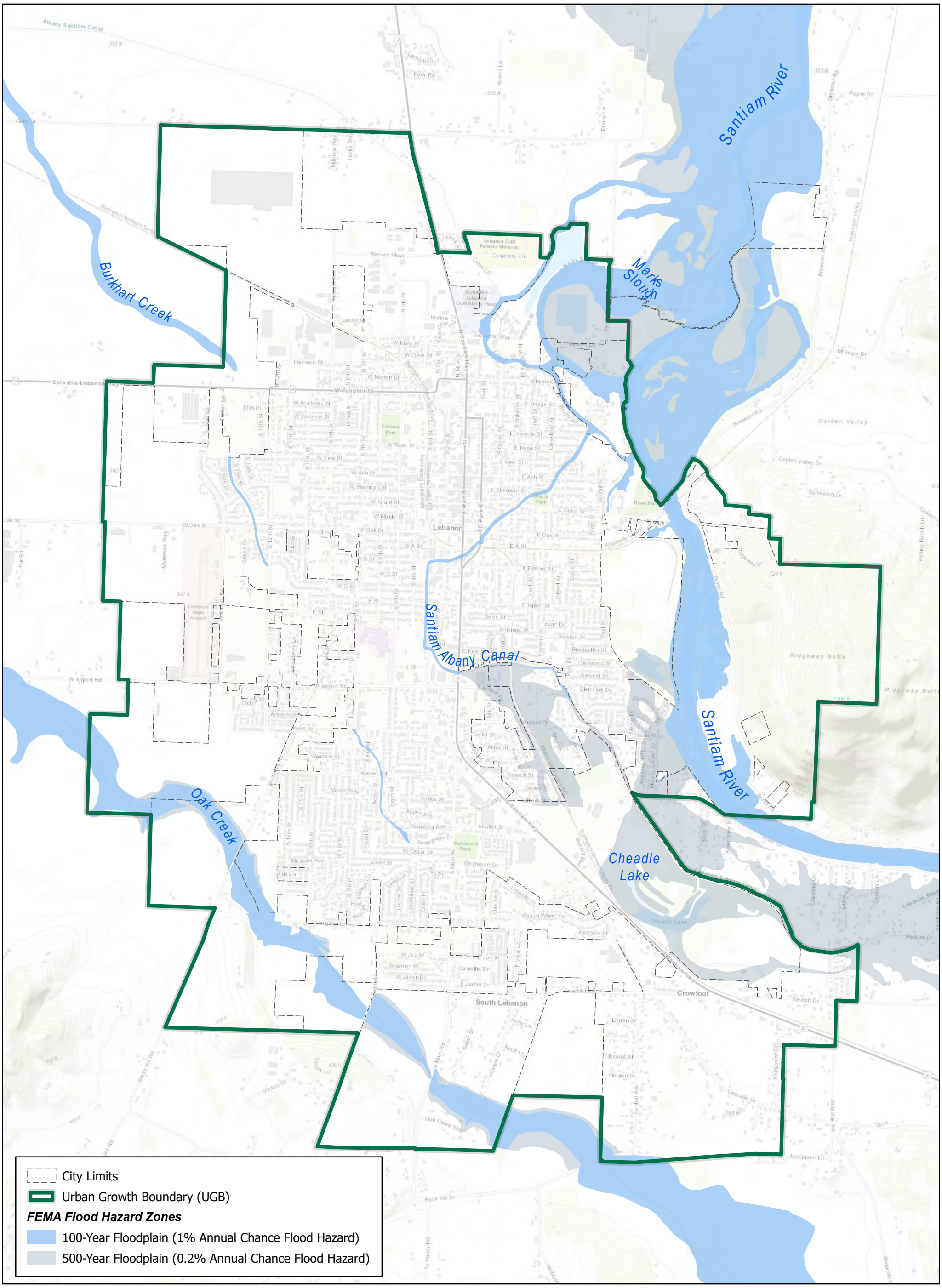

Figure 3.1-5 FEMA Floodplain Map

Lebanon Storm Drainage Master Plan

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3.2 Hydrologic Model Development

The Santa Barbara Urban Hydrograph (SBUH) hydrologic method was used to estimate master plan hydrology. The SBUH method was developed by the Santa Barbara County Flood Control and Water Conservation District to determine a runoff hydrograph (a graph that shows the rate of water flow in relation to time) for urbanized areas. It is an accepted approach commonly used by most, if not all, Oregon agencies. The SBUH method requires that the following parameters be specified for each basin:

- Area of basin (acres)
- Impervious area percentage (percentage)
- Time of concentration (minutes)
- Pervious area curve number (dimensionless)

For this SDMP, two development conditions were evaluated to develop design flows for the existing and full buildout conditions.

The following sections describe the development of the parameters for use of the SBUH method, as listed above.

3.2.1 Area of Basin (Delineation)

Basins were delineated based on topographic and conveyance system development patterns. Drainage patterns were verified at select locations during a site investigation. In total, 746 basins were delineated; these basins range in size from 240 acres to 0.5 acre, with an average size of 9 acres. Appendix A provides the watershed and basin boundaries figures. Area tabulations for each basin are included with the hydrologic input and results tables (see Section 3.3 and Appendix B).

3.2.2 Impervious Area Percentage

The percentage of impervious area correlates to how much rainfall is infiltrated into the ground and how much will flow away as stormwater runoff. Basins with higher impervious area percentages generate more stormwater runoff, which will contribute to the stormwater system and will need to be effectively managed. See Section 3.3 and Appendix B for more information on the impervious area percentage for each basin.

3.2.3 Time of Concentration

The time of concentration (TOC) is the calculated time (in minutes) that flow takes to get from a high point to a collection point. TOC typically includes a combination of overland sheet flow that transitions to shallow concentrated flow, and then channel flow. The TOC estimates when the peak flow will occur within each basin. When TOC are combined from several basins, they inform the occurrence of the peak flow within the stormwater system watershed. The USDA Technical Release 55 (TR-55) is the most common method used to calculate TOC and was used for this SDMP process. Because of the large number of basins delineated as part of this analysis (746) and the similarity in basin slope characteristics, an approximate method was used to assign a TOC to each basin. The method assigned a TOC value based on the size of the basin and its calculated impervious area percentage. Table 3.2-1 shows the matrix used to select TOC under various conditions. For example, a 3-acre basin with 67 percent impervious area would have a TOC of 10 minutes. A full list of assigned TOCs for each basin is included in the hydrologic results tables (see Appendix B).

Table 3.2-1 – Time of Concentration Calculation

Basin Area Range	Impervious Percentage	TOC
Acres	%	Minutes
0 to 2.5	0	8
	50	5
2.5 to 5	0	13
	50	10
5 to 10	0	15
	50	12
10 to 15	0	20
	50	14
15 to 20	0	30
	50	16
20 to 25	0	35
	50	18
25 to 150	0	40
	50	20
150 to 250	0	60
	50	40

3.2.4 Curve Number

The USDA NRCS runoff curve numbers (CNs) are needed inputs for the SBUH calculations. CNs are precalculated numbers representing how different soil types and land covers respond to rainfall design events that can result in runoff. From TR-55 (Urban Hydrology for Small Watersheds), Table 2-2a (Runoff curve numbers for urban areas) and Table 2-2c (Runoff curve numbers for other agricultural lands) were used to select CN values. Based on engineering judgment, CN values that represent lawns and forested/wooded areas selected from these tables were primarily used for this SDMP study area analysis. A CN was selected for each hydrologic soil group, as listed in Table 3.2-2.

Table 3.2-2 – Curve Numbers

Pervious Land Cover	Hydrologic Soil				
	A	B	C	C/D	D
Lawn Area	39	61	74	77	80
Forest Area	30	55	70	74	77

3.3 Hydrologic Results

This section provides summaries of the hydrologic model analysis and drainage from the contributing watersheds. As described in Section 4.1.1 (Conveyance Deficiencies), the 10-year and 25-year, 24-hour storm events are the significant design events used in this analysis. Appendix A shows the basin areas in basin delineation maps. Appendix B tabulates the results of the hydrologic simulations for these events. The table in Appendix B lists the total basin area, impervious area percentage, TOC, composite pervious CN, and peak flows from the 10-year and 25-year, 24-hour event for the existing and full buildout conditions.

3.3.1 Burkhart Creek

Burkhart Creek flows in a northwestwardly direction. The contributing area begins near the Vaughan Lane and South Main Road area and extends north to Gore Drive near the northwest city limits. Burkhart Creek continues northwest towards Albany and the Willamette River. Several of the City's stormwater systems outfall to the creek as it travels through the city.

Table 3.3-1 – Burkhart Creek Watershed Summary

Watershed Characteristic	Value
	Various
Number of Basins within Watershed	306
Total Watershed Area (acres)	2,058
Existing Conditions % Impervious Area Estimate	37.9%
Full Buildout Conditions % Impervious Area Estimate	58.3%
Primary Land Uses	Residential, several schools, and a commercial row along S Santiam Hwy.

3.3.2 Oak Creek

Oak Creek flows in a northwestwardly direction. The contributing area starts to the southwest of the city limits. The modeled area starts near Cascade Drive in the southwest and goes to West Oak Street at the western city limits. Outside of the city and the study area, Oak Creek continues northwest towards Albany and the Calapooia River. Several of the City's stormwater systems outfall to the creek as it travels through the city.

Table 3.3-2 – Oak Creek Watershed Summary

Watershed Characteristic	Value
	Various
Number of Basins within Watershed	142
Total Watershed Area (acres)	1,973
Existing Conditions % Impervious Area Estimate	14.6%
Full Buildout Conditions % Impervious Area Estimate	58.9%
Primary Land Uses	Residential and future growth area

3.3.3 The Santiam River

The Santiam River hydraulic model includes four watersheds: Marks Slough, Cheadle Lake, the Santiam River, and UIC systems. These basins were combined into one model due to their proximity and for the sake of simplicity in modeling.

Table 3.3-3 – Santiam River Watershed Summary

Watershed Characteristic	Value
	Various
Number of Basins within Watershed	218
Total Watershed Area (acres)	6,675
Existing Conditions % Impervious Area Estimate	22.2%
Full Buildout Conditions % Impervious Area Estimate	51.4%
Primary Land Uses	Residential, old town commercial district, a new hospital, and commercial area and industrial uses

3.3.4 The Santiam-Albany Canal

The Canal generally flows in a northward direction through the city. The contributing area starts southeast of the city limits, near Cheadle Lake. The area draining to the Canal is primarily east of the Canal and west of the Santiam River. The modeled area continues north until Gore Drive, at the city limits. Outside of the city and the study area, the Canal continues northwest towards Albany and the Calapooia River. Several stormwater systems outfall to the Canal as it travels through the city.

Table 3.3-4 –Santiam-Albany Canal Watershed Summary

Watershed Characteristic	Value
	Various
Number of Basins within Watershed	80
Total Watershed Area (acres)	455
Existing Conditions % Impervious Area Estimate	33.6%
Full Buildout Conditions % Impervious Area Estimate	49.2%
Primary Land Uses	Residential as well as commercial uses along S Main St.

3.4 Hydraulic Model Development

Hydraulic model development includes defining underground conveyance pipe and open channel (ditch) components. Four hydraulic models were built for the analysis to correspond with the four major watersheds: Burkhart Creek, Oak Creek, Santiam River (Marks Slough, Cheadle Lake, Santiam River, and UICs), and the Canal.

Modeling of the conveyance system was simplified to focus on the key conveyance elements, defined as stormwater pipes 12 inches in diameter and larger. A few smaller-diameter pipes were modeled, because these pipes conveyed flow from a significant area and were determined to be an important part of the City's conveyance system. Inlet laterals were not modeled. The City's drainage systems to the receiving waters were modeled, but individual hydraulic assessments of the creeks themselves, including Burkhart Creek, Oak Creek, the Santiam River, and the Canal, were beyond the scope of this SDMP analysis.

Development of the hydraulic model requires that the following parameters be entered into the model:

- Conduit parameters: length, slope, shape, inverts, and ground elevation
- Manning's "n" roughness factor
- Boundary conditions

These parameters and model inputs are described in more detail below.

3.4.1 Stormwater Model Conduit Parameters

Stormwater conduit and structure data were entered into XPSWMM for the different stormwater system components. Generally, in XPSWMM, nodes represent stormwater structures such as manholes, and links represent stormwater conduits such as pipes and open channels. All data is assumed to be on the North American Vertical Datum of 1988 (NAVD88). Figure 3.4-1 shows the conduits and structures included in the XPSWMM model.

- Node Data: For this analysis, nodes are used to represent manholes, inlets, unclassified junctions, start/end of culvert to ditch transition, and points of slope change (such as in a ditch or creek). Nodes include a ground surface elevation and a sub-surface elevation such as the lowest invert of sump elevation. Node names followed the conventions in the City-provided GIS data. Rim elevations were used when provided; if rim elevations were missing, light detection and ranging (LiDAR) ground surface elevations were used as an approximation.
- Link Data: For this analysis, links are used to model stormwater sewer pipes, culverts, ditches, and channels. Data was obtained from GIS, city surveying, site visit investigation, and City-provided as-built plans. Culvert invert elevation data was taken from the City-provided GIS data, City-provided as-built plans, LiDAR, and communication with City staff. Modeled culverts were limited to relevant crossings and excluded major creek culvert crossings. Cross sections were taken from LiDAR topography and used to model open channels. Urban ditches were modeled as V-shaped or trapezoidal channels whose slopes were estimated using LiDAR data.

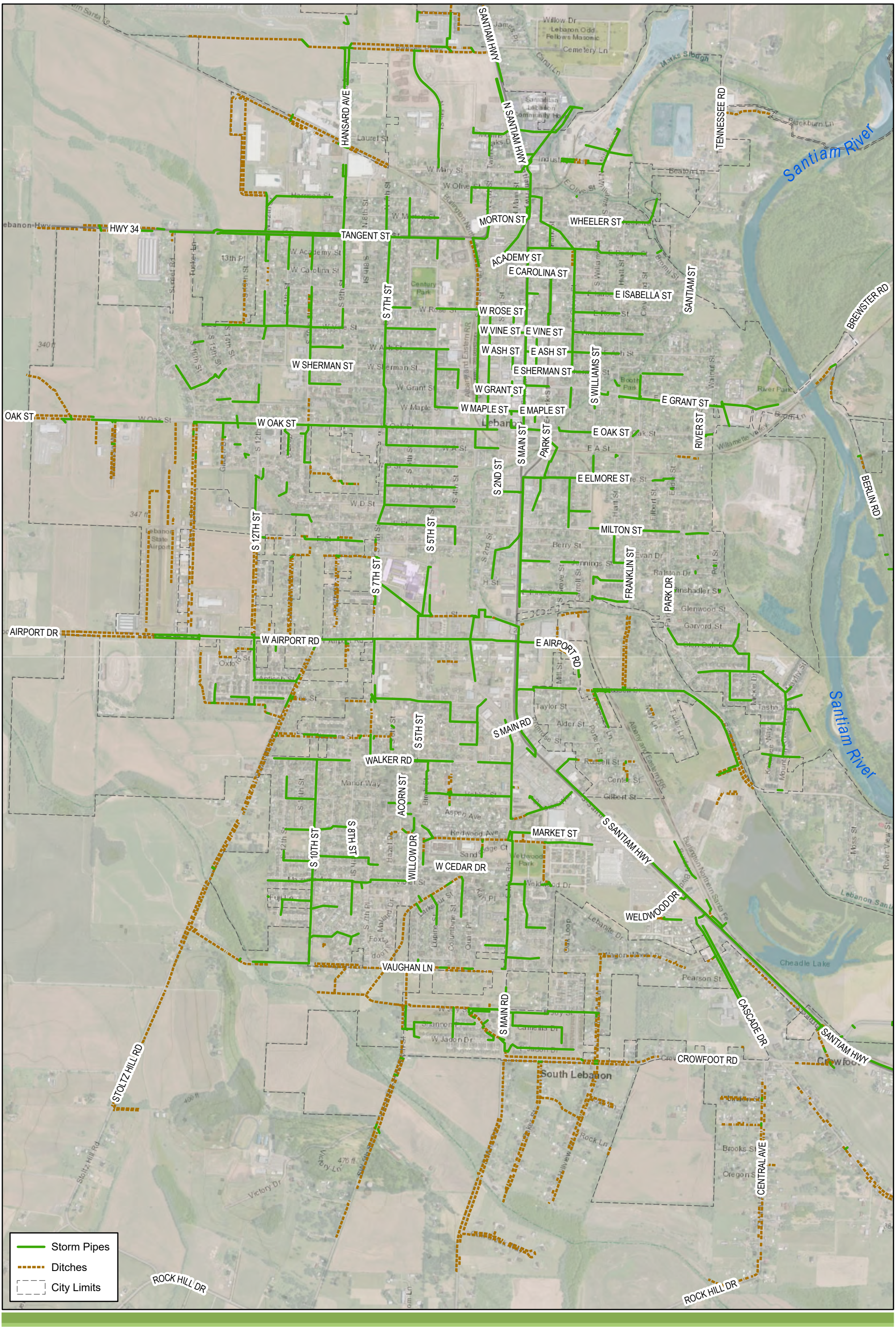

Figure 3.4-1 Modeled Conveyance System

Lebanon Storm Drainage Master Plan

N

0 1,500 3,000 US Feet

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3.4.2 Manning's "n" Roughness Factor

Manning's "n" factor (roughness coefficient) is used to estimate friction losses and has a direct relationship to the flow velocity of the water. Higher values relate to rougher surfaces and a decrease in velocity, while lower values relate to smoother surfaces and an increase in velocity. Values can be estimated from published tables provided in numerous hydrology and hydraulics publications and software. For this analysis, Manning's "n" values were taken from Table 6-1 (Manning's "n" for Closed Conduits Flowing Partly Full) and Table 6-2 (Manning's "n" for Corrugated Metal Pipe), from the U.S. Army Corps of Engineers' HEC-RAS River Analysis System Hydraulic Reference Manual. Table 3.4-1 lists the selected Manning's "n" values used in the hydraulic model.

Table 3.4-1 – Manning's "n" Values Used in Hydraulic Model

Condition	Manning's "n" Value
Conveyance Pipe	0.014
Channel Bottom	0.025
Overbanks	0.050

3.4.3 Boundary Conditions

Boundary conditions define the hydrologic and hydraulic conditions at the upstream and downstream limits of the model. For this analysis, upstream boundary conditions were defined as the flow entering the hydraulic model as generated from the hydrologic calculations. Creek channels and the Canal were modeled roughly to act as the downstream boundary conditions. This modeling approach set the downstream water surface elevation at the connection point of the City stormwater system and is important in estimating whether the stormwater sewer system will be surcharged.

3.5 Hydraulic Results

Appendix C includes the tabulation of the hydraulic modeling inputs and results. Hydraulic results are provided for the entire modeled conveyance system for existing and future conditions. Appendix C provides additional tables for the identified CIP projects under improved conditions. Results are provided for both the 10-year, 24-hour and 25-year, 24-hour storm events analyzed. Note that in a few cases the results show negative maximum flow values. These negative values indicate that flow is in the reverse direction compared to the pipe's downward slope, which is a sign of insufficient conveyance capacity or water at the downstream end of the conduit flowing up into the stormwater system.

A key finding from the hydraulic results was identification of areas where pipes were shown to have inadequate capacity, which is indicated by flooding during the 10-year, 24-hour storm event. The hydraulic analysis found that approximately 15 percent of analyzed pipes and ditches experience flooding during this event. Locations of flooding were identified and used to inform the SDMP's prioritized recommendations of CIP projects.

Table 3.5-2 summarizes the inputs and result parameters that are tabulated in Appendix C.

Table 3.5-1 – Hydraulic Inputs and Result Parameters

Input and Result Parameter	Value
Shape	Circular or rectangular for pipes; trapezoidal, V-shaped, or natural for ditches and channels.
Length (feet)	Pipe or channel length.
Slope (%)	Pipe or channel slope in percent.
Diameter/Depth (feet)	Pipe diameter or channel depth.
Design Capacity Flow (cubic feet per second)	The maximum flow rate the pipe or channel conveys at full capacity.
Rim or Ground Elevation	Structure rim or ground elevation or top elevation of channels at upstream end and downstream end of conduit.
Invert Elevation	Invert of pipe or bottom elevation of channels at upstream end and downstream end of conduit.
Peak Flow (cubic feet per second)	The peak flow rate conveyed through the conduit for the 10-year and 25-year, 24-hour storm events.
Hydraulic Grade Line (HGL)	The water surface elevation within a channel or partially full pipe. In a full pipe, HGL is the water surface elevation in the upstream or downstream structure.
Freeboard Depth (feet)	The distance between the hydraulic water surface elevation within the structure and the ground elevation. A zero value indicates that stormwater is flooding the system, and the system is under capacity.

Capital Improvement Plan

Chapter 4

DAVID EVANS AND ASSOCIATES INC.

4.0 Introduction

This Capital Improvement Plan (CIP) is intended to provide the City of Lebanon a comprehensive action plan to identify current and future stormwater infrastructure issues and propose improvements to address those issues and effectively manage stormwater runoff within the city limits. The CIP summarizes the process used to identify projects, prioritizes a subset of those projects, and provides corresponding project summary sheets. The CIP also includes a funding analysis and implementation strategy to assist the City in establishing the funding mechanism and utility rates necessary to implement the proposed stormwater infrastructure improvements.

The methodology used for identifying proposed projects in the CIP included researching past studies and recommended projects, interviewing City maintenance staff about known problems, conducting field reconnaissance, and performing a hydrologic and hydraulic model analysis of the City's stormwater infrastructure. The model output was reviewed for areas of insufficient conveyance capacity that lead to street flooding, a key concern identified by the City. Conveyance and stormwater management solutions and strategies were then developed into proposed projects to address the identified issues. Another key element of the CIP, which addresses water quality and effective stormwater management within the city limits, is the identification of projects that disconnect and redirect stormwater presently draining into the Canal.

Other stormwater management considerations were reviewed to support the City's obligations as a DMA to address its TMDL management strategy. A TMDL is a calculation of the maximum amount of a pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that particular pollutant. A TMDL determines a pollutant reduction target and allocates the necessary load reductions of the source or sources of the pollutant. The DMA designation requires the City to provide DEQ an annual report on activities addressing water quality concerns. The CIP considers potential locations for stormwater quality and quantity management. This SDMP also recommends actions that can be used to address erosion and degradation of local streams to limit the alteration of their hydrologic characteristics (i.e., hydromodification). These actions include low impact development practices (LIDs) that mimic natural processes, including infiltration, evapotranspiration, or use of stormwater to preserve water quality to protect associated aquatic habitat.

Development of the CIP identified a total of 139 projects to address an existing or future stormwater infrastructure need. Each identified project was then assessed using a set of weighting criteria to prioritize the top 21 projects recommended for implementation. Sections 4.2 and 4.3 of this plan describe the identification and prioritization methodology, and Section 4.3 includes a detailed summary of each of the top 20 prioritized projects. The summaries of the top 20 prioritized projects include:

- Project name and identification number
- Project prioritization rank and score
- Project benefits
- Project summary
- Future project operation and maintenance considerations
- Estimated project costs
- Project location figure

Additionally, 5 of the top 21 prioritized projects are identified as potential candidates that the City could complete with its own staff or available resources. A planning-level cost estimate of construction costs was developed for 119 of the identified projects, and a more detailed cost estimate was developed for the 21 prioritized projects. No cost estimates were generated for the projects related to stormwater quality and quantity management because of the uncertainty in design constraints for such projects.

4.1 Methodology and Project Identification

This section describes the methodology for identifying recommended projects as part of this CIP and the overall SDMP. The primary consideration for project identification was the locations of existing conveyance deficiencies, as well as existing and anticipated stormwater flooding. Additional project considerations included:

- Canal diversions
- Disconnections from the sanitary sewer and corresponding flow redirection opportunities
- Underground injection control (UIC) facility decommissioning
- Conveyance for future development
- Management of stormwater quality and quantity (stormwater management facilities)

Using the methodology and modeling analysis described below, 139 CIP projects were identified as potential stormwater infrastructure improvement projects to be considered further and prioritized for implementation. Each project was given a unique identification, which is based on an abbreviation of the watershed in which the project is located, followed by a project number. For example, projects in the Burkhart Creek watershed would be identified as BC-001, BC-002, and so on. Projects associated with future development conditions are noted with the watershed identifier followed by the letter "F." Table 4.1-1 lists the abbreviations used in the naming of the CIP projects and the numbers of projects within each of the watersheds. Figure 4.1-1, which shows the locations of these projects and lists the projects.

Table 4.1-1 – CIP Project Summary

Watershed/Project Type	Abbreviation	# of Projects within Watershed
Burkhart Creek	BC	56
Burkhart Creek – Future Conditions	BC-F	8
Santiam River	SR	20
Santiam River – Future Conditions	SR-F	5
Oak Creek	OC	14
Oak Creek – Future Conditions	OC-F	7
Santiam-Albany Canal, UIC, and Sewer Diversion	SA	18
Water Quality and Quantity Facilities	WQ	11
Total	-	139

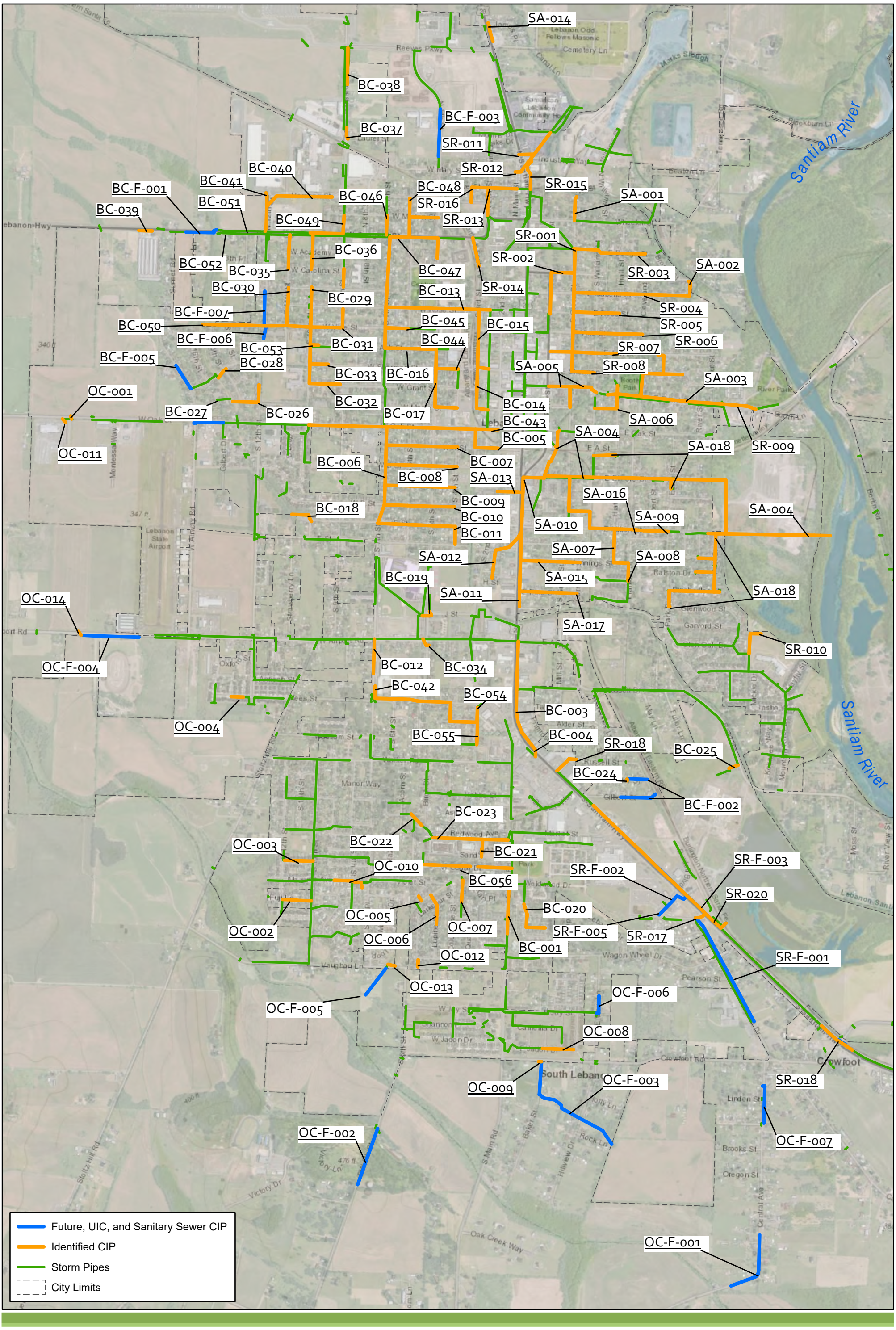

Figure 4.1-1 CIP Projects

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4.1.1 Conveyance Deficiencies

Potential projects were identified through the development and assessment of existing and future conditions hydraulic model scenarios as well as through interviews with City staff. The conveyance performance design criteria used to model the City's stormwater system of pipes, culverts, and ditches include:

- Pipe: Initially, the target design storm to convey flows without flooding was the 25-year, 24-hour storm event. However, due to the large amount of existing infrastructure that is not able to accommodate this event, the City suggested that the 10-year, 24-hour storm event be the target capacity model flow used to identity CIP projects.
- Culvert: The recommended design storm is the 25-year, 24-hour storm event for local roadways. The 50-year, 24-hour storm event is recommended for a riverain culvert that is outside of a FEMA-designated floodplain, and the 100-year, 24-hour storm event is recommended within a FEMA-designated floodplain. All conveyance systems should maintain headwater elevations at least 1 foot lower than the crown of the roadway.
- Ditch: The design storm is identified as the 10-year, 24-hour storm event with 1 foot of freeboard.

Stormwater infrastructure projects identified in the assessment include pipes or ditches that are unable to convey the modeled 10-year, 24-hour storm event (which is used as the evaluation event). These include locations of known and modeled street flooding, undersized culverts, and locations that currently do not have constructed drainage infrastructure systems.

The City identified stormwater system conveyance capacity and street flooding as the primary concerns for the CIP projects to address. Therefore, these types of projects represent the majority of proposed projects. A stormwater system with capacity limitations is defined as one with locations where stormwater exits/surcharges the stormwater system from an inlet or manhole and flows to the surface rather than to the intended pipe discharge locations. This condition occurs when the capacity of the conveyance pipe or channel is exceeded, and stormwater backs up and surcharges the system. For this CIP, projects were identified where system deficiencies occurred up to and including the 10-year, 24-hour storm events. Larger storm event deficiencies are beyond the scope of this SDMP study.

In some instances, the CIP methodology included grouping together segments of under-capacity pipes and ditches within proximity of each other to form one consolidated, overall project. Proposed improvement projects were developed by reconfiguring, rerouting, or upsizing the conveyance system to manage the stormwater flow within the hydraulic model. In addition, areas that do not currently have the necessary stormwater infrastructure, or that will need stormwater infrastructure to accommodate future development flows, were also developed as projects. See Figure 4.1-1 for the locations of the projects that were identified as a result of having capacity limitations.

Under the right conditions, infiltration through UIC facilities is an alternative to stormwater management and conveyance. Infiltration through a UIC has the potential to address conveyance deficiencies by removing runoff from the stormwater system. However, for most areas within the city limits, soils are poorly draining and not good candidates for infiltration for stormwater management. In the few pocket areas that include potentially well-draining soils, groundwater levels are typically high, thus minimizing the potential for stormwater infiltration. Therefore, infiltration (i.e., use of UICs) is not recommended as a stormwater management design strategy for the City to implement.

4.1.2 Canal Diversions

The Santiam-Albany Canal General Agreement between the City of Albany and the City of Lebanon (Agreement) requires Lebanon to complete a refinement plan as part of the City's SDMP. The purpose of the refinement plan is to identify a long-term comprehensive strategy to remove stormwater from entering the Canal, which is used by the City of Albany as a secondary drinking water source. Diverting stormwater runoff from the Canal was a key criterion of the CIP project prioritization/ranking matrix (see Section 4.2). Modeling scenarios included diverting stormwater from the Canal; some of these Canal diversion projects (three out of six) made the CIP prioritized project list. The proposed projects related to Canal diversion align with the Agreement and the City's goals of improving water quality in the Canal and better anticipating and managing Canal flows.

As part of the SDMP update process, City staff were engaged to determine and verify the 15 Canal outfall locations identified in the Agreement. Several of the outfalls have been disconnected through past City projects. In addition, City GIS data and observations identified one additional connection. Based on the modeling scenario review, 14 remaining stormwater connections are believed to outfall into the Canal. Figure 4.1-2 shows the location of the identified outfalls reviewed for possible diversion.

The construction of the Canal changed the natural drainage patterns of approximately 450 acres of land within the city limits. Before the Canal was constructed, stormwater runoff would have flowed west, likely towards Burkhart Creek and the Willamette River. Because the Canal prevents stormwater from flowing farther west, the diversion analysis assessed alternatives for diverting water to the Santiam River, located on the east side of the drainage area (see Table 4.1-2 and Figure 4.1-2). Conveyance routes were aligned to existing or proposed future right-of-way in accordance with the *Lebanon Transportation System Plan* dated September 2018. Several Canal outfalls will be disconnected and grouped together into proposed CIP projects that convey runoff to one of two proposed outfalls into the Santiam River.

This study only assesses the potential of gravity flow solutions for the diversion of stormwater from the Canal. The estimated construction costs of Canal diversion-related projects are high compared to the other CIP projects because of the substantial distance and infrastructure needed to reach the Santiam River. Figure 4.1-2 includes the contributing area to the Canal and the proposed Canal diversion-related CIP projects.

Table 4.1-2 – Canal Diversion CIP Projects

ID	CIP Project Name
SA-001	Grove St. Outfall Diversion
SA-002	Carolina St. Outfall Diversion
SA-003	Grant St. Diversion
SA-004*	Elmore St. Canal Diversion
SA-005	Williams St. Outfall Diversion
SA-007	S. Grove St. Outfall Diversion
SA-008	Franklin St. Outfall Diversion
SA-009	Milton St. Outfall Diversion
SA-010*	S. Main St. 36-inch Canal Diversion
SA-011	S. Main St. 24-inch Canal Diversion
SA-012	Cooper St. Canal Diversion
SA-013*	2nd St. Canal Diversion
SA-014*	Santiam Hwy. Canal Diversion
SA-015	Jennings St. Canal Diversion
SA-017	E Pine St. Canal Diversion

* Indicates a prioritized project.

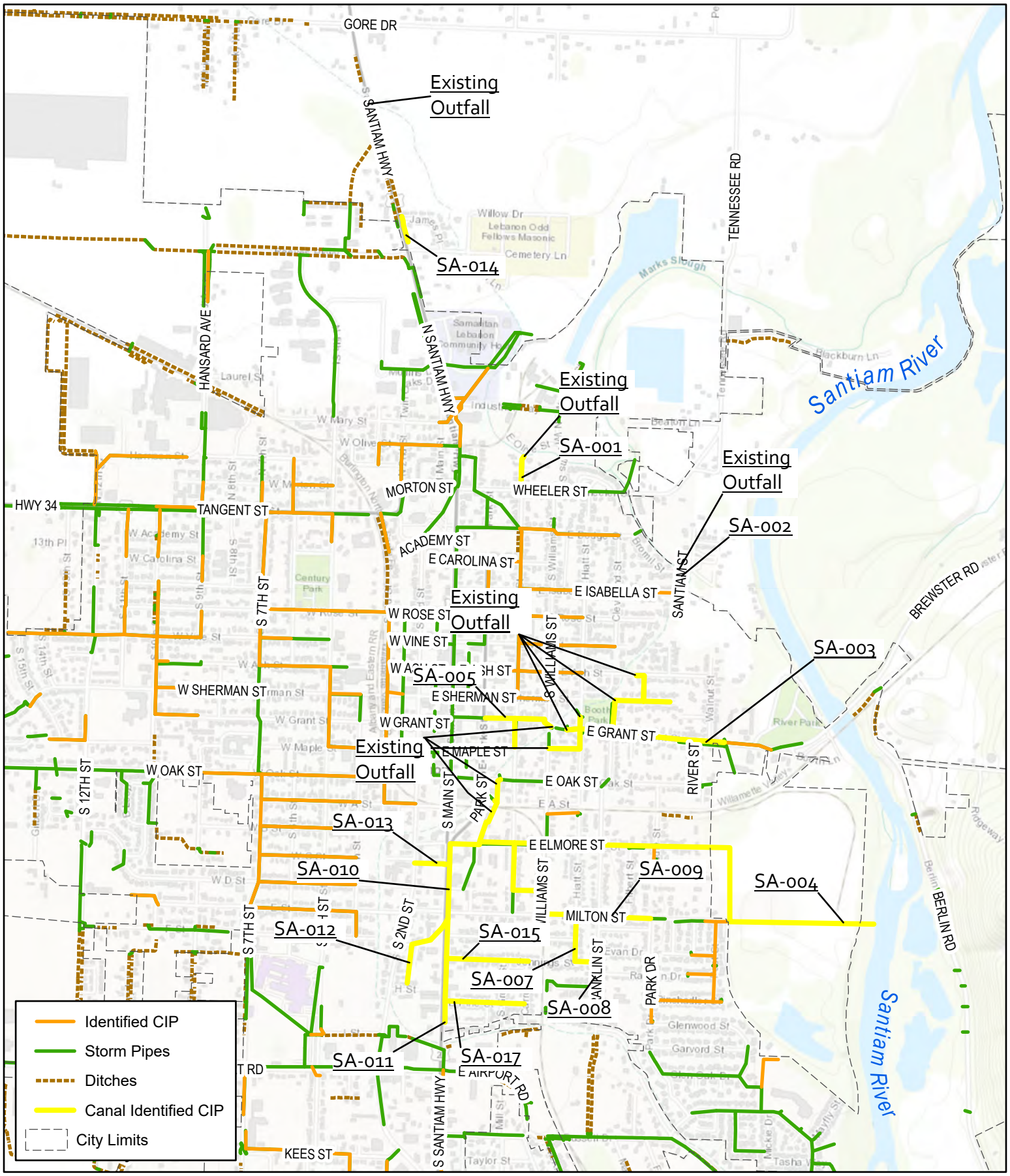

Figure 4.1-2 Canal-related CIP Projects

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4.1.3 Sanitary Sewer Disconnection

The City's stormwater network was assessed for potential sanitary sewer cross connections. The hydraulic model development review discovered four storm-to-sanitary-sewer connections (see Figure 4.1-3). Each of these connections is recommended to be rerouted to the stormwater system to reduce the amount of stormwater entering the sanitary sewer and the associated costs of treating this water at the wastewater treatment plant. Three of the sewer disconnection projects are close to one another; therefore, these three projects were grouped into one overall project. Table 4.1-3 lists the sanitary sewer disconnection projects.

Table 4.1-3 – Sanitary Sewer Disconnection Projects

ID	CIP Project Name
SA-006	Combined Sewer Diversion: Hiatt St., Grove St., and Maple St.
BC-015	3rd St. Combined Sewer Diversion

4.1.4 Underground Injection Control Decommissioning and Flow Diversion

Nine City-owned UIC systems are located just west of the Old Mill property near the Santiam River and Park Drive. These UICs are systems that primarily consist of dry wells, which are defined as a perforated manhole surrounded by gravel. City maintenance staff has identified at least one of the dry wells as having capacity issues. After review and analysis, CIP projects have been identified to decommission these UIC systems, and divert and convey the corresponding stormwater runoff to the Santiam River. The UIC decommissioning projects have been grouped into one project because of their proximity to each other and the need for new stormwater system piping to the Santiam River. Table 4.1-4 lists the UIC decommissioning project.

Table 4.1-4 – UIC Decommissioning Project

ID	CIP Project Name
SA-018	UIC Decommissioning: Milton St., Post St., Ralston Dr., Harmony St., Binshadler St., Randall Dr.

4.1.5 Future Development Conveyance

As Lebanon grows through new development, new stormwater infrastructure is needed to collect and convey stormwater runoff to existing waterways. CIP projects have been developed to accommodate the areas of future growth. Where available, new stormwater infrastructure is proposed to follow existing or proposed roadway rights-of-way, as shown in the *Lebanon Transportation System Plan*. The final CIP project designs may need to be modified if roadway alignments change. To help reduce and share costs for existing and future stormwater improvement projects, it is recommended that the project main trunk lines be constructed concurrently with associated roadway, development, or redevelopment projects along the alignment.

New stormwater infrastructure to serve areas of future growth was sized to the City's development standards, as summarized in Section 4.1.4. These projects will address capacity issues, if any, when they are developed and are thus not part of the existing or anticipated capacity problems that are prioritized in the CIP.

Figure 4.1-4 shows the locations of future stormwater infrastructure, and Figure 4.1-3 shows the locations of UIC decommissioning and diversion, and disconnections from the sanitary sewer.

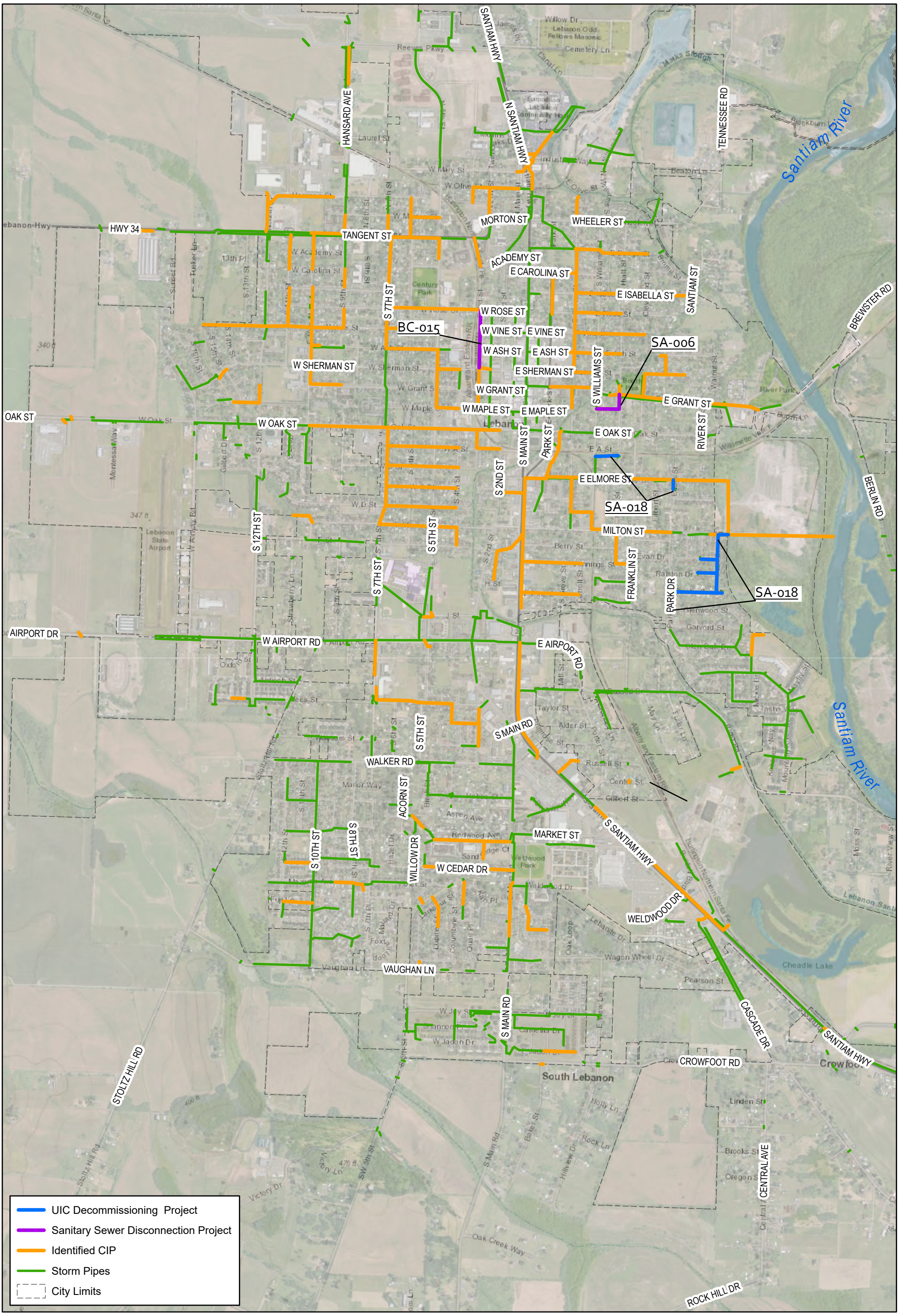

Figure 4.1-3 UIC Decommissioning and Diversion and Sanitary Sewer-related CIP Projects

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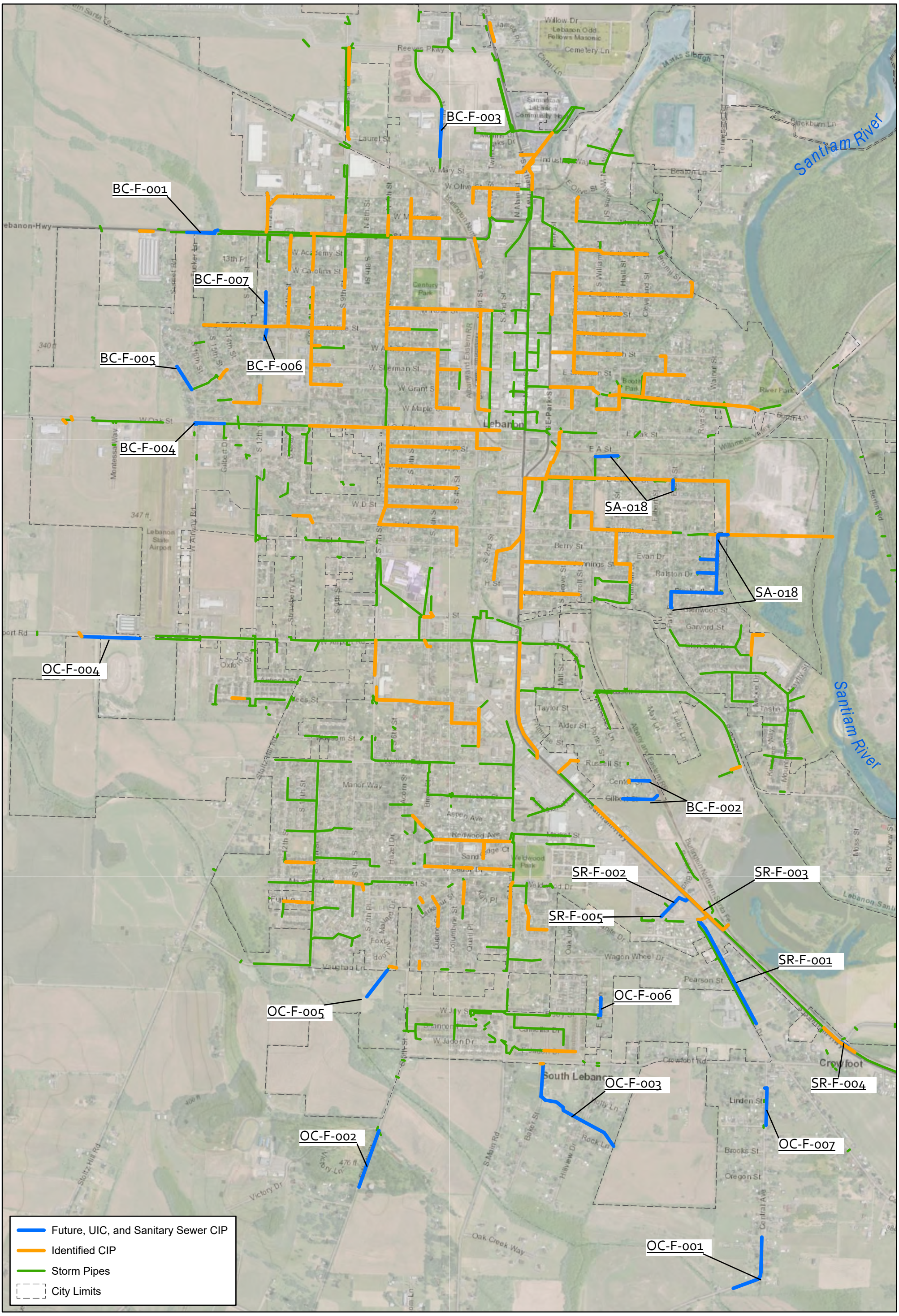

Figure 4.1-4 New Infrastructure related CIP Projects

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4.1.6 Water Quality and Quantity Management Considerations

In identifying potential stormwater infrastructure improvement projects, the CIP project analysis also considered water quality and quantity management. Specifically, stormwater quality management considerations were reviewed to support the City's TMDL obligations as a DMA. A TMDL is a calculation of the maximum amount of pollutant allowed to enter a waterbody so that the waterbody will meet and continue to meet water quality standards for that particular pollutant. In support of the City's TMDL obligations, this CIP considered potential locations for water quality and quantity management. Actions that may be used to address erosion and degradation of local streams to limit the alteration of their hydrologic characteristics (i.e., hydromodification) are also recommended. These actions include LIDs that mimic natural processes that result in the infiltration, evapotranspiration, or use of stormwater to preserve water quality and associated aquatic habitat. The following section includes additional detail on how hydromodification was incorporated into the CIP project identification process, as it relates to water quality.

4.1.7 Hydromodification

Hydromodification is in general the degradation of stream beds and banks due to excessive flows not seen historically. The resulting siltation is detrimental to spawning beds and aquatic invertebrates. State and federal stormwater regulations administered through NPDES permits trigger watershed-level hydromodification assessments and enactment of preventative and mitigative measures. It is expected that soon these triggers will be mandatory for other permittees, including MS4 Phase II communities (NPDES communities in urban areas with 50,000 people). Implementing hydromodification measures is particularly important in future development areas to maintain healthy stream conditions.

As described below, hydromodification can be mitigated by mimicking natural hydrology at project sites using LIDs. In addition, instream measures can be implemented to mitigate for hydromodification, including reducing concentrated stream power and energy by integrating floodplain reconnection, providing grade control, and increasing channel and floodplain roughness and complexity. Roughness is achieved by revegetation of riparian buffers with native plants and trees, installation of natural grade control features (such as root wads and logs), and addition of channel roughness through fish rocks and the use of stick bundles (such as willow fascines). These measures not only provide resilience to high velocities of stream flow, they also provide shade to help mitigate temperature and habitat, which enhances ecological uplift to the stream system. Although beyond the scope of this SDMP, stream enhancement projects will align with the City's developing TMDL Implementation Plan, and it is recommended that they be considered and included in future SDMP updates.

Partnerships with local watershed councils, such as the SSWC, may help fund and complete stream improvement projects. Development fees may also be considered as a potential funding source to offset the cost of onsite stormwater management facilities. Permittees can limit hydromodification impacts by implementing stormwater management standards that focus on stormwater retention, infiltration, and storage. Another technique strongly recommended or required by regulators includes mimicking natural hydrology by managing stormwater onsite—at the source—using green infrastructure. Using green infrastructure, including LID stormwater management facilities, is a common practice used throughout the world. Although not a high priority at this time, the City should consider integrating green infrastructure and LID facilities as part of the overall CIP. In the long run, it is easier and more cost-effective to integrate LID facilities into new improvements than to retrofit already developed systems. LID facilities are highly recommended and often required by regulatory authorities as communities grow and regulations evolve. LID benefits include providing stormwater quality treatment, reducing flows into the stormwater system, reducing erosion potential in downstream receiving waters, and providing green space within the City roadway systems.

4.1.8 Water Quality and Quantity Management

Assessment of the City's stormwater management system included looking for opportunities to provide water quality treatment and quantity control to benefit the stormwater system. Although not included in the top priority CIP projects, Table 4.1-5 below identifies opportunity locations for potential stormwater facilities that could improve the quality of stormwater as well as help with downstream capacity issues. The locations were selected by first identifying all parcels that have not been developed. The undeveloped parcels were then filtered to select potential stormwater facility locations that could benefit the surrounding conveyance systems. Locations at the upper ends of the conveyance systems were not selected, because a relatively small amount of stormwater is collected here and they would provide little benefit compared to locations of greater flow collection, lower in the system.

Regional facilities become more cost-effective over time, yet available properties become scarce, so it is important to identify potential facility locations before development has occurred in the area. Where mutual interests and objectives can be achieved, regional facilities can provide good partnering opportunities with other agencies such as Linn County, Oregon Department of Transportation (ODOT), and school districts or with development projects. Potential water quality and quantity management projects are shown on Figure 4.1-3 and listed in Table 4.1-5.

Table 4.1-5 – Locations for Potential Stormwater Quality and Quantity Management

ID	Facility Location	Type of Stormwater Management	Associated with CIP Project	Property Acquisition or Partnership
		Quality or Quantity	CIP Project ID	Yes/No
WQ-1	5th St. and Vaughan Ln. Ditch Improvement	Quality		No
WQ-2	Old Mill Redevelopment Regional Pond	Quality & Quantity	SA-004	Yes
WQ-3	Old Canal Diversion Vegetated Treatment Facility	Quality & Quantity	SA-003	Yes
WQ-4	Reeves Parkway Regional Pond	Quality & Quantity		No
WQ-5	Railroad Adjacent Swales	Quality & Quantity		Yes
WQ-6	5th St. and Rose St. Regional Pond	Quality & Quantity	BC-013	Yes
WQ-7	Elmore St. and Grove St. Regional Ponds	Quality & Quantity		Yes
WQ-8	Cheadle Lake Regional Pond	Quality & Quantity		Yes
WQ-9	Main St. and Market St. Treatment Swale	Quality		No
WQ-10	Main St. and Market St. Regional Pond	Quality & Quantity		Yes
WQ-11	7th St. and Kees St. Regional Pond	Quality & Quantity		Yes

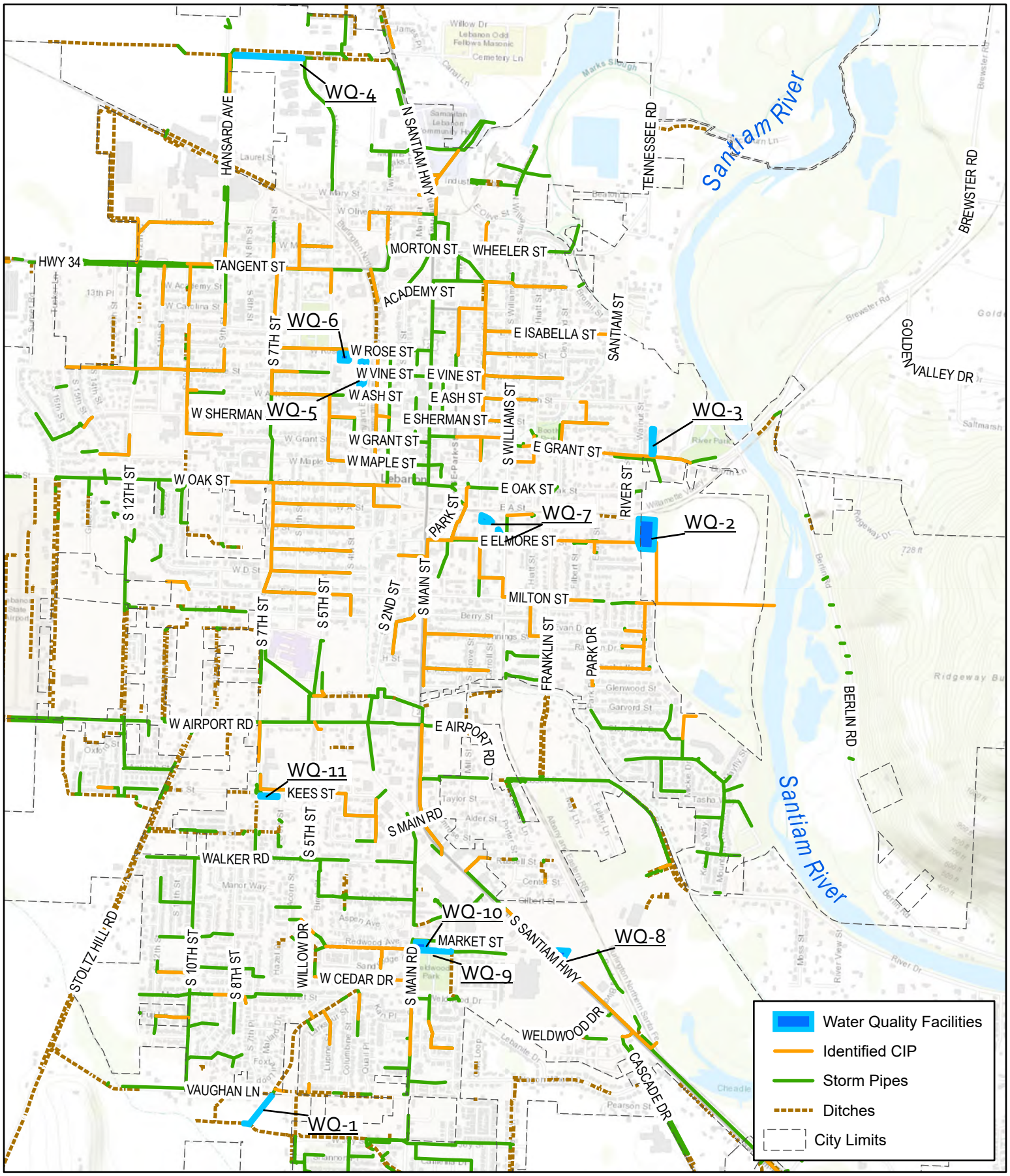

Figure 4.1-5 CIP Projects Related to Water Quality and Quantity Management

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4.2 Project Prioritization

The following section summarizes the outcome of the methodology (outlined above in Section 4.1) applied in identifying and recommending prioritized CIP projects for implementation.

4.2.1 Prioritized CIP Projects

To help evaluate and prioritize the identified CIP projects, a set of prioritization criteria was developed in collaboration with the City. These criteria are based on the severity of flooding, the urgency to resolve the issues, and additional benefits resulting from the project in question (Table 4.2-1 lists the prioritization criteria). The prioritization criteria were applied through a matrix used to evaluate and rank each project. Each project assessed using the prioritization matrix had a potential total score of 133 points based on its perceived importance to the City. After applying the prioritization criteria matrix, 21 prioritized projects rose to the top of the list of 139 identified projects (see Section 4.3 for detailed project summaries).

A total score was determined for each identified project, and the projects were then ranked from highest (greatest priority) to lowest (least priority). For the top 21 prioritized projects, project summaries were developed, including project description, location, benefit, and cost estimate. For 5 of the 21 prioritized projects are projects that have an estimated construction cost less than $35,000; Section 4.3 identifies these 5 relevant projects. It is assumed that projects in this cost range can be completed by City crews or through a single source contract. Appendix F includes the priority ranking evaluation for each of the top 21 prioritized projects.

Table 4.2-1 – Prioritization Ranking Criteria for CIP Projects

Criteria				
Ranking	High	Medium		Low
Relative Cost: *Includes construction and engineering costs*	Less than $200,000 **(low cost – 10 pts)**	Between $200,000 and $700,000 **(medium cost – 5 pts)**		More than $700,000 **(high cost – 1 pt)**
Relative Complexity: *Includes but is not limited to: utility conflicts, anticipated environmental permitting, railroad interaction, ODOT or County road crossing, and impacts to private property (right-of-way and/or easement acquisition), which may trigger other problems and scope creep*	Not complex; minimal permits and/or conflicts **(Up to 6 pts)**	Some complexity; some permits and/or conflicts **(3 to 4 pts)**		Very complex; multiple permits and/or conflicts **(0 to 2 pts)**
Flood Mitigation: *Addresses flooding identified through hydraulic modeling in existing and/or future conditions*	Alleviates existing and future conditions flooding **(10 pts)**	Alleviates existing condition flooding **(5 pts)**		No existing or future flooding anticipated **(0 pts)**
Capacity Limitations: *Addresses system capacity deficiencies identified through hydraulic modeling*	System is capacity limited at 2-year events and under **(15 pts)**	System is capacity limited at 2-year up to 10-year events **(10 pts)**		System is capacity limited at 10-year and 25-year events **(5 pts)**
Drainage Basin Area Alleviated from Flooding: *Addresses severity of flooding issue identified through hydraulic modeling*	Alleviates more than 50 acres **(20 pts)**	Alleviates between 20 and 50 acres **(15 pts)**	Alleviates between 10 and 20 acres **(10 pts)**	Alleviates less than 10 acres **(5 pts)**
Water Quality and Quantity Enhancement: *Supports TMDL Implementation Plan, eliminates maintenance problems, provides quantity control, or retrofits an existing stormwater treatment facility*	Supports TMDL Implementation Plan **(15 pts)**	Eliminates operation and maintenance problems **(15 pts)**	Quantity potential **(10 pts)**	Retrofits existing stormwater facility **(10 pts)**
Influence on Other Projects: *Provides a benefit to a capacity limitation upstream or downstream of the project*	There are upstream projects **(5 pts)**		There are downstream projects **(1 pt)**	
Additional Objectives: *Potential partnership with ODOT or County, supports future development area, City-identified issue area, exceedingly low cost (less than $100,000)*	Potential partnership with ODOT or County **(1 pt)**	Supports future development area **(5 pts)**	City-identified issue area **(5 pts)**	Exceedingly low cost **(5 pts)**

4.2.2 Cost

To assist in prioritization, a relative cost was developed for each project. The estimated planning-level construction and engineering cost to complete the project is based on 2021 dollars.

Unit costs are based on recent bid tabs items from a 2021 City of Lebanon sanitary sewer project. When absent from those bid tab items, the cost estimating used ODOT's weighted average prices, mid-year 2021. Significant price increases were observed over the development of this SDMP due to global supply chain issues in the construction industry. As a result, actual project costs may vary from these estimates.

Unit costs for pipe assume that the general work needed to install the pipe includes trench saw cutting; trench excavation; importing, placing, and compacting bedding material; installing pipe; importing, placing, and compacting of backfill material; repaving, testing, and inspection; labor; and markup for profit and overhead. Unit costs do not include bypass pumping costs. Many proposed stormwater pipes are at a depth of 15 feet or less; unit costs reflect this depth. Excavating into bedrock is not anticipated. Table 4.2-2 and Table 4.2-3 below show unit costs for pipe and manholes.

Appendix G includes a table showing the cost development of each project, which includes the needed quantity of material for improvements, additional engineering costs, and the combined total. Each of the CIP Project Summary sheets includes the cost estimates for that prioritized project.

Table 4.2-2 – Unit Costs for Gravity Sewer Pipe

Pipe Diameter	Unit Cost (2021 Dollars)
(inches)	($/Linear Feet)
15	$180
18	$200
21	$220
24	$250
30	$270
36	$290

Table 4.2-3 – Unit Costs for Manholes

Manhole Diameter	Maximum Pipe Size*	Unit Cost (2021 Dollars)
(inches)	(inches)	($/Linear Feet)
48	24	$5,000
60	30	$8,000
72	42	$10,000
84	54	$11,400

* Per the ODOT Hydraulic Design Manual.

The planning-level cost estimates are based on unit costs, as described above, plus an added contingency to cover construction, construction management, erosion control, traffic control, utility relocation costs, and roadway resurfacing. Last, an additional engineering design cost of 10 percent was assumed and added to construction contingencies to arrive at a total cost estimate. The cost estimates do not include permitting costs and the need for easements and property acquisition because of the uncertainty of the costs associated with them.

Table 4.2-4 – Contingency Cost Summary

Additional Cost Component	Percent
Engineering Design	10%
Construction Contingency and Management	12%
Extra for Erosion Control, Traffic Control, and Utility Relocates	8%
Extra for Roadway Resurfacing	15%

4.3 CIP Project Summaries

Table 4.3-1, below, lists the top 21 prioritized projects by rank, and they are also shown in Figure 4.3-1.

Table 4.3-1 – Top 21 Prioritized CIP Projects

Rank	Score	CIP Project ID	Project Name	Total Project Cost
				(2021 Dollars)
1	92	BC-023	Ditch Improvements Redwood Ave.	$269,918
2*	91	BC-022	Ditch Improvements Birch St.	$56,985
3	74	SA-004	Elmore St. Canal Diversion	$3,113,078
4	71	SR-017	Cascade Dr. - Dual Pipes	$66,338
5	68	SA-010	S. Main St. 36-inch Canal Diversion	$590,150
6	67	SA-014	Santiam Hwy.	$99,180
7	66	SR-020	SW Santiam Hwy.	$1,390,536
8	66	BC-052	Tangent St. Outfall South	$218,399
9*	63	OC-009	Baker St. and Crowfoot Rd.	$19,412
10*	63	OC-014	Airport Dr.	$36,047
11*	62	OC-001	Oak St. at Lebanon Pkwy.	$42,601
12	62	SR-013	2nd St.	$437,538
13	61	BC-050	Vine St. Outfall	$928,363
14	61	BC-051	Tangent St. Outfall North	$316,579
15	57	SA-005	Grant St. Combined Sewer Diversion	$256,288
16	57	SA-013	2nd St. Canal Diversion	$160,588
17	57	SA-018	UIC Decommissioning	$1,126,418
18	57	BC-015	3rd St. Combined Sewer Diversion	$387,730
19*	52	OC-011	Lebanon Pkwy.	$28,547
20	41	BC-034	5th St. and Airport Rd.	$44,225
21	41	BC-056	Cedar Dr.	$509,313

* Prioritized projects that have been identified as being within the capabilities of the City to complete with its own staff and resources.

For each of the top 21 projects listed above, a summary sheet was developed that includes the following information:

- Project name and identification number
- Project prioritization rank and score
- Project benefits
- Project summary
- Future project operation and maintenance considerations
- Project costs
- Project location figure

The summary sheets for the top 21 prioritized CIP projects follow.

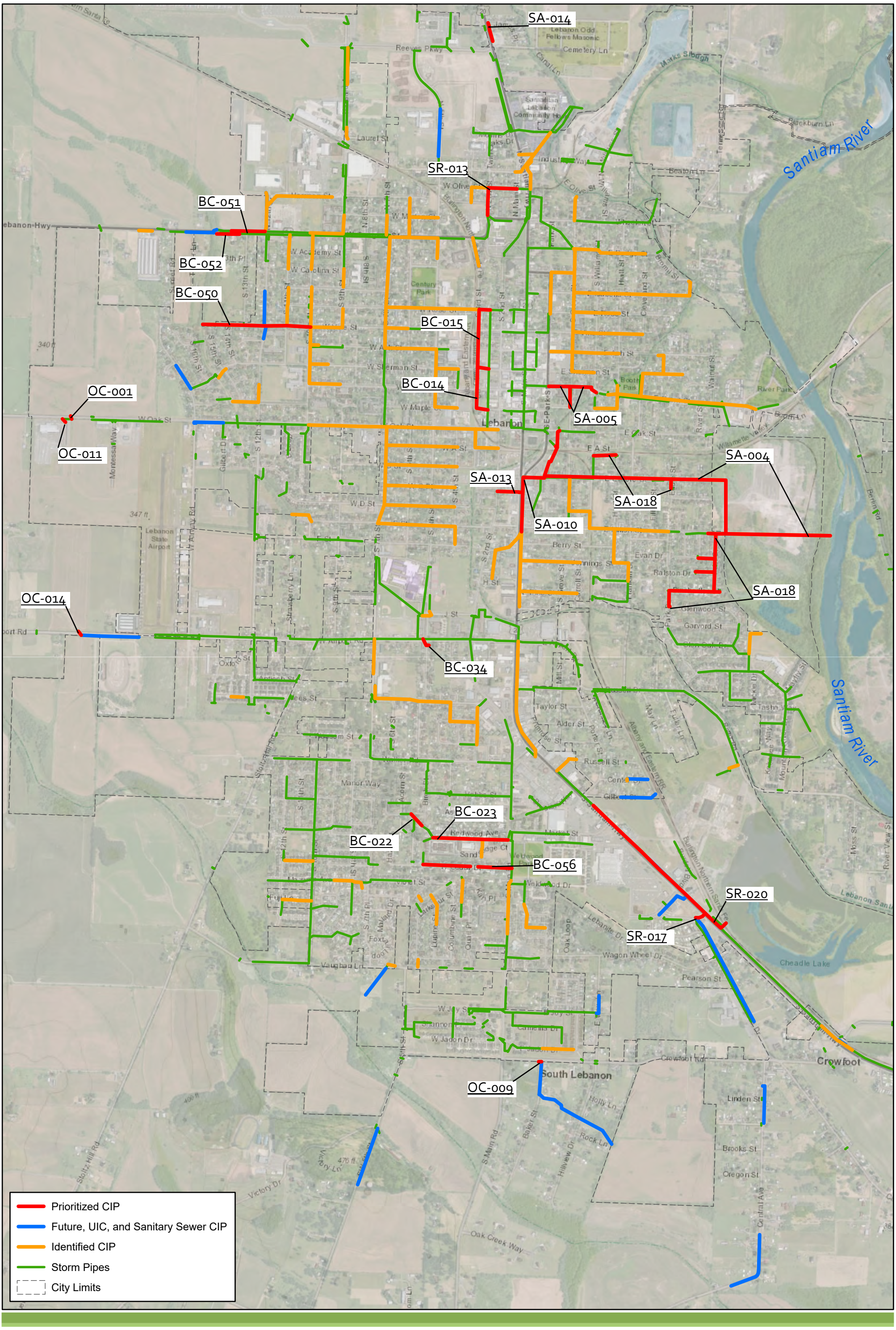


Figure 4.3-1 Prioritized CIP Projects

Lebanon Storm Drainage Master Plan

N

0 1,500 3,000 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	Ditch Improvements Redwood
Project ID No:	BC-023
Project Basin:	Burkhart Creek Basin
Project Rank (Score):	1 (92)

Figure 1 – Project vicinity map

CIP Project Benefits

- Improves 1,241 linear feet of existing ditch
- Relatively low construction cost (less than $200,000)
- Alleviates existing capacity limitation at 2-year storm event
- Alleviates existing flooding problems for a contributing area greater than 50 acres
- Provides a retrofitting opportunity for water quality treatment
- Supports TMDL Plan
- Reduces existing operation and maintenance issues of the overgrown and eroding ditch

CIP Project Summary

The existing conditions hydraulic model shows the ditch will overtop its banks starting at the 2-year storm event. Observations of the ditch during a June 2021 visit included a ditch with overgrown vegetation with steep side slopes, signs of erosion occurring very close to the back of homes, and water marks along fences and retaining walls indicating that overtopping occurs.

This is one of two proposed CIP projects (also see BC-022) which include ditch improvements to alleviate localized flooding. The project also provides an opportunity to enhance the ditch with amended soil and plantings for water quality treatment. The existing ditch is V-shaped. The proposed cross section is approximately 20 feet wide with 3:1 side slopes and a 5 foot flat bottom. The flat bottom will provide a greater area for treatment and increase the conveyance capacity. See the accompanying project map for additional details.

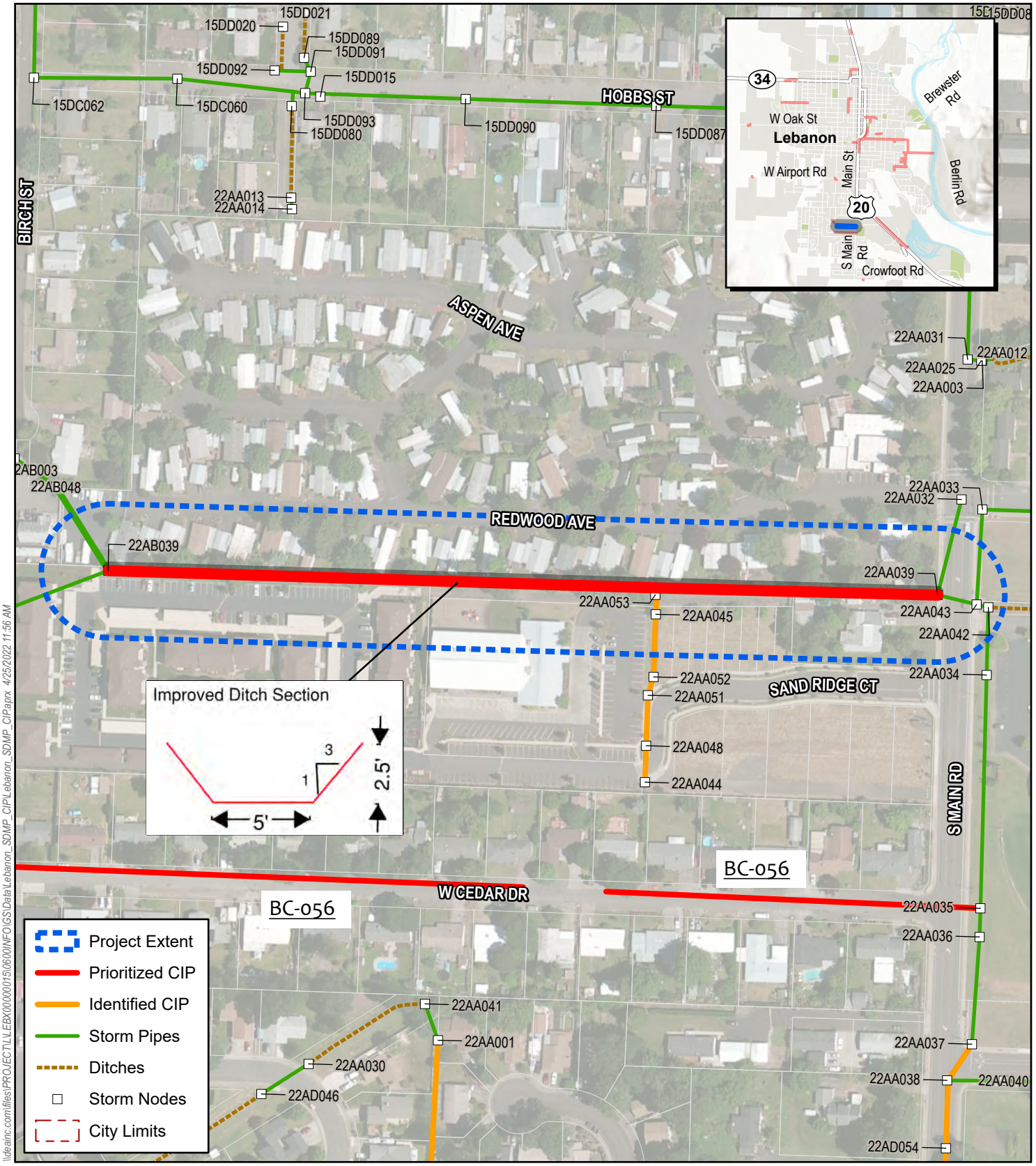
Future Project Operation and Maintenance Considerations

- Regularly maintain channel vegetation to reduce overcrowding and improve channel conveyance
- Replace vegetation in areas of poor coverage for proper water quality treatment
- As needed, maintain energy dissipation riprap protection at outfalls
- Remove sediment build up and replant as needed
- Remove trash and debris
- Repair eroded areas as needed

Project Costs and Considerations

The cost for this project includes cleaning and regrading the ditch for additional capacity and incorporating amended soils and native plantings to provide water quality treatment. The estimated cost includes engineering design and construction costs. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $269,918



Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	**Ditch Improvements Redwood**
Project ID No:	BC-023
Project Basin:	Burkhart Creek
Project Rank (Score):	1 (92)

N

0 210 420 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	Ditch Improvements Birch
Project ID No:	BC-022
Project Basin:	Burkhart Creek Basin
Project Rank (Score):	2 (91)

Figure 2 – Project vicinity map

CIP Project Benefits

- Improves 262 linear feet of existing ditch
- Relatively low construction cost (less than $200,000)
- Alleviates existing capacity limitation at 2-year storm event
- Relatively simple project that could be done internally, or outsourced.
- Provides a retrofit opportunity for water quality treatment
- Supports TMDL Plan
- Reduces existing operation and maintenance issues of the overgrown and eroding ditch

CIP Project Summary

The existing conditions hydraulic model shows the ditch will overtop its banks starting at the 2-year storm event. Observations of the ditch during a June 2021 visit included a ditch with overgrown vegetation with steep side slopes, signs of erosion occurring very close to the back of homes, and water marks along fences and retaining walls indicating that overtopping occurs.

This project is one of two proposed CIP projects (also see BC-023) that includes ditch improvements to alleviate localized flooding. The project also provides an opportunity to enhance the ditch with amended soil and plantings for water quality treatment. The existing ditch is V-shaped. The proposed cross section is approximately 20 feet wide with 3:1 side slopes and a 5 foot flat bottom. The flat bottom will provide a greater area for treatment and increase the conveyance capacity. See the accompanying project map for additional details.

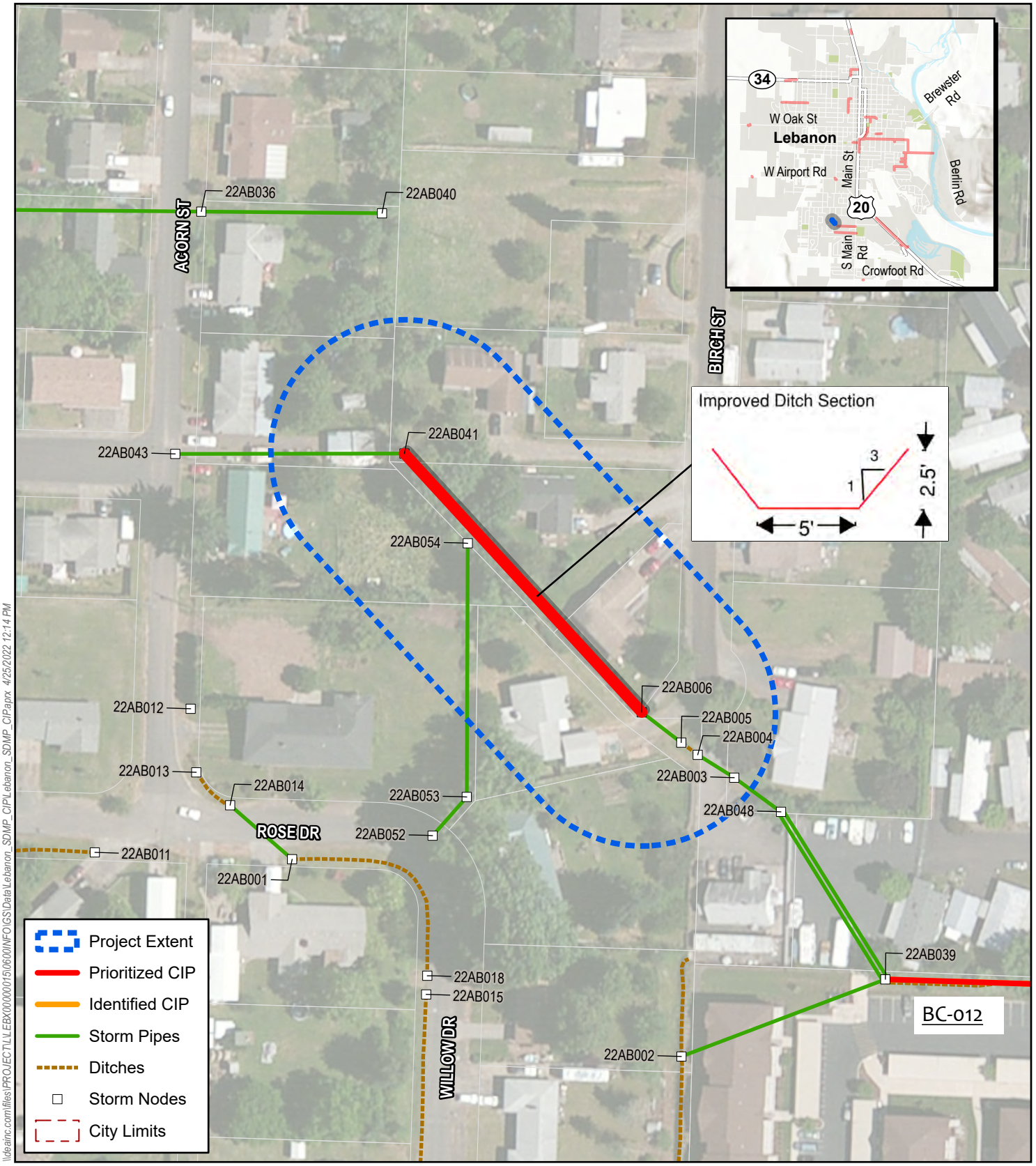
Future Project Operation and Maintenance Considerations

- Regularly maintain channel vegetation to reduce overcrowding and improve channel conveyance
- Replace vegetation in areas of poor coverage for proper water quality treatment
- As needed, maintain energy dissipation riprap protection at outfalls
- Remove sediment build up and replant as needed
- Remove trash and debris
- Repair eroded areas as needed

Project Costs and Considerations

The cost for this project includes cleaning and regrading the ditch for additional capacity and incorporating amended soils and native plantings to provide water quality treatment. The estimated cost includes engineering design and construction costs. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $56,985



Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	Ditch Improvements Birch
Project ID No:	BC-022
Project Basin:	Burkhart Creek
Project Rank (Score):	2* (91)

N

0 100 200 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	Elmore St. Canal Diversion
Project ID No:	SA-004
Project Basin:	Albany Canal Basin
Project Rank (Score):	3 (74)

Figure 3 – Project vicinity map

CIP Project Benefits

- Installs 5,675 linear feet storm pipe diverting flow from the Canal
- Alleviates existing capacity limitation at 10-year storm event
- Alleviates future and existing flooding for an area contributing greater than 50 acres
- Provides infrastructure that supports future development in the City
- Diverts more than 40 acres of contributing area from the Albany Canal
- Potential for regional detention in the area
- Improves conveyance deficiencies upstream by alleviating backwater effects from the project area

CIP Project Summary

The existing conditions hydraulic model shows that there are system capacity limitations for the 10-year storm event within the project area. The conveyance systems upstream from the project are also undersized and experience overtopping in the 10-year storm event. This project will help alleviate local flooding and flooding upstream due to current backwater effects.

This new conveyance system will divert 2 existing canal outfalls (canal outfall numbers 11 and 13) to the east to the Santiam River. The two outfalls have a combined drainage area of 187 acres, which makes up the majority, or 70% of the flow that the Albany Canal receives from City stormwater outfalls.

The project area has the potential for a regional treatment facility to provide water quality and detention treatment near the undeveloped area along the future extension of E Milton St. to the east within the Old Mill Development. The potential treatment facility would benefit the system by treating a large untreated and built out drainage basin being routed to the location and would take pressure off the conveyance system by detaining flows from the upstream area. See the accompanying project map for additional details.

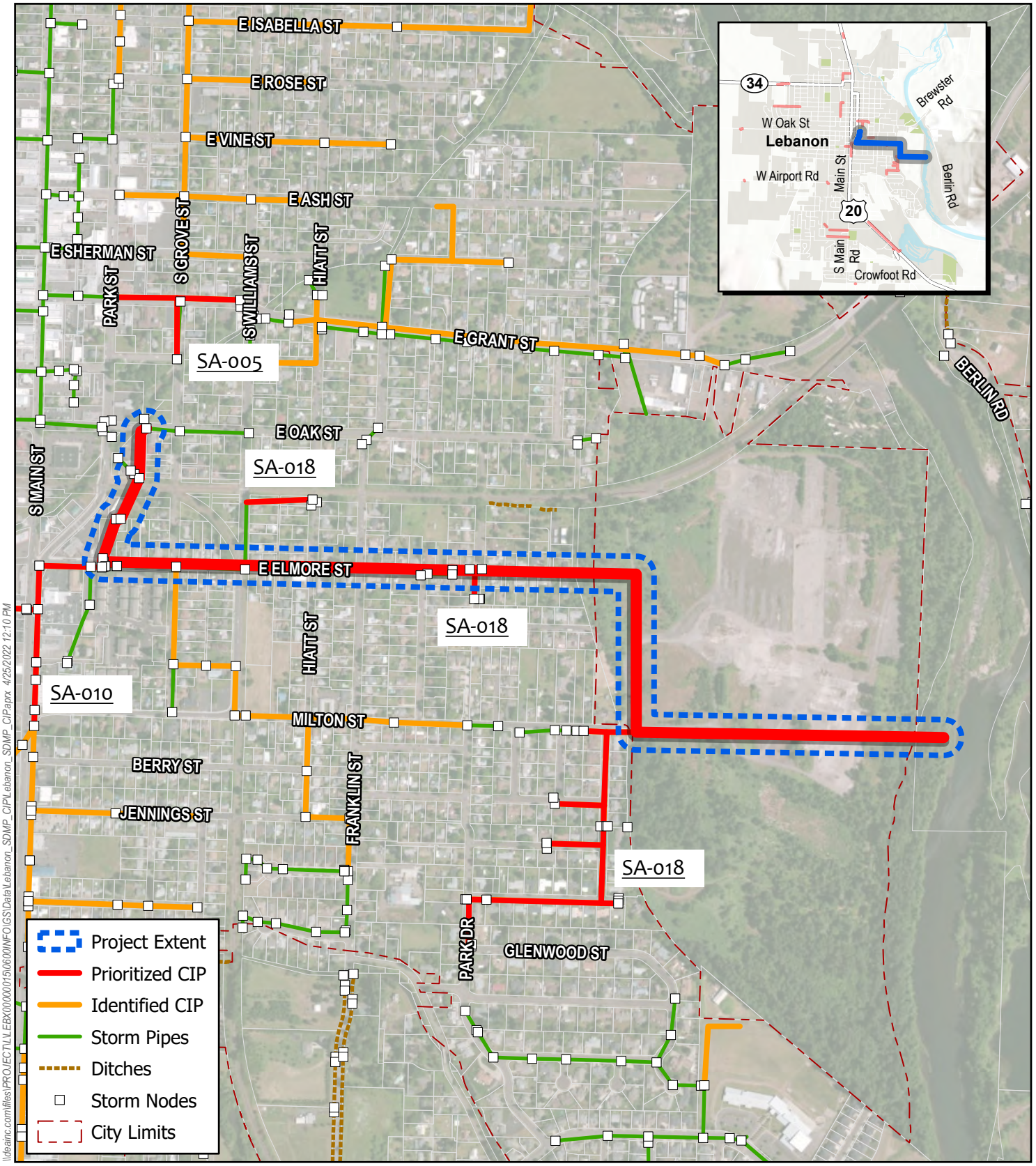
Future Project Operation and Maintenance Considerations

- Regularly inspect and maintain manholes and pipes
- Clean upstream inlets to clear blockage and debris

Project Costs and Considerations

The cost for this project includes the design and installation of 840 linear feet of 24” storm pipe and 4,835 linear feet of 48” storm pipe and 14 manholes. The Cost includes estimated engineering design and construction costs. The total length of this project is 5,675 feet. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $3,113,078



Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	Elmore St. Canal Diversion
Project ID No:	SA-004
Project Basin:	Albany Canal
Project Rank (Score):	3 (74)

N

0 780 1,560 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	Cascade Dr. – Dual Pipes
Project ID No:	SR-017
Project Basin:	Santiam River Basin
Project Rank (Score):	4 (71)

Figure 4 – Project vicinity map

CIP Project Benefits

- Installs 183 linear feet of 24" storm pipe
- Relatively low construction cost (less than $200,000)
- Alleviates existing capacity limitation at 2-year storm event
- Improves conveyance deficiencies upstream by alleviating backwater effects from the project area
- Relatively simple project that could be done internally, or outsourced
- Alleviates future and existing flooding for an area contributing greater than 50 acres

CIP Project Summary

The existing conditions hydraulic model shows that there are system capacity limitations for the 2-year storm event within the project area. The conveyance systems upstream from the project are also undersized and experience overtopping in the 2-year storm event. This project will help alleviate local flooding and flooding upstream due to current and future backwater effects.

The contributing area for the project is over 50 acres, and because it alleviates flooding upstream, there is a large benefit to completing this project. The project itself is relatively low cost with simple construction.

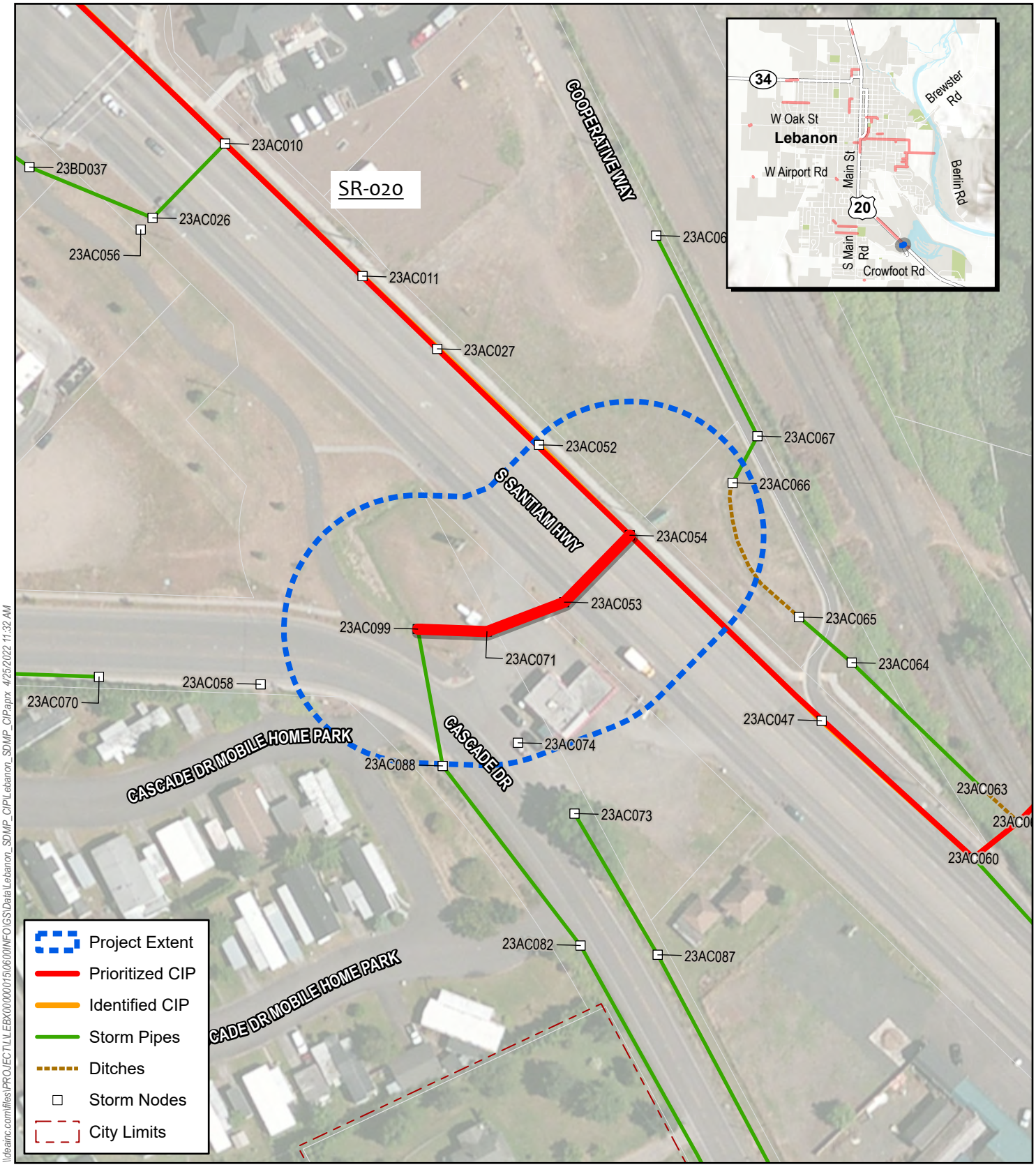
Future Project Operation and Maintenance Considerations

- Regularly inspect and maintain manholes and pipes
- Clean upstream inlets to clear blockage and debris

Project Costs and Considerations

The cost for this project includes the design and installation of 183 linear feet of 24" storm pipe. The Cost includes estimated engineering design and construction costs. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $66,338



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Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	Cascade Dr. - Dual Pipes
Project ID No:	SR-017
Project Basin:	Santiam River
Project Rank (Score):	4 (71)

N

0 100 200 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	**S. Main St. 36-inch Canal Diversion**
Project ID No:	SA-010
Project Basin:	Albany Canal Basin
Project Rank (Score):	5 (68)

Figure 5 – Project vicinity map

CIP Project Benefits

- Installs 1,300 linear feet of 36" storm pipe
- Middle range construction cost (between $200,000 and $700,000)
- Alleviates existing capacity limitation at 2-year storm event
- Alleviates future and existing flooding for an area contributing greater than 50 acres
- Improves conveyance deficiencies upstream by alleviating backwater effects from the project area
- City identified stormwater issue area

CIP Project Summary

The existing conditions hydraulic model shows that there are system capacity limitations for even the 2-year storm event within the project area. The City reports a history of flooding along 2nd, Elmore, and Milton Streets. The conveyance systems upstream from the project are also undersized and experience overtopping in the 2-year storm event. This project will help alleviate local flooding and flooding upstream due to current and future backwater effects.

This project is located along S. Main Street, which is also ODOT's US20 highway. There may be potential for partnering with ODOT for these stormwater improvements.

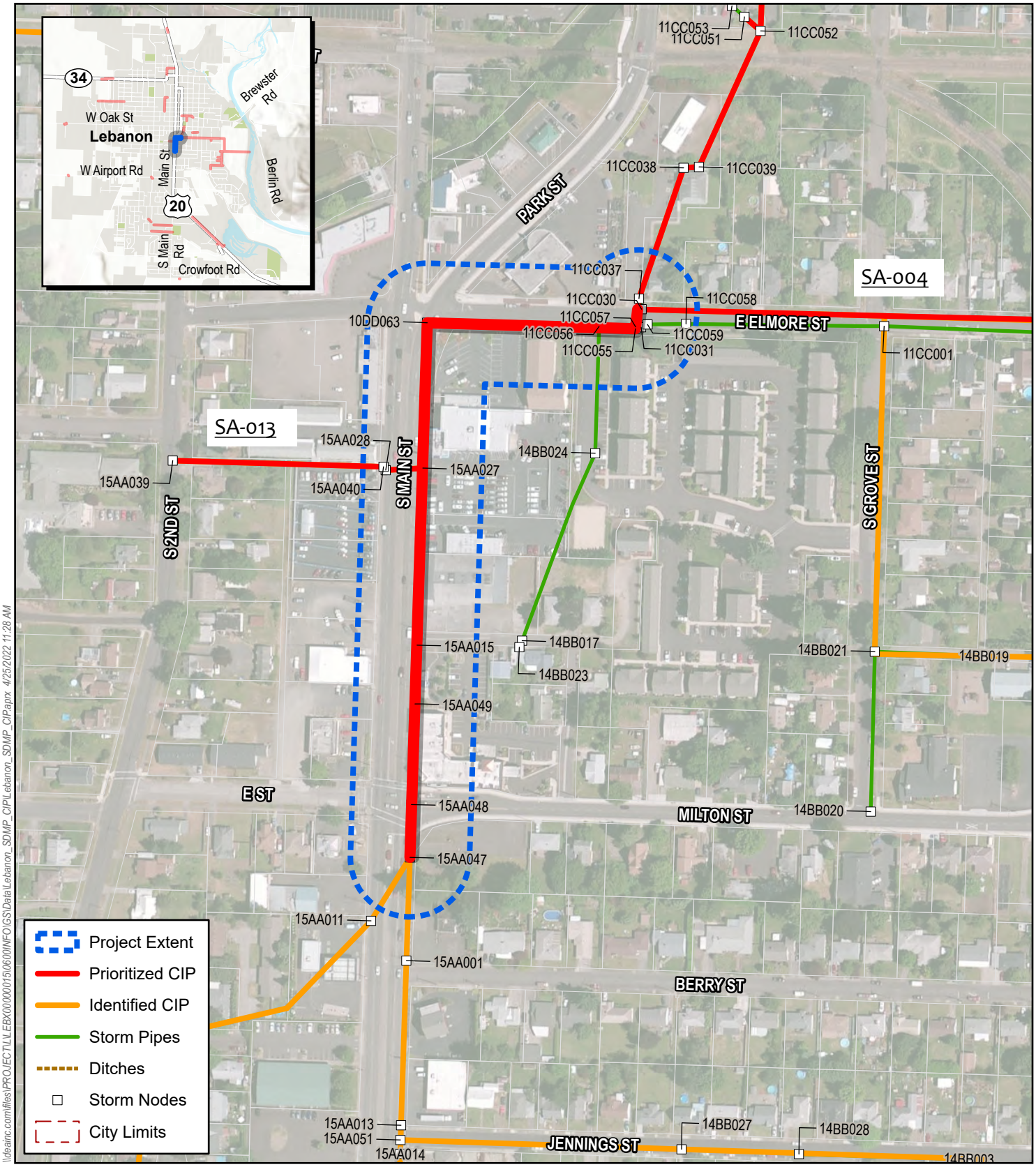
Future Project Operation and Maintenance Considerations

- Regularly inspect and maintain manholes and pipes
- Clean upstream inlets to clear blockage and debris

Project Costs and Considerations

The cost for this project includes the design and installation of 1,300 linear feet of 36" storm pipe and 3 manholes. The Cost includes estimated engineering design and construction costs. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $590,150



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Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	S. Main St. 36-inch Canal Diversion
Project ID No:	SA-010
Project Basin:	Albany Canal
Project Rank (Score):	5 (68)

N

0 230 460 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	**Santiam Hwy.**
Project ID No:	SA-014
Project Basin:	Albany Canal Basin
Project Rank (Score):	6 (67)

Figure 6 – Project vicinity map

CIP Project Benefits

- Installs 317 linear feet of 18" storm pipe
- Relatively low construction cost (less than $200,000)
- Alleviates existing capacity limitation at 10-year storm event
- Relatively simple project that could be done internally, or outsourced
- Alleviates future and existing flooding for an area contributing greater than 20 acres

CIP Project Summary

The existing conditions hydraulic model shows that there are system capacity limitations and related flooding problems at and above the 10-year storm event within the project area. This project will alleviate flooding within the project area and allows conveyance accommodation from future upstream development flows.

The contributing area for the project is over 20 acres and because it alleviates potential future flooding upstream (provided upstream area is also managed), there is a large benefit to completing this it in the short term while costs are relatively low, and design and construction are relatively simple.

This project is located along S. Main Street, which is also ODOT's US20 highway. There may be potential for partnering with ODOT for these stormwater improvements.

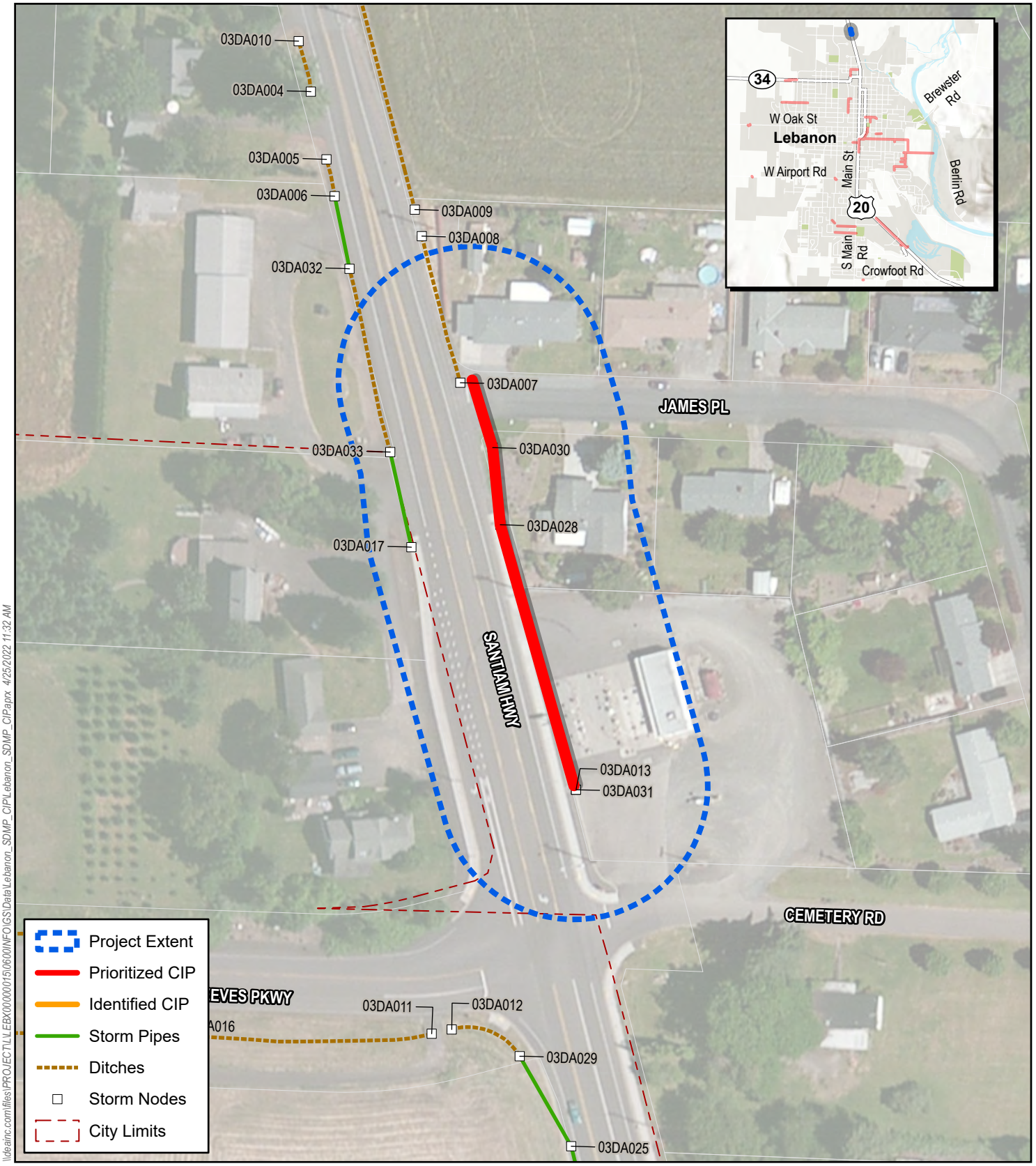
Future Project Operation and Maintenance Considerations

- Regularly inspect and maintain manholes and pipes
- Clean upstream inlets to clear blockage and debris

Project Costs and Considerations

The cost for this project includes the design and installation of 317 linear feet of 18" storm pipe and one manhole. The Cost includes estimated engineering design and construction costs. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $99,180



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Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	Santiam Hwy.
Project ID No:	SA-014
Project Basin:	Albany Canal
Project Rank (Score):	6 (67)

N

0 100 200 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	**SW Santiam Hwy.**
Project ID No:	SR-020
Project Basin:	Santiam River Basin
Project Rank (Score):	7 (66)

Figure 7 – Project vicinity map

CIP Project Benefits

- Installs 3,031 linear feet of 36" storm pipe
- Alleviates existing capacity limitation at 2-year storm event
- Improves conveyance deficiencies upstream by alleviating backwater effects from the project area
- Alleviates future and existing flooding for an area contributing greater than 50 acres
- Potential for regional detention in the area

CIP Project Summary

The existing conditions hydraulic model shows that there are system capacity limitations at the 2-year storm event and above within the project area. The conveyance systems upstream of the project are also undersized and experience overtopping in the 2-year storm event. This project will help alleviate existing and future flooding for over 50 acres, including the project and upstream areas.

This project is located along ODOT's SW Santiam Highway. There may be potential for partnering with ODOT for these stormwater improvements. There is also potential for regional detention at the upstream end of the project near the undeveloped area east of SW Santiam Hwy. Detention here would mitigate peak flows and improve the downstream and upstream capacity of the conveyance systems.

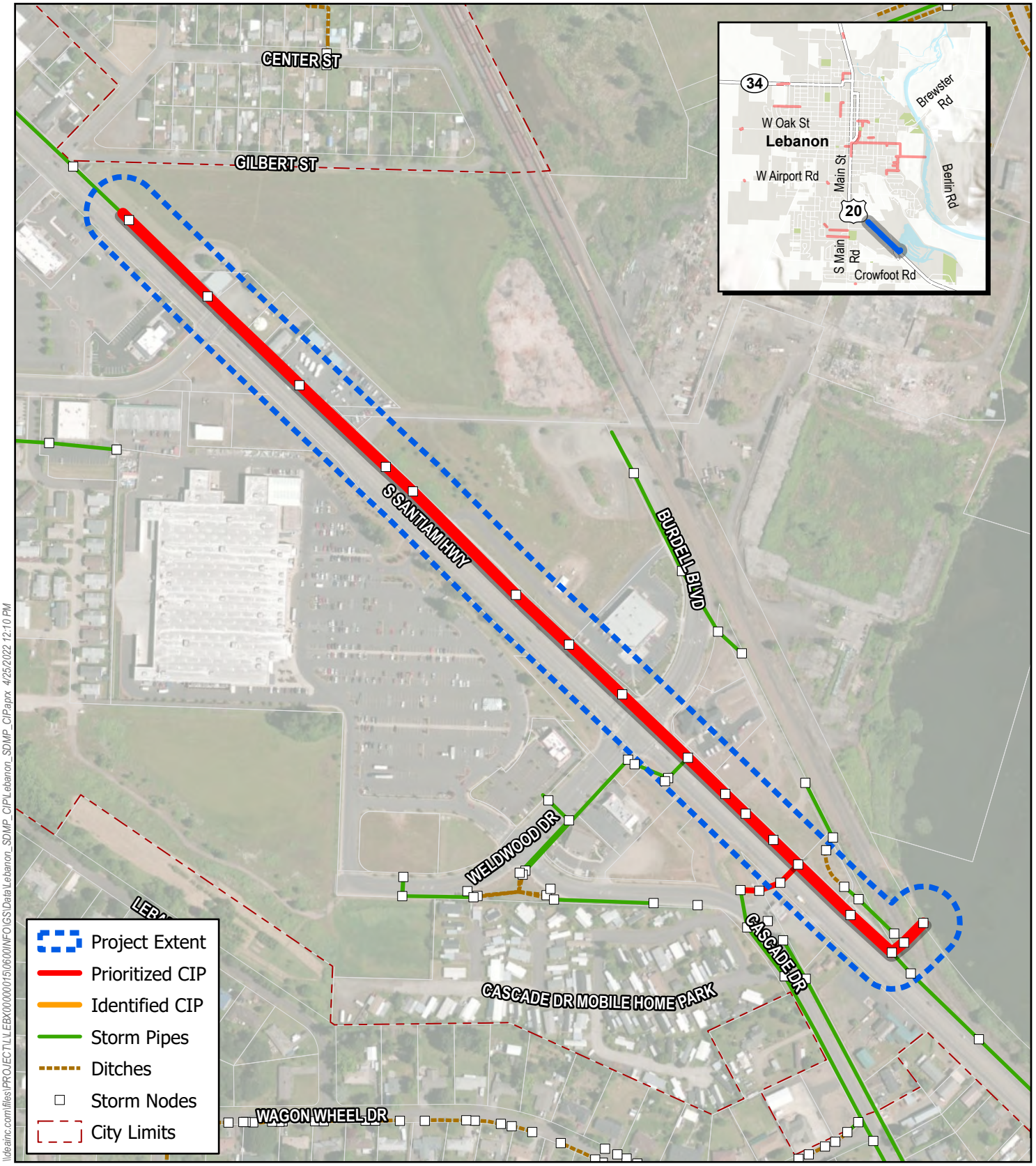
Future Project Operation and Maintenance Considerations

- Regularly inspect and maintain manholes and pipes
- Clean upstream inlets to clear blockage and debris

Project Costs and Considerations

The cost for this project includes the design and installation of 3,031 linear feet of 36" storm pipe and 8 manholes. The Cost includes estimated engineering design and construction costs. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $1,390,536



Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	**SW Santiam Hwy.**
Project ID No:	SR-020
Project Basin:	Santiam River
Project Rank (Score):	7 (66)

N

0 380 760 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	Tangent St. Outfall South
Project ID No:	BC-052
Project Basin:	Burkhart Creek Basin
Project Rank (Score):	8 (66)

Figure 8 – Project vicinity map

CIP Project Benefits

- Installs 376 linear feet of 48" storm pipe
- Relatively low construction cost (less than $200,000)
- Alleviates existing capacity limitation at 2-year storm event
- Alleviates existing flooding for an area contributing greater than 50 acres
- City identified storm issue area
- Improves conveyance deficiencies upstream by alleviating backwater effects from the project area

CIP Project Summary

The existing conditions hydraulic model shows that there are system capacity limitations for the 2-year storm event within the project area. The conveyance systems upstream from the project are also undersized and experience overtopping in the 2-year storm event. This project will help alleviate existing and future upstream flooding for the over 50 acres of upstream drainage basin.

The contributing area for the project is over 50 acres, and because it alleviates upstream flooding potential there is a large benefit to completing this project in the near term. The project itself is relatively low cost. This project is located along Tangent Street, which is also ODOT's US34 highway. There may be potential for partnering with ODOT for these stormwater improvements.

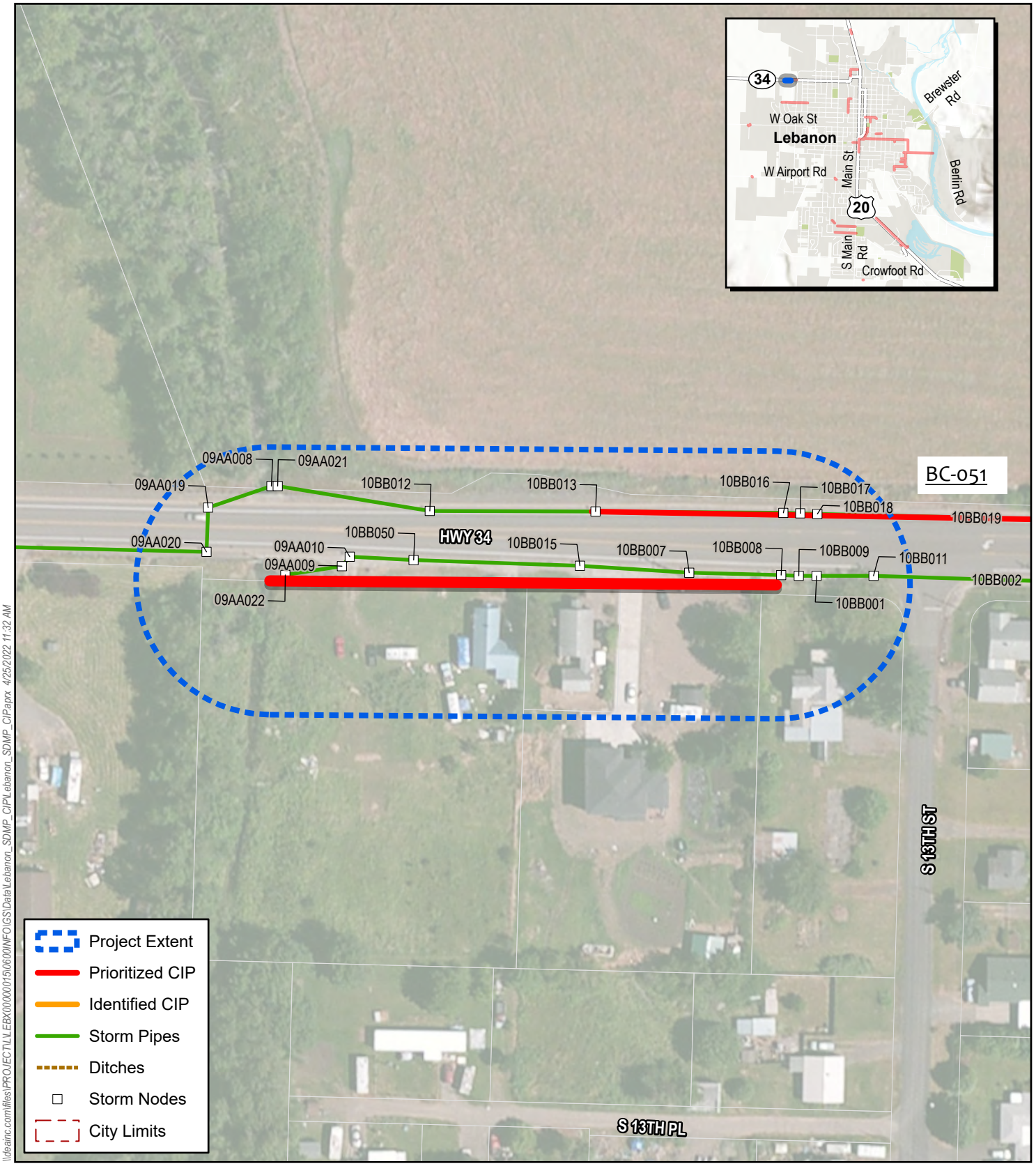
Future Project Operation and Maintenance Considerations

- Regularly inspect and maintain manholes and pipes
- Clean upstream inlets to clear blockage and debris

Project Costs and Considerations

The cost for this project includes the design and installation of 376 linear feet of 48" storm pipe and one manhole. The Cost includes estimated engineering design and construction costs. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $218,399



Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	Tangent St. Outfall South
Project ID No:	BC-052
Project Basin:	Burkhart Creek
Project Rank (Score):	8 (66)

N

0 100 200 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	Baker St. and Crowfoot Rd.
Project ID No:	OC-009
Project Basin:	Oak Creek Basin
Project Rank (Score):	9 (63)

Figure 9 – Project vicinity map

CIP Project Benefits

- Installs 51 linear foot 24" culvert
- Relatively low construction cost (less than $200,000)
- Alleviates existing capacity limitation at 10-year storm event
- Relatively simple project that could be done internally, or outsourced
- Alleviates future and existing flooding for an area contributing greater than 50 acres

CIP Project Summary

The existing culvert size is unknown but suspected to be 12" in diameter. The existing conditions hydraulic model shows that the existing culvert overtops the roadway at and above the 2-year storm event. The conveyance systems upstream from the project are also undersized and experience overtopping in the 2-year storm event. This project will help alleviate local flooding and flooding upstream due to current and future backwater effects.

The contributing area for the project is over 50 acres, and because it alleviates flooding upstream, there is a large benefit to completing this project. The project itself is relatively low cost with simple construction.

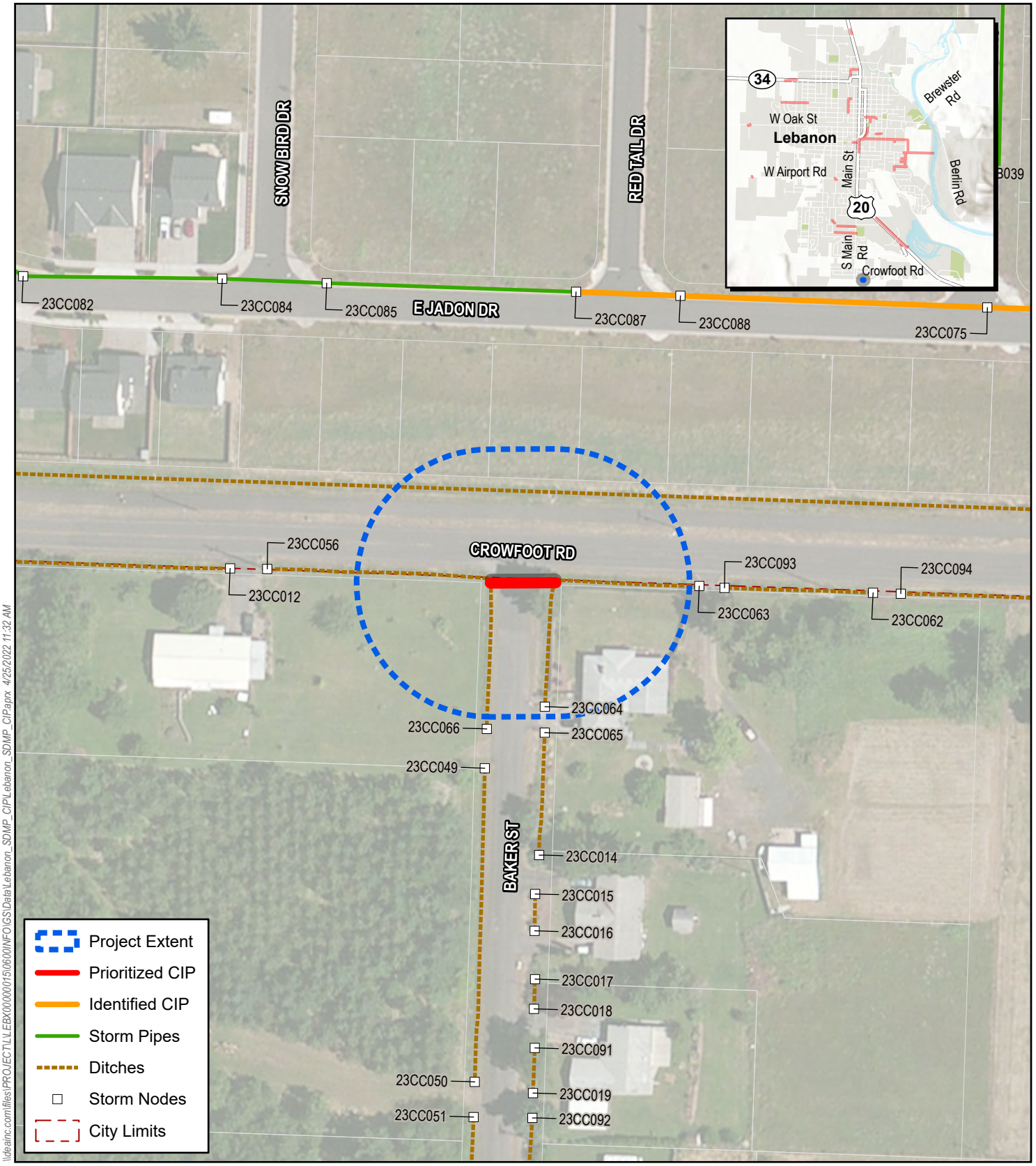
Future Project Operation and Maintenance Considerations

- Regularly inspect and maintain culvert entrance and exist
- Clear culvert from any blockage and debris
- Maintain riprap pads

Project Costs and Considerations

The cost for this project includes the design and installation of a 51 linear foot 24" diameter culvert. The Cost includes estimated engineering design and construction costs. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $19,412



Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	Baker St. and Crowfoot Rd.
Project ID No:	OC-009
Project Basin:	Oak Creek
Project Rank (Score):	9* (63)

N

0 100 200 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	**Airport Dr.**
Project ID No:	OC-014
Project Basin:	Oak Creek Basin
Project Rank (Score):	10 (63)

Figure 10 – Project vicinity map

CIP Project Benefits

- Installs 88 linear foot 30" culvert
- Relatively low construction cost (less than $200,000)
- Alleviates existing capacity limitation at 10-year storm event
- Relatively simple project that could be done internally, or outsourced
- Alleviates future and existing flooding for an area contributing greater than 50 acres
- City identified storm issue area

CIP Project Summary

The existing culvert size is unknown but suspected to be a 12" culvert. The existing conditions hydraulic model shows that the existing culvert overtops the roadway in the 10-year storm event. The conveyance systems upstream from the project are also undersized and experience overtopping in the 10-year storm event. This project will help alleviate local flooding and flooding upstream due to current and future backwater effects.

The contributing area for the project is over 50 acres, and because it alleviates flooding upstream, there is a large benefit to completing this project. The project itself is relatively low cost with simple construction.

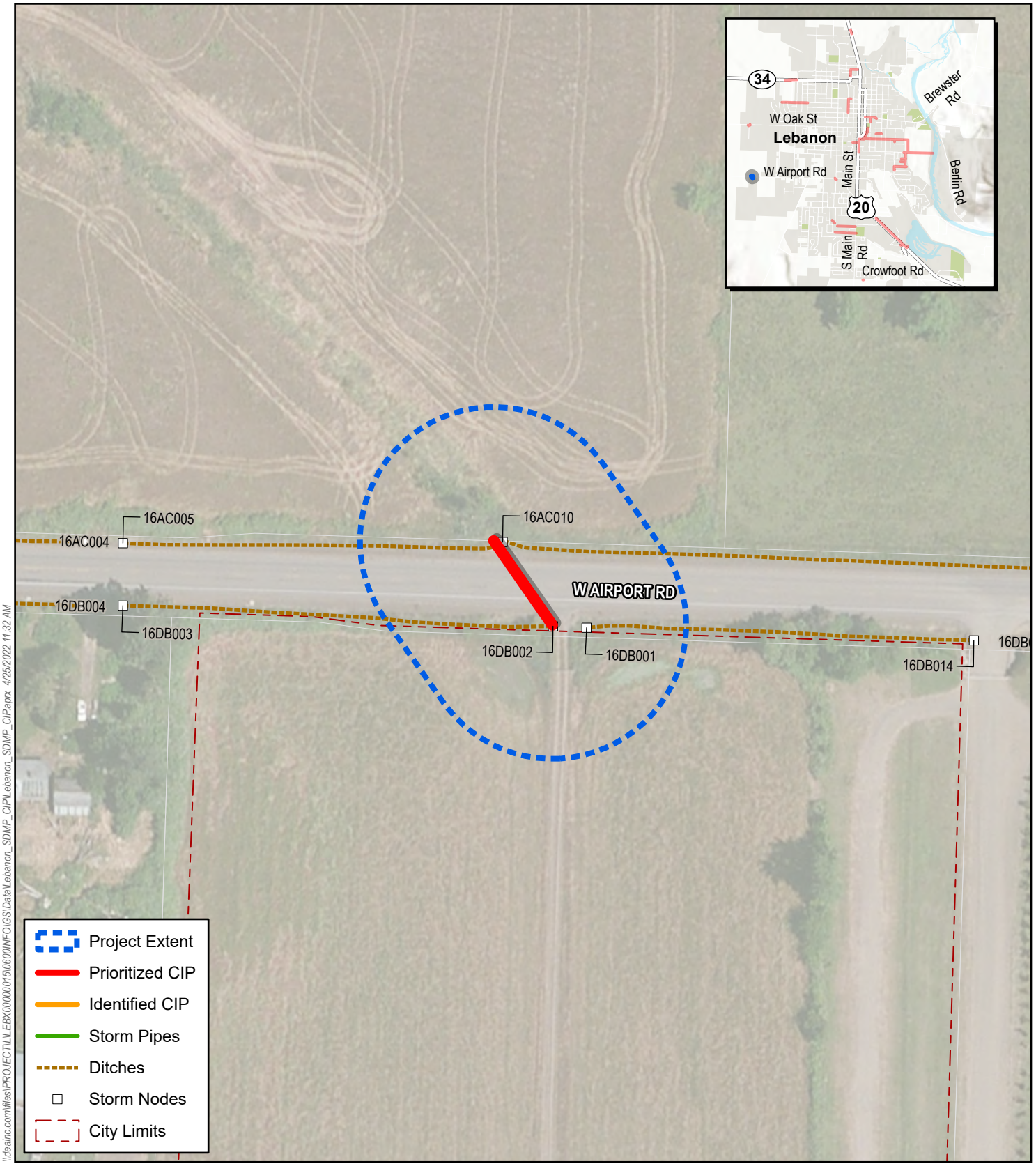
Future Project Operation and Maintenance Considerations

- Regularly inspect and maintain culvert entrance and exist
- Clear culvert from any blockage and debris
- Maintain riprap pads

Project Costs and Considerations

The cost for this project includes the design and installation of an 88 linear foot 30" culvert. The Cost includes estimated engineering design and construction costs. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $36,047



Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	**Airport Dr.**
Project ID No:	OC-014
Project Basin:	Oak Creek
Project Rank (Score):	10* (63)

N

0 100 200 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	**Oak St. at Lebanon Pkwy.**
Project ID No:	OC-001
Project Basin:	Oak Creek Basin
Project Rank (Score):	11 (62)

Figure 11 – Project vicinity map

CIP Project Benefits

- Installs 104 linear foot 30" culvert
- Relatively low construction cost (less than $200,000)
- Alleviates existing capacity limitation at 10-year storm event
- Relatively simple project that could be done internally, or outsourced
- Alleviates existing flooding for an area contributing greater than 50 acres
- City identified storm issue area

CIP Project Summary

In the existing conditions hydraulic model, the existing 18" culvert overtops the roadway in the 10-year storm event. The conveyance systems upstream from the project are also undersized and experience overtopping in the 10-year storm event due to existing backwater conditions. The area has been identified by the City as a known stormwater issue area with a history of flooding.

The contributing area for the project is over 50 acres, and because it alleviates flooding upstream, there is a large benefit to completing this project. The project itself is relatively low cost with simple construction. There may be potential for partnering with the County on this project, as Oak Street is a County roadway.

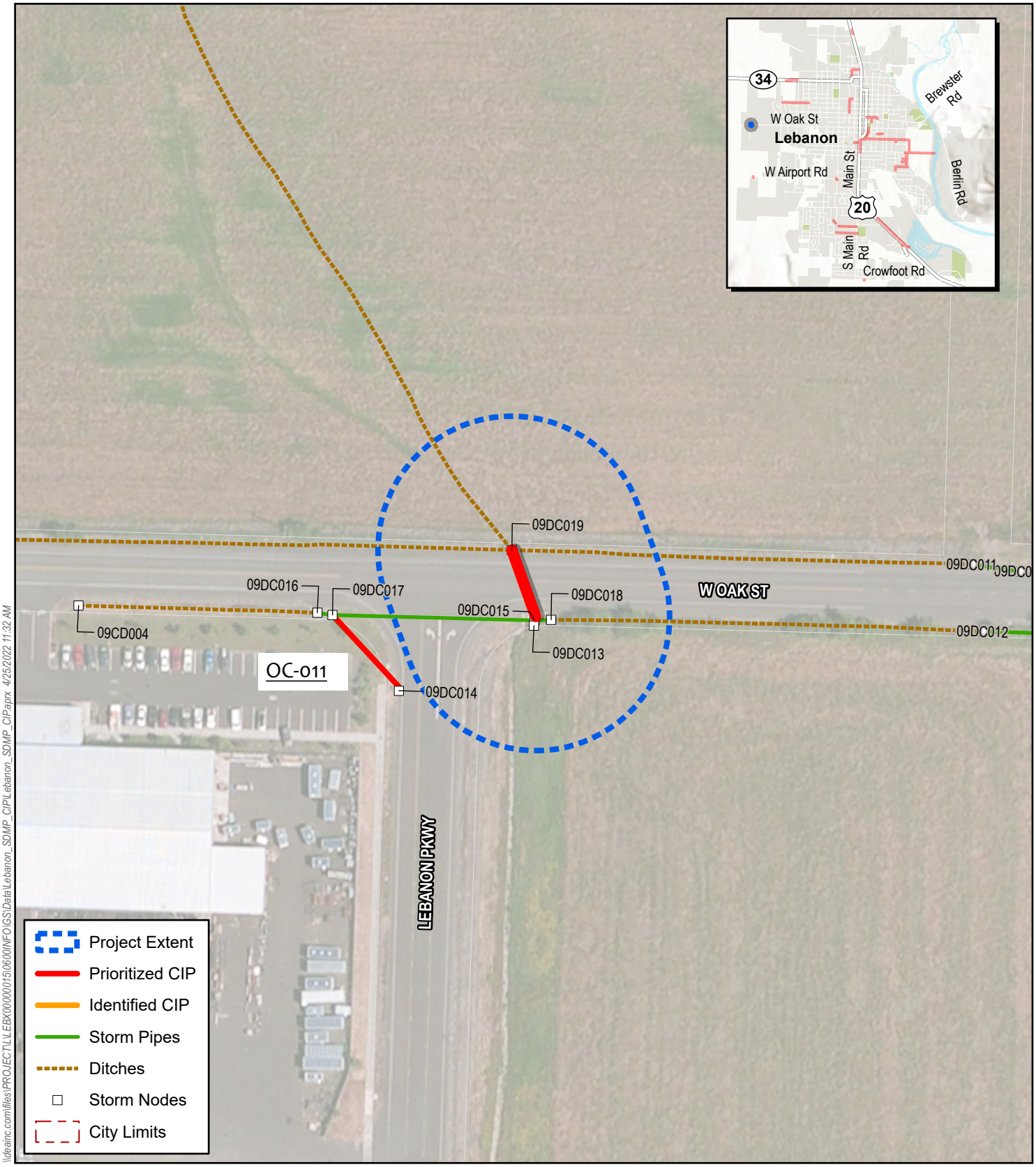
Future Project Operation and Maintenance Considerations

- Regularly inspect and maintain culvert entrance and exists
- Clear culvert from any blockage and debris
- Maintain riprap pads

Project Costs and Considerations

The cost for this project includes the design and installation of an 88 linear foot 30" culvert. The Cost includes estimated engineering design and construction costs. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $42,601



Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	**Oak St. at Lebanon Pkwy.**
Project ID No:	OC-001
Project Basin:	Oak Creek
Project Rank (Score):	11* (62)

N

0 100 200 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	**2nd St.**
Project ID No:	SR-013
Project Basin:	Santiam River Basin
Project Rank (Score):	12 (62)

Figure 12 – Project vicinity map

CIP Project Benefits

- Installs 1,147 linear feet of 24" storm pipe
- Middle range construction cost (between $200,000 and $700,000)
- Alleviates existing capacity limitation at 2-year storm event
- Improves conveyance deficiencies upstream by alleviating backwater effects from the project area
- Alleviates existing flooding for an area contributing greater than 50 acres
- City identified stormwater issue area

CIP Project Summary

The existing conditions hydraulic model shows that there are system capacity limitations for the 2-year storm event within the project area. The conveyance systems upstream from the project are also undersized and experience overtopping in the 2-year storm event. This project will help alleviate local flooding and flooding upstream due to current and future backwater effects. The City has identified this area as a known stormwater issue area with a history of flooding.

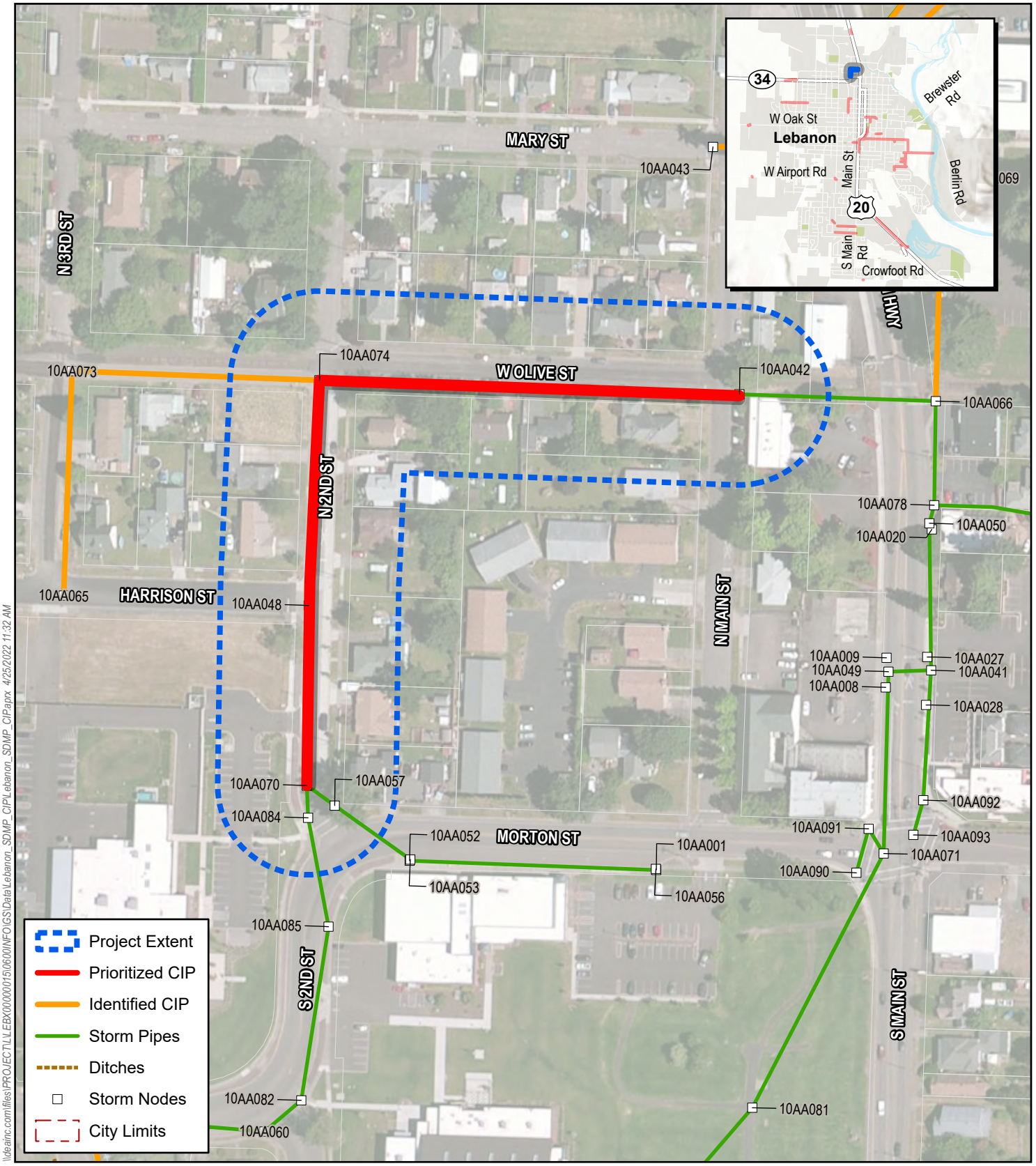
Future Project Operation and Maintenance Considerations

- Regularly inspect and maintain manholes and pipes
- Clean upstream inlets to clear blockage and debris

Project Costs and Considerations

The cost for this project includes the design and installation of 1,147 linear feet of 24" storm pipe and three manholes. The Cost includes estimated engineering design and construction costs. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $437,538



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Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	**2nd St.**
Project ID No:	SR-013
Project Basin:	Santiam River
Project Rank (Score):	12 (62)

N

0 150 300 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	**Vine St. Outfall**
Project ID No:	BC-050
Project Basin:	Burkhart Creek Basin
Project Rank (Score):	13 (61)

Figure 13 – Project vicinity map

CIP Project Benefits

- Installs 1,715 linear feet of 42" storm pipe
- Middle range construction cost (between $200,000 and $700,000)
- Alleviates existing capacity limitation at 2-year storm event
- Alleviates future and existing flooding for an area contributing greater than 50 acres
- Improves conveyance deficiencies upstream by alleviating backwater effects from the project area

CIP Project Summary

The existing conditions hydraulic model shows that there are system capacity limitations for the 2-year storm event within the project area. The conveyance systems upstream from the project are also undersized and experience overtopping in the 2-year storm event. This project will help alleviate local flooding and flooding upstream due to current and future backwater effects.

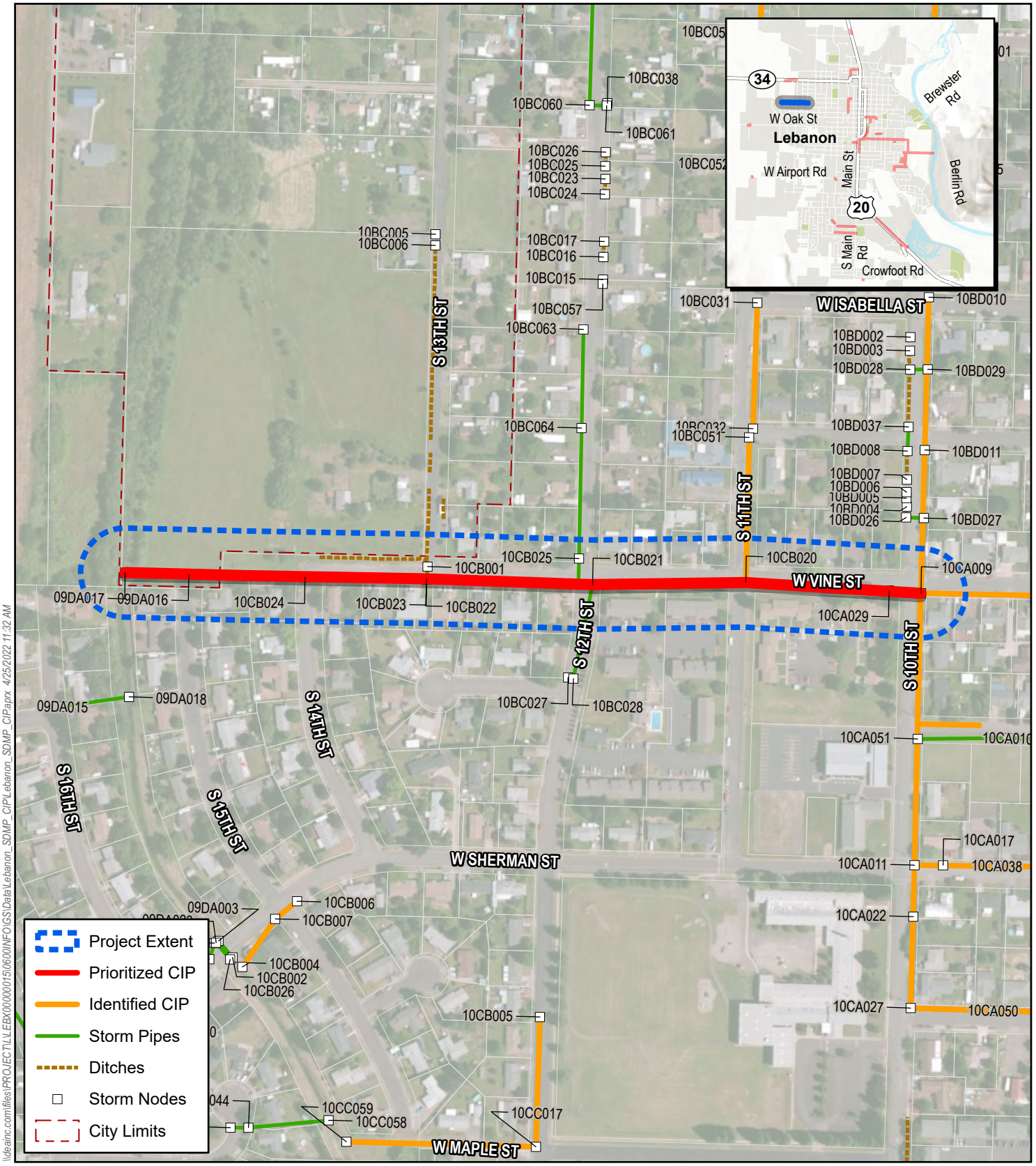
Future Project Operation and Maintenance Considerations

- Regularly inspect and maintain manholes and pipes
- Clean upstream inlets to clear blockage and debris

Project Costs and Considerations

The cost for this project includes the design and installation of 1,715 linear feet of 42" storm pipe and 4 manholes. The Cost includes estimated engineering design and construction costs. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $928,363



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Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	**Vine St. Outfall**
Project ID No:	BC-050
Project Basin:	Burkhart Creek
Project Rank (Score):	13 (61)

N

0 310 620 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	Tangent St. Outfall North
Project ID No:	BC-051
Project Basin:	Burkhart Creek Basin
Project Rank (Score):	14 (61)

Figure 14 – Project vicinity map

CIP Project Benefits

- Installs 559 linear feet of 48" storm pipe
- Middle range construction cost (between $200,000 and $700,000)
- Alleviates existing capacity limitation at 2-year storm event
- Alleviates existing flooding for an area contributing greater than 50 acres
- Improves conveyance deficiencies upstream by alleviating backwater effects from the project area
- City identified stormwater issue area

CIP Project Summary

The existing conditions hydraulic model shows that there are system capacity limitations for the 2-year storm event within the project area. The conveyance systems upstream from the project are also undersized and experience overtopping in the 2-year storm event. This project will help alleviate local flooding and flooding upstream due to current backwater effects. The City has identified this area as a known stormwater issue area with a history of flooding.

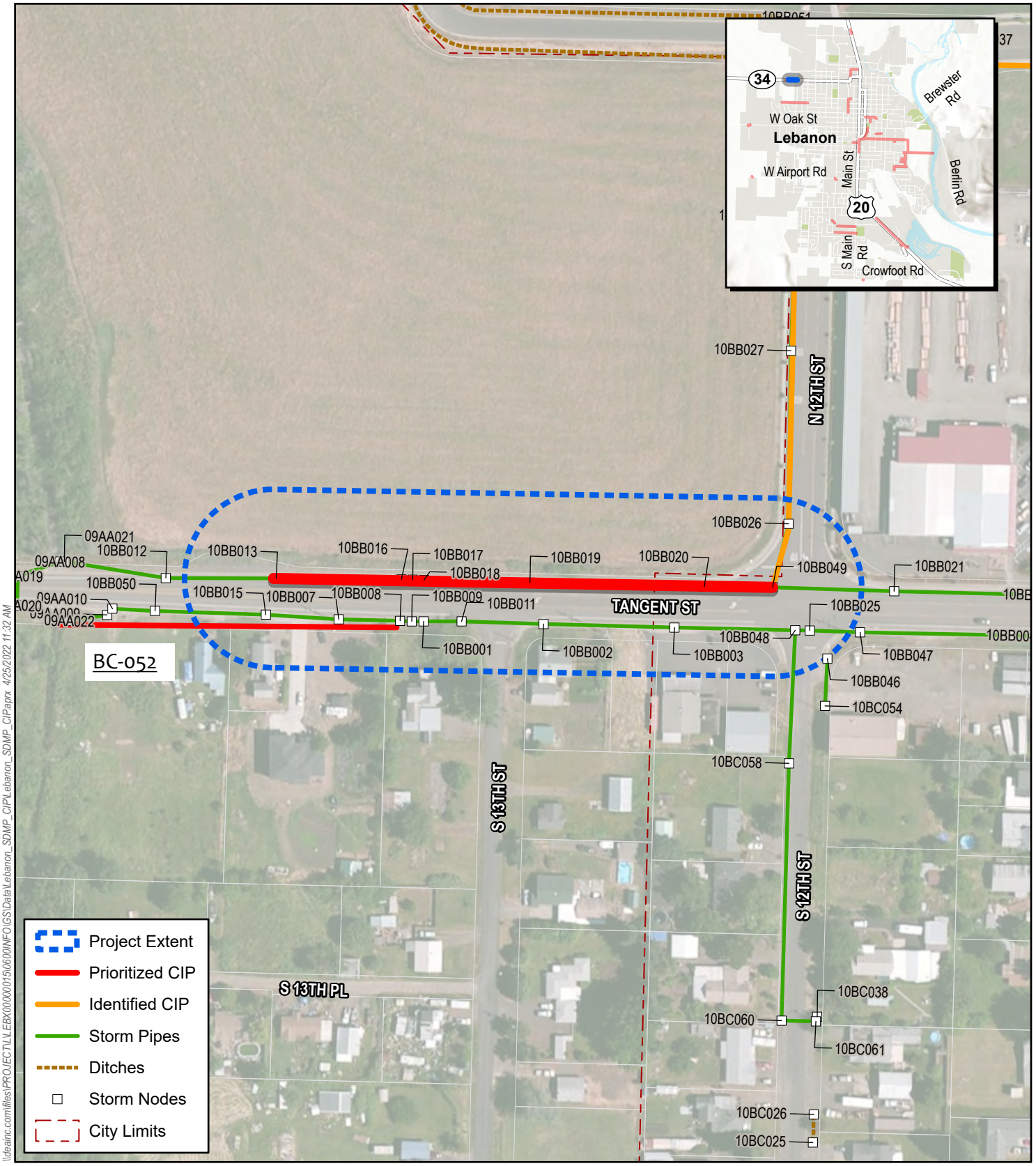
Future Project Operation and Maintenance Considerations

- Regularly inspect and maintain manholes and pipes
- Clean upstream inlets to clear blockage and debris

Project Costs and Considerations

The cost for this project includes the design and installation of 559 linear feet of 48" storm pipe and one manhole. The Cost includes estimated engineering design and construction costs. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $316,579



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Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	Tangent St. Outfall North
Project ID No:	BC-051
Project Basin:	Burkhart Creek
Project Rank (Score):	14 (61)

N

0 150 300 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	Hiatt St. Combined Sewer Diversion
Project ID No:	SA-005
Project Basin:	Albany Canal Basin
Project Rank (Score):	15 (57)

Figure 15 – Project vicinity map

CIP Project Benefits

- Installs 1,064 linear feet of storm pipe
- Middle range construction cost (between $200,000 and $700,000)
- Diverts area from combined sewer system
- Diverts area from canal

CIP Project Summary

This project includes two existing conveyance systems; one is connected to a combined sewer system, and the other discharges to the Albany Canal. The connection to the combined sewer system is located at Grove and Grant Streets. The outfall into the canal is along the southeast corner of the Williams and Grant Streets. intersection. Diverting flow from the combined sewer system will reduce the amount and associated costs of water treated at the City's wastewater treatment plant.

The proposed improvements will include diverting the two existing outfalls to the west and tying them into the existing storm sewer conveyance system within Grant St. The stormwater will then be conveyed north to Marks Slough.

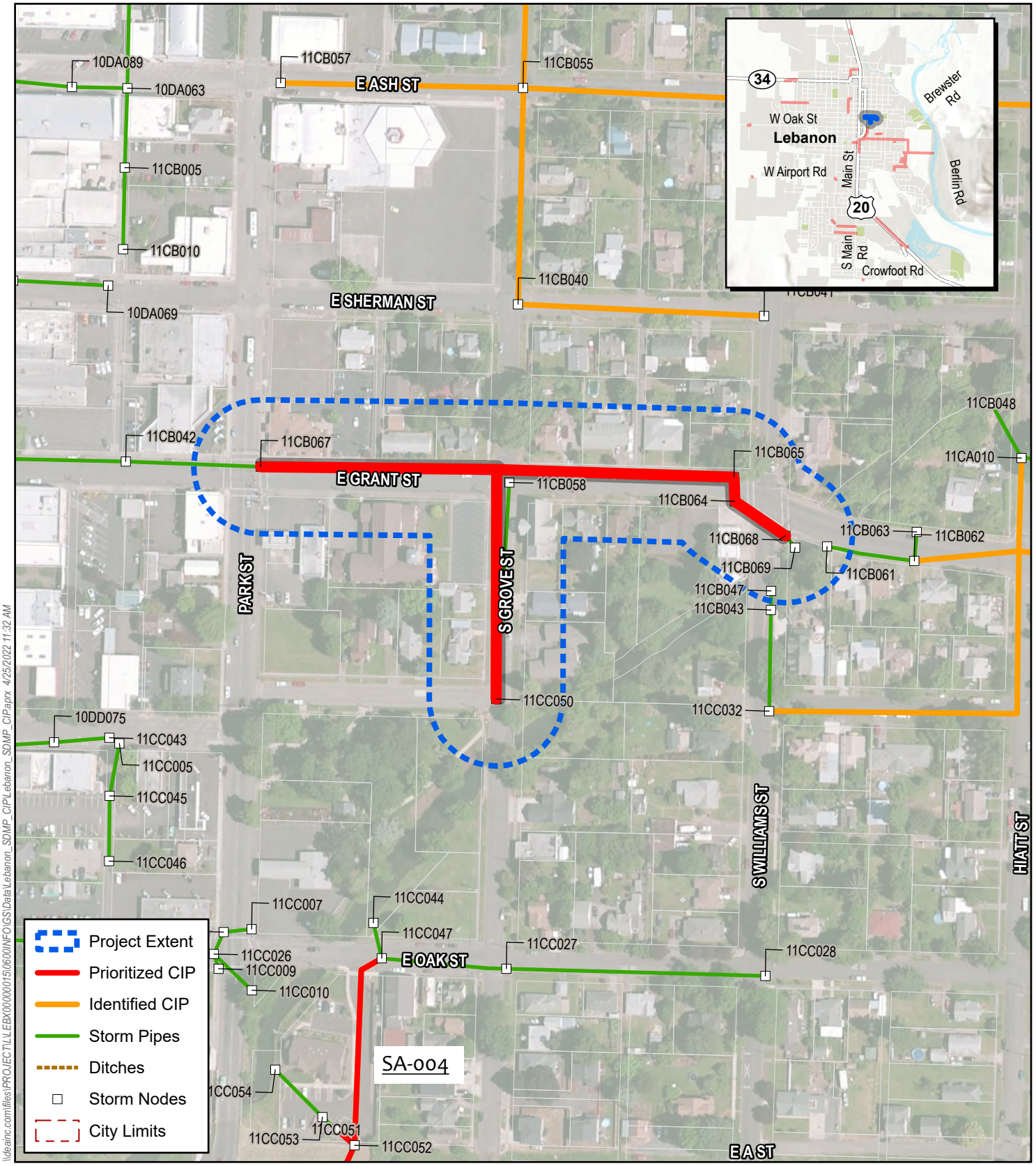
Future Project Operation and Maintenance Considerations

- Regularly inspect and maintain manholes and pipes
- Clean upstream inlets to clear blockage and debris

Project Costs and Considerations

The cost for this project includes the design and installation of 703 linear feet of 12" storm pipe and 361 linear feet of 24" storm pipe and 3 manholes. The Cost includes estimated engineering design and construction costs. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $256,288



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Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	Hiatt St. Combined Sewer Diversion
Project ID No:	SA-005
Project Basin:	Albany Canal
Project Rank (Score):	15 (57)

N

0 210 420 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	**2nd St. Canal Diversion**
Project ID No:	SA-013
Project Basin:	Albany Canal Basin
Project Rank (Score):	16 (57)

Figure 16 – Project vicinity map

CIP Project Benefits

- Installs 423 linear feet of 24" storm pipe
- Relatively low construction cost (less than $200,000)
- Alleviates existing and future flooding
- Diverts more than 40 acres of contributing area from the Albany Canal
- City identified stormwater issue area

CIP Project Summary

The existing conditions hydraulic model shows that there are system capacity limitations for the 2-year storm event within the project area. This project will help alleviate local flooding and flooding upstream due to current backwater effects. The City has identified this area as a known stormwater issue area with a history of flooding.

The contributing area for the project is over 10 acres, and there is a large benefit to completing this project as the project itself is relatively low cost with simple construction.

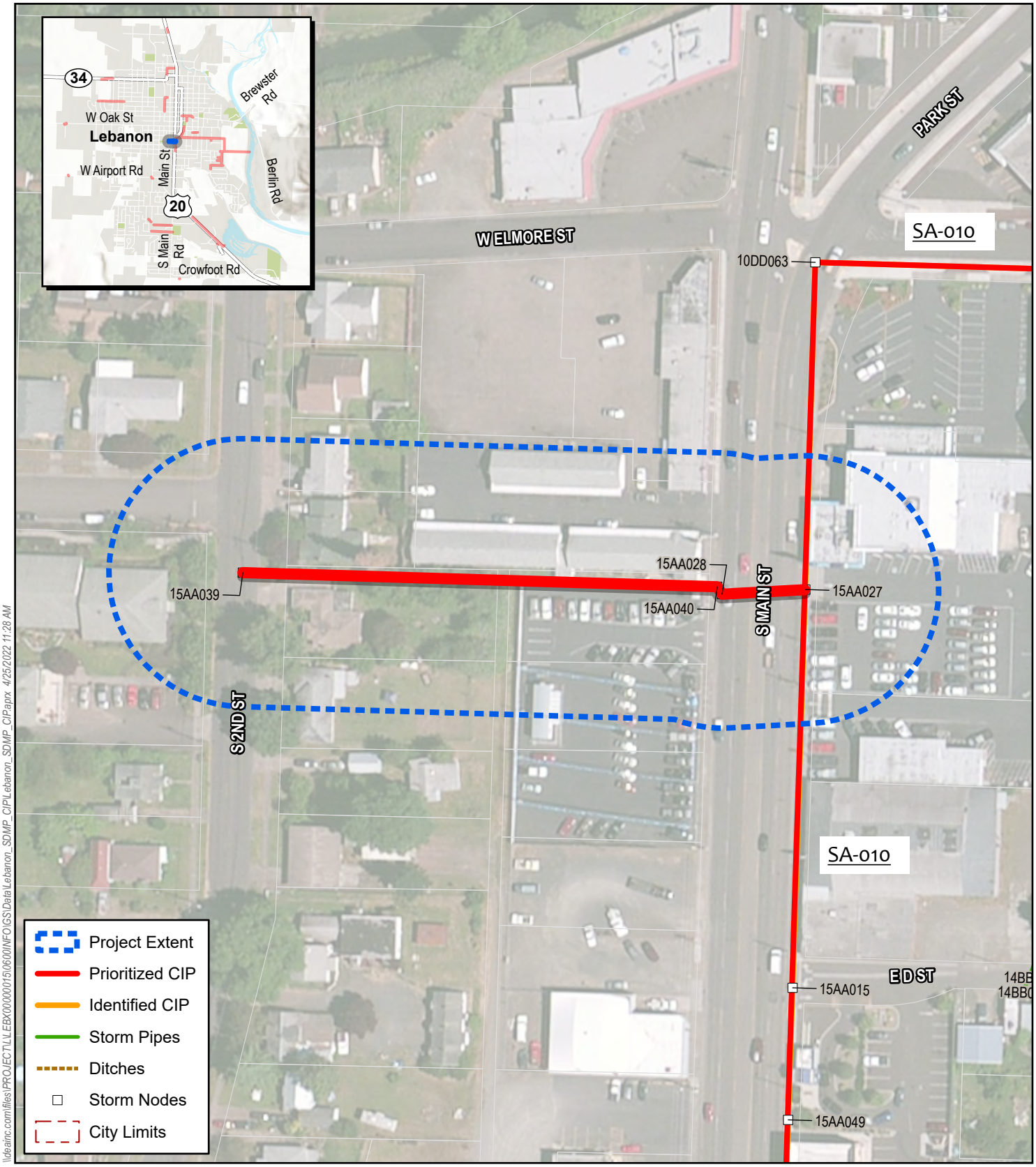
Future Project Operation and Maintenance Considerations

- Regularly inspect and maintain manholes and pipes
- Clean upstream inlets to clear blockage and debris

Project Costs and Considerations

The cost for this project includes the design and installation of 423 linear feet of 24" storm pipe one manhole. The Cost includes estimated engineering design and construction costs. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $160,588



Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	**2nd St. Canal Diversion**
Project ID No:	SA-013
Project Basin:	Albany Canal
Project Rank (Score):	16 (57)

N

0 100 200 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	UIC Decommissioning
Project ID No:	SA-018
Project Basin:	Albany Canal Basin
Project Rank (Score):	17 (57)

Figure 17 – Project vicinity map

CIP Project Benefits

- Installs 3,019 linear feet of storm pipe
- Alleviates existing and future flooding
- City identified stormwater issue area
- Eliminates O&M problems

CIP Project Summary

There are seven existing UIC (dry well) connections to be diverted with this CIP. The existing conditions for each dry well are unknown, but in general the City has identified them as having decreasing infiltration capacity over the years and desires that flow to them be diverted. It is suspected that over time the dry wells will continue to have diminished infiltration capacity which will eventually result in flooding problems.

The diversion of flows from the dry well systems is reliant on and will tie into the precursor CIP project SA-004, which diverts flow from the Canal and conveys it east along Milton Street to the Santiam River.

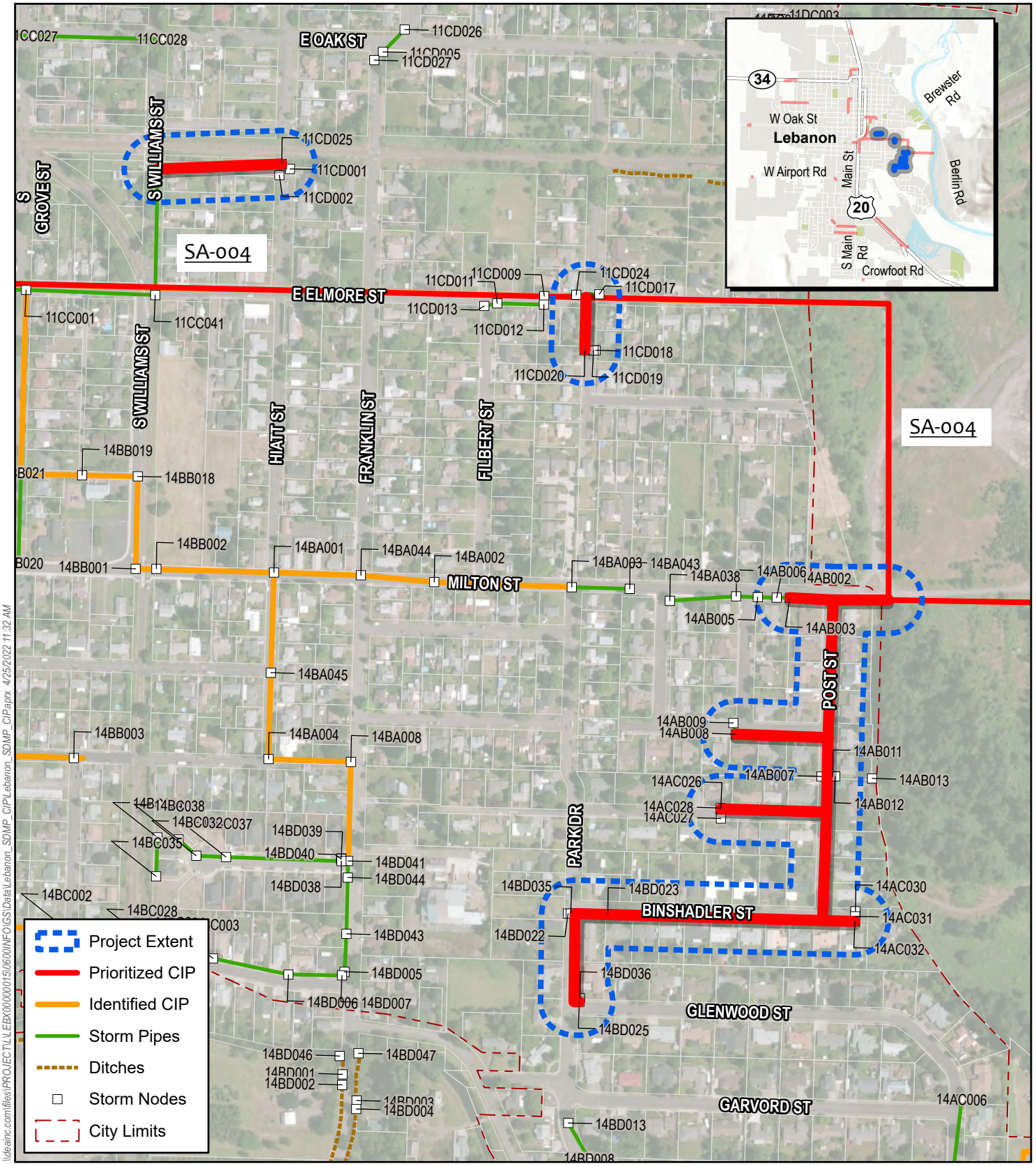
Future Project Operation and Maintenance Considerations

- Regularly inspect and maintain manholes and pipes
- Clean upstream inlets to clear blockage and debris

Project Costs and Considerations

The cost for this project includes the design and installation of 2,725 linear feet of 24" storm pipe, 187 linear feet of 18" storm pipe, 107 linear feet of 12" storm sewer pipe, and 8 manholes. The Cost includes estimated engineering design and construction costs. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $1,126,418



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Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	UIC Decommissioning
Project ID No:	SA-018
Project Basin:	Albany Canal
Project Rank (Score):	17 (57)

N

0 420 840 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	**3rd St. Combined Sewer Diversion**
Project ID No:	BC-015
Project Basin:	Burkhart Creek Basin
Project Rank (Score):	18 (57)

Figure 18 – Project vicinity map

CIP Project Benefits

- Installs 1,287 linear feet of 18" storm pipe
- Middle range construction cost (between $200,000 and $700,000)
- Alleviates existing and future flooding for an area contributing greater than 5 acres
- Alleviates existing capacity limitation at 2-year storm event
- Diverts stormwater from combined sewer system

CIP Project Summary

The existing conditions hydraulic model shows that there are system capacity limitations for the 2-year storm event within the project area. The existing storm system conveys flow north along an alley between 2nd and 3rd Streets up to Rose St. The intersection of Rose and 2nd Streets is where the storm sewer connects to the sanitary system to create the combined sewer system. Diverting this flow from the combined sewer system will reduce the amount of water to be treated at the City's wastewater treatment plant which will decrease costs for the City.

This project has middle range construction cost but has the benefits of diverting storm flows to the combined system as well as to address existing and future capacity issues.

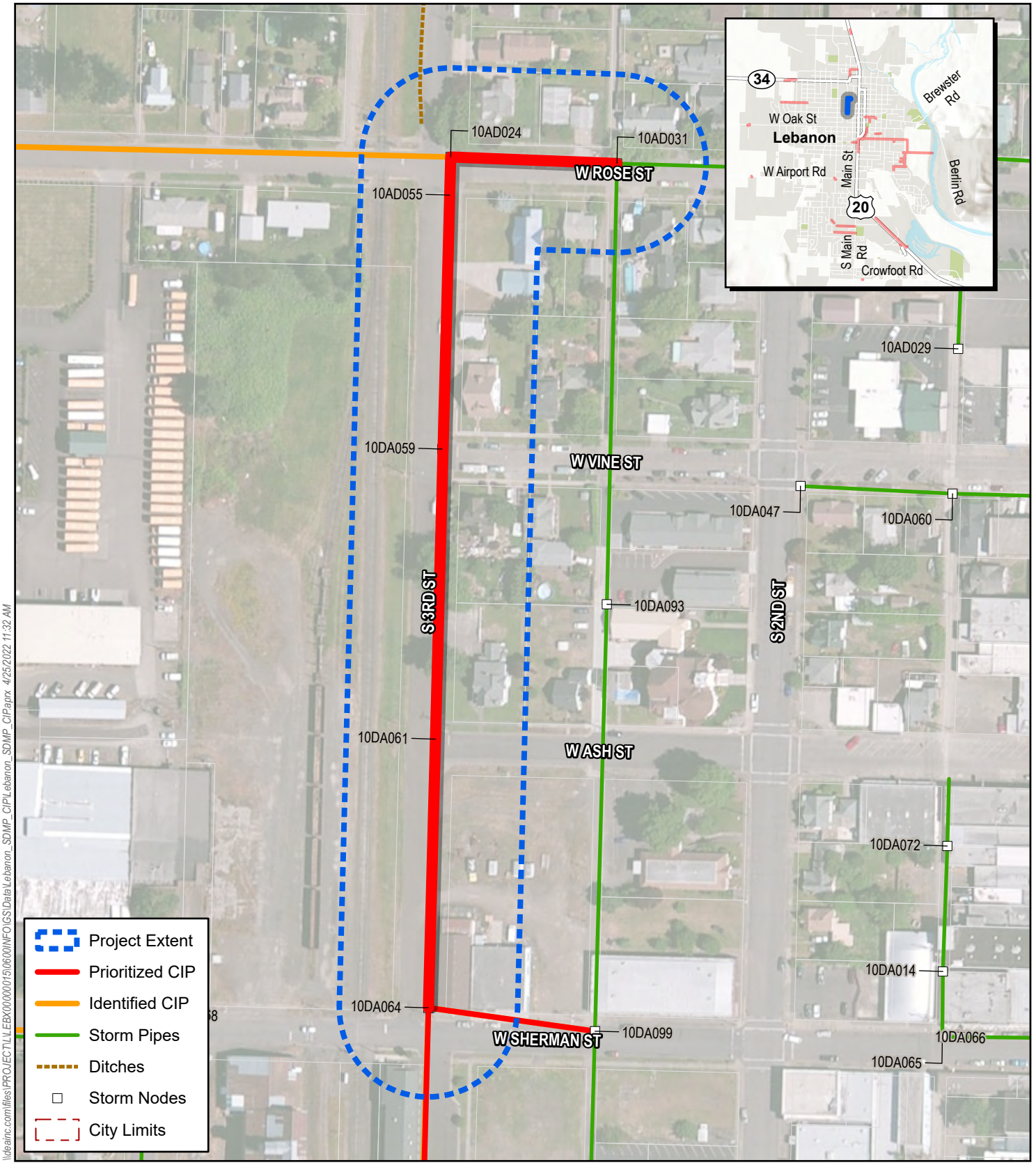
Future Project Operation and Maintenance Considerations

- Regularly inspect and maintain manholes and pipes
- Clean upstream inlets to clear blockage and debris

Project Costs and Considerations

The cost for this project includes the design and installation of 1,287 linear feet of 28" storm pipe and 2 manholes. The Cost includes estimated engineering design and construction costs. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $387,730



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Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	**3rd St. Combined Sewer Diversion**
Project ID No:	BC-015
Project Basin:	Burkhart Creek
Project Rank (Score):	18 (57)

N

0 150 300 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	Lebanon Pkwy.
Project ID No:	OC-011
Project Basin:	Oak Creek Basin
Project Rank (Score):	19 (52)

Figure 19 – Project vicinity map

CIP Project Benefits

- Installs 75 linear feet 24" culvert
- Relatively low construction cost (less than $200,000)
- Alleviates existing capacity limitation at 2-year storm event
- Relatively simple project that could be done internally, or outsourced
- Alleviates existing flooding for an area contributing greater than 10 acres

CIP Project Summary

The existing culvert is 12" in diameter. The existing conditions hydraulic model shows that the existing culvert overtops the roadway in the 2-year storm event. This project will help alleviate local flooding and flooding upstream due to current backwater effects.

The contributing area for the project is over 10 acres, and because it alleviates flooding upstream, there is a large benefit to completing this project as the project itself is relatively low cost with simple construction.

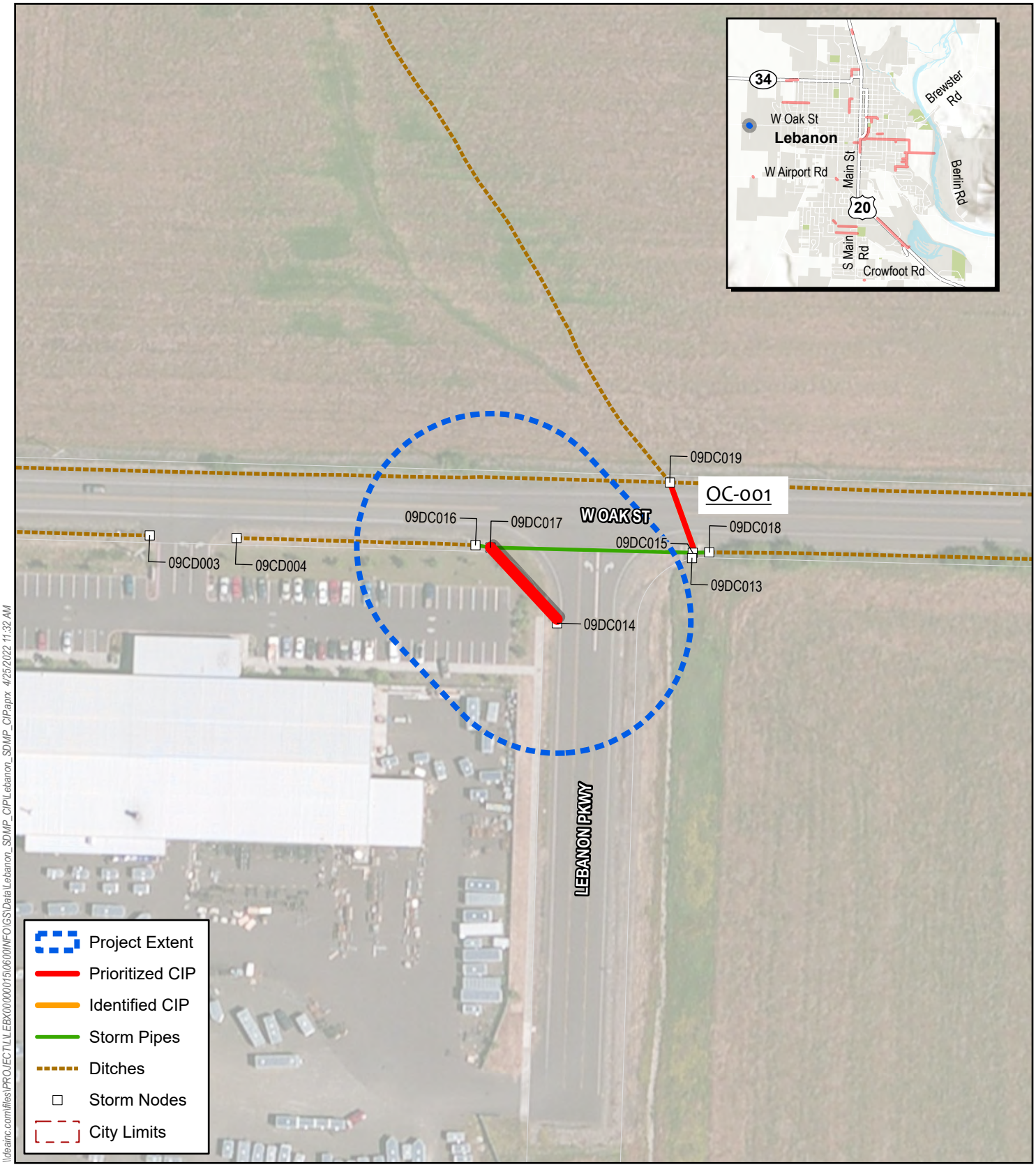
Future Project Operation and Maintenance Considerations

- Regularly inspect and maintain culvert entrance and exists
- Clear culvert from any blockage and debris
- Maintain riprap pads

Project Costs and Considerations

The cost for this project includes the design and installation of a 75 linear foot 24" culvert. The Cost includes estimated engineering design and construction costs. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $28,547



Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	**Lebanon Pkwy.**
Project ID No:	OC-011
Project Basin:	Oak Creek
Project Rank (Score):	19* (52)

N

0 100 200 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	**5th St. and Airport Rd.**
Project ID No:	BC-034
Project Basin:	Burkhart Creek Basin
Project Rank (Score):	20 (41)

Figure 20 – Project vicinity map

CIP Project Benefits

- Installs 122 linear feet of 24" storm pipe
- Relatively low construction cost (less than $200,000)
- Alleviates existing flooding for an area contributing greater than 5 acres
- Alleviates existing capacity limitation at 10-year storm event
- Relatively simple project that could be done internally, or outsourced.

CIP Project Summary

The existing conditions hydraulic model shows that there are system capacity limitations for the 10-year storm event within the project area. The existing pipe sizes are 8" and 10", replacing the existing with new 24" pipes will alleviate the existing capacity issues. The contributing area for the project is over 5 acres.

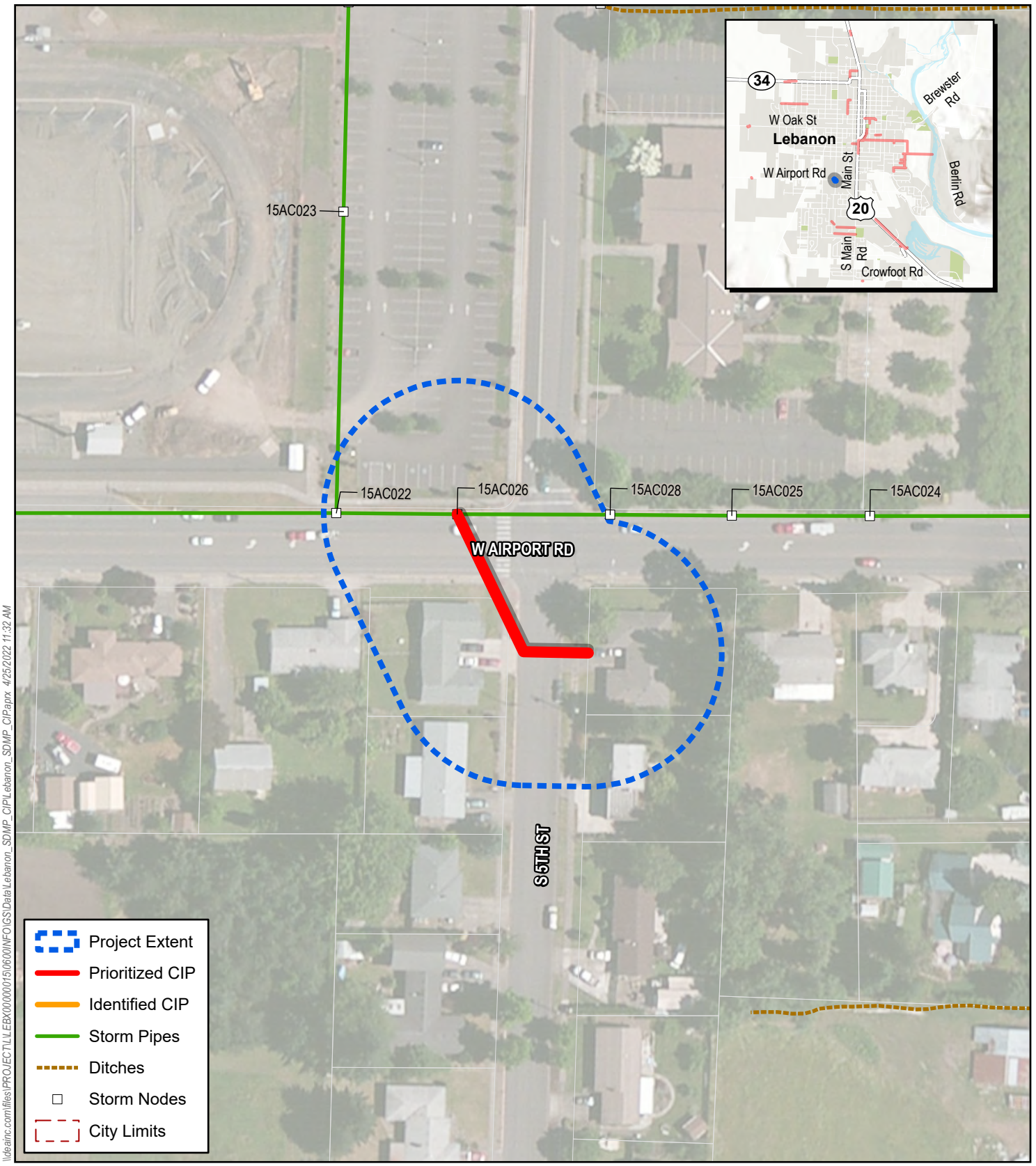
Future Project Operation and Maintenance Considerations

- Regularly inspect and maintain pipes
- Clean upstream inlets to clear blockage and debris

Project Costs and Considerations

The cost for this project includes the design and installation of 122 linear feet of 24" storm pipe. The Cost includes estimated engineering design and construction costs. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $44,225



Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	**5th St. and Airport Rd.**
Project ID No:	BC-034
Project Basin:	Burkhart Creek
Project Rank (Score):	20 (41)

N

0 100 200 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

Lebanon SDMP
Capital Improvement Plan (CIP)
Project Summary Sheet

Project Name:	**Cedar Dr.**
Project ID No:	BC-056
Project Basin:	Burkhart Creek Basin
Project Rank (Score):	21 (41)

Figure 21 – Project vicinity map

CIP Project Benefits

- Installs 1,345 linear feet of 24" storm pipe
- Middle range construction cost (between $200,000 and $700,000)
- Alleviates existing flooding for an area contributing greater than 5 acres
- Alleviates existing capacity limitation at 2-year storm event
- City identified stormwater issue area

CIP Project Summary

The existing conditions hydraulic model shows that there are system capacity limitations for the 2-year storm event within the project area. The existing street has no curb and gutter or defined roadside ditches to drain to. It appears that any existing roadway runoff drains to the front of the adjacent residential properties. Although this project did not score very high within the prioritization matrix due to its small drainage area and relatively high project cost. However, the City has identified this as a priority project because of the lack of existing drainage along this street and the drainage issues that this causes today.

The existing roadway is generally flat so a closed conveyance system would work best for capturing and conveying the stormwater downstream. This would include inlets to capture the runoff and then pipes and manholes to continue to convey the stormwater within the storm pipe. The project could also benefit from drainage curb to capture the flow and direct it to inlets. Additional design for the project would be needed to determine if the drainage curb is necessary, the cost for the curb is not included within the estimated design and construction cost.

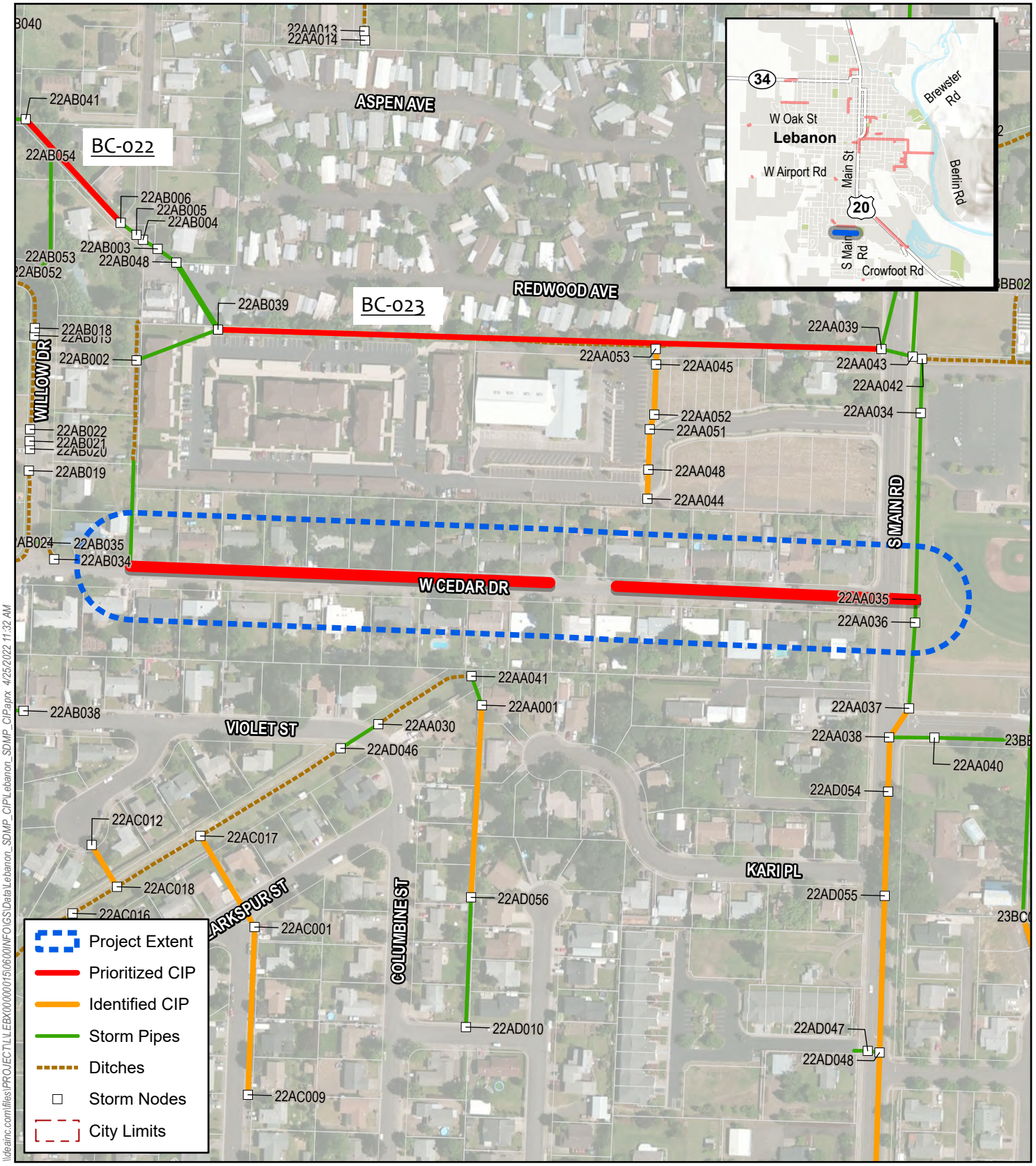
Future Project Operation and Maintenance Considerations

- Regularly inspect and maintain pipes
- Clean upstream inlets to clear blockage and debris

Project Costs and Considerations

The cost for this project includes the design and installation of 1,345 linear feet of 24" storm pipe and an estimated three manholes. The Cost includes estimated engineering design and construction costs. See Appendix D for additional detailed cost estimate information.

- Total Estimated Cost (Design and Construction): $509,313



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Lebanon SDMP Capital Improvement Plan (CIP) Projects

Project Name:	**Cedar Dr.**
Project ID No:	BC-056
Project Basin:	Burkhart Creek Basin
Project Rank (Score):	21 (41)

N

0 260 520 US Feet

DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

4.4 Funding Analysis and Implementation Strategy

4.4.1 Overview

The City of Lebanon is the sole provider of storm and surface water management services to customers within the City's urban services boundary. Revenues required to fund the delivery of these services are obtained from monthly user fees, which are set by the Lebanon City Council (the Council) via its home rule authority. This Section 4.4 addresses the revenues and revenue structure needed from rates to help fund and support CIP projects and future operation and maintenance costs.

The City's storm and surface water management program is organized as a municipal utility enterprise, as defined by Oregon Revised Statutes. Organizationally, the work of this utility is conducted through three City departments: Public Works, Engineering, and Finance. Public Works personnel are responsible for managing both the quantity and quality of stormwater runoff while ensuring there is adequate stormwater drainage capacity. Public Works personnel conduct these activities in a manner that is consistent with the City's goal of protecting local streams and habitat. Public Works staff are responsible for the operation and maintenance of 3,128 stormwater catch basins and manholes, and 111 miles of stormwater pipes and ditches, along with stormwater quality facilities and stormwater quantity ponds. All of these stormwater services are funded by the City's stormwater utility fee.

Public Works staff also coordinate with the City's capital planning and development program in the Engineering Department to ensure that development is constructed and maintained in compliance with the Clean Water Act, the Endangered Species Act, City Development Code, and related regulations. Finally, the Finance Department is responsible for utility billing, enterprise budgeting and accounting, and financial reporting.

4.4.2 Existing Program Revenues

As discussed above, the City's stormwater program is funded from rates and does not rely on property taxes or General Fund support. The current rate structure is "parcel-based" and does not have a connection or rational nexus to density of development. In other words, the current rate structure is based purely on the size of a parcel. This is not the usual approach to stormwater rate-making. Usual industry practice is to charge customers (i.e., property owners) based on the estimated and/or measured impervious surface of a parcel. The term "impervious surface" means any hard surface that prevents or hinders the absorption of water into the soil, or that causes reduced quality of runoff water, or causes water to runoff in greater quantities or at greater flow rates than the natural surface.

As of July 1, 2021, all single-family residential properties, both developed and undeveloped, within the city limits are charged stormwater fees of $3.66 per tax lot per month. All commercial, industrial, and multi-family properties, including duplexes and triplexes, within the city limits are charged differential rates, depending upon the size of the parcel and its development status. Table 4.1-1 below shows the City's current schedule of all stormwater rates.

Table 4.4-1 – City of Lebanon Current Schedule of Stormwater Rates

Customer Class	Parcel Development Status	
	Developed	Undeveloped
Single-family residential[1]	$ 3.66	$ 3.66
Small commercial, industrial, multi-family (1/4 acre and under)	$ 13.26	$ 3.99
Medium commercial, industrial, multi-family (between 1/4 & 1/2 acre)	$ 33.17	$ 5.30
Large commercial, industrial, multi-family (1/2 acre and over)	$ 72.95	$ 6.62

1 Senior Rate for Low Income Senior Citizens and Disabled: Senior and disabled citizens who qualify for the State of Oregon Low Income Energy Assistance Program will be entitled to a discount of 10% for residential service. To be eligible, applicants must present a copy of the State of Oregon approved income verification form to the Finance Department. Duration of eligibility is for 12 months from the date the application is approved and the application must be resubmitted annually. Discounts will begin for the billing received on or about the first of the month following presentation of the form at the Finance Department.

In accordance with the City's adopted fiscal 2021–2022 budget, the rates shown in Table 4.4-1 are expected to generate $498,000 in annual revenues. This is a modest sum for a utility serving a city the size of Lebanon. The master planning process for this SDMP also included a deeper analysis of the City's rate structure, and the results were shared with the City Council via a work session on July 28, 2021. The current rates were compared to a prototype rate structure based on impervious surface, and the following conclusions were shared with the Council:

- Large, highly developed parcels are charged less per estimated square foot of impervious surface than single-family residential, and small and medium commercial parcels, because the current rates are fixed by parcel size regardless of the density of development.
- The current rate differential for developed and undeveloped parcels in the commercial, industrial, and multi-family zones is not defined and is not related to a cost-of-service strategy.

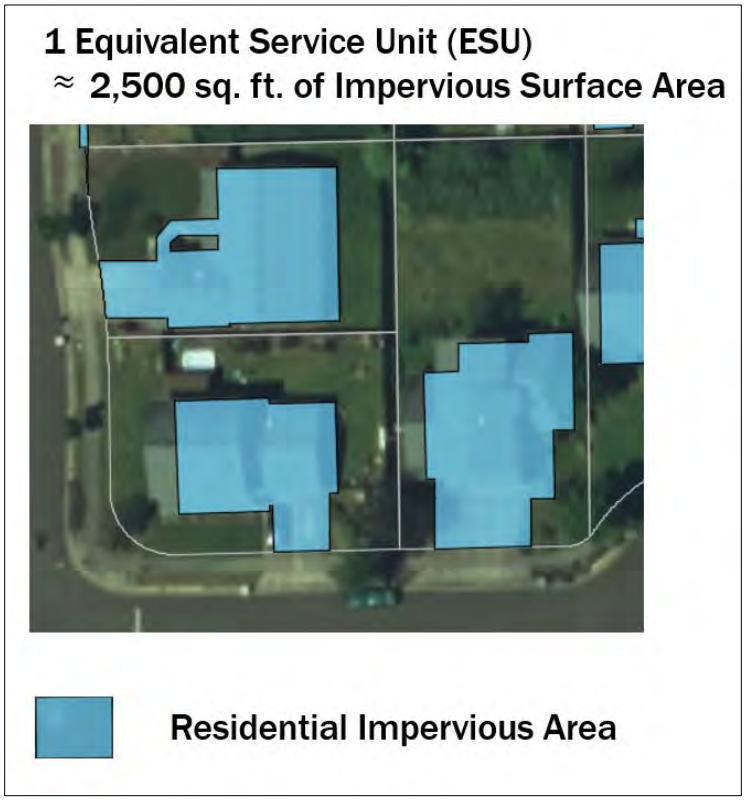
4.4.3 Proposed Structural Changes for Revenues

A basic rationale of a utility rate structure is to have those customers that receive service contribute to the costs to serve them through rates. We recommend the City consider revising its stormwater rate structure to follow this strategy. Specifically, service charges for stormwater management should be designed such that those who contribute to the stormwater problems (i.e., runoff from their properties due to impervious surface) should logically contribute to the costs of providing services. This approach is now regarded by most administrators and the courts as an appropriate technique for financing stormwater programs. A basic assumption in this proposed rate structure is that services will be billed on the basis of impervious surface. Under the proposed rate structure for the City, all developed properties would be billed on a rate based on the property's impervious square footage. For all single-family residential property owners, an average of square feet per parcel would be used, which equates to 1 Equivalent Service Unit (ESU). Non-residential property owners would be billed based on their measured impervious area divided by the ESU, which is then multiplied by the rate per ESU on a monthly basis.

Conversations with City staff indicate that the parcel-based impervious surface data is available within the City's GIS data, it is just a matter of gathering the data and relaying it to the City's existing utility billing system.

The process for calculating the ESU for the City would be as follows: The Public Works Department will perform an analysis of a statistically significant, randomly selected sample of single-family residential properties within the city limits utilizing the City's GIS data. Each property in the sample will be measured for total impervious surface based on assessor maps or aerial photographs, and an average square footage of impervious surface for the entire sample will be calculated. Figure 4.4-1 below shows a graphical rendering of this process.

Figure 4.4-1 – Equivalent Service Unit – Residential



Based on engineering experience, this sample average for the City is anticipated to be in the range of 2,500 square feet to 3,000 square feet of impervious surface. By way of comparison, listed below are the single-family residential parcel averages that are used by neighboring communities that use the impervious-surface-based rate structures for their stormwater utilities:

Albany..... 3,200 square feet

Corvallis ..... 2,750 square feet

Eugene..... 2,900 square feet

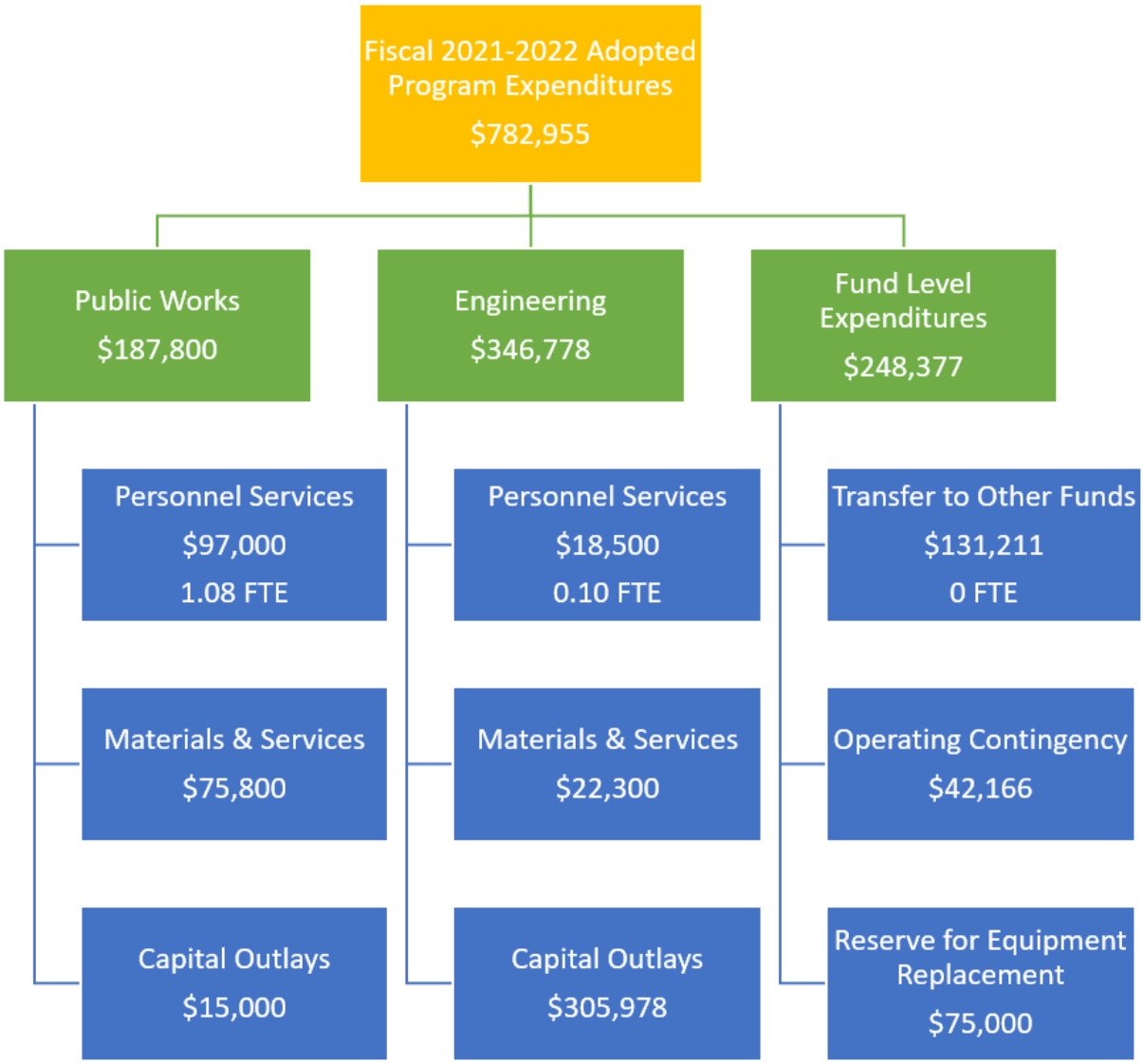
Salem ..... 3,000 square feet

Springfield ..... 3,000 square feet

4.4.4 Existing Program Cost Structure

The adopted fiscal 2021–2022 budget for the City's Storm Drain Utility Fund recognizes three principal cost centers: Public Works, Engineering, and Fund Level expenditures. For the 2021–2022 year, the total budgeted expenditures are $782,955 and are distributed to the cost centers, as shown below in Figure 4.4-2.

Figure 4.4-2 – Storm Drain Utility Fund Total Budget Expenditures (Fiscal 2021–2022)



This level of budgeted program expenditures is modest for a city with a service population of approximately 17,000, and it is fair to say the program delivers remedial maintenance services. This conclusion is reinforced by the fact the stormwater program only has 1.18 Full Time Equivalent (FTE) positions funded and assigned to it. With budgeted rate revenues of $498,000 and budgeted expenditures of $782,955, budgeted expenditures outstrip operating income, thereby drawing down reserves. The Storm Drain Utility Fund started the fiscal year with a cash reserve of $283,955. Table 4.4-2 provides a detailed breakdown of cash flows from the Storm Drain Utility Fund for the last two fiscal years, the estimated cash flows for fiscal year 2020–2021, and the budgeted cash flows for fiscal year 2021–2022.

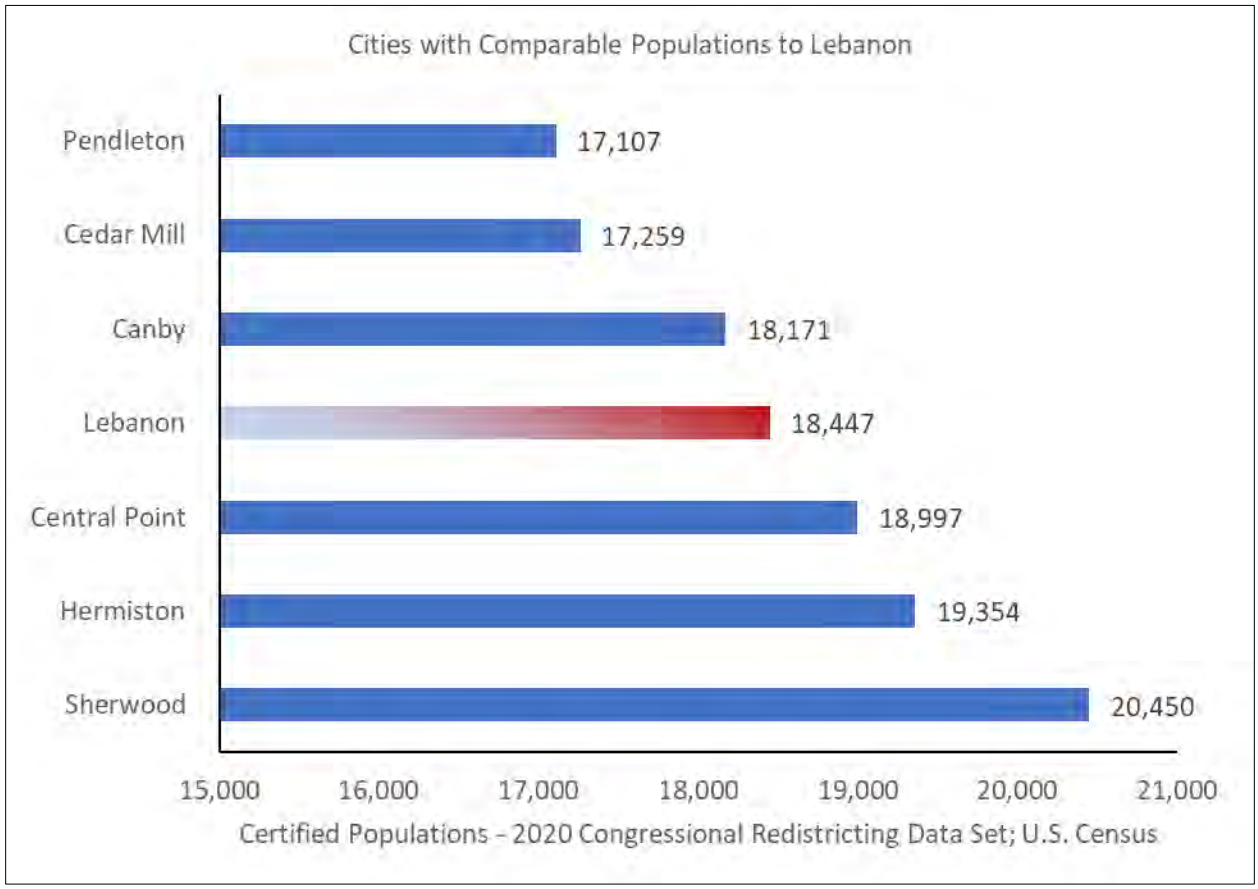
Table 4.4-2 – Storm Drain Utility Fund Cash Flows

	Actual		Estimated	Budget
	2019	2020	2021	2022
Sources of funds:				
Beginning fund balance	$ 461,206	$ 135,033	$ 270,722	$ 283,955
Operating revenues:				
Storm drain fees	484,518	504,218	483,000	498,000
Other financing sources:				
Federal grants	-	-	157	-
Contributions in aid of construction	-	-	-	-
Subtotal other financing sources	-	-	157	-
Miscellaneous revenues:				
Interest on investments	3,186	3,590	1,500	1,000
Miscellaneous revenues	-	-	500	-
Subtotal miscellaneous revenues	3,186	3,590	2,000	1,000
Transfers from other funds:				
System development charges fund 862	400,000	-	-	-
Equipment acquistion & replacement fund 82	-	120,985	-	-
Subtotal transfers from other funds	400,000	120,985	-	-
Total sources of funds	$ 1,348,910	$ 763,826	$ 755,879	$ 782,955
Uses of funds:				
Public works:				
Personnel services	-	-	128,200	97,000
Materials & services	65,015	63,071	84,600	75,800
Capital outlays	854,881	134,905	165,000	15,000
Subtotal public works	919,896	197,976	377,800	187,800
Engineering:				
Personnel services	-	-	-	18,500
Materials & services	-	-	-	22,300
Capital outlays	-	-	-	305,978
Subtotal public works	-	-	-	346,778
Fund level expenditures:				
Transfers to other funds	293,981	295,128	94,124	131,211
Operating contingency	-	-	-	42,166
Reserve for equipment replacement	-	-	-	75,000
Subtotal fund level expenditures	293,981	295,128	94,124	248,377
Ending fund balance:	135,033	270,722	283,955	-
Total uses of funds	$ 1,348,910	$ 763,826	$ 755,879	$ 782,955
Full time equivalent positions				
Public works	-	-	1.26	1.08
Engineering	-	-	-	0.10
Total	-	-	1.26	1.18

4.4.5 Lebanon's Stormwater Utility Compared to Communities with Similar Service Populations

According to the U.S. Census Bureau, the estimated 2020 permanent population of Lebanon was 18,447. From a funding perspective, the SDMP team analyzed the stormwater rate and funding strategies of other Oregon communities with similar service populations to draw out commonalities. Using the U.S. Census 2020 congressional redistricting population data set, the SDMP team selected six other communities in Oregon for this analysis—three with populations slightly below Lebanon's and three with populations slightly above. The graph in Figure 4.4-3 shows the service populations of Lebanon and these other six Oregon communities.

Figure 4.4-3 – Cities with Comparable Populations to Lebanon



The SDMP team captured the following data relative to storm and surface water management funding for each of the communities in the sample:

- Monthly dedicated stormwater rates
- Stormwater rate-making methodology
- Definition of the units of stormwater demand
- System Development Charges (SDCs), if applicable

Table 4.4-3 summarizes the data gathered for this comparative analysis.

Table 4.4-3 – Comparative Analysis

City	2020 Population	Monthly Stormwater Rates	Rate Methodology	Stormwater Unit of Demand Definition	System Development Charges
Sherwood	20,450	$ 17.49	Impervious Area	2,640 sq. ft.	$585 per ESU
Hermiston	19,354	$ 4.85	10% of total sewer bill	N/A	none
Central Point	18,997	$ 6.50	Impervious Area	3,000 sq. ft.	$514 per ESU
Lebanon	***18,447***	***$ 3.66***	***Land use designation***	***gross parcel size***	***$89 per 1,000 sq. ft. of Impervious Area***
Canby	18,171	$ 6.68	15% of total sewer bill	trip generation ELNDT*	$257 per ESU
Cedar Mill	17,259	$ 9.75	Impervious Area	2,640 sq. ft.	$585 per ESU
Pendleton	17,107	$ 4.43	50% of street maintenance fee	3/4" water meter	none

* ELNDT = Equivalent Length New Daily Trips

As shown in Table 4.4-3, the data on stormwater program funding for these seven similarly sized communities is mixed and provides limited comparability. One commonality that stands out is that all of the sample communities fund their stormwater programs from user fees (i.e., rates). However, there is very little commonality in rate methodologies across the communities. Only three of the seven use impervious surface as the basis for their respective fees. The dry-land communities of Hermiston and Pendleton fund stormwater programming from sewer rates and street maintenance fees, respectively. The Willamette Valley community of Canby also funds its stormwater programming from sewer bill receipts.

For those communities that use impervious surface as the basis of stormwater demand (i.e., Sherwood, Central Point, and Cedar Mill), the ESUs fall in a range of 2,640 square feet to 3,000 square feet, which is consistent with expectations and experience.

The key takeaway from this analysis is that comparable service populations have very little bearing on how stormwater programs are funded and how system revenue requirements are recovered from rates.

4.4.6 Conclusions and Recommendations

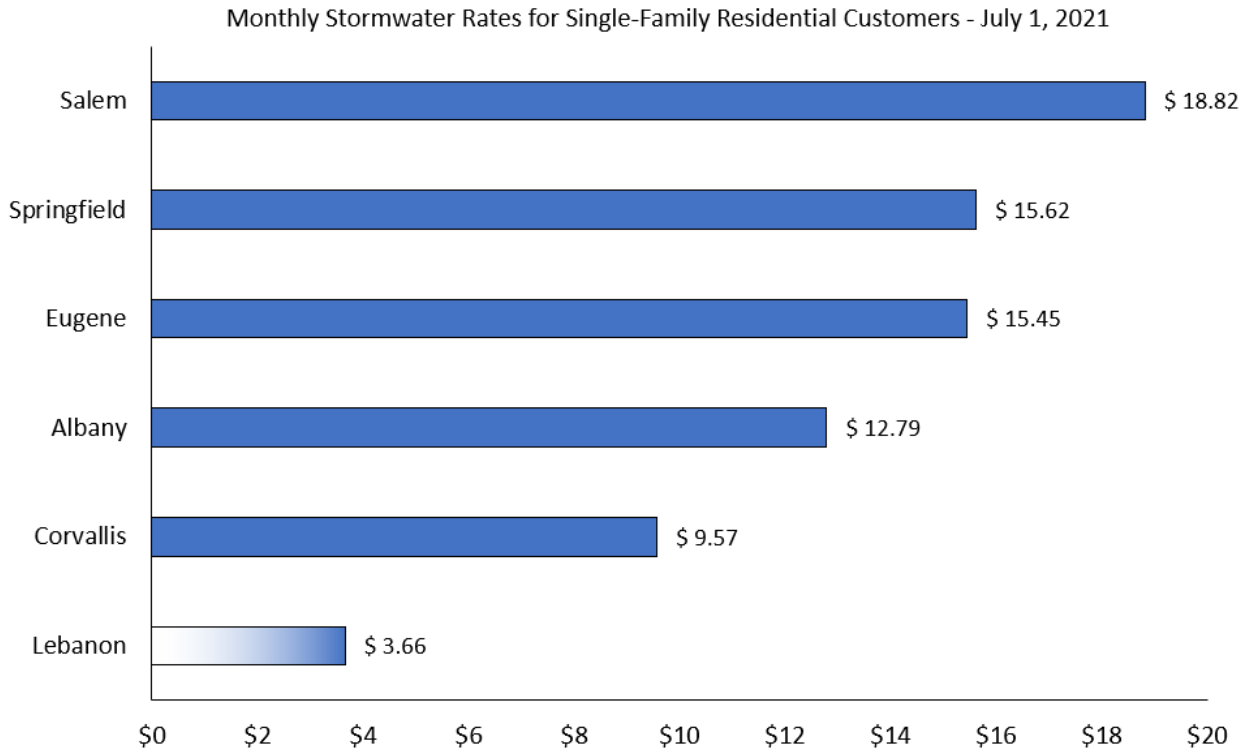
1. Revise the existing stormwater rate structure

The City's stormwater utility has a revenue recognition problem. It does not charge customers based on density of development, as expressed in the amount of impervious surface on a property that causes urban stormwater runoff. As this Chapter 4 discusses, the City can correct this problem by revising its stormwater rate structure to bill based on measured impervious surface. It is strongly recommended that the City take on this task before moving forward with the other program and structural recommendations in this SDMP.

2. Change the current level of rates

To move the City out of the current remedial maintenance mode and toward an enhanced maintenance and expansion mode, all stormwater rates will have to increase, including the City's current stormwater SDCs. The City currently charges $3.66 per month for a single-family residential customer (rates) and $215 in SDCs for a newly constructed home. Once the City completes the rate structure change recommended above, it will have to consider rate increases to fund the program revenue requirements that will result from increased levels of service. The City's current rates are very low compared to neighboring communities, as the graphic in Figure 4.4-4 clearly shows.

Figure 4.4-4 – Monthly Stormwater Rates in Neighboring Communities – Single-family Residential Customers



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Appendix A

Basin Delineation Maps

Overall

Detail Map 1

Detail Map 2

Detail Map 3

Detail Map 4

Canal

Santiam River

Marks Slough

Burkhart Creek

Little Oak Creek

Canal

Santiam River

Oak Creek

Cheadle Lake

Urban Growth Boundary (UGB)

City Limits

Watershed Basins

Burkhart Creek

Canal

Cheadle Lake

Marks Slough

Oak Creek

Little Oak Creek

Santiam River

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Appendix A-1 Drainage Basin Overview Map

Lebanon Storm Drainage Master Plan

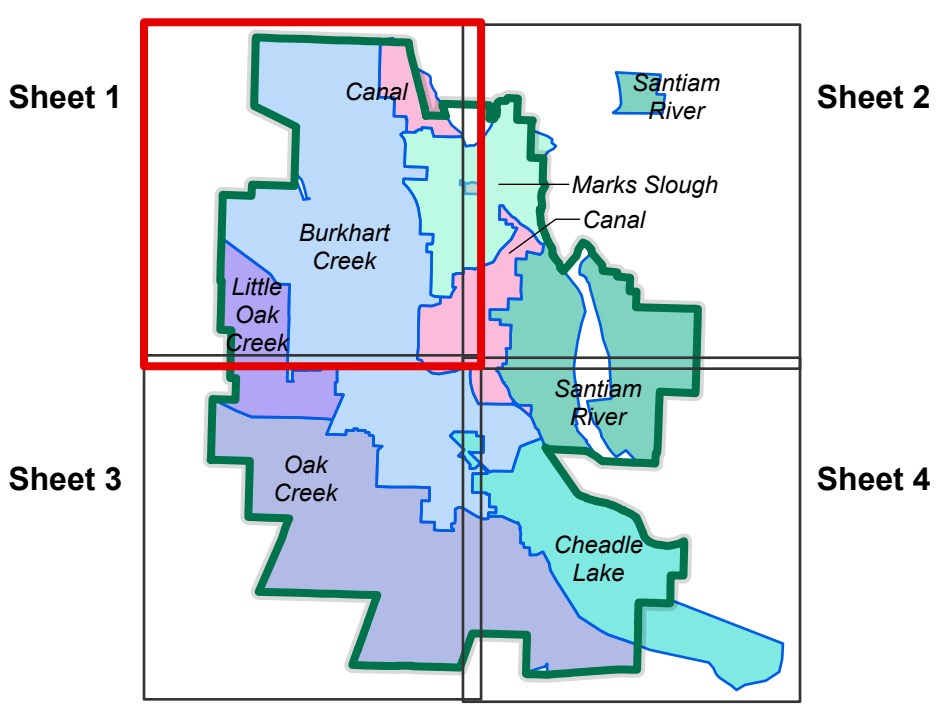
N

0 0.25 0.5 1 Miles

DAVID EVANS AND ASSOCIATES INC.

Lebanon

Urban Growth Boundary (UGB)
City Limits
Basin Boundary
Canal Subbasin
Burkhart Creek Subbasin
Cheadle Lake Subbasin
Marks Slough Subbasin
Santiam River Subbasin
Little Oak Creek Subbasin
Oak Creek Subbasin



Appendix A-2 Drainage Basin Detail Map

Lebanon Storm Drainage Master Plan

N

0 0.25 0.5 1 Miles

DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

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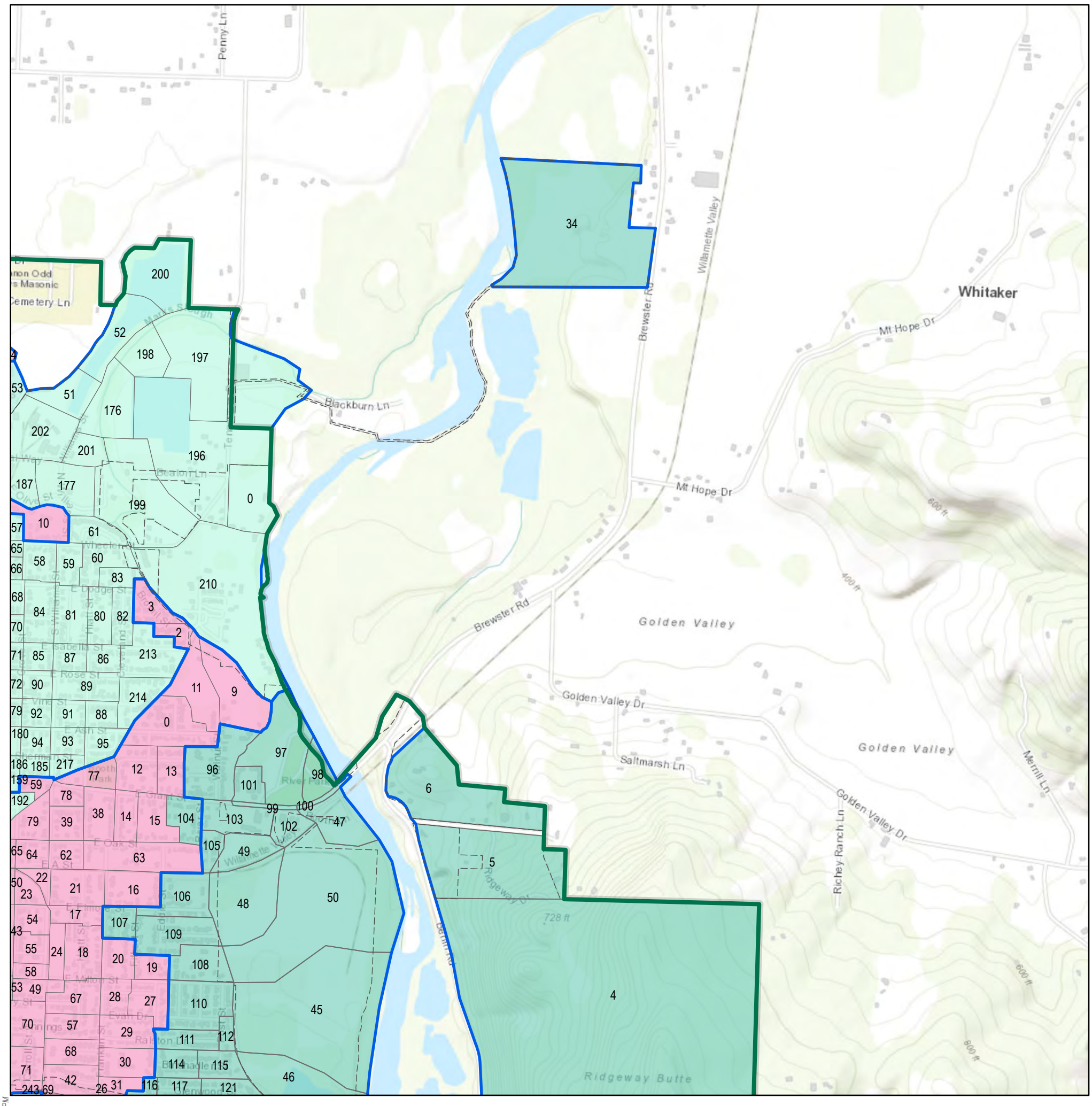
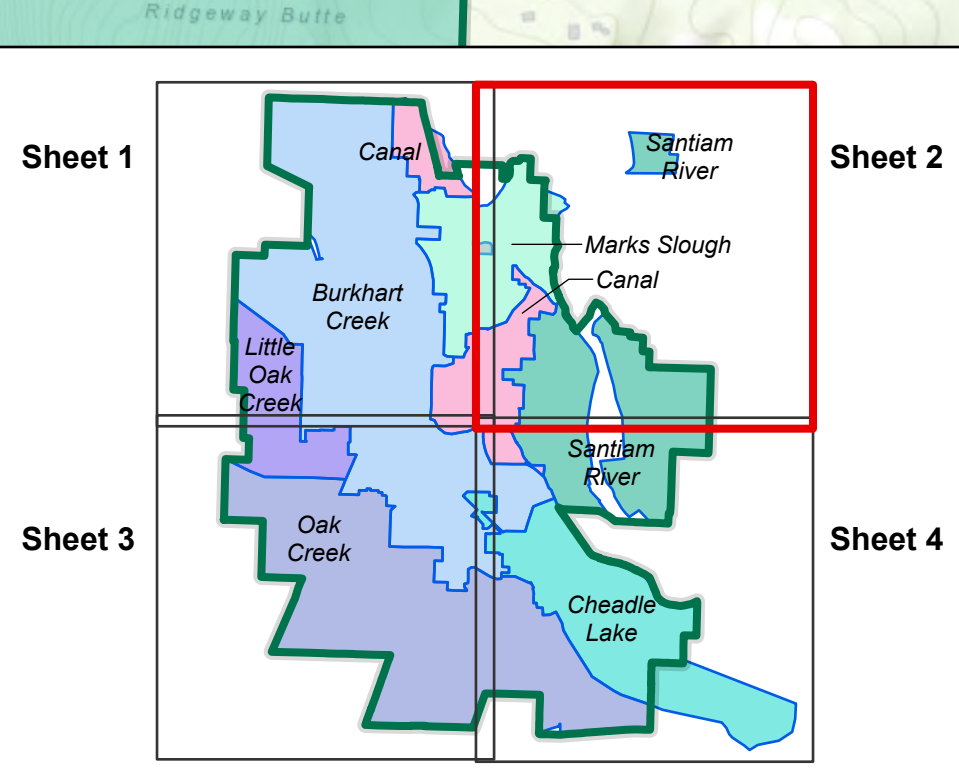


- Urban Growth Boundary (UGB)
- City Limits
- Basin Boundary
- Canal Subbasin
- Burkhart Creek Subbasin
- Cheadle Lake Subbasin
- Marks Slough Subbasin
- Santiam River Subbasin
- Little Oak Creek Subbasin
- Oak Creek Subbasin



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Appendix A-3 Drainage Basin Detail Map

Lebanon Storm Drainage Master Plan

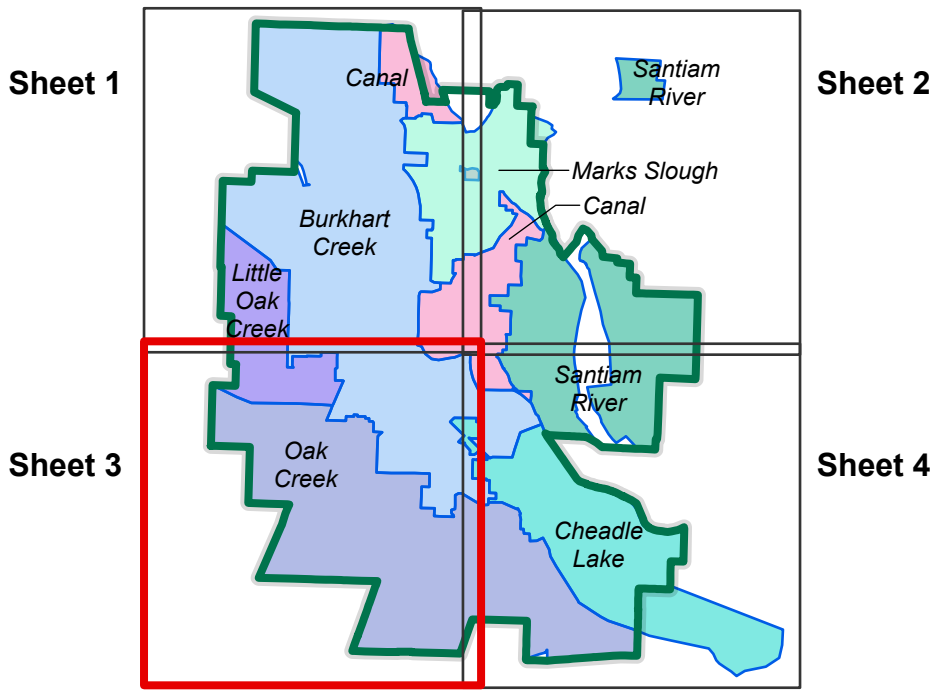
N

0 0.25 0.5 1 Miles

DAVID EVANS AND ASSOCIATES INC.

Lebanon

- Urban Growth Boundary (UGB)
- City Limits
- Basin Boundary
- Canal Subbasin
- Burkhart Creek Subbasin
- Cheadle Lake Subbasin
- Marks Slough Subbasin
- Santiam River Subbasin
- Little Oak Creek Subbasin
- Oak Creek Subbasin



Appendix A-4 Drainage Basin Detail Map

Lebanon Storm Drainage Master Plan

N

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DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

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- Urban Growth Boundary (UGB)
- City Limits
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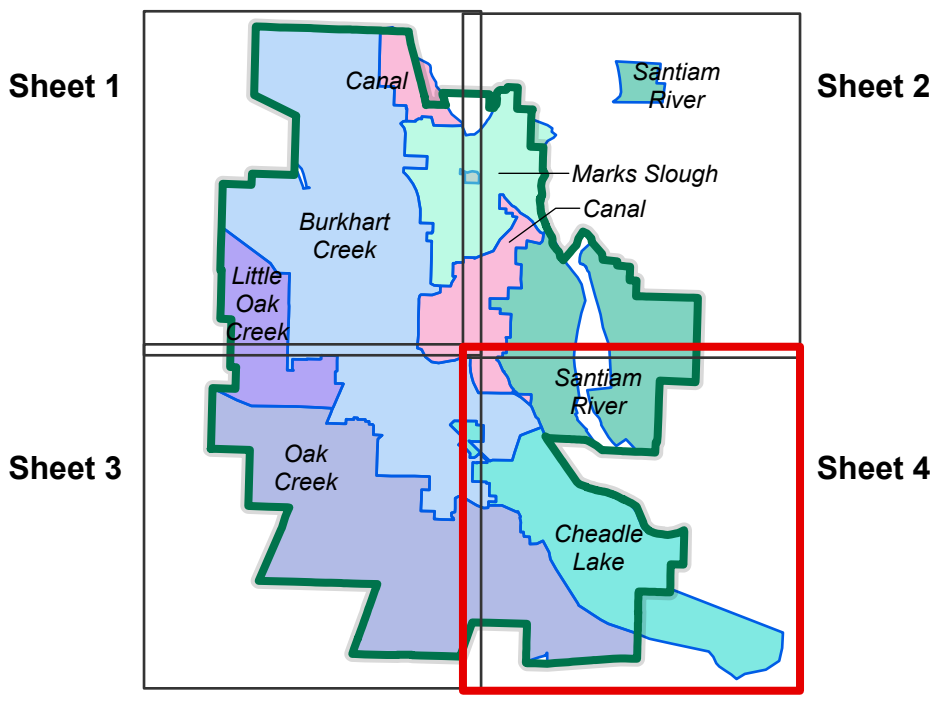
- Marks Slough Subbasin
- Santiam River Subbasin
- Little Oak Creek Subbasin
- Oak Creek Subbasin



Appendix A-5 Drainage Basin Detail Map

Lebanon Storm Drainage Master Plan

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DAVID EVANS AND ASSOCIATES INC.

Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

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Appendix B

Hydrologic Results Tables

Existing Conditions

Future Conditions

Hydrologic Results - Existing Conditions										
Burkhart Creek Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	10-year		25-year	
							Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
03BB005	BC	126	38.93	3.8	40	72.8	3.27	5.62	3.83	8.67
03BB012	BC	133	151.96	74.9	20	73.1	3.27	88.83	3.83	109.65
03BD002	BC	3	3.91	24.2	13	64.1	3.27	0.63	3.83	1.00
03BD006	BC	4	19.91	9.0	30	75.2	3.27	4.32	3.83	6.24
03BD010	BC	2	4.48	23.6	13	77.8	3.27	1.65	3.83	2.21
03CA016	BC	7	26.30	14.6	40	70.6	3.27	4.12	3.83	6.25
03CA020	BC	20	16.92	3.7	30	64.9	3.27	0.95	3.83	1.95
03CB001.0	BC	9	10.86	61.2	14	74.4	3.27	5.69	3.83	7.20
03CB001.1	BC	128	67.38	1.9	40	75.1	3.27	11.50	3.83	17.13
03CB001.3	BC	127	21.75	0.5	35	77.3	3.27	4.56	3.83	6.57
03CC004.1	BC	5	20.20	45.2	35	69.1	3.27	6.01	3.83	8.14
03CC006	BC	27	8.49	79.9	12	77.1	3.27	5.64	3.83	6.84
03CD006	BC	129	18.28	17.1	30	75	3.27	4.53	3.83	6.38
03CD026	BC	8	13.70	18.4	20	73.9	3.27	3.57	3.83	5.06
03DB003	BC	131	6.19	62.4	12	65.5	3.27	2.77	3.83	3.60
03DB013.0	BC	23	6.11	51.5	12	73	3.27	4.70	3.83	6.11
03DB013.0	BC	22	4.53	61.5	10	64.3	-	-	-	-
03DB013.1	BC	24	4.09	54.1	10	60.5	3.27	1.36	3.83	1.85
03DC006	BC	21	8.73	39.1	15	74	3.27	3.35	3.83	4.45
03DC007	BC	130	5.45	4.8	15	76.7	3.27	1.41	3.83	2.01
09AA012	BC	287	20.63	44.5	35	67.8	3.27	5.76	3.83	7.89
09AA017	BC	288	12.34	3.4	20	76.7	3.27	2.99	3.83	4.30
09AA018	BC	289	12.71	9.6	20	74.1	3.27	2.83	3.83	4.14
09AA019	BC	0	20.87	8.2	35	71.9	3.27	3.24	3.83	4.97
09AA022.1	BC	285	12.28	23.2	20	76.6	3.27	4.03	3.83	5.49
09AB017.1	BC	286	19.22	5.0	30	74.8	3.27	3.74	3.83	5.52
09BA002	BC	10	75.71	0.8	40	76.2	3.27	13.91	3.83	20.42
09DA016	BC	40	4.97	40.5	13	67.6	3.27	1.53	3.83	2.12
09DA017.0	BC	134	8.48	3.4	15	75.5	3.27	1.96	3.83	2.85
09DA018	BC	39	9.52	40.5	15	71.6	3.27	3.41	3.83	4.58
09DA020	BC	294	10.38	34.7	20	72.9	3.27	3.42	3.83	4.65
09DD004	BC	194	5.13	60.3	12	67.6	3.27	2.32	3.83	3.00
09DD005	BC	86	7.82	57.1	12	74.5	3.27	3.93	3.83	5.01
10AA004	BC	275	6.57	60.1	12	73.5	3.27	3.36	3.83	4.26
10AB004	BC	19	2.74	18.1	13	73.2	3.27	0.72	3.83	1.02
10AB005	BC	132	6.50	33.6	15	73.7	3.27	2.26	3.83	3.06
10AB007	BC	25	8.80	51.6	12	66.6	3.27	3.30	3.83	4.41
10AB016	BC	279	3.66	39.1	13	73.4	3.27	1.39	3.83	1.85
10AB017	BC	17	2.78	50.0	10	73.2	3.27	1.24	3.83	1.61
10AB018	BC	16	4.22	51.4	10	72.8	3.27	1.90	3.83	2.46
10AB019	BC	136	10.05	49.8	20	72.7	3.27	4.18	3.83	5.46
10AB021	BC	6	5.12	49.8	15	72.7	3.27	2.20	3.83	2.87
10AB055	BC	276	4.26	49.9	13	73.1	3.27	1.87	3.83	2.44
10AB056	BC	266	4.70	44.7	13	73.4	3.27	1.93	3.83	2.55
10AB064	BC	267	12.08	35.7	20	73.2	3.27	4.10	3.83	5.55
10AC001	BC	31	3.26	51.5	10	76.6	3.27	1.62	3.83	2.07
10AC015	BC	210	9.59	33.0	15	74.5	3.27	3.42	3.83	4.61
10AC017	BC	32	2.80	54.9	10	76.5	3.27	1.44	3.83	1.83
10AC019	BC	148	5.28	41.8	15	73.3	3.27	2.05	3.83	2.73
10AD024	BC	30	3.58	46.6	13	76.6	3.27	1.67	3.83	2.15
10AD031	BC	147	1.84	44.7	8	76.3	3.27	0.84	3.83	1.09
10AD032	BC	146	1.88	63.5	5	76	3.27	1.07	3.83	1.34
10BA001	BC	18	2.06	63.0	5	73.6	3.27	1.11	3.83	1.41
10BA029	BC	265	14.70	52.1	14	73.3	3.27	6.67	3.83	8.64
10BA040	BC	28	6.60	70.3	12	76.6	3.27	3.99	3.83	4.93
10BA051	BC	29	6.13	79.0	12	73.7	3.27	3.92	3.83	4.79
10BA053	BC	200	5.25	90.1	12	73.8	3.27	3.73	3.83	4.46
10BA054	BC	26	3.58	64.3	10	73.3	3.27	1.93	3.83	2.44
10BA069	BC	201	4.67	49.9	13	73.5	3.27	2.08	3.83	2.70
10BB012	BC	1	38.40	0.1	40	76.6	3.27	7.20	3.83	10.53
10BB024	BC	180	2.87	35.8	13	76.2	3.27	1.15	3.83	1.52
10BB026	BC	278	6.52	87.2	12	74.8	3.27	4.54	3.83	5.46

Hydrologic Results - Existing Conditions										
Burkhart Creek Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
							10-year		25-year	
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
10BB045	BC	182	8.41	20.0	15	77.1	3.27	2.82	3.83	3.83
10BB051	BC	277	9.92	59.7	12	73.3	3.27	5.02	3.83	6.39
10BC006	BC	290	6.10	28.5	15	76.2	3.27	2.20	3.83	2.96
10BC028	BC	293	5.30	45.5	15	76.3	3.27	2.40	3.83	3.10
10BC031	BC	199	2.76	53.1	10	76.6	3.27	1.40	3.83	1.78
10BC032	BC	284	2.92	43.2	13	76.2	3.27	1.29	3.83	1.68
10BC052	BC	34	2.72	49.2	13	77.1	3.27	1.33	3.83	1.70
10BC053	BC	181	2.69	47.6	13	77	3.27	1.28	3.83	1.65
10BC057	BC	35	5.89	45.5	15	76.5	3.27	2.68	3.83	3.47
10BC061	BC	41	8.90	45.7	15	76.8	3.27	4.09	3.83	5.29
10BD001	BC	33	5.51	52.9	12	75.2	3.27	2.68	3.83	3.43
10BD010	BC	179	3.45	45.4	13	77.1	3.27	1.61	3.83	2.08
10BD011	BC	273	3.75	45.7	13	77.3	3.27	1.77	3.83	2.27
10BD015	BC	264	5.32	46.2	15	76.6	3.27	2.45	3.83	3.16
10BD022	BC	11	3.78	62.9	10	75.2	3.27	2.08	3.83	2.61
10BD035	BC	274	4.88	40.9	13	77.3	3.27	2.17	3.83	2.83
10CA010	BC	178	9.56	45.7	15	76.6	3.27	4.37	3.83	5.65
10CA017	BC	51	9.02	44.3	15	76.8	3.27	4.08	3.83	5.29
10CA028	BC	272	12.68	47.8	20	76.2	3.27	5.69	3.83	7.35
10CA049	BC	177	7.69	48.2	15	76.9	3.27	3.65	3.83	4.69
10CB005	BC	176	12.27	37.4	20	76.5	3.27	4.87	3.83	6.42
10CB006	BC	36	8.47	43.1	15	69.5	3.27	2.93	3.83	3.97
10CB020	BC	291	5.68	52.2	12	76.4	3.27	2.82	3.83	3.60
10CB021	BC	292	6.02	57.2	12	76.4	3.27	3.16	3.83	4.00
10CB024	BC	38	3.79	41.2	13	71.4	3.27	1.38	3.83	1.85
10CC015	BC	296	3.27	35.3	13	65	3.27	0.79	3.83	1.14
10CC029	BC	198	4.05	46.1	13	76.6	3.27	1.88	3.83	2.42
10CC031	BC	83	1.87	46.2	8	77.6	3.27	0.91	3.83	1.16
10CC043	BC	135	17.21	33.3	30	69.2	3.27	4.21	3.83	5.96
10CC048	BC	85	3.69	51.1	10	70.7	3.27	1.56	3.83	2.04
10CC049	BC	192	3.09	56.3	10	78	3.27	1.67	3.83	2.11
10CC051	BC	193	4.31	75.6	10	77.7	3.27	2.79	3.83	3.40
10CC052	BC	175	6.64	54.9	12	76.5	3.27	3.41	3.83	4.32
10CC055	BC	295	3.35	57.5	10	76.4	3.27	1.78	3.83	2.24
10CC063	BC	37	2.91	33.4	13	76.9	3.27	1.17	3.83	1.54
10CC064	BC	84	3.93	37.5	13	74.7	3.27	1.53	3.83	2.03
10CC069	BC	297	5.57	2.8	15	72.3	3.27	0.95	3.83	1.48
10CD028	BC	52	2.38	44.7	8	76.7	3.27	1.10	3.83	1.43
10CD029	BC	157	2.46	43.8	8	76.6	3.27	3.23	3.83	4.13
10CD029	BC	139	4.09	57.0	10	75.4	-	-	-	-
10CD030	BC	61	8.85	23.8	15	76.7	3.27	3.06	3.83	4.14
10CD031	BC	158	5.88	67.2	12	76.7	3.27	4.21	3.83	5.30
10CD031	BC	53	2.04	30.2	8	75.8	-	-	-	-
10DA059	BC	43	1.89	46.7	8	76.7	3.27	0.90	3.83	1.16
10DA061	BC	209	3.05	79.3	10	75.7	3.27	2.00	3.83	2.44
10DA064	BC	46	1.47	87.9	5	76.5	3.27	1.05	3.83	1.26
10DA068	BC	42	3.87	57.7	10	76.7	3.27	2.07	3.83	2.61
10DA075	BC	271	2.08	39.4	8	76.6	3.27	0.90	3.83	1.18
10DA098	BC	48	1.53	91.0	5	75	3.27	2.22	3.83	2.64
10DA098	BC	47	1.46	97.2	5	72.9	-	-	-	-
10DA099	BC	45	1.42	89.3	5	76.3	3.27	1.02	3.83	1.23
10DB020	BC	268	2.92	47.7	13	76.4	3.27	1.37	3.83	1.77
10DB021	BC	269	3.35	46.7	13	76.1	3.27	4.04	3.83	5.14
10DB021	BC	137	4.62	59.6	10	76.6	-	-	-	-
10DB023	BC	253	3.39	40.4	13	75.5	3.27	1.41	3.83	1.85
10DB024	BC	270	4.61	83.2	10	75.9	3.27	3.14	3.83	3.79
10DB025	BC	138	5.49	51.8	12	75.9	3.27	2.68	3.83	3.43
10DB038	BC	44	1.54	63.8	5	77	3.27	0.89	3.83	1.11
10DB040	BC	50	6.28	45.1	15	76	3.27	2.80	3.83	3.63
10DB042	BC	149	2.67	47.0	13	75.9	3.27	1.23	3.83	1.58
10DB045	BC	150	5.95	41.2	15	75.6	3.27	2.49	3.83	3.26
10DC038	BC	171	2.36	40.8	8	75.5	3.27	1.00	3.83	1.31

Hydrologic Results - Existing Conditions										
Burkhart Creek Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	10-year		25-year	
							Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
10DC039	BC	170	3.33	54.4	10	76.3	3.27	1.70	3.83	2.16
10DC040	BC	152	2.34	81.6	5	76.7	3.27	1.59	3.83	1.92
10DC041	BC	164	2.36	41.9	8	76.1	3.27	1.04	3.83	1.35
10DC042	BC	165	3.32	49.4	13	76.5	3.27	1.60	3.83	2.05
10DC043	BC	162	3.34	48.9	13	76	3.27	1.57	3.83	2.03
10DC044	BC	161	2.95	56.8	10	76.4	3.27	1.55	3.83	1.96
10DC045	BC	169	2.92	43.5	13	76	3.27	1.29	3.83	1.68
10DC046	BC	166	2.92	45.7	13	76.4	3.27	1.34	3.83	1.73
10DC048	BC	163	2.27	57.5	5	76.4	3.27	1.22	3.83	1.54
10DC049	BC	153	5.97	56.0	12	76.2	3.27	5.01	3.83	6.33
10DC049	BC	62	3.51	64.0	10	74.8	-	-	-	-
10DD001	BC	263	3.39	48.1	13	75.8	3.27	1.57	3.83	2.03
10DD058	BC	160	3.34	58.0	10	76.3	3.27	1.78	3.83	2.24
10DD061	BC	154	2.81	46.6	13	76.6	3.27	1.31	3.83	1.69
10DD064	BC	167	3.53	48.4	13	76	3.27	1.65	3.83	2.13
10DD066	BC	155	2.74	51.2	10	76.7	3.27	1.36	3.83	1.74
10DD071	BC	49	1.62	63.4	5	76.6	3.27	0.93	3.83	1.16
10DD077	BC	168	3.19	47.4	13	76.9	3.27	1.51	3.83	1.95
10DD080	BC	151	3.21	67.4	10	76.7	3.27	1.90	3.83	2.36
14CA010	BC	215	8.64	57.3	12	76.6	3.27	4.56	3.83	5.76
14CA012	BC	211	18.72	23.7	30	73.4	3.27	4.74	3.83	6.66
14CA012.1	BC	14	10.65	5.7	20	73.1	3.27	2.01	3.83	3.04
14CA012.2	BC	212	15.68	0.4	30	75.9	3.27	3.06	3.83	4.51
14CB023	BC	254	3.26	48.3	13	76.4	3.27	1.54	3.83	1.98
14CB039	BC	114	3.65	29.0	13	75.2	3.27	1.28	3.83	1.73
14CB042.1	BC	243	5.95	81.0	12	73.8	3.27	3.89	3.83	4.73
14CB043	BC	112	5.20	36.2	15	75.7	3.27	2.04	3.83	2.71
14CB044	BC	113	5.00	13.6	13	72.7	3.27	1.16	3.83	1.69
14CB053	BC	12	2.15	11.6	8	75.8	3.27	0.61	3.83	0.85
14CB062	BC	245	2.09	51.1	5	76.8	3.27	1.06	3.83	1.35
14CC014	BC	237	4.54	53.5	10	76.4	3.27	2.30	3.83	2.93
14CC016	BC	108	2.60	92.4	10	71.5	3.27	1.88	3.83	2.25
14CC033	BC	110	5.17	94.9	12	72.3	3.27	3.80	3.83	4.52
14CC039	BC	144	4.28	90.7	10	76.8	3.27	3.10	3.83	3.70
14CD004	BC	216	3.45	34.5	13	76.4	3.27	1.37	3.83	1.82
14CD006	BC	183	4.65	34.5	13	76.4	3.27	1.85	3.83	2.45
14CD007	BC	214	16.41	9.5	30	78.3	3.27	4.45	3.83	6.18
14CD009	BC	13	5.25	21.2	15	75.9	3.27	1.68	3.83	2.30
14DB059	BC	213	12.07	13.8	20	73.6	3.27	2.82	3.83	4.08
14DC021	BC	15	5.76	31.3	15	73.7	3.27	1.93	3.83	2.63
15AA003	BC	261	5.43	43.0	15	76.4	3.27	2.39	3.83	3.11
15AA037	BC	174	3.22	29.2	13	76.4	3.27	1.20	3.83	1.60
15AA043	BC	190	3.46	43.4	13	75.7	3.27	1.51	3.83	1.97
15AB043	BC	262	2.37	40.8	8	76	3.27	1.02	3.83	1.34
15AB044	BC	172	3.35	43.9	13	76.3	3.27	1.50	3.83	1.95
15AB045	BC	173	2.90	52.9	10	76.3	3.27	1.46	3.83	1.86
15AB046	BC	191	7.20	57.8	12	76.4	3.27	3.81	3.83	4.81
15AB047	BC	188	3.55	45.1	13	76.5	3.27	1.62	3.83	2.10
15AB048	BC	189	3.02	49.6	13	75.8	3.27	1.43	3.83	1.84
15AB049	BC	187	3.92	44.2	13	76.8	3.27	1.79	3.83	2.31
15AB050	BC	208	6.53	43.3	15	76	3.27	2.84	3.83	3.71
15AB059	BC	203	2.71	10.7	13	75.1	3.27	0.70	3.83	1.00
15AB062	BC	207	2.34	69.4	5	76.2	3.27	1.42	3.83	1.75
15AB064	BC	121	1.99	93.1	5	75.5	3.27	1.47	3.83	1.75
15AB065	BC	56	2.87	45.4	13	77	3.27	1.34	3.83	1.72
15AC023	BC	206	5.76	17.9	15	77	3.27	1.86	3.83	2.55
15AC036	BC	120	6.17	1.1	15	76.9	3.27	1.53	3.83	2.20
15AC040	BC	186	12.40	76.9	14	75.9	3.27	7.87	3.83	9.62
15AC045	BC	122	1.94	86.2	5	76.5	3.27	1.37	3.83	1.64
15AC047	BC	141	6.81	18.4	15	76.3	3.27	2.13	3.83	2.94
15AC049	BC	202	6.87	10.4	15	77	3.27	1.99	3.83	2.78
15AC050	BC	119	3.43	75.5	10	74.1	3.27	2.13	3.83	2.62

Hydrologic Results - Existing Conditions										
Burkhart Creek Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	10-year		25-year	
							Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
15AC055	BC	72	2.19	25.0	8	76.4	3.27	0.78	3.83	1.05
15AC059	BC	185	2.15	60.2	5	77	3.27	1.20	3.83	1.51
15AC060	BC	260	3.21	16.8	13	76.2	3.27	0.99	3.83	1.37
15AD028	BC	115	2.93	78.3	10	75.3	3.27	1.90	3.83	2.32
15AD049	BC	257	4.60	80.4	10	74.8	3.27	3.03	3.83	3.68
15AD052	BC	244	6.71	81.2	12	74.2	3.27	4.40	3.83	5.36
15AD055	BC	251	2.59	86.6	10	76.7	3.27	1.82	3.83	2.19
15AD066	BC	258	3.43	64.2	10	74.2	3.27	1.88	3.83	2.36
15AD068	BC	259	3.95	57.3	10	75.5	3.27	2.05	3.83	2.60
15BA004	BC	159	8.70	24.1	15	76.5	3.27	2.99	3.83	4.05
15BA005	BC	58	5.55	19.3	15	76.3	3.27	1.76	3.83	2.42
15BA007	BC	156	2.98	48.3	13	75.7	3.27	1.38	3.83	1.78
15BA010	BC	283	4.16	17.2	13	77.9	3.27	1.42	3.83	1.92
15BA013	BC	73	3.10	31.7	13	76.6	3.27	1.20	3.83	1.60
15BA013.1	BC	74	4.89	38.2	13	76.2	3.27	2.03	3.83	2.67
15BA013.2	BC	184	6.44	44.9	15	76.1	3.27	2.87	3.83	3.73
15BA024	BC	300	2.23	39.1	8	75.8	3.27	0.94	3.83	1.23
15BA026	BC	57	2.56	19.2	13	74.4	3.27	0.74	3.83	1.03
15BA035	BC	282	6.64	38.8	15	75.5	3.27	2.68	3.83	3.54
15BA036	BC	66	3.55	43.3	13	73.4	3.27	1.43	3.83	1.89
15BA043	BC	63	3.06	32.3	13	76.1	3.27	1.17	3.83	1.56
15BA044	BC	301	3.30	6.9	13	76.4	3.27	0.88	3.83	1.25
15BA050	BC	64	2.14	21.1	8	76.6	3.27	0.73	3.83	0.99
15BB022	BC	79	2.86	28.5	13	76.5	3.27	1.06	3.83	1.42
15BB033	BC	65	1.75	78.6	5	76.2	3.27	1.16	3.83	1.40
15BB034	BC	88	5.79	10.7	15	73	3.27	1.27	3.83	1.87
15BB037	BC	82	4.95	46.7	13	76.2	3.27	2.28	3.83	2.95
15BB039	BC	80	6.44	43.8	15	76.6	3.27	2.88	3.83	3.73
15BB042	BC	81	2.94	9.4	13	77.1	3.27	0.85	3.83	1.19
15BB050	BC	67	5.53	29.2	15	76.3	3.27	2.02	3.83	2.71
15BC008	BC	77	2.17	22.8	8	75.7	3.27	0.72	3.83	0.99
15BC008.1	BC	78	2.87	62.7	10	75.1	3.27	1.57	3.83	1.98
15BD004	BC	75	1.53	25.1	8	74.3	3.27	0.49	3.83	0.68
15BD006	BC	303	2.44	26.4	8	76.2	3.27	0.88	3.83	1.18
15CA007	BC	89	5.82	15.4	15	71.7	3.27	1.28	3.83	1.89
15CA013	BC	68	4.04	25.7	13	73.3	3.27	1.22	3.83	1.70
15CA046	BC	281	4.26	27.2	13	73.1	3.27	1.31	3.83	1.81
15CA053	BC	97	4.21	23.0	13	73.2	3.27	1.21	3.83	1.69
15CA074	BC	304	3.16	33.1	13	73.4	3.27	1.09	3.83	1.48
15CA090	BC	140	2.14	30.1	8	77	3.27	0.84	3.83	1.11
15CA090.1	BC	76	3.72	11.4	13	77	3.27	1.11	3.83	1.54
15CA090.2	BC	302	4.81	17.3	13	77.9	3.27	1.64	3.83	2.23
15CA094	BC	197	3.45	53.3	10	76.1	3.27	1.73	3.83	2.21
15CC006	BC	60	3.22	38.8	13	73.8	3.27	1.23	3.83	1.64
15CC048	BC	101	4.27	6.0	13	72.6	3.27	0.83	3.83	1.25
15CD002	BC	96	4.12	29.3	13	72.7	3.27	1.29	3.83	1.78
15CD070	BC	100	5.01	57.1	12	73.6	3.27	2.47	3.83	3.15
15CD072	BC	90	2.22	16.1	8	70.9	3.27	0.49	3.83	0.72
15CD073	BC	93	0.83	24.7	8	72.6	3.27	0.24	3.83	0.34
15DA049	BC	118	4.83	63.1	10	76.9	3.27	2.74	3.83	3.43
15DA051	BC	248	2.88	10.9	13	76.9	3.27	0.85	3.83	1.18
15DA052	BC	250	6.19	49.7	15	76.1	3.27	2.93	3.83	3.76
15DA055	BC	242	5.66	50.2	12	76.3	3.27	2.74	3.83	3.51
15DA056	BC	117	4.77	83.0	10	76.4	3.27	3.25	3.83	3.93
15DA057	BC	238	6.85	76.1	12	76.4	3.27	4.37	3.83	5.34
15DA058	BC	241	13.94	45.0	20	76.3	3.27	6.06	3.83	7.87
15DA059	BC	240	5.51	67.5	12	75.8	3.27	3.20	3.83	3.98
15DA062	BC	256	3.15	86.2	10	75.1	3.27	2.19	3.83	2.64
15DA066	BC	255	2.96	87.1	10	76.6	3.27	2.09	3.83	2.51
15DA068	BC	247	5.65	30.7	15	76.3	3.27	2.11	3.83	2.82
15DA074	BC	249	0.89	83.1	5	76.9	3.27	0.61	3.83	0.74
15DB014	BC	252	10.27	42.7	20	76.8	3.27	4.41	3.83	5.74

Hydrologic Results - Existing Conditions										
Burkhart Creek Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
							10-year		25-year	
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
15DB031	BC	205	9.36	29.1	15	76.6	3.27	3.46	3.83	4.64
15DB032	BC	69	3.72	43.7	13	76	3.27	1.64	3.83	2.14
15DB040	BC	116	7.82	46.8	15	75.7	3.27	3.53	3.83	4.57
15DC015	BC	95	2.65	29.2	13	72	3.27	0.80	3.83	1.11
15DC023.1	BC	91	1.90	46.7	8	73.2	3.27	0.81	3.83	1.06
15DC033	BC	55	1.67	44.9	8	73.5	3.27	0.70	3.83	0.92
15DC039	BC	234	4.63	51.9	10	74.7	3.27	2.20	3.83	2.83
15DC040	BC	92	5.04	34.7	15	77.2	3.27	2.06	3.83	2.71
15DC047	BC	99	2.96	58.5	10	73.5	3.27	1.49	3.83	1.90
15DC048.1	BC	98	6.87	33.8	15	76.8	3.27	2.73	3.83	3.61
15DC048.2	BC	280	5.10	22.8	15	73.4	3.27	1.46	3.83	2.04
15DC048.3	BC	70	3.58	22.4	13	77.5	3.27	1.28	3.83	1.72
15DC048.4	BC	71	5.82	6.5	15	77.4	3.27	1.63	3.83	2.29
15DC059	BC	195	4.24	37.6	13	76	3.27	1.73	3.83	2.28
15DC062	BC	236	1.94	39.2	8	76.5	3.27	0.84	3.83	1.09
15DD057	BC	246	5.87	34.5	15	75.9	3.27	2.27	3.83	3.02
15DD058	BC	230	3.08	89.5	10	76.5	3.27	2.21	3.83	2.64
15DD059	BC	111	1.33	76.6	5	76	3.27	0.86	3.83	1.05
15DD060	BC	196	1.64	65.5	5	75.8	3.27	0.95	3.83	1.18
15DD062	BC	105	6.63	34.8	15	75.8	3.27	2.56	3.83	3.41
15DD063	BC	239	4.90	51.1	10	76.3	3.27	2.41	3.83	3.08
15DD064	BC	54	2.57	62.2	10	76.9	3.27	1.45	3.83	1.81
15DD066	BC	235	3.73	34.4	13	76.3	3.27	1.48	3.83	1.96
15DD068	BC	229	3.78	89.3	10	77	3.27	2.71	3.83	3.24
15DD087	BC	231	3.68	62.9	10	76.6	3.27	2.08	3.83	2.60
15DD093	BC	142	2.55	41.1	13	76.3	3.27	1.10	3.83	1.44
16AD037	BC	87	8.93	64.3	12	75.6	3.27	4.99	3.83	6.25
16AD056	BC	305	9.85	66.9	12	74.9	3.27	5.61	3.83	6.99
16AD056.1	BC	59	3.90	7.2	13	71.3	3.27	0.70	3.83	1.07
16AD056.2	BC	298	9.35	10.5	15	75.1	3.27	2.38	3.83	3.41
16AD056.3	BC	299	22.47	1.1	35	76.3	3.27	4.38	3.83	6.41
22AA003	BC	228	4.49	47.0	13	75.4	3.27	2.03	3.83	2.63
22AA036.1	BC	145	5.04	46.3	15	73.1	3.27	2.08	3.83	2.74
22AA038	BC	103	1.88	58.0	5	73.5	3.27	0.95	3.83	1.22
22AA044	BC	104	4.99	64.5	10	77	3.27	2.88	3.83	3.59
22AA053	BC	226	5.08	46.6	15	76	3.27	2.31	3.83	2.99
22AB002.1	BC	106	5.79	36.5	15	76.1	3.27	2.32	3.83	3.06
22AB022.3	BC	225	4.15	38.9	13	72.5	3.27	1.51	3.83	2.03
22AB037	BC	233	7.36	37.5	15	74.5	3.27	2.81	3.83	3.74
22AB039	BC	227	16.94	50.0	30	76.6	3.27	7.23	3.83	9.29
22AB040	BC	143	2.89	33.0	13	75.2	3.27	1.07	3.83	1.44
22AB043	BC	94	5.90	37.9	15	72.6	3.27	2.10	3.83	2.83
22AB052	BC	232	4.92	23.9	13	74	3.27	1.50	3.83	2.08
22AD047	BC	223	4.17	51.0	10	74.2	3.27	1.94	3.83	2.50
22AD055	BC	124	2.64	56.7	10	74	3.27	1.31	3.83	1.68
22AD064	BC	204	4.97	49.3	13	73.1	3.27	2.17	3.83	2.82
22DA076	BC	123	3.31	50.9	10	73.7	3.27	1.51	3.83	1.96
23BB003	BC	222	6.31	46.1	15	76.3	3.27	2.87	3.83	3.72
23BB026	BC	220	13.72	55.0	14	77.6	3.27	7.18	3.83	9.08
23BB027	BC	221	2.69	85.7	10	75.8	3.27	1.87	3.83	2.25
23BB028	BC	219	2.69	87.4	10	79	3.27	1.92	3.83	2.30
23BB033	BC	224	5.85	22.8	15	75.2	3.27	1.84	3.83	2.54
23BB036	BC	218	21.17	12.2	35	75.7	3.27	4.81	3.83	6.83
23BB040	BC	109	6.33	89.8	12	76.4	3.27	4.53	3.83	5.41
23BB041	BC	125	3.83	57.1	10	72.8	3.27	1.86	3.83	2.39
23BC001	BC	107	4.18	51.9	10	73.4	3.27	1.92	3.83	2.49
23BC017	BC	217	6.26	47.0	15	72.3	3.27	2.55	3.83	3.36
23BC020	BC	102	5.64	53.1	12	73.1	3.27	2.60	3.83	3.36

Hydrologic Results - Full Buildout Conditions										
Burkhart Creek Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
							10-year		25-year	
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
03BB005	BC-F	126	38.93	3.8	40	72.8	3.27	5.62	3.83	8.67
03BB012	BC-F	133	151.96	75.1	20	73.1	3.27	89.04	3.83	109.85
03BD002	BC-F	3	3.91	24.2	13	64.1	3.27	0.63	3.83	1.00
03BD006	BC-F	4	19.91	9.0	30	75.2	3.27	4.32	3.83	6.24
03BD010	BC-F	2	4.48	23.6	13	77.8	3.27	1.65	3.83	2.21
03CA016	BC-F	7	26.30	56.3	20	72.2	3.27	11.87	3.83	15.31
03CA020	BC-F	20	16.92	74.5	16	64.8	3.27	9.11	3.83	11.45
03CB001.0	BC-F	9	10.86	62.5	14	74.4	3.27	5.78	3.83	7.29
03CB001.1	BC-F	128	67.38	89.1	20	75.7	3.27	46.07	3.83	55.17
03CB001.3	BC-F	127	21.75	11.2	35	77.6	3.27	5.52	3.83	7.68
03CC004.1	BC-F	5	20.20	80.9	18	69.3	3.27	12.39	3.83	15.19
03CC006	BC-F	27	8.49	80.0	12	77.1	3.27	5.64	3.83	6.84
03CD006	BC-F	129	18.28	85.1	16	75.3	3.27	12.35	3.83	14.89
03CD026	BC-F	8	13.70	80.4	14	74.0	3.27	8.85	3.83	10.78
03DB003	BC-F	131	6.19	70.3	12	65.4	3.27	3.18	3.83	4.03
03DB013.0	BC-F	23	4.53	61.7	10	64.3	3.27	4.71	3.83	6.13
03DB013.0	BC-F	22	6.11	51.6	12	73.0	-	-	-	-
03DB013.1	BC-F	24	4.09	54.4	10	60.5	3.27	1.37	3.83	1.86
03DC006	BC-F	21	8.73	57.7	12	73.9	3.27	4.36	3.83	5.56
03DC007	BC-F	130	5.45	80.8	12	76.8	3.27	3.64	3.83	4.41
09AA012	BC-F	287	20.63	73.3	18	68.6	3.27	11.32	3.83	14.16
09AA017	BC-F	288	12.34	75.9	14	77.0	3.27	7.85	3.83	9.59
09AA018	BC-F	289	12.71	72.6	14	75.5	3.27	7.70	3.83	9.49
09AA019	BC-F	0	20.87	69.2	18	72.2	3.27	11.40	3.83	14.27
09AA022.1	BC-F	285	12.28	64.0	14	77.1	3.27	6.98	3.83	8.70
09AB017.1	BC-F	286	19.22	88.5	16	75.2	3.27	13.35	3.83	16.00
09BA002	BC-F	10	75.71	89.1	20	76.2	3.27	51.87	3.83	62.09
09DA016	BC-F	40	4.97	42.8	13	67.6	3.27	1.61	3.83	2.21
09DA017.0	BC-F	134	8.48	68.8	12	76.0	3.27	5.01	3.83	6.21
09DA018	BC-F	39	9.52	42.3	15	71.6	3.27	3.51	3.83	4.70
09DA020	BC-F	294	10.38	53.7	14	73.2	3.27	4.81	3.83	6.20
09DD004	BC-F	194	5.13	62.0	12	67.5	3.27	2.38	3.83	3.07
09DD005	BC-F	86	7.82	57.1	12	74.5	3.27	3.93	3.83	5.01
10AA004	BC-F	275	6.57	60.1	12	73.5	3.27	3.36	3.83	4.26
10AB004	BC-F	19	2.74	71.7	10	73.6	3.27	1.62	3.83	2.01
10AB005	BC-F	132	6.50	38.1	15	73.7	3.27	2.43	3.83	3.24
10AB007	BC-F	25	8.80	52.4	12	66.6	3.27	3.35	3.83	4.47
10AB016	BC-F	279	3.66	57.1	10	73.2	3.27	1.80	3.83	2.30
10AB017	BC-F	17	2.78	69.8	10	73.3	3.27	1.61	3.83	2.00
10AB018	BC-F	16	4.22	51.4	10	72.8	3.27	1.90	3.83	2.46
10AB019	BC-F	136	10.05	53.0	14	72.7	3.27	4.55	3.83	5.89
10AB021	BC-F	6	5.12	50.0	15	72.7	3.27	2.21	3.83	2.88
10AB055	BC-F	276	4.26	52.2	10	73.0	3.27	1.95	3.83	2.52
10AB056	BC-F	266	4.70	44.7	13	73.4	3.27	1.93	3.83	2.55
10AB064	BC-F	267	12.08	37.0	20	73.2	3.27	4.18	3.83	5.65
10AC001	BC-F	31	3.26	51.5	10	76.6	3.27	1.62	3.83	2.07
10AC015	BC-F	210	9.59	51.7	12	75.2	3.27	4.59	3.83	5.89
10AC017	BC-F	32	2.80	54.9	10	76.5	3.27	1.44	3.83	1.83
10AC019	BC-F	148	5.28	41.8	15	73.3	3.27	2.05	3.83	2.73
10AD024	BC-F	30	3.58	46.6	13	76.8	3.27	1.68	3.83	2.16
10AD031	BC-F	147	1.84	44.7	8	76.3	3.27	0.84	3.83	1.09
10AD032	BC-F	146	1.88	63.5	5	76.0	3.27	1.07	3.83	1.34
10BA001	BC-F	18	2.06	84.2	5	74.0	3.27	1.41	3.83	1.70
10BA029	BC-F	265	14.70	55.2	14	73.3	3.27	6.96	3.83	8.95
10BA041	BC-F	28	6.60	70.3	12	76.6	3.27	3.99	3.83	4.93
10BA051	BC-F	29	6.13	85.2	12	73.5	3.27	4.16	3.83	5.03
10BA053	BC-F	200	5.25	90.1	12	73.8	3.27	3.73	3.83	4.46
10BA054	BC-F	26	3.58	65.4	10	73.2	3.27	1.96	3.83	2.46
10BA069	BC-F	201	4.67	84.1	10	73.8	3.27	3.16	3.83	3.83
10BB012	BC-F	1	38.40	87.3	20	76.6	3.27	25.99	3.83	31.19
10BB024	BC-F	180	2.87	78.9	10	76.8	3.27	1.89	3.83	2.30
10BB026	BC-F	278	6.52	89.2	12	74.7	3.27	4.61	3.83	5.53

Hydrologic Results - Full Buildout Conditions										
Burkhart Creek Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
							10-year		25-year	
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
10BB045	BC-F	182	8.41	73.0	12	76.8	3.27	5.23	3.83	6.43
10BB051	BC-F	277	9.92	62.9	12	73.3	3.27	5.23	3.83	6.61
10BC006	BC-F	290	6.10	33.2	15	76.3	3.27	2.36	3.83	3.13
10BC028	BC-F	293	5.30	45.5	15	76.3	3.27	2.40	3.83	3.10
10BC031	BC-F	199	2.76	53.1	10	76.6	3.27	1.40	3.83	1.78
10BC032	BC-F	284	2.92	48.3	13	76.3	3.27	1.38	3.83	1.77
10BC052	BC-F	34	2.72	49.2	13	77.1	3.27	1.33	3.83	1.70
10BC053	BC-F	181	2.69	47.6	13	77.0	3.27	1.28	3.83	1.65
10BC057	BC-F	35	5.89	45.5	15	76.5	3.27	2.68	3.83	3.47
10BC061	BC-F	41	8.90	51.9	12	76.7	3.27	4.44	3.83	5.66
10BD001	BC-F	33	5.51	52.9	12	75.2	3.27	2.68	3.83	3.43
10BD010	BC-F	179	3.45	45.4	13	77.1	3.27	1.61	3.83	2.08
10BD011	BC-F	273	3.75	45.7	13	77.3	3.27	1.77	3.83	2.27
10BD015	BC-F	264	5.32	46.2	15	76.6	3.27	2.45	3.83	3.16
10BD022	BC-F	11	3.78	62.9	10	75.2	3.27	2.08	3.83	2.61
10BD035	BC-F	274	4.88	40.9	13	77.3	3.27	2.17	3.83	2.83
10CA010	BC-F	178	9.56	45.7	15	76.6	3.27	4.37	3.83	5.65
10CA017	BC-F	51	9.02	46.9	15	76.8	3.27	4.21	3.83	5.42
10CA028	BC-F	272	12.68	47.8	20	76.2	3.27	5.69	3.83	7.35
10CA049	BC-F	177	7.69	48.2	15	76.9	3.27	3.65	3.83	4.69
10CB005	BC-F	176	12.27	37.4	20	76.5	3.27	4.87	3.83	6.42
10CB006	BC-F	36	8.47	43.1	15	69.5	3.27	2.93	3.83	3.97
10CB020	BC-F	291	5.68	57.3	12	76.3	3.27	2.98	3.83	3.77
10CB021	BC-F	292	6.02	57.2	12	76.4	3.27	3.16	3.83	4.00
10CB024	BC-F	38	3.79	41.2	13	71.4	3.27	1.38	3.83	1.85
10CC015	BC-F	296	3.27	36.5	13	65.0	3.27	0.82	3.83	1.17
10CC029	BC-F	198	4.05	46.1	13	76.6	3.27	1.88	3.83	2.42
10CC031	BC-F	83	1.87	46.2	8	77.6	3.27	0.91	3.83	1.16
10CC043	BC-F	135	17.21	59.0	16	68.8	3.27	7.67	3.83	9.95
10CC048	BC-F	85	3.69	51.4	10	70.7	3.27	1.56	3.83	2.05
10CC049	BC-F	192	3.09	56.3	10	78.0	3.27	1.67	3.83	2.11
10CC051	BC-F	193	4.31	75.6	10	77.7	3.27	2.79	3.83	3.40
10CC052	BC-F	175	6.64	54.9	12	76.5	3.27	3.41	3.83	4.32
10CC055	BC-F	295	3.35	57.5	10	76.4	3.27	1.78	3.83	2.24
10CC063	BC-F	37	2.91	47.0	13	76.9	3.27	1.38	3.83	1.77
10CC064	BC-F	84	3.93	37.5	13	74.7	3.27	1.53	3.83	2.03
10CC069	BC-F	297	5.57	78.6	12	74.6	3.27	3.58	3.83	4.37
10CD028	BC-F	52	2.38	63.1	5	76.6	3.27	1.36	3.83	1.70
10CD029	BC-F	139	4.09	57.1	10	75.4	3.27	3.30	3.83	4.21
10CD029	BC-F	157	2.46	48.7	8	76.6	-	-	-	-
10CD030	BC-F	61	8.85	58.2	12	76.6	3.27	4.72	3.83	5.95
10CD031	BC-F	53	2.04	43.8	8	75.8	3.27	4.43	3.83	5.54
10CD031	BC-F	158	5.88	69.3	12	76.7	-	-	-	-
10DA059	BC-F	43	1.89	46.7	8	76.7	3.27	0.90	3.83	1.16
10DA061	BC-F	209	3.05	79.3	10	75.7	3.27	2.00	3.83	2.44
10DA064	BC-F	46	1.47	87.9	5	76.5	3.27	1.05	3.83	1.26
10DA068	BC-F	42	3.87	57.7	10	76.7	3.27	2.07	3.83	2.61
10DA075	BC-F	271	2.08	59.2	5	76.6	3.27	1.14	3.83	1.44
10DA098	BC-F	48	1.53	91.0	5	75.0	3.27	2.22	3.83	2.64
10DA098	BC-F	47	1.46	97.2	5	72.9	-	-	-	-
10DA099	BC-F	45	1.42	89.3	5	76.3	3.27	1.02	3.83	1.23
10DB020	BC-F	268	2.92	47.7	13	76.4	3.27	1.37	3.83	1.77
10DB021	BC-F	137	4.62	71.2	10	76.5	3.27	4.35	3.83	5.46
10DB021	BC-F	269	3.35	46.7	13	76.1	-	-	-	-
10DB023	BC-F	253	3.39	40.4	13	75.5	3.27	1.41	3.83	1.85
10DB024	BC-F	270	4.61	83.5	10	75.9	3.27	3.15	3.83	3.80
10DB025	BC-F	138	5.49	51.8	12	75.9	3.27	2.68	3.83	3.43
10DB038	BC-F	44	1.54	75.5	5	77.0	3.27	1.00	3.83	1.22
10DB040	BC-F	50	6.28	45.1	15	76.0	3.27	2.80	3.83	3.63
10DB042	BC-F	149	2.67	47.0	13	75.9	3.27	1.23	3.83	1.58
10DB045	BC-F	150	5.95	42.7	15	75.6	3.27	2.54	3.83	3.32
10DC038	BC-F	171	2.36	40.8	8	75.5	3.27	1.00	3.83	1.31

Hydrologic Results - Full Buildout Conditions										
Burkhart Creek Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
							10-year		25-year	
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
10DC039	BC-F	170	3.33	54.4	10	76.3	3.27	1.70	3.83	2.16
10DC040	BC-F	152	2.34	81.6	5	76.7	3.27	1.59	3.83	1.92
10DC041	BC-F	164	2.36	42.2	8	76.1	3.27	1.04	3.83	1.36
10DC042	BC-F	165	3.32	49.4	13	76.5	3.27	1.60	3.83	2.05
10DC043	BC-F	162	3.34	48.9	13	76.0	3.27	1.57	3.83	2.03
10DC044	BC-F	161	2.95	56.8	10	76.4	3.27	1.55	3.83	1.96
10DC045	BC-F	169	2.92	43.5	13	76.0	3.27	1.29	3.83	1.68
10DC046	BC-F	166	2.92	45.7	13	76.4	3.27	1.34	3.83	1.73
10DC048	BC-F	163	2.27	57.5	5	76.4	3.27	1.22	3.83	1.54
10DC049	BC-F	62	3.51	64.0	10	74.8	3.27	5.01	3.83	6.33
10DC049	BC-F	153	5.97	56.0	12	76.2	-	-	-	-
10DD001	BC-F	263	3.39	48.1	13	75.8	3.27	1.57	3.83	2.03
10DD058	BC-F	160	3.34	58.0	10	76.3	3.27	1.78	3.83	2.24
10DD061	BC-F	154	2.81	46.6	13	76.6	3.27	1.31	3.83	1.69
10DD064	BC-F	167	3.53	48.4	13	76.0	3.27	1.65	3.83	2.13
10DD066	BC-F	155	2.74	51.2	10	76.7	3.27	1.36	3.83	1.74
10DD071	BC-F	49	1.62	63.4	5	76.6	3.27	0.93	3.83	1.16
10DD077	BC-F	168	3.19	47.4	13	76.9	3.27	1.51	3.83	1.95
10DD080	BC-F	151	3.21	67.4	10	76.7	3.27	1.90	3.83	2.36
14CA010	BC-F	215	8.64	58.9	12	76.6	3.27	4.64	3.83	5.85
14CA012	BC-F	211	18.72	35.4	30	73.4	3.27	5.81	3.83	7.88
14CA012.1	BC-F	14	10.65	75.3	14	74.7	3.27	6.57	3.83	8.07
14CA012.2	BC-F	212	15.68	81.6	16	76.0	3.27	10.32	3.83	12.51
14CB023	BC-F	254	3.26	48.3	13	76.4	3.27	1.54	3.83	1.98
14CB039	BC-F	114	3.65	72.0	10	75.2	3.27	2.22	3.83	2.74
14CB042.1	BC-F	243	5.95	81.0	12	73.8	3.27	3.89	3.83	4.73
14CB043	BC-F	112	5.20	79.6	12	76.7	3.27	3.43	3.83	4.17
14CB044	BC-F	113	5.00	13.6	13	72.7	3.27	1.16	3.83	1.69
14CB053	BC-F	12	2.15	24.3	8	75.9	3.27	0.74	3.83	1.00
14CB062	BC-F	245	2.09	51.1	5	76.8	3.27	1.06	3.83	1.35
14CC014	BC-F	237	4.54	53.5	10	76.0	3.27	2.28	3.83	2.90
14CC016	BC-F	108	2.60	92.4	10	71.5	3.27	1.88	3.83	2.25
14CC033	BC-F	110	5.17	94.9	12	72.3	3.27	3.80	3.83	4.52
14CC039	BC-F	144	4.28	90.7	10	76.8	3.27	3.10	3.83	3.70
14CD004	BC-F	216	3.45	39.9	13	76.4	3.27	1.47	3.83	1.93
14CD006	BC-F	183	4.65	34.9	13	76.4	3.27	1.86	3.83	2.46
14CD009	BC-F	13	5.25	50.5	12	76.4	3.27	2.56	3.83	3.27
14CD009.4	BC-F	214	16.41	76.3	16	78.4	3.27	10.54	3.83	12.83
14DB059	BC-F	213	12.07	44.3	20	73.8	3.27	4.79	3.83	6.31
14DC021	BC-F	15	5.76	31.5	15	73.7	3.27	1.94	3.83	2.64
15AA003	BC-F	261	5.43	43.0	15	76.4	3.27	2.39	3.83	3.11
15AA037	BC-F	174	3.22	29.2	13	76.4	3.27	1.20	3.83	1.60
15AA043	BC-F	190	3.46	43.4	13	75.7	3.27	1.51	3.83	1.97
15AB043	BC-F	262	2.37	41.2	8	76.0	3.27	1.03	3.83	1.34
15AB044	BC-F	172	3.35	43.9	13	76.3	3.27	1.50	3.83	1.95
15AB045	BC-F	173	2.90	52.9	10	76.3	3.27	1.46	3.83	1.86
15AB046	BC-F	191	7.20	61.5	12	76.4	3.27	3.96	3.83	4.97
15AB047	BC-F	188	3.55	45.1	13	76.5	3.27	1.62	3.83	2.10
15AB048	BC-F	189	3.02	49.6	13	75.8	3.27	1.43	3.83	1.84
15AB049	BC-F	187	3.92	51.7	10	76.7	3.27	1.96	3.83	2.50
15AB050	BC-F	208	6.53	43.3	15	76.0	3.27	2.84	3.83	3.71
15AB059	BC-F	203	2.71	44.0	13	75.5	3.27	1.18	3.83	1.54
15AB062	BC-F	207	2.34	69.2	5	76.2	3.27	1.41	3.83	1.75
15AB064	BC-F	121	1.99	93.1	5	75.5	3.27	1.47	3.83	1.75
15AB065	BC-F	56	2.87	45.4	13	76.3	3.27	1.31	3.83	1.69
15AC023	BC-F	206	5.76	17.9	15	77.0	3.27	1.86	3.83	2.55
15AC036	BC-F	120	6.17	1.1	15	76.9	3.27	1.53	3.83	2.20
15AC040	BC-F	186	12.40	76.9	14	75.9	3.27	7.87	3.83	9.62
15AC045	BC-F	122	1.94	86.2	5	76.5	3.27	1.37	3.83	1.64
15AC047	BC-F	141	6.81	18.4	15	76.3	3.27	2.13	3.83	2.94
15AC049	BC-F	202	6.87	10.4	15	77.0	3.27	1.99	3.83	2.78
15AC050	BC-F	119	3.43	75.5	10	74.1	3.27	2.13	3.83	2.62

Hydrologic Results - Full Buildout Conditions										
Burkhart Creek Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
							10-year		25-year	
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
15AC055	BC-F	72	2.19	25.0	8	76.4	3.27	0.78	3.83	1.05
15AC059	BC-F	185	2.15	60.2	5	77.0	3.27	1.20	3.83	1.51
15AC060	BC-F	260	3.21	16.9	13	76.2	3.27	0.99	3.83	1.37
15AD028	BC-F	115	2.93	78.3	10	75.3	3.27	1.90	3.83	2.32
15AD049	BC-F	257	4.60	80.4	10	74.8	3.27	3.03	3.83	3.68
15AD052	BC-F	244	6.71	81.2	12	74.2	3.27	4.40	3.83	5.36
15AD055	BC-F	251	2.59	86.6	10	76.7	3.27	1.82	3.83	2.19
15AD066	BC-F	258	3.43	64.2	10	74.2	3.27	1.88	3.83	2.36
15AD068	BC-F	259	3.95	57.3	10	75.5	3.27	2.05	3.83	2.60
15BA004	BC-F	159	8.70	53.9	12	76.6	3.27	4.42	3.83	5.62
15BA005	BC-F	58	5.55	65.5	12	76.9	3.27	3.21	3.83	4.00
15BA007	BC-F	156	2.98	48.3	13	75.7	3.27	1.38	3.83	1.78
15BA010	BC-F	283	4.16	50.3	10	78.0	3.27	2.12	3.83	2.70
15BA013	BC-F	73	3.10	38.4	13	76.5	3.27	1.30	3.83	1.71
15BA013.1	BC-F	74	4.89	38.5	13	76.2	3.27	2.04	3.83	2.68
15BA013.2	BC-F	184	6.44	44.9	15	76.1	3.27	2.87	3.83	3.73
15BA024	BC-F	300	2.23	39.1	8	75.8	3.27	0.94	3.83	1.23
15BA026	BC-F	57	2.56	19.2	13	74.4	3.27	0.74	3.83	1.03
15BA035	BC-F	282	6.64	39.1	15	75.5	3.27	2.69	3.83	3.55
15BA036	BC-F	66	3.55	56.1	10	74.1	3.27	1.76	3.83	2.25
15BA043	BC-F	63	3.06	32.3	13	76.1	3.27	1.17	3.83	1.56
15BA044	BC-F	301	3.30	57.8	10	76.9	3.27	1.77	3.83	2.24
15BA050	BC-F	64	2.14	21.1	8	76.6	3.27	0.73	3.83	0.99
15BB022	BC-F	79	2.86	28.5	13	76.5	3.27	1.06	3.83	1.42
15BB033	BC-F	65	1.75	80.3	5	76.1	3.27	1.17	3.83	1.42
15BB034	BC-F	88	5.79	78.8	12	74.9	3.27	3.73	3.83	4.56
15BB037	BC-F	82	4.95	46.7	13	76.2	3.27	2.28	3.83	2.95
15BB039	BC-F	80	6.44	44.1	15	76.6	3.27	2.89	3.83	3.75
15BB042	BC-F	81	2.94	39.4	13	76.6	3.27	1.26	3.83	1.64
15BB050	BC-F	67	5.53	39.2	15	76.3	3.27	2.31	3.83	3.03
15BC008	BC-F	77	2.17	43.9	8	75.6	3.27	0.96	3.83	1.25
15BC008.1	BC-F	78	2.87	62.7	10	75.1	3.27	1.57	3.83	1.98
15BD004	BC-F	75	1.53	44.8	8	74.3	3.27	0.66	3.83	0.86
15BD006	BC-F	303	2.44	46.7	8	76.1	3.27	1.14	3.83	1.47
15CA007	BC-F	89	5.82	62.9	12	73.8	3.27	3.10	3.83	3.91
15CA013	BC-F	68	4.04	41.1	13	73.3	3.27	1.57	3.83	2.09
15CA046	BC-F	281	4.26	51.4	10	73.4	3.27	1.94	3.83	2.52
15CA053	BC-F	97	4.21	23.0	13	73.2	3.27	1.21	3.83	1.69
15CA074	BC-F	304	3.16	39.1	13	73.4	3.27	1.20	3.83	1.60
15CA090	BC-F	140	2.14	52.1	5	76.8	3.27	1.09	3.83	1.39
15CA090.1	BC-F	76	3.72	70.0	10	77.1	3.27	2.27	3.83	2.80
15CA090.2	BC-F	302	4.81	71.5	10	78.0	3.27	3.01	3.83	3.70
15CA094	BC-F	197	3.45	53.3	10	76.1	3.27	1.73	3.83	2.21
15CC006	BC-F	60	3.22	38.8	13	73.8	3.27	1.23	3.83	1.64
15CC048	BC-F	101	4.27	64.4	10	73.6	3.27	2.32	3.83	2.92
15CD002	BC-F	96	4.12	37.2	13	72.6	3.27	1.47	3.83	1.98
15CD070	BC-F	100	5.01	57.4	12	73.6	3.27	2.48	3.83	3.16
15CD072	BC-F	90	2.22	68.1	5	72.8	3.27	1.26	3.83	1.58
15CD073	BC-F	93	0.83	24.7	8	72.6	3.27	0.24	3.83	0.34
15DA049	BC-F	118	4.83	63.1	10	76.9	3.27	2.74	3.83	3.43
15DA051	BC-F	248	2.88	75.3	10	76.9	3.27	1.84	3.83	2.25
15DA052	BC-F	250	6.19	49.7	15	76.1	3.27	2.93	3.83	3.76
15DA055	BC-F	242	5.66	50.2	12	76.3	3.27	2.74	3.83	3.51
15DA056	BC-F	117	4.77	83.0	10	76.4	3.27	3.25	3.83	3.93
15DA057	BC-F	238	6.85	80.6	12	76.5	3.27	4.55	3.83	5.52
15DA058	BC-F	241	13.94	45.0	20	76.3	3.27	6.06	3.83	7.87
15DA059	BC-F	240	5.51	67.5	12	75.8	3.27	3.20	3.83	3.98
15DA062	BC-F	256	3.15	86.2	10	75.1	3.27	2.19	3.83	2.64
15DA066	BC-F	255	2.96	87.8	10	76.6	3.27	2.10	3.83	2.52
15DA068	BC-F	247	5.65	47.8	15	76.4	3.27	2.63	3.83	3.39
15DA074	BC-F	249	0.89	83.1	5	76.9	3.27	0.61	3.83	0.74
15DB014	BC-F	252	10.27	42.7	20	76.8	3.27	4.41	3.83	5.74

Hydrologic Results - Full Buildout Conditions										
Burkhart Creek Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
							10-year		25-year	
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
15DB031	BC-F	205	9.36	29.1	15	76.6	3.27	3.46	3.83	4.64
15DB032	BC-F	69	3.72	43.7	13	76.0	3.27	1.64	3.83	2.14
15DB040	BC-F	116	7.82	46.8	15	75.7	3.27	3.53	3.83	4.57
15DC015	BC-F	95	2.65	29.2	13	72.0	3.27	0.80	3.83	1.11
15DC023.1	BC-F	91	1.90	46.7	8	74.0	3.27	0.83	3.83	1.09
15DC033	BC-F	55	1.67	44.9	8	73.5	3.27	0.70	3.83	0.92
15DC039	BC-F	234	4.63	51.9	10	74.7	3.27	2.20	3.83	2.83
15DC040	BC-F	92	5.04	34.7	15	77.2	3.27	2.06	3.83	2.71
15DC047	BC-F	99	2.96	58.5	10	73.5	3.27	1.49	3.83	1.90
15DC048.1	BC-F	98	6.87	44.9	15	76.9	3.27	3.14	3.83	4.06
15DC048.2	BC-F	280	5.10	35.6	15	73.4	3.27	1.81	3.83	2.44
15DC048.3	BC-F	70	3.58	30.3	13	77.5	3.27	1.41	3.83	1.87
15DC048.4	BC-F	71	5.82	59.2	12	77.4	3.27	3.19	3.83	4.00
15DC059	BC-F	195	4.24	42.7	13	76.2	3.27	1.86	3.83	2.42
15DC062	BC-F	236	1.94	39.2	8	76.5	3.27	0.84	3.83	1.09
15DD057	BC-F	246	5.87	50.3	12	76.2	3.27	2.84	3.83	3.64
15DD058	BC-F	230	3.08	89.5	10	76.5	3.27	2.21	3.83	2.64
15DD059	BC-F	111	1.33	76.6	5	76.0	3.27	0.86	3.83	1.05
15DD060	BC-F	196	1.64	65.5	5	75.8	3.27	0.95	3.83	1.18
15DD062	BC-F	105	6.63	34.8	15	75.8	3.27	2.56	3.83	3.41
15DD063	BC-F	239	4.90	51.1	10	76.3	3.27	2.41	3.83	3.08
15DD064	BC-F	54	2.57	62.2	10	76.9	3.27	1.45	3.83	1.81
15DD066	BC-F	235	3.73	43.5	13	76.3	3.27	1.66	3.83	2.16
15DD068	BC-F	229	3.78	89.3	10	77.0	3.27	2.71	3.83	3.24
15DD087	BC-F	231	3.68	62.9	10	76.6	3.27	2.08	3.83	2.60
15DD093	BC-F	142	2.55	41.1	13	76.3	3.27	1.10	3.83	1.44
16AD037	BC-F	87	8.93	70.8	12	75.5	3.27	5.35	3.83	6.61
16AD056	BC-F	305	9.85	81.5	12	74.8	3.27	6.51	3.83	7.91
16AD056.1	BC-F	59	3.90	78.7	10	74.1	3.27	2.51	3.83	3.06
16AD056.2	BC-F	298	9.35	79.3	12	76.6	3.27	6.15	3.83	7.47
16AD056.3	BC-F	299	22.47	76.3	18	76.1	3.27	13.96	3.83	17.07
22AA003	BC-F	228	4.49	47.0	13	75.4	3.27	2.03	3.83	2.63
22AA036	BC-F	145	5.04	46.4	15	73.1	3.27	2.09	3.83	2.74
22AA038	BC-F	103	1.88	58.0	5	73.5	3.27	0.95	3.83	1.22
22AA044	BC-F	104	4.99	64.5	10	77.0	3.27	2.88	3.83	3.59
22AA053	BC-F	226	5.08	60.3	12	75.8	3.27	2.73	3.83	3.44
22AB002.1	BC-F	106	5.79	36.5	15	76.1	3.27	2.32	3.83	3.06
22AB002.2	BC-F	225	4.15	38.9	13	72.5	3.27	1.51	3.83	2.03
22AB037	BC-F	233	7.36	37.5	15	74.5	3.27	2.81	3.83	3.74
22AB039	BC-F	227	16.94	50.0	30	76.6	3.27	7.23	3.83	9.29
22AB040	BC-F	143	2.89	33.0	13	75.2	3.27	1.07	3.83	1.44
22AB043	BC-F	94	5.90	39.0	15	72.6	3.27	2.14	3.83	2.87
22AB052	BC-F	232	4.92	27.1	13	74.1	3.27	1.59	3.83	2.18
22AD047	BC-F	223	4.17	61.8	10	74.2	3.27	2.22	3.83	2.80
22AD055	BC-F	124	2.64	56.7	10	74.0	3.27	1.31	3.83	1.68
22AD064	BC-F	204	4.97	49.4	13	73.1	3.27	2.17	3.83	2.83
22DA076	BC-F	123	3.31	51.4	10	73.7	3.27	1.52	3.83	1.97
23BB003	BC-F	222	6.31	46.1	15	76.3	3.27	2.87	3.83	3.72
23BB026	BC-F	220	13.72	66.1	14	77.6	3.27	8.03	3.83	9.96
23BB027	BC-F	221	2.69	85.7	10	75.8	3.27	1.87	3.83	2.25
23BB028	BC-F	219	2.69	86.1	10	79.1	3.27	1.91	3.83	2.29
23BB033	BC-F	224	5.85	22.8	15	75.2	3.27	1.84	3.83	2.54
23BB036	BC-F	218	21.17	55.2	18	75.1	3.27	10.25	3.83	13.10
23BB040	BC-F	109	6.33	89.8	12	76.4	3.27	4.53	3.83	5.41
23BB041	BC-F	125	3.83	57.1	10	72.8	3.27	1.86	3.83	2.39
23BC001	BC-F	107	4.18	51.9	10	73.4	3.27	1.92	3.83	2.49
23BC017	BC-F	217	6.26	50.4	12	72.2	3.27	2.71	3.83	3.54
23BC020	BC-F	102	5.64	53.1	12	73.1	3.27	2.60	3.83	3.36

Hydrologic Results - Existing Conditions										
Oak Creek Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	10-year		25-year	
							Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
09DC014	OC	33	12.56	51.7	14	74.0	3.27	5.78	3.83	7.46
09DC019	OC	31	43.66	4.1	40	77.6	3.27	9.49	3.83	13.49
09DC032	OC	28	16.86	35.6	30	74.6	3.27	5.52	3.83	7.42
15BC014	OC	83	5.36	17.8	15	75.7	3.27	1.61	3.83	2.23
15BC015	OC	75	8.11	32.0	15	75.0	3.27	2.91	3.83	3.92
15CA078.1	OC	41	4.29	39.6	13	72.8	3.27	1.60	3.83	2.14
15CA087	OC	71	5.51	60.9	12	72.9	3.27	2.81	3.83	3.57
15CB003	OC	42	3.52	18.3	13	72.9	3.27	0.91	3.83	1.30
15CB005	OC	43	4.88	52.7	10	73.7	3.27	2.29	3.83	2.95
15CB049	OC	68	3.62	59.3	10	73.6	3.27	1.84	3.83	2.35
15CB058	OC	122	2.84	56.5	10	73.4	3.27	1.39	3.83	1.78
15CB083	OC	123	7.90	8.8	15	72.5	3.27	1.60	3.83	2.39
15CB093	OC	70	2.34	52.2	5	73.7	3.27	1.11	3.83	1.43
15CB099	OC	40	2.65	7.3	13	73.9	3.27	0.59	3.83	0.87
15CB110	OC	38	3.02	26.6	13	73.4	3.27	0.93	3.83	1.29
15CC045	OC	85	2.27	56.6	5	73.4	3.27	1.13	3.83	1.44
15CD058	OC	76	5.96	40.6	15	73.1	3.27	2.26	3.83	3.01
15CD059	OC	86	2.69	58.5	10	73.7	3.27	1.36	3.83	1.73
15CD063	OC	45	2.88	63.8	10	73.8	3.27	1.56	3.83	1.96
15CD064	OC	48	3.48	52.1	10	72.8	3.27	1.58	3.83	2.05
15CD065	OC	46	3.02	51.9	10	73.3	3.27	1.38	3.83	1.79
15CD066	OC	84	2.03	48.8	8	72.9	3.27	0.89	3.83	1.16
15CD071	OC	97	3.69	53.0	10	73.4	3.27	1.72	3.83	2.22
15CD087	OC	44	2.05	44.7	8	73.1	3.27	2.72	3.83	3.56
15CD087	OC	110	4.24	51.6	10	72.2	-	-	-	-
16AA037.1	OC	32	107.92	0.7	40	75.6	3.27	18.79	3.83	27.87
16AA038	OC	30	47.42	7.0	40	75.2	3.27	9.03	3.83	13.16
16AD042	OC	69	4.98	82.7	10	73.4	3.27	3.32	3.83	4.03
16AD054	OC	29	2.79	86.7	10	73.8	3.27	1.94	3.83	2.33
16DA006	OC	34	71.95	17.0	40	75.3	3.27	16.53	3.83	23.26
16DA013	OC	82	4.00	42.4	13	71.9	3.27	1.51	3.83	2.02
16DA030	OC	39	6.54	62.4	12	73.8	3.27	3.46	3.83	4.37
22AA001	OC	37	5.33	44.8	15	73.3	3.27	2.17	3.83	2.86
22AB031	OC	50	3.77	51.9	10	74.5	3.27	1.78	3.83	2.30
22AB038	OC	51	3.85	52.8	10	75.5	3.27	1.89	3.83	2.42
22AB049	OC	49	4.09	50.9	10	73.0	3.27	1.83	3.83	2.38
22AC009	OC	118	9.01	42.9	15	76.8	3.27	4.01	3.83	5.21
22AC011	OC	117	8.87	46.2	15	75.3	3.27	3.92	3.83	5.10
22AC012	OC	61	5.12	47.7	15	73.2	3.27	2.17	3.83	2.84
22AC016	OC	26	4.96	3.8	13	79.0	3.27	1.51	3.83	2.09
22AC021	OC	6	3.42	55.7	10	75.2	3.27	1.73	3.83	2.20
22AC024	OC	78	6.71	60.1	12	77.9	3.27	3.75	3.83	4.69
22AC030	OC	119	8.94	49.9	15	74.6	3.27	4.06	3.83	5.26
22AD042	OC	23	5.07	54.9	12	76.4	3.27	2.60	3.83	3.30
22AD056	OC	115	2.51	44.2	13	75.7	3.27	1.11	3.83	1.44
22BA023	OC	113	7.43	48.5	15	72.4	3.27	3.10	3.83	4.07
22BA031	OC	125	6.07	23.5	15	74.4	3.27	1.85	3.83	2.57
22BA046	OC	101	7.57	41.1	15	73.2	3.27	2.90	3.83	3.86
22BA048	OC	124	6.73	50.0	12	73.4	3.27	3.00	3.83	3.89
22BA049	OC	114	2.77	47.6	13	73.0	3.27	1.17	3.83	1.54
22BA051	OC	126	6.42	47.5	15	75.1	3.27	2.87	3.83	3.72
22BA054	OC	99	3.98	57.4	10	77.3	3.27	2.15	3.83	2.71
22BA060	OC	112	3.99	50.2	10	77.9	3.27	2.03	3.83	2.58
22BA061	OC	111	3.62	48.3	13	74.8	3.27	1.64	3.83	2.12
22BB009	OC	87	9.49	12.7	15	73.1	3.27	2.19	3.83	3.19
22BB027	OC	47	2.99	15.2	13	73.3	3.27	0.75	3.83	1.07
22BC006	OC	5	141.05	3.1	40	70.1	3.27	15.00	3.83	24.89
22BC011	OC	100	1.46	60.9	5	73.1	3.27	0.76	3.83	0.97
22BC015	OC	58	13.07	1.7	20	74.7	3.27	2.60	3.83	3.89
22BC020	OC	137	13.11	0.9	20	75.0	3.27	2.63	3.83	3.93
22BC021.1	OC	0	110.16	4.3	40	75.8	3.27	20.90	3.83	30.49
22BC021.2	OC	141	146.77	1.7	40	76.8	3.27	28.81	3.83	41.74

Hydrologic Results - Existing Conditions										
Oak Creek Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	10-year		25-year	
							Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
22BD036	OC	127	1.55	53.4	5	73.8	3.27	0.75	3.83	0.96
22BD040	OC	25	3.82	45.5	13	75.8	3.27	1.72	3.83	2.23
22BD044	OC	24	1.41	55.2	5	75.7	3.27	0.73	3.83	0.92
22BD045	OC	121	9.54	54.1	12	76.8	3.27	4.89	3.83	6.20
22BD047	OC	120	2.63	61.5	10	76.7	3.27	1.46	3.83	1.84
22BD051	OC	77	5.88	22.2	15	74.3	3.27	1.75	3.83	2.43
22BD055	OC	95	2.78	43.7	13	78.9	3.27	1.35	3.83	1.72
22BD058	OC	96	2.62	45.5	13	75.9	3.27	1.18	3.83	1.53
22BD063	OC	138	2.82	56.8	10	78.1	3.27	1.54	3.83	1.94
22BD065	OC	135	5.85	42.1	15	75.5	3.27	2.47	3.83	3.23
22CA002	OC	128	8.90	5.7	15	78.5	3.27	2.65	3.83	3.69
22CA007	OC	129	4.63	10.2	13	77.9	3.27	1.43	3.83	1.98
22CA009	OC	98	2.55	11.8	13	73.6	3.27	0.61	3.83	0.88
22CB006	OC	139	6.19	19.5	15	75.8	3.27	1.92	3.83	2.64
22CB009	OC	140	19.31	5.0	30	74.6	3.27	3.69	3.83	5.47
22DA038	OC	62	2.61	49.1	13	73.7	3.27	1.15	3.83	1.50
22DA047	OC	91	2.56	58.4	10	73.3	3.27	1.28	3.83	1.63
22DA056	OC	94	5.15	48.2	15	73.7	3.27	2.23	3.83	2.91
22DA062	OC	92	4.26	45.9	13	73.2	3.27	1.77	3.83	2.33
22DA063	OC	63	3.39	50.7	10	73.5	3.27	1.54	3.83	1.99
22DA066	OC	116	4.02	49.6	13	74.8	3.27	1.85	3.83	2.39
22DA068	OC	57	3.55	51.1	10	76.1	3.27	1.74	3.83	2.22
22DA070	OC	60	3.29	20.7	13	73.6	3.27	0.93	3.83	1.30
22DA077	OC	79	4.90	56.6	10	73.9	3.27	2.43	3.83	3.10
22DA083	OC	27	2.01	15.2	8	73.3	3.27	0.52	3.83	0.74
22DA102	OC	59	2.27	17.3	8	73.2	3.27	0.60	3.83	0.85
22DA105	OC	90	2.94	19.5	13	73.3	3.27	0.80	3.83	1.13
22DA105.1	OC	105	5.87	34.6	15	73.2	3.27	4.98	3.83	6.96
22DA105.1	OC	109	7.93	25.7	15	71.5	-	-	-	-
22DA105.1	OC	133	3.54	9.8	13	73.4	-	-	-	-
22DB014	OC	52	11.87	6.4	20	73.4	3.27	2.33	3.83	3.50
22DB014.1	OC	131	7.75	18.8	15	73.3	3.27	2.04	3.83	2.90
22DB041	OC	93	5.20	53.8	12	73.9	3.27	2.47	3.83	3.18
22DB058	OC	80	9.38	10.2	15	77.4	3.27	2.78	3.83	3.86
22DB062	OC	130	21.56	3.6	35	77.5	3.27	4.83	3.83	6.88
22DC012	OC	36	2.57	4.1	13	73.8	3.27	0.53	3.83	0.79
22DC018	OC	74	53.30	0.7	40	76.1	3.27	9.69	3.83	14.25
22DD013	OC	73	14.10	16.2	20	71.4	3.27	2.96	3.83	4.38
22DD025	OC	20	6.80	27.8	15	73.9	3.27	2.17	3.83	2.98
23CA006	OC	104	5.13	29.5	15	72.7	3.27	1.59	3.83	2.20
23CA006.1	OC	108	2.16	17.1	8	71.5	3.27	0.51	3.83	0.74
23CA006.3	OC	81	12.09	29.6	20	73.3	3.27	3.72	3.83	5.12
23CA010	OC	67	15.18	0.0	30	72.2	3.27	2.04	3.83	3.27
23CA021	OC	53	4.29	23.1	13	72.0	3.27	1.15	3.83	1.63
23CA025	OC	103	6.54	24.4	15	72.9	3.27	1.87	3.83	2.62
23CA026	OC	106	21.31	3.4	35	72.7	3.27	3.15	3.83	4.89
23CB027	OC	56	1.92	43.1	8	73.5	3.27	0.79	3.83	1.04
23CB039	OC	134	8.57	55.9	12	74.0	3.27	4.20	3.83	5.37
23CB073	OC	54	3.19	61.9	10	73.9	3.27	1.69	3.83	2.14
23CB074	OC	132	7.97	57.7	12	73.6	3.27	3.96	3.83	5.05
23CB075	OC	55	2.38	58.4	5	73.9	3.27	1.22	3.83	1.56
23CC008	OC	65	6.23	18.5	15	72.0	3.27	1.50	3.83	2.17
23CC008.1	OC	89	55.68	0.3	40	73.8	3.27	8.13	3.83	12.51
23CC025	OC	15	6.99	15.0	15	72.1	3.27	1.57	3.83	2.31
23CC055	OC	72	11.79	21.4	20	72.4	3.27	2.96	3.83	4.23
23CC061	OC	66	7.35	17.5	15	73.3	3.27	1.89	3.83	2.70
23CC071	OC	136	13.94	51.7	14	73.9	3.27	6.40	3.83	8.27
23CD014	OC	17	3.03	26.6	13	72.9	3.27	0.91	3.83	1.27
23CD021	OC	102	16.51	15.4	30	73.6	3.27	3.61	3.83	5.21
23CD031	OC	107	12.97	23.5	20	73.4	3.27	3.60	3.83	5.05
23CD033	OC	64	7.49	12.7	15	72.9	3.27	1.70	3.83	2.49
23DC024	OC	10	22.11	16.3	35	72.9	3.27	4.48	3.83	6.50

Hydrologic Results - Existing Conditions										
Oak Creek Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	10-year		25-year	
							Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
23DC031	OC	14	6.72	25.1	15	72.5	3.27	1.90	3.83	2.67
23DD029	OC	13	6.81	32.5	15	73.5	3.27	2.31	3.83	3.14
23DD029.1	OC	88	28.95	4.7	40	73.5	3.27	4.56	3.83	6.90
23DD076	OC	12	13.11	11.4	20	73.3	3.27	2.85	3.83	4.19
23DD087	OC	11	5.13	16.8	15	73.1	3.27	1.28	3.83	1.84
26AA009	OC	7	16.29	5.7	30	72.6	3.27	2.65	3.83	4.07
26AA018	OC	9	16.61	14.0	30	73.3	3.27	3.46	3.83	5.04
26AA024	OC	8	7.64	27.8	15	73.0	3.27	2.33	3.83	3.23
26AD004	OC	2	19.75	10.9	30	74.1	3.27	4.09	3.83	5.97
26AD025	OC	1	102.69	9.0	40	73.7	3.27	18.08	3.83	26.76
26BB008	OC	16	10.38	17.9	20	72.9	3.27	2.51	3.83	3.61
26BB015	OC	22	9.81	11.3	15	73.3	3.27	2.23	3.83	3.26
26BB030	OC	21	7.07	21.6	15	73.7	3.27	2.01	3.83	2.82
26BB032	OC	18	10.39	8.8	20	73.7	3.27	2.21	3.83	3.26
26BB048	OC	19	13.30	6.2	20	73.2	3.27	2.56	3.83	3.85
27AA006	OC	35	39.83	1.3	40	74.8	3.27	6.54	3.83	9.82
27AB007	OC	4	118.70	2.8	40	73.7	3.27	18.20	3.83	27.73
27AD015	OC	3	49.95	8.2	40	74.1	3.27	8.93	3.83	13.18

Hydrologic Results - Full Buildout Conditions										
Oak Creek Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	10-year		25-year	
							Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
09DC014	OC-F	33	12.56	70.5	14	74.0	3.27	7.30	3.83	9.06
09DC019	OC-F	31	43.66	88.2	20	77.7	3.27	29.89	3.83	35.79
09DC032	OC-F	28	16.86	52.6	16	74.6	3.27	7.90	3.83	10.16
15BC014	OC-F	83	5.36	73.3	12	75.8	3.27	3.30	3.83	4.06
15BC015	OC-F	75	8.11	46.7	15	75.1	3.27	3.59	3.83	4.66
15CA078.1	OC-F	41	4.29	56.0	10	73.2	3.27	2.07	3.83	2.66
15CA087	OC-F	71	5.51	61.4	12	73.0	3.27	2.83	3.83	3.60
15CB003	OC-F	42	3.52	62.0	10	74.0	3.27	1.87	3.83	2.36
15CB005	OC-F	43	4.88	52.7	10	73.7	3.27	2.29	3.83	2.95
15CB049	OC-F	68	3.62	59.3	10	73.6	3.27	1.84	3.83	2.35
15CB058	OC-F	122	2.84	57.2	10	73.4	3.27	1.40	3.83	1.79
15CB083	OC-F	123	7.90	51.0	12	73.3	3.27	3.56	3.83	4.61
15CB093	OC-F	70	2.34	52.2	5	73.7	3.27	1.11	3.83	1.43
15CB099	OC-F	40	2.65	52.1	10	74.0	3.27	1.24	3.83	1.60
15CB110	OC-F	38	3.02	26.6	13	73.4	3.27	0.93	3.83	1.29
15CC045	OC-F	85	2.27	56.6	5	73.4	3.27	1.13	3.83	1.44
15CD058	OC-F	76	5.96	40.6	15	73.1	3.27	2.26	3.83	3.01
15CD059	OC-F	86	2.69	58.5	10	73.7	3.27	1.36	3.83	1.73
15CD063	OC-F	45	2.88	63.8	10	73.8	3.27	1.56	3.83	1.96
15CD064	OC-F	48	3.48	52.1	10	72.8	3.27	1.58	3.83	2.05
15CD065	OC-F	46	3.02	51.9	10	73.3	3.27	1.38	3.83	1.79
15CD066	OC-F	84	2.03	48.8	8	72.9	3.27	0.89	3.83	1.16
15CD071	OC-F	97	3.69	53.0	10	73.4	3.27	1.72	3.83	2.22
15CD087	OC-F	44	2.05	44.7	8	73.1	3.27	2.72	3.83	3.56
15CD087	OC-F	110	4.24	51.6	10	72.2	-	-	-	-
16AA037.1	OC-F	32	107.92	88.1	20	75.5	3.27	73.16	3.83	87.76
16AA038	OC-F	30	47.42	7.5	40	75.2	3.27	9.12	3.83	13.26
16AD042	OC-F	69	4.98	82.7	10	73.4	3.27	3.32	3.83	4.03
16AD054	OC-F	29	2.79	86.7	10	73.8	3.27	1.94	3.83	2.33
16DA006	OC-F	34	71.95	89.3	20	76.1	3.27	49.35	3.83	59.06
16DA013	OC-F	82	4.00	48.7	13	72.3	3.27	1.69	3.83	2.21
16DA030	OC-F	39	6.54	62.4	12	73.8	3.27	3.46	3.83	4.37
22AA001	OC-F	37	5.33	44.8	15	73.3	3.27	2.17	3.83	2.86
22AB031	OC-F	50	3.77	51.9	10	74.5	3.27	1.78	3.83	2.30
22AB038	OC-F	51	3.85	52.8	10	75.5	3.27	1.89	3.83	2.42
22AB049	OC-F	49	4.09	50.9	10	73.0	3.27	1.83	3.83	2.38
22AC009	OC-F	118	9.01	43.3	15	76.8	3.27	4.03	3.83	5.23
22AC011	OC-F	117	8.87	46.7	15	75.4	3.27	3.96	3.83	5.14
22AC012	OC-F	61	5.12	47.7	15	73.2	3.27	2.17	3.83	2.84
22AC016	OC-F	26	4.96	57.8	10	79.4	3.27	2.81	3.83	3.51
22AC021	OC-F	6	3.42	55.7	10	75.2	3.27	1.73	3.83	2.20
22AC024	OC-F	78	6.71	60.4	12	77.9	3.27	3.76	3.83	4.70
22AC030	OC-F	119	8.94	50.5	12	74.6	3.27	4.15	3.83	5.35
22AD042	OC-F	23	5.07	54.9	12	76.4	3.27	2.60	3.83	3.30
22AD056	OC-F	115	2.51	44.2	13	75.7	3.27	1.11	3.83	1.44
22BA023	OC-F	113	7.43	48.5	15	72.4	3.27	3.10	3.83	4.07
22BA031	OC-F	125	6.07	23.8	15	74.4	3.27	1.86	3.83	2.58
22BA046	OC-F	101	7.57	41.1	15	73.2	3.27	2.90	3.83	3.86
22BA048	OC-F	124	6.73	50.0	12	73.4	3.27	3.00	3.83	3.89
22BA049	OC-F	114	2.77	47.6	13	73.0	3.27	1.17	3.83	1.54
22BA051	OC-F	126	6.42	47.5	15	75.1	3.27	2.87	3.83	3.72
22BA054	OC-F	99	3.98	57.4	10	77.3	3.27	2.15	3.83	2.71
22BA060	OC-F	112	3.99	50.2	10	77.9	3.27	2.03	3.83	2.58
22BA061	OC-F	111	3.62	48.3	13	74.8	3.27	1.64	3.83	2.12
22BB009	OC-F	87	9.49	61.9	12	73.9	3.27	5.00	3.83	6.32
22BB027	OC-F	47	2.99	47.5	13	73.3	3.27	1.28	3.83	1.67
22BC006	OC-F	5	141.05	62.9	20	70.7	3.27	67.79	3.83	86.56
22BC011	OC-F	100	1.46	60.9	5	73.1	3.27	0.76	3.83	0.97
22BC015	OC-F	58	13.07	59.8	14	75.5	3.27	6.89	3.83	8.70
22BC020	OC-F	137	13.11	62.7	14	77.3	3.27	7.38	3.83	9.22
22BC021.1	OC-F	0	110.16	78.3	20	76.2	3.27	68.90	3.83	83.98
22BC021.2	OC-F	141	146.77	82.5	20	77.2	3.27	95.98	3.83	115.96

Hydrologic Results - Full Buildout Conditions										
Oak Creek Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	10-year		25-year	
							Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
22BD036	OC-F	127	1.55	53.4	5	73.8	3.27	0.75	3.83	0.96
22BD040	OC-F	25	3.82	48.2	13	76.6	3.27	1.82	3.83	2.33
22BD044	OC-F	24	1.41	55.2	5	75.7	3.27	0.73	3.83	0.92
22BD045	OC-F	121	9.54	54.6	12	76.8	3.27	4.91	3.83	6.23
22BD047	OC-F	120	2.63	61.5	10	76.7	3.27	1.46	3.83	1.84
22BD051	OC-F	77	5.88	45.5	15	74.3	3.27	2.50	3.83	3.27
22BD055	OC-F	95	2.78	43.7	13	78.9	3.27	1.35	3.83	1.72
22BD058	OC-F	96	2.62	45.5	13	75.9	3.27	1.18	3.83	1.53
22BD063	OC-F	138	2.82	57.0	10	78.1	3.27	1.54	3.83	1.94
22BD065	OC-F	135	5.85	42.4	15	75.5	3.27	2.48	3.83	3.24
22CA002	OC-F	128	8.90	62.9	12	78.8	3.27	5.19	3.83	6.45
22CA007	OC-F	129	4.63	62.4	10	78.3	3.27	2.68	3.83	3.34
22CA009	OC-F	98	2.55	46.7	13	74.0	3.27	1.10	3.83	1.44
22CB006	OC-F	139	6.19	61.9	12	77.3	3.27	3.48	3.83	4.35
22CB009	OC-F	140	19.31	60.1	16	76.7	3.27	10.38	3.83	13.04
22DA038	OC-F	62	2.61	49.1	13	73.7	3.27	1.15	3.83	1.50
22DA047	OC-F	91	2.56	58.4	10	73.3	3.27	1.28	3.83	1.63
22DA056	OC-F	94	5.15	48.2	15	73.7	3.27	2.23	3.83	2.91
22DA062	OC-F	92	4.26	45.9	13	73.2	3.27	1.77	3.83	2.33
22DA063	OC-F	63	3.39	55.5	10	73.5	3.27	1.64	3.83	2.10
22DA066	OC-F	116	4.02	49.6	13	74.8	3.27	1.85	3.83	2.39
22DA068	OC-F	57	3.55	51.1	10	76.1	3.27	1.74	3.83	2.22
22DA070	OC-F	60	3.29	61.3	10	73.5	3.27	1.72	3.83	2.18
22DA077	OC-F	79	4.90	56.6	10	73.9	3.27	2.43	3.83	3.10
22DA083	OC-F	27	2.01	59.7	5	74.0	3.27	1.05	3.83	1.33
22DA102	OC-F	59	2.27	50.3	5	73.7	3.27	1.04	3.83	1.35
22DA105	OC-F	90	2.94	43.1	13	73.2	3.27	1.17	3.83	1.55
22DA105.1	OC-F	105	5.87	41.0	15	73.4	3.27	6.09	3.83	8.21
22DA105.1	OC-F	109	7.93	25.7	15	71.5	-	-	-	-
22DA105.1	OC-F	133	3.54	54.8	10	73.8	-	-	-	-
22DB014	OC-F	52	11.87	57.9	14	73.9	3.27	5.91	3.83	7.53
22DB014.1	OC-F	131	7.75	34.4	15	73.5	3.27	2.71	3.83	3.66
22DB041	OC-F	93	5.20	57.8	12	73.9	3.27	2.60	3.83	3.32
22DB058	OC-F	80	9.38	61.1	12	77.6	3.27	5.26	3.83	6.58
22DB062	OC-F	130	21.56	62.1	18	79.2	3.27	12.26	3.83	15.23
22DC012	OC-F	36	2.57	60.6	10	74.0	3.27	1.34	3.83	1.70
22DC018	OC-F	74	53.30	62.7	20	76.4	3.27	28.55	3.83	35.79
22DD013	OC-F	73	14.10	16.3	20	71.4	3.27	2.97	3.83	4.39
22DD025	OC-F	20	6.80	29.0	15	73.9	3.27	2.22	3.83	3.03
23CA006	OC-F	104	5.13	35.4	15	73.1	3.27	1.79	3.83	2.42
23CA006.1	OC-F	108	2.16	17.1	8	71.5	3.27	0.51	3.83	0.74
23CA006.3	OC-F	81	12.09	29.8	20	73.2	3.27	3.71	3.83	5.11
23CA010	OC-F	67	15.18	0.3	30	72.3	3.27	2.08	3.83	3.32
23CA021	OC-F	53	4.29	45.1	13	73.2	3.27	1.76	3.83	2.32
23CA025	OC-F	103	6.54	38.7	15	73.2	3.27	2.42	3.83	3.23
23CA026	OC-F	106	21.31	9.5	35	72.7	3.27	3.66	3.83	5.49
23CB027	OC-F	56	1.92	45.8	8	73.5	3.27	0.82	3.83	1.07
23CB039	OC-F	134	8.57	55.9	12	74.0	3.27	4.20	3.83	5.37
23CB073	OC-F	54	3.19	61.9	10	73.9	3.27	1.69	3.83	2.14
23CB074	OC-F	132	7.97	57.7	12	73.6	3.27	3.96	3.83	5.05
23CB075	OC-F	55	2.38	58.4	5	73.9	3.27	1.22	3.83	1.56
23CC008	OC-F	65	6.23	18.5	15	72.0	3.27	1.50	3.83	2.17
23CC008.1	OC-F	89	55.68	62.0	20	73.8	3.27	28.12	3.83	35.62
23CC025	OC-F	15	6.99	37.5	15	72.6	3.27	2.47	3.83	3.34
23CC055	OC-F	72	11.79	42.5	20	73.1	3.27	4.44	3.83	5.91
23CC061	OC-F	66	7.35	39.6	15	73.2	3.27	2.75	3.83	3.68
23CC071	OC-F	136	13.94	54.1	14	73.9	3.27	6.61	3.83	8.49
23CD014	OC-F	17	3.03	30.2	13	72.8	3.27	0.97	3.83	1.33
23CD021	OC-F	102	16.51	21.1	30	73.6	3.27	4.03	3.83	5.70
23CD031	OC-F	107	12.97	36.2	20	73.5	3.27	4.49	3.83	6.06
23CD033	OC-F	64	7.49	55.9	12	73.0	3.27	3.58	3.83	4.60
23DC024	OC-F	10	22.11	40.7	35	73.3	3.27	7.11	3.83	9.51

Hydrologic Results - Full Buildout Conditions										
Oak Creek Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	10-year		25-year	
							Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
23DC031	OC-F	14	6.72	25.8	15	72.5	3.27	1.93	3.83	2.70
23DD029	OC-F	13	6.81	35.5	15	73.5	3.27	2.42	3.83	3.26
23DD029.1	OC-F	88	28.95	57.1	20	73.7	3.27	13.69	3.83	17.53
23DD076	OC-F	12	13.11	46.6	20	73.6	3.27	5.34	3.83	7.01
23DD087	OC-F	11	5.13	44.8	15	73.4	3.27	2.09	3.83	2.76
26AA009	OC-F	7	16.29	56.3	16	73.8	3.27	7.85	3.83	10.05
26AA018	OC-F	9	16.61	46.3	30	73.4	3.27	6.12	3.83	8.06
26AA024	OC-F	8	7.64	38.9	15	73.5	3.27	2.86	3.83	3.83
26AD004	OC-F	2	19.75	54.0	16	74.1	3.27	9.30	3.83	11.96
26AD025	OC-F	1	102.69	49.2	40	74.0	3.27	36.74	3.83	47.92
26BB008	OC-F	16	10.38	24.0	20	72.8	3.27	2.81	3.83	3.96
26BB015	OC-F	22	9.81	37.6	15	74.0	3.27	3.68	3.83	4.91
26BB030	OC-F	21	7.07	21.6	15	73.7	3.27	2.01	3.83	2.82
26BB032	OC-F	18	10.39	40.8	20	74.3	3.27	3.98	3.83	5.28
26BB048	OC-F	19	13.30	61.1	14	74.2	3.27	6.94	3.83	8.77
27AA006	OC-F	35	39.83	59.6	20	74.8	3.27	19.93	3.83	25.28
27AB007	OC-F	4	118.70	62.9	20	74.7	3.27	61.70	3.83	77.76
27AD015	OC-F	3	49.95	62.6	20	75.1	3.27	26.07	3.83	32.83

Hydrologic Results - Existing Conditions										
Albany-Santiam Canal Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
							10-year		25-year	
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
03AB010	SA	1	5.06	27.8	15	74.6	3.27	1.67	3.83	2.28
03AC003	SA	33	9.93	18.3	15	74.1	3.27	2.73	3.83	3.85
03AC004	SA	47	6.41	13.3	15	74.5	3.27	1.65	3.83	2.36
03AC005	SA	5	12.20	1.0	20	74	3.27	2.24	3.83	3.41
03AC006	SA	48	39.62	3.8	40	75	3.27	6.98	3.83	10.32
03AC031	SA	6	6.63	50.6	12	67.4	3.27	2.50	3.83	3.34
03DA016	SA	35	4.12	26.3	13	74	3.27	1.31	3.83	1.80
03DA031	SA	4	22.27	21.6	35	72.7	3.27	4.96	3.83	7.08
03DB011	SA	46	5.53	10.3	15	72	3.27	1.11	3.83	1.67
03DB016	SA	36	8.93	69.4	12	68.5	3.27	4.75	3.83	5.99
03DB017	SA	34	6.50	31.1	15	72.5	3.27	2.05	3.83	2.82
10DD063	SA	45	1.15	73.5	5	76.5	3.27	0.73	3.83	0.89
10DD083	SA	40	2.10	62.4	5	74.4	3.27	1.15	3.83	1.44
11BB011	SA	10	5.41	33.1	15	67.8	3.27	1.41	3.83	2.01
11BD022	SA	3	4.09	42.0	13	60.7	3.27	0.97	3.83	1.40
11BD022.1	SA	2	2.14	51.9	5	66.2	3.27	0.81	3.83	1.09
11CA011	SA	77	3.60	11.8	13	70.5	3.27	0.67	3.83	1.03
11CA017	SA	13	4.18	45.7	13	59	3.27	1.02	3.83	1.48
11CA0281	SA	12	5.97	41.7	15	60	3.27	1.33	3.83	1.95
11CA029	SA	15	5.12	35.7	15	58.1	3.27	0.82	3.83	1.29
11CA036	SA	14	3.69	47.5	13	59.3	3.27	0.97	3.83	1.38
11CA044	SA	38	5.15	44.4	15	66.3	3.27	1.62	3.83	2.23
11CA047.2	SA	0	10.08	41.2	20	61.2	3.27	2.24	3.83	3.27
11CB063	SA	78	2.36	54.9	5	72.3	3.27	1.12	3.83	1.44
11CB065	SA	59	1.69	68.4	5	75.9	3.27	1.01	3.83	1.25
11CC001	SA	23	2.45	31.0	8	73.2	3.27	0.82	3.83	1.12
11CC018	SA	79	4.83	32.7	13	74.6	3.27	1.74	3.83	2.34
11CC027	SA	64	3.02	41.3	13	73	3.27	1.17	3.83	1.55
11CC028	SA	62	3.10	40.9	13	73.3	3.27	1.20	3.83	1.60
11CC032	SA	39	3.67	45.7	13	72.4	3.27	1.49	3.83	1.96
11CC039	SA	50	3.93	34.3	13	72.7	3.27	1.34	3.83	1.82
11CC040	SA	22	1.61	24.7	8	73.6	3.27	0.50	3.83	0.69
11CC052	SA	65	2.74	47.3	13	75.2	3.27	1.24	3.83	1.60
11CC056	SA	51	1.63	83.3	5	74	3.27	1.10	3.83	1.34
11CC062	SA	17	3.06	53.5	10	72.6	3.27	1.41	3.83	1.82
11CD002	SA	21	6.21	37.8	15	73.1	3.27	2.25	3.83	3.03
11CD027	SA	63	10.91	32.5	20	61	3.27	1.78	3.83	2.78
11CD027.2	SA	16	6.25	25.4	15	64	3.27	1.03	3.83	1.61
14BA001	SA	18	6.49	49.5	15	73.4	3.27	2.84	3.83	3.69
14BA003	SA	19	2.70	39.7	13	69.5	3.27	0.89	3.83	1.21
14BA004	SA	57	4.35	41.8	13	72.6	3.27	1.67	3.83	2.22
14BA008	SA	29	5.65	45.5	15	72.9	3.27	2.29	3.83	3.02
14BA012	SA	20	4.16	41.7	13	73.4	3.27	1.64	3.83	2.17
14BA043	SA	27	5.05	49.0	15	73	3.27	2.17	3.83	2.83
14BA044	SA	28	3.28	55.2	10	73.3	3.27	1.57	3.83	2.02
14BA045	SA	67	5.15	43.4	15	73.4	3.27	2.06	3.83	2.72
14BB001	SA	49	3.04	36.0	13	72.9	3.27	1.08	3.83	1.45
14BB002	SA	24	2.69	25.9	13	73.9	3.27	0.84	3.83	1.16
14BB003	SA	70	7.67	42.6	15	73.1	3.27	3.00	3.83	3.98
14BB019	SA	55	3.38	42.3	13	73.1	3.27	1.33	3.83	1.76
14BB020	SA	58	1.75	73.3	5	73.1	3.27	1.06	3.83	1.31
14BB021	SA	54	3.19	51.2	10	72.8	3.27	1.43	3.83	1.86
14BB024	SA	43	9.03	57.6	12	72.4	3.27	4.36	3.83	5.59
14BB027	SA	72	5.19	60.2	12	73.4	3.27	2.65	3.83	3.37
14BC002	SA	71	8.55	41.6	15	72.8	3.27	3.26	3.83	4.34
14BC003	SA	42	5.54	42.3	15	73	3.27	2.15	3.83	2.85
14BC032	SA	68	4.41	49.6	13	73.3	3.27	1.94	3.83	2.53
14BD007.5	SA	31	2.43	35.0	8	72.3	3.27	0.84	3.83	1.14
14BD018	SA	61	5.89	5.4	15	72.8	3.27	1.13	3.83	1.71
14BD020	SA	25	9.28	16.0	15	72.7	3.27	2.23	3.83	3.22
14BD041	SA	30	5.14	58.1	12	73	3.27	2.53	3.83	3.23
14CA009	SA	60	4.53	6.9	13	74	3.27	1.01	3.83	1.48

Hydrologic Results - Existing Conditions										
Albany-Santiam Canal Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
							10-year		25-year	
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
15AA011	SA	74	7.00	51.5	12	73.8	3.27	3.22	3.83	4.16
15AA027	SA	66	2.74	93.5	10	73.1	3.27	2.01	3.83	2.39
15AA039	SA	76	8.41	41.1	15	74.8	3.27	3.41	3.83	4.50
15AA040	SA	75	4.11	75.7	10	73.7	3.27	2.55	3.83	3.14
15AA042	SA	8	5.40	60.4	12	73.6	3.27	2.77	3.83	3.52
15AA047	SA	53	5.37	57.1	12	72.8	3.27	2.60	3.83	3.33
15AA048	SA	44	3.64	72.9	10	73.7	3.27	2.19	3.83	2.71
15AA049	SA	52	3.23	80.3	10	72.6	3.27	2.08	3.83	2.55
15AD041	SA	7	3.04	53.5	10	73.9	3.27	1.45	3.83	1.86
15AD047	SA	41	7.27	56.8	12	73.1	3.27	3.52	3.83	4.52
15AD058	SA	37	3.48	70.1	10	73.5	3.27	2.02	3.83	2.52
15AD062	SA	56	4.93	55.2	10	73.6	3.27	2.38	3.83	3.06
Canal-024	SA	9	10.54	5.7	20	56.3	3.27	0.27	3.83	0.41
Canal-026	SA	11	8.04	12.4	15	63.6	3.27	0.72	3.83	1.34
Canal-034	SA	73	3.85	18.6	13	74.3	3.27	1.09	3.83	1.53
Canal-035	SA	69	5.39	4.7	15	72.4	3.27	0.98	3.83	1.50
Canal-040	SA	26	10.57	26.8	20	72.7	3.27	3.00	3.83	4.19
Canal-045	SA	32	2.75	8.7	13	72.2	3.27	0.55	3.83	0.83
Ralston Park	SA	80	1.47	0.0	8	76	3.27	0.35	3.83	0.50

Hydrologic Results - Full Buildout Conditions										
Albany-Santiam Canal Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
							10-year		25-year	
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
03AB010	SA-F	1	5.06	27.8	15	74.6	3.27	1.67	3.83	2.28
03AC003	SA-F	33	9.93	73.6	12	74.4	3.27	6.04	3.83	7.45
03AC004	SA-F	47	6.41	13.3	15	74.5	3.27	1.65	3.83	2.36
03AC005	SA-F	5	12.20	1.0	20	74.0	3.27	2.24	3.83	3.41
03AC006	SA-F	48	39.62	72.8	20	75.1	3.27	23.17	3.83	28.60
03AC031	SA-F	6	6.63	50.6	12	67.4	3.27	2.50	3.83	3.34
03DA016	SA-F	35	4.12	73.9	10	74.0	3.27	2.52	3.83	3.10
03DA031	SA-F	4	22.27	21.6	35	72.7	3.27	4.96	3.83	7.08
03DB011	SA-F	46	5.53	70.0	12	72.0	3.27	3.12	3.83	3.90
03DB016	SA-F	36	8.93	69.4	12	68.5	3.27	4.75	3.83	5.99
03DB017	SA-F	34	6.50	70.5	12	73.5	3.27	3.77	3.83	4.69
10DD063	SA-F	45	1.15	73.5	5	76.5	3.27	0.73	3.83	0.89
10DD083	SA-F	40	2.10	67.1	5	74.2	3.27	1.21	3.83	1.50
11BB011	SA-F	10	5.41	32.1	15	68.9	3.27	1.46	3.83	2.06
11BD022	SA-F	3	4.09	45.0	13	61.3	3.27	1.08	3.83	1.54
11BD027.1	SA-F	2	2.14	51.9	5	66.2	3.27	0.81	3.83	1.09
11CA011	SA-F	77	3.60	11.8	13	70.5	3.27	0.67	3.83	1.03
11CA017	SA-F	13	4.18	45.7	13	59.0	3.27	1.02	3.83	1.48
11CA0281	SA-F	12	5.97	41.7	15	60.0	3.27	1.33	3.83	1.95
11CA029	SA-F	15	5.12	40.5	15	58.1	3.27	0.99	3.83	1.50
11CA036	SA-F	14	3.69	47.5	13	59.3	3.27	0.97	3.83	1.38
11CA044	SA-F	38	5.15	44.4	15	66.3	3.27	1.62	3.83	2.23
11CA047.2	SA-F	0	10.08	41.3	20	61.2	3.27	2.25	3.83	3.28
11CB063	SA-F	78	2.36	54.9	5	72.3	3.27	1.12	3.83	1.44
11CB065	SA-F	59	1.69	68.4	5	75.9	3.27	1.01	3.83	1.25
11CC001	SA-F	23	2.45	43.0	8	73.4	3.27	1.00	3.83	1.32
11CC018	SA-F	79	4.83	36.3	13	74.8	3.27	1.85	3.83	2.47
11CC027	SA-F	64	3.02	42.8	13	73.1	3.27	1.20	3.83	1.58
11CC028	SA-F	62	3.10	40.9	13	73.3	3.27	1.20	3.83	1.60
11CC032	SA-F	39	3.67	48.3	13	72.6	3.27	1.55	3.83	2.04
11CC039	SA-F	50	3.93	38.8	13	72.8	3.27	1.45	3.83	1.94
11CC040	SA-F	22	1.61	24.7	8	73.6	3.27	0.50	3.83	0.69
11CC052	SA-F	65	2.74	47.3	13	75.2	3.27	1.24	3.83	1.60
11CC056	SA-F	51	1.63	83.3	5	74.0	3.27	1.10	3.83	1.34
11CC062	SA-F	17	3.06	53.5	10	72.6	3.27	1.41	3.83	1.82
11CD002	SA-F	21	6.21	42.0	15	73.1	3.27	2.40	3.83	3.19
11CD027	SA-F	63	10.91	35.2	20	61.0	3.27	1.96	3.83	3.00
11CD027.2	SA-F	16	6.25	35.8	15	64.1	3.27	1.44	3.83	2.10
14BA001	SA-F	18	6.49	53.2	12	73.4	3.27	3.02	3.83	3.90
14BA003	SA-F	19	2.70	39.7	13	69.5	3.27	0.89	3.83	1.21
14BA004	SA-F	57	4.35	41.8	13	72.6	3.27	1.67	3.83	2.22
14BA008	SA-F	29	5.65	46.7	15	73.0	3.27	2.34	3.83	3.08
14BA012	SA-F	20	4.16	41.7	13	73.4	3.27	1.64	3.83	2.17
14BA043	SA-F	27	5.05	49.0	15	73.0	3.27	2.17	3.83	2.83
14BA044	SA-F	28	3.28	55.2	10	73.3	3.27	1.57	3.83	2.02
14BA045	SA-F	67	5.15	44.0	15	73.4	3.27	2.08	3.83	2.74
14BB001	SA-F	49	3.04	36.0	13	72.9	3.27	1.08	3.83	1.45
14BB002	SA-F	24	2.69	58.5	10	73.9	3.27	1.37	3.83	1.74
14BB003	SA-F	70	7.67	42.8	15	73.1	3.27	3.01	3.83	3.99
14BB019	SA-F	55	3.38	45.3	13	73.1	3.27	1.39	3.83	1.83
14BB020	SA-F	58	1.75	73.3	5	73.1	3.27	1.06	3.83	1.31
14BB021	SA-F	54	3.19	51.2	10	72.8	3.27	1.43	3.83	1.86
14BB024	SA-F	43	9.03	57.6	12	72.4	3.27	4.36	3.83	5.59
14BB027	SA-F	72	5.19	60.2	12	73.4	3.27	2.65	3.83	3.37
14BC002	SA-F	71	8.55	42.7	15	72.8	3.27	3.31	3.83	4.40
14BC003	SA-F	42	5.54	42.3	15	73.0	3.27	2.15	3.83	2.85
14BC032	SA-F	68	4.41	49.6	13	73.3	3.27	1.94	3.83	2.53
14BD007.5	SA-F	31	2.43	50.2	8	72.3	3.27	1.06	3.83	1.39
14BD018	SA-F	61	5.89	53.2	12	74.0	3.27	2.78	3.83	3.58
14BD020	SA-F	25	9.28	36.8	15	73.0	3.27	3.30	3.83	4.45
14BD041	SA-F	30	5.14	58.4	12	73.0	3.27	2.54	3.83	3.25
14CA009	SA-F	60	4.53	51.2	10	74.0	3.27	2.10	3.83	2.71

Hydrologic Results - Full Buildout Conditions										
Albany-Santiam Canal Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
							10-year		25-year	
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
15AA011	SA-F	74	7.00	52.9	12	74.0	3.27	3.30	3.83	4.25
15AA027	SA-F	66	2.74	93.5	10	73.1	3.27	2.01	3.83	2.39
15AA039	SA-F	76	8.41	41.1	15	74.8	3.27	3.41	3.83	4.50
15AA040	SA-F	75	4.11	75.7	10	73.7	3.27	2.55	3.83	3.14
15AA042	SA-F	8	5.40	60.4	12	73.6	3.27	2.77	3.83	3.52
15AA047	SA-F	53	5.37	57.1	12	72.8	3.27	2.60	3.83	3.33
15AA048	SA-F	44	3.64	72.9	10	73.7	3.27	2.19	3.83	2.71
15AA049	SA-F	52	3.23	80.3	10	72.6	3.27	2.08	3.83	2.55
15AD041	SA-F	7	3.04	89.5	10	73.8	3.27	2.16	3.83	2.59
15AD047	SA-F	41	7.27	56.8	12	73.1	3.27	3.52	3.83	4.52
15AD058	SA-F	37	3.48	70.1	10	73.5	3.27	2.02	3.83	2.52
15AD062	SA-F	56	4.93	59.0	10	74.0	3.27	2.53	3.83	3.21
Canal	SA-F	45	32.00	2.8	8.7	13.0	3.27	0.55	72.20	3.83
Canal	SA-F	40	26.00	10.6	27.2	20.0	3.27	3.02	72.70	3.83
Canal	SA-F	35	69.00	5.4	50.2	12.0	3.27	2.42	73.50	3.83
Canal	SA-F	26	11.00	8.0	57.5	12.0	3.27	3.13	63.70	3.83
Canal	SA-F	24	9.00	10.5	68.6	14.0	3.27	4.48	56.70	3.83
Canal	SA-F	73	3.85	42.8	13	74.0	3.27	1.57	3.83	2.07

Hydrologic Results - Existing Conditions										
Santiam River Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
							10-year		25-year	
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
02CC002.1	SR	33	1.37	4.2	8	38.9	3.27	0.00	3.83	0.01
02CC003	SR	187	6.11	19.1	15	37.8	3.27	0.07	3.83	0.13
02CC009	SR	51	5.75	30.8	15	38.7	3.27	0.13	3.83	0.20
02CC012	SR	27	10.96	75.6	14	67.4	3.27	6.25	3.83	7.79
02CC017	SR	201	3.71	16.9	13	37.7	3.27	0.04	3.83	0.07
02CC021	SR	168	2.14	17.2	8	37.3	3.27	0.02	3.83	0.04
02CC026	SR	53	8.22	57.0	12	64.6	3.27	3.25	3.83	4.30
03DD008	SR	151	4.21	62.4	10	70.7	3.27	2.11	3.83	2.69
03DD011	SR	152	4.00	61.0	10	72.4	3.27	2.03	3.83	2.59
03DD017	SR	55	3.13	59.7	10	73.4	3.27	1.60	3.83	2.03
03DD018	SR	54	4.70	82.9	10	71.4	3.27	3.09	3.83	3.76
03DD037	SR	149	14.89	68.4	14	72.7	3.27	8.28	3.83	10.36
03DD041	SR	35	4.95	43.6	13	61.0	3.27	1.24	3.83	1.79
03DD041.1	SR	198	6.03	3.9	15	36.0	3.27	0.00	3.83	0.03
03DD045	SR	171	7.50	70.1	12	63.8	3.27	3.74	3.83	4.77
10AA040	SR	57	4.49	31.3	13	72.5	3.27	1.44	3.83	1.98
10AA041	SR	63	1.54	75.7	5	72.1	3.27	0.95	3.83	1.17
10AA042	SR	153	5.83	53.4	12	67.5	3.27	2.32	3.83	3.07
10AA043	SR	170	6.32	53.9	12	68.6	3.27	2.62	3.83	3.44
10AA049	SR	62	2.71	84.7	10	72.6	3.27	1.83	3.83	2.22
10AA051	SR	69	3.88	60.6	10	73.6	3.27	2.01	3.83	2.55
10AA056	SR	189	2.52	69.5	10	76.7	3.27	1.52	3.83	1.88
10AA060	SR	188	2.71	66.3	10	76.5	3.27	1.58	3.83	1.97
10AA065	SR	154	6.92	43.9	15	72.4	3.27	2.69	3.83	3.57
10AA066	SR	56	1.94	27.7	8	72.2	3.27	0.59	3.83	0.81
10AA069	SR	169	4.36	57.7	10	68.6	3.27	1.94	3.83	2.52
10AA071	SR	64	3.61	58.1	10	73.7	3.27	1.82	3.83	2.32
10AA072	SR	155	2.46	44.8	8	75.4	3.27	1.10	3.83	1.43
10AA079	SR	65	1.97	63.7	5	72.8	3.27	1.06	3.83	1.34
10AA080	SR	178	4.32	15.9	13	76.0	3.27	1.30	3.83	1.80
10AA098	SR	190	4.17	58.6	10	73.9	3.27	2.12	3.83	2.70
10AD001	SR	75	1.51	70.7	5	74.5	3.27	0.91	3.83	1.12
10AD026	SR	174	1.15	76.6	5	75.6	3.27	0.74	3.83	0.91
10AD029	SR	175	1.50	94.8	5	75.3	3.27	1.12	3.83	1.33
10AD035	SR	73	3.49	60.5	10	75.9	3.27	1.89	3.83	2.38
10AD037	SR	179	2.61	52.8	10	76.2	3.27	1.31	3.83	1.67
10AD053	SR	156	8.23	39.2	15	76.4	3.27	3.45	3.83	4.52
10DA014	SR	160	2.98	86.4	10	76.1	3.27	2.09	3.83	2.51
10DA060	SR	192	4.30	43.4	13	75.8	3.27	4.61	3.83	5.79
10DA060	SR	215	1.27	74.2	5	76.8	-	-	-	-
10DA060	SR	215	3.02	78.5	10	75.9	-	-	-	-
10DA070	SR	67	1.48	34.4	8	72.9	3.27	0.52	3.83	0.70
10DA071	SR	184	3.18	88.8	10	74.5	3.27	2.25	3.83	2.70
10DA077	SR	78	1.41	83.6	5	76.3	3.27	0.97	3.83	1.17
10DA080	SR	157	2.47	97.4	5	76.5	3.27	1.88	3.83	2.22
10DA082	SR	158	2.77	94.7	10	76.1	3.27	2.06	3.83	2.44
10DA088	SR	77	1.53	93.3	5	74.4	3.27	1.13	3.83	1.35
10DD068	SR	194	2.80	80.6	10	76.1	3.27	1.87	3.83	2.26
10DD069	SR	107	3.34	49.1	13	73.1	3.27	1.45	3.83	1.89
10DD072	SR	195	2.74	61.0	10	75.5	3.27	1.48	3.83	1.87
10DD073	SR	193	3.34	92.6	10	75.4	3.27	2.44	3.83	2.91
11BA006	SR	60	4.88	41.8	13	72.0	3.27	1.83	3.83	2.45
11BB002	SR	173	1.48	99.0	5	76.1	3.27	1.13	3.83	1.34
11BB017	SR	59	3.35	48.4	13	73.1	3.27	1.44	3.83	1.88
11BB021	SR	68	3.90	31.4	13	73.1	3.27	1.29	3.83	1.76
11BB022	SR	66	1.10	37.2	8	72.8	3.27	0.40	3.83	0.54
11BB027	SR	191	7.59	57.6	12	75.8	3.27	3.95	3.83	5.00
11BB028	SR	58	4.16	47.3	13	72.8	3.27	1.75	3.83	2.29
11BB029	SR	177	8.66	43.0	15	37.1	3.27	0.31	3.83	0.78
11BC012	SR	71	3.09	62.1	10	75.8	3.27	1.70	3.83	2.14
11BC030	SR	90	2.66	70.5	10	74.9	3.27	1.58	3.83	1.96
11BC034	SR	87	2.91	50.7	10	72.7	3.27	1.29	3.83	1.68

Hydrologic Results - Existing Conditions										
Santiam River Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
							10-year		25-year	
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
11BC036	SR	84	5.93	44.1	15	73.4	3.27	2.40	3.83	3.16
11BC038	SR	81	6.06	40.6	15	72.7	3.27	2.26	3.83	3.02
11BC039	SR	85	2.62	43.4	13	74.4	3.27	1.09	3.83	1.44
11BC040	SR	72	3.17	56.5	10	75.6	3.27	2.19	3.83	2.81
11BC040	SR	74	1.43	37.0	8	74.6	-	-	-	-
11BC042	SR	22	3.07	40.5	13	62.4	3.27	0.75	3.83	1.08
11BD023	SR	86	2.92	47.8	13	73.5	3.27	1.26	3.83	1.65
11BD024	SR	213	8.14	43.5	15	72.7	3.27	3.18	3.83	4.22
11BD025	SR	89	6.05	51.6	12	73.1	3.27	2.73	3.83	3.54
11BD028	SR	80	4.36	46.8	13	72.6	3.27	1.81	3.83	2.37
11BD029	SR	82	3.87	50.6	10	72.8	3.27	1.72	3.83	2.24
11BD030	SR	83	2.41	28.5	8	69.6	3.27	0.65	3.83	0.92
11CA019	SR	88	2.72	47.1	13	72.8	3.27	1.14	3.83	1.49
11CA020	SR	214	5.35	42.3	15	72.6	3.27	2.05	3.83	2.72
11CA021	SR	95	3.87	53.6	10	72.8	3.27	1.79	3.83	2.32
11CA042	SR	104	4.42	45.7	13	59.3	3.27	1.10	3.83	1.58
11CB010	SR	216	3.07	95.9	10	75.0	3.27	2.29	3.83	2.72
11CB039	SR	61	4.23	47.7	13	67.7	3.27	3.58	3.83	4.68
11CB039	SR	79	1.64	65.5	5	75.3	-	-	-	-
11CB039	SR	92	2.63	44.8	13	75.6	-	-	-	-
11CB040	SR	185	1.89	50.3	5	75.6	3.27	1.52	3.83	1.93
11CB040	SR	186	1.11	60.6	5	74.9	-	-	-	-
11CB041	SR	217	2.09	51.7	5	72.3	3.27	0.94	3.83	1.23
11CB042	SR	172	1.18	96.4	5	75.5	3.27	0.89	3.83	1.06
11CB054	SR	91	2.96	50.2	10	72.6	3.27	1.30	3.83	1.69
11CB055	SR	94	2.72	44.9	13	75.2	3.27	6.77	3.83	8.41
11CB055	SR	150	5.96	72.4	12	65.3	-	-	-	-
11CB055	SR	180	3.23	98.9	10	73.8	-	-	-	-
11CB056	SR	93	2.91	46.0	13	72.7	3.27	1.19	3.83	1.57
11CB057	SR	76	1.52	82.3	5	76.5	3.27	1.04	3.83	1.25
11CB067	SR	159	3.21	82.3	10	76.9	3.27	2.18	3.83	2.64
11CC010	SR	211	3.70	76.1	10	75.1	3.27	2.34	3.83	2.87
11DA009	SR	100	0.86	87.6	5	69.2	3.27	0.59	3.83	0.72
11DB022	SR	99	0.83	91.6	5	61.0	3.27	0.58	3.83	0.70
11DB024	SR	102	3.46	54.4	10	60.0	3.27	1.14	3.83	1.56
14AC006.1	SR	121	6.82	46.5	15	62.9	3.27	2.10	3.83	2.97
14AC006.1	SR	182	0.99	52.0	5	39.4	-	-	-	-
14AC007	SR	120	2.18	48.7	8	58.0	3.27	0.58	3.83	0.82
14AC012	SR	125	1.85	54.7	5	73.0	3.27	0.89	3.83	1.14
14AC013	SR	124	1.84	48.2	8	71.8	3.27	0.77	3.83	1.01
14AC029	SR	119	2.59	54.9	10	71.8	3.27	1.19	3.83	1.54
14BD013	SR	116	9.53	49.3	15	72.6	3.27	4.06	3.83	5.31
14BD015	SR	70	3.07	57.7	10	73.1	3.27	1.52	3.83	1.94
14CC006	SR	208	3.72	31.9	13	76.6	3.27	1.45	3.83	1.92
14CC007	SR	39	2.95	91.3	10	76.0	3.27	2.14	3.83	2.55
14CC026	SR	40	4.36	82.7	10	76.7	3.27	2.97	3.83	3.59
14CC048	SR	38	4.76	50.4	10	76.6	3.27	2.34	3.83	2.99
14DA010.1	SR	183	4.77	65.5	10	59.3	3.27	2.01	3.83	2.64
14DA011	SR	130	0.47	95.0	5	54.4	3.27	0.71	3.83	0.94
14DA011	SR	134	1.53	43.1	8	60.6	-	-	-	-
14DA013	SR	137	2.18	69.7	5	47.2	3.27	0.82	3.83	1.10
14DA021	SR	141	3.05	59.7	10	55.0	3.27	1.01	3.83	1.37
14DA021.1	SR	143	7.44	19.6	15	72.5	3.27	1.89	3.83	2.71
14DA025	SR	147	3.86	59.0	10	39.5	3.27	0.76	3.83	1.14
14DA028	SR	138	3.28	59.8	10	48.7	3.27	0.91	3.83	1.28
14DA035	SR	136	2.13	56.2	5	38.3	3.27	0.35	3.83	0.55
14DA038	SR	135	4.14	59.8	10	72.3	3.27	2.07	3.83	2.64
14DB001	SR	113	2.06	46.4	8	59.0	3.27	0.53	3.83	0.76
14DB025	SR	131	1.47	64.6	5	73.0	3.27	0.80	3.83	1.01
14DB036	SR	144	4.14	52.0	10	39.1	3.27	0.52	3.83	0.87
14DB045	SR	129	1.94	60.4	5	66.6	3.27	0.87	3.83	1.14
14DB045.1	SR	127	0.95	53.8	5	73.0	3.27	0.45	3.83	0.58

Hydrologic Results - Existing Conditions										
Santiam River Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
							10-year		25-year	
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
14DB046	SR	132	1.73	52.7	5	61.6	3.27	0.58	3.83	0.79
14DB048	SR	128	1.31	73.0	5	59.9	3.27	0.66	3.83	0.85
14DB049	SR	133	1.20	49.9	8	72.3	3.27	0.52	3.83	0.68
14DB052	SR	122	3.24	57.0	10	72.6	3.27	1.57	3.83	2.01
14DB053	SR	123	2.01	58.2	5	73.6	3.27	2.20	3.83	2.82
14DB053	SR	126	2.52	54.5	10	73.0	-	-	-	-
14DC012	SR	148	3.52	39.9	13	66.0	3.27	1.00	3.83	1.40
14DD001	SR	31	0.58	87.8	5	39.0	3.27	0.34	3.83	0.43
14DD006	SR	142	3.86	56.0	10	36.7	3.27	0.56	3.83	0.91
14DD015	SR	32	2.06	8.8	8	38.4	3.27	0.01	3.83	0.02
14DD015.1	SR	41	7.14	32.7	15	78.5	3.27	3.00	3.83	3.93
14DD016	SR	146	3.82	61.5	10	37.6	3.27	0.80	3.83	1.19
14DD024	SR	145	2.79	56.8	10	38.5	3.27	0.46	3.83	0.73
23AB007	SR	43	3.13	69.4	10	78.7	3.27	1.94	3.83	2.39
23AB009	SR	181	2.12	40.4	8	78.1	3.27	0.98	3.83	1.27
23AC027	SR	36	1.70	86.7	5	80.0	3.27	1.22	3.83	1.46
23AC053	SR	10	14.01	47.2	20	77.2	3.27	6.42	3.83	8.26
23AC068	SR	44	2.51	12.5	13	77.5	3.27	0.78	3.83	1.08
23AC076	SR	162	6.04	35.9	15	76.5	3.27	2.44	3.83	3.21
23AC088	SR	163	10.85	47.8	20	79.3	3.27	5.32	3.83	6.77
23AD003	SR	206	7.75	17.6	15	76.8	3.27	2.46	3.83	3.39
23BA018	SR	161	4.43	84.1	10	78.9	3.27	3.09	3.83	3.72
23BA019	SR	37	1.56	97.6	5	80.0	3.27	1.19	3.83	1.41
23BD030	SR	164	1.46	89.0	5	79.7	3.27	1.06	3.83	1.27
23BD034	SR	166	1.59	63.8	5	79.6	3.27	0.96	3.83	1.19
23BD041	SR	209	19.91	86.0	16	78.9	3.27	13.81	3.83	16.56
23BD044	SR	165	4.96	64.5	10	79.8	3.27	3.00	3.83	3.71
23BD046.1	SR	197	19.46	2.8	30	36.4	3.27	0.00	3.83	0.07
23DA015	SR	118	3.07	56.3	10	73.6	3.27	1.50	3.83	1.93
23DA043	SR	25	3.04	38.6	13	60.6	3.27	0.64	3.83	0.95
23DA044	SR	11	7.84	36.0	15	74.4	3.27	2.91	3.83	3.90
23DB001	SR	205	16.20	22.9	30	76.7	3.27	4.85	3.83	6.62
23DB007	SR	203	7.37	70.2	12	73.8	3.27	4.28	3.83	5.32
23DD002	SR	24	1.69	68.7	5	60.8	3.27	0.80	3.83	1.03
23DD006	SR	12	28.30	15.7	40	65.1	3.27	2.76	3.83	4.68
23DD010	SR	23	1.21	62.0	5	66.9	3.27	0.57	3.83	0.73
23DD053	SR	20	4.35	15.4	13	73.4	3.27	1.10	3.83	1.57
23DD057.2	SR	21	6.73	23.5	15	73.3	3.27	1.94	3.83	2.71
23DD063	SR	19	1.17	49.9	8	73.0	3.27	0.52	3.83	0.68
23DD066	SR	16	1.27	33.0	8	72.7	3.27	0.43	3.83	0.59
24CB004	SR	28	9.11	25.5	15	73.8	3.27	2.79	3.83	3.85
24CB013	SR	1	10.90	14.6	20	35.5	3.27	0.07	3.83	0.14
24CC003	SR	167	15.30	49.0	30	59.7	3.27	3.66	3.83	5.20
24CC004	SR	204	10.11	34.7	20	67.7	3.27	2.61	3.83	3.71
25BA026	SR	14	65.15	3.2	40	72.4	3.27	8.91	3.83	13.92
25BB014	SR	18	151.49	3.4	60	74.0	3.27	20.78	3.83	31.33
25BB015.1	SR	15	4.66	25.7	13	72.4	3.27	1.34	3.83	1.88
25BB026	SR	13	7.28	32.9	15	73.3	3.27	2.46	3.83	3.35
25BB033	SR	17	5.88	24.3	15	74.0	3.27	1.78	3.83	2.47

Hydrologic Results - Full Buildout Conditions										
Santiam River Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
							10-year		25-year	
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
02CC002.1	SR-F	33	1.37	61.1	5	38.8	3.27	0.30	3.83	0.44
02CC003	SR-F	187	6.11	57.3	12	37.1	3.27	0.97	3.83	1.54
02CC009	SR-F	51	5.75	83.1	12	37.9	3.27	2.88	3.83	3.67
02CC012	SR-F	27	10.96	80.1	14	67.8	3.27	6.69	3.83	8.23
02CC017	SR-F	201	3.71	24.5	13	37.8	3.27	0.06	3.83	0.10
02CC021	SR-F	168	2.14	17.2	8	37.3	3.27	0.02	3.83	0.04
02CC026	SR-F	53	8.22	57.0	12	64.6	3.27	3.25	3.83	4.30
03DD008	SR-F	151	4.21	62.0	10	70.8	3.27	2.10	3.83	2.68
03DD011	SR-F	152	4.00	61.0	10	72.4	3.27	2.03	3.83	2.59
03DD017	SR-F	55	3.13	59.7	10	73.4	3.27	1.60	3.83	2.03
03DD018	SR-F	54	4.70	82.9	10	71.4	3.27	3.09	3.83	3.76
03DD037	SR-F	149	14.89	72.8	14	72.6	3.27	8.72	3.83	10.81
03DD041	SR-F	35	4.95	82.0	10	60.9	3.27	2.97	3.83	3.67
03DD041.1	SR-F	198	6.03	90.0	12	39.0	3.27	3.72	3.83	4.58
03DD045	SR-F	171	7.50	77.6	12	63.5	3.27	4.25	3.83	5.30
10AA040	SR-F	57	4.49	51.4	10	72.4	3.27	1.99	3.83	2.59
10AA041	SR-F	63	1.54	75.7	5	72.1	3.27	0.95	3.83	1.17
10AA042	SR-F	153	5.83	53.4	12	67.5	3.27	2.32	3.83	3.07
10AA043	SR-F	170	6.32	62.3	12	68.5	3.27	3.01	3.83	3.86
10AA049	SR-F	62	2.71	84.7	10	72.6	3.27	1.83	3.83	2.22
10AA051	SR-F	69	3.88	60.6	10	73.6	3.27	2.01	3.83	2.55
10AA056	SR-F	189	2.52	69.5	10	76.7	3.27	1.52	3.83	1.88
10AA060	SR-F	188	2.71	66.3	10	76.5	3.27	1.58	3.83	1.97
10AA065	SR-F	154	6.92	45.3	15	72.3	3.27	2.74	3.83	3.63
10AA066	SR-F	56	1.94	44.0	8	72.0	3.27	0.77	3.83	1.02
10AA069	SR-F	169	4.36	57.7	10	68.6	3.27	1.94	3.83	2.52
10AA071	SR-F	64	3.61	58.1	10	73.7	3.27	1.82	3.83	2.32
10AA072	SR-F	155	2.46	44.8	8	75.4	3.27	1.10	3.83	1.43
10AA079	SR-F	65	1.97	66.7	5	72.9	3.27	1.10	3.83	1.38
10AA080	SR-F	178	4.32	15.9	13	76.0	3.27	1.30	3.83	1.80
10AA098	SR-F	190	4.17	58.6	10	73.9	3.27	2.12	3.83	2.70
10AD001	SR-F	75	1.51	70.7	5	74.5	3.27	0.91	3.83	1.12
10AD026	SR-F	174	1.15	76.6	5	75.6	3.27	0.74	3.83	0.91
10AD029	SR-F	175	1.50	94.8	5	75.3	3.27	1.12	3.83	1.33
10AD035	SR-F	73	3.49	60.5	10	75.9	3.27	1.89	3.83	2.38
10AD037	SR-F	179	2.61	52.8	10	76.2	3.27	1.31	3.83	1.67
10AD053	SR-F	156	8.23	39.8	15	76.4	3.27	3.47	3.83	4.55
10DA014	SR-F	160	2.98	86.4	10	76.1	3.27	2.09	3.83	2.51
10DA060	SR-F	192	4.30	45.4	13	75.9	3.27	4.67	3.83	5.85
10DA060	SR-F	215	1.27	74.2	5	76.8	-	-	-	-
10DA060	SR-F	215	3.02	78.5	10	75.9	-	-	-	-
10DA070	SR-F	67	1.48	61.9	5	73.2	3.27	0.78	3.83	0.99
10DA071	SR-F	184	3.18	88.8	10	74.5	3.27	2.25	3.83	2.70
10DA077	SR-F	78	1.41	83.6	5	76.3	3.27	0.97	3.83	1.17
10DA080	SR-F	157	2.47	97.4	5	76.5	3.27	1.88	3.83	2.22
10DA082	SR-F	158	2.77	94.7	10	76.1	3.27	2.06	3.83	2.44
10DA088	SR-F	77	1.53	93.3	5	74.4	3.27	1.13	3.83	1.35
10DD068	SR-F	194	2.80	85.7	10	75.8	3.27	1.95	3.83	2.34
10DD069	SR-F	107	3.34	49.1	13	73.1	3.27	1.45	3.83	1.89
10DD072	SR-F	195	2.74	65.0	10	75.7	3.27	1.56	3.83	1.94
10DD073	SR-F	193	3.34	92.6	10	75.4	3.27	2.44	3.83	2.91
11BA006	SR-F	60	4.88	43.1	13	72.1	3.27	1.88	3.83	2.50
11BB002	SR-F	173	1.48	99.0	5	76.1	3.27	1.13	3.83	1.34
11BB017	SR-F	59	3.35	48.4	13	73.1	3.27	1.44	3.83	1.88
11BB021	SR-F	68	3.90	31.4	13	73.1	3.27	1.29	3.83	1.76
11BB022	SR-F	66	1.10	37.2	8	72.8	3.27	0.40	3.83	0.54
11BB027	SR-F	191	7.59	57.6	12	75.8	3.27	3.95	3.83	5.00
11BB028	SR-F	58	4.16	47.3	13	72.8	3.27	1.75	3.83	2.29
11BB029	SR-F	177	8.66	72.9	12	38.7	3.27	3.07	3.83	4.15
11BC012	SR-F	71	3.09	63.5	10	75.7	3.27	1.73	3.83	2.16
11BC030	SR-F	90	2.66	70.5	10	74.9	3.27	1.58	3.83	1.96
11BC034	SR-F	87	2.91	50.7	10	72.7	3.27	1.29	3.83	1.68

Hydrologic Results - Full Buildout Conditions										
Santiam River Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
							10-year		25-year	
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
11BC036	SR-F	84	5.93	46.9	15	73.3	3.27	2.49	3.83	3.26
11BC038	SR-F	81	6.06	44.7	15	72.8	3.27	2.42	3.83	3.20
11BC039	SR-F	85	2.62	43.4	13	74.4	3.27	1.09	3.83	1.44
11BC040	SR-F	72	3.17	56.5	10	75.6	3.27	2.19	3.83	2.81
11BC040	SR-F	74	1.43	37.0	8	74.6	-	-	-	-
11BC042	SR-F	22	3.07	57.4	10	62.8	3.27	1.17	3.83	1.56
11BD023	SR-F	86	2.92	47.8	13	73.5	3.27	1.26	3.83	1.65
11BD024	SR-F	213	8.14	45.3	15	72.8	3.27	3.28	3.83	4.33
11BD025	SR-F	89	6.05	51.6	12	73.1	3.27	2.73	3.83	3.54
11BD028	SR-F	80	4.36	46.8	13	72.6	3.27	1.81	3.83	2.37
11BD029	SR-F	82	3.87	50.5	10	72.8	3.27	1.72	3.83	2.23
11BD030	SR-F	83	2.41	43.8	8	71.1	3.27	0.92	3.83	1.23
11CA019	SR-F	88	2.72	47.1	13	72.8	3.27	1.14	3.83	1.49
11CA020	SR-F	214	5.35	42.3	15	72.6	3.27	2.05	3.83	2.72
11CA021	SR-F	95	3.87	53.6	10	72.8	3.27	1.79	3.83	2.32
11CA042	SR-F	104	4.42	45.7	13	59.3	3.27	1.10	3.83	1.58
11CB010	SR-F	216	3.07	95.9	10	75.0	3.27	2.29	3.83	2.72
11CB039	SR-F	61	4.23	47.7	13	67.7	3.27	3.58	3.83	4.68
11CB039	SR-F	79	1.64	65.5	5	75.3	-	-	-	-
11CB039	SR-F	92	2.63	44.8	13	75.6	-	-	-	-
11CB040	SR-F	185	1.89	50.3	5	75.6	3.27	1.52	3.83	1.93
11CB040	SR-F	186	1.11	60.6	5	74.9	-	-	-	-
11CB041	SR-F	217	2.09	53.0	5	72.4	3.27	0.96	3.83	1.25
11CB042	SR-F	172	1.18	96.4	5	75.5	3.27	0.89	3.83	1.06
11CB054	SR-F	91	2.96	50.2	10	72.6	3.27	1.30	3.83	1.69
11CB055	SR-F	94	2.72	44.9	13	75.2	3.27	6.81	3.83	8.45
11CB055	SR-F	150	5.96	73.2	12	65.3	-	-	-	-
11CB055	SR-F	180	3.23	98.9	10	73.8	-	-	-	-
11CB056	SR-F	93	2.91	46.0	13	72.7	3.27	1.19	3.83	1.57
11CB057	SR-F	76	1.52	82.3	5	76.5	3.27	1.04	3.83	1.25
11CB067	SR-F	159	3.21	89.3	10	76.8	3.27	2.30	3.83	2.75
11CC010	SR-F	211	3.70	76.1	10	75.1	3.27	2.34	3.83	2.87
11DA009	SR-F	100	0.86	87.6	5	69.2	3.27	0.59	3.83	0.72
11DB022	SR-F	99	0.83	91.6	5	61.0	3.27	0.58	3.83	0.70
11DB024	SR-F	102	3.46	55.7	10	60.0	3.27	1.18	3.83	1.60
14AC006.1	SR-F	121	6.82	46.5	15	62.9	3.27	2.10	3.83	2.97
14AC006.1	SR-F	182	0.99	52.0	5	39.4	-	-	-	-
14AC007	SR-F	120	2.18	48.7	8	58.0	3.27	0.58	3.83	0.82
14AC012	SR-F	125	1.85	54.7	5	73.0	3.27	0.89	3.83	1.14
14AC013	SR-F	124	1.84	48.2	8	71.8	3.27	0.77	3.83	1.01
14AC029	SR-F	119	2.59	54.9	10	71.8	3.27	1.19	3.83	1.54
14BD013	SR-F	116	9.53	49.6	15	72.6	3.27	4.07	3.83	5.32
14BD015	SR-F	70	3.07	60.9	10	73.4	3.27	1.59	3.83	2.02
14CC006	SR-F	208	3.72	38.0	13	76.6	3.27	1.56	3.83	2.05
14CC007	SR-F	39	2.95	91.3	10	76.0	3.27	2.14	3.83	2.55
14CC026	SR-F	40	4.36	87.4	10	76.6	3.27	3.08	3.83	3.70
14CC048	SR-F	38	4.76	55.6	10	76.7	3.27	2.49	3.83	3.15
14DA010.1	SR-F	183	4.77	65.5	10	59.3	3.27	2.01	3.83	2.64
14DA011	SR-F	130	0.47	95.0	5	54.4	3.27	0.71	3.83	0.94
14DA011	SR-F	134	1.53	43.1	8	60.6	-	-	-	-
14DA013	SR-F	137	2.18	69.7	5	47.2	3.27	0.82	3.83	1.10
14DA021	SR-F	141	3.05	59.7	10	55.0	3.27	1.01	3.83	1.37
14DA021.1	SR-F	143	7.44	52.0	12	72.9	3.27	3.36	3.83	4.36
14DA025	SR-F	147	3.86	59.0	10	39.5	3.27	0.76	3.83	1.14
14DA028	SR-F	138	3.28	59.8	10	48.7	3.27	0.91	3.83	1.28
14DA035	SR-F	136	2.13	64.4	5	38.1	3.27	0.54	3.83	0.77
14DA038	SR-F	135	4.14	59.9	10	72.3	3.27	2.07	3.83	2.64
14DB001	SR-F	113	2.06	46.4	8	59.0	3.27	0.53	3.83	0.76
14DB025	SR-F	131	1.47	64.6	5	73.0	3.27	0.80	3.83	1.01
14DB036	SR-F	144	4.14	59.5	10	39.1	3.27	0.83	3.83	1.24
14DB045	SR-F	129	1.94	60.4	5	66.6	3.27	0.87	3.83	1.14
14DB045.1	SR-F	127	0.95	53.8	5	73.0	3.27	0.45	3.83	0.58

Hydrologic Results - Full Buildout Conditions										
Santiam River Watershed										
Node Name	Watershed	Basin ID	Node Properties				Runoff Results			
							10-year		25-year	
			Area	Impervious Percentage	Time of Concentration	Composite Pervious CN	Total Rainfall	Max Flow	Total Rainfall	Max Flow
			acres	%	minutes		in	cfs	in	cfs
14DB046	SR-F	132	1.73	52.7	5	61.6	3.27	0.58	3.83	0.79
14DB048	SR-F	128	1.31	73.0	5	59.9	3.27	0.66	3.83	0.85
14DB049	SR-F	133	1.20	49.9	8	72.3	3.27	0.52	3.83	0.68
14DB052	SR-F	122	3.24	57.0	10	72.6	3.27	1.57	3.83	2.01
14DB053	SR-F	123	2.01	58.2	5	73.6	3.27	2.20	3.83	2.82
14DB053	SR-F	126	2.52	54.5	10	73.0	-	-	-	-
14DC012	SR-F	148	3.52	46.7	13	66.5	3.27	1.19	3.83	1.61
14DD001	SR-F	31	0.58	87.8	5	39.0	3.27	0.34	3.83	0.43
14DD006	SR-F	142	3.86	56.0	10	36.7	3.27	0.56	3.83	0.91
14DD015	SR-F	32	2.06	67.4	5	39.0	3.27	0.60	3.83	0.84
14DD015.1	SR-F	41	7.14	75.5	12	78.6	3.27	4.63	3.83	5.65
14DD016	SR-F	146	3.82	63.9	10	37.8	3.27	0.91	3.83	1.32
14DD024	SR-F	145	2.79	60.0	10	38.5	3.27	0.56	3.83	0.84
23AB007	SR-F	43	3.13	72.7	10	78.7	3.27	2.00	3.83	2.45
23AB009	SR-F	181	2.12	40.8	8	78.1	3.27	0.98	3.83	1.27
23AC027	SR-F	36	1.70	86.7	5	80.0	3.27	1.22	3.83	1.46
23AC053	SR-F	10	14.01	56.6	14	77.3	3.27	7.41	3.83	9.35
23AC068	SR-F	44	2.51	51.5	10	77.1	3.27	1.27	3.83	1.61
23AC076	SR-F	162	6.04	37.8	15	76.4	3.27	2.49	3.83	3.27
23AC088	SR-F	163	10.85	48.3	20	79.3	3.27	5.35	3.83	6.80
23AD003	SR-F	206	7.75	17.8	15	76.8	3.27	2.47	3.83	3.39
23BA018	SR-F	161	4.43	84.1	10	78.9	3.27	3.09	3.83	3.72
23BA019	SR-F	37	1.56	97.7	5	80.0	3.27	1.19	3.83	1.41
23BD030	SR-F	164	1.46	89.0	5	79.7	3.27	1.06	3.83	1.27
23BD034	SR-F	166	1.59	63.8	5	79.6	3.27	0.96	3.83	1.19
23BD041	SR-F	209	19.91	88.0	16	78.8	3.27	13.98	3.83	16.72
23BD044	SR-F	165	4.96	64.5	10	79.8	3.27	3.00	3.83	3.71
23BD046.1	SR-F	197	19.46	92.2	16	39.0	3.27	12.51	3.83	15.23
23DA015	SR-F	118	3.07	56.3	10	73.6	3.27	1.50	3.83	1.93
23DA043	SR-F	25	3.04	74.6	10	61.0	3.27	1.59	3.83	2.02
23DA044	SR-F	11	7.84	55.8	12	74.3	3.27	3.86	3.83	4.93
23DB001	SR-F	205	16.20	63.5	16	76.9	3.27	9.05	3.83	11.30
23DB007	SR-F	203	7.37	70.2	12	73.8	3.27	4.28	3.83	5.32
23DD002	SR-F	24	1.69	68.8	5	60.8	3.27	0.80	3.83	1.03
23DD006	SR-F	12	28.30	62.6	20	65.2	3.27	12.07	3.83	15.73
23DD010	SR-F	23	1.21	64.6	5	67.0	3.27	0.59	3.83	0.76
23DD053	SR-F	20	4.35	33.6	13	73.4	3.27	1.51	3.83	2.05
23DD057.2	SR-F	21	6.73	49.5	15	73.1	3.27	2.91	3.83	3.80
23DD063	SR-F	19	1.17	49.9	8	73.0	3.27	0.52	3.83	0.68
23DD066	SR-F	16	1.27	33.0	8	72.7	3.27	0.43	3.83	0.59
24CB004	SR-F	28	9.11	75.4	12	74.0	3.27	5.62	3.83	6.92
24CB013	SR-F	1	10.90	55.8	14	37.4	3.27	1.55	3.83	2.52
24CC003	SR-F	167	15.30	66.0	16	60.5	3.27	6.52	3.83	8.51
24CC004	SR-F	204	10.11	60.0	14	68.3	3.27	4.58	3.83	5.92
25BA026	SR-F	14	65.15	3.2	40	72.4	3.27	8.91	3.83	13.92
25BB014	SR-F	18	151.49	22.2	60	73.9	3.27	30.02	3.83	42.18
25BB015.1	SR-F	15	4.66	27.8	13	72.4	3.27	1.40	3.83	1.94
25BB026	SR-F	13	7.28	38.1	15	73.4	3.27	2.68	3.83	3.59
25BB033	SR-F	17	5.88	51.5	12	74.0	3.27	2.72	3.83	3.51

Appendix C

Hydraulic Results Tables

Existing Conditions

Future Conditions

Hydraulic Model Results - Existing Conditions																					
Burkhart Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
14	03DC006	03DC005	Circular	285.09	0.01	2.00	2.49	339.48	338.53	335.01	335.05	7.58	10.80	337.01	338.46	336.66	337.71	2.47	1.02	1.88	0.82
21	10AB056	10AB061	Circular	63.52	0.99	2.50	37.93	342.85	342.85	334.80	335.43	13.03	12.96	337.76	338.55	337.72	338.51	5.09	4.30	5.13	4.34
22	10AB061	10BA029	Circular	273.06	0.18	2.50	16.30	342.85	342.55	334.30	334.80	12.72	12.74	337.72	338.51	337.48	338.34	5.13	4.34	5.07	4.21
23	10BA029	10BA028	Circular	376.60	0.08	2.50	11.10	342.55	341.85	333.98	334.30	18.06	18.18	337.48	338.34	336.76	337.54	5.07	4.21	5.09	4.31
24	10BA028	10BA024	Circular	42.50	1.13	2.50	40.48	341.85	340.44	333.50	333.98	17.96	18.12	336.76	337.54	336.69	337.45	5.09	4.31	3.76	2.99
25	10AB001	10BA016	Circular	311.07	0.10	3.00	19.55	342.09	342.75	334.95	335.26	21.08	23.03	337.69	338.47	337.35	338.10	4.40	3.62	5.40	4.65
26	10BB021	10BB049	Circular	136.57	0.15	3.00	24.29	338.35	336.82	331.55	331.76	26.10	27.86	335.01	335.45	334.78	335.19	3.34	2.90	2.04	1.63
27	10BB022	10BB021	Circular	150.05	0.20	3.00	27.69	338.75	338.35	331.76	332.06	26.07	27.85	335.26	335.74	335.01	335.45	3.49	3.01	3.34	2.90
28	10BB023	10BB022	Circular	146.55	0.20	3.00	27.55	339.65	338.75	332.06	332.35	26.05	27.83	335.50	336.02	335.26	335.74	4.15	3.63	3.49	3.01
29	10BB014	10BB023	Circular	98.05	0.20	3.00	27.97	340.45	339.65	332.35	332.55	26.03	27.83	335.67	336.21	335.50	336.02	4.78	4.24	4.15	3.63
30	10BA031	10BB014	Circular	213.67	0.20	3.00	27.78	340.45	340.45	332.55	332.98	26.02	27.78	336.03	336.61	335.67	336.21	4.42	3.84	4.78	4.24
31	10BA032	10BA031	Circular	294.60	0.20	3.00	27.72	340.75	340.45	332.98	333.57	26.02	27.72	336.54	337.16	336.03	336.61	4.21	3.59	4.42	3.84
32	10BA023	10BA015	Circular	88.02	0.10	3.00	19.80	340.13	341.35	333.79	333.88	26.69	28.13	336.98	337.63	336.82	337.46	3.15	2.50	4.53	3.89
33	10BA015	10BA032	Circular	161.55	0.14	3.00	22.86	341.35	340.75	333.57	333.79	26.41	27.98	336.82	337.46	336.54	337.16	4.53	3.89	4.21	3.59
34	10BB012	09AA021	Circular	115.01	0.20	3.00	27.70	338.15	336.72	329.85	330.08	42.44	47.16	332.64	332.82	331.73	331.98	5.51	5.33	4.99	4.74
35	10BB018	10BB017	Circular	13.01	0.23	3.00	29.74	337.75	337.65	330.68	330.71	35.89	38.00	333.52	333.84	333.49	333.79	4.23	3.91	4.16	3.86
36	10BB017	10BB016	Circular	12.50	0.24	3.00	30.34	337.65	337.55	330.65	330.68	35.89	38.00	333.49	333.79	333.45	333.74	4.16	3.86	4.10	3.81
37	10BB016	10BB013	Circular	140.50	0.21	3.00	28.62	337.55	336.65	330.35	330.65	35.88	37.98	333.45	333.74	333.03	333.23	4.10	3.81	3.62	3.42
38	10BB013	10BB012	Circular	124.00	0.22	3.00	28.90	336.65	338.15	330.08	330.35	35.85	37.94	333.03	333.23	332.64	332.82	3.62	3.42	5.51	5.33
39	10BB019	10BB018	Circular	118.53	0.19	3.00	27.28	337.65	337.75	330.71	330.94	35.90	38.02	333.91	334.26	333.52	333.84	3.74	3.39	4.23	3.91
40	10BB049	10BB020	Circular	76.50	0.07	3.00	15.83	336.82	337.55	331.33	331.38	35.97	38.06	334.78	335.19	334.54	334.93	2.04	1.63	3.01	2.62
41	10BB020	10BB019	Circular	195.55	0.20	3.00	27.66	337.55	337.65	330.94	331.33	35.94	38.04	334.54	334.93	333.91	334.26	3.01	2.62	3.74	3.39
42	09AA010	09AA009	Circular	9.24	0.76	3.00	53.91	336.25	337.01	329.83	329.90	27.85	28.59	334.86	335.61	334.86	335.60	1.39	0.65	2.15	1.41
43	10BB007	10BB015	Circular	81.66	0.27	3.00	32.15	336.95	336.35	330.28	330.50	28.04	28.62	335.03	335.74	334.98	335.70	1.92	1.21	1.37	0.65
44	10BB008	10BB007	Circular	69.02	0.25	3.00	30.74	337.55	336.95	330.50	330.67	28.11	28.63	335.08	335.78	335.03	335.74	2.47	1.77	1.92	1.21
45	10BB009	10BB008	Circular	13.01	0.31	3.00	34.34	337.55	337.55	330.67	330.71	28.15	28.64	335.09	335.79	335.08	335.78	2.46	1.76	2.47	1.77
46	10BB001	10BB009	Circular	13.50	0.30	3.00	33.71	337.65	337.55	330.71	330.75	28.17	28.67	335.10	335.79	335.09	335.79	2.55	1.86	2.46	1.76
47	10BB011	10BB001	Circular	42.50	0.26	3.00	31.51	337.75	337.65	330.75	330.86	28.19	28.67	335.13	335.82	335.10	335.79	2.62	1.93	2.55	1.86
48	10BB002	10BB011	Circular	92.05	0.26	3.00	31.62	337.65	337.75	330.86	331.10	28.26	28.69	335.19	335.87	335.13	335.82	2.46	1.78	2.62	1.93
49	10BB048	10BB003	Circular	135.53	0.30	3.00	34.06	336.84	337.75	331.48	331.89	28.82	29.00	335.39	336.03	335.29	335.95	1.45	0.81	2.46	1.80
50	10BB003	10BB002	Circular	146.55	0.26	3.00	31.54	337.75	337.65	331.10	331.48	28.49	28.82	335.29	335.95	335.19	335.87	2.46	1.80	2.46	1.78
51	10BB024	10BB004	Circular	141.52	0.20	3.00	28.04	337.98	338.65	332.20	332.49	23.28	23.43	335.60	336.22	335.52	336.13	2.38	1.76	3.13	2.52
55	10BD035	10BD001	Circular	264.30	0.13	0.83	0.74	339.38	338.73	335.15	335.50	1.03	1.03	339.38	339.38	338.73	338.73	0.00	0.00	0.00	0.00
59	10BD001	10BA034	Circular	295.45	0.57	0.83	1.53	338.73	338.93	333.38	335.05	2.37	2.33	338.73	338.73	335.79	336.41	0.00	0.00	3.14	2.52
61	10BD009	10BA024	Circular	540.95	0.67	1.00	2.71	339.60	340.44	333.98	337.62	0.71	0.73	338.02	338.13	336.69	337.45	1.58	1.48	3.76	2.99
64	10BA016	10BA014	Circular	344.10	0.22	3.00	28.91	342.75	341.55	334.20	334.95	20.42	21.91	337.35	338.10	337.02	337.70	5.40	4.65	4.53	3.85
65	10BA014	10BA023	Circular	55.03	0.75	3.00	53.46	341.55	340.13	333.79	334.20	20.10	22.02	337.02	337.70	336.98	337.63	4.53	3.85	3.15	2.50
66	10AB059	10AB056	Circular	42.62	0.47	1.25	4.11	342.05	342.85	335.43	335.63	4.50	4.52	337.98	338.74	337.76	338.55	4.07	3.31	5.09	4.30
71	10AB021	10AB064	Circular	337.23	0.25	0.83	1.02	342.22	342.55	336.95	337.80	1.00	1.00	342.22	342.22	342.55	342.55	0.00	0.00	0.00	0.00
72	10AB016	10AB021	Circular	311.81	0.06	0.83	0.51	339.51	342.22	337.80	338.00	-1.91	-1.91	339.51	339.51	342.22	342.22	0.00	0.00	0.00	0.00
76	15AA037	15AB045	Circular	366.72	0.19	0.67	0.49	350.50	350.20	346.05	346.75	1.11	1.46	389.21	411.15	387.44	408.78	-38.71	-60.65	-37.24	-58.58
82	10AB055	10AB021	Circular	474.14	0.24	0.67	0.55	341.67	342.22	337.80	338.92	0.64	0.62	341.67	341.67	342.22	342.22	0.00	0.00	0.00	0.00
88	10AB018	10AB019	Circular	68.75	0.28	0.83	1.06	341.77	341.46	337.31	337.50	1.53	1.39	341.77	341.77	341.46	341.46	0.00	0.00	0.00	0.00
93	03BB013	03BB001	Natural	319.72	0.22	1.69	55.09	328.11	327.43	325.73	326.43	8.17	8.78	327.50	327.51	327.43	327.43	0.61	0.60	0.00	0.00
98	10BC052	10BC053	Circular	296.22	0.22	0.83	0.95	338.36	337.48	334.15	334.80	1.13	1.13	338.36	338.36	337.48	337.48	0.00	0.00	0.00	0.00
99	10BC053	10BB024	Circular	268.39	0.19	0.83	0.89	337.48	337.98	333.51	334.02	2.13	2.12	337.48	337.48	335.60	336.22	0.00	0.00	2.38	1.76
109	10BD022	10BD009	Circular	297.70	0.09	0.67	0.33	339.55	339.60	337.74	338.00	0.71	0.71	339.55	339.55	338.02	338.13	0.00	0.00	1.58	1.48
110	10BD010	10BD011	Circular	342.74	0.25	1.00	1.67	340.42	340.77	336.40	337.27	1.10	1.01	340.42	340.42	340.43	340.56	0.00	0.00	0.34	0.21
115	10BD011	10CA009	Circular	321.02	0.22	1.00	1.57	340.77	340.91	335.66	336.38	2.36	2.12	340.43	340.56	339.65	339.84	0.34	0.21	1.26	1.07
117	10CA009	10CA029	Circular	72.27	0.06	2.50	8.96	340.91	340.15	335.44	335.48	11.49	10.88	339.65	339.84	339.60	339.80	1.26	1.07	0.55	0.35
125	10CB021	10CB023	Circular	372.73	0.03	2.50	7.11	339.75	340.75	334.76	334.89	18.03	17.94	339.01	339.25	338.26	338.51	0.74	0.50	2.49	2.24
126	10CB001	10CB023	Circular	26.15	11.82	1.00	11.37	339.85	340.75	334.76	337.85	1.81	2.13	338.32	338.46	338.26	338.51	1.53	1.39	2.49	2.24
127	10CA029	10CB020	Circular	321.49	0.02	2.50	5.20	340.15	339.95	335.38	335.44	10.86	10.58	339.60	339.80	339.40	339.62	0.55	0.35	0.55	0.34
130	10CB020	10CB021	Circular	343.53	0.14	2.50	14.38	339.95	339.75	334.89	335.38	14.26	13.60	339.40	339.62	339.01	339.25	0.55	0.34	0.74	0.50
131	10CB023	10CB024	Circular	272.52	0.14	2.50	14.22	340.75	338.76	334.05	334.43	18.93	19.06	338.26	338.51	337.63	337.94	2.49	2.24	1.13	0.82
134	10CB024	09DA016	Circular	261.08	0.21	2.50	17.32	338.76	338.55	333.50	334.04	20.25	20.67	337.63	337.94	337.06	337.44	1.13	0.82	1.49	1.11
135	09DA016	09DA017	Circular	142.55	0.07	2.50	10.09	338.55	341.15	333.40	333.50	21.73	22.56	337.06	337.44	336.82	337.25	1.49	1.11	4.34	3.90
149	10BB026	10BB049	Circular	73.37	0.08	2.00	6.01	336.51	336.82	331.55	331.61	12.05	12.46	334.95	335.37	334.78	335.19	1.56	1.14	2.04	1.63
150	10BB032	10BB027	Circular	149.94	0.05	2.00	4.54	337.25	335.58	331.63	331.70	7.75	7.82	335.27	335.59	335.13	335.50	1.98	1.66	0.45	0.09
151	10BB027	10BB026	Circular	193.92	-0.02	2.00	3.02	335.58	336.51	331.61	331.57	7.73	7.79	335.13	335.50	334.95	335.37	0.45	0.09	1.56	1.14
156	10BB037	10BB032	Circular	237.77	0.11	1.50	3.16	337.41	337.25	331.90	332.15	5.28	5.41	335.71	335.86	335.27	335.59	1.70	1.55	1.98	1.66
157	10BB039	10BB037	Circular	212.53	0.11	1.50	3.28	336.10	337.41	332.15	332.39	5.30	5.42	336.10	336.10	335.71	335.86	0.00	0.00	1.70	1.55
158	10BA036	10BB045	Circular	321.09	0.07	1.50	2.67	337.46	337.04	332.70	332.94	3.29	3.24	337.00	337.16	336.72	336.92	0.46	0.30	0.32	0.12
159	10BA040	10BA036	Circular	200.00	0.15	1.00	1.28	338.46	337.46	333.04	333.34	3.34	3.30	338.46	338.46	337.00	337.16	0.00	0.00	0.46	0.30
164	10BA059	10BA054	Circular	74.73	0.24	1.75	7.22	340.95	340.36	334.75	334.93	5.34	5.33	337.42	338.04	337.35	337.99	3.53	2.91	3.01	2.37
166	10BA064	10BA059	Circular	209.18	0.16	1.75	5.84	339.41	340.95	335.13	335.46	5.56	5.56	337.63	338.18	337.42	338.04	1.78	1.23	3.53	2.91
167	10BA068	10BA064	Circular	90.11	0.06	1.75	3.47	339.67	339.41	335.60	335.65	5.71	5.79	337.71	338.24	337.63	338.18	1.96	1.43	1.78	1.23
169	10BA069	10BA068	Circular	32.41	0.09	1.50	2.97	339.38	339.67	335.75	335.78	5.76	5.87	337.78	338.29	337.71	338.24	1.60	1.09	1.96	1.43
171	10BA051	10BA044	Circular	187.59	0.19	1.00	1.45	338.40	339.25	336.31	336.67	2.09	2.08	338.40	338.40	338.10	338.35	0.00	0.00	1.15	0.90

Hydraulic Model Results - Existing Conditions																					
Burkhart Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
172	10BA044	10BA043	Circular	43.52	0.21	1.00	1.50	339.25	339.25	336.22	336.31	2.07	2.07	338.10	338.35	338.03	338.33	1.15	0.90	1.22	0.92
173	10BA053	10BA043	Circular	184.01	0.20	1.00	1.46	338.40	339.25	336.22	336.58	2.26	2.25	338.40	338.40	338.03	338.33	0.00	0.00	1.22	0.92
174	03CD009	03CD012	Circular	145.22	0.33	0.83	1.17	337.85	337.32	334.94	335.42	1.74	1.71	337.85	337.85	336.86	336.88	0.00	0.00	0.46	0.44
175	03CD012	03CD018	Circular	238.52	0.25	0.83	1.02	337.32	336.61	334.34	334.94	1.71	1.71	336.86	336.88	335.23	335.28	0.46	0.44	1.38	1.33
176	03CD018	03CD023	Circular	188.67	0.20	1.00	1.48	336.61	337.89	333.96	334.34	1.70	1.70	335.23	335.28	334.76	334.85	1.38	1.33	3.13	3.04
180	03CD013	03CD020	Circular	285.79	0.24	0.83	1.00	338.08	337.26	334.33	335.02	0.00	0.00	335.02	335.02	334.65	334.74	3.06	3.06	2.61	2.52
183	03CD020	03CD024	Circular	188.06	0.36	0.83	1.22	337.26	337.70	333.65	334.33	-0.06	-0.03	334.65	334.74	334.65	334.74	2.61	2.52	3.05	2.96
184	03CD023	03CD024	Circular	49.01	0.63	1.00	2.63	337.89	337.70	333.65	333.96	1.70	1.70	334.76	334.85	334.65	334.74	3.13	3.04	3.05	2.96
185	03CD024	03CD030	Circular	279.31	-0.01	1.50	1.17	337.70	336.98	333.65	333.61	1.71	1.71	334.65	334.74	334.50	334.63	3.05	2.96	2.48	2.35
188	03CD026	03CA002	Circular	253.02	0.16	1.00	1.33	336.33	335.57	333.90	334.31	2.22	2.15	336.33	336.33	335.57	335.57	0.00	0.00	0.00	0.00
189	03CD030	03CA006	Circular	255.39	0.11	1.50	3.23	336.98	336.22	333.27	333.55	1.72	1.74	334.50	334.63	334.37	334.55	2.48	2.35	1.85	1.68
192	03CA002	03CA007	Circular	168.36	0.24	1.00	1.61	335.57	335.80	333.40	333.80	2.13	2.08	335.57	335.57	335.07	335.17	0.00	0.00	0.73	0.63
193	03CA006	03CA009	Circular	322.92	0.11	1.50	3.26	336.22	337.65	332.91	333.27	1.74	1.76	334.37	334.55	334.26	334.46	1.85	1.68	3.39	3.20
194	03CA007	03CA008	Circular	83.88	0.25	1.00	1.66	335.80	336.25	333.19	333.40	2.11	2.07	335.07	335.17	334.82	334.97	0.73	0.63	1.43	1.28
195	03CA008	03CA010	Circular	101.56	0.28	1.00	1.74	336.25	337.25	332.91	333.19	2.10	2.07	334.82	334.97	334.51	334.73	1.43	1.28	2.74	2.52
196	03CA013	03CA010	Circular	54.72	0.07	2.50	10.30	337.26	337.25	332.91	332.95	9.59	12.43	334.58	334.80	334.51	334.73	2.68	2.45	2.74	2.52
197	03CA011	03CA010	Circular	83.24	0.20	1.00	1.50	335.35	337.25	332.91	333.08	-0.03	-0.01	334.51	334.73	334.51	334.73	0.84	0.62	2.74	2.52
198	03CA009	03CA012	Circular	42.80	0.12	1.50	3.33	337.65	336.92	332.86	332.91	1.76	1.77	334.26	334.46	334.25	334.44	3.39	3.20	2.67	2.48
199	03CA012	03CA015	Circular	33.00	0.12	1.50	3.40	336.92	335.30	332.82	332.86	1.76	1.77	334.25	334.44	334.24	334.43	2.67	2.48	1.06	0.87
200	03CA010	03CA014	Circular	130.02	0.07	2.50	10.02	337.25	335.32	332.82	332.91	11.41	14.06	334.51	334.73	334.24	334.43	2.74	2.52	1.08	0.89
201	03CA016	03CB001	Circular	143.00	0.21	2.50	17.45	337.03	341.16	332.30	332.60	17.03	21.49	334.11	334.32	332.71	332.74	2.92	2.70	8.46	8.42
202	10BA054	10BA009	Circular	195.72	0.34	1.75	8.61	340.36	339.93	333.95	334.62	7.16	7.65	337.35	337.99	337.03	337.68	3.01	2.37	2.90	2.25
203	10BB047	10BB025	Circular	56.04	0.11	3.00	20.27	337.95	336.93	331.94	332.00	22.87	23.07	335.43	336.06	335.40	336.04	2.52	1.89	1.53	0.90
204	10BB004	10BB047	Circular	169.53	0.12	3.00	21.27	338.65	337.95	332.00	332.20	23.06	23.22	335.52	336.13	335.43	336.06	3.13	2.52	2.52	1.89
208	10AA004	10AB023	Circular	429.66	0.18	1.00	1.40	344.35	343.88	339.23	340.00	1.56	1.54	344.35	344.35	343.66	343.66	0.00	0.00	0.22	0.22
211	10AB056	10AB022	Circular	34.97	0.29	3.00	33.12	342.85	342.35	335.33	335.43	18.64	21.00	337.76	338.55	337.73	338.52	5.09	4.30	4.62	3.83
215	09AA009	09AA022	Circular	43.00	0.09	3.00	18.89	337.01	339.55	329.79	329.83	27.81	28.58	334.86	335.60	334.83	335.58	2.15	1.41	4.73	3.98
220	09AB009	09AB017	Circular	70.03	2.60	1.50	15.72	336.50	334.47	330.45	332.27	13.00	16.53	333.39	334.03	331.99	332.25	3.11	2.47	2.48	2.22
221	09AB017	09AB016	Circular	90.45	0.36	2.00	12.69	334.47	334.63	330.12	330.45	18.30	22.89	331.99	332.25	331.20	331.33	2.48	2.22	3.43	3.30
224	10BA009	10BA023	Circular	34.31	0.20	1.75	6.65	339.93	340.13	333.88	333.95	7.15	7.63	337.03	337.68	336.98	337.63	2.90	2.25	3.15	2.50
225	10AB022	10AB042	Circular	17.16	0.70	3.00	51.79	342.35	342.25	335.21	335.33	18.62	20.95	337.73	338.52	337.73	338.51	4.62	3.83	4.52	3.74
226	10AB042	10AB001	Circular	48.56	-0.56	3.00	46.18	342.25	342.09	335.48	335.21	18.58	20.86	337.73	338.51	337.69	338.47	4.52	3.74	4.40	3.62
227	10AB019	10AB001	Circular	227.23	0.81	0.83	1.82	341.46	342.09	335.48	337.31	3.02	2.99	341.46	341.46	337.69	338.47	0.00	0.00	4.40	3.62
234	10AB007	03DC018	Circular	139.75	0.11	1.50	3.20	340.65	340.29	336.40	336.55	3.29	4.39	337.58	339.35	337.31	339.08	3.07	1.30	2.99	1.21
235	03DC009	03DC018	Circular	45.53	0.20	1.00	1.47	340.14	340.29	336.40	336.49	0.02	-0.11	337.31	339.08	337.31	339.08	2.84	1.06	2.99	1.21
236	03DC018	03DC008	Circular	42.09	0.10	1.50	3.01	340.29	340.04	336.16	336.20	3.22	4.36	337.31	339.08	337.25	339.00	2.99	1.21	2.79	1.04
237	03DC008	03DC007	Circular	200.00	-0.02	2.00	2.97	340.04	339.46	335.65	335.61	3.14	4.35	337.25	339.00	337.21	338.91	2.79	1.04	2.25	0.55
241	03DC007	03DC006	Circular	501.64	0.08	2.00	5.93	339.46	339.48	335.05	335.45	4.39	6.36	337.21	338.91	337.01	338.46	2.25	0.55	2.47	1.02
270	15AC048	15AC021	Circular	47.00	0.15	3.50	36.05	352.74	352.44	346.29	346.36	36.19	37.69	350.37	350.82	350.31	350.74	2.37	1.92	2.13	1.70
271	15AC021	15AC035	Circular	43.00	0.00	3.50	2.95	352.44	352.66	346.29	346.29	39.39	42.13	350.31	350.74	350.24	350.66	2.13	1.70	2.42	2.00
275	15DB043	15DB031	Circular	353.81	0.23	1.00	1.59	352.85	352.26	349.18	350.00	-0.50	-0.64	352.51	354.77	352.51	354.77	0.34	-1.92	-0.25	-2.51
278	15DB031	15AC021	Circular	218.44	0.62	1.00	2.61	352.26	352.44	347.75	349.11	3.44	4.62	352.51	354.77	350.31	350.74	-0.25	-2.51	2.13	1.70
282	09DA020	09DA019	Circular	454.97	0.31	1.25	3.32	339.69	341.60	335.47	336.86	3.41	3.83	339.26	339.69	337.91	338.27	0.43	0.00	3.69	3.33
284	09DA019	09DA010	Circular	264.34	0.05	1.75	3.13	341.60	339.35	335.35	335.47	3.41	3.83	337.91	338.27	337.88	338.19	3.69	3.33	1.47	1.16
285	09DA010	09DA001	Circular	34.76	0.43	1.75	9.67	339.35	340.12	335.20	335.35	3.40	3.83	337.88	338.19	337.88	338.18	1.47	1.16	2.24	1.94
286	09DA001	09DA008	Circular	61.34	0.54	1.75	10.79	340.12	339.35	334.85	335.18	3.40	3.82	337.88	338.18	337.87	338.18	2.24	1.94	1.48	1.17
287	09DA008	09DA022	Circular	78.40	0.24	1.75	7.24	339.35	340.21	334.66	334.85	3.39	3.82	337.87	338.18	337.86	338.17	1.48	1.17	2.35	2.04
290	10CB006	10CB007	Circular	63.04	0.16	0.67	0.45	339.55	339.55	336.40	336.50	1.29	1.18	339.55	339.55	339.39	339.55	0.00	0.00	0.16	0.00
291	10CB007	10CB004	Circular	130.47	0.06	0.83	0.50	339.55	343.76	336.32	336.40	1.29	1.19	339.39	339.55	339.29	339.59	0.16	0.00	4.47	4.18
292	15AB046	15AB043	Circular	322.94	0.10	1.25	1.89	349.41	348.55	342.59	342.91	14.29	18.29	383.61	404.93	370.35	386.45	-34.20	-55.52	-21.80	-37.89
293	10CC044	10CC058	Circular	180.26	1.00	1.25	5.99	341.05	343.81	336.52	338.32	3.35	3.30	340.21	340.42	339.82	340.11	0.84	0.63	3.99	3.70
294	10CC017	10CC059	Circular	441.35	0.01	1.25	0.70	340.85	343.40	336.39	336.45	2.02	1.89	340.08	340.27	339.91	340.20	0.77	0.58	3.49	3.20
299	10CB005	10CC017	Circular	291.12	0.26	1.00	1.69	340.43	340.85	336.61	337.37	2.02	1.89	340.43	340.43	340.08	340.27	0.00	0.00	0.77	0.58
347	15AC049	15AB064	Circular	410.89	0.09	1.50	2.97	350.56	350.95	347.58	347.96	1.86	2.61	348.80	349.00	348.39	348.56	1.76	1.56	2.56	2.39
354	15AB049	15AB065	Circular	480.96	0.26	0.83	1.04	349.88	349.90	344.00	345.26	5.97	7.73	411.63	441.30	392.45	416.81	-61.75	-91.42	-42.55	-66.91
355	15AB065	15AB046	Circular	324.18	0.34	1.00	1.92	349.90	349.41	342.91	344.00	7.15	9.23	392.45	416.81	383.61	404.93	-42.55	-66.91	-34.20	-55.52
362	10DA098	10DA099	Circular	504.36	0.20	0.67	0.50	350.32	348.36	345.00	346.00	0.98	0.93	350.32	350.32	348.36	348.36	0.00	0.00	0.00	0.00
379	15AB045	15AB044	Circular	390.70	0.33	0.67	0.64	350.20	349.69	343.97	345.24	2.29	2.96	387.44	408.78	378.81	397.80	-37.24	-58.58	-29.12	-48.11
383	15AB044	15AB043	Circular	400.65	0.25	0.83	1.02	349.69	348.55	342.96	343.97	3.66	4.71	378.81	397.80	370.35	386.45	-29.12	-48.11	-21.80	-37.89
386	15AB043	10DC038	Circular	342.97	0.10	1.50	3.16	348.55	348.19	342.23	342.59	18.75	24.03	370.35	386.45	359.79	370.86	-21.80	-37.89	-11.60	-22.67
387	10DC039	10DC038	Circular	399.16	0.38	0.83	1.25	349.04	348.19	342.46	343.97	4.05	5.15	371.22	386.47	359.79	370.86	-22.18	-37.43	-11.60	-22.67
388	10DC045	10DC039	Circular	386.19	0.30	0.67	0.61	349.68	349.04	343.97	345.11	2.58	3.31	382.75	401.44	371.22	386.47	-33.07	-51.76	-22.18	-37.43
394	15DA052	15DA049	Circular	276.68	0.19	1.00	1.43	355.23	354.57	350.86	351.38	2.91	3.76	355.10	357.87	353.01	354.49	0.13	-2.64	1.56	0.08
397	15DA049	15DA048	Circular	271.64	0.04	1.50	2.05	354.57	354.17	350.70	350.82	5.57	7.11	353.01	354.49	352.19	353.10	1.56	0.08	1.98	1.07
398	15DA020	15DA048	Circular	19.61	-0.15	0.83	0.79	352.36	354.17	350.70	350.67	0.09	0.10	352.19	353.10	352.19	353.10	0.17	-0.74	1.98	1.07
399	15DA019	15DA048	Circular	20.21	-0.15	0.83	0.78	352.38	354.17	350.70	350.67	-0.07	0.09	352.19	353.10	352.19	353.10	0.19	-0.72	1.98	1.07
400	15DA048	15AD056	Circular	119.45	0.12	2.00	7.19	354.17	354.69	350.40	350.54	5.46	7.09	352.19	353.10	352.14	352.97	1.98	1.07	2.55	1.72
402	15DA074	15DD058	Circular	338.25	0.12	1.00	1.14	358.09	359.79	353.43	353.83	0.61	0.72	356.35	357.88	356.24	357.73	1.74	0.21	3.55	2.06
424	10DD058	10DC044	Circular	389.62	0.23	1.00	1.59	349.67	348.90	343.72	344.62	5.06	6.39	371.79	386.30	365.06	377.04	-22.12	-36.63	-16.16	-28.14
429	10AD032	10AD031	Circular	193.59	0.86	0.67	1.06	347.45	346.78	341.93	343.60	1.07	1.33	344.16	345.10	342.49	342.49	3.29	2.35	4.29	4.29

Hydraulic Model Results - Existing Conditions																					
Burkhart Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
431	10DD066	10DD001	Circular	187.62	0.43	0.67	0.73	351.68	350.79	347.80	348.60	1.14	1.44	391.42	411.48	390.54	410.38	-39.74	-59.79	-39.75	-59.59
432	10DD001	10DD065	Circular	191.58	0.20	0.67	0.50	350.79	350.25	347.24	347.62	2.50	3.19	390.54	410.38	385.77	404.41	-39.75	-59.59	-35.52	-54.16
437	10DC046	10DC042	Circular	408.17	0.45	0.67	0.75	347.81	347.66	343.17	345.00	2.75	3.52	380.15	397.53	365.53	378.23	-32.34	-49.72	-17.87	-30.57
438	10DD064	10DC046	Circular	378.67	0.35	0.67	0.66	349.61	347.81	345.00	346.31	1.51	1.94	383.95	402.44	380.15	397.53	-34.34	-52.83	-32.34	-49.72
446	10DD065	10DD060	Circular	304.60	0.54	0.67	0.82	350.25	350.88	345.51	347.14	2.47	3.13	385.77	404.41	377.72	394.22	-35.52	-54.16	-26.84	-43.34
479	15AD053	15AD054	Circular	202.87	0.77	1.00	2.90	353.45	354.41	347.14	348.70	-1.45	-1.83	351.81	352.41	352.12	352.94	1.64	1.04	2.29	1.47
482	15AD048	15AD053	Circular	170.64	0.16	1.00	1.32	353.77	353.45	348.70	348.97	-1.45	-1.81	351.62	352.19	351.81	352.41	2.15	1.58	1.64	1.04
484	15AD032	15AD048	Circular	21.83	1.33	0.83	2.34	353.85	353.77	349.09	349.38	-1.44	-1.80	351.58	352.16	351.62	352.19	2.27	1.69	2.15	1.58
490	15DD058	15DD059	Circular	79.92	0.91	1.25	5.73	359.79	360.01	352.70	353.43	2.81	3.34	356.24	357.73	356.07	357.50	3.55	2.06	3.94	2.51
491	15DD059	15DD065	Circular	319.52	0.06	1.25	1.46	360.01	359.95	352.46	352.65	3.67	4.36	356.07	357.50	354.96	355.93	3.94	2.51	4.99	4.02
492	14CC033	14CC034	Circular	145.83	-0.09	3.00	18.49	360.82	360.47	355.26	355.13	3.80	4.50	356.14	356.25	356.02	356.15	4.68	4.57	4.45	4.32
493	14CC034	23BB038	Circular	291.42	0.21	3.00	28.57	360.47	359.84	354.64	355.26	3.78	4.44	356.02	356.15	355.56	355.96	4.45	4.32	4.28	3.88
494	14CC036	23BB038	Circular	105.25	0.34	1.25	3.51	359.90	359.84	354.64	355.00	3.09	3.67	355.91	356.22	355.56	355.96	3.99	3.68	4.28	3.88
495	14CC039	14CC036	Circular	195.54	0.23	1.25	2.88	360.87	359.90	355.02	355.47	3.10	3.69	356.50	356.82	355.91	356.22	4.37	4.05	3.99	3.68
496	23BB038	23BB043	Circular	270.55	0.05	3.50	21.25	359.84	359.46	354.10	354.24	6.74	7.75	355.56	355.96	355.43	355.92	4.28	3.88	4.03	3.54
497	23BB043	23BB006	Circular	20.86	0.24	3.50	45.74	359.46	359.82	354.05	354.10	6.66	7.49	355.43	355.92	355.43	355.92	4.03	3.54	4.39	3.91
511	03BD006	03BD007	Natural	287.18	0.50	1.93	198.23	332.79	331.34	329.41	330.86	4.31	6.23	331.47	331.56	330.30	330.43	1.32	1.23	1.04	0.91
520	10BB045	10BB039	Circular	185.05	0.06	1.50	2.38	337.04	336.10	332.49	332.60	5.71	6.56	336.72	336.92	336.10	336.10	0.32	0.12	0.00	0.00
524	03CD006	03CD009	Circular	46.21	0.17	1.00	1.38	338.05	337.85	335.42	335.50	2.20	2.20	338.05	338.05	337.85	337.85	0.00	0.00	0.00	0.00
529	10BA043	10BA069	Circular	313.28	0.11	1.50	3.21	339.25	339.38	335.88	336.22	4.20	4.19	338.03	338.33	337.78	338.29	1.22	0.92	1.60	1.09
530	10BA067	10BA068	Circular	23.67	0.25	1.00	1.67	338.60	339.67	335.75	335.81	-0.02	-0.03	337.71	338.24	337.71	338.24	0.89	0.36	1.96	1.43
531	03CD034	03CD033	Circular	164.90	0.18	1.00	1.39	338.51	338.91	336.65	336.94	1.75	1.88	337.82	337.92	337.04	337.05	0.69	0.59	1.87	1.86
579	15AD056	15AD054	Circular	27.71	3.46	2.00	39.10	354.69	354.41	349.00	349.96	5.43	7.08	352.14	352.97	352.12	352.94	2.55	1.72	2.29	1.47
616	15AC023	15AC022	Circular	225.56	0.14	3.00	23.33	352.81	352.88	347.06	347.38	6.73	7.64	351.31	351.91	351.29	351.90	1.50	0.90	1.59	0.98
618	15AC050	15AC045	Circular	59.53	1.93	1.33	9.90	352.08	352.75	348.25	349.40	5.65	6.44	351.57	352.15	351.36	351.95	0.51	-0.08	1.39	0.81
637	15BA007	15BA001	Circular	38.74	3.02	0.83	3.53	347.44	347.15	344.38	345.55	1.37	1.77	346.42	347.68	346.25	347.40	1.03	-0.23	0.90	-0.25
639	15BA040	15BA001	Circular	169.40	-0.01	1.25	0.46	347.79	347.15	344.38	344.37	1.39	1.88	346.34	347.56	346.25	347.40	1.45	0.23	0.90	-0.25
640	15BA036	15BA040	Circular	228.92	0.65	1.25	4.82	348.16	347.79	344.45	345.93	1.40	1.88	346.56	347.77	346.34	347.56	1.60	0.39	1.45	0.23
664	22DA019	22DA076	Circular	59.50	0.39	1.00	2.06	364.00	364.55	359.37	359.60	-0.29	-0.39	363.95	369.28	363.95	369.28	0.05	-5.28	0.60	-4.73
665	22DA076	22AD053	Circular	57.64	0.12	1.50	3.40	364.55	364.32	359.09	359.16	1.43	1.83	363.95	369.28	363.94	369.26	0.60	-4.73	0.38	-4.94
669	22AD053	22AD051	Circular	134.58	0.17	1.50	4.03	364.32	364.84	358.86	359.09	1.39	1.79	363.94	369.26	363.92	369.22	0.38	-4.94	0.93	-4.38
670	22AD051	22AD050	Circular	90.55	0.19	1.50	4.23	364.84	365.23	358.59	358.76	3.09	4.08	363.92	369.22	363.83	369.07	0.93	-4.38	1.40	-3.84
676	23BC001	23BC022	Circular	144.70	0.21	1.00	1.51	365.46	365.46	362.60	362.90	1.92	2.40	365.32	371.61	364.94	370.98	0.14	-6.15	0.52	-5.52
677	23BC022	22AD052	Circular	229.60	0.17	1.00	1.38	365.46	365.37	362.17	362.57	1.90	2.34	364.94	370.98	364.35	369.97	0.52	-5.52	1.02	-4.60
678	22AD052	22AD032	Circular	121.98	0.01	1.00	0.30	365.37	365.26	361.98	361.99	1.89	2.30	364.35	369.97	364.04	369.43	1.02	-4.60	1.22	-4.17
679	22AD032	22AD051	Circular	49.50	3.98	1.00	6.60	365.26	364.84	359.55	361.52	1.88	2.29	364.04	369.43	363.92	369.22	1.22	-4.17	0.93	-4.38
684	10DD077	10DC045	Circular	394.19	0.30	0.67	0.62	349.88	349.68	345.11	346.31	1.39	1.77	385.96	405.50	382.75	401.44	-36.08	-55.62	-33.07	-51.76
691	10DC038	10DC041	Circular	321.91	0.13	1.75	5.38	348.19	347.52	341.73	342.16	23.56	30.17	359.79	370.86	352.27	359.32	-11.60	-22.67	-4.75	-11.80
695	10DC042	10DC041	Circular	394.14	0.32	0.83	1.16	347.66	347.52	341.89	343.17	4.22	5.41	365.53	378.23	352.27	359.32	-17.87	-30.57	-4.75	-11.80
700	10DC041	10DC048	Circular	300.86	0.08	2.00	5.81	347.52	347.34	341.38	341.61	28.61	36.65	352.27	359.32	346.92	350.88	-4.75	-11.80	0.42	-3.54
703	10DC043	10DC048	Circular	398.60	0.11	1.25	1.99	347.03	347.34	341.42	341.86	7.85	9.92	353.23	360.36	346.92	350.88	-6.20	-13.33	0.42	-3.54
711	22AA044	22AA048	Circular	54.46	0.37	2.50	23.08	358.80	358.57	354.50	354.70	2.84	3.56	357.23	357.77	357.23	357.77	1.57	1.03	1.34	0.80
712	22AA048	22AA051	Circular	75.47	0.13	2.50	13.86	358.57	358.56	354.45	354.55	2.77	3.49	357.23	357.77	357.23	357.77	1.34	0.80	1.33	0.79
724	15DC015	15DC044	Circular	179.12	-0.23	1.00	1.60	358.33	360.35	352.38	351.96	2.30	2.62	355.22	356.06	354.38	354.98	3.11	2.27	5.97	5.37
726	15DC044	15DC045	Circular	301.12	0.53	1.00	2.42	360.35	356.69	350.62	352.23	2.30	2.61	354.38	354.98	352.97	353.17	5.97	5.37	3.72	3.52
729	15DC045	15DC040	Circular	134.56	0.30	1.25	3.31	356.69	354.49	349.90	350.31	2.30	2.61	352.97	353.17	352.80	352.95	3.72	3.52	1.69	1.54
731	15DC034	15DC040	Circular	135.55	0.27	2.25	14.82	354.36	354.49	349.90	350.26	11.29	13.48	352.93	353.15	352.80	352.95	1.43	1.21	1.69	1.54
735	15DC035	15DC039	Circular	283.10	0.10	2.50	11.98	356.06	355.10	349.90	350.18	14.60	16.86	353.27	353.58	352.93	353.10	2.79	2.48	2.17	2.00
736	15DD061	15DC034	Circular	449.20	0.05	2.25	6.65	356.46	354.36	350.57	350.81	11.34	13.50	353.57	354.11	352.93	353.15	2.89	2.35	1.43	1.21
740	15DD062	15DD061	Circular	106.55	0.11	2.00	7.05	357.52	356.46	350.81	350.93	11.37	13.51	353.88	354.55	353.57	354.11	3.64	2.97	2.89	2.35
741	15DD063	15DD062	Circular	422.16	0.12	2.00	7.16	358.36	357.52	350.95	351.44	8.81	10.11	354.61	355.51	353.88	354.55	3.75	2.85	3.64	2.97
744	15DD064	15DD063	Circular	149.07	1.50	2.00	25.69	358.91	358.36	351.45	353.68	6.45	7.06	354.62	355.68	354.61	355.51	4.29	3.23	3.75	2.85
746	15DD065	15DD064	Circular	406.83	-0.44	2.00	13.93	359.95	358.91	353.69	351.90	5.10	5.31	354.96	355.93	354.62	355.68	4.99	4.02	4.29	3.23
825	10CC031	10CC065	Circular	67.46	1.59	0.83	2.56	343.05	344.69	338.70	339.77	0.89	1.16	341.00	341.37	340.98	341.35	2.05	1.68	3.71	3.33
826	10CC048	10CC062	Circular	96.52	0.39	0.83	1.28	342.45	346.64	338.57	338.95	1.55	2.03	340.98	341.71	340.90	341.28	1.47	0.74	5.73	5.35
829	10CD027.1	10CD027	Circular	94.65	0.19	2.50	16.61	345.00	345.27	340.82	341.00	-7.30	-16.65	342.91	343.75	342.91	343.74	2.09	1.25	2.36	1.53
830	10CD030.1	10CD030	Circular	246.88	0.06	2.50	9.39	345.00	345.23	340.45	340.60	-7.47	-16.79	342.90	343.73	342.88	343.85	2.10	1.27	2.35	1.38
831	10CD027	10CD030.1	Circular	23.99	0.50	2.50	26.94	345.27	345.00	340.60	340.72	-7.36	-16.71	342.91	343.74	342.90	343.73	2.36	1.53	2.10	1.27
834	10CD030	10CD034	Circular	180.61	0.10	2.50	12.02	345.23	344.65	340.17	340.35	8.65	-12.67	342.88	343.85	342.87	344.04	2.35	1.38	1.78	0.62
835	10CD034	10CD033	Circular	26.26	0.08	2.50	10.51	344.65	344.45	340.05	340.07	8.72	-12.68	342.87	344.04	342.87	344.06	1.78	0.62	1.58	0.39
836	10CD033	10CD032	Circular	72.32	0.11	2.50	12.67	344.45	344.85	339.87	339.95	8.75	-12.70	342.87	344.06	342.87	344.14	1.58	0.39	1.98	0.71
837	10CD032	10CD028.1	Circular	54.96	0.31	2.50	21.18	344.85	344.80	339.60	339.77	8.78	-12.71	342.87	344.14	342.88	344.20	1.98	0.71	1.92	0.60
838	10CD028.1	10CD028	Circular	23.99	0.83	2.50	34.78	344.80	344.83	339.40	339.60	8.80	-12.71	342.88	344.20	342.88	344.23	1.92	0.60	1.95	0.61
841	10CD036	10CD016	Circular	67.55	0.33	1.00	1.89	343.30	343.35	340.25	340.47	-0.08	-0.06	342.87	344.06	342.87	344.06	0.43	-0.76	0.48	-0.71
842	10CD016	10CD033	Circular	15.88	0.63	1.00	2.63	343.35	344.45	340.05	340.15	-0.15	-0.11	342.87	344.06	342.87	344.06	0.48	-0.71	1.58	0.39
852	15AB050	15AB049	Circular	387.86	0.29	0.83	1.10	350.48	349.88	345.33	346.47	4.49	5.81	419.52	451.25	411.63	441.30	-69.04	-100.77	-61.75	-91.42
855	15AA045	15AB050	Circular	411.31	0.26	0.67	0.57	350.64	350.48	346.47	347.53	2.18	2.82	423.97	456.63	419.52	451.25	-73.33	-105.99	-69.04	-100.77
868	15AC056	15AC057	Circular	112.35	0.17	1.00	1.36	352.68	352.49	347.69	347.88	0.78	1.05	348.63	348.91	348.56	348.80	4.05	3.77	3.93	3.69
868.1	03CC006	03CC004	Natural	251.53	0.56	3.55	198.42	338.15	337.84	333.73	335.15	5.63	6.69	335.93	336.02	335.93	336.02	2.22	2.13	1.91	1.82
869	15AC057	15AC058	Circular	86.57	0.18	1.50	4.19	352.49	351.99	347.46	347.62	0.79	1.06	348.56	348.80	348.56	348.79	3.93	3.69	3.44	3.20

Hydraulic Model Results - Existing Conditions																					
Burkhart Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
870	15AC058	15AC060	Circular	232.61	0.15	1.50	3.73	351.99	351.30	347.05	347.39	1.91	2.50	348.56	348.79	348.47	348.66	3.44	3.20	2.83	2.64
871	15AC060	15AB059	Circular	314.65	0.12	2.00	7.20	351.30	350.72	346.66	347.03	2.87	3.82	348.47	348.66	348.40	348.56	2.83	2.64	2.32	2.16
872	15AB059	15AB062	Circular	23.29	0.21	2.00	9.73	350.72	350.82	346.61	346.66	3.57	4.82	348.40	348.56	348.40	348.55	2.32	2.16	2.42	2.26
872.1	10AB004	10BA001	Natural	237.44	0.41	2.00	40.30	341.65	340.68	338.68	339.65	0.71	1.01	339.90	339.93	339.62	339.84	1.76	1.72	1.06	0.84
875	15CD070	15CD068	Natural	301.75	0.18	3.54	91.35	358.09	356.86	353.66	354.20	2.45	3.12	354.38	354.41	354.15	354.30	3.71	3.68	2.71	2.56
882	15CD073	15CD072	Circular	47.53	0.25	1.00	1.66	358.76	358.61	357.45	357.57	0.24	0.34	357.83	357.87	357.64	357.67	0.93	0.88	0.96	0.94
889	15AA003	15AA045	Circular	291.68	0.16	0.67	0.45	350.12	350.64	347.53	348.00	2.03	2.64	427.07	460.38	423.97	456.63	-76.95	-110.26	-73.33	-105.99
895	15AA043	15AB048	Circular	389.11	0.43	0.67	0.74	351.53	350.21	345.89	347.58	1.32	1.71	403.08	429.29	400.77	426.45	-51.55	-77.76	-50.56	-76.24
896	15AB048	15AB047	Circular	387.20	0.36	0.67	0.68	350.21	349.82	344.42	345.83	2.57	3.30	400.77	426.45	391.82	415.49	-50.56	-76.24	-42.00	-65.67
897	15AB047	15AB046	Circular	382.20	0.40	0.83	1.28	349.82	349.41	342.91	344.42	4.01	5.14	391.82	415.49	383.61	404.93	-42.00	-65.67	-34.20	-55.52
927	10AC019	10AB056	Circular	1159.66	0.22	2.50	17.68	342.68	342.85	335.43	337.93	24.10	24.82	342.18	342.62	337.76	338.55	0.50	0.06	5.09	4.30
948	15DC023.1	15DC023	Circular	38.51	0.39	1.00	2.06	357.13	358.76	354.15	354.30	0.81	1.06	354.73	354.80	354.54	354.60	2.40	2.33	4.22	4.16
949	15DC023	15DC033	Circular	164.73	0.95	1.00	3.23	358.76	354.05	352.58	354.15	0.81	1.06	354.54	354.60	352.78	352.81	4.22	4.16	1.27	1.24
957	15DA059	15DA058	Circular	446.20	0.17	1.00	1.37	356.68	354.76	351.58	352.35	7.05	8.59	380.10	392.90	364.49	372.34	-23.41	-36.22	-9.73	-17.58
959	10AB023	10AB064	Circular	474.12	0.48	1.00	2.29	343.88	342.55	336.95	339.23	2.53	2.48	343.66	343.66	342.55	342.55	0.22	0.22	0.00	0.00
960	15DB030	15DB026	Circular	13.06	0.31	0.67	0.62	352.36	353.92	350.25	350.29	1.22	1.66	350.93	351.12	350.62	350.77	1.43	1.24	3.31	3.15
961	15DB026	15DB027	Circular	29.20	0.24	1.00	1.62	353.92	353.92	349.98	350.05	1.22	1.66	350.62	350.77	350.47	350.65	3.31	3.15	3.45	3.27
963	15DB014	15DB041	Circular	210.62	0.41	0.67	0.72	352.29	352.82	348.77	349.64	4.38	5.70	374.64	386.56	351.15	351.78	-22.35	-34.27	1.67	1.04
964	15DB041	15DC048.2	Circular	79.28	0.06	2.00	5.28	352.82	356.74	348.66	348.71	21.67	27.57	351.15	351.78	350.38	350.47	1.67	1.04	6.36	6.26
965	09AA012	09AB019	Circular	222.13	0.12	1.00	1.13	337.47	336.74	332.88	333.14	4.33	4.35	337.47	337.47	334.31	334.36	0.00	0.00	2.43	2.38
966	15DB034	15DB033	Circular	289.16	0.10	2.00	6.54	353.88	353.44	349.03	349.31	17.35	21.92	355.03	357.94	353.09	354.89	-1.15	-4.06	0.35	-1.45
967	15DB035	15DB034	Circular	139.86	0.24	2.00	10.20	354.79	353.88	349.37	349.70	17.36	21.92	355.96	359.39	355.03	357.94	-1.17	-4.60	-1.15	-4.06
968	15DB032	15DB035	Circular	356.66	0.04	2.00	4.16	353.30	354.79	349.70	349.84	17.36	21.93	358.31	363.05	355.96	359.39	-5.01	-9.75	-1.17	-4.60
969	09AA017	09AA018	Circular	230.57	0.27	1.00	1.72	337.19	336.41	333.24	333.86	2.07	2.01	337.19	337.19	336.41	336.41	0.00	0.00	0.00	0.00
972	15DA055	15DB032	Circular	178.64	0.17	2.00	8.75	353.93	353.30	349.84	350.15	15.74	19.83	359.27	364.53	358.31	363.05	-5.34	-10.60	-5.01	-9.75
975	15DA058	15DA055	Circular	316.44	0.33	1.50	5.62	354.76	353.93	350.18	351.23	13.06	16.42	364.49	372.34	359.27	364.53	-9.73	-17.58	-5.34	-10.60
1022	22AD049	22AD048	Circular	234.17	0.03	1.50	1.69	365.75	364.76	357.55	357.62	5.08	6.86	363.22	368.00	362.61	366.95	2.53	-2.25	2.15	-2.19
1025	22AD047	22AD048	Circular	22.21	0.68	1.25	4.93	364.50	364.76	357.76	357.91	1.90	2.44	362.63	366.98	362.61	366.95	1.87	-2.48	2.15	-2.19
1027	22AD048	22AD055	Circular	292.84	0.06	1.75	3.55	364.76	363.96	356.85	357.02	6.73	9.08	362.61	366.95	362.02	365.90	2.15	-2.19	1.94	-1.94
1028	03CD032	03CD004	Natural	105.08	1.00	3.55	161.52	339.63	339.69	335.58	336.63	1.19	1.32	336.86	336.87	335.94	336.03	2.77	2.76	3.75	3.65
1032	22AD055	22AD054	Circular	194.86	0.03	1.75	2.58	363.96	363.16	356.74	356.80	7.92	10.62	362.02	365.90	361.47	364.93	1.94	-1.94	1.69	-1.77
1035	22AD054	22AA038	Circular	101.45	0.15	1.75	5.66	363.16	362.69	356.37	356.52	7.88	10.62	361.47	364.93	361.19	364.43	1.69	-1.77	1.50	-1.74
1036	22AA038	22AA037	Circular	65.72	0.09	1.75	4.45	362.69	361.56	356.31	356.37	13.44	18.06	361.19	364.43	360.65	363.47	1.50	-1.74	0.91	-1.91
1038	23BC023	23BB030	Circular	329.17	0.10	2.00	6.65	363.47	362.58	358.51	358.84	4.92	6.56	362.02	365.87	361.84	365.56	1.45	-2.40	0.74	-2.98
1038.1	03DB003	03DB026	Natural	354.89	0.10	4.44	1032.49	339.58	338.94	334.50	335.14	2.68	3.42	335.40	335.45	335.17	335.29	4.18	4.13	3.77	3.64
1039	23BB030	22AA040	Circular	179.08	0.66	1.50	7.95	362.58	361.74	357.32	358.51	4.92	6.56	361.84	365.56	361.40	364.79	0.74	-2.98	0.34	-3.05
1041	03DB013	03DB013.1	Natural	352.96	0.11	4.31	579.08	338.31	337.93	333.62	334.00	9.51	12.94	334.78	334.94	334.66	334.87	3.53	3.37	3.27	3.06
1041.1	03DB013.1	03CA013	Natural	658.03	0.10	4.31	567.82	337.93	337.26	332.95	333.62	10.53	13.77	334.66	334.87	334.58	334.80	3.27	3.06	2.68	2.45
1042	22AA040	22AA038	Circular	85.00	0.24	1.50	4.73	361.74	362.69	356.74	356.94	4.92	6.58	361.40	364.79	361.19	364.43	0.34	-3.05	1.50	-1.74
1044	23BB036	23BB033	Circular	74.01	0.68	1.00	2.72	361.00	364.89	358.65	359.15	4.81	6.84	359.89	360.25	359.58	359.74	1.11	0.75	5.31	5.15
1050	22AA035	22AA034	Circular	348.82	0.14	2.25	10.67	361.90	360.60	355.47	355.95	15.45	20.76	358.86	360.29	357.90	358.50	3.04	1.61	2.70	2.10
1051	22AA034	22AA042	Circular	101.19	0.08	2.25	8.09	360.60	361.50	355.36	355.44	15.40	20.75	357.90	358.50	357.64	358.01	2.70	2.10	3.86	3.49
1053	03BB011	03BB012	Natural	97.60	-0.19	2.43	132.17	328.54	328.73	326.30	326.11	-81.57	-102.24	328.54	328.54	328.63	328.67	0.00	0.00	0.10	0.06
1054	23BB024	22AA033	Circular	177.10	0.28	2.00	11.16	359.65	358.76	355.21	355.71	4.13	4.94	357.73	358.16	357.68	358.07	1.92	1.49	1.08	0.69
1057	22AA032	22AA039	Circular	147.28	0.14	1.00	1.25	358.96	361.40	355.30	355.51	-0.02	-0.01	357.40	357.79	357.40	357.79	1.56	1.17	4.00	3.61
1058	22AA042	22AA039	Rectangular	78.20	0.08	4.00	79.68	361.50	361.40	355.30	355.36	38.96	50.81	357.64	358.01	357.40	357.79	3.86	3.49	4.00	3.61
1059	22AA033	22AA042	Circular	146.53	0.12	2.00	7.16	358.76	361.50	355.04	355.21	4.07	4.93	357.68	358.07	357.64	358.01	1.08	0.69	3.86	3.49
1061	22AA003	22AA031	Circular	16.53	0.30	3.00	34.06	358.92	359.18	353.85	353.90	8.05	9.43	355.40	355.91	355.40	355.90	3.52	3.01	3.79	3.28
1062	22AA031	15DD068	Circular	367.48	0.04	3.00	11.65	359.18	359.34	353.72	353.85	8.01	9.66	355.40	355.90	355.14	355.79	3.79	3.28	4.20	3.55
1067	15DD068	15DD085	Circular	48.02	0.04	3.00	12.64	359.34	358.94	353.55	353.57	10.25	11.14	355.14	355.79	355.09	355.77	4.20	3.55	3.85	3.17
1068	15DD068	15DD066	Circular	409.22	0.23	1.00	1.59	359.34	358.64	352.63	353.57	0.80	1.23	355.14	355.79	355.07	355.97	4.20	3.55	3.57	2.67
1074	15DD066	15DD065	Circular	137.94	0.03	1.25	1.02	358.64	359.95	352.46	352.50	1.98	2.43	355.07	355.97	354.96	355.93	3.57	2.67	4.99	4.02
1079	03CC002	03CC001	Natural	4.26	19.01	2.22	554.64	336.64	336.00	333.70	334.51	-41.12	-33.76	335.46	335.48	335.95	336.00	1.18	1.16	0.05	0.00
1081	10AB005	03CD034	Natural	814.23	0.32	1.79	310.55	341.57	338.51	336.94	339.57	2.18	2.98	340.01	340.06	337.82	337.92	1.56	1.51	0.69	0.59
1093	10DA064	10DA061	Circular	301.56	0.15	1.00	1.28	347.87	347.40	343.22	343.67	1.50	1.33	347.87	347.87	347.40	347.40	0.00	0.00	0.00	0.00
1099	10DA061	10DA059	Circular	325.54	0.25	1.00	1.65	347.40	347.28	342.41	343.22	2.47	1.97	347.40	347.40	347.28	347.28	0.00	0.00	0.00	0.00
1104	10DA059	10AD055	Circular	284.99	0.04	1.00	0.68	347.28	346.77	342.24	342.36	2.81	2.30	347.28	347.28	346.77	346.77	0.00	0.00	0.00	0.00
1107	10DA099	10DA093	Circular	479.11	0.38	0.83	1.25	348.36	348.91	343.20	345.00	1.57	1.57	348.36	348.36	345.63	345.63	0.00	0.00	3.28	3.28
1108	10DA093	10AD031	Circular	494.73	0.26	0.83	1.03	348.91	346.78	341.93	343.20	1.56	1.56	345.63	345.63	342.49	342.49	3.28	3.28	4.29	4.29
1109	23BB028	23BB027	Circular	293.64	0.04	1.50	1.97	362.39	361.50	357.97	358.09	1.91	2.27	359.01	359.17	358.70	358.94	3.38	3.22	2.80	2.56
1110	23BB027	23BB026	Circular	260.57	0.11	2.00	7.01	361.50	360.96	357.01	357.30	3.69	4.41	358.70	358.94	358.61	358.85	2.80	2.56	2.35	2.11
1111	23BB026	23BB003	Circular	44.81	0.22	2.00	9.92	360.96	363.32	356.91	357.01	10.82	13.42	358.61	358.85	358.49	358.70	2.35	2.11	4.83	4.63
1112	23BB040	23BB025	Circular	383.79	0.25	1.75	7.32	361.76	361.32	356.81	357.76	4.51	5.35	358.77	358.96	357.97	358.35	2.99	2.80	3.35	2.97
1113	23BB025	23BB024	Circular	376.80	0.12	2.00	7.26	361.32	359.65	356.28	356.73	4.35	5.06	357.97	358.35	357.73	358.16	3.35	2.97	1.92	1.49
1117	10DD071	10DA075	Circular	331.18	0.34	0.83	1.19	349.77	348.90	344.56	345.69	0.93	1.07	349.53	349.77	348.87	348.90	0.24	0.00	0.03	0.00
1118	23BC020	23BC008	Circular	314.70	0.22	1.00	1.54	363.92	362.67	360.37	361.05	2.57	3.31	364.92	370.73	363.25	367.95	-1.00	-6.81	-0.58	-5.28
1119	23BC008	23BC003	Circular	32.72	0.46	1.00	2.24	362.67	362.74	360.20	360.35	2.55	3.27	363.25	367.95	363.07	367.66	-0.58	-5.28	-0.33	-4.92
1122	23BC003	23BC006	Circular	93.69	0.20	1.00	1.49	362.74	362.70	359.86	360.05	2.54	3.25	363.07	367.66	362.58	366.83	-0.33	-4.92	0.12	-4.13
1123	23BC006	23BC017	Circular	81.33	0.26	1.33	3.62	362.70	363.09	359.55	359.76	2.50	3.25	362.58	366.83	362.48	366.67	0.12	-4.13	0.61	-3.58

Hydraulic Model Results - Existing Conditions																					
Burkhart Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1124	23BC017	23BC023	Circular	183.77	0.20	1.50	4.32	363.09	363.47	359.17	359.53	4.92	6.57	362.48	366.67	362.02	365.87	0.61	-3.58	1.45	-2.40
1137	22AB037	22AB036	Circular	221.51	0.20	1.25	2.67	359.06	362.34	355.48	355.92	2.80	3.73	356.91	357.26	355.69	355.79	2.15	1.80	6.65	6.55
1138	22AB036	22AB040	Circular	135.01	2.86	1.25	10.14	362.34	356.00	351.37	355.23	2.80	3.73	355.69	355.79	353.44	353.59	6.65	6.55	2.55	2.41
1149	14CC013	14CC015	Circular	51.38	0.27	1.00	1.73	358.76	358.76	356.71	356.85	-0.37	-0.46	382.68	397.00	382.68	396.99	-23.92	-38.23	-23.92	-38.23
1150	14CC015	14CC016	Circular	143.85	0.08	1.00	0.91	358.76	358.30	356.60	356.71	-0.74	-0.92	382.68	396.99	382.67	396.98	-23.92	-38.23	-24.37	-38.68
1151	14CC016	14CC014	Circular	107.57	0.19	1.00	1.43	358.30	358.75	356.40	356.60	1.69	2.07	382.67	396.98	382.49	396.75	-24.37	-38.68	-23.74	-38.01
1152	14CC014	15DD057	Circular	365.55	0.11	1.25	2.03	358.75	358.20	355.98	356.40	3.63	4.46	382.49	396.75	381.43	395.35	-23.74	-38.01	-23.23	-37.15
1155	15DD057	15DA068	Circular	185.99	0.03	1.50	1.75	358.20	357.60	355.92	355.98	5.84	7.39	381.43	395.35	380.88	394.55	-23.23	-37.15	-23.28	-36.95
1158	15DA066	15DA064	Circular	212.12	0.16	1.50	3.91	357.17	356.36	353.00	353.34	15.61	19.56	373.90	384.39	369.17	377.49	-16.73	-27.22	-12.81	-21.13
1161	15DA064	15DA051	Circular	41.52	0.22	1.50	4.54	356.36	356.62	352.91	353.00	15.61	19.59	369.17	377.49	368.22	376.09	-12.81	-21.13	-11.60	-19.47
1162	15DA051	15DA062	Circular	275.97	0.08	1.50	2.69	356.62	356.23	352.70	352.91	16.41	20.70	368.22	376.09	361.10	365.38	-11.60	-19.47	-4.87	-9.15
1163	15DA062	15DA002	Circular	68.88	0.13	1.50	3.53	356.23	356.27	352.61	352.70	18.26	22.89	361.10	365.38	358.79	361.86	-4.87	-9.15	-2.52	-5.59
1164	15DA002	15AD057	Circular	106.03	0.37	1.50	5.92	356.27	356.26	351.87	352.26	18.26	22.90	358.79	361.86	355.30	356.35	-2.52	-5.59	0.96	-0.09
1168	14BC027	14BC015	Circular	66.03	-0.02	2.50	4.69	356.86	357.28	349.93	349.92	13.48	15.21	355.36	356.16	355.35	356.18	1.50	0.70	1.94	1.10
1169	14BC015	14BC014	Circular	114.51	0.11	2.50	12.83	357.28	357.30	349.72	349.85	13.48	15.21	355.35	356.18	355.33	356.23	1.94	1.10	1.97	1.07
1170	14BC014	15AD045	Circular	230.55	0.24	2.50	18.60	357.30	356.10	349.17	349.72	13.49	15.21	355.33	356.23	355.31	356.32	1.97	1.07	0.79	-0.22
1171	15AD045	15AD057	Circular	74.17	-0.03	2.50	6.25	356.10	356.26	349.19	349.17	13.49	15.21	355.31	356.32	355.30	356.35	0.79	-0.22	0.96	-0.09
1174	15AD057	15AD055	Circular	356.65	0.15	2.50	14.82	356.26	355.17	348.65	349.19	23.56	23.76	355.30	356.35	353.98	355.04	0.96	-0.09	1.19	0.13
1177	15AD055	15AD061	Circular	78.67	-0.01	2.50	4.29	355.17	354.86	348.66	348.65	24.48	25.34	353.98	355.04	353.67	354.70	1.19	0.13	1.19	0.16
1178	15AD061	15AD028	Circular	90.55	1.12	2.50	40.23	354.86	355.21	347.64	348.65	24.49	25.34	353.67	354.70	353.31	354.31	1.19	0.16	1.90	0.90
1181	15AD028	15AD046	Circular	203.10	0.15	2.50	14.64	355.21	354.20	347.34	347.64	25.75	27.53	353.31	354.31	352.41	353.27	1.90	0.90	1.79	0.93
1183	15AD046	15AD054	Circular	64.76	0.31	2.50	21.17	354.20	354.41	347.14	347.34	25.75	27.52	352.41	353.27	352.12	352.94	1.79	0.93	2.29	1.47
1184	15AD054	15AC030	Circular	471.51	0.05	3.50	21.08	354.41	352.91	346.90	347.14	29.72	32.78	352.12	352.94	351.68	352.38	2.29	1.47	1.23	0.54
1185	15AC030	15AC029	Circular	103.00	-0.29	3.50	50.42	352.91	353.26	347.20	346.90	29.71	32.77	351.68	352.38	351.58	352.25	1.23	0.54	1.68	1.01
1186	15AC029	15AC032	Circular	91.51	0.44	3.50	61.77	353.26	353.04	346.80	347.20	29.71	32.76	351.58	352.25	351.50	352.14	1.68	1.01	1.54	0.90
1187	15AC032	15AC039	Circular	114.00	0.05	3.50	21.43	353.04	352.88	346.74	346.80	29.70	32.76	351.50	352.14	351.39	352.01	1.54	0.90	1.49	0.87
1188	15AC039	15AC022	Circular	90.57	-0.35	3.50	55.53	352.88	352.88	347.06	346.74	33.20	37.30	351.39	352.01	351.29	351.90	1.49	0.87	1.59	0.98
1192	15DB040	15DB039	Circular	34.52	0.41	0.67	0.72	352.31	352.31	350.60	350.74	3.51	4.55	356.86	360.98	353.76	356.05	-4.55	-8.67	-1.45	-3.74
1193	15DB039	15AC039	Circular	86.98	0.00	0.83	0.06	352.31	352.88	348.92	348.92	3.50	4.55	353.76	356.05	351.39	352.01	-1.45	-3.74	1.49	0.87
1195	15AC022	15AC020	Circular	313.50	0.15	3.50	35.79	352.88	352.07	346.55	347.01	36.25	37.68	351.29	351.90	350.85	351.39	1.59	0.98	1.22	0.68
1198	15AC020	15AC048	Circular	352.50	0.05	3.50	21.11	352.07	352.74	346.37	346.55	36.22	37.68	350.85	351.39	350.37	350.82	1.22	0.68	2.37	1.92
1200	15BD094	15BD095	Circular	130.51	0.09	3.50	28.33	351.07	350.89	345.93	346.05	40.68	44.08	349.62	349.88	349.43	349.66	1.45	1.19	1.46	1.23
1201	15BD095	15BD096	Circular	152.01	0.09	3.50	28.35	350.89	350.67	345.79	345.93	40.60	44.02	349.43	349.66	349.21	349.42	1.46	1.23	1.45	1.25
1202	15BD096	15CA090	Circular	118.99	0.08	3.50	27.08	350.67	352.40	345.69	345.79	40.51	43.96	349.21	349.42	349.06	349.23	1.45	1.25	3.33	3.16
1277	15AC035	15BD093	Circular	219.52	0.05	3.50	19.94	352.66	352.05	346.19	346.29	39.34	42.12	350.24	350.66	349.91	350.26	2.42	2.00	2.14	1.79
1332	15AC036	15AC047	Circular	38.69	0.26	0.67	0.57	351.20	351.70	349.50	349.60	1.52	2.18	353.00	355.21	352.34	353.87	-1.79	-4.01	-0.64	-2.17
1333	15AC047	15AC050	Circular	35.33	0.28	0.83	1.08	351.70	352.08	349.40	349.50	3.64	5.10	352.34	353.87	351.57	352.15	-0.64	-2.17	0.51	-0.08
1334	15AD017	15AD067	Circular	101.66	0.30	3.00	33.64	354.12	354.37	350.82	351.12	-0.06	-0.18	351.58	352.16	351.58	352.16	2.54	1.96	2.79	2.21
1335	15AD067	15AD063	Circular	112.43	1.01	2.00	21.06	354.37	354.83	349.69	350.82	-0.26	-0.49	351.58	352.16	351.58	352.16	2.79	2.21	3.25	2.67
1336	15AD063	15AD064	Circular	101.55	0.03	2.00	3.61	354.83	354.62	349.66	349.69	-0.68	-0.70	351.58	352.16	351.58	352.16	3.25	2.67	3.04	2.46
1337	15AD064	15AD065	Circular	122.46	0.11	2.00	7.10	354.62	354.64	349.52	349.66	-1.10	-1.04	351.58	352.16	351.58	352.16	3.04	2.46	3.06	2.48
1341	15AC041	15AC040	Circular	37.74	0.19	1.50	4.20	351.76	351.69	349.69	349.76	-0.29	-0.37	355.87	358.18	355.87	358.18	-4.11	-6.42	-4.18	-6.49
1342	15AC040	15AB064	Circular	816.35	0.03	1.50	1.67	351.69	350.95	349.45	349.69	7.87	9.62	355.87	358.18	348.39	348.56	-4.18	-6.49	2.56	2.39
1367	15BA001	15BA037	Circular	148.00	0.07	1.25	1.64	347.15	346.06	344.27	344.38	2.73	3.64	346.25	347.40	345.95	346.89	0.90	-0.25	0.11	-0.83
1368	15BA037	15BA033	Circular	153.60	0.40	1.25	3.81	346.06	347.86	343.65	344.27	2.73	3.63	345.95	346.89	345.83	346.37	0.11	-0.83	2.03	1.49
1369	15BA033	15BA032	Circular	152.59	0.13	1.25	2.17	347.86	346.36	343.45	343.65	2.72	3.63	345.83	346.37	345.80	346.16	2.03	1.49	0.56	0.20
1370	15BA032	15BA038	Circular	80.50	0.12	1.25	2.11	346.36	346.33	343.35	343.45	2.72	3.62	345.80	346.16	345.79	346.14	0.56	0.20	0.54	0.19
1371	15BB025	15BB036	Circular	26.67	0.45	1.75	9.87	344.96	347.06	340.06	340.18	-0.05	-0.09	341.87	342.64	341.87	342.64	3.09	2.32	5.19	4.42
1372	15BB036	15BB035	Circular	83.06	0.22	1.75	6.85	347.06	346.45	339.88	340.06	1.59	1.82	341.87	342.64	341.86	342.64	5.19	4.42	4.59	3.81
1373	15BB035	15BB034	Circular	323.85	0.14	1.75	5.42	346.45	344.62	339.29	339.73	3.81	4.12	341.86	342.64	341.67	342.39	4.59	3.81	2.95	2.23
1375	15BB034	15BB033	Circular	221.63	0.17	1.75	6.01	344.62	343.46	338.80	339.17	5.05	5.82	341.67	342.39	341.52	342.08	2.95	2.23	1.94	1.38
1376	15BB033	15BB032	Circular	38.98	0.23	1.75	7.07	343.46	343.46	338.71	338.80	5.97	6.85	341.52	342.08	341.50	342.01	1.94	1.38	1.96	1.45
1378	15BB032	15BB030	Circular	283.85	0.22	1.75	6.93	343.46	342.46	338.08	338.71	5.96	6.84	341.50	342.01	341.38	341.78	1.96	1.45	1.08	0.68
1380	15BB030	15BB044	Circular	51.21	0.18	2.00	8.81	342.46	343.99	337.99	338.08	5.95	6.83	341.38	341.78	341.37	341.76	1.08	0.68	2.62	2.23
1382	10CC029	10CC030	Circular	33.72	0.27	0.83	1.05	341.59	341.67	340.50	340.59	1.87	2.41	341.53	342.52	341.46	342.07	0.06	-0.94	0.21	-0.40
1383	10CC030	15BB041	Circular	173.59	1.48	1.00	4.03	341.67	344.35	337.93	340.50	1.85	2.40	341.46	342.07	341.41	341.83	0.21	-0.40	2.94	2.52
1387	15BB037	15BB038	Circular	75.81	-0.04	1.25	1.19	343.11	343.48	339.32	339.29	2.28	2.94	341.96	342.55	341.86	342.37	1.15	0.56	1.62	1.11
1388	15BB038	15BB039	Circular	83.89	0.48	1.25	4.14	343.48	343.90	338.92	339.32	2.28	2.94	341.86	342.37	341.75	342.18	1.62	1.11	2.15	1.72
1389	15BB039	15BB042	Circular	137.16	0.70	1.50	8.16	343.90	346.78	337.86	338.82	5.15	6.67	341.75	342.18	341.71	342.00	2.15	1.72	5.07	4.77
1390	10CC024	10CC049	Circular	11.28	3.10	0.83	3.58	343.17	343.46	340.72	341.07	-0.13	-0.07	342.48	343.81	342.48	343.81	0.69	-0.64	0.98	-0.35
1392	10CC049	10CC055	Circular	339.80	0.32	1.50	5.55	343.46	344.55	339.62	340.72	1.62	2.07	342.48	343.81	342.40	343.67	0.98	-0.35	2.15	0.88
1393	10CC055	10CC054	Circular	79.01	0.51	1.50	6.94	344.55	345.42	339.22	339.62	3.37	4.29	342.40	343.67	342.33	343.53	2.15	0.88	3.09	1.89
1394	10CC054	10CC053	Circular	111.39	0.81	1.50	8.77	345.42	343.39	338.32	339.22	3.35	4.28	342.33	343.53	342.23	343.35	3.09	1.89	1.16	0.05
1395	10CD028	10CC053	Circular	383.65	0.15	3.50	36.64	344.83	343.39	338.32	338.91	40.22	44.86	342.88	344.23	342.23	343.35	1.95	0.61	1.16	0.05
1396	10CC053	10CC052	Circular	66.01	0.26	3.50	47.41	343.39	343.24	338.14	338.31	43.26	48.92	342.23	343.35	342.10	343.17	1.16	0.05	1.14	0.08
1402	10CD029	10CD028	Circular	559.21	0.09	3.50	27.37	345.64	344.83	339.40	339.88	44.02	56.17	344.02	346.23	342.88	344.23	1.62	-0.59	1.95	0.61
1403	10CD031	10CD029	Circular	338.61	0.22	3.00	29.15	346.55	345.64	339.88	340.63	41.16	52.41	345.50	348.61	344.02	346.23	1.05	-2.06	1.62	-0.59
1411	10DC048	10CD031	Circular	395.56	0.15	3.00	24.32	347.34	346.55	340.63	341.24	37.29	47.60	346.92	350.88	345.50	348.61	0.42	-3.54	1.05	-2.06
1412	10CC052	10CC051	Circular	354.62	0.14	3.50	34.73	343.24	342.30	337.65	338.14	46.43	53.13	342.10	343.17	341.39	342.03	1.14	0.08	0.91	0.27
1416	10CC051	10CC063.1	Circular	365.64	0.05	3.50	21.85	342.30	342.30	336.64	336.84	48.83	56.35	341.39	342.03	340.74	341.12	0.91	0.27	1.56	1.18

Hydraulic Model Results - Existing Conditions																					
Burkhart Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1420	10CC050	10CC060	Circular	209.57	0.29	2.25	15.39	343.75	343.07	337.15	337.75	9.16	10.29	340.95	341.36	340.76	341.15	2.80	2.39	2.31	1.92
1421	10CC038	10CC039	Circular	39.82	0.00	1.00	0.10	343.32	343.33	338.85	338.85	-0.03	-0.02	340.76	341.15	340.76	341.15	2.56	2.18	2.57	2.18
1422	10CC060	10CC063.1	Circular	27.01	1.85	2.25	39.13	343.07	342.30	336.64	337.14	9.16	10.29	340.76	341.15	340.74	341.12	2.31	1.92	1.56	1.18
1423	10CC039	10CC060	Circular	25.15	6.76	1.00	8.60	343.33	343.07	337.15	338.85	-0.09	-0.09	340.76	341.15	340.76	341.15	2.57	2.18	2.31	1.92
1425	10CC041	10CC050	Circular	18.08	3.65	1.25	11.46	343.32	343.75	337.75	338.41	-2.46	-1.85	340.95	341.36	340.95	341.36	2.37	1.96	2.80	2.39
1427	10CC070	10CC042	Circular	97.26	1.33	1.00	3.81	346.62	343.75	341.06	342.35	0.74	1.09	342.65	342.72	341.35	341.47	3.96	3.90	2.40	2.28
1428	10CC042	10CC041	Circular	126.72	2.09	1.00	4.78	343.75	343.32	338.41	341.06	0.74	1.08	341.35	341.47	340.95	341.36	2.40	2.28	2.37	1.96
1429	09DD025	10CC050	Circular	481.67	0.24	2.00	10.31	343.05	343.75	337.75	338.91	8.91	10.00	341.73	342.22	340.95	341.36	1.32	0.83	2.80	2.39
1434	09DD004	09DD005	Circular	37.52	1.01	1.00	3.33	343.13	342.55	339.20	339.58	5.85	6.63	342.94	343.59	341.79	342.30	0.19	-0.46	0.76	0.26
1435	09DD005	09DD025	Circular	18.05	1.61	1.75	18.65	342.55	343.05	338.91	339.20	8.91	10.00	341.79	342.30	341.73	342.22	0.76	0.26	1.32	0.83
1437	10DC044	10DC043	Circular	392.66	0.47	1.00	2.28	348.90	347.03	341.86	343.72	6.36	8.01	365.06	377.04	353.23	360.36	-16.16	-28.14	-6.20	-13.33
1443	10DD060	10DD058	Circular	288.59	0.31	0.83	1.13	350.88	349.67	344.62	345.51	3.70	4.70	377.72	394.22	371.79	386.30	-26.84	-43.34	-22.12	-36.63
1446	10DD061	10DD060	Circular	356.10	0.42	0.67	0.73	350.63	350.88	345.51	347.01	1.16	1.48	379.94	397.07	377.72	394.22	-29.30	-46.44	-26.84	-43.34
1496	09AA018	09AA020	Circular	147.54	0.29	1.00	1.79	336.41	336.18	332.81	333.24	4.29	4.29	336.41	336.41	334.52	335.17	0.00	0.00	1.66	1.01
1497	09AA020	09AA019	Circular	33.16	0.30	1.00	1.82	336.18	336.66	332.71	332.81	4.28	4.27	334.52	335.17	334.09	334.89	1.66	1.01	2.57	1.77
1498	09AA019	09AA021	Circular	54.42	5.26	1.00	7.58	336.66	336.72	329.85	332.71	7.02	8.03	334.09	334.89	331.73	331.98	2.57	1.77	4.99	4.74
1499	10BA034	10BB024	Circular	380.10	0.12	3.00	21.31	338.93	337.98	332.49	332.94	20.45	20.50	335.79	336.41	335.60	336.22	3.14	2.52	2.38	1.76
1570	03DB006	03DB012	Circular	259.86	0.09	2.00	6.25	336.89	337.64	334.10	334.33	7.51	10.73	335.76	336.12	334.99	335.14	1.13	0.78	2.65	2.50
1571	03DC004	03DB006	Circular	339.39	0.04	2.00	4.27	337.75	336.89	334.43	334.57	7.52	10.76	336.28	336.95	335.76	336.12	1.47	0.80	1.13	0.78
1572	03DC005	03DC004	Circular	294.19	0.01	2.00	2.45	338.53	337.75	334.77	334.81	7.54	10.79	336.66	337.71	336.28	336.95	1.88	0.82	1.47	0.80
1579	03BA025	03BA023	Natural	217.23	0.54	2.03	62.66	331.18	330.21	328.07	329.25	4.22	6.11	329.73	329.86	329.40	329.86	1.45	1.32	0.81	0.34
1750	22AD050	22AD062	Circular	98.07	0.36	1.50	5.83	365.23	365.83	358.24	358.59	3.04	4.12	363.83	369.07	363.74	368.91	1.40	-3.84	2.09	-3.08
1751	22AD062	22AD049	Circular	200.81	0.21	1.50	4.51	365.83	365.75	357.76	358.19	5.06	6.82	363.74	368.91	363.22	368.00	2.09	-3.08	2.53	-2.25
1752	22AD064	22AD063	Circular	314.69	0.06	2.00	5.16	363.55	365.63	358.91	359.10	2.12	2.77	363.81	369.03	363.78	368.98	-0.26	-5.48	1.85	-3.35
1753	22AD063	22AD062	Circular	40.02	1.17	1.25	6.50	365.63	365.83	358.39	358.86	2.08	2.72	363.78	368.98	363.74	368.91	1.85	-3.35	2.09	-3.08
1788	10CA028	10CA050	Circular	325.61	0.32	1.00	1.88	343.66	343.94	339.95	341.00	2.43	2.31	343.66	343.66	343.16	343.17	0.00	0.00	0.78	0.77
1789	10CA050	10CA027	Circular	184.59	0.38	1.00	2.04	343.94	343.95	338.57	339.27	2.13	2.21	343.16	343.17	342.89	342.90	0.78	0.77	1.06	1.05
1793	10CA027	10CA022	Circular	204.89	0.39	1.00	2.07	343.95	343.27	337.75	338.55	2.13	2.16	342.89	342.90	342.58	342.60	1.06	1.05	0.69	0.67
1794	10CA022	10CA011	Circular	115.51	0.01	1.00	0.31	343.27	343.74	337.74	337.75	2.14	2.09	342.58	342.60	342.41	342.43	0.69	0.67	1.33	1.31
1797	10CA017	10CA011	Circular	64.00	1.16	1.00	3.56	343.00	343.74	337.74	338.48	3.39	3.35	343.00	343.00	342.41	342.43	0.00	0.00	1.33	1.31
1798	10CA011	10CA051	Circular	283.12	0.36	1.25	3.62	343.74	342.61	336.50	337.53	4.69	4.64	342.41	342.43	340.82	340.91	1.33	1.31	1.79	1.70
1799	10CA051	10CA009	Circular	326.77	0.21	1.50	4.51	342.61	340.91	335.66	336.36	6.94	6.56	340.82	340.91	339.65	339.84	1.79	1.70	1.26	1.07
1802	10CA010	10CA051	Circular	202.01	0.34	1.00	1.92	341.15	342.61	336.50	337.18	2.75	2.58	341.15	341.15	340.82	340.91	0.00	0.00	1.79	1.70
1814	10BD015	10CA049	Circular	312.66	0.31	0.83	1.14	341.04	341.69	337.59	338.57	-0.95	0.96	341.04	341.04	341.69	341.69	0.00	0.00	0.00	0.00
1815	10CA049	10CA009	Circular	523.11	0.33	1.00	1.91	341.69	340.91	335.66	337.40	2.62	2.49	341.69	341.69	339.65	339.84	0.00	0.00	1.26	1.07
1823	15DC059	15DC061	Circular	9.50	2.21	1.50	14.50	354.86	354.89	350.36	350.57	1.72	2.28	353.48	353.87	353.48	353.87	1.38	0.99	1.41	1.02
1824	15DC063	15DC061	Circular	25.04	0.88	2.50	35.70	355.03	354.89	350.30	350.52	12.96	14.60	353.51	353.90	353.48	353.87	1.52	1.13	1.41	1.02
1825	15DC061	15DC035	Circular	150.75	0.12	2.50	13.16	354.89	356.06	350.18	350.36	14.60	16.86	353.48	353.87	353.27	353.58	1.41	1.02	2.79	2.48
1906	15AB064	15AB062	Circular	53.83	1.50	1.50	11.97	350.95	350.82	346.61	347.42	4.90	11.44	348.39	348.56	348.40	348.55	2.56	2.39	2.42	2.26
1906	15AB064	15AB062	Special	53.83	1.50	1.50	16.80	350.95	350.82	346.61	347.42	6.09	6.11	348.39	348.56	348.40	348.55	2.56	2.39	2.42	2.26
2007	10DB040	10DB042	Circular	318.14	0.05	2.25	6.24	345.43	344.80	338.99	339.14	10.26	13.19	343.78	344.54	343.39	343.88	1.65	0.89	1.42	0.92
2008	10DB023	10DB042	Circular	399.58	0.19	1.25	2.58	344.57	344.80	338.99	339.73	5.38	5.38	344.57	344.57	343.39	343.88	0.00	0.00	1.42	0.92
2009	10DB024	10DB023	Circular	451.60	0.20	1.25	2.71	346.24	344.57	339.73	340.65	4.52	4.48	346.24	346.24	344.57	344.57	0.00	0.00	0.00	0.00
2013	10DB042	10DB020	Circular	329.01	0.06	2.50	9.15	344.80	343.21	338.55	338.74	14.93	17.31	343.39	343.88	342.89	343.21	1.42	0.92	0.32	0.00
2017	10DB020	10AC019	Circular	345.84	0.10	2.50	12.29	343.21	342.68	338.01	338.37	17.48	18.16	342.89	343.21	342.18	342.62	0.32	0.00	0.50	0.06
2018	15BA006	15BA005	Circular	22.19	0.00	1.00	0.10	347.96	349.53	346.75	346.75	1.30	2.02	347.32	347.43	347.15	347.22	0.64	0.52	2.38	2.31
2019	15BA003	15BA002	Circular	20.76	0.00	0.83	0.06	348.01	347.96	346.75	346.75	1.30	2.02	347.44	347.65	347.32	347.43	0.57	0.36	0.64	0.52
2020	15BA003.2	15BA003.1	Circular	56.50	0.16	0.50	0.21	348.47	348.37	346.86	346.95	0.61	0.61	348.03	348.08	347.44	347.65	0.44	0.39	0.92	0.72
2020	15BA003.2	15BA003.1	Trapezoidal	56.50	0.16	0.50	31.69	348.47	348.37	347.86	347.95	1.31	3.14	348.03	348.08	347.44	347.65	0.44	0.39	0.92	0.72
2027	10DB021	10DB020	Circular	401.61	0.27	0.83	1.06	344.38	343.21	338.55	339.65	2.13	2.09	344.38	344.38	342.89	343.21	0.00	0.00	0.32	0.00
2031	10DD080	10DC040	Circular	366.38	0.27	0.67	0.58	348.61	348.39	344.83	345.81	0.50	0.50	348.61	348.61	348.39	348.39	0.00	0.00	0.00	0.00
2036	15BA011	15BA014	Circular	53.54	0.62	2.00	16.49	351.13	349.95	346.77	347.10	15.47	19.80	347.92	348.04	347.74	347.85	3.20	3.08	2.21	2.10
2037	15BA012	15BA014	Circular	39.27	1.53	1.00	4.09	348.37	349.95	346.77	347.37	4.60	5.75	348.35	348.89	347.74	347.85	0.02	-0.51	2.21	2.10
2045	10DA068	10DB025	Circular	372.62	0.42	0.67	0.73	347.52	346.59	341.23	342.79	0.74	0.74	347.52	347.52	346.59	346.59	0.00	0.00	0.00	0.00
2058	10DA075	10DA064	Circular	343.51	0.26	1.00	1.68	348.90	347.87	343.67	344.56	1.82	1.85	348.87	348.90	347.87	347.87	0.03	0.00	0.00	0.00
2064	10DB025	10DB024	Circular	327.07	0.08	1.00	0.95	346.59	346.24	340.87	341.14	2.45	2.47	346.59	346.59	346.24	346.24	0.00	0.00	0.00	0.00
2069	10DB038	10DB024	Circular	196.03	0.26	1.25	3.06	347.35	346.24	340.87	341.38	0.89	1.11	346.29	346.31	346.24	346.24	1.06	1.04	0.00	0.00
2072	10AC001	10AC017	Circular	434.17	0.31	1.25	3.32	346.46	344.44	339.00	340.33	4.10	4.13	345.99	346.17	344.44	344.44	0.47	0.29	0.00	0.00
2076	10AC017	10AC019	Circular	403.10	0.25	1.25	2.97	344.44	342.68	338.01	339.00	5.35	5.56	344.44	344.44	342.18	342.62	0.00	0.00	0.50	0.06
2078	10AD024	10AC001	Circular	701.19	0.21	1.25	2.77	347.05	346.46	340.33	341.82	2.91	2.90	346.77	346.78	345.99	346.17	0.28	0.27	0.47	0.29
2087	15BA026	15BA024	Circular	39.39	1.19	1.00	3.61	349.91	348.62	346.28	346.75	1.58	2.17	347.22	347.31	346.70	346.76	2.69	2.59	1.92	1.86
2126	15CA074	15CA085	Circular	93.50	1.17	1.25	6.48	350.20	352.31	347.07	348.16	1.05	1.46	349.23	349.58	349.22	349.57	0.97	0.62	3.09	2.74
2127	15CA013	15CA085	Circular	174.04	2.80	1.00	5.54	356.55	352.31	348.16	353.04	2.95	4.55	353.56	353.76	349.22	349.57	2.99	2.79	3.09	2.74
2128	15CA085	15CA090	Circular	51.55	0.52	1.25	4.34	352.31	352.40	346.80	347.07	3.72	5.65	349.22	349.57	349.06	349.23	3.09	2.74	3.33	3.16
2152	15CC005	15CC006	Circular	46.58	0.39	1.00	2.06	356.11	356.26	353.20	353.38	1.09	1.41	354.17	354.34	354.15	354.30	1.94	1.76	2.12	1.97
2178	15CA094	15CA095	Circular	39.50	0.58	1.00	2.52	350.95	350.72	349.72	349.95	1.73	2.21	350.54	350.64	350.23	350.33	0.41	0.31	0.49	0.39
2179	15CA095	15BD094	Circular	70.90	1.00	1.00	3.31	350.72	351.07	349.01	349.72	1.73	2.20	350.23	350.33	349.62	349.88	0.49	0.39	1.45	1.19
2180	15BD093	15BD094	Circular	215.01	0.07	3.50	23.84	352.05	351.07	346.05	346.19	39.24	42.08	349.91	350.26	349.62	349.88	2.14	1.79	1.45	1.19
2208	15DB027	15DC048.2	Circular	86.61	0.82	1.00	3.00	353.92	356.74	349.07	349.78	1.22	1.66	350.47	350.65	350.38	350.47	3.45	3.27	6.36	6.26
2219	15AD052	15AD057	Circular	236.03	-0.09	2.00	6.41	357.21	356.26	351.87	351.65	8.90	8.95	355.42	356.73	355.30	356.35	1.79	0.48	0.96	-0.09

Hydraulic Model Results - Existing Conditions																					
Burkhart Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
2239	22AA002	22AA025	Circular	13.50	0.37	3.00	37.69	357.20	358.87	353.95	354.00	6.22	7.79	355.40	355.91	355.40	355.91	1.80	1.29	3.47	2.97
2250	23BB041	23BB033	Circular	120.71	0.29	1.00	1.78	362.10	364.89	359.24	359.59	1.86	2.39	360.53	360.91	359.58	359.74	1.57	1.19	5.31	5.15
2259	22AB002.2	22AB002.1	Circular	194.83	0.70	1.50	8.18	359.25	358.97	356.38	357.75	1.51	2.03	358.19	358.26	357.10	357.73	1.06	0.99	1.87	1.23
2260	22AB002	22AB039	Circular	163.02	1.34	1.50	11.31	357.79	356.86	352.81	355.00	3.04	3.26	357.09	357.73	357.05	357.67	0.70	0.06	-0.19	-0.81
2342	10BB050	09AA010	Circular	47.57	0.13	3.00	22.00	336.42	336.25	329.90	329.96	27.87	28.60	334.89	335.63	334.86	335.61	1.53	0.79	1.39	0.65
2343	10BA025	10BA034	Circular	410.08	0.06	2.50	9.59	341.35	338.93	333.04	333.30	18.56	18.77	336.47	337.21	335.79	336.41	4.88	4.14	3.14	2.52
2345	10BB015	10BB050	Circular	124.57	0.26	3.00	31.39	336.35	336.42	329.96	330.28	27.94	28.61	334.98	335.70	334.89	335.63	1.37	0.65	1.53	0.79
2377	03CA018	03CA019	Circular	45.59	0.44	1.50	6.46	334.92	331.93	329.52	329.72	0.95	1.95	330.11	330.28	329.88	330.05	4.81	4.64	2.05	1.88
2378	03CA020	03CA021	Circular	127.04	0.10	1.50	3.12	335.75	334.91	329.85	329.98	0.95	1.95	330.51	330.73	330.23	330.42	5.24	5.02	4.68	4.49
2379	03CA021	03CA018	Circular	38.00	0.08	1.50	2.74	334.91	334.92	329.72	329.75	0.95	1.95	330.23	330.42	330.11	330.28	4.68	4.49	4.81	4.64
2428	10BB051	10BB052	Circular	54.49	0.46	0.83	1.38	337.81	337.25	332.38	332.63	2.89	2.84	337.81	337.81	337.20	337.25	0.00	0.00	0.05	0.00
2429	10BB052	10BB032	Circular	171.55	0.28	0.83	1.08	337.25	337.25	331.90	332.38	2.86	2.78	337.20	337.25	335.27	335.59	0.05	0.00	1.98	1.66
2594	03BB013	03BB012	Circular	36.68	0.27	1.00	1.73	328.11	328.73	325.90	326.00	-3.92	-3.97	327.50	327.51	328.63	328.67	0.61	0.60	0.10	0.06
2597	03BB008	03BB020	Circular	39.47	0.28	1.00	1.75	329.77	328.87	326.16	326.27	4.45	5.07	329.07	329.53	327.53	327.55	0.71	0.24	1.34	1.32
2639	03CD031	03CD032	Circular	178.56	0.01	1.50	1.03	340.19	339.63	336.63	336.65	1.19	1.32	337.29	337.32	336.86	336.87	2.90	2.87	2.77	2.76
2641	03CC001	03CC004	Circular	101.44	0.10	1.50	3.06	336.00	337.84	333.60	333.70	-6.19	-6.12	335.95	336.00	335.93	336.02	0.05	0.00	1.91	1.82
2643	10AC015	10AB023	Circular	334.47	0.48	1.00	2.28	343.68	343.88	339.23	340.82	1.27	1.29	343.68	343.68	343.66	343.66	0.00	0.00	0.22	0.22
2652	10DC049	10DB045	Circular	537.99	0.20	2.00	9.50	346.85	345.72	340.21	341.31	5.10	6.33	344.37	345.49	344.07	345.02	2.48	1.36	1.65	0.70
2653	10DB046	10DB040	Circular	288.38	0.16	2.25	11.49	345.85	345.43	339.14	339.60	7.50	9.57	343.98	344.86	343.78	344.54	1.87	1.00	1.65	0.89
2654	10DB045	10DB046	Circular	79.15	0.15	2.00	8.18	345.72	345.85	339.97	340.09	7.53	9.57	344.07	345.02	343.98	344.86	1.65	0.70	1.87	1.00
2864	15BB024	15BB036	Circular	42.01	0.95	0.83	1.98	347.96	347.06	340.40	340.80	1.58	1.82	342.06	342.82	341.87	342.64	5.90	5.14	5.19	4.42
2865	15BB022	15BB035	Circular	66.41	0.35	1.00	1.95	343.16	346.45	340.06	340.29	3.04	4.09	342.34	343.47	341.86	342.64	0.82	-0.31	4.59	3.81
2866	15BB045	15BB022	Circular	32.41	0.00	0.83	0.06	345.69	343.16	340.70	340.70	2.00	2.69	342.64	344.01	342.34	343.47	3.05	1.68	0.82	-0.31
2868	15BB050	15BB045	Circular	110.02	-0.44	1.00	2.19	344.96	345.69	341.62	341.14	2.10	2.70	343.02	344.71	342.64	344.01	1.94	0.25	3.05	1.68
2874	15BA035	15BA041	Circular	45.95	0.15	0.83	0.79	346.46	346.39	345.39	345.46	2.68	3.53	346.83	347.56	346.04	346.21	-0.37	-1.10	0.35	0.19
2875	15BA041	15BA039	Circular	310.54	1.16	1.00	3.56	346.39	347.45	341.80	345.39	2.68	3.53	346.04	346.21	342.44	342.55	0.35	0.19	5.01	4.90
2877	15AC059	15AC058	Circular	15.00	0.40	0.83	1.29	350.78	351.99	347.46	347.52	1.20	1.50	348.60	348.87	348.56	348.79	2.18	1.91	3.44	3.20
2879	15AC055	15AC056	Circular	14.02	1.21	0.67	1.24	350.97	352.68	347.90	348.07	0.78	1.05	348.68	349.03	348.63	348.91	2.29	1.94	4.05	3.77
2881	15AC052	15AC054	Circular	743.01	0.17	2.00	8.75	352.61	350.94	348.16	349.45	0.00	0.00	349.45	349.45	348.81	349.00	3.16	3.16	2.13	1.94
2882	15AC054	15AC049	Circular	140.95	0.14	2.00	7.91	350.94	350.56	347.96	348.16	-0.32	-0.51	348.81	349.00	348.80	349.00	2.13	1.94	1.76	1.56
2883	15AC051	15AC051	Circular	156.77	0.50	3.00	43.69	352.71	352.81	347.38	348.16	6.02	6.84	351.32	351.92	351.31	351.91	1.39	0.79	1.50	0.90
2885	15AC045	15AC051	Circular	129.00	0.07	2.00	5.55	352.75	352.71	348.16	348.25	6.01	6.83	351.36	351.95	351.32	351.92	1.39	0.81	1.39	0.79
2888	15AD015	15AD068	Circular	74.69	0.44	1.50	6.48	352.36	352.69	350.36	350.69	2.95	3.79	351.58	352.16	351.57	352.16	0.78	0.20	1.11	0.53
2889	15AD065	15AD066	Circular	36.03	0.28	2.00	11.07	354.64	353.97	349.37	349.47	-1.47	-1.36	351.58	352.16	351.58	352.16	3.06	2.48	2.39	1.81
2890	15AD066	15AD015	Circular	19.29	0.52	2.00	15.12	353.97	352.36	350.26	350.36	2.99	3.85	351.58	352.16	351.58	352.16	2.39	1.81	0.78	0.20
2891	15AD066	15AD032	Circular	23.01	-0.04	2.00	4.38	353.97	353.85	349.38	349.37	-1.43	-1.78	351.58	352.16	351.58	352.16	2.39	1.81	2.27	1.69
2892	15AD016	15AD049	Circular	306.31	0.47	2.00	14.35	355.53	358.74	352.10	353.53	-1.55	-1.87	355.44	356.76	355.44	356.76	0.09	-1.23	3.30	1.98
2893	15AD049	15AD052	Circular	97.75	0.46	2.00	14.25	358.74	357.21	351.65	352.10	4.88	4.39	355.44	356.76	355.42	356.73	3.30	1.98	1.79	0.48
2994	15DA067	15DA066	Circular	95.58	0.26	1.50	4.99	357.11	357.17	353.34	353.59	13.91	17.56	375.55	386.81	373.90	384.39	-18.44	-29.70	-16.73	-27.22
2996	15DA076	15DA067	Circular	16.00	0.63	1.25	4.74	357.29	357.11	353.59	353.69	-3.36	3.76	375.57	386.83	375.55	386.81	-18.28	-29.54	-18.44	-29.70
2997	15DA075	15DA076	Circular	36.43	0.14	1.25	2.22	357.48	357.29	353.69	353.74	-3.27	3.55	375.61	386.88	375.57	386.83	-18.13	-29.40	-18.28	-29.54
2998	14CB024	15DA075	Circular	225.12	0.14	1.25	2.26	357.56	357.48	353.77	354.09	-3.17	3.34	375.84	387.22	375.61	386.88	-18.28	-29.66	-18.13	-29.40
3000	14CB054	14CB024	Circular	41.70	0.14	2.00	7.97	357.34	357.56	354.09	354.15	-4.10	-3.45	375.84	387.23	375.84	387.22	-18.50	-29.88	-18.28	-29.66
3001	14CB023	14CB024	Circular	21.92	1.32	2.00	24.16	357.28	357.56	352.09	352.38	1.44	1.84	375.84	387.23	375.84	387.22	-18.56	-29.94	-18.28	-29.66
3006	15DA068	15DA057	Circular	177.84	0.41	1.50	6.25	357.60	357.19	355.19	355.92	7.90	10.12	380.88	394.55	379.92	393.12	-23.28	-36.95	-22.73	-35.93
3009	15DA057	15DA067	Circular	357.04	0.14	1.50	3.65	357.19	357.11	353.76	354.26	11.95	15.07	379.92	393.12	375.55	386.81	-22.73	-35.93	-18.44	-29.70
3010	15DC062	15DC063	Circular	355.92	0.07	2.50	10.29	357.46	355.03	350.47	350.73	12.97	14.60	353.91	354.42	353.51	353.90	3.55	3.04	1.52	1.13
3011	15DC060	15DC062	Circular	214.51	-0.09	2.50	11.34	356.61	357.46	350.73	350.54	12.30	13.69	354.14	354.70	353.91	354.42	2.47	1.92	3.55	3.04
3012	15DD093	15DC060	Circular	192.20	0.34	2.50	22.15	355.65	356.61	350.54	351.19	12.30	13.69	354.33	354.94	354.14	354.70	1.32	0.71	2.47	1.92
3013	15DC038	15DC015	Circular	61.75	0.10	1.00	1.03	358.37	358.33	352.21	352.27	1.65	1.86	355.36	356.20	355.22	356.06	3.01	2.17	3.11	2.27
3014	15DC047	15DC038	Circular	292.78	0.19	1.00	1.45	357.87	358.37	352.53	353.09	1.64	1.85	356.02	356.92	355.36	356.20	1.85	0.95	3.01	2.17
3018	15DC008	15DC047	Circular	92.02	0.21	1.00	1.50	357.97	357.87	353.14	353.33	0.88	1.08	356.05	356.95	356.02	356.92	1.92	1.02	1.85	0.95
3020	15DC049	15DC048	Circular	48.24	0.06	2.00	5.24	353.29	355.45	349.76	349.79	66.20	86.04	352.33	352.57	352.29	352.50	0.96	0.72	3.16	2.95
3020	15DC049	15DC048	Circular	48.24	0.06	3.00	15.44	353.29	355.45	349.76	349.79	26.39	30.56	352.33	352.57	352.29	352.50	0.96	0.72	3.16	2.95
3051	22AA051	22AA052	Circular	28.69	0.07	1.00	0.87	358.56	357.05	354.43	354.45	2.73	3.45	357.23	357.77	357.20	357.74	1.33	0.79	-0.15	-0.69
3052	22AA045	22AA053	Circular	29.08	0.21	1.00	1.50	356.93	357.72	354.27	354.33	1.74	1.76	357.20	357.74	357.17	357.71	-0.27	-0.81	0.55	0.01
3059	22AA037	22AA036	Circular	160.66	0.07	1.75	3.85	361.56	361.30	356.15	356.26	13.44	18.06	360.65	363.47	359.33	361.13	0.91	-1.91	1.97	0.17
3060	22AA036	22AA035	Circular	42.95	0.12	1.75	5.02	361.30	361.90	356.00	356.05	15.46	20.76	359.33	361.13	358.86	360.29	1.97	0.17	3.04	1.61
3258	03BA022	03BA023	Circular	27.07	1.51	1.00	4.07	330.27	330.21	328.07	328.48	-0.13	-0.37	329.40	329.86	329.40	329.86	0.88	0.41	0.81	0.34
3262	03BA031	03BA048	Circular	42.08	0.78	1.00	2.93	329.89	329.59	327.42	327.75	2.83	2.78	329.39	329.87	329.08	329.54	0.50	0.01	0.52	0.06
3351	15DD060	15DD069	Circular	148.24	0.11	1.00	1.12	357.48	357.08	353.42	353.59	0.85	1.04	380.25	393.10	380.19	393.02	-22.77	-35.62	-23.11	-35.94
3352	15DD069	15DA059	Circular	222.17	0.18	1.00	1.40	357.08	356.68	352.73	353.13	1.06	1.34	380.19	393.02	380.10	392.90	-23.11	-35.94	-23.41	-36.22
3361	22AB043	22AB041	Circular	171.00	4.25	1.00	6.82	362.26	357.95	353.98	361.25	2.10	2.83	361.63	361.70	353.55	353.68	0.62	0.56	4.39	4.26
3403	15DA056	15DA059	Circular	244.86	0.15	1.00	1.27	355.52	356.68	352.35	352.71	3.14	3.76	381.65	394.86	380.10	392.90	-26.13	-39.34	-23.41	-36.22
3489	03DB026	03DB012	Circular	95.89	-0.03	1.67	8.35	338.94	337.64	334.10	334.50	2.34	3.02	335.17	335.29	334.99	335.14	3.77	3.64	2.65	2.50
3491	14CB027	14CB026	Circular	36.63	1.64	0.83	2.60	356.90	356.83	354.32	354.92	0.05	-0.08	355.60	356.11	355.60	356.11	1.30	0.79	1.23	0.72
3492	14CB034	14CB031	Circular	195.18	0.22	1.25	2.82	359.34	357.69	355.30	355.73	4.56	5.56	358.80	359.34	357.69	357.69	0.54	0.00	0.00	0.00
3493	14CB029	14CB028	Circular	33.08	-0.60	0.83	1.58	356.60	356.48	354.73	354.53	-0.04	-0.06	355.65	356.18	355.65	356.18	0.96	0.43	0.83	0.30
3494	14CB028	14CB026	Circular	67.45	0.16	1.33	2.88	356.48	356.83	354.32	354.43	3.58	3.58	355.65	356.18	355.60	356.11	0.83	0.30	1.23	0.72
3495	15DD090	15DD093	Circular	240.16	0.25	2.50	18.88	356.29	355.65	351.19	351.78	11.31	12.47	354.53	355.19	354.33	354.94	1.76	1.10	1.32	0.71

Hydraulic Model Results - Existing Conditions																					
Burkhart Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
3495.1	14CB030	14CB028	Circular	63.80	0.20	1.33	3.21	356.68	356.48	354.73	354.86	3.58	3.58	355.81	356.27	355.65	356.18	0.87	0.41	0.83	0.30
3496	14CB031	14CB030	Circular	165.21	0.18	1.00	1.41	357.69	356.68	354.96	355.26	3.58	3.58	357.69	357.69	355.81	356.27	0.00	0.00	0.87	0.41
3498	15DD087	15DD090	Circular	285.18	0.25	2.50	19.00	357.85	356.29	351.78	352.49	11.31	12.47	354.75	355.49	354.53	355.19	3.10	2.36	1.76	1.10
3499	15DD085	15DD084	Circular	189.05	0.24	2.50	18.79	358.94	358.53	353.09	353.55	10.10	10.79	355.09	355.77	354.90	355.65	3.85	3.17	3.63	2.88
3500	14CA010	14CB034	Circular	145.46	0.14	1.25	2.22	360.92	359.34	355.78	355.98	4.56	5.76	359.63	360.64	358.80	359.34	1.30	0.28	0.54	0.00
3501	15DD084	15DD087	Circular	238.62	0.25	2.50	19.10	358.53	357.85	352.49	353.09	9.68	10.83	354.90	355.65	354.75	355.49	3.63	2.88	3.10	2.36
3501.1	14CB026	14CB035	Circular	49.88	0.58	1.25	4.57	356.83	357.31	354.02	354.31	3.58	3.58	355.60	356.11	355.56	356.03	1.23	0.72	1.75	1.28
3503	14CB035	14CB050	Circular	45.78	2.42	2.00	32.71	357.31	359.21	352.91	354.02	6.76	9.48	355.56	356.03	355.57	356.03	1.75	1.28	3.64	3.18
3508	14BC007	14BC027	Circular	148.05	0.08	2.50	10.84	356.77	356.86	349.92	350.04	13.48	15.22	355.39	356.10	355.36	356.16	1.38	0.67	1.50	0.70
3509	14CB039	14BC007	Circular	65.25	0.41	2.50	24.50	354.35	356.77	351.58	351.85	2.27	2.36	355.39	356.10	355.39	356.10	-1.04	-1.75	1.38	0.67
3512	14CB040	14BC007	Circular	170.78	0.09	2.50	11.66	357.01	356.77	350.04	350.20	13.10	14.83	355.41	355.99	355.39	356.10	1.60	1.02	1.38	0.67
3515	14CB042	14CB040	Circular	217.75	0.06	2.50	9.66	357.83	357.01	350.20	350.34	13.09	14.84	355.49	355.98	355.41	355.99	2.34	1.85	1.60	1.02
3516	14CB042.1	14CB042	Circular	43.85	3.65	1.00	6.32	354.00	357.83	350.40	352.00	3.87	4.71	355.67	356.62	355.49	355.98	-1.67	-2.62	2.34	1.85
3518	14CB043	14CB042	Circular	127.04	0.06	2.50	8.94	358.29	357.83	350.40	350.47	12.23	-14.38	355.54	356.01	355.49	355.98	2.76	2.28	2.34	1.85
3519	14CB044	14CB043	Circular	86.75	1.68	2.50	49.41	357.89	358.29	350.54	352.00	11.66	-17.04	355.57	356.03	355.54	356.01	2.32	1.86	2.76	2.28
3521	14CB046	14CB043	Circular	73.10	0.21	1.00	1.50	359.06	358.29	352.00	352.15	-1.04	-0.73	355.54	356.01	355.54	356.01	3.52	3.05	2.76	2.28
3523	14CB047	14CB046	Circular	144.48	1.75	0.67	1.49	358.20	359.06	352.25	354.78	-0.05	-0.08	355.54	356.02	355.54	356.01	2.66	2.19	3.52	3.05
3538	14CB055	14CB054	Circular	50.23	1.19	1.50	10.66	357.57	357.34	354.15	354.75	-4.02	-3.33	375.84	387.23	375.84	387.23	-18.27	-29.66	-18.50	-29.88
3540	14CB057	14CB055	Circular	396.91	0.17	2.00	8.63	358.85	357.57	354.75	355.42	-3.38	-2.88	375.85	387.24	375.84	387.23	-17.00	-28.39	-18.27	-29.66
3545	14CB062	14CB057	Circular	254.55	0.05	2.00	4.75	360.27	358.85	355.42	355.55	1.23	1.24	375.85	387.24	375.85	387.24	-15.58	-26.97	-17.00	-28.39
3551	10BC061	10BC060	Circular	38.51	0.18	1.00	1.41	339.41	337.41	333.56	333.63	6.47	6.47	337.83	338.30	336.54	337.18	1.58	1.11	0.87	0.23
3553	10BC063	10BC064	Circular	221.20	0.11	1.00	1.09	338.37	349.49	335.12	335.36	-1.12	-1.31	338.37	338.37	338.62	338.71	0.00	0.00	10.87	10.78
3554	10BC064	10CB025	Circular	292.58	0.10	1.00	1.02	349.49	340.09	334.84	335.12	-1.12	-1.31	338.62	338.71	338.94	339.15	10.87	10.78	1.15	0.94
3555	22AB053	22AB054	Circular	189.93	0.11	1.50	3.24	358.71	356.33	353.00	353.21	1.49	2.07	353.88	354.01	353.63	353.75	4.83	4.70	2.69	2.57
3556	22AB052	22AB053	Circular	38.55	-0.26	1.50	4.97	362.41	358.71	353.26	353.16	1.50	2.08	353.93	354.06	353.88	354.01	8.49	8.35	4.83	4.70
3559	10BC028	10CB021	Circular	215.12	-0.01	1.00	0.32	340.12	339.75	334.89	334.87	2.39	2.41	340.08	340.12	339.01	339.25	0.04	0.00	0.74	0.50
3560	10BC060	10BC058	Circular	288.50	-0.28	1.50	5.17	337.41	337.39	333.72	332.91	6.46	6.47	336.54	337.18	335.49	336.34	0.87	0.23	1.90	1.05
3561	10BC058	10BB048	Circular	149.45	0.88	1.50	9.13	337.39	336.84	332.31	333.62	6.31	6.29	335.49	336.34	335.39	336.03	1.90	1.05	1.45	0.81
3562	09DA022	09DA023	Circular	39.90	0.40	2.00	13.30	340.21	341.50	334.50	334.66	3.38	3.81	337.86	338.17	337.86	338.17	2.35	2.04	3.64	3.33
3618	14CB052	14CB035	Circular	129.22	0.34	2.00	12.26	356.71	357.31	354.02	354.46	4.83	8.36	355.59	356.03	355.56	356.03	1.12	0.68	1.75	1.28
3619	14CB053	14CB052	Circular	16.66	0.42	2.00	13.62	357.10	356.71	353.05	353.12	4.53	5.87	355.60	356.04	355.59	356.03	1.49	1.05	1.12	0.68
3620	14CA011	14CB052	Circular	69.05	0.29	2.00	11.31	356.82	356.71	354.46	354.66	2.66	-5.79	355.58	355.96	355.59	356.03	1.24	0.86	1.12	0.68
3621	14CA012	14CA011	Circular	9.65	1.87	2.00	28.69	358.74	356.82	354.82	355.00	2.66	-5.80	355.50	355.79	355.58	355.96	3.25	2.95	1.24	0.86
3622	14CA014	14CA016	Circular	11.85	1.77	1.00	4.40	358.88	359.61	354.50	354.71	-0.05	-0.05	355.58	356.04	355.58	356.04	3.30	2.84	4.03	3.57
3623	14CA016	14CA013	Circular	10.51	0.19	1.00	1.44	359.61	359.75	354.26	354.28	-0.09	-0.11	355.58	356.04	355.58	356.04	4.03	3.57	4.17	3.71
3624	14CA015	14CA017	Circular	12.01	3.91	1.00	6.54	359.57	359.64	354.31	354.78	-0.05	-0.06	355.58	356.04	355.58	356.04	3.99	3.53	4.06	3.60
3625	14CA017	14CA013	Circular	26.01	0.19	1.00	1.45	359.64	359.75	354.26	354.31	-0.10	-0.12	355.58	356.04	355.58	356.04	4.06	3.60	4.17	3.71
3626	14CA013	14CA018	Circular	30.23	-0.13	2.00	7.64	359.75	360.14	354.06	354.02	-0.31	-0.36	355.58	356.04	355.58	356.04	4.17	3.71	4.56	4.10
3643	14CA018	14CB050	Circular	432.63	0.21	3.00	28.72	360.14	359.21	352.94	353.87	3.30	4.24	355.58	356.04	355.57	356.03	4.56	4.10	3.64	3.18
3644	14CA019	14CA018	Circular	326.74	0.10	3.00	19.68	360.93	360.14	354.06	354.39	3.52	4.60	355.61	356.06	355.58	356.04	5.32	4.88	4.56	4.10
3648	14CA023	14CA019	Circular	342.06	0.27	2.00	10.83	362.67	360.93	354.39	355.30	3.63	4.82	356.13	356.34	355.61	356.06	6.54	6.34	5.32	4.88
3667	22AA025	22AA003	Circular	4.11	1.22	3.00	68.31	358.87	358.92	353.90	353.95	6.23	7.81	355.40	355.91	355.40	355.91	3.47	2.97	3.52	3.01
3670	14DB058	14CA040	Circular	189.59	0.17	2.00	8.63	360.13	362.58	355.67	355.99	3.69	4.92	356.93	357.11	356.66	356.84	3.19	3.02	5.92	5.75
3671	14DB059	14DB058	Circular	197.88	0.14	2.00	7.76	358.73	360.13	356.03	356.30	3.70	4.93	357.25	357.43	356.93	357.11	1.48	1.30	3.19	3.02
3675	14DB063	14DB059	Circular	291.61	0.16	2.00	8.52	360.94	358.73	356.31	356.79	0.95	1.00	357.36	357.48	357.25	357.43	3.58	3.46	1.48	1.30
3677	14DB065	14DB063	Circular	129.96	0.19	2.00	9.21	361.38	360.94	356.79	357.04	0.92	0.93	357.50	357.56	357.36	357.48	3.88	3.82	3.58	3.46
3678	14DC013	14DB065	Circular	182.66	0.16	1.50	3.95	362.62	361.38	357.07	357.37	0.92	0.92	357.86	357.86	357.50	357.56	4.75	4.75	3.88	3.82
3680	14DC014	14DC013	Circular	276.72	0.16	1.50	3.89	364.22	362.62	357.37	357.81	0.92	0.92	358.31	358.31	357.86	357.86	5.91	5.91	4.75	4.75
3681	14DC015	14DC014	Circular	309.50	0.08	1.50	2.83	364.64	364.22	358.09	358.35	0.92	0.92	358.93	358.93	358.31	358.31	5.72	5.72	5.91	5.91
3684	14DC018	14DC015	Circular	160.24	0.17	0.50	0.21	363.39	364.64	358.35	358.62	0.92	0.92	363.39	363.39	358.93	358.93	0.00	0.00	5.72	5.72
3685	14DC019	14DC018	Circular	30.98	0.48	0.83	1.41	363.88	363.39	358.62	358.77	1.93	2.63	363.65	363.88	363.39	363.39	0.23	0.00	0.00	0.00
3687	14DC021	14DC019	Circular	225.75	0.13	1.25	2.19	366.82	363.88	358.77	359.07	1.93	2.63	363.88	364.29	363.65	363.88	2.94	2.52	0.23	0.00
3707	10DC047	10DC048	Circular	50.08	0.16	1.00	1.32	347.35	347.34	341.16	341.24	-0.10	-0.20	346.92	350.88	346.92	350.88	0.43	-3.53	0.42	-3.54
3714	15DB033	15DB041	Circular	290.79	0.05	2.00	4.77	353.44	352.82	348.71	348.86	17.35	21.92	353.09	354.89	351.15	351.78	0.35	-1.45	1.67	1.04
4929	15BA004	15BA003.2	Natural	106.59	0.04	1.35	66.57	348.21	348.47	346.96	347.00	2.10	3.83	348.03	348.08	348.03	348.08	0.18	0.13	0.44	0.39
5083	23BB006	22AA002	Natural	235.82	0.02	4.48	16.82	359.82	357.20	354.00	354.05	6.33	6.64	355.43	355.92	355.40	355.91	4.39	3.91	1.80	1.29
5207	15BA003.1	15BA003	Natural	110.61	0.05	1.35	80.03	348.37	348.01	346.80	346.86	1.50	2.67	347.44	347.65	347.44	347.65	0.92	0.72	0.57	0.36
5208	15BA002	15BA006	Natural	27.66	0.00	1.20	10.87	347.96	347.96	346.75	346.75	1.30	2.02	347.32	347.43	347.32	347.43	0.64	0.52	0.64	0.52
5215	15BA010	15BA014	Natural	61.91	1.60	2.09	58.39	348.76	349.95	346.77	347.76	1.41	1.92	348.01	348.04	347.74	347.85	0.75	0.72	2.21	2.10
5216	15BA013	15BA012	Natural	27.38	2.67	1.04	75.40	349.18	348.37	347.37	348.10	4.49	-32.83	348.45	348.62	348.35	348.89	0.73	0.56	0.02	-0.51
5217	15AB062	15BA011	Natural	597.35	-0.05	4.03	190.17	350.82	351.13	347.10	346.79	15.59	19.83	348.40	348.55	347.92	348.04	2.42	2.26	3.20	3.08
5325	15BA014	15BA043	Natural	222.85	0.83	3.93	380.59	349.95	349.60	344.91	346.77	20.72	26.36	347.74	347.85	347.21	347.36	2.21	2.10	2.39	2.24
5329	15BA024	15BA050	Natural	437.34	0.58	2.51	241.20	348.62	346.41	343.74	346.28	2.81	3.85	346.70	346.76	345.85	346.25	1.92	1.86	0.56	0.15
5399	22AA039	22AA053	Natural	422.00	0.24	4.78	184.32	361.40	357.72	354.27	355.30	38.00	49.50	357.40	357.79	357.17	357.71	4.00	3.61	0.55	0.01
5409	22AB002.1	22AB002	Natural	189.72	0.77	2.65	287.34	358.97	357.79	355.00	356.46	3.82	5.09	357.10	357.73	357.09	357.73	1.87	1.23	0.70	0.06
5708	15DC007	15DC008	Natural	57.33	5.23	3.32	34.79	358.33	357.97	353.33	356.33	0.74	-6.32	356.38	356.95	356.05	356.95	1.95	1.38	1.92	1.02
5716	22AA052	22AA045	Natural	93.66	0.11	2.61	137.17	357.05	356.93	354.33	354.43	2.05	2.52	357.20	357.74	357.20	357.74	-0.15	-0.69	-0.27	-0.81
Link1017	10BC006	10CB001	Natural	720.35	0.06	2.00	21.54	340.31	339.85	337.85	338.31	2.30	2.96	338.73	338.74	338.32	338.46	1.58	1.57	1.53	1.39
Link1018	10CB025	10CB021	Circular	65.81	0.15	1.00	1.29	340.09	339.75	334.74	334.84	-1.12	-1.31	338.94	339.15	339.01	339.25	1.15	0.94	0.74	0.50
Link1020	10BC057	10BC061	Natural	387.53	0.33	2.00	10.18	340.69	339.41	337.41	338.69	3.04	3.42	339.00	339.01	337.83	338.30	1.69	1.68	1.58	1.11

Hydraulic Model Results - Existing Conditions																				
Burkhart Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
Link1023	09BA002	09AB009	Natural	989.43	0.19	4.23	536.77	338.39	336.50	332.27	334.16	13.72	20.22	335.04	335.16	333.39	334.03	3.35	3.24	3.11	2.47
Link1026	09AA015	09AA017	Circular	344.11	0.34	1.00	1.94	339.98	337.19	333.86	335.04	-0.59	-0.74	337.35	337.28	337.19	337.19	2.63	2.70	0.00	0.00
Link1030	09AB002	09AB017	Natural	392.08	0.50	4.02	1068.27	336.43	334.47	330.45	332.41	3.86	3.93	332.86	332.86	331.99	332.25	3.57	3.57	2.48	2.22
Link1031	09AB021	09AB002	Circular	70.01	0.57	1.00	2.50	336.23	336.43	332.41	332.81	3.86	3.94	334.30	334.35	332.86	332.86	1.93	1.88	3.57	3.57
Link1032	09AB019	09AB021	Natural	158.36	0.04	3.64	159.49	336.74	336.23	332.81	332.88	3.94	3.95	334.31	334.36	334.30	334.35	2.43	2.38	1.93	1.88
Link1033	10BB025	10BB048	Circular	16.50	0.30	3.00	34.09	336.93	336.84	331.89	331.94	22.79	23.01	335.40	336.04	335.39	336.03	1.53	0.90	1.45	0.81
Link1034	10BC031	10BC032	Circular	282.22	0.37	0.83	1.22	339.79	339.53	336.96	338.00	0.85	0.78	339.79	339.79	339.53	339.53	0.00	0.00	0.00	0.00
Link1035	10BC032	10CB020	Circular	345.55	0.60	0.83	1.56	339.53	339.95	334.89	336.96	1.56	1.43	339.53	339.53	339.40	339.62	0.00	0.00	0.55	0.34
Link1038	10CC043	10CC044	Circular	40.50	1.01	0.83	2.03	341.05	341.05	338.32	338.73	3.35	3.30	341.05	341.05	340.21	340.42	0.00	0.00	0.84	0.63
Link1039	10AB064	10AB059	Circular	274.93	0.48	1.00	2.29	342.55	342.05	335.63	336.95	4.51	4.53	342.55	342.55	337.98	338.74	0.00	0.00	4.07	3.31
Link1040	10AB017	10AB018	Circular	23.96	1.25	0.83	2.25	342.35	341.77	337.50	337.80	1.24	1.61	341.86	341.92	341.77	341.77	0.49	0.43	0.00	0.00
Link1041	10BA024	10BA025	Circular	109.07	0.18	2.50	16.31	340.44	341.35	333.30	333.50	18.64	18.79	336.69	337.45	336.47	337.21	3.76	2.99	4.88	4.14
Link1043	10AD055	10AD024	Circular	42.93	0.98	1.00	3.27	346.77	347.05	341.82	342.24	2.54	2.21	346.77	346.77	346.77	346.78	0.00	0.00	0.28	0.27
Link1044	10DC040	10DB026	Circular	303.67	0.61	0.67	0.89	348.39	347.34	342.98	344.83	0.98	0.93	348.39	348.39	347.34	347.34	0.00	0.00	0.00	0.00
Link1045	10DB026	10DB025	Circular	325.09	0.57	0.67	0.86	347.34	346.59	341.14	342.98	0.94	0.91	347.34	347.34	346.59	346.59	0.00	0.00	0.00	0.00
Link1649	14CA040	14CA023	Circular	325.09	0.11	2.00	7.09	362.58	362.67	355.30	355.67	3.68	4.90	356.66	356.84	356.13	356.34	5.92	5.75	6.54	6.34
Link1768	03BA046	03BA047	Circular	71.06	0.03	1.00	0.56	330.54	331.31	329.52	329.54	0.00	0.03	329.54	329.88	329.52	329.87	1.00	0.67	1.79	1.45
Link1769	03BA047	03BA022	Natural	245.12	0.42	1.79	58.11	331.31	330.27	328.48	329.52	0.00	-0.35	329.52	329.87	329.40	329.86	1.79	1.45	0.88	0.41
Link1770	03BA023	03BA031	Natural	327.15	0.10	2.14	27.19	330.21	329.89	327.75	328.07	2.87	3.64	329.40	329.86	329.39	329.87	0.81	0.34	0.50	0.01
Link1771	03BD007	03BA025	Natural	441.67	0.04	1.93	53.10	331.34	331.18	329.25	329.41	4.24	6.15	330.30	330.43	329.73	329.86	1.04	0.91	1.45	1.32
Link1772	03BD002	03BA005	Natural	496.25	0.19	1.41	60.02	331.43	331.29	329.47	330.43	0.57	0.93	330.53	330.56	329.69	329.74	0.90	0.87	1.59	1.55
Link1773	03BA005	03BA048	Natural	315.87	0.65	1.99	140.02	331.29	329.59	327.42	329.47	0.53	0.86	329.69	329.74	329.08	329.54	1.59	1.55	0.52	0.06
Link1774	03BD010	03BA037	Natural	540.00	0.09	1.41	34.11	331.23	330.76	329.35	329.82	1.59	2.15	330.36	330.42	329.67	329.89	0.87	0.81	1.09	0.87
Link1775	03BA037	03BA031	Natural	194.23	0.82	1.77	49.62	330.76	329.89	327.75	329.35	1.58	-13.20	329.67	329.89	329.39	329.87	1.09	0.87	0.50	0.01
Link1776	03BB005	03BB008	Natural	455.20	0.10	3.50	133.56	330.23	329.77	326.27	326.73	4.76	5.76	329.07	329.53	329.07	329.53	1.16	0.70	0.71	0.24
Link1777	03BA048	03BB005	Natural	676.39	0.10	2.84	33.63	329.59	330.23	326.73	327.42	2.21	2.43	329.08	329.54	329.07	329.53	0.52	0.06	1.16	0.70
Link1797	14CD007	14CD006	Circular	31.72	1.05	0.50	0.53	363.71	363.38	361.38	361.71	1.30	1.30	363.71	363.71	361.97	362.03	0.00	0.00	1.41	1.35
Link1798	14CD006	14CD004	Natural	330.92	0.14	2.00	91.43	363.38	362.93	360.93	361.38	2.97	3.42	361.97	362.03	361.79	361.92	1.41	1.35	1.14	1.01
Link1799	14CD004	14CD003	Circular	23.52	0.63	1.00	2.62	362.93	362.53	360.78	360.93	3.94	4.44	361.79	361.92	361.40	361.47	1.14	1.01	1.13	1.06
Link1800	14CD003	14CD002	Natural	93.51	0.27	1.47	28.09	362.53	361.73	360.53	360.78	3.93	4.45	361.40	361.47	361.33	361.42	1.13	1.06	0.40	0.31
Link1801	14CD002	14CD001	Circular	24.52	1.26	1.00	3.72	361.73	362.52	360.22	360.53	3.93	4.46	361.33	361.42	360.95	361.01	0.40	0.31	1.57	1.51
Link1802	14CD001	14CD009	Natural	30.54	0.39	3.33	26.19	362.52	364.45	360.10	360.22	3.93	4.47	360.95	361.01	360.93	360.99	1.57	1.51	3.52	3.46
Link1803	14CD009	14CD009.1	Natural	163.75	0.12	4.35	262.59	364.45	364.25	359.90	360.10	5.41	6.56	360.93	360.99	360.35	360.39	3.52	3.46	3.90	3.86
Link1804	14CD009.1	14CB053	Natural	1230.32	0.55	4.16	914.16	364.25	357.10	353.12	359.90	5.15	6.25	360.35	360.39	355.60	356.04	3.90	3.86	1.49	1.05
Link1805	14CA012.2	14CA012.1	Natural	712.11	0.01	5.42	763.65	358.94	358.86	353.44	353.52	-1.41	-3.30	355.50	355.79	355.50	355.79	3.44	3.15	3.36	3.07
Link1805.1	14CA012.1	14CA012	Natural	674.76	0.01	5.40	203.27	358.86	358.74	353.36	353.44	-4.78	-8.81	355.50	355.79	355.50	355.79	3.36	3.07	3.25	2.95
Link587	23BB003	23BB007	Natural	306.36	0.12	5.33	83.94	363.32	360.80	356.55	356.91	20.28	26.20	358.49	358.70	357.96	358.30	4.83	4.63	2.84	2.50
Link588	23BB007	23BB008	Rectangular	9.51	3.68	2.00	201.71	360.80	361.45	356.20	356.55	20.01	25.90	357.96	358.30	357.85	358.16	2.84	2.50	3.60	3.28
Link589	23BB008	22AA042	Natural	217.13	0.39	5.69	356.99	361.45	361.50	355.36	356.20	19.92	25.84	357.85	358.16	357.64	358.01	3.60	3.28	3.86	3.49
Link593	22AA053	22AB039	Natural	819.48	0.12	3.50	127.63	357.72	356.86	353.31	354.27	30.71	36.11	357.17	357.71	357.05	357.67	0.55	0.01	-0.19	-0.81
Link598	15CD072	15DC007	Natural	106.65	1.05	1.58	22.22	358.61	358.33	356.33	357.45	0.74	1.14	357.64	357.67	356.38	356.95	0.96	0.94	1.95	1.38
Link599	15CD002	15CD002.1	Natural	632.17	0.58	2.00	213.97	360.36	356.70	354.70	358.36	1.23	1.78	358.54	358.54	354.90	354.92	1.82	1.81	1.80	1.77
Link599.1	15CD002.1	15CC005	Natural	551.76	0.24	2.36	20.96	356.70	356.11	353.38	354.70	1.15	1.64	354.90	354.92	354.17	354.34	1.80	1.77	1.94	1.76
Link601	15DC033	15DC048	Natural	226.70	1.24	3.58	166.53	354.05	355.45	349.76	352.58	1.49	1.96	352.78	352.81	352.29	352.50	1.27	1.24	3.16	2.95
Link603	15CA007	15DB030	Natural	430.91	1.35	1.57	51.36	357.19	352.36	350.29	356.12	1.27	1.87	356.31	356.34	350.93	351.12	0.88	0.85	1.43	1.24
Link606	15CA046	15CA013	Natural	702.99	0.01	3.86	31.58	357.31	356.55	353.04	353.10	2.50	3.74	353.89	354.04	353.56	353.76	3.43	3.27	2.99	2.79
Link611	15BD006	15BA026	Natural	926.70	0.62	3.15	522.05	355.66	349.91	346.75	352.50	0.85	1.15	352.77	352.80	347.22	347.31	2.88	2.85	2.69	2.59
Link612	15BD004	15BA024	Natural	955.54	0.63	1.62	57.42	353.20	348.62	346.28	352.29	0.38	0.56	352.43	352.45	346.70	346.76	0.77	0.75	1.92	1.86
Link616	15BA038	15BA019	Natural	9.83	7.02	3.31	767.43	346.33	346.30	342.66	343.35	-17.50	-16.42	345.79	346.14	345.79	346.14	0.54	0.19	0.51	0.16
Link621	15BB044	10CC069	Natural	43.99	0.20	6.44	1027.20	343.99	344.79	337.90	337.99	5.53	6.38	341.37	341.76	341.37	341.76	2.62	2.23	3.42	3.03
Link626	10CC015	10CC070	Natural	443.43	0.27	1.75	101.32	347.83	346.62	344.87	346.08	0.74	1.09	346.46	346.52	342.65	342.72	1.37	1.31	3.96	3.90
Link627	16AD056	16AD056.3	Natural	1222.64	0.20	3.55	195.96	349.86	347.41	343.86	346.31	5.45	6.83	347.01	347.09	344.74	344.88	2.85	2.77	2.66	2.52
Link627.1	16AD056.1	09DD004	Natural	908.05	0.21	3.55	201.81	345.06	343.13	339.58	341.51	9.22	11.77	342.96	343.60	342.94	343.59	2.09	1.46	0.19	-0.46
Link627.2	16AD056.2	16AD056.1	Natural	417.37	0.22	3.61	204.40	345.83	345.06	341.38	342.29	10.73	14.40	343.27	343.63	342.96	343.60	2.57	2.21	2.09	1.46
Link627.3	16AD056.3	16AD056.2	Natural	815.09	0.21	3.60	199.09	347.41	345.83	342.18	343.86	8.93	12.08	344.74	344.88	343.27	343.63	2.66	2.52	2.57	2.21
Link628	16AD037	09DD005	Natural	3304.05	0.20	3.23	117.62	348.94	342.55	339.20	345.84	3.97	4.99	346.65	346.73	341.79	342.30	2.29	2.21	0.76	0.26
Link629	15BC008	15BC008.1	Natural	653.93	0.38	1.37	129.49	352.33	349.82	348.46	350.96	0.60	0.86	351.13	351.15	346.26	346.28	1.20	1.18	3.56	3.54
Link629.1	15BC008.1	15BB024	Natural	493.32	1.07	5.46	215.91	349.82	347.96	340.80	346.06	2.10	2.74	346.26	346.28	342.06	342.82	3.56	3.54	5.90	5.14
Link633	15BA013.2	15BA013.1	Natural	514.91	0.01	1.53	4.07	350.16	349.22	348.14	348.18	2.40	3.18	348.92	348.98	348.86	348.92	1.24	1.18	0.36	0.30
Link633.1	15BA013.1	15BA013	Natural	580.12	0.01	1.08	3.83	349.22	349.18	348.10	348.14	3.64	4.82	348.86	348.92	348.45	348.62	0.36	0.30	0.73	0.56
Link634	23BB033	23BB003	Natural	697.67	0.25	6.33	488.74	364.89	363.32	356.91	358.65	7.57	10.58	359.58	359.74	358.49	358.70	5.31	5.15	4.83	4.63
Link645	15CD068	15CC006	Natural	672.15	0.18	3.60	11.64	356.86	356.26	352.37	353.56	2.01	1.95	354.15	354.30	354.15	354.30	2.71	2.56	2.12	1.97
Link647	15CC048	15CC005	Natural	190.99	0.30	2.73	103.15	356.68	356.11	353.38	353.95	0.82	1.23	354.24	354.36	354.17	354.34	2.44	2.32	1.94	1.76
Link648	15CC006	15CA056	Natural	615.26	0.01	3.06	18.79	356.26	356.20	353.14	353.20	1.69	2.52	354.15	354.30	353.94	354.10	2.12	1.97	2.26	2.11
Link649	15CA053	15CA056	Natural	219.78	1.41	2.09	87.30	357.34	356.20	353.14	356.23	1.20	1.69	356.47	356.50	353.94	354.10	0.87	0.84	2.26	2.11
Link650	15CA056	15CA046	Natural	192.49	0.02	3.64	30.84	356.20	357.31	353.10	353.14	2.08	3.09	353.94	354.10	353.89	354.04	2.26	2.11	3.43	3.27
Link651	15BA005	10CD027.1	Natural	777.40	0.74	3.39	1308.30	349.53	345.00	341.00	346.75	2.07	3.19	347.15	347.22	342.91	343.75	2.38	2.31	2.09	1.25
Link653	14CB050	14CB044	Natural	476.76	0.19	6.10	2051.54	359.21	357.89	352.00	352.91	8.46	11.87	355.57	356.03	355.57	356.03	3.64	3.18	2.32	1.86
Link654	03DB012	03DB013	Circular	14.00	0.71	2.00	17.75	337.64	338.31	334.00	334.10	9.83	13.51	334.99	335.14	334.78	334.94	2.65	2.50	3.53	3.37
Link655	03CA015	03CA015.1	Natural	15.09	1.33	3.45	209.80	335.30	337.13	332.70	332.82	1.77	1.78	334.24	334.43	334.24	334.43	1.06	0.87	2.89	2.69

Hydraulic Model Results - Existing Conditions																					
Burkhart Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
Link655.1	03CA015.1	03CA016	Natural	534.83	0.02	4.43	253.70	337.13	337.03	332.60	332.70	13.26	15.98	334.24	334.43	334.11	334.32	2.89	2.69	2.92	2.70
Link657	03CA014	03CA015.1	Natural	16.83	1.19	3.42	256.76	335.32	337.13	332.70	332.90	11.41	14.06	334.24	334.43	334.24	334.43	1.08	0.89	2.89	2.69
Link658	10BA001	03CD003	Circular	399.20	0.07	1.00	0.84	340.68	341.96	338.42	338.68	1.19	1.32	339.62	339.84	338.71	338.73	1.06	0.84	3.25	3.23
Link659	03CD003	03CD031	Natural	165.63	1.07	3.54	1355.57	341.96	340.19	336.65	338.42	1.19	1.32	338.71	338.73	337.29	337.32	3.25	3.23	2.90	2.87
Link660	03CD004	03CC004	Natural	765.62	0.24	4.11	931.40	339.69	337.84	333.73	335.58	1.11	1.48	335.94	336.03	335.93	336.02	3.75	3.65	1.91	1.82
Link661	03CC003	03CC002	Circular	68.13	1.32	1.00	3.80	338.08	336.64	334.92	335.82	1.70	1.86	336.29	336.31	335.46	335.48	1.79	1.77	1.18	1.16
Link662	03CC002	03CC001.1	Natural	509.94	0.38	2.36	67.01	336.64	336.00	333.00	334.92	5.40	5.85	335.46	335.48	333.38	333.40	1.18	1.16	2.62	2.60
Link663	03CD033	03CC003	Natural	830.85	0.10	2.26	148.45	338.91	338.08	335.82	336.65	1.73	1.87	337.04	337.05	336.29	336.31	1.87	1.86	1.79	1.77
Link664	03CC004	03CC004.1	Circular	449.06	0.13	1.00	1.21	337.84	336.00	333.00	333.60	2.22	2.27	335.93	336.02	333.64	333.65	1.91	1.82	2.36	2.36
Link672	03BB012	03BB021	Natural	126.04	-1.03	2.60	340.66	328.73	329.57	327.20	325.90	3.67	3.68	328.63	328.67	328.63	328.67	0.10	0.06	0.94	0.90
Link673	03BB020	03BB013	Natural	357.12	0.12	2.28	27.26	328.87	328.11	326.00	326.42	4.45	5.07	327.53	327.55	327.50	327.51	1.34	1.32	0.61	0.60
Link677	03BB015	03BB016	Circular	30.50	0.62	1.00	2.61	328.28	327.78	326.78	326.97	3.34	3.43	327.87	327.89	327.56	327.57	0.41	0.39	0.22	0.21
Link678	03BB014	03BB015	Natural	18.00	1.00	1.31	173.26	328.46	328.28	326.97	327.15	3.34	3.43	327.87	327.89	327.87	327.89	0.59	0.57	0.41	0.39
Link679	03BB021	03BB014	Circular	71.57	0.31	1.00	1.83	329.57	328.46	327.15	327.37	3.34	3.43	328.63	328.67	327.87	327.89	0.94	0.90	0.59	0.57
Link684	03DB013.0	03DB013.1	Natural	907.84	0.55	2.66	45.36	339.63	337.93	333.62	338.63	4.24	5.59	338.77	338.79	334.66	334.87	0.86	0.84	3.27	3.06
Link685	03CB001.0	03CB001.1	Natural	3240.86	0.25	5.08	265.24	337.38	336.86	328.00	336.08	2.54	3.41	336.27	336.29	327.91	327.98	1.11	1.08	8.96	8.88
Link687	03CB001	03CB001.1	Natural	1925.33	0.22	8.86	15575.16	341.16	336.86	328.00	332.30	14.68	19.21	332.71	332.74	327.91	327.98	8.46	8.42	8.96	8.88
Link689	09DA017.0	09DA017.1	Natural	852.50	0.83	5.66	1389.97	340.39	340.11	331.05	338.13	0.73	1.21	338.27	338.30	335.23	335.75	2.13	2.09	4.89	4.36
Link690	09AA022.1	09AA022	Natural	732.00	0.89	5.79	681.61	338.16	339.55	329.79	336.34	3.39	4.54	336.54	336.57	334.83	335.58	1.61	1.59	4.73	3.98
Link691	09AB017.1	09AB017	Natural	1614.69	0.39	2.95	273.06	338.68	334.47	330.45	336.80	3.21	4.86	337.13	337.19	331.99	332.25	1.54	1.49	2.48	2.22
Link696	03CB001.3	03CB001.2	Natural	1529.80	0.31	2.20	340.77	323.13	320.83	317.44	322.13	2.66	4.07	322.32	322.35	318.57	318.66	0.81	0.78	2.26	2.18
Link699	15AD068	15AC050	Natural	690.50	0.00	2.58	112.42	352.69	352.08	349.40	350.20	2.51	-3.77	351.57	352.16	351.57	352.15	1.11	0.53	0.51	-0.08

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																					
Burkhart Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
14	03DC006	03DC005	Circular	285.09	0.01	2.00	2.49	339.48	338.53	335.01	335.05	7.58	10.80	337.01	338.46	336.66	337.71	2.47	1.02	1.88	0.82
21	10AB056	10AB061	Circular	63.52	0.99	2.50	37.93	342.85	342.85	334.80	335.43	18.68	17.27	341.42	341.62	341.28	341.53	1.43	1.23	1.57	1.32
22	10AB061	10BA029	Circular	273.06	0.18	2.50	16.30	342.85	342.55	334.30	334.80	18.70	17.27	341.28	341.53	340.66	341.13	1.57	1.32	1.89	1.42
23	10BA029	10BA028	Circular	376.60	0.08	2.50	11.10	342.55	341.85	333.98	334.30	24.40	24.82	340.66	341.13	339.21	339.76	1.89	1.42	2.64	2.09
24	10BA028	10BA024	Circular	42.50	1.13	2.50	40.48	341.85	340.44	333.50	333.98	24.38	24.75	339.21	339.76	339.04	339.60	2.64	2.09	1.40	0.84
25	10AB001	10BA016	Circular	311.07	0.10	3.00	15.70	342.09	342.75	334.95	335.15	32.88	33.40	341.24	341.39	340.37	340.51	0.85	0.70	2.38	2.24
26	10BB021	10BB049	Circular	136.57	0.15	3.00	24.29	338.35	336.82	331.55	331.76	37.31	37.31	335.22	335.30	334.78	334.86	3.13	3.05	2.05	1.96
27	10BB022	10BB021	Circular	150.05	0.20	3.00	27.69	338.75	338.35	331.76	332.06	37.26	37.30	335.71	335.80	335.22	335.30	3.04	2.95	3.13	3.05
28	10BB023	10BB022	Circular	146.55	0.20	3.00	27.55	339.65	338.75	332.06	332.35	37.22	37.29	336.23	336.32	335.71	335.80	3.42	3.33	3.04	2.95
29	10BB014	10BB023	Circular	98.05	0.20	3.00	27.97	340.45	339.65	332.35	332.55	37.21	37.31	336.58	336.67	336.23	336.32	3.87	3.78	3.42	3.33
30	10BA031	10BB014	Circular	213.67	0.20	3.00	27.78	340.45	340.45	332.55	332.98	37.20	37.30	337.33	337.43	336.58	336.67	3.12	3.02	3.87	3.78
31	10BA032	10BA031	Circular	294.60	0.20	3.00	27.72	340.75	340.45	332.98	333.57	37.20	37.28	338.37	338.49	337.33	337.43	2.38	2.26	3.12	3.02
32	10BA023	10BA015	Circular	88.02	0.10	3.00	19.80	340.13	341.35	333.79	333.88	37.18	37.30	339.26	339.39	338.94	339.07	0.88	0.74	2.41	2.28
33	10BA015	10BA032	Circular	161.55	0.14	3.00	22.86	341.35	340.75	333.57	333.79	37.19	37.29	338.94	339.07	338.37	338.49	2.41	2.28	2.38	2.26
34	10BB012	09AA021	Circular	115.01	0.20	3.00	27.70	338.15	336.72	329.85	330.08	57.15	60.48	333.29	333.43	331.78	332.03	4.86	4.72	4.94	4.68
35	10BB018	10BB017	Circular	13.01	0.23	4.00	64.05	337.75	337.65	330.68	330.71	51.27	51.87	334.25	334.36	334.23	334.34	3.50	3.39	3.42	3.31
36	10BB017	10BB016	Circular	12.50	0.24	4.00	65.34	337.65	337.55	330.65	330.68	51.27	51.86	334.23	334.34	334.22	334.33	3.42	3.31	3.33	3.22
37	10BB016	10BB013	Circular	140.50	0.21	4.00	61.63	337.55	336.65	330.35	330.65	51.23	51.78	334.22	334.33	334.05	334.16	3.33	3.22	2.60	2.49
38	10BB013	10BB012	Circular	124.00	0.22	3.00	28.90	336.65	338.15	330.08	330.35	51.21	51.77	334.05	334.16	333.29	333.43	2.60	2.49	4.86	4.72
39	10BB019	10BB018	Circular	118.53	0.19	4.00	58.76	337.65	337.75	330.71	330.94	51.31	51.96	334.40	334.50	334.25	334.36	3.25	3.15	3.50	3.39
40	10BB049	10BB020	Circular	76.50	0.07	4.00	34.10	336.82	337.55	331.33	331.38	52.01	53.15	334.78	334.86	334.66	334.75	2.05	1.96	2.89	2.80
41	10BB020	10BB019	Circular	195.55	0.20	4.00	59.57	337.55	337.65	330.94	331.33	51.45	52.43	334.66	334.75	334.40	334.50	2.89	2.80	3.25	3.15
42	09AA010	09AA009	Circular	9.24	0.76	4.00	116.10	336.25	337.01	329.83	329.90	35.75	39.13	335.07	335.72	335.07	335.72	1.18	0.53	1.94	1.29
43	10BB007	10BB015	Circular	81.66	0.27	4.00	69.23	336.95	336.35	330.28	330.50	36.30	39.65	335.11	335.75	335.10	335.74	1.84	1.20	1.25	0.61
44	10BB008	10BB007	Circular	69.02	0.25	4.00	66.20	337.55	336.95	330.50	330.67	36.50	39.86	335.12	335.76	335.11	335.75	2.43	1.79	1.84	1.20
45	10BB009	10BB008	Circular	13.01	0.31	3.00	34.34	337.55	337.55	330.67	330.71	36.62	39.97	335.13	335.77	335.12	335.76	2.42	1.78	2.43	1.79
46	10BB001	10BB009	Circular	13.50	0.30	3.00	33.71	337.65	337.55	330.71	330.75	36.64	39.99	335.14	335.78	335.13	335.77	2.51	1.87	2.42	1.78
47	10BB011	10BB001	Circular	42.50	0.26	3.00	31.51	337.75	337.65	330.75	330.86	36.67	40.03	335.17	335.84	335.14	335.78	2.58	1.91	2.51	1.87
48	10BB002	10BB011	Circular	92.05	0.26	3.00	31.62	337.65	337.75	330.86	331.10	36.74	40.09	335.24	335.96	335.17	335.84	2.41	1.69	2.58	1.91
49	10BB048	10BB003	Circular	135.53	0.30	3.00	34.06	336.84	337.75	331.48	331.89	36.99	40.20	335.56	336.47	335.36	336.20	1.28	0.37	2.39	1.55
50	10BB003	10BB002	Circular	146.55	0.26	3.00	31.54	337.75	337.65	331.10	331.48	36.84	40.17	335.36	336.20	335.24	335.96	2.39	1.55	2.41	1.69
51	10BB024	10BB004	Circular	141.52	0.20	3.00	28.04	337.98	338.65	332.20	332.49	31.60	34.66	336.16	337.04	335.88	336.82	1.82	0.94	2.77	1.83
55	10BD035	10BD001	Circular	264.30	0.13	2.00	7.64	339.38	338.73	335.15	335.50	2.03	2.82	337.00	338.02	336.99	337.98	2.38	1.36	1.75	0.75
59	10BD001	10BA034	Circular	295.45	0.57	2.00	15.79	338.73	338.93	333.38	335.05	4.31	6.24	336.99	337.98	336.90	337.75	1.75	0.75	2.03	1.18
61	10BD009	10BA024	Circular	540.95	0.67	1.00	2.31	339.60	340.44	333.98	336.62	1.83	1.90	339.37	339.57	339.04	339.60	0.23	0.03	1.40	0.84
64	10BA016	10BA014	Circular	344.10	0.22	3.00	28.91	342.75	341.55	334.20	334.95	32.89	33.41	340.37	340.51	339.41	339.54	2.38	2.24	2.14	2.01
65	10BA014	10BA023	Circular	55.03	0.75	3.00	47.23	341.55	340.13	333.88	334.20	32.89	33.41	339.41	339.54	339.26	339.39	2.14	2.01	0.88	0.74
66	10AB059	10AB056	Circular	42.62	0.47	2.00	14.39	342.05	342.85	335.43	335.63	12.90	11.36	341.50	341.69	341.42	341.62	0.55	0.36	1.43	1.23
71	10AB021	10AB064	Circular	337.23	0.25	2.00	10.55	342.22	342.55	336.95	337.80	4.05	3.99	342.08	342.08	342.08	342.15	0.14	0.14	0.47	0.40
72	10AB016	10AB021	Circular	311.81	0.06	2.00	9.95	342.00	342.22	337.80	338.50	-1.46	-3.20	342.00	342.00	342.08	342.08	0.00	0.00	0.14	0.14
76	15AA037	15AB045	Circular	366.72	0.19	1.50	4.26	350.50	350.20	346.05	346.75	1.19	1.66	347.32	351.94	346.48	351.85	3.18	-1.44	3.72	-1.65
82	10AB055	10AB021	Circular	474.14	0.24	2.00	10.21	342.00	342.22	337.80	338.92	-2.23	-4.52	342.00	342.00	342.08	342.08	0.00	0.00	0.14	0.14
88	10AB018	10AB019	Circular	68.75	0.28	2.00	11.04	341.77	341.46	337.31	337.50	3.23	4.07	341.45	341.49	341.44	341.46	0.32	0.28	0.02	0.00
93	03BB013	03BB001	Natural	319.72	0.22	2.63	34.21	328.50	328.50	325.73	326.00	1.22	1.23	328.50	328.50	328.50	328.50	0.00	0.00	0.00	0.00
98	10BC052	10BC053	Circular	296.22	0.22	2.00	9.84	338.36	337.48	334.15	334.80	1.19	1.69	336.18	337.05	336.17	337.05	2.18	1.31	1.31	0.43
99	10BC053	10BB024	Circular	268.39	0.19	2.00	9.16	337.48	337.98	333.51	334.02	1.96	3.32	336.17	337.05	336.16	337.04	1.31	0.43	1.82	0.94
109	10BD022	10BD009	Circular	297.70	0.09	1.00	1.97	339.55	339.60	336.74	337.80	1.89	2.00	339.55	339.55	339.37	339.57	0.00	0.00	0.23	0.03
110	10BD010	10BD011	Circular	342.74	0.25	2.50	19.19	340.42	340.77	336.40	337.27	1.36	2.03	338.40	339.56	338.39	339.55	2.02	0.86	2.38	1.22
115	10BD011	10CA009	Circular	321.02	0.22	2.50	18.04	340.77	340.91	335.66	336.38	2.90	4.18	338.39	339.55	338.37	339.51	2.38	1.22	2.54	1.40
117	10CA009	10CA029	Circular	72.27	0.06	3.50	21.98	340.91	340.15	335.44	335.48	21.72	26.72	338.37	339.51	338.33	339.46	2.54	1.40	1.82	0.69
125	10CB021	10CB023	Circular	372.73	0.03	3.50	17.45	339.75	340.75	334.76	334.89	30.87	38.24	337.89	338.83	337.50	338.25	1.86	0.92	3.25	2.50
126	10CB001	10CB023	Circular	26.15	11.82	1.00	11.37	339.85	340.75	334.76	337.85	1.96	2.43	338.22	338.36	337.50	338.25	1.63	1.49	3.25	2.50
127	10CA029	10CB020	Circular	321.49	0.02	3.50	12.76	340.15	339.95	335.38	335.44	21.67	26.72	338.33	339.46	338.15	339.22	1.82	0.69	1.80	0.73
130	10CB020	10CB021	Circular	343.53	0.14	3.50	35.28	339.95	339.75	334.89	335.38	26.17	32.94	338.15	339.22	337.89	338.83	1.80	0.73	1.86	0.92
131	10CB023	10CB024	Circular	272.52	0.14	3.50	34.89	340.75	338.76	334.05	334.43	32.48	39.63	337.50	338.25	337.24	337.83	3.25	2.50	1.52	0.93
134	10CB024	09DA016	Circular	261.08	0.21	3.50	42.49	338.76	338.55	333.50	334.04	33.43	41.24	337.24	337.83	337.00	337.52	1.52	0.93	1.55	1.03
135	09DA016	09DA017	Circular	142.55	0.07	3.50	24.74	338.55	341.15	333.40	333.50	34.68	43.14	337.00	337.52	336.90	337.50	1.55	1.03	4.25	3.66
149	10BB026	10BB049	Circular	73.37	0.08	2.00	6.01	336.51	336.82	331.55	331.61	16.03	17.80	335.12	335.21	334.78	334.86	1.39	1.30	2.05	1.96
150	10BB032	10BB027	Circular	149.94	0.05	2.00	4.54	337.25	335.58	331.63	331.70	11.75	12.80	336.05	336.11	335.58	335.58	1.21	1.14	0.00	0.00
151	10BB027	10BB026	Circular	193.92	-0.02	2.00	3.02	335.58	336.51	331.61	331.57	11.52	12.70	335.58	335.58	335.12	335.21	0.00	0.00	1.39	1.30
156	10BB037	10BB032	Circular	237.77	0.11	2.00	6.81	337.41	337.25	331.90	332.15	6.75	6.97	336.29	336.33	336.05	336.11	1.12	1.08	1.21	1.14
157	10BB039	10BB037	Circular	212.53	0.11	2.00	7.06	336.50	337.41	332.15	332.39	6.75	7.00	336.50	336.50	336.29	336.33	0.00	0.00	1.12	1.08
158	10BA036	10BB045	Circular	321.09	0.07	2.00	5.74	337.46	337.04	332.70	332.94	4.04	4.92	336.81	336.99	336.69	336.82	0.65	0.47	0.35	0.23
159	10BA040	10BA036	Circular	200.00	0.15	2.00	8.14	338.46	337.46	333.04	333.34	4.01	4.92	336.89	337.10	336.81	336.99	1.57	1.37	0.65	0.47
164	10BA059	10BA054	Circular	74.73	0.24	3.50	45.85	340.95	340.36	334.75	334.93	7.73	8.09	339.26	339.38	339.26	339.39	1.69	1.57	1.10	0.97
166	10BA064	10BA059	Circular	209.18	0.16	1.75	5.84	339.41	340.95	335.13	335.46	8.35	8.72	339.33	339.38	339.26	339.38	0.08	0.03	1.69	1.57
167	10BA068	10BA064	Circular	90.11	0.06	1.75	3.47	339.67	339.41	335.60	335.65	8.64	8.91	339.36	339.38	339.33	339.38	0.31	0.29	0.08	0.03
169	10BA069	10BA068	Circular	32.41	0.09	1.50	2.97	339.38	339.67	335.75	335.78	8.73	9.04	339.38	339.38	339.36	339.38	0.00	0.00	0.31	0.29
171	10BA051	10BA044	Circular	187.59	0.19	1.50	4.27	340.00	339.55	336.31	336.67	3.92	4.79	339.85	340.00	339.55	339.55	0.15	0.00	0.00	0.00

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																					
Burkhart Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
172	10BA044	10BA043	Circular	43.52	0.21	1.50	4.44	339.55	339.55	336.22	336.31	3.55	3.64	339.55	339.55	339.55	339.55	0.00	0.00	0.00	0.00
173	10BA053	10BA043	Circular	184.01	0.20	1.50	4.31	340.00	339.55	336.22	336.58	3.73	4.46	339.82	339.93	339.55	339.55	0.18	0.07	0.00	0.00
174	03CD009	03CD012	Circular	145.22	0.33	1.50	5.61	337.85	337.32	334.94	335.42	4.46	5.92	336.94	337.85	336.70	337.32	0.91	0.00	0.62	0.00
175	03CD012	03CD018	Circular	238.52	0.25	1.50	4.89	337.32	336.61	334.34	334.94	4.32	5.34	336.70	337.32	336.30	336.61	0.62	0.00	0.31	0.00
176	03CD018	03CD023	Circular	188.67	0.20	1.50	4.38	336.61	337.89	333.96	334.34	4.17	5.14	336.30	336.61	335.97	336.28	0.31	0.00	1.92	1.61
180	03CD013	03CD020	Circular	285.79	0.24	0.83	1.00	338.08	337.26	334.33	335.02	-0.11	-0.38	335.89	336.35	335.89	336.28	2.19	1.73	1.37	0.99
183	03CD020	03CD024	Circular	188.06	0.36	0.83	1.22	337.26	337.70	333.65	334.33	-0.22	-0.40	335.89	336.28	335.89	336.20	1.37	0.99	1.81	1.50
184	03CD023	03CD024	Circular	49.01	0.63	1.50	7.76	337.89	337.70	333.65	333.96	4.12	5.15	335.97	336.28	335.89	336.20	1.92	1.61	1.81	1.50
185	03CD024	03CD030	Circular	279.31	0.02	1.50	1.43	337.70	336.98	333.55	333.61	4.08	4.74	335.89	336.20	335.41	335.72	1.81	1.50	1.57	1.26
188	03CD026	03CA002	Circular	253.02	0.16	1.50	3.93	336.33	335.57	333.90	334.31	3.56	5.03	335.38	336.07	334.86	335.47	0.95	0.26	0.71	0.10
189	03CD030	03CA006	Circular	255.39	0.11	1.50	3.23	336.98	336.22	333.27	333.55	4.07	4.52	335.41	335.72	334.99	335.28	1.57	1.26	1.23	0.94
192	03CA002	03CA007	Circular	168.36	0.24	1.50	4.75	335.57	335.80	333.40	333.80	3.50	4.97	334.86	335.47	334.66	335.10	0.71	0.10	1.14	0.70
193	03CA006	03CA009	Circular	322.92	0.11	1.50	3.26	336.22	337.65	332.91	333.27	4.05	4.40	334.99	335.28	334.48	334.72	1.23	0.94	3.17	2.93
194	03CA007	03CA008	Circular	83.88	0.25	1.50	4.88	335.80	336.25	333.19	333.40	3.45	4.94	334.66	335.10	334.63	334.96	1.14	0.70	1.62	1.29
195	03CA008	03CA010	Circular	101.56	0.28	1.50	5.12	336.25	337.25	332.91	333.19	3.41	4.92	334.63	334.96	334.59	334.85	1.62	1.29	2.66	2.40
196	03CA013	03CA010	Circular	54.72	0.07	2.50	10.30	337.26	337.25	332.91	332.95	9.55	12.23	334.64	334.91	334.59	334.85	2.62	2.35	2.66	2.40
197	03CA011	03CA010	Circular	83.24	0.20	1.00	1.50	335.35	337.25	332.91	333.08	-0.02	-0.01	334.59	334.85	334.59	334.85	0.76	0.50	2.66	2.40
198	03CA009	03CA012	Circular	42.80	0.12	1.50	3.33	337.65	336.92	332.86	332.91	4.04	4.35	334.48	334.72	334.42	334.65	3.17	2.93	2.51	2.27
199	03CA012	03CA015	Circular	33.00	0.12	1.50	3.40	336.92	335.30	332.82	332.86	4.04	4.33	334.42	334.65	334.36	334.60	2.51	2.27	0.94	0.70
200	03CA010	03CA014	Circular	130.02	0.07	2.50	10.02	337.25	335.32	332.82	332.91	11.42	14.71	334.59	334.85	334.36	334.60	2.66	2.40	0.96	0.72
201	03CA016	03CB001	Circular	143.00	0.21	2.50	17.45	337.03	341.16	332.30	332.60	19.31	24.71	334.24	334.49	332.72	332.76	2.79	2.53	8.44	8.40
202	10BA054	10BA009	Circular	195.72	0.34	3.50	54.66	340.36	339.93	333.95	334.62	8.30	8.79	339.26	339.39	339.26	339.39	1.10	0.97	0.67	0.54
203	10BB047	10BB025	Circular	56.04	0.11	3.00	20.27	337.95	336.93	331.94	332.00	31.22	34.62	335.65	336.56	335.59	336.49	2.30	1.39	1.34	0.44
204	10BB004	10BB047	Circular	169.53	0.12	3.00	21.27	338.65	337.95	332.00	332.20	31.35	34.65	335.88	336.82	335.65	336.56	2.77	1.83	2.30	1.39
208	10AA004	10AB023	Circular	429.66	0.18	1.50	4.13	344.35	343.88	339.23	340.00	3.27	3.82	344.35	344.35	343.88	343.88	0.00	0.00	0.00	0.00
211	10AB056	10AB022	Circular	34.97	0.29	3.00	33.12	342.85	342.35	335.33	335.43	27.06	29.71	341.42	341.62	341.36	341.54	1.43	1.23	1.00	0.81
215	09AA009	09AA022	Circular	43.00	0.09	4.00	40.68	337.01	339.55	329.79	329.83	35.68	39.05	335.07	335.72	335.07	335.71	1.94	1.29	4.49	3.84
220	09AB009	09AB017	Circular	70.03	2.60	1.50	15.72	336.50	334.47	330.45	332.27	12.95	16.38	333.40	334.05	332.01	332.30	3.10	2.45	2.46	2.16
221	09AB017	09AB016	Circular	90.45	0.36	2.00	12.69	334.47	334.63	330.12	330.45	18.76	23.79	332.01	332.30	331.21	331.36	2.46	2.16	3.42	3.27
224	10BA009	10BA023	Circular	34.31	0.20	3.50	42.20	339.93	340.13	333.88	333.95	7.62	7.76	339.26	339.39	339.26	339.39	0.67	0.54	0.88	0.74
225	10AB022	10AB042	Circular	17.16	0.70	3.00	51.79	342.35	342.25	335.21	335.33	27.07	29.70	341.36	341.54	341.32	341.50	1.00	0.81	0.93	0.75
226	10AB042	10AB001	Circular	48.56	-0.56	3.00	21.77	342.25	342.09	335.15	335.21	27.08	29.70	341.32	341.50	341.24	341.39	0.93	0.75	0.85	0.70
227	10AB019	10AB001	Circular	227.23	0.81	2.00	18.85	341.46	342.09	335.48	337.31	7.22	8.43	341.44	341.46	341.24	341.39	0.02	0.00	0.85	0.70
234	10AB007	03DC018	Circular	139.75	0.11	1.50	3.20	340.65	340.29	336.40	336.55	3.29	4.39	337.58	339.35	337.31	339.08	3.07	1.30	2.99	1.21
235	03DC009	03DC018	Circular	45.53	0.20	1.00	1.47	340.14	340.29	336.40	336.49	0.02	-0.11	337.31	339.08	337.31	339.08	2.84	1.06	2.99	1.21
236	03DC018	03DC008	Circular	42.09	0.10	1.50	3.01	340.29	340.04	336.16	336.20	3.22	4.36	337.31	339.08	337.25	339.00	2.99	1.21	2.79	1.04
237	03DC008	03DC007	Circular	200.00	-0.02	2.00	2.97	340.04	339.46	335.65	335.61	3.14	4.35	337.25	339.00	337.21	338.91	2.79	1.04	2.25	0.55
241	03DC007	03DC006	Circular	501.64	0.08	2.00	5.93	339.46	339.48	335.05	335.45	4.39	6.36	337.21	338.91	337.01	338.46	2.25	0.55	2.47	1.02
270	15AC048	15AC021	Circular	47.00	0.15	3.50	36.05	352.74	352.44	346.29	346.36	35.00	38.97	350.21	350.89	350.15	350.81	2.53	1.85	2.29	1.63
271	15AC021	15AC035	Circular	43.00	0.00	3.50	2.95	352.44	352.66	346.29	346.29	37.92	43.16	350.15	350.81	350.08	350.72	2.29	1.63	2.58	1.94
275	15DB043	15DB031	Circular	353.81	0.23	2.00	10.11	352.85	352.26	349.18	350.00	-0.22	-0.49	350.19	350.91	350.19	350.90	2.66	1.94	2.07	1.36
278	15DB031	15AC021	Circular	218.44	0.62	2.00	16.58	352.26	352.44	347.75	349.11	3.10	4.62	350.19	350.90	350.15	350.81	2.07	1.36	2.29	1.63
282	09DA020	09DA019	Circular	454.97	0.31	1.25	3.32	339.69	341.60	335.47	336.86	3.41	3.79	339.33	339.69	337.97	338.39	0.36	0.00	3.63	3.21
284	09DA019	09DA010	Circular	264.34	0.05	1.75	3.13	341.60	339.35	335.35	335.47	3.40	3.79	337.97	338.39	337.94	338.28	3.63	3.21	1.41	1.07
285	09DA010	09DA001	Circular	34.76	0.43	1.75	9.67	339.35	340.12	335.20	335.35	3.40	3.78	337.94	338.28	337.94	338.28	1.41	1.07	2.18	1.84
286	09DA001	09DA008	Circular	61.34	0.54	1.75	10.79	340.12	339.35	334.85	335.18	3.39	3.77	337.94	338.28	337.93	338.27	2.18	1.84	1.42	1.08
287	09DA008	09DA022	Circular	78.40	0.24	1.75	7.24	339.35	340.21	334.66	334.85	3.39	3.77	337.93	338.27	337.92	338.27	1.42	1.08	2.29	1.94
290	10CB006	10CB007	Circular	63.04	0.16	1.50	3.88	339.55	339.55	336.40	336.50	2.92	3.94	339.38	339.55	339.37	339.55	0.17	0.00	0.18	0.00
291	10CB007	10CB004	Circular	130.47	0.06	1.50	2.42	339.55	343.76	336.32	336.40	2.92	3.94	339.37	339.55	339.35	339.62	0.18	0.00	4.41	4.14
292	15AB046	15AB043	Circular	322.94	0.10	4.00	41.99	349.41	348.55	342.59	342.91	13.54	20.23	345.94	350.81	345.90	350.75	3.47	-1.40	2.65	-2.20
293	10CC044	10CC058	Circular	180.26	1.00	2.00	20.99	341.05	343.81	336.52	338.32	4.16	5.92	339.89	340.18	339.88	340.15	1.16	0.87	3.93	3.66
294	10CC017	10CC059	Circular	441.35	0.01	2.00	2.45	340.85	343.40	336.39	336.45	4.86	6.11	340.01	340.33	339.97	340.24	0.84	0.52	3.43	3.15
299	10CB005	10CC017	Circular	291.12	0.26	2.00	10.73	340.43	340.85	336.61	337.37	4.87	6.11	340.08	340.43	340.01	340.33	0.35	0.00	0.84	0.52
347	15AC049	15AB064	Circular	410.89	0.09	1.50	1.92	350.90	350.95	347.80	347.96	6.63	7.38	350.84	351.29	349.03	349.19	0.06	-0.38	1.92	1.76
354	15AB049	15AB065	Circular	480.96	0.26	2.00	10.75	349.88	349.90	344.00	345.26	6.74	9.73	346.53	351.69	345.95	350.83	3.35	-1.81	3.96	-0.93
355	15AB065	15AB046	Circular	324.18	0.34	4.00	77.34	349.90	349.41	342.91	344.00	7.08	11.20	345.95	350.83	345.94	350.81	3.96	-0.93	3.47	-1.40
362	10DA098	10DA099	Circular	504.36	0.20	0.67	0.50	350.32	348.36	345.00	346.00	0.52	0.58	346.73	346.83	345.36	345.59	3.59	3.49	3.00	2.77
379	15AB045	15AB044	Circular	390.70	0.33	1.50	5.56	350.20	349.69	343.97	345.24	2.50	3.42	346.48	351.85	346.31	351.56	3.72	-1.65	3.38	-1.87
383	15AB044	15AB043	Circular	400.65	0.25	1.50	4.90	349.69	348.55	342.96	343.97	3.74	5.33	346.31	351.56	345.90	350.75	3.38	-1.87	2.65	-2.20
386	15AB043	10DC038	Circular	342.97	0.10	4.00	43.21	348.55	348.19	342.23	342.59	16.87	25.32	345.90	350.75	345.86	350.64	2.65	-2.20	2.34	-2.45
387	10DC039	10DC038	Circular	399.16	0.38	1.50	6.00	349.04	348.19	342.46	343.97	3.85	5.66	346.31	351.54	345.86	350.64	2.73	-2.50	2.34	-2.45
388	10DC045	10DC039	Circular	386.19	0.30	1.50	5.30	349.68	349.04	343.97	345.11	2.59	3.64	346.49	351.93	346.31	351.54	3.19	-2.25	2.73	-2.50
394	15DA052	15DA049	Circular	276.68	0.19	1.00	1.43	355.23	354.57	350.86	351.38	2.92	3.75	354.93	357.97	352.83	354.60	0.30	-2.74	1.74	-0.03
397	15DA049	15DA048	Circular	271.64	0.04	1.50	2.05	354.57	354.17	350.70	350.82	5.61	7.11	352.83	354.60	352.05	353.22	1.74	-0.03	2.12	0.95
398	15DA020	15DA048	Circular	19.61	-0.15	0.83	0.79	352.36	354.17	350.70	350.67	-0.10	0.10	352.05	353.22	352.05	353.22	0.31	-0.86	2.12	0.95
399	15DA019	15DA048	Circular	20.21	-0.15	0.83	0.78	352.38	354.17	350.70	350.67	0.08	-0.07	352.05	353.22	352.05	353.22	0.33	-0.84	2.12	0.95
400	15DA048	15AD056	Circular	119.45	0.12	2.00	7.19	354.17	354.69	350.40	350.54	5.39	7.08	352.05	353.22	351.97	353.09	2.12	0.95	2.72	1.60
402	15DA074	15DD058	Circular	338.25	0.12	1.00	1.14	358.09	359.79	353.43	353.83	0.61	0.72	356.36	357.90	356.25	357.75	1.73	0.19	3.54	2.04
424	10DD058	10DC044	Circular	389.62	0.23	2.00	10.10	349.67	348.90	343.72	344.62	5.37	6.49	346.57	352.06	346.40	351.65	3.10	-2.39	2.50	-2.75
429	10AD032	10AD031	Circular	193.59	0.86	0.67	1.06	347.45	346.78	341.93	343.60	1.06	1.32	345.13	347.42	343.93	345.32	2.32	0.03	2.85	1.46

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																				
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xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
431	10DD066	10DD001	Circular	187.62	0.43	2.00	13.72	351.68	350.79	347.80	348.60	1.36	-2.21	349.03	352.32	348.39	352.31	2.65	-0.64	2.40	-1.52
432	10DD001	10DD065	Circular	191.58	0.20	2.00	9.36	350.79	350.25	347.24	347.62	2.93	3.76	348.39	352.31	347.73	352.27	2.40	-1.52	2.52	-2.02
437	10DC046	10DC042	Circular	408.17	0.45	1.50	6.53	347.81	347.66	343.17	345.00	2.61	3.84	346.56	351.96	346.31	351.51	1.26	-4.14	1.35	-3.85
438	10DD064	10DC046	Circular	378.67	0.35	1.50	5.74	349.61	347.81	345.00	346.31	1.64	2.12	346.90	352.11	346.56	351.96	2.71	-2.50	1.26	-4.14
446	10DD065	10DD060	Circular	304.60	0.54	2.00	15.37	350.25	350.88	345.51	347.14	2.93	3.75	347.73	352.27	346.68	352.24	2.52	-2.02	4.20	-1.36
479	15AD053	15AD054	Circular	202.87	0.77	1.00	2.90	353.45	354.41	347.14	348.70	-1.39	-2.08	351.61	352.32	351.96	353.06	1.84	1.13	2.46	1.35
482	15AD048	15AD053	Circular	170.64	0.16	1.00	1.32	353.77	353.45	348.70	348.97	-1.39	-2.07	351.32	351.78	351.61	352.32	2.45	1.99	1.84	1.13
484	15AD032	15AD048	Circular	21.83	1.33	0.83	2.34	353.85	353.77	349.09	349.38	-1.39	-2.06	351.26	351.76	351.32	351.78	2.59	2.09	2.45	1.99
490	15DD058	15DD059	Circular	79.92	0.91	1.25	5.73	359.79	360.01	352.70	353.43	2.81	3.34	356.25	357.75	356.08	357.52	3.54	2.04	3.94	2.49
491	15DD059	15DD065	Circular	319.52	0.06	1.25	1.46	360.01	359.95	352.46	352.65	3.67	4.36	356.08	357.52	354.97	355.95	3.94	2.49	4.98	4.00
492	14CC033	14CC034	Circular	145.83	-0.09	3.00	18.49	360.82	360.47	355.26	355.13	3.80	4.50	356.14	356.25	356.02	356.15	4.68	4.57	4.45	4.32
493	14CC034	23BB038	Circular	291.42	0.21	3.00	28.57	360.47	359.84	354.64	355.26	3.78	4.44	356.02	356.15	355.57	355.97	4.45	4.32	4.27	3.87
494	14CC036	23BB038	Circular	105.25	0.34	1.25	3.51	359.90	359.84	354.64	355.00	3.09	3.66	355.91	356.23	355.57	355.97	3.99	3.67	4.27	3.87
495	14CC039	14CC036	Circular	195.54	0.23	1.25	2.88	360.87	359.90	355.02	355.47	3.10	3.69	356.50	356.82	355.91	356.23	4.37	4.05	3.99	3.67
496	23BB038	23BB043	Circular	270.55	0.05	3.50	21.25	359.84	359.46	354.10	354.24	6.74	7.73	355.57	355.97	355.44	355.93	4.27	3.87	4.02	3.53
497	23BB043	23BB006	Circular	20.86	0.24	3.50	45.74	359.46	359.82	354.05	354.10	6.65	7.48	355.44	355.93	355.43	355.93	4.02	3.53	4.39	3.89
511	03BD006	03BD007	Natural	287.18	0.50	1.93	198.23	332.79	331.34	329.41	330.86	4.31	6.23	331.47	331.56	330.30	330.43	1.32	1.23	1.04	0.91
520	10BB045	10BB039	Circular	185.05	0.06	2.00	5.12	337.04	336.50	332.49	332.60	6.79	8.71	336.69	336.82	336.50	336.50	0.35	0.23	0.00	0.00
524	03CD006	03CD009	Circular	46.21	0.17	1.50	4.06	338.05	337.85	335.42	335.50	4.51	6.38	337.02	338.05	336.94	337.85	1.03	0.00	0.91	0.00
529	10BA043	10BA069	Circular	313.28	0.11	1.50	3.21	339.55	339.38	335.88	336.22	6.96	7.13	339.55	339.55	339.38	339.38	0.00	0.00	0.00	0.00
530	10BA067	10BA068	Circular	23.67	0.25	1.00	1.67	339.60	339.67	335.75	335.81	-0.09	-0.12	339.36	339.43	339.36	339.38	0.24	0.17	0.31	0.29
531	03CD034	03CD033	Circular	164.90	0.18	1.00	1.39	338.51	338.91	336.65	336.94	1.75	1.88	337.82	337.92	337.04	337.05	0.69	0.59	1.87	1.86
579	15AD056	15AD054	Circular	27.71	3.46	2.00	39.10	354.69	354.41	349.00	349.96	5.82	7.07	351.97	353.09	351.96	353.06	2.72	1.60	2.46	1.35
616	15AC023	15AC022	Circular	225.56	0.14	3.00	23.33	352.81	352.88	347.06	347.38	1.77	2.54	351.05	352.03	351.05	352.03	1.76	0.78	1.84	0.85
618	15AC050	15AC045	Circular	59.53	1.93	1.50	8.00	352.08	352.75	349.00	349.40	5.13	5.77	351.23	351.76	351.07	351.57	0.84	0.32	1.68	1.18
637	15BA007	15BA001	Circular	38.74	3.02	0.83	3.53	347.44	347.15	344.38	345.55	1.37	1.77	346.46	347.73	346.29	347.45	0.99	-0.28	0.86	-0.30
639	15BA040	15BA001	Circular	169.40	-0.01	1.25	0.46	347.79	347.15	344.38	344.37	1.39	1.87	346.38	347.61	346.29	347.45	1.41	0.18	0.86	-0.30
640	15BA036	15BA040	Circular	228.92	0.65	1.25	4.82	348.16	347.79	344.45	345.93	1.39	1.88	346.58	347.82	346.38	347.61	1.58	0.34	1.41	0.18
664	22DA019	22DA076	Circular	59.50	0.39	1.00	2.06	364.00	364.55	359.37	359.60	-0.08	-0.20	360.76	364.41	360.76	364.41	3.24	-0.41	3.79	0.14
665	22DA076	22AD053	Circular	57.64	0.12	1.50	3.40	364.55	364.32	359.09	359.16	1.45	1.87	360.76	364.41	360.76	364.39	3.79	0.14	3.56	-0.07
669	22AD053	22AD051	Circular	134.58	0.17	1.50	4.03	364.32	364.84	358.86	359.09	1.41	1.83	360.76	364.39	360.74	364.35	3.56	-0.07	4.10	0.49
670	22AD051	22AD050	Circular	90.55	0.19	1.50	4.23	364.84	365.23	358.59	358.76	3.10	4.18	360.74	364.35	360.67	364.23	4.10	0.49	4.56	1.01
676	23BC001	23BC022	Circular	144.70	0.21	1.00	1.51	365.46	365.46	362.60	362.90	1.92	2.48	364.28	366.70	363.80	366.01	1.18	-1.24	1.66	-0.55
677	23BC022	22AD052	Circular	229.60	0.17	1.00	1.38	365.46	365.37	362.17	362.57	1.91	2.47	363.80	366.01	363.08	365.03	1.66	-0.55	2.30	0.34
678	22AD052	22AD032	Circular	121.98	0.01	1.00	0.30	365.37	365.26	361.98	361.99	1.91	2.47	363.08	365.03	361.89	364.55	2.30	0.34	3.37	0.71
679	22AD032	22AD051	Circular	49.50	3.98	1.00	6.60	365.26	364.84	359.55	361.52	1.91	2.41	361.89	364.55	360.74	364.35	3.37	0.71	4.10	0.49
684	10DD077	10DC045	Circular	394.19	0.30	1.50	5.38	349.88	349.68	345.11	346.31	1.50	1.97	346.87	352.04	346.49	351.93	3.01	-2.16	3.19	-2.25
691	10DC038	10DC041	Circular	321.91	0.13	4.00	48.75	348.19	347.52	341.73	342.16	20.86	30.64	345.86	350.64	345.79	350.49	2.34	-2.45	1.74	-2.97
695	10DC042	10DC041	Circular	394.14	0.32	1.50	5.56	347.66	347.52	341.89	343.17	4.08	5.86	346.31	351.51	345.79	350.49	1.35	-3.85	1.74	-2.97
700	10DC041	10DC048	Circular	300.86	0.08	4.00	36.88	347.52	347.34	341.38	341.61	25.01	36.24	345.79	350.49	345.69	350.28	1.74	-2.97	1.65	-2.94
703	10DC043	10DC048	Circular	398.60	0.11	2.00	6.98	347.03	347.34	341.42	341.86	7.60	9.79	346.10	351.10	345.69	350.28	0.93	-4.07	1.65	-2.94
711	22AA044	22AA048	Circular	54.46	0.37	2.50	23.08	358.80	358.57	354.50	354.70	2.81	3.54	357.20	357.76	357.20	357.76	1.60	1.04	1.37	0.81
712	22AA048	22AA051	Circular	75.47	0.13	2.50	13.86	358.57	358.56	354.45	354.55	2.68	3.45	357.20	357.76	357.20	357.76	1.37	0.81	1.36	0.80
724	15DC015	15DC044	Circular	179.12	-0.23	1.00	1.60	358.33	360.35	352.38	351.96	2.30	2.63	355.24	356.11	354.40	355.02	3.09	2.22	5.95	5.33
726	15DC044	15DC045	Circular	301.12	0.53	1.00	2.42	360.35	356.69	350.62	352.23	2.29	2.62	354.40	355.02	353.00	353.20	5.95	5.33	3.69	3.49
729	15DC045	15DC040	Circular	134.56	0.30	1.25	3.31	356.69	354.49	349.90	350.31	2.29	2.62	353.00	353.20	352.83	352.96	3.69	3.49	1.67	1.53
731	15DC034	15DC040	Circular	135.55	0.27	2.25	14.82	354.36	354.49	349.90	350.26	11.27	13.47	352.96	353.18	352.83	352.96	1.40	1.19	1.67	1.53
735	15DC035	15DC039	Circular	283.10	0.10	2.50	11.98	356.06	355.10	349.90	350.18	14.54	16.79	353.31	353.61	352.96	353.13	2.75	2.45	2.14	1.97
736	15DD061	15DC034	Circular	449.20	0.05	2.25	6.65	356.46	354.36	350.57	350.81	11.32	13.49	353.61	354.14	352.96	353.18	2.85	2.32	1.40	1.19
740	15DD062	15DD061	Circular	106.55	0.11	2.00	7.05	357.52	356.46	350.81	350.93	11.35	13.49	353.91	354.57	353.61	354.14	3.61	2.95	2.85	2.32
741	15DD063	15DD062	Circular	422.16	0.12	2.00	7.16	358.36	357.52	350.95	351.44	8.79	10.10	354.64	355.53	353.91	354.57	3.72	2.83	3.61	2.95
744	15DD064	15DD063	Circular	149.07	1.50	2.00	25.69	358.91	358.36	351.45	353.68	6.44	7.05	354.63	355.70	354.64	355.53	4.28	3.21	3.72	2.83
746	15DD065	15DD064	Circular	406.83	-0.44	2.00	13.93	359.95	358.91	353.69	351.90	5.10	5.30	354.97	355.95	354.63	355.70	4.98	4.00	4.28	3.21
825	10CC031	10CC065	Circular	67.46	1.59	0.83	2.56	343.05	344.69	338.70	339.77	0.89	1.15	341.06	341.43	341.05	341.41	1.99	1.62	3.64	3.28
826	10CC048	10CC062	Circular	96.52	0.39	0.83	1.28	342.45	346.64	338.57	338.95	1.55	2.03	341.04	341.70	340.97	341.34	1.41	0.75	5.66	5.30
829	10CD027.1	10CD027	Circular	94.65	0.19	2.50	16.61	345.00	345.27	340.82	341.00	5.63	-15.31	342.76	343.59	342.76	343.59	2.24	1.41	2.51	1.68
830	10CD030.1	10CD030	Circular	246.88	0.06	2.50	9.39	345.00	345.23	340.45	340.60	5.83	-15.24	342.76	343.59	342.75	343.70	2.24	1.41	2.48	1.53
831	10CD027	10CD030.1	Circular	23.99	0.50	2.50	26.94	345.27	345.00	340.60	340.72	5.68	-15.23	342.76	343.59	342.76	343.59	2.51	1.68	2.24	1.41
834	10CD030	10CD034	Circular	180.61	0.10	2.50	12.02	345.23	344.65	340.17	340.35	7.29	-11.44	342.75	343.70	342.73	343.85	2.48	1.53	1.92	0.80
835	10CD034	10CD033	Circular	26.26	0.08	2.50	10.51	344.65	344.45	340.05	340.07	7.39	-11.44	342.73	343.85	342.73	343.88	1.92	0.80	1.72	0.58
836	10CD033	10CD032	Circular	72.32	0.11	2.50	12.67	344.45	344.85	339.87	339.95	7.43	-11.38	342.73	343.88	342.72	343.94	1.72	0.58	2.13	0.91
837	10CD032	10CD028.1	Circular	54.96	0.31	2.50	21.18	344.85	344.80	339.60	339.77	7.48	-11.38	342.72	343.94	342.72	343.99	2.13	0.91	2.08	0.81
838	10CD028.1	10CD028	Circular	23.99	0.83	2.50	34.78	344.80	344.83	339.40	339.60	7.50	-11.39	342.72	343.99	342.72	344.01	2.08	0.81	2.11	0.82
841	10CD036	10CD016	Circular	67.55	0.33	1.00	1.89	343.30	343.35	340.25	340.47	-0.07	-0.10	342.73	343.92	342.73	343.89	0.57	-0.62	0.62	-0.54
842	10CD016	10CD033	Circular	15.88	0.63	1.00	2.63	343.35	344.45	340.05	340.15	-0.13	-0.19	342.73	343.89	342.73	343.88	0.62	-0.54	1.72	0.58
852	15AB050	15AB049	Circular	387.86	0.29	2.00	11.39	350.48	349.88	345.33	346.47	5.18	7.57	347.43	352.30	346.53	351.69	3.05	-1.82	3.35	-1.81
855	15AA045	15AB050	Circular	411.31	0.26	2.00	10.66	350.64	350.48	346.47	347.53	2.37	-5.76	348.18	352.45	347.43	352.30	2.46	-1.81	3.05	-1.82
868	15AC056	15AC057	Circular	112.35	0.17	1.00	1.36	352.68	352.49	347.69	347.88	0.78	1.05	349.21	349.52	349.15	349.40	3.47	3.16	3.34	3.09
868.1	03CC006	03CC004	Natural	251.53	0.56	3.55	198.42	338.15	337.84	333.73	335.15	5.63	6.69	335.93	336.27	335.93	336.26	2.22	1.88	1.91	1.57
869	15AC057	15AC058	Circular	86.57	0.18	1.50	4.19	352.49	351.99	347.46	347.62	0.78	1.06	349.15	349.40	349.14	349.39	3.34	3.09	2.85	2.60

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																				
Burkhart Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
870	15AC058	15AC060	Circular	232.61	0.15	1.50	3.73	351.99	351.30	347.05	347.39	1.94	2.53	349.14	349.39	349.06	349.24	2.85	2.60	2.24	2.06
871	15AC060	15AB059	Circular	314.65	0.12	2.00	7.20	351.30	350.72	346.66	347.03	2.89	3.85	349.06	349.24	349.00	349.15	2.24	2.06	1.72	1.57
872	15AB059	15AB062	Circular	23.29	0.21	2.00	9.73	350.72	351.53	346.61	346.66	3.58	4.84	349.00	349.15	349.00	349.14	1.72	1.57	2.53	2.39
872.1	10AB004	10BA001	Natural	237.44	0.41	2.00	40.30	341.65	340.68	338.68	339.65	0.71	1.01	339.90	339.93	339.62	339.84	1.76	1.72	1.06	0.84
875	15CD070	15CD068	Natural	301.75	0.18	3.54	91.35	358.09	356.86	353.66	354.20	2.45	3.12	354.38	354.41	354.15	354.30	3.71	3.68	2.71	2.56
882	15CD073	15CD072	Circular	47.53	0.25	1.00	1.66	358.76	358.61	357.45	357.57	0.24	0.34	357.83	357.87	357.64	357.67	0.93	0.88	0.96	0.94
889	15AA003	15AA045	Circular	291.68	0.16	2.00	8.43	350.12	350.64	347.53	348.00	2.39	3.47	348.73	352.42	348.18	352.45	1.39	-2.29	2.46	-1.81
895	15AA043	15AB048	Circular	389.11	0.43	1.50	6.43	351.53	350.21	345.89	347.58	1.51	1.99	348.07	352.32	346.78	352.19	3.46	-0.79	3.43	-1.98
896	15AB048	15AB047	Circular	387.20	0.36	1.50	5.89	350.21	349.82	344.42	345.83	2.84	3.82	346.78	352.19	346.46	351.79	3.43	-1.98	3.37	-1.97
897	15AB047	15AB046	Circular	382.20	0.40	1.50	6.13	349.82	349.41	342.91	344.42	4.08	5.85	346.46	351.79	345.94	350.81	3.37	-1.97	3.47	-1.40
927	10AC019	10AB056	Circular	1159.66	0.22	3.50	43.38	343.08	342.85	335.43	337.93	34.63	34.79	342.97	343.08	341.42	341.62	0.11	0.00	1.43	1.23
948	15DC023.1	15DC023	Circular	38.51	0.39	1.00	2.06	357.13	358.76	354.15	354.30	0.81	1.06	354.73	354.80	354.54	354.60	2.40	2.33	4.22	4.16
949	15DC023	15DC033	Circular	164.73	0.95	1.00	3.23	358.76	354.05	352.58	354.15	0.81	1.06	354.54	354.60	352.78	352.81	4.22	4.16	1.27	1.24
957	15DA059	15DA058	Circular	446.20	0.17	1.50	4.05	356.68	354.76	351.58	352.35	7.33	9.03	355.27	356.69	352.66	353.17	1.41	-0.01	2.10	1.59
959	10AB023	10AB064	Circular	474.12	0.48	1.50	6.76	343.88	342.55	336.95	339.23	6.23	6.85	343.88	343.88	342.08	342.15	0.00	0.00	0.47	0.40
960	15DB030	15DB026	Circular	13.06	0.31	0.67	0.62	352.36	353.92	350.25	350.29	1.22	1.66	350.93	351.12	350.62	350.77	1.43	1.24	3.30	3.15
961	15DB026	15DB027	Circular	29.20	0.24	1.00	1.62	353.92	353.92	349.98	350.05	1.22	1.66	350.62	350.77	350.49	350.67	3.30	3.15	3.43	3.25
963	15DB014	15DB041	Circular	210.62	0.41	2.00	13.50	352.29	352.82	348.77	349.64	4.37	5.72	351.20	351.82	351.13	351.67	1.09	0.47	1.69	1.15
964	15DB041	15DC048.2	Circular	79.28	0.06	2.00	5.28	352.82	356.74	348.66	348.71	21.09	26.24	351.13	351.67	350.40	350.49	1.69	1.15	6.34	6.25
965	09AA012	09AB019	Circular	222.13	0.12	2.00	7.19	337.47	336.74	332.88	333.14	5.67	7.86	334.81	335.44	334.72	335.30	2.66	2.03	2.02	1.44
966	15DB034	15DB033	Circular	289.16	0.10	3.00	19.27	353.88	353.44	349.03	349.31	16.93	20.61	351.59	352.30	351.35	351.99	2.29	1.58	2.09	1.45
967	15DB035	15DB034	Circular	139.86	0.24	3.00	30.08	354.79	353.88	349.37	349.70	17.05	20.79	351.72	352.43	351.59	352.30	3.07	2.36	2.29	1.58
968	15DB032	15DB035	Circular	356.66	0.04	3.00	12.27	353.30	354.79	349.70	349.84	17.22	21.15	352.10	352.81	351.72	352.43	1.21	0.49	3.07	2.36
969	09AA017	09AA018	Circular	230.57	0.37	2.00	12.83	337.50	336.70	333.00	333.86	2.99	4.30	334.52	334.68	333.84	334.01	2.98	2.82	2.86	2.69
972	15DA055	15DB032	Circular	178.64	0.17	3.00	25.80	353.93	353.30	349.84	350.15	15.75	19.38	352.24	352.95	352.10	352.81	1.69	0.98	1.21	0.49
975	15DA058	15DA055	Circular	316.44	0.33	3.00	35.68	354.76	353.93	350.18	351.23	13.20	16.37	352.66	353.17	352.24	352.95	2.10	1.59	1.69	0.98
1022	22AD049	22AD048	Circular	234.17	0.03	2.00	3.63	365.75	364.76	357.55	357.62	4.51	6.69	360.17	363.27	360.06	363.06	5.58	2.48	4.70	1.70
1025	22AD047	22AD048	Circular	22.21	0.68	1.25	4.93	364.50	364.76	357.76	357.91	1.92	2.49	360.07	363.09	360.06	363.06	4.43	1.41	4.70	1.70
1027	22AD048	22AD055	Circular	292.84	0.06	2.00	5.06	364.76	363.96	356.85	357.02	5.95	9.03	360.06	363.06	359.83	362.61	4.70	1.70	4.13	1.35
1028	03CD032	03CD004	Natural	105.08	1.00	3.55	161.52	339.63	339.69	335.58	336.63	1.19	1.32	336.86	336.87	335.94	336.27	2.77	2.76	3.75	3.42
1032	22AD055	22AD054	Circular	194.86	0.03	3.00	10.87	363.96	363.16	356.74	356.80	6.95	10.62	359.83	362.61	359.81	362.56	4.13	1.35	3.35	0.60
1035	22AD054	22AA038	Circular	101.45	0.15	3.00	23.81	363.16	362.69	356.37	356.52	6.84	10.59	359.81	362.56	359.80	362.53	3.35	0.60	2.89	0.16
1036	22AA038	22AA037	Circular	65.72	0.09	3.00	18.71	362.69	361.56	356.31	356.37	11.71	16.76	359.80	362.53	359.78	362.49	2.89	0.16	1.78	-0.93
1038	23BC023	23BB030	Circular	329.17	0.10	2.00	6.65	363.47	362.58	358.51	358.84	4.79	6.18	360.45	363.85	360.32	363.56	3.02	-0.37	2.26	-0.98
1038.1	03DB003	03DB026	Natural	354.89	0.18	4.44	1032.49	339.58	338.94	334.50	335.14	2.68	3.42	335.40	335.45	335.17	335.30	4.18	4.13	3.77	3.64
1039	23BB030	22AA040	Circular	179.08	0.66	1.50	7.95	362.58	361.74	357.32	358.51	4.36	6.19	360.32	363.56	359.97	362.86	2.26	-0.98	1.77	-1.12
1041	03DB013	03DB013.1	Natural	352.96	0.11	4.31	579.08	338.31	337.93	333.62	334.00	9.47	12.82	334.79	335.00	334.71	334.96	3.52	3.31	3.23	2.97
1041.1	03DB013.1	03CA013	Natural	658.03	0.10	4.31	567.82	337.93	337.26	332.95	333.62	9.74	12.05	334.71	334.96	334.64	334.91	3.23	2.97	2.62	2.35
1042	22AA040	22AA038	Circular	85.00	0.24	1.50	4.73	361.74	362.69	356.74	356.94	4.36	6.19	359.97	362.86	359.80	362.53	1.77	-1.12	2.89	0.16
1044	23BB036	23BB033	Circular	74.01	0.68	1.00	2.72	361.00	364.89	358.65	359.15	4.81	6.84	359.89	360.25	359.58	359.73	1.11	0.75	5.31	5.15
1050	22AA035	22AA034	Circular	348.82	0.14	2.25	10.67	361.90	360.60	355.47	355.95	13.41	18.99	358.42	359.76	357.71	358.29	3.48	2.14	2.89	2.32
1051	22AA034	22AA042	Circular	101.19	0.08	2.25	8.09	360.60	361.50	355.36	355.44	13.39	19.00	357.71	358.29	357.49	357.91	2.89	2.32	4.01	3.59
1053	03BB011	03BB012	Natural	97.60	-0.19	3.08	166.08	330.43	329.83	326.90	327.20	6.35	-5.81	329.63	329.62	329.61	329.61	0.80	0.81	0.22	0.22
1054	23BB024	22AA033	Circular	177.10	0.28	2.00	11.16	359.65	358.76	355.21	355.71	4.19	4.82	357.56	358.04	357.52	357.96	2.09	1.61	1.24	0.80
1057	22AA032	22AA039	Circular	147.28	0.14	1.00	1.25	358.96	361.40	355.30	355.51	-0.04	-0.03	357.33	357.81	357.33	357.81	1.63	1.15	4.07	3.59
1058	22AA042	22AA039	Rectangular	78.20	0.08	4.00	79.68	361.50	361.40	355.30	355.36	36.85	48.49	357.49	357.91	357.33	357.81	4.01	3.59	4.07	3.59
1059	22AA033	22AA042	Circular	146.53	0.12	2.00	7.16	358.76	361.50	355.04	355.21	4.13	4.81	357.52	357.96	357.49	357.91	1.24	0.80	4.01	3.59
1061	22AA003	22AA031	Circular	16.53	0.30	3.00	34.06	358.92	359.18	353.85	353.90	8.00	9.42	355.41	355.92	355.40	355.91	3.51	3.00	3.78	3.27
1062	22AA031	15DD068	Circular	367.48	0.04	3.00	11.65	359.18	359.34	353.72	353.85	7.96	9.66	355.40	355.91	355.15	355.80	3.78	3.27	4.19	3.54
1067	15DD068	15DD085	Circular	48.02	0.04	3.00	12.64	359.34	358.94	353.55	353.57	10.20	11.08	355.15	355.80	355.11	355.79	4.19	3.54	3.83	3.15
1068	15DD068	15DD066	Circular	409.22	0.23	1.00	1.59	359.34	358.64	352.63	353.57	0.82	1.24	355.15	355.80	355.08	355.99	4.19	3.54	3.56	2.65
1074	15DD066	15DD065	Circular	137.94	0.03	1.25	1.02	358.64	359.95	352.46	352.50	2.00	2.43	355.08	355.99	354.97	355.95	3.56	2.65	4.98	4.00
1079	03CC002	03CC001	Natural	4.26	19.01	3.52	554.64	337.64	337.60	333.70	334.51	-420.95	-24.63	335.47	335.52	337.19	336.29	2.17	2.12	0.41	1.31
1081	10AB005	03CD034	Natural	814.23	0.32	1.79	310.55	341.57	338.51	336.94	339.57	2.18	2.98	340.01	340.06	337.82	337.92	1.56	1.51	0.69	0.59
1093	10DA064	10DA061	Circular	301.56	0.15	2.50	14.71	347.87	347.40	343.22	343.67	5.57	6.78	344.77	345.56	344.38	345.50	3.10	2.31	3.02	1.90
1099	10DA061	10DA059	Circular	325.54	0.25	2.50	19.00	347.40	347.28	342.41	343.22	7.55	9.06	344.38	345.50	343.99	345.39	3.02	1.90	3.29	1.89
1104	10DA059	10AD055	Circular	284.99	0.04	2.50	7.82	347.28	346.77	342.24	342.36	8.40	9.92	343.99	345.39	343.88	345.25	3.29	1.89	2.89	1.52
1107	10DA099	10DA093	Circular	479.11	0.38	0.83	1.25	348.36	348.91	343.20	345.00	0.49	0.56	345.36	345.59	344.05	345.44	3.00	2.77	4.86	3.47
1108	10DA093	10AD031	Circular	494.73	0.26	0.83	1.03	348.91	346.78	341.93	343.20	0.47	0.50	344.05	345.44	343.93	345.32	4.86	3.47	2.85	1.46
1109	23BB028	23BB027	Circular	293.64	0.04	1.50	1.97	362.39	361.50	357.97	358.09	1.91	2.27	359.01	359.16	358.70	358.93	3.39	3.23	2.80	2.57
1110	23BB027	23BB026	Circular	260.57	0.11	2.00	7.01	361.50	360.96	357.01	357.30	3.70	4.42	358.70	358.93	358.60	358.83	2.80	2.57	2.36	2.13
1111	23BB026	23BB003	Circular	44.81	0.22	2.00	9.92	360.96	363.32	356.91	357.01	10.83	13.44	358.60	358.83	358.48	358.67	2.36	2.13	4.84	4.65
1112	23BB040	23BB025	Circular	383.79	0.25	1.75	7.32	361.76	361.32	356.81	357.76	4.52	5.38	358.76	358.91	357.88	358.22	3.00	2.85	3.44	3.10
1113	23BB025	23BB024	Circular	376.80	0.12	2.00	7.26	361.32	359.65	356.28	356.73	4.43	5.08	357.88	358.22	357.56	358.04	3.44	3.10	2.09	1.61
1117	10DD071	10DA075	Circular	331.18	0.34	1.50	5.70	349.77	348.90	344.56	345.69	2.61	3.24	346.42	346.53	345.52	345.95	3.36	3.24	3.38	2.95
1118	23BC020	23BC008	Circular	314.70	0.22	2.00	9.76	363.92	362.67	360.37	361.05	2.60	3.40	361.78	364.10	360.93	364.04	2.14	-0.18	1.74	-1.37
1119	23BC008	23BC003	Circular	32.72	0.46	2.00	14.22	362.67	362.74	360.20	360.35	2.60	3.19	360.93	364.04	360.79	364.04	1.74	-1.37	1.95	-1.29
1122	23BC003	23BC006	Circular	93.69	0.20	2.00	9.46	362.74	362.70	359.86	360.05	2.59	3.18	360.79	364.04	360.67	364.02	1.95	-1.29	2.03	-1.32
1123	23BC006	23BC017	Circular	81.33	0.26	2.00	10.67	362.70	363.09	359.55	359.76	2.57	3.32	360.67	364.02	360.64	364.00	2.03	-1.32	2.45	-0.91
1124	23BC017	23BC023	Circular	183.77	0.20	2.00	9.30	363.09	363.47	359.17	359.53	5.08	6.18	360.64	364.00	360.45	363.85	2.45	-0.91	3.02	-0.37

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																					
Burkhart Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1137	22AB037	22AB036	Circular	221.51	0.20	1.25	2.67	359.06	362.34	355.48	355.92	2.80	3.73	356.91	357.26	355.69	355.80	2.15	1.80	6.65	6.54
1138	22AB036	22AB040	Circular	135.01	2.86	1.25	10.14	362.34	356.00	351.37	355.23	2.80	3.73	355.69	355.80	353.47	353.60	6.65	6.54	2.53	2.40
1149	14CC013	14CC015	Circular	51.38	0.27	1.00	1.73	358.76	358.76	356.71	356.85	-0.03	0.04	357.66	358.51	357.66	358.50	1.10	0.26	1.10	0.26
1150	14CC015	14CC016	Circular	143.85	0.08	1.00	0.91	358.76	358.70	356.60	356.71	-0.11	-0.12	357.66	358.50	357.66	358.50	1.10	0.26	1.04	0.20
1151	14CC016	14CC014	Circular	107.57	0.19	2.00	9.06	358.70	358.75	356.40	356.60	1.85	2.21	357.66	358.50	357.65	358.50	1.04	0.20	1.10	0.25
1152	14CC014	15DD057	Circular	365.55	0.11	2.00	7.12	358.75	358.20	355.98	356.40	4.12	5.04	357.65	358.50	357.40	358.34	1.10	0.25	0.81	-0.14
1155	15DD057	15DA068	Circular	185.99	0.03	2.00	3.77	358.20	358.00	355.92	355.98	6.36	7.75	357.40	358.34	357.07	358.14	0.81	-0.14	0.93	-0.14
1158	15DA066	15DA064	Circular	212.12	0.16	3.00	24.80	357.17	356.36	353.00	353.34	15.89	19.51	355.69	357.15	355.57	356.95	1.48	0.02	0.79	-0.59
1161	15DA064	15DA051	Circular	41.52	0.22	3.00	28.84	356.36	356.62	352.91	353.00	15.57	19.53	355.57	356.95	355.54	356.91	0.79	-0.59	1.08	-0.29
1162	15DA051	15DA062	Circular	275.97	0.08	3.00	17.08	356.62	356.23	352.70	352.91	16.26	20.61	355.54	356.91	355.38	356.61	1.08	-0.29	0.85	-0.38
1163	15DA062	15DA002	Circular	68.88	0.13	3.00	22.39	356.23	356.27	352.61	352.70	17.95	22.69	355.38	356.61	355.33	356.52	0.85	-0.38	0.94	-0.25
1164	15DA002	15AD057	Circular	106.03	0.37	3.00	37.56	356.27	356.26	351.87	352.26	17.91	22.70	355.33	356.52	355.26	356.38	0.94	-0.25	1.00	-0.12
1168	14BC027	14BC015	Circular	66.03	-0.02	2.50	4.69	356.86	357.28	349.93	349.92	14.80	16.08	355.33	356.20	355.32	356.23	1.53	0.66	1.96	1.05
1169	14BC015	14BC014	Circular	114.51	0.11	2.50	12.83	357.28	357.30	349.72	349.85	14.81	16.08	355.32	356.23	355.30	356.27	1.96	1.05	2.00	1.03
1170	14BC014	15AD045	Circular	230.55	0.24	2.50	18.60	357.30	356.10	349.17	349.72	14.81	16.09	355.30	356.27	355.26	356.35	2.00	1.03	0.84	-0.25
1171	15AD045	15AD057	Circular	74.17	-0.03	2.50	6.25	356.10	356.26	349.19	349.17	14.81	16.09	355.26	356.35	355.26	356.38	0.84	-0.25	1.00	-0.12
1174	15AD057	15AD055	Circular	356.65	0.15	2.50	14.82	356.26	355.17	348.65	349.19	24.51	24.97	355.26	356.38	353.92	355.09	1.00	-0.12	1.25	0.08
1177	15AD055	15AD061	Circular	78.67	-0.01	2.50	4.29	355.17	354.86	348.66	348.65	25.39	25.86	353.92	355.09	353.60	354.76	1.25	0.08	1.26	0.10
1178	15AD061	15AD028	Circular	90.55	1.12	2.50	40.23	354.86	355.21	347.64	348.65	25.40	25.86	353.60	354.76	353.22	354.38	1.26	0.10	1.99	0.83
1181	15AD028	15AD046	Circular	203.10	0.15	2.50	14.64	355.21	354.20	347.34	347.64	26.41	27.03	353.22	354.38	352.26	353.38	1.99	0.83	1.94	0.82
1183	15AD046	15AD054	Circular	64.76	0.31	2.50	21.17	354.20	354.41	347.14	347.34	26.40	27.04	352.26	353.38	351.96	353.06	1.94	0.82	2.46	1.35
1184	15AD054	15AC030	Circular	471.51	0.05	3.50	21.08	354.41	352.91	346.90	347.14	30.35	31.97	351.96	353.06	351.48	352.52	2.46	1.35	1.44	0.40
1185	15AC030	15AC029	Circular	103.00	-0.29	3.50	50.42	352.91	353.26	347.20	346.90	30.33	31.96	351.48	352.52	351.37	352.40	1.44	0.40	1.89	0.86
1186	15AC029	15AC032	Circular	91.51	0.44	3.50	61.77	353.26	353.04	346.80	347.20	30.27	31.95	351.37	352.40	351.27	352.29	1.89	0.86	1.77	0.75
1187	15AC032	15AC039	Circular	114.00	0.05	3.50	21.43	353.04	352.88	346.74	346.80	30.26	31.94	351.27	352.29	351.16	352.16	1.77	0.75	1.72	0.72
1188	15AC039	15AC022	Circular	90.57	-0.35	3.50	55.53	352.88	352.88	347.06	346.74	33.61	36.46	351.16	352.16	351.05	352.03	1.72	0.72	1.84	0.85
1192	15DB040	15DB039	Circular	34.52	0.52	2.00	15.17	352.31	352.31	349.92	350.10	3.49	4.55	351.15	352.22	351.14	352.20	1.16	0.09	1.17	0.11
1193	15DB039	15AC039	Circular	86.98	1.15	2.00	22.52	352.31	352.88	348.92	349.92	3.41	4.53	351.14	352.20	351.16	352.16	1.17	0.11	1.72	0.72
1195	15AC022	15AC020	Circular	313.50	0.15	3.50	35.79	352.88	352.07	346.55	347.01	35.27	38.99	351.05	352.03	350.65	351.49	1.84	0.85	1.42	0.58
1198	15AC020	15AC048	Circular	352.50	0.05	3.50	21.11	352.07	352.74	346.37	346.55	35.13	38.98	350.65	351.49	350.21	350.89	1.42	0.58	2.53	1.85
1200	15BD094	15BD095	Circular	130.51	0.09	3.50	28.33	351.07	350.89	345.93	346.05	39.16	45.12	349.43	349.87	349.30	349.59	1.64	1.20	1.59	1.30
1201	15BD095	15BD096	Circular	152.01	0.09	3.50	28.35	350.89	350.67	345.79	345.93	39.07	45.06	349.30	349.59	349.15	349.35	1.59	1.30	1.51	1.31
1202	15BD096	15CA090	Circular	118.99	0.08	3.50	27.08	350.67	352.40	345.69	345.79	38.97	44.99	349.15	349.35	349.04	349.21	1.51	1.31	3.35	3.19
1277	15AC035	15BD093	Circular	219.52	0.05	3.50	19.94	352.66	352.05	346.19	346.29	37.88	43.15	350.08	350.72	349.74	350.29	2.58	1.94	2.31	1.76
1332	15AC036	15AC047	Circular	38.69	0.26	1.50	4.96	351.60	351.70	349.50	349.60	1.50	2.19	351.25	351.78	351.24	351.77	0.35	-0.18	0.45	-0.08
1333	15AC047	15AC050	Circular	35.33	0.28	1.50	5.19	351.70	352.08	349.40	349.50	3.59	5.12	351.24	351.77	351.23	351.76	0.45	-0.08	0.84	0.32
1334	15AD017	15AD067	Circular	101.66	0.30	3.00	33.64	354.12	354.37	350.82	351.12	-0.05	-0.09	351.26	351.76	351.26	351.76	2.86	2.36	3.11	2.61
1335	15AD067	15AD063	Circular	112.43	1.01	2.00	21.06	354.37	354.83	349.69	350.82	-0.26	-0.26	351.26	351.76	351.26	351.76	3.11	2.61	3.57	3.07
1336	15AD063	15AD064	Circular	101.55	0.03	2.00	3.61	354.83	354.62	349.66	349.69	-0.53	-0.58	351.26	351.76	351.26	351.76	3.57	3.07	3.36	2.86
1337	15AD064	15AD065	Circular	122.46	0.11	2.00	7.10	354.62	354.64	349.52	349.66	-0.88	-0.95	351.26	351.76	351.26	351.76	3.36	2.86	3.38	2.88
1341	15AC041	15AC040	Circular	37.74	0.19	1.50	4.20	351.76	351.69	349.69	349.76	-0.03	-0.03	350.80	351.03	350.80	351.03	0.96	0.73	0.89	0.66
1342	15AC040	15AB064	Circular	816.35	0.21	1.50	4.44	351.69	350.95	348.00	349.69	7.87	9.56	350.80	351.03	349.03	349.19	0.89	0.66	1.92	1.76
1367	15BA001	15BA037	Circular	148.00	0.07	1.25	1.64	347.15	346.06	344.27	344.38	2.73	3.64	346.29	347.45	345.99	346.94	0.86	-0.30	0.07	-0.88
1368	15BA037	15BA033	Circular	153.60	0.40	1.25	3.81	346.06	347.86	343.65	344.27	2.73	3.63	345.99	346.94	345.90	346.41	0.07	-0.88	1.96	1.45
1369	15BA033	15BA032	Circular	152.59	0.13	1.25	2.17	347.86	346.36	343.45	343.65	2.73	3.62	345.90	346.41	345.87	346.23	1.96	1.45	0.49	0.13
1370	15BA032	15BA038	Circular	80.50	0.12	1.25	2.11	346.36	346.33	343.35	343.45	2.72	3.61	345.87	346.23	345.85	346.21	0.49	0.13	0.48	0.12
1371	15BB025	15BB036	Circular	26.67	0.45	1.75	9.87	344.96	347.06	340.06	340.18	-0.07	-0.09	341.89	342.66	341.89	342.66	3.07	2.31	5.17	4.41
1372	15BB036	15BB035	Circular	83.06	0.22	1.75	6.85	347.06	346.45	339.88	340.06	1.56	1.82	341.89	342.66	341.88	342.65	5.17	4.41	4.57	3.80
1373	15BB035	15BB034	Circular	323.85	0.14	1.75	5.42	346.45	344.62	339.29	339.73	3.79	4.11	341.88	342.65	341.69	342.40	4.57	3.80	2.94	2.22
1375	15BB034	15BB033	Circular	221.63	0.17	1.75	6.01	344.62	343.46	338.80	339.17	5.04	5.81	341.69	342.40	341.58	342.10	2.94	2.22	1.88	1.36
1376	15BB033	15BB032	Circular	38.98	0.23	1.75	7.07	343.46	343.46	338.71	338.80	5.96	6.85	341.58	342.10	341.56	342.06	1.88	1.36	1.90	1.40
1378	15BB032	15BB030	Circular	283.85	0.22	1.75	6.93	343.46	342.46	338.08	338.71	5.95	6.84	341.56	342.06	341.45	341.84	1.90	1.40	1.01	0.62
1380	15BB030	15BB044	Circular	51.21	0.18	2.00	8.81	342.46	343.99	337.99	338.08	5.94	6.83	341.45	341.84	341.44	341.82	1.01	0.62	2.55	2.17
1382	10CC029	10CC030	Circular	33.72	0.27	0.83	1.05	341.59	341.67	340.50	340.59	1.87	2.41	341.57	342.53	341.54	342.08	0.02	-0.95	0.13	-0.41
1383	10CC030	15BB041	Circular	173.59	1.48	1.00	4.03	341.67	344.35	337.93	340.50	1.85	2.41	341.54	342.08	341.48	341.90	0.13	-0.41	2.87	2.45
1387	15BB037	15BB038	Circular	75.81	-0.04	1.25	1.19	343.11	343.48	339.32	339.29	2.28	2.94	341.97	342.56	341.87	342.38	1.14	0.55	1.61	1.10
1388	15BB038	15BB039	Circular	83.89	0.48	1.25	4.14	343.48	343.90	338.92	339.32	2.28	2.94	341.87	342.38	341.80	342.20	1.61	1.10	2.11	1.70
1389	15BB039	15BB042	Circular	137.16	0.70	1.50	8.16	343.90	346.78	337.86	338.82	5.15	6.67	341.80	342.20	341.76	342.05	2.11	1.70	5.02	4.72
1390	10CC024	10CC049	Circular	11.28	3.10	0.83	3.58	343.17	343.46	340.72	341.07	-0.08	-0.07	342.25	343.55	342.25	343.55	0.92	-0.38	1.21	-0.09
1392	10CC049	10CC055	Circular	339.80	0.32	1.50	5.55	343.46	344.55	339.62	340.72	1.64	2.08	342.25	343.55	342.18	343.42	1.21	-0.09	2.37	1.13
1393	10CC055	10CC054	Circular	79.01	0.51	1.50	6.94	344.55	345.42	339.22	339.62	3.39	4.31	342.18	343.42	342.16	343.32	2.37	1.13	3.26	2.10
1394	10CC054	10CC053	Circular	111.39	0.81	1.50	8.77	345.42	343.39	338.32	339.22	3.38	4.30	342.16	343.32	342.13	343.18	3.26	2.10	1.26	0.21
1395	10CD028	10CC053	Circular	383.65	0.15	3.50	36.64	344.83	343.39	338.32	338.91	38.08	43.48	342.72	344.01	342.13	343.18	2.11	0.82	1.26	0.21
1396	10CC053	10CC052	Circular	66.01	0.26	3.50	47.41	343.39	343.24	338.14	338.31	40.09	46.77	342.13	343.18	342.02	343.01	1.26	0.21	1.22	0.23
1402	10CD029	10CD028	Circular	559.21	0.09	3.50	27.37	345.64	344.83	339.40	339.88	37.36	53.77	343.53	345.85	342.72	344.01	2.11	-0.21	2.11	0.82
1403	10CD031	10CD029	Circular	338.61	0.22	3.00	29.15	346.55	345.64	339.88	340.63	35.23	50.69	344.61	348.09	343.53	345.85	1.94	-1.54	2.11	-0.21
1411	10DC048	10CD031	Circular	395.56	0.15	3.00	24.32	347.34	346.55	340.63	341.24	32.38	46.49	345.69	350.28	344.61	348.09	1.65	-2.94	1.94	-1.54
1412	10CC052	10CC051	Circular	354.62	0.14	3.50	34.73	343.24	342.30	337.65	338.14	43.06	50.43	342.02	343.01	341.40	341.99	1.22	0.23	0.90	0.31
1416	10CC051	10CC063.1	Circular	365.64	0.05	3.50	21.85	342.30	342.30	336.64	336.84	45.50	53.06	341.40	341.99	340.80	341.18	0.90	0.31	1.50	1.13
1420	10CC050	10CC060	Circular	209.57	0.29	2.25	15.39	343.75	343.07	337.15	337.75	9.41	10.39	341.01	341.41	340.83	341.20	2.74	2.35	2.25	1.87

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																				
Burkhart Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1421	10CC038	10CC039	Circular	39.82	0.00	1.00	0.10	343.32	343.33	338.85	338.85	0.07	-0.02	340.83	341.20	340.83	341.20	2.50	2.12	2.50	2.12
1422	10CC060	10CC063.1	Circular	27.01	1.85	2.25	39.13	343.07	342.30	336.64	337.14	9.33	10.39	340.83	341.20	340.80	341.18	2.25	1.87	1.50	1.13
1423	10CC039	10CC060	Circular	25.15	6.76	1.00	8.60	343.33	343.07	337.15	338.85	0.11	-0.08	340.83	341.20	340.83	341.20	2.50	2.12	2.25	1.87
1425	10CC041	10CC050	Circular	18.08	3.65	1.25	11.46	343.32	343.75	337.75	338.41	-2.18	-2.35	341.01	341.41	341.01	341.41	2.32	1.92	2.74	2.35
1427	10CC070	10CC042	Circular	97.26	1.33	1.00	3.81	346.62	343.75	341.06	342.35	0.74	1.09	342.65	342.72	341.35	341.47	3.96	3.90	2.40	2.28
1428	10CC042	10CC041	Circular	126.72	2.09	1.00	4.78	343.75	343.32	338.41	341.06	0.74	1.08	341.35	341.47	341.01	341.41	2.40	2.28	2.32	1.92
1429	09DD025	10CC050	Circular	481.67	0.24	2.00	10.31	343.05	343.75	337.75	338.91	9.04	10.10	341.76	342.25	341.01	341.41	1.29	0.80	2.74	2.35
1434	09DD004	09DD005	Circular	37.52	1.01	1.00	3.33	343.13	342.55	339.20	339.58	5.84	6.65	342.94	343.60	341.82	342.32	0.19	-0.47	0.73	0.24
1435	09DD005	09DD025	Circular	18.05	1.61	1.75	18.65	342.55	343.05	338.91	339.20	9.05	10.09	341.82	342.32	341.76	342.25	0.73	0.24	1.29	0.80
1437	10DC044	10DC043	Circular	392.66	0.47	2.00	14.46	348.90	347.03	341.86	343.72	6.07	8.02	346.40	351.65	346.10	351.10	2.50	-2.75	0.93	-4.07
1443	10DD060	10DD058	Circular	288.59	0.31	2.00	11.67	350.88	349.67	344.62	345.51	4.04	4.95	346.68	352.24	346.57	352.06	4.20	-1.36	3.10	-2.39
1446	10DD061	10DD060	Circular	356.10	0.42	2.00	13.63	350.63	350.88	345.51	347.01	1.31	1.64	347.43	352.29	346.68	352.24	3.20	-1.66	4.20	-1.36
1496	09AA018	09AA020	Circular	147.54	0.68	2.00	17.29	336.70	336.18	332.00	333.00	5.82	8.43	333.84	334.01	332.57	332.72	2.86	2.69	3.61	3.46
1497	09AA020	09AA019	Circular	33.16	3.02	2.00	36.48	336.18	336.66	331.00	332.00	5.81	8.43	332.57	332.72	331.94	332.19	3.61	3.46	4.72	4.47
1498	09AA019	09AA021	Circular	54.42	2.11	2.00	30.54	336.66	336.72	329.85	331.00	8.71	12.94	331.94	332.19	331.78	332.03	4.72	4.47	4.94	4.68
1499	10BA034	10BB024	Circular	380.10	0.12	3.00	21.31	338.93	337.98	332.49	332.94	29.10	30.02	336.90	337.75	336.16	337.04	2.03	1.18	1.82	0.94
1570	03DB006	03DB012	Circular	259.86	0.09	2.00	6.25	336.89	337.64	334.10	334.33	7.51	10.73	335.76	336.12	334.99	335.14	1.13	0.77	2.65	2.50
1571	03DC004	03DB006	Circular	339.39	0.04	2.00	4.27	337.75	336.89	334.43	334.57	7.52	10.76	336.28	336.95	335.76	336.12	1.48	0.80	1.13	0.77
1572	03DC005	03DC004	Circular	294.19	0.01	2.00	2.45	338.53	337.75	334.77	334.81	7.54	10.79	336.66	337.71	336.28	336.95	1.88	0.82	1.48	0.80
1579	03BA025	03BA023	Natural	217.23	0.54	2.03	62.66	331.18	330.21	328.07	329.25	4.22	6.11	329.73	329.88	329.70	329.88	1.45	1.30	0.51	0.33
1750	22AD050	22AD062	Circular	98.07	0.36	1.50	5.83	365.23	365.83	358.24	358.59	2.99	4.13	360.67	364.23	360.59	364.08	4.56	1.01	5.24	1.75
1751	22AD062	22AD049	Circular	200.81	0.21	1.50	4.51	365.83	365.75	357.76	358.19	4.66	6.73	360.59	364.08	360.17	363.27	5.24	1.75	5.58	2.48
1752	22AD064	22AD063	Circular	314.69	0.06	2.00	5.16	363.55	365.63	358.91	359.10	2.02	2.78	360.65	364.20	360.63	364.15	2.90	-0.65	5.00	1.48
1753	22AD063	22AD062	Circular	40.02	1.17	1.25	6.50	365.63	365.83	358.39	358.86	1.94	2.75	360.63	364.15	360.59	364.08	5.00	1.48	5.24	1.75
1788	10CA028	10CA050	Circular	325.61	0.32	2.00	11.93	343.66	343.94	339.95	341.00	5.68	7.37	342.00	343.12	340.57	342.74	1.66	0.54	3.37	1.20
1789	10CA050	10CA027	Circular	184.59	0.38	2.00	12.94	343.94	343.95	338.57	339.27	5.60	7.38	340.57	342.74	340.42	342.51	3.37	1.20	3.53	1.44
1793	10CA027	10CA022	Circular	204.89	0.39	2.00	13.13	343.95	343.27	337.75	338.55	5.78	7.39	340.42	342.51	340.29	342.26	3.53	1.44	2.98	1.01
1794	10CA022	10CA011	Circular	115.51	0.01	2.00	9.17	343.27	343.74	337.53	337.75	5.88	7.40	340.29	342.26	340.21	342.12	2.98	1.01	3.53	1.62
1797	10CA017	10CA011	Circular	64.00	1.16	2.00	22.59	343.00	343.74	337.74	338.48	3.96	5.27	340.22	342.16	340.21	342.12	2.78	0.84	3.53	1.62
1798	10CA011	10CA051	Circular	283.12	0.36	2.00	12.67	343.74	342.61	336.50	337.53	9.32	12.53	340.21	342.12	339.66	341.13	3.53	1.62	2.95	1.48
1799	10CA051	10CA009	Circular	326.77	0.21	2.00	9.72	342.61	340.91	335.66	336.36	13.27	16.17	339.66	341.13	338.37	339.51	2.95	1.48	2.54	1.40
1802	10CA010	10CA051	Circular	202.01	0.34	2.00	12.19	341.15	342.61	336.50	337.18	4.32	5.56	339.73	341.15	339.66	341.13	1.42	0.00	2.95	1.48
1814	10BD015	10CA049	Circular	312.66	0.31	2.00	11.76	341.04	341.69	337.59	338.57	2.43	3.10	339.22	340.25	338.79	340.20	1.82	0.79	2.90	1.50
1815	10CA049	10CA009	Circular	523.11	0.33	2.00	12.12	341.69	340.91	335.66	337.40	5.81	7.65	338.79	340.20	338.37	339.51	2.90	1.50	2.54	1.40
1823	15DC059	15DC061	Circular	9.50	2.21	1.50	14.50	354.86	354.89	350.36	350.57	1.72	2.28	353.53	353.90	353.52	353.89	1.33	0.96	1.37	1.00
1824	15DC063	15DC061	Circular	25.04	0.88	2.50	35.70	355.03	354.89	350.30	350.52	12.89	14.55	353.56	353.93	353.52	353.89	1.47	1.10	1.37	1.00
1825	15DC061	15DC035	Circular	150.75	0.12	2.50	13.16	354.89	356.06	350.18	350.36	14.54	16.79	353.52	353.89	353.31	353.61	1.37	1.00	2.75	2.45
1906	15AB064	15AB062	Circular	53.83	0.93	1.50	7.28	350.95	351.53	347.50	347.80	11.08	13.35	349.03	349.19	349.00	349.14	1.92	1.76	2.53	2.39
1906	15AB064	15AB062	Special	53.83	0.93	1.50	10.22	350.95	351.53	347.50	347.80	4.01	4.50	349.03	349.19	349.00	349.14	1.92	1.76	2.53	2.39
2007	10DB040	10DB042	Circular	318.14	0.05	2.25	6.24	345.43	344.80	338.99	339.14	10.03	13.50	343.54	344.70	343.29	344.04	1.89	0.73	1.52	0.76
2008	10DB023	10DB042	Circular	399.58	0.19	3.50	40.20	344.77	344.80	338.99	339.73	11.96	18.33	343.32	344.36	343.29	344.04	1.45	0.41	1.52	0.76
2009	10DB024	10DB023	Circular	451.60	0.20	3.50	42.17	346.24	344.77	339.73	340.65	11.71	16.59	343.38	344.40	343.32	344.36	2.86	1.84	1.45	0.41
2013	10DB042	10DB020	Circular	329.01	0.06	3.50	40.56	344.80	343.61	338.37	338.99	20.04	33.12	343.29	344.04	343.16	343.61	1.52	0.76	0.45	0.00
2017	10DB020	10AC019	Circular	345.84	0.10	3.50	30.14	343.61	343.08	338.01	338.37	23.28	36.68	343.16	343.61	342.97	343.08	0.45	0.00	0.11	0.00
2018	15BA006	15BA005	Circular	22.19	0.00	1.00	0.10	347.96	349.53	346.75	346.75	1.30	2.02	347.32	347.43	347.15	347.22	0.64	0.52	2.38	2.31
2019	15BA003	15BA002	Circular	20.76	0.00	0.83	0.06	348.01	347.96	346.75	346.75	1.30	2.02	347.44	347.65	347.32	347.43	0.57	0.36	0.64	0.52
2020	15BA003.2	15BA003.1	Circular	56.50	0.16	0.50	0.21	348.47	348.37	346.86	346.95	0.61	0.61	348.03	348.08	347.44	347.65	0.44	0.39	0.92	0.72
2020	15BA003.2	15BA003.1	Trapezoidal	56.50	0.16	0.50	31.69	348.47	348.37	347.86	347.95	1.31	3.14	348.03	348.08	347.44	347.65	0.44	0.39	0.92	0.72
2027	10DB021	10DB020	Circular	401.61	0.27	2.00	10.99	344.38	343.61	338.55	339.65	4.15	5.40	343.25	343.87	343.16	343.61	1.13	0.51	0.45	0.00
2031	10DD080	10DC040	Circular	366.38	0.27	2.00	10.86	348.61	348.39	344.83	345.81	1.90	2.35	346.38	346.44	345.45	345.53	2.23	2.17	2.94	2.87
2036	15BA011	15BA014	Circular	53.54	0.62	2.00	16.49	351.13	349.95	346.77	347.10	19.61	24.08	348.03	348.14	347.81	347.91	3.10	2.99	2.13	2.04
2037	15BA012	15BA014	Circular	39.27	1.53	1.00	4.09	349.00	349.95	346.77	347.37	4.61	4.98	348.47	348.59	347.81	347.91	0.53	0.41	2.13	2.04
2045	10DA068	10DB025	Circular	372.62	0.42	2.00	13.59	347.52	346.59	341.23	342.79	2.07	3.96	343.48	344.66	343.41	344.57	4.04	2.86	3.18	2.02
2058	10DA075	10DA064	Circular	343.51	0.26	1.50	4.96	348.90	347.87	343.67	344.56	3.50	4.39	345.52	345.95	344.77	345.56	3.38	2.95	3.10	2.31
2064	10DB025	10DB024	Circular	327.07	0.08	3.50	26.84	346.59	346.24	340.87	341.14	8.10	12.25	343.41	344.57	343.38	344.40	3.18	2.02	2.86	1.84
2069	10DB038	10DB024	Circular	196.03	0.26	1.25	3.06	347.35	346.24	340.87	341.38	0.87	1.17	343.39	344.49	343.38	344.40	3.96	2.86	2.86	1.84
2072	10AC001	10AC017	Circular	434.17	0.31	2.50	21.08	346.46	344.44	339.00	340.33	12.77	14.62	343.56	344.45	343.29	343.81	2.90	2.01	1.15	0.63
2076	10AC017	10AC019	Circular	403.10	0.25	2.50	18.88	344.44	343.08	338.01	339.00	12.85	16.30	343.29	343.81	342.97	343.08	1.15	0.63	0.11	0.00
2078	10AD024	10AC001	Circular	701.19	0.21	2.50	17.56	347.05	346.46	340.33	341.82	12.13	13.99	343.89	345.23	343.56	344.45	3.16	1.82	2.90	2.01
2087	15BA026	15BA024	Circular	39.39	1.19	1.00	3.61	349.91	348.62	346.28	346.75	1.58	2.17	347.22	347.31	346.70	346.76	2.69	2.59	1.92	1.86
2126	15CA074	15CA085	Circular	93.50	1.17	1.25	6.48	350.20	352.31	347.07	348.16	1.05	1.46	349.21	349.55	349.20	349.55	1.00	0.65	3.11	2.76
2127	15CA013	15CA085	Circular	174.04	2.80	1.00	5.54	356.55	352.31	348.16	353.04	2.95	4.55	353.56	353.76	349.20	349.55	2.99	2.79	3.11	2.76
2128	15CA085	15CA090	Circular	51.55	0.52	1.25	4.34	352.31	352.40	346.80	347.07	3.72	5.65	349.20	349.55	349.04	349.21	3.11	2.76	3.35	3.19
2152	15CC005	15CC006	Circular	46.58	0.39	1.00	2.06	356.11	356.26	353.20	353.38	1.09	1.41	354.17	354.34	354.15	354.30	1.94	1.76	2.12	1.97
2178	15CA094	15CA095	Circular	39.50	0.58	1.00	2.52	350.95	350.72	349.72	349.95	1.73	2.21	350.54	350.64	350.23	350.34	0.41	0.31	0.49	0.39
2179	15CA095	15BD094	Circular	70.90	1.00	1.00	3.31	350.72	351.07	349.01	349.72	1.73	2.21	350.23	350.34	349.43	349.87	0.49	0.39	1.64	1.20
2180	15BD093	15BD094	Circular	215.01	0.07	3.50	23.84	352.05	351.07	346.05	346.19	37.79	43.12	349.74	350.29	349.43	349.87	2.31	1.76	1.64	1.20
2208	15DB027	15DC048.2	Circular	86.61	0.82	1.00	3.00	353.92	356.74	349.07	349.78	1.22	1.66	350.49	350.67	350.40	350.49	3.43	3.25	6.34	6.25
2219	15AD052	15AD057	Circular	236.03	-0.09	2.00	6.41	357.21	356.26	351.87	351.65	8.68	8.96	355.45	356.73	355.26	356.38	1.77	0.48	1.00	-0.12
2239	22AA002	22AA025	Circular	13.50	0.37	3.00	37.69	357.20	358.87	353.95	354.00	6.19	7.79	355.41	355.92	355.41	355.92	1.79	1.28	3.47	2.95

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																				
Burkhart Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
2250	23BB041	23BB033	Circular	120.71	0.29	1.00	1.78	362.10	364.89	359.24	359.59	1.86	2.39	360.53	360.91	359.58	359.73	1.57	1.19	5.31	5.15
2259	22AB002.2	22AB002.1	Circular	194.83	0.70	1.50	5.50	359.25	358.97	356.38	357.00	1.49	2.04	357.54	357.80	357.14	357.78	1.71	1.45	1.83	1.19
2260	22AB002	22AB039	Circular	163.02	1.34	1.50	11.31	357.79	357.20	352.81	355.00	2.89	2.99	357.13	357.78	357.09	357.72	0.66	0.01	0.11	-0.52
2342	10BB050	09AA010	Circular	47.57	0.13	4.00	47.37	336.42	336.25	329.90	329.96	35.80	39.20	335.08	335.73	335.07	335.72	1.34	0.69	1.18	0.53
2343	10BA025	10BA034	Circular	410.08	0.06	2.50	9.59	341.35	338.93	333.04	333.30	25.34	25.72	338.59	339.21	336.90	337.75	2.76	2.14	2.03	1.18
2345	10BB015	10BB050	Circular	124.57	0.26	4.00	67.60	336.35	336.42	329.96	330.28	36.00	39.39	335.10	335.74	335.08	335.73	1.25	0.61	1.34	0.69
2377	03CA018	03CA019	Circular	45.59	0.44	1.50	6.46	334.92	331.93	329.52	329.72	0.95	1.95	330.11	330.28	329.88	330.05	4.81	4.64	2.05	1.88
2378	03CA020	03CA021	Circular	127.04	0.10	1.50	3.12	335.75	334.91	329.85	329.98	0.95	1.95	330.51	330.73	330.23	330.42	5.24	5.02	4.68	4.49
2379	03CA021	03CA018	Circular	38.00	0.08	1.50	2.74	334.91	334.92	329.72	329.75	0.95	1.95	330.23	330.42	330.11	330.28	4.68	4.49	4.81	4.64
2428	10BB051	10BB052	Circular	54.49	0.46	2.00	14.23	337.81	337.25	332.38	332.63	5.02	6.39	336.18	336.32	336.14	336.27	1.64	1.49	1.11	0.98
2429	10BB052	10BB032	Circular	171.55	0.28	2.00	11.11	337.25	337.25	331.90	332.38	5.03	6.39	336.14	336.27	336.05	336.11	1.11	0.98	1.21	1.14
2594	03BB013	03BB012	Circular	36.68	0.27	1.00	1.73	328.50	329.83	325.90	326.00	-4.71	-4.47	328.50	328.50	329.61	329.61	0.00	0.00	0.22	0.22
2597	03BB008	03BB020	Circular	39.47	0.28	1.00	1.75	329.77	328.87	326.16	326.27	3.63	3.77	329.52	329.60	328.51	328.51	0.26	0.18	0.36	0.36
2639	03CD031	03CD032	Circular	178.56	0.01	1.50	1.03	340.19	339.63	336.63	336.65	1.19	1.32	337.29	337.32	336.86	336.87	2.90	2.87	2.77	2.76
2641	03CC001	03CC004	Circular	101.44	0.10	1.50	3.06	337.60	337.84	333.60	333.70	8.82	-7.32	337.19	336.29	335.93	336.26	0.41	1.31	1.91	1.57
2643	10AC015	10AB023	Circular	334.47	0.48	1.50	6.73	344.40	343.88	339.23	340.82	3.42	3.88	344.40	344.40	343.88	343.88	0.00	0.00	0.00	0.00
2652	10DC049	10DB045	Circular	537.99	0.20	2.00	9.50	346.85	345.72	340.21	341.31	4.79	6.52	343.91	345.79	343.73	345.20	2.94	1.06	1.99	0.52
2653	10DB046	10DB040	Circular	288.38	0.16	2.25	11.49	345.85	345.43	339.14	339.60	7.29	9.80	343.67	345.04	343.54	344.70	2.18	0.81	1.89	0.73
2654	10DB045	10DB046	Circular	79.15	0.15	2.00	8.18	345.72	345.85	339.97	340.09	7.26	9.78	343.73	345.20	343.67	345.04	1.99	0.52	2.18	0.81
2864	15BB024	15BB036	Circular	42.01	0.95	0.83	1.98	347.96	347.06	340.40	340.80	1.55	1.81	342.08	342.83	341.89	342.66	5.88	5.13	5.17	4.41
2865	15BB022	15BB035	Circular	66.41	0.35	1.00	1.95	343.16	346.45	340.06	340.29	3.04	4.09	342.36	343.48	341.88	342.65	0.80	-0.32	4.57	3.80
2866	15BB045	15BB022	Circular	32.41	0.00	0.83	0.06	345.69	343.16	340.70	340.70	2.00	2.69	342.65	344.02	342.36	343.48	3.04	1.67	0.80	-0.32
2868	15BB050	15BB045	Circular	110.02	-0.44	1.00	2.19	344.96	345.69	341.62	341.14	2.01	2.70	343.04	344.72	342.65	344.02	1.92	0.24	3.04	1.67
2874	15BA035	15BA041	Circular	45.95	0.15	1.50	3.81	346.46	346.39	344.39	344.46	2.68	3.54	345.20	345.31	344.95	345.05	1.26	1.15	1.44	1.34
2875	15BA041	15BA039	Circular	310.54	0.83	1.50	8.91	346.39	347.45	341.80	344.39	2.68	3.53	344.95	345.05	342.45	342.58	1.44	1.34	5.00	4.87
2877	15AC059	15AC058	Circular	15.00	0.40	0.83	1.29	350.78	351.99	347.46	347.52	1.20	1.50	349.19	349.47	349.14	349.39	1.59	1.31	2.85	2.60
2879	15AC055	15AC056	Circular	14.02	1.21	0.67	1.24	350.97	352.68	347.90	348.07	0.78	1.05	349.27	349.64	349.21	349.52	1.70	1.33	3.47	3.16
2881	15AC052	15AC054	Circular	743.01	0.17	2.00	6.17	352.61	350.94	348.16	348.80	5.58	6.18	350.99	351.46	350.87	351.31	1.62	1.15	0.07	-0.37
2882	15AC054	15AC049	Circular	140.95	0.14	2.00	7.91	350.94	350.90	347.96	348.16	5.59	6.18	350.87	351.31	350.84	351.29	0.07	-0.37	0.06	-0.38
2883	15AC051	15AC023	Circular	156.77	0.50	3.00	43.69	352.71	352.81	347.38	348.16	-0.89	-0.84	351.05	352.03	351.05	352.03	1.66	0.68	1.76	0.78
2885	15AC045	15AC052	Circular	129.00	0.07	2.00	8.27	352.75	352.61	348.80	349.00	6.30	6.64	351.07	351.57	350.99	351.46	1.68	1.18	1.62	1.15
2888	15AD015	15AD068	Circular	74.69	0.44	1.50	6.48	352.36	352.69	350.36	350.69	3.03	4.05	351.26	351.76	351.25	351.76	1.10	0.60	1.44	0.93
2889	15AD065	15AD066	Circular	36.03	0.28	2.00	11.07	354.64	353.97	349.37	349.47	-1.19	-1.22	351.26	351.76	351.26	351.76	3.38	2.88	2.71	2.21
2890	15AD066	15AD015	Circular	19.29	0.52	2.00	15.12	353.97	352.36	350.26	350.36	3.05	4.09	351.26	351.76	351.26	351.76	2.71	2.21	1.10	0.60
2891	15AD066	15AD032	Circular	23.01	-0.04	2.00	4.38	353.97	353.85	349.38	349.37	-1.39	-2.06	351.26	351.76	351.26	351.76	2.71	2.21	2.59	2.09
2892	15AD016	15AD049	Circular	306.31	0.47	2.00	14.35	355.53	358.74	352.10	353.53	-1.42	-1.62	355.46	356.75	355.46	356.75	0.07	-1.22	3.28	1.99
2893	15AD049	15AD052	Circular	97.75	0.46	2.00	14.25	358.74	357.21	351.65	352.10	4.44	4.09	355.46	356.75	355.45	356.73	3.28	1.99	1.77	0.48
2994	15DA067	15DA066	Circular	95.58	0.26	3.00	31.68	357.11	357.17	353.34	353.59	14.18	17.57	355.73	357.23	355.69	357.15	1.38	-0.12	1.48	0.02
2996	15DA076	15DA067	Circular	16.00	0.63	1.25	4.74	357.29	357.11	353.59	353.69	2.10	2.93	355.75	357.26	355.73	357.23	1.54	0.03	1.38	-0.12
2997	15DA075	15DA076	Circular	36.43	0.14	1.25	2.22	357.48	357.29	353.69	353.74	2.09	2.92	355.79	357.32	355.75	357.26	1.69	0.16	1.54	0.03
2998	14CB024	15DA075	Circular	225.12	0.14	1.25	2.26	357.56	357.48	353.77	354.09	2.09	2.90	356.02	357.74	355.79	357.32	1.54	-0.18	1.69	0.16
3000	14CB054	14CB024	Circular	41.70	0.14	2.00	7.97	357.34	357.56	354.09	354.15	1.07	1.68	356.02	357.74	356.02	357.74	1.32	-0.40	1.54	-0.18
3001	14CB023	14CB024	Circular	21.92	1.32	2.00	24.16	357.28	357.56	352.09	352.38	1.54	1.95	356.02	357.74	356.02	357.74	1.26	-0.46	1.54	-0.18
3006	15DA068	15DA057	Circular	177.84	0.41	2.00	13.46	358.00	357.30	355.19	355.92	8.46	10.29	357.07	358.14	356.14	357.76	0.93	-0.14	1.16	-0.46
3009	15DA057	15DA067	Circular	357.04	0.14	2.50	14.25	357.30	357.11	353.76	354.26	12.59	14.77	356.14	357.76	355.73	357.23	1.16	-0.46	1.38	-0.12
3010	15DC062	15DC063	Circular	355.92	0.07	2.50	10.29	357.46	355.03	350.47	350.73	12.90	14.55	353.96	354.44	353.56	353.93	3.50	3.02	1.47	1.10
3011	15DC060	15DC062	Circular	214.51	-0.09	2.50	11.34	356.61	357.46	350.73	350.54	12.23	13.64	354.18	354.72	353.96	354.44	2.43	1.89	3.50	3.02
3012	15DD093	15DC060	Circular	192.20	0.34	2.50	22.15	355.65	356.61	350.54	351.19	12.23	13.64	354.38	354.96	354.18	354.72	1.27	0.69	2.43	1.89
3013	15DC038	15DC015	Circular	61.75	0.10	1.00	1.03	358.37	358.33	352.21	352.27	1.64	1.87	355.38	356.25	355.24	356.11	2.99	2.12	3.09	2.22
3014	15DC047	15DC038	Circular	292.78	0.19	1.00	1.45	357.87	358.37	352.53	353.09	1.63	1.87	356.04	356.98	355.38	356.25	1.83	0.90	2.99	2.12
3018	15DC008	15DC047	Circular	92.02	0.21	1.00	1.50	357.97	357.87	353.14	353.33	0.88	1.10	356.06	357.01	356.04	356.98	1.91	0.96	1.83	0.90
3020	15DC049	15DC048	Circular	48.24	0.06	2.00	5.24	353.29	355.45	349.76	349.79	71.53	102.12	352.36	352.56	352.32	352.52	0.93	0.73	3.13	2.93
3020	15DC049	15DC048	Circular	48.24	0.06	3.00	15.44	353.29	355.45	349.76	349.79	22.37	26.04	352.36	352.56	352.32	352.52	0.93	0.73	3.13	2.93
3051	22AA051	22AA052	Circular	28.69	0.07	2.50	10.06	358.56	357.40	354.43	354.45	2.59	3.38	357.20	357.76	357.20	357.76	1.36	0.80	0.20	-0.36
3052	22AA045	22AA053	Circular	29.08	0.21	2.50	17.30	357.40	357.85	354.27	354.33	2.06	-3.52	357.20	357.76	357.20	357.76	0.20	-0.36	0.65	0.09
3059	22AA037	22AA036	Circular	160.66	0.07	1.75	3.85	361.56	361.30	356.15	356.26	11.70	16.76	359.78	362.49	358.78	360.46	1.78	-0.93	2.52	0.84
3060	22AA036	22AA035	Circular	42.95	0.12	1.75	5.02	361.30	361.90	356.00	356.05	13.43	18.97	358.78	360.46	358.42	359.76	2.52	0.84	3.48	2.14
3258	03BA022	03BA023	Circular	27.07	1.51	1.00	4.07	330.27	330.21	328.07	328.48	0.14	-0.43	329.70	329.88	329.70	329.88	0.58	0.39	0.51	0.33
3262	03BA031	03BA048	Circular	42.08	0.78	1.00	2.93	329.89	329.59	327.42	327.75	2.52	2.37	329.70	329.89	329.52	329.59	0.19	0.00	0.07	0.00
3351	15DD060	15DD069	Circular	148.24	0.11	1.50	3.30	357.48	357.08	353.42	353.59	0.92	1.22	355.31	356.73	355.29	356.71	2.17	0.75	1.79	0.37
3352	15DD069	15DA059	Circular	222.17	0.18	1.50	4.14	357.08	356.68	352.73	353.13	0.98	1.23	355.29	356.71	355.27	356.69	1.79	0.37	1.41	-0.01
3361	22AB043	22AB041	Circular	171.00	4.25	1.00	6.82	362.26	357.95	353.98	361.25	2.10	2.83	361.63	361.70	353.57	353.69	0.62	0.56	4.38	4.25
3403	15DA056	15DA059	Circular	244.86	0.15	2.00	8.05	355.52	356.68	352.35	352.71	3.21	3.92	355.33	356.77	355.27	356.69	0.19	-1.25	1.41	-0.01
3489	03DB026	03DB012	Circular	95.89	0.42	1.67	8.35	338.94	337.64	334.10	334.50	2.34	2.99	335.17	335.30	334.99	335.14	3.77	3.64	2.65	2.50
3491	14CB027	14CB026	Circular	36.63	1.64	0.83	2.60	356.90	356.83	354.32	354.92	-0.03	-0.04	355.63	356.16	355.63	356.16	1.26	0.74	1.19	0.67
3492	14CB034	14CB031	Circular	195.18	0.22	1.25	2.82	359.34	357.69	355.30	355.73	4.56	5.75	357.76	359.34	356.65	357.69	1.57	0.00	1.04	0.01
3493	14CB029	14CB028	Circular	33.08	-0.60	0.83	1.58	356.60	356.48	354.73	354.53	-0.02	-0.02	355.68	356.37	355.68	356.37	0.93	0.23	0.80	0.10
3494	14CB028	14CB026	Circular	67.45	0.16	1.33	2.88	356.48	356.83	354.32	354.43	4.55	5.67	355.68	356.37	355.63	356.16	0.80	0.10	1.19	0.67
3495	15DD090	15DD093	Circular	240.16	0.25	2.50	18.88	356.29	355.65	351.19	351.78	11.24	12.43	354.58	355.21	354.38	354.96	1.71	1.08	1.27	0.69
3495.1	14CB030	14CB028	Circular	63.80	0.20	1.33	3.21	356.68	356.48	354.73	354.86	4.56	5.71	355.95	356.68	355.68	356.37	0.72	0.00	0.80	0.10

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																				
Burkhart Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
3496	14CB031	14CB030	Circular	165.21	0.18	1.33	3.03	357.69	356.68	354.96	355.26	4.56	5.74	356.65	357.69	355.95	356.68	1.04	0.01	0.72	0.00
3498	15DD087	15DD090	Circular	285.18	0.25	2.50	19.00	357.85	356.29	351.78	352.49	11.23	12.43	354.79	355.50	354.58	355.21	3.06	2.35	1.71	1.08
3499	15DD085	15DD084	Circular	189.05	0.24	2.50	18.79	358.94	358.53	353.09	353.55	10.06	10.73	355.11	355.79	354.94	355.67	3.83	3.15	3.60	2.86
3500	14CA010	14CB034	Circular	145.46	0.14	1.25	2.22	360.92	359.34	355.78	355.98	4.56	5.76	358.60	360.59	357.76	359.34	2.33	0.33	1.57	0.00
3501	15DD084	15DD087	Circular	238.62	0.25	2.50	19.10	358.53	357.85	352.49	353.09	9.60	10.80	354.94	355.67	354.79	355.50	3.60	2.86	3.06	2.35
3501.1	14CB026	14CB035	Circular	49.88	0.58	1.25	4.57	356.83	357.31	354.02	354.31	4.54	5.63	355.63	356.16	355.59	356.09	1.19	0.67	1.72	1.22
3503	14CB035	14CB050	Circular	45.78	2.42	2.00	32.71	357.31	359.21	352.91	354.02	7.61	10.50	355.59	356.09	355.60	356.08	1.72	1.22	3.61	3.13
3508	14BC007	14BC027	Circular	148.05	0.08	2.50	10.84	356.77	356.86	349.92	350.04	14.80	16.08	355.37	356.15	355.33	356.20	1.40	0.62	1.53	0.66
3509	14CB039	14BC007	Circular	65.25	2.77	2.50	63.44	355.50	356.77	350.04	351.85	2.69	2.15	355.37	356.15	355.37	356.15	0.13	-0.65	1.40	0.62
3512	14CB040	14BC007	Circular	170.78	0.09	2.50	11.66	357.01	356.77	350.04	350.20	14.43	15.73	355.41	356.05	355.37	356.15	1.60	0.96	1.40	0.62
3515	14CB042	14CB040	Circular	217.75	0.06	2.50	9.66	357.83	357.01	350.20	350.34	14.42	15.73	355.50	356.01	355.41	356.05	2.33	1.82	1.60	0.96
3516	14CB042.1	14CB042	Circular	43.85	3.65	1.00	6.32	356.00	357.83	350.40	352.00	3.87	4.71	355.70	356.66	355.50	356.01	0.30	-0.66	2.33	1.82
3518	14CB043	14CB042	Circular	127.04	0.06	2.50	8.94	358.29	357.83	350.40	350.47	13.57	15.02	355.56	356.05	355.50	356.01	2.73	2.24	2.33	1.82
3519	14CB044	14CB043	Circular	86.75	1.68	2.50	49.41	357.89	358.29	350.54	352.00	13.01	-16.46	355.60	356.08	355.56	356.05	2.29	1.81	2.73	2.24
3521	14CB046	14CB043	Circular	73.10	0.21	1.00	1.50	359.06	358.29	352.00	352.15	-1.34	0.69	355.56	356.05	355.56	356.05	3.50	3.01	2.73	2.24
3523	14CB047	14CB046	Circular	144.48	1.75	0.67	1.49	358.20	359.06	352.25	354.78	-0.05	-0.08	355.56	356.06	355.56	356.05	2.64	2.14	3.50	3.01
3538	14CB055	14CB054	Circular	50.23	1.19	1.50	10.66	357.57	357.34	354.15	354.75	1.04	1.67	356.02	357.75	356.02	357.74	1.55	-0.17	1.32	-0.40
3540	14CB057	14CB055	Circular	396.91	0.17	2.00	8.63	358.85	357.57	354.75	355.42	1.03	1.47	356.06	357.76	356.02	357.75	2.79	1.09	1.55	-0.17
3545	14CB062	14CB057	Circular	254.55	0.05	2.00	4.75	360.27	358.85	355.42	355.55	1.05	1.30	356.15	357.77	356.06	357.76	4.12	2.50	2.79	1.09
3551	10BC061	10BC060	Circular	38.51	0.18	1.00	1.41	339.41	337.41	333.56	333.63	6.33	6.45	337.91	338.39	336.78	337.41	1.50	1.02	0.63	0.00
3553	10BC063	10BC064	Circular	221.20	0.11	1.00	1.09	338.37	349.49	335.12	335.36	-0.03	-0.95	337.89	338.37	337.89	338.55	0.48	0.00	11.60	10.94
3554	10BC064	10CB025	Circular	292.58	0.10	1.00	1.02	349.49	340.09	334.84	335.12	-0.05	-0.95	337.89	338.55	337.89	338.78	11.60	10.94	2.20	1.31
3555	22AB053	22AB054	Circular	189.93	0.11	1.50	3.24	358.71	356.33	353.00	353.21	1.49	2.07	353.89	354.02	353.64	353.76	4.82	4.69	2.68	2.57
3556	22AB052	22AB053	Circular	38.55	-0.26	1.50	4.97	362.41	358.71	353.26	353.16	1.50	2.08	353.93	354.06	353.89	354.02	8.48	8.35	4.82	4.69
3559	10BC028	10CB021	Circular	215.12	-0.01	1.00	0.32	340.12	339.75	334.89	334.87	2.39	3.02	338.87	340.12	337.89	338.83	1.25	0.00	1.86	0.92
3560	10BC060	10BC058	Circular	288.50	-0.28	1.50	5.17	337.41	337.39	333.72	332.91	6.32	6.43	336.78	337.41	335.85	336.79	0.63	0.00	1.54	0.60
3561	10BC058	10BB048	Circular	149.45	0.88	1.50	9.13	337.39	336.84	332.31	333.62	6.16	6.23	335.85	336.79	335.56	336.47	1.54	0.60	1.28	0.37
3562	09DA022	09DA023	Circular	39.90	0.40	2.00	13.30	340.21	341.50	334.50	334.66	3.38	3.76	337.92	338.27	337.92	338.27	2.29	1.94	3.58	3.23
3618	14CB052	14CB035	Circular	129.22	0.34	2.00	12.26	356.71	357.31	354.02	354.46	5.12	9.41	355.66	356.09	355.59	356.09	1.05	0.62	1.72	1.22
3619	14CB053	14CB052	Circular	16.66	0.42	2.00	13.62	357.10	356.71	353.05	353.12	6.43	8.04	355.67	356.11	355.66	356.09	1.42	0.99	1.05	0.62
3620	14CA011	14CB052	Circular	69.05	0.29	2.00	11.31	356.82	356.71	354.46	354.66	2.68	-6.37	355.64	356.01	355.66	356.09	1.18	0.81	1.05	0.62
3621	14CA012	14CA011	Circular	9.65	1.87	2.00	28.69	358.74	356.82	354.82	355.00	2.68	-6.37	355.50	355.91	355.64	356.01	3.24	2.84	1.18	0.81
3622	14CA014	14CA016	Circular	11.85	1.77	1.00	4.40	358.88	359.61	354.50	354.71	0.05	-0.05	355.61	356.09	355.61	356.09	3.27	2.79	4.00	3.52
3623	14CA016	14CA013	Circular	10.51	0.19	1.00	1.44	359.61	359.75	354.26	354.28	-0.11	-0.11	355.61	356.09	355.61	356.09	4.00	3.52	4.14	3.66
3624	14CA015	14CA017	Circular	12.01	3.91	1.00	6.54	359.57	359.64	354.31	354.78	-0.04	-0.05	355.61	356.09	355.61	356.09	3.96	3.48	4.03	3.55
3625	14CA017	14CA013	Circular	26.01	0.19	1.00	1.45	359.64	359.75	354.26	354.31	-0.10	-0.12	355.61	356.09	355.61	356.09	4.03	3.55	4.14	3.66
3626	14CA013	14CA018	Circular	30.23	-0.13	2.00	7.64	359.75	360.14	354.06	354.02	-0.29	-0.35	355.61	356.09	355.61	356.09	4.14	3.66	4.53	4.05
3643	14CA018	14CB050	Circular	432.63	0.21	3.00	28.72	360.14	359.21	352.94	353.87	4.21	5.78	355.61	356.09	355.60	356.08	4.53	4.05	3.61	3.13
3644	14CA019	14CA018	Circular	326.74	0.10	3.00	19.68	360.93	360.14	354.06	354.39	4.40	6.13	355.65	356.11	355.61	356.09	5.28	4.82	4.53	4.05
3648	14CA023	14CA019	Circular	342.06	0.27	2.00	10.83	362.67	360.93	354.39	355.30	4.54	6.38	356.24	356.52	355.65	356.11	6.43	6.15	5.28	4.82
3667	22AA025	22AA003	Circular	4.11	1.22	3.00	68.31	358.87	358.92	353.90	353.95	6.21	7.82	355.41	355.92	355.41	355.92	3.47	2.95	3.51	3.00
3670	14DB058	14CA040	Circular	189.59	0.17	2.00	8.63	360.13	362.58	355.67	355.99	4.60	6.50	357.06	357.33	356.79	357.05	3.06	2.80	5.80	5.53
3671	14DB059	14DB058	Circular	197.88	0.14	2.00	7.76	358.73	360.13	356.03	356.30	4.61	6.52	357.38	357.65	357.06	357.33	1.35	1.08	3.06	2.80
3675	14DB063	14DB059	Circular	291.61	0.16	2.00	8.52	360.94	358.73	356.31	356.79	1.89	2.57	357.56	357.78	357.38	357.65	3.38	3.16	1.35	1.08
3677	14DB065	14DB063	Circular	129.96	0.19	2.00	9.21	361.38	360.94	356.79	357.04	1.88	2.56	357.71	357.89	357.56	357.78	3.67	3.49	3.38	3.16
3678	14DC013	14DB065	Circular	182.66	0.16	1.50	3.95	362.62	361.38	357.07	357.37	1.88	2.57	358.09	358.24	357.71	357.89	4.53	4.38	3.67	3.49
3680	14DC014	14DC013	Circular	276.72	0.16	1.50	3.89	364.22	362.62	357.37	357.81	1.89	2.58	358.55	358.70	358.09	358.24	5.67	5.52	4.53	4.38
3681	14DC015	14DC014	Circular	309.50	0.08	1.50	2.83	364.64	364.22	358.09	358.35	1.89	2.59	359.18	359.33	358.55	358.70	5.47	5.32	5.67	5.52
3684	14DC018	14DC015	Circular	160.24	0.17	1.50	4.00	363.39	364.64	358.35	358.62	1.91	2.61	359.39	359.55	359.18	359.33	4.00	3.84	5.47	5.32
3685	14DC019	14DC018	Circular	30.98	0.48	0.83	1.41	363.88	363.39	358.62	358.77	1.91	2.61	359.66	360.05	359.39	359.55	4.22	3.83	4.00	3.84
3687	14DC021	14DC019	Circular	225.75	0.13	1.25	2.19	366.82	363.88	358.77	359.07	1.92	2.62	359.97	360.45	359.66	360.05	6.85	6.36	4.22	3.83
3707	10DC047	10DC048	Circular	50.08	0.16	1.00	1.32	347.35	347.34	341.16	341.24	-0.03	-0.25	345.69	350.30	345.69	350.28	1.66	-2.94	1.65	-2.94
3714	15DB033	15DB041	Circular	290.79	0.05	3.00	14.07	353.44	352.82	348.71	348.86	16.81	20.58	351.35	351.99	351.13	351.67	2.09	1.45	1.69	1.15
4929	15BA004	15BA003.2	Natural	106.59	0.04	1.35	66.57	348.21	348.47	346.96	347.00	2.10	3.83	348.03	348.08	348.03	348.08	0.18	0.13	0.44	0.39
5083	23BB006	22AA002	Natural	235.82	0.02	4.48	16.82	359.82	357.20	354.00	354.05	6.32	6.63	355.43	355.93	355.41	355.92	4.39	3.89	1.79	1.28
5207	15BA003.1	15BA003	Natural	110.61	0.05	1.35	80.03	348.37	348.01	346.80	346.86	1.50	2.67	347.44	347.65	347.44	347.65	0.92	0.72	0.57	0.36
5208	15BA002	15BA006	Natural	27.66	0.00	1.20	10.87	347.96	347.96	346.75	346.75	1.30	2.02	347.32	347.43	347.32	347.43	0.64	0.52	0.64	0.52
5215	15BA010	15BA014	Natural	61.91	1.60	2.09	58.39	348.76	349.95	346.77	347.76	1.41	1.92	348.01	348.04	347.81	347.91	0.75	0.72	2.13	2.04
5216	15BA013	15BA012	Natural	27.38	2.67	1.51	57.87	349.18	349.00	347.37	347.80	10.20	-12.48	348.35	348.58	348.47	348.59	0.83	0.60	0.53	0.41
5217	15AB062	15BA011	Natural	597.35	0.07	4.03	216.02	351.53	351.13	347.10	347.50	19.71	24.18	349.00	349.14	348.03	348.14	2.53	2.39	3.10	2.99
5325	15BA014	15BA043	Natural	222.85	0.83	3.93	380.59	349.95	349.60	344.91	346.77	24.60	29.93	347.81	347.91	347.23	347.39	2.13	2.04	2.37	2.21
5329	15BA024	15BA050	Natural	437.34	0.58	2.51	241.20	348.62	346.41	343.74	346.28	2.81	3.85	346.70	346.76	345.89	346.34	1.92	1.86	0.51	0.07
5399	22AA039	22AA053	Natural	422.00	0.24	4.84	203.10	361.40	357.85	354.27	355.30	35.89	46.96	357.33	357.81	357.20	357.76	4.07	3.59	0.65	0.09
5409	22AB002.1	22AB002	Natural	189.72	0.77	2.65	287.34	358.97	357.79	355.00	356.46	3.79	5.05	357.14	357.78	357.13	357.78	1.83	1.19	0.66	0.01
5708	15DC007	15DC008	Natural	57.33	5.23	3.32	34.79	358.33	357.97	353.33	356.33	0.74	-3.38	356.38	357.01	356.06	357.01	1.95	1.32	1.91	0.96
5716	22AA052	22AA045	Natural	93.66	0.11	3.02	137.17	357.40	357.40	354.33	354.43	1.80	2.23	357.20	357.76	357.20	357.76	0.20	-0.36	0.20	-0.36
Link1017	10BC006	10CB001	Natural	720.35	0.06	2.00	21.54	340.31	339.85	337.85	338.31	2.20	3.11	338.74	338.74	338.22	338.36	1.58	1.57	1.63	1.49
Link1018	10CB025	10CB021	Circular	65.81	0.15	1.00	1.29	340.09	339.75	334.74	334.84	-0.08	-0.95	337.89	338.78	337.89	338.83	2.20	1.31	1.86	0.92
Link1020	10BC057	10BC061	Natural	387.53	0.33	2.00	10.18	340.69	339.41	337.41	338.69	3.00	3.41	339.00	339.01	337.91	338.39	1.69	1.68	1.50	1.02
Link1023	09BA002	09AB009	Natural	989.43	0.19	4.23	536.77	338.39	336.50	332.27	334.16	13.72	20.22	335.04	335.16	333.40	334.05	3.35	3.24	3.10	2.45

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																				
Burkhart Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
Link1026	09AA015	09AA017	Circular	344.11	0.34	1.00	1.94	339.98	337.50	333.86	335.04	0.00	0.00	335.04	335.04	334.52	334.68	4.94	4.94	2.98	2.82
Link1030	09AB002	09AB017	Natural	392.08	0.50	4.02	1068.27	336.43	334.47	330.45	332.41	4.45	5.23	332.89	332.93	332.01	332.30	3.54	3.50	2.46	2.16
Link1031	09AB021	09AB002	Circular	70.01	0.57	1.00	2.50	336.23	336.43	332.41	332.81	4.46	5.24	334.72	335.30	332.89	332.93	1.51	0.93	3.54	3.50
Link1032	09AB019	09AB021	Natural	158.36	0.04	3.64	159.49	336.74	336.23	332.81	332.88	4.96	6.46	334.72	335.30	334.72	335.30	2.02	1.44	1.51	0.93
Link1033	10BB025	10BB048	Circular	16.50	0.30	3.00	34.09	336.93	336.84	331.89	331.94	31.17	34.61	335.59	336.49	335.56	336.47	1.34	0.44	1.28	0.37
Link1034	10BC031	10BC032	Circular	282.22	0.37	1.50	5.92	339.79	339.53	336.96	338.00	1.38	1.71	338.55	339.62	338.31	339.53	1.24	0.17	1.22	0.00
Link1035	10BC032	10CB020	Circular	345.55	0.60	1.50	6.60	339.53	339.95	335.38	336.96	2.46	3.35	338.31	339.53	338.15	339.22	1.22	0.00	1.80	0.73
Link1038	10CC043	10CC044	Circular	40.50	1.01	2.00	21.14	341.05	341.05	338.32	338.73	4.20	5.95	339.89	340.18	339.89	340.18	1.16	0.87	1.16	0.87
Link1039	10AB064	10AB059	Circular	274.93	0.48	2.00	14.56	342.55	342.05	335.63	336.95	12.90	11.45	342.08	342.15	341.50	341.69	0.47	0.40	0.55	0.36
Link1040	10AB017	10AB018	Circular	23.96	1.25	2.00	23.51	342.35	341.77	337.50	337.80	1.29	1.61	341.45	341.49	341.45	341.49	0.90	0.86	0.32	0.28
Link1041	10BA024	10BA025	Circular	109.07	0.18	2.50	16.31	340.44	341.35	333.30	333.50	25.35	25.73	339.04	339.60	338.59	339.21	1.40	0.84	2.76	2.14
Link1042	10AD031	10AD024	Circular	186.64	0.06	1.50	2.37	346.78	347.05	341.82	341.93	2.37	2.85	343.93	345.32	343.89	345.23	2.85	1.46	3.16	1.82
Link1043	10AD055	10AD024	Circular	42.93	0.98	2.50	37.67	346.77	347.05	341.82	342.24	8.32	9.64	343.88	345.25	343.89	345.23	2.89	1.52	3.16	1.82
Link1044	10DC040	10DB026	Circular	303.67	0.61	2.00	16.40	348.39	347.34	342.98	344.83	3.47	4.25	345.45	345.53	343.62	344.67	2.94	2.87	3.72	2.67
Link1045	10DB026	10DB025	Circular	325.09	0.57	2.00	15.80	347.34	346.59	341.14	342.98	3.46	5.25	343.62	344.67	343.41	344.57	3.72	2.67	3.18	2.02
Link1649	14CA040	14CA023	Circular	325.09	0.11	2.00	7.09	362.58	362.67	355.30	355.67	4.59	6.47	356.79	357.05	356.24	356.52	5.80	5.53	6.43	6.15
Link1768	03BA046	03BA047	Circular	71.06	0.03	1.00	0.56	330.54	331.31	329.52	329.54	-0.01	-0.05	329.70	329.90	329.70	329.89	0.84	0.64	1.61	1.43
Link1769	03BA047	03BA022	Natural	245.12	0.42	1.79	58.11	331.31	330.27	328.48	329.52	-0.15	-0.49	329.70	329.89	329.70	329.88	1.61	1.43	0.58	0.39
Link1770	03BA023	03BA031	Natural	327.15	0.10	2.14	27.19	330.21	329.89	327.75	328.07	2.61	3.33	329.70	329.88	329.70	329.89	0.51	0.33	0.19	0.00
Link1771	03BD007	03BA025	Natural	441.67	0.04	1.93	53.10	331.34	331.18	329.25	329.41	4.24	6.15	330.30	330.43	329.73	329.88	1.04	0.91	1.45	1.30
Link1772	03BD002	03BA005	Natural	496.25	0.19	1.41	60.02	331.43	331.29	329.47	330.43	0.57	0.93	330.53	330.56	329.69	329.74	0.90	0.87	1.59	1.55
Link1773	03BA005	03BA048	Natural	315.87	0.65	1.99	140.02	331.29	329.59	327.42	329.47	0.52	0.85	329.69	329.74	329.52	329.59	1.59	1.55	0.07	0.00
Link1774	03BD010	03BA037	Natural	540.00	0.09	1.41	34.11	331.23	330.76	329.35	329.82	1.59	2.15	330.36	330.42	329.71	329.91	0.87	0.81	1.05	0.86
Link1775	03BA037	03BA031	Natural	194.23	0.82	1.77	49.62	330.76	329.89	327.75	329.35	-4.21	-14.08	329.71	329.91	329.70	329.89	1.05	0.86	0.19	0.00
Link1776	03BB005	03BB008	Natural	455.20	0.10	3.50	133.56	330.23	329.77	326.27	326.73	3.65	4.53	329.52	329.60	329.52	329.60	0.71	0.64	0.26	0.18
Link1777	03BA048	03BB005	Natural	676.39	0.10	2.84	33.63	329.59	330.23	326.73	327.42	1.71	1.80	329.52	329.59	329.52	329.60	0.07	0.00	0.71	0.64
Link1797	14CD007	14CD006	Circular	31.72	1.05	1.50	9.98	363.71	363.38	361.38	361.71	4.45	6.17	362.44	362.61	362.17	362.42	1.27	1.11	1.21	0.96
Link1798	14CD006	14CD004	Natural	330.92	0.14	2.00	91.43	363.38	362.93	360.93	361.38	5.50	6.76	362.17	362.42	362.11	362.40	1.21	0.96	0.81	0.53
Link1799	14CD004	14CD003	Circular	23.52	0.63	1.00	2.62	362.93	362.53	360.78	360.93	5.14	5.71	362.11	362.40	361.60	361.71	0.81	0.53	0.94	0.82
Link1800	14CD003	14CD002	Natural	93.51	0.27	1.47	28.09	362.53	361.73	360.53	360.78	5.11	5.70	361.60	361.71	361.56	361.69	0.94	0.82	0.17	0.04
Link1801	14CD002	14CD001	Circular	24.52	1.26	1.00	3.72	361.73	362.52	360.22	360.53	5.11	5.70	361.56	361.69	360.99	361.04	0.17	0.04	1.53	1.48
Link1802	14CD001	14CD009	Natural	30.54	0.39	3.33	26.19	362.52	364.45	360.10	360.22	5.11	5.70	360.99	361.04	360.97	361.02	1.53	1.48	3.48	3.43
Link1803	14CD009	14CD009.1	Natural	163.75	0.12	4.35	262.59	364.45	364.25	359.90	360.10	6.14	7.14	360.97	361.02	360.38	360.41	3.48	3.43	3.87	3.84
Link1804	14CD009.1	14CB053	Natural	1230.32	0.55	4.16	914.16	364.25	357.10	353.12	359.90	5.97	6.91	360.38	360.41	355.67	356.11	3.87	3.84	1.42	0.99
Link1805	14CA012.2	14CA012.1	Natural	712.11	0.01	5.42	763.65	358.94	358.86	353.44	353.52	-1.51	-3.82	355.50	355.91	355.50	355.91	3.44	3.03	3.36	2.95
Link1805.1	14CA012.1	14CA012	Natural	674.76	0.01	5.40	203.27	358.86	358.74	353.36	353.44	-4.95	-9.42	355.50	355.91	355.50	355.91	3.36	2.95	3.24	2.84
Link587	23BB003	23BB007	Natural	306.36	0.12	5.33	83.94	363.32	360.80	356.55	356.91	20.35	26.29	358.48	358.67	357.89	358.23	4.84	4.65	2.91	2.57
Link588	23BB007	23BB008	Rectangular	9.51	3.68	2.00	201.71	360.80	361.45	356.20	356.55	20.10	25.69	357.89	358.23	357.77	358.09	2.91	2.57	3.68	3.35
Link589	23BB008	22AA042	Natural	217.13	0.39	5.69	356.99	361.45	361.50	355.36	356.20	19.98	25.48	357.77	358.09	357.49	357.91	3.68	3.35	4.01	3.59
Link593	22AA053	22AB039	Natural	819.48	0.12	3.73	140.63	357.85	357.20	353.31	354.27	29.60	33.11	357.20	357.76	357.09	357.72	0.65	0.09	0.11	-0.52
Link598	15CD072	15DC007	Natural	106.65	1.05	1.58	22.22	358.61	358.33	356.33	357.45	0.74	1.15	357.64	357.67	356.38	357.01	0.96	0.94	1.95	1.32
Link599	15CD002	15CD002.1	Natural	632.17	0.58	2.00	213.97	360.36	356.70	354.70	358.36	1.23	1.78	358.54	358.54	354.90	354.92	1.82	1.81	1.80	1.77
Link599.1	15CD002.1	15CC005	Natural	551.76	0.24	2.36	20.96	356.70	356.11	353.38	354.70	1.15	1.64	354.90	354.92	354.17	354.34	1.80	1.77	1.94	1.76
Link601	15DC033	15DC048	Natural	226.70	1.24	3.58	166.53	354.05	355.45	349.76	352.58	1.49	1.96	352.78	352.81	352.32	352.52	1.27	1.24	3.13	2.93
Link603	15CA007	15DB030	Natural	430.91	1.35	1.57	51.36	357.19	352.36	350.29	356.12	1.27	1.87	356.31	356.34	350.93	351.12	0.88	0.85	1.43	1.24
Link606	15CA046	15CA013	Natural	702.99	0.01	3.86	31.58	357.31	356.55	353.04	353.10	2.50	3.74	353.89	354.04	353.56	353.76	3.43	3.27	2.99	2.79
Link611	15BD006	15BA026	Natural	926.70	0.62	3.15	522.05	355.66	349.91	346.75	352.50	0.85	1.15	352.77	352.80	347.22	347.31	2.88	2.85	2.69	2.59
Link612	15BD004	15BA024	Natural	955.54	0.63	1.62	57.42	353.20	348.62	346.28	352.29	0.38	0.56	352.43	352.45	346.70	346.76	0.77	0.75	1.92	1.86
Link616	15BA038	15BA019	Natural	9.83	7.02	3.31	767.43	346.33	346.30	342.66	343.35	-17.60	-17.47	345.85	346.21	345.85	346.21	0.48	0.12	0.45	0.09
Link621	15BB044	10CC069	Natural	43.99	0.20	6.44	1027.20	343.99	344.79	337.90	337.99	5.53	6.42	341.44	341.82	341.44	341.82	2.55	2.17	3.35	2.97
Link626	10CC015	10CC070	Natural	443.43	0.27	1.75	101.32	347.83	346.62	344.87	346.08	0.74	1.09	346.46	346.52	342.65	342.72	1.37	1.31	3.96	3.90
Link627	16AD056	16AD056.3	Natural	1222.64	0.20	3.55	195.96	349.86	347.41	343.86	346.31	5.45	6.83	347.01	347.09	344.74	344.88	2.85	2.77	2.66	2.52
Link627.1	16AD056.1	09DD004	Natural	908.05	0.21	3.55	201.81	345.06	343.13	339.58	341.51	9.22	11.77	342.97	343.60	342.94	343.60	2.09	1.46	0.19	-0.47
Link627.2	16AD056.2	16AD056.1	Natural	417.37	0.22	3.61	204.40	345.83	345.06	341.38	342.29	10.73	14.40	343.27	343.63	342.97	343.60	2.57	2.21	2.09	1.46
Link627.3	16AD056.3	16AD056.2	Natural	815.09	0.21	3.60	199.09	347.41	345.83	342.18	343.86	8.93	12.08	344.74	344.88	343.27	343.63	2.66	2.52	2.57	2.21
Link628	16AD037	09DD005	Natural	3304.05	0.20	3.23	117.62	348.94	342.55	339.20	345.84	3.97	4.99	346.65	346.73	341.82	342.32	2.29	2.21	0.73	0.24
Link629	15BC008	15BC008.1	Natural	653.93	0.38	1.37	129.49	352.33	349.82	348.46	350.96	0.60	0.86	351.13	351.15	346.26	346.28	1.20	1.18	3.56	3.54
Link629.1	15BC008.1	15BB024	Natural	493.32	1.07	5.46	215.91	349.82	347.96	340.80	346.06	2.10	2.74	346.26	346.28	342.08	342.83	3.56	3.54	5.88	5.13
Link633	15BA013.2	15BA013.1	Natural	514.91	0.01	1.53	4.07	350.16	349.22	348.14	348.18	2.42	3.26	348.91	348.96	348.82	348.87	1.25	1.20	0.40	0.35
Link633.1	15BA013.1	15BA013	Natural	580.12	0.01	1.23	11.18	349.22	349.18	347.80	348.14	3.68	5.12	348.82	348.87	348.35	348.58	0.40	0.35	0.83	0.60
Link634	23BB033	23BB003	Natural	697.67	0.25	6.33	488.74	364.89	363.32	356.91	358.65	7.57	10.58	359.58	359.73	358.48	358.67	5.31	5.15	4.84	4.65
Link645	15CD068	15CC006	Natural	672.15	0.18	3.60	11.64	356.86	356.26	352.37	353.56	2.01	1.95	354.15	354.30	354.15	354.30	2.71	2.56	2.12	1.97
Link647	15CC048	15CC005	Natural	190.99	0.30	2.73	103.15	356.68	356.11	353.38	353.95	0.82	1.23	354.24	354.36	354.17	354.34	2.44	2.32	1.94	1.76
Link648	15CC006	15CA056	Natural	615.26	0.01	3.06	18.79	356.26	356.20	353.14	353.20	1.69	2.52	354.15	354.30	353.94	354.10	2.12	1.97	2.26	2.11
Link649	15CA053	15CA056	Natural	219.78	1.41	2.09	87.30	357.34	356.20	353.14	356.23	1.20	1.69	356.47	356.50	353.94	354.10	0.87	0.84	2.26	2.11
Link650	15CA056	15CA046	Natural	192.49	0.02	3.64	30.84	356.20	357.31	353.10	353.14	2.08	3.09	353.94	354.10	353.89	354.04	2.26	2.11	3.43	3.27
Link651	15BA005	10CD027.1	Natural	777.40	0.74	3.39	1308.30	349.53	345.00	341.00	346.75	2.07	3.24	347.15	347.22	342.76	343.59	2.38	2.31	2.24	1.41
Link653	14CB050	14CB044	Natural	476.76	0.19	6.10	2051.54	359.21	357.89	352.00	352.91	9.82	12.83	355.60	356.08	355.60	356.08	3.61	3.13	2.29	1.81
Link654	03DB012	03DB013	Circular	14.00	0.71	2.00	17.75	337.64	338.31	334.00	334.10	9.83	13.49	334.99	335.14	334.79	335.00	2.65	2.50	3.52	3.31
Link655	03CA015	03CA015.1	Natural	15.09	0.80	3.45	209.80	335.30	337.13	332.70	332.82	4.02	4.26	334.36	334.60	334.36	334.60	0.94	0.70	2.76	2.53

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																				
Burkhart Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
Link655.1	03CA015.1	03CA016	Natural	534.83	0.02	4.43	253.70	337.13	337.03	332.60	332.70	15.29	19.09	334.36	334.60	334.24	334.49	2.76	2.53	2.79	2.53
Link657	03CA014	03CA015.1	Natural	16.83	1.19	3.42	256.76	335.32	337.13	332.70	332.90	11.45	14.73	334.36	334.60	334.36	334.60	0.96	0.72	2.76	2.53
Link658	10BA001	03CD003	Circular	399.20	0.07	1.00	0.84	340.68	341.96	338.42	338.68	1.19	1.32	339.62	339.84	338.71	338.73	1.06	0.84	3.25	3.23
Link659	03CD003	03CD031	Natural	165.63	1.07	3.54	1355.57	341.96	340.19	336.65	338.42	1.19	1.32	338.71	338.73	337.29	337.32	3.25	3.23	2.90	2.87
Link660	03CD004	03CC004	Natural	765.62	0.24	4.11	931.40	339.69	337.84	333.73	335.58	1.11	3.33	335.94	336.27	335.93	336.26	3.75	3.42	1.91	1.57
Link661	03CC003	03CC002	Circular	68.13	1.32	1.00	3.80	338.08	337.64	334.92	335.82	1.70	1.86	336.29	336.31	335.47	335.52	1.79	1.77	2.17	2.12
Link662	03CC002	03CC001.1	Natural	509.94	0.38	2.86	67.01	337.64	336.00	333.00	334.92	5.56	7.01	335.47	335.52	333.39	333.43	2.17	2.12	2.61	2.57
Link663	03CD033	03CC003	Natural	830.85	0.10	2.26	148.45	338.91	338.08	335.82	336.65	1.73	1.87	337.04	337.05	336.29	336.31	1.87	1.86	1.79	1.77
Link664	03CC004	03CC004.1	Circular	449.06	0.13	1.00	1.21	337.84	336.00	333.00	333.60	2.22	2.41	335.93	336.26	333.64	333.66	1.91	1.57	2.36	2.34
Link672	03BB012	03BB021	Natural	126.04	0.63	3.15	249.98	329.83	329.57	326.20	326.90	84.50	105.51	329.61	329.61	329.57	329.57	0.22	0.22	0.00	0.00
Link673	03BB020	03BB013	Natural	357.12	0.12	2.47	27.26	328.87	328.50	326.00	326.42	3.63	3.80	328.51	328.51	328.50	328.50	0.36	0.36	0.00	0.00
Link677	03BB015	03BB016	Circular	30.50	0.62	2.00	24.06	328.28	327.78	325.10	325.50	33.88	33.88	327.73	327.73	327.01	327.01	0.56	0.56	0.77	0.77
Link678	03BB014	03BB015	Natural	18.00	1.00	2.77	182.63	328.46	328.28	325.50	325.70	33.88	33.88	327.73	327.73	327.73	327.73	0.74	0.74	0.56	0.56
Link679	03BB021	03BB014	Circular	71.57	0.31	2.00	17.56	329.57	328.46	325.70	326.20	34.01	33.98	329.57	329.57	327.73	327.73	0.00	0.00	0.74	0.74
Link684	03DB013.0	03DB013.1	Natural	907.84	0.55	2.66	45.36	339.63	337.93	333.62	338.63	4.24	5.59	338.77	338.79	334.71	334.96	0.86	0.84	3.23	2.97
Link685	03CB001.0	03CB001.1	Natural	3240.86	0.25	5.08	265.24	337.38	336.86	328.00	336.08	2.54	3.41	336.27	336.29	327.92	328.00	1.11	1.08	8.94	8.86
Link687	03CB001	03CB001.1	Natural	1925.33	0.22	8.86	15575.16	341.16	336.86	328.00	332.30	16.42	22.20	332.72	332.76	327.92	328.00	8.44	8.40	8.94	8.86
Link689	09DA017.0	09DA017.1	Natural	852.50	0.83	5.66	1389.97	340.39	340.11	331.05	338.13	0.73	1.21	338.27	338.30	335.37	336.11	2.13	2.09	4.74	4.01
Link690	09AA022.1	09AA022	Natural	732.00	0.89	5.79	681.61	338.16	339.55	329.79	336.34	3.35	4.52	336.54	336.57	335.07	335.71	1.61	1.59	4.49	3.84
Link691	09AB017.1	09AB017	Natural	1614.69	0.39	2.95	273.06	338.68	334.47	330.45	336.80	3.21	4.85	337.13	337.19	332.01	332.30	1.54	1.49	2.46	2.16
Link696	03CB001.3	03CB001.2	Natural	1529.80	0.31	2.20	340.77	323.13	320.83	317.44	322.13	2.66	4.07	322.32	322.35	318.59	318.68	0.81	0.78	2.25	2.16
Link699	15AD068	15AC050	Natural	690.50	0.12	2.58	112.42	352.69	352.08	349.40	350.20	3.35	3.70	351.25	351.76	351.23	351.76	1.44	0.93	0.84	0.32
Link700	10DA099	10DA064	Circular	188.82	0.70	1.50	8.19	348.36	347.87	343.67	345.00	1.05	1.35	345.36	345.59	344.77	345.56	3.00	2.77	3.10	2.31
Link702	10DA098	10DD071	Circular	236.00	0.13	1.50	3.54	350.32	349.77	345.69	346.00	1.69	2.09	346.73	346.83	346.42	346.53	3.59	3.49	3.36	3.24
Link703	22AB022.3	22AB002.2	Circular	784.49	0.03	2.00	7.50	360.50	359.25	357.00	358.00	1.50	2.02	358.63	358.73	357.54	357.80	1.87	1.77	1.71	1.45
Link704	22AA036.1	22AA036	Circular	559.70	0.35	2.00	12.40	360.50	361.30	356.05	358.00	1.87	2.56	358.88	360.50	358.78	360.46	1.62	0.00	2.52	0.84

Hydraulic Model Results - Full Buildout Conditions																				
Burkhart Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
14	03DC006	03DC005	Circular	285.09	0.01	2.00	2.49	339.48	338.53	335.05	335.01	11.30	12.07	338.78	339.04	337.96	338.17	0.70	0.44	0.57	0.36
21	10AB056	10AB061	Circular	63.52	0.99	2.50	37.93	342.85	342.85	335.43	334.80	12.86	12.98	338.30	338.59	338.24	338.54	4.55	4.26	4.61	4.31
22	10AB061	10BA029	Circular	273.06	0.18	2.50	16.30	342.85	342.55	334.80	334.30	12.55	12.84	338.24	338.54	338.02	338.31	4.61	4.31	4.53	4.24
23	10BA029	10BA028	Circular	376.60	0.08	2.50	11.10	342.55	341.85	334.30	333.98	17.47	20.13	338.02	338.31	337.27	337.34	4.53	4.24	4.58	4.52
24	10BA028	10BA024	Circular	42.50	1.13	2.50	40.48	341.85	340.44	333.98	333.50	17.30	20.13	337.27	337.34	337.19	337.23	4.58	4.52	3.25	3.21
25	10AB001	10BA016	Circular	311.07	0.10	3.00	19.55	342.09	342.75	335.26	334.95	20.74	21.61	338.23	338.51	337.91	338.20	3.86	3.58	4.84	4.55
26	10BB021	10BB049	Circular	136.57	0.15	3.00	24.29	338.35	336.82	331.76	331.55	26.58	26.26	335.60	335.76	335.37	335.51	2.75	2.59	1.45	1.31
27	10BB022	10BB021	Circular	150.05	0.20	3.00	27.69	338.75	338.35	332.06	331.76	26.34	26.39	335.87	336.03	335.60	335.76	2.88	2.72	2.75	2.59
28	10BB023	10BB022	Circular	146.55	0.20	3.00	27.55	339.65	338.75	332.35	332.06	26.52	26.25	336.12	336.29	335.87	336.03	3.53	3.36	2.88	2.72
29	10BB014	10BB023	Circular	98.05	0.20	3.00	27.97	340.45	339.65	332.55	332.35	26.21	26.32	336.28	336.46	336.12	336.29	4.17	3.99	3.53	3.36
30	10BA031	10BB014	Circular	213.67	0.20	3.00	27.78	340.45	340.45	332.98	332.55	26.04	26.29	336.64	336.83	336.28	336.46	3.81	3.62	4.17	3.99
31	10BA032	10BA031	Circular	294.60	0.20	3.00	27.72	340.75	340.45	333.57	332.98	25.89	26.34	337.12	337.36	336.64	336.83	3.63	3.39	3.81	3.62
32	10BA023	10BA015	Circular	88.02	0.10	3.00	19.80	340.13	341.35	333.88	333.79	25.79	26.26	337.52	337.79	337.38	337.64	2.61	2.34	3.97	3.71
33	10BA015	10BA032	Circular	161.55	0.14	3.00	22.86	341.35	340.75	333.79	333.57	25.81	26.29	337.38	337.64	337.12	337.36	3.97	3.71	3.63	3.39
34	10BB012	09AA021	Circular	115.01	0.20	3.00	27.70	338.15	336.72	330.08	329.85	60.13	64.72	333.41	333.61	331.78	332.17	4.74	4.54	4.94	4.55
35	10BB018	10BB017	Circular	13.01	0.23	3.00	29.74	337.75	337.65	330.71	330.68	34.63	35.05	334.22	334.40	334.19	334.36	3.53	3.35	3.47	3.29
36	10BB017	10BB016	Circular	12.50	0.24	3.00	30.34	337.65	337.55	330.68	330.65	34.63	35.14	334.19	334.36	334.15	334.31	3.47	3.29	3.40	3.24
37	10BB016	10BB013	Circular	140.50	0.21	3.00	28.62	337.55	336.65	330.65	330.35	34.67	34.62	334.15	334.31	333.76	333.94	3.40	3.24	2.89	2.71
38	10BB013	10BB012	Circular	124.00	0.22	3.00	28.90	336.65	338.15	330.35	330.08	34.73	34.67	333.76	333.94	333.41	333.61	2.89	2.71	4.74	4.54
39	10BB019	10BB018	Circular	118.53	0.19	3.00	27.28	337.65	337.75	330.94	330.71	34.64	34.53	334.55	334.76	334.22	334.40	3.10	2.89	3.53	3.35
40	10BB049	10BB020	Circular	76.50	0.07	3.00	15.83	336.82	337.55	331.38	331.33	34.73	34.52	335.37	335.51	335.13	335.29	1.45	1.31	2.42	2.26
41	10BB020	10BB019	Circular	195.55	0.20	3.00	27.66	337.55	337.65	331.33	330.94	34.62	34.55	335.13	335.29	334.55	334.76	2.42	2.26	3.10	2.89
42	09AA010	09AA009	Circular	9.24	0.76	3.00	53.91	336.25	337.01	329.90	329.83	27.78	32.19	335.24	333.50	335.23	333.48	1.01	2.75	1.78	3.53
43	10BB007	10BB015	Circular	81.66	0.27	3.00	32.15	336.95	336.35	330.50	330.28	27.87	32.37	335.39	333.91	335.34	333.77	1.56	3.04	1.01	2.58
44	10BB008	10BB007	Circular	69.02	0.25	3.00	30.74	337.55	336.95	330.67	330.50	27.94	32.44	335.44	334.03	335.39	333.91	2.11	3.52	1.56	3.04
45	10BB009	10BB008	Circular	13.01	0.31	3.00	34.34	337.55	337.55	330.71	330.67	27.98	32.49	335.44	334.06	335.44	334.03	2.11	3.49	2.11	3.52
46	10BB001	10BB009	Circular	13.50	0.30	3.00	33.71	337.65	337.55	330.75	330.71	28.00	32.51	335.45	334.08	335.44	334.06	2.20	3.57	2.11	3.49
47	10BB011	10BB001	Circular	42.50	0.26	3.00	31.51	337.75	337.65	330.86	330.75	28.04	32.54	335.48	334.16	335.45	334.08	2.27	3.59	2.20	3.57
48	10BB002	10BB011	Circular	92.05	0.26	3.00	31.62	337.65	337.75	331.10	330.86	28.11	32.61	335.53	334.32	335.48	334.16	2.12	3.33	2.27	3.59
49	10BB048	10BB003	Circular	135.53	0.30	3.00	34.06	336.84	337.75	331.89	331.48	28.37	32.90	335.71	334.90	335.62	334.59	1.13	1.94	2.13	3.16
50	10BB003	10BB002	Circular	146.55	0.26	3.00	31.54	337.75	337.65	331.48	331.10	28.23	32.74	335.62	334.59	335.53	334.32	2.13	3.16	2.12	3.33
51	10BB024	10BB004	Circular	141.52	0.20	3.00	28.04	337.98	338.65	332.49	332.20	22.95	26.66	335.89	335.47	335.82	335.26	2.09	2.51	2.83	3.39
55	10BD035	10BD001	Circular	264.30	0.13	0.83	0.74	339.38	338.73	335.50	335.15	1.03	1.03	339.38	339.38	338.73	338.73	0.00	0.00	0.00	0.00
59	10BD001	10BA034	Circular	295.45	0.57	0.83	1.53	338.73	338.93	335.05	333.38	2.36	2.32	338.73	338.73	336.13	335.90	0.00	0.00	2.80	3.03
61	10BD009	10BA024	Circular	540.95	0.67	1.00	2.71	339.60	340.44	337.62	333.98	0.72	0.72	338.08	338.08	337.19	337.23	1.52	1.52	3.25	3.21
64	10BA016	10BA014	Circular	344.10	0.22	3.00	28.91	342.75	341.55	334.95	334.20	20.24	20.50	337.91	338.20	337.58	337.86	4.84	4.55	3.97	3.69
65	10BA014	10BA023	Circular	55.03	0.75	3.00	53.46	341.55	340.13	334.20	333.79	20.38	20.75	337.58	337.86	337.52	337.79	3.97	3.69	2.61	2.34
66	10AB059	10AB056	Circular	42.62	0.47	1.25	4.11	342.05	342.85	335.63	335.43	4.49	4.51	338.50	338.78	338.30	338.59	3.55	3.28	4.55	4.26
71	10AB021	10AB064	Circular	337.23	0.25	0.83	1.02	342.22	342.55	337.80	336.95	0.99	0.98	342.22	342.22	342.55	342.55	0.00	0.00	0.00	0.00
72	10AB016	10AB021	Circular	311.81	0.06	0.83	0.51	339.51	342.22	338.00	337.80	-1.91	-1.91	339.51	339.51	342.22	342.22	0.00	0.00	0.00	0.00
76	15AA037	15AB045	Circular	366.72	0.19	0.67	0.49	350.50	350.20	346.75	346.05	1.11	1.46	389.89	411.89	388.13	409.56	-39.39	-61.39	-37.93	-59.36
82	10AB055	10AB021	Circular	474.14	0.24	0.67	0.55	341.67	342.22	338.92	337.80	0.62	0.61	341.67	341.67	342.22	342.22	0.00	0.00	0.00	0.00
88	10AB018	10AB019	Circular	68.75	0.28	0.83	1.06	341.77	341.46	337.50	337.31	1.40	1.39	341.77	341.77	341.46	341.46	0.00	0.00	0.00	0.00
93	03BB013	03BB001	Natural	319.72	0.22	1.69	55.09	328.11	327.43	326.43	325.73	9.43	12.17	327.52	327.56	327.43	327.43	0.59	0.54	0.00	0.00
98	10BC052	10BC053	Circular	296.22	0.22	0.83	0.95	338.36	337.48	334.80	334.15	1.13	1.13	338.36	338.36	337.48	337.48	0.00	0.00	0.00	0.00
99	10BC053	10BB024	Circular	268.39	0.19	0.83	0.89	337.48	337.98	334.02	333.51	2.09	2.10	337.48	337.48	335.89	335.47	0.00	0.00	2.09	2.51
109	10BD022	10BD009	Circular	297.70	0.09	0.67	0.33	339.55	339.60	338.00	337.74	0.71	0.71	339.55	339.55	338.08	338.08	0.00	0.00	1.52	1.52
110	10BD010	10BD011	Circular	342.74	0.25	1.00	1.67	340.42	340.77	337.27	336.40	1.05	0.87	340.42	340.42	340.43	340.56	0.00	0.00	0.34	0.21
115	10BD011	10CA009	Circular	321.02	0.22	1.00	1.57	340.77	340.91	336.38	335.66	2.21	1.93	340.43	340.56	339.73	339.86	0.34	0.21	1.18	1.05
117	10CA009	10CA029	Circular	72.27	0.06	2.50	8.96	340.91	340.15	335.48	335.44	11.17	10.14	339.73	339.86	339.68	339.82	1.18	1.05	0.47	0.33
125	10CB021	10CB023	Circular	372.73	0.03	2.50	7.11	339.75	340.75	334.89	334.76	17.54	17.77	339.11	339.26	338.40	338.60	0.64	0.49	2.36	2.15
126	10CB001	10CB023	Circular	26.15	11.82	1.00	11.37	339.85	340.75	337.85	334.76	1.68	2.38	338.34	338.60	338.40	338.60	1.51	1.25	2.36	2.15
127	10CA029	10CB020	Circular	321.49	0.02	2.50	5.20	340.15	339.95	335.44	335.38	10.82	10.03	339.68	339.82	339.48	339.63	0.47	0.33	0.47	0.32
130	10CB020	10CB021	Circular	343.53	0.14	2.50	14.38	339.95	339.75	335.38	334.89	13.75	13.25	339.48	339.63	339.11	339.26	0.47	0.32	0.64	0.49
131	10CB023	10CB024	Circular	272.52	0.14	2.50	14.22	340.75	338.76	334.43	334.05	18.56	18.50	338.40	338.60	337.79	338.14	2.36	2.15	0.97	0.62
134	10CB024	09DA016	Circular	261.08	0.21	2.50	17.32	338.76	338.55	334.04	333.50	19.87	20.02	337.79	338.14	337.23	337.67	0.97	0.62	1.32	0.88
135	09DA016	09DA017	Circular	142.55	0.07	2.50	10.09	338.55	341.15	333.50	333.40	21.40	21.88	337.23	337.67	337.01	337.40	1.32	0.88	4.14	3.75
149	10BB026	10BB049	Circular	73.37	0.08	2.00	6.01	336.51	336.82	331.61	331.55	12.06	12.02	335.49	335.59	335.37	335.51	1.02	0.92	1.45	1.31
150	10BB032	10BB027	Circular	149.94	0.05	2.00	4.54	337.25	335.58	331.70	331.63	8.55	8.25	335.67	335.67	335.58	335.58	1.58	1.58	0.00	0.00
151	10BB027	10BB026	Circular	193.92	-0.02	2.00	3.02	335.58	336.51	331.57	331.61	8.54	8.25	335.58	335.58	335.49	335.59	0.00	0.00	1.02	0.92
156	10BB037	10BB032	Circular	237.77	0.11	1.50	3.16	337.41	337.25	332.15	331.90	6.00	5.74	335.90	335.90	335.67	335.67	1.51	1.51	1.58	1.58
157	10BB039	10BB037	Circular	212.53	0.11	1.50	3.28	336.10	337.41	332.39	332.15	6.00	5.74	336.10	336.10	335.90	335.90	0.00	0.00	1.51	1.51
158	10BA036	10BB045	Circular	321.09	0.07	1.50	2.67	337.46	337.04	332.94	332.70	2.77	2.77	337.27	337.27	337.04	337.04	0.19	0.19	0.00	0.00
159	10BA041	10BA036	Circular	200.00	0.15	1.00	1.28	338.46	337.46	333.34	333.04	2.76	2.76	338.46	338.46	337.27	337.27	0.00	0.00	0.19	0.19
164	10BA059	10BA054	Circular	74.73	0.24	1.75	7.22	340.95	340.36	334.93	334.75	6.15	6.15	337.93	338.21	337.87	338.16	3.03	2.75	2.49	2.20
166	10BA064	10BA059	Circular	209.18	0.16	1.75	5.84	339.41	340.95	335.46	335.13	6.38	6.28	338.09	338.34	337.93	338.21	1.32	1.07	3.03	2.75
167	10BA068	10BA064	Circular	90.11	0.06	1.75	3.47	339.67	339.41	335.65	335.60	6.51	6.51	338.16	338.40	338.09	338.34	1.51	1.27	1.32	1.07
169	10BA069	10BA068	Circular	32.41	0.09	1.50	2.97	339.38	339.67	335.78	335.75	6.55	6.60	338.22	338.45	338.16	338.40	1.16	0.93	1.51	1.27
171	10BA051	10BA044	Circular	187.59	0.19	1.00	1.45	338.40	339.25	336.67	336.31	2.09	2.05	338.40	338.40	338.32	338.42	0.00	0.00	0.93	0.83

Hydraulic Model Results - Full Buildout Conditions																					
Burkhart Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
172	10BA044	10BA043	Circular	43.52	0.21	1.00	1.50	339.25	339.25	336.31	336.22	2.08	2.04	338.32	338.42	338.30	338.42	0.93	0.83	0.95	0.83
173	10BA053	10BA043	Circular	184.01	0.20	1.00	1.46	338.40	339.25	336.58	336.22	2.21	2.18	338.40	338.40	338.30	338.42	0.00	0.00	0.95	0.83
174	03CD009	03CD012	Circular	145.22	0.33	0.83	1.17	337.85	337.32	335.42	334.94	1.71	1.71	337.85	337.85	336.88	336.86	0.00	0.00	0.44	0.46
175	03CD012	03CD018	Circular	238.52	0.25	0.83	1.02	337.32	336.61	334.94	334.34	1.70	1.70	336.88	336.86	335.29	335.24	0.44	0.46	1.32	1.38
176	03CD018	03CD023	Circular	188.67	0.20	1.00	1.48	336.61	337.89	334.34	333.96	1.70	1.70	335.29	335.24	334.87	334.77	1.32	1.38	3.02	3.12
180	03CD013	03CD020	Circular	285.79	0.24	0.83	1.00	338.08	337.26	335.02	334.33	0.00	0.00	335.02	335.02	334.76	334.66	3.06	3.06	2.50	2.60
183	03CD020	03CD024	Circular	188.06	0.36	0.83	1.22	337.26	337.70	334.33	333.65	-0.03	-0.01	334.76	334.66	334.76	334.66	2.50	2.60	2.94	3.04
184	03CD023	03CD024	Circular	49.01	0.63	1.00	2.63	337.89	337.70	333.96	333.65	1.70	1.70	334.87	334.77	334.76	334.66	3.02	3.12	2.94	3.04
185	03CD024	03CD030	Circular	279.31	-0.01	1.50	1.17	337.70	336.98	333.61	333.65	1.71	1.71	334.76	334.66	334.66	334.51	2.94	3.04	2.32	2.47
188	03CD026	03CA002	Circular	253.02	0.16	1.00	1.33	336.33	335.57	334.31	333.90	2.11	2.14	336.33	336.33	335.57	335.57	0.00	0.00	0.00	0.00
189	03CD030	03CA006	Circular	255.39	0.11	1.50	3.23	336.98	336.22	333.55	333.27	1.73	1.72	334.66	334.51	334.57	334.39	2.32	2.47	1.65	1.83
192	03CA002	03CA007	Circular	168.36	0.24	1.00	1.61	335.57	335.80	333.80	333.40	2.10	2.14	335.57	335.57	335.17	335.18	0.00	0.00	0.63	0.62
193	03CA006	03CA009	Circular	322.92	0.11	1.50	3.26	336.22	337.65	333.27	332.91	1.76	1.74	334.57	334.39	334.49	334.29	1.65	1.83	3.17	3.37
194	03CA007	03CA008	Circular	83.88	0.25	1.00	1.66	335.80	336.25	333.40	333.19	2.10	2.13	335.17	335.18	334.96	334.98	0.63	0.62	1.29	1.27
195	03CA008	03CA010	Circular	101.56	0.28	1.00	1.74	336.25	337.25	333.19	332.91	2.10	2.13	334.96	334.98	334.72	334.75	1.29	1.27	2.53	2.50
196	03CA013	03CA010	Circular	54.72	0.07	2.50	10.30	337.26	337.25	332.95	332.91	12.06	15.28	334.79	334.86	334.72	334.75	2.47	2.39	2.53	2.50
197	03CA011	03CA010	Circular	83.24	0.20	1.00	1.50	335.35	337.25	333.08	332.91	-0.01	-0.01	334.72	334.75	334.72	334.75	0.63	0.60	2.53	2.50
198	03CA009	03CA012	Circular	42.80	0.12	1.50	3.33	337.65	336.92	332.91	332.86	1.77	1.75	334.49	334.29	334.47	334.27	3.17	3.37	2.45	2.65
199	03CA012	03CA015	Circular	33.00	0.12	1.50	3.40	336.92	335.30	332.86	332.82	1.78	1.75	334.47	334.27	334.47	334.27	2.45	2.65	0.84	1.03
200	03CA010	03CA014	Circular	130.02	0.07	2.50	10.02	337.25	335.32	332.91	332.82	13.71	16.89	334.72	334.75	334.46	334.27	2.53	2.50	0.86	1.06
201	03CA016	03CB001	Circular	143.00	0.21	2.50	17.45	337.03	341.16	332.60	332.30	22.78	30.13	334.38	334.00	332.75	332.78	2.65	3.02	8.41	8.38
202	10BA054	10BA009	Circular	195.72	0.34	1.75	8.61	340.36	339.93	334.62	333.95	7.90	8.38	337.87	338.16	337.57	337.85	2.49	2.20	2.36	2.08
203	10BB047	10BB025	Circular	56.04	0.11	3.00	20.27	337.95	336.93	332.00	331.94	22.43	26.39	335.74	335.01	335.72	334.92	2.21	2.94	1.21	2.01
204	10BB004	10BB047	Circular	169.53	0.12	3.00	21.27	338.65	337.95	332.20	332.00	22.60	26.52	335.82	335.26	335.74	335.01	2.83	3.39	2.21	2.94
208	10AA004	10AB023	Circular	429.66	0.18	1.00	1.40	344.35	343.88	340.00	339.23	1.57	1.54	344.35	344.35	343.66	343.66	0.00	0.00	0.22	0.22
211	10AB056	10AB022	Circular	34.97	0.29	3.00	33.12	342.85	342.35	335.43	335.33	18.88	19.84	338.30	338.59	338.28	338.57	4.55	4.26	4.07	3.79
215	09AA009	09AA022	Circular	43.00	0.09	3.00	18.89	337.01	339.55	329.83	329.79	27.75	32.17	335.23	333.48	335.21	333.42	1.78	3.53	4.34	6.13
220	09AB009	09AB017	Circular	70.03	2.60	1.50	15.72	336.50	334.47	332.27	330.45	22.82	24.05	336.50	336.50	332.87	332.43	0.00	0.00	1.60	2.04
221	09AB017	09AB016	Circular	90.45	0.36	2.00	12.69	334.47	334.63	330.45	330.12	31.58	37.46	332.87	332.43	331.55	331.68	1.60	2.04	3.08	2.95
224	10BA009	10BA023	Circular	34.31	0.20	1.75	6.65	339.93	340.13	333.95	333.88	7.88	8.37	337.57	337.85	337.52	337.79	2.36	2.08	2.61	2.34
225	10AB022	10AB042	Circular	17.16	0.70	3.00	51.79	342.35	342.25	335.33	335.21	18.77	19.71	338.28	338.57	338.27	338.55	4.07	3.79	3.98	3.70
226	10AB042	10AB001	Circular	48.56	-0.56	3.00	46.18	342.25	342.09	335.21	335.48	18.65	19.57	338.27	338.55	338.23	338.51	3.98	3.70	3.86	3.58
227	10AB019	10AB001	Circular	227.23	0.81	0.83	1.82	341.46	342.09	337.31	335.48	3.03	3.00	341.46	341.46	338.23	338.51	0.00	0.00	3.86	3.58
234	10AB007	03DC018	Circular	139.75	0.11	1.50	3.20	340.65	340.29	336.55	336.40	3.35	4.47	339.59	339.93	339.42	339.64	1.06	0.72	0.87	0.65
235	03DC009	03DC018	Circular	45.53	0.20	1.00	1.47	340.14	340.29	336.49	336.40	-0.20	-0.22	339.42	339.64	339.42	339.64	0.72	0.50	0.87	0.65
236	03DC018	03DC008	Circular	42.09	0.10	1.50	3.01	340.29	340.04	336.20	336.16	3.36	4.47	339.42	339.64	339.37	339.55	0.87	0.65	0.67	0.49
237	03DC008	03DC007	Circular	200.00	-0.02	2.00	2.97	340.04	339.46	335.61	335.65	3.38	4.47	339.37	339.55	339.32	339.46	0.67	0.49	0.14	0.00
241	03DC007	03DC006	Circular	501.64	0.08	2.00	5.93	339.46	339.48	335.45	335.05	6.95	7.30	339.32	339.46	338.78	339.04	0.14	0.00	0.70	0.44
270	15AC048	15AC021	Circular	47.00	0.15	3.50	36.05	352.74	352.44	346.36	346.29	36.24	37.62	350.48	351.00	350.42	350.93	2.26	1.74	2.02	1.51
271	15AC021	15AC035	Circular	43.00	0.00	3.50	2.95	352.44	352.66	346.29	346.29	39.51	42.23	350.42	350.93	350.35	350.84	2.02	1.51	2.31	1.82
275	15DB043	15DB031	Circular	353.81	0.23	1.00	1.59	352.85	352.26	350.00	349.18	-0.45	-0.58	352.63	354.98	352.63	354.97	0.22	-2.13	-0.37	-2.71
278	15DB031	15AC021	Circular	218.44	0.62	1.00	2.61	352.26	352.44	349.11	347.75	3.45	4.62	352.63	354.97	350.42	350.93	-0.37	-2.71	2.02	1.51
282	09DA020	09DA019	Circular	454.97	0.31	1.25	3.32	339.69	341.60	336.86	335.47	4.03	3.87	339.69	339.69	338.14	338.59	0.00	0.00	3.46	3.01
284	09DA019	09DA010	Circular	264.34	0.05	1.75	3.13	341.60	339.35	335.47	335.35	4.03	3.88	338.14	338.59	338.04	338.50	3.46	3.01	1.31	0.85
285	09DA010	09DA001	Circular	34.76	0.43	1.75	9.67	339.35	340.12	335.35	335.20	4.02	3.88	338.04	338.50	338.04	338.49	1.31	0.85	2.08	1.63
286	09DA001	09DA008	Circular	61.34	0.54	1.75	10.79	340.12	339.35	335.18	334.85	4.02	3.88	338.04	338.49	338.03	338.47	2.08	1.63	1.32	0.88
287	09DA008	09DA022	Circular	78.40	0.24	1.75	7.24	339.35	340.21	334.85	334.66	4.01	3.88	338.03	338.47	338.02	338.45	1.32	0.88	2.19	1.76
290	10CB006	10CB007	Circular	63.04	0.16	0.67	0.45	339.55	339.55	336.50	336.40	1.20	1.21	339.55	339.55	339.49	339.27	0.00	0.00	0.06	0.28
291	10CB007	10CB004	Circular	130.47	0.06	0.83	0.50	339.55	343.76	336.40	336.32	1.19	1.21	339.49	339.27	339.45	339.09	0.06	0.28	4.31	4.67
292	15AB046	15AB043	Circular	322.94	0.10	1.25	1.89	349.41	348.55	342.91	342.59	14.55	18.56	384.76	406.21	371.15	387.34	-35.35	-56.80	-22.60	-38.79
293	10CC044	10CC058	Circular	180.26	1.00	1.25	5.99	341.05	343.81	338.32	336.52	3.71	3.55	340.34	340.38	339.98	340.04	0.71	0.67	3.83	3.77
294	10CC017	10CC059	Circular	441.35	0.01	1.25	0.70	340.85	343.40	336.45	336.39	1.88	1.79	340.18	340.25	340.07	340.16	0.67	0.60	3.33	3.24
299	10CB005	10CC017	Circular	291.12	0.26	1.00	1.69	340.43	340.85	337.37	336.61	1.88	1.79	340.43	340.43	340.18	340.25	0.00	0.00	0.67	0.60
347	15AC049	15AB064	Circular	410.89	0.09	1.50	2.97	350.56	350.95	347.96	347.58	1.95	12.32	348.83	355.10	348.41	348.60	1.73	-4.54	2.54	1.47
354	15AB049	15AB065	Circular	480.96	0.26	0.83	1.04	349.88	349.90	345.26	344.00	6.03	7.77	413.02	442.68	393.68	418.14	-63.14	-92.80	-43.78	-68.24
355	15AB065	15AB046	Circular	324.18	0.34	1.00	1.92	349.90	349.41	344.00	342.91	7.21	9.28	393.68	418.14	384.76	406.21	-43.78	-68.24	-35.35	-56.80
362	10DA098	10DA099	Circular	504.36	0.20	0.67	0.50	350.32	348.36	346.00	345.00	0.98	0.72	350.32	350.32	348.36	348.36	0.00	0.00	0.00	0.00
379	15AB045	15AB044	Circular	390.70	0.33	0.67	0.64	350.20	349.69	345.24	343.97	2.30	2.96	388.13	409.56	379.56	398.64	-37.93	-59.36	-29.86	-48.95
383	15AB044	15AB043	Circular	400.65	0.25	0.83	1.02	349.69	348.55	343.97	342.96	3.67	4.73	379.56	398.64	371.15	387.34	-29.86	-48.95	-22.60	-38.79
386	15AB043	10DC038	Circular	342.97	0.10	1.50	3.16	348.55	348.19	342.59	342.23	19.03	24.33	371.15	387.34	360.33	371.45	-22.60	-38.79	-12.14	-23.26
387	10DC039	10DC038	Circular	399.16	0.38	0.83	1.25	349.04	348.19	343.97	342.46	4.05	5.16	371.71	387.00	360.33	371.45	-22.67	-37.96	-12.14	-23.26
388	10DC045	10DC039	Circular	386.19	0.30	0.67	0.61	349.68	349.04	345.11	343.97	2.58	3.31	383.17	401.89	371.71	387.00	-33.49	-52.21	-22.67	-37.96
394	15DA052	15DA049	Circular	276.68	0.19	1.00	1.43	355.23	354.57	351.38	350.86	2.92	3.76	355.32	358.14	353.23	354.78	-0.09	-2.91	1.34	-0.21
397	15DA049	15DA048	Circular	271.64	0.04	1.50	2.05	354.57	354.17	350.82	350.70	5.62	7.12	353.23	354.78	352.41	353.38	1.34	-0.21	1.76	0.79
398	15DA020	15DA048	Circular	19.61	-0.15	0.83	0.79	352.36	354.17	350.67	350.70	-0.10	0.10	352.41	353.38	352.41	353.38	-0.05	-1.02	1.76	0.79
399	15DA019	15DA048	Circular	20.21	-0.15	0.83	0.78	352.38	354.17	350.67	350.70	-0.09	-0.08	352.41	353.38	352.41	353.38	-0.03	-1.00	1.76	0.79
400	15DA048	15AD056	Circular	119.45	0.12	2.00	7.19	354.17	354.69	350.54	350.40	5.54	7.09	352.41	353.38	352.35	353.25	1.76	0.79	2.34	1.44
402	15DA074	15DD058	Circular	338.25	0.12	1.00	1.14	358.09	359.79	353.83	353.43	0.61	0.73	356.38	358.00	356.27	357.85	1.71	0.09	3.52	1.94
424	10DD058	10DC044	Circular	389.62	0.23	1.00	1.59	349.67	348.90	344.62	343.72	5.06	6.39	372.00	386.49	365.28	377.24	-22.32	-36.82	-16.38	-28.34
429	10AD032	10AD031	Circular	193.59	0.86	0.67	1.06	347.45	346.78	343.60	341.93	1.07	0.69	344.16	347.45	342.49	346.78	3.29	0.00	4.29	0.00

Hydraulic Model Results - Full Buildout Conditions																				
Burkhart Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
431	10DD066	10DD001	Circular	187.62	0.43	0.67	0.73	351.68	350.79	348.60	347.80	1.14	1.44	391.57	411.63	390.68	410.54	-39.89	-59.95	-39.89	-59.75
432	10DD001	10DD065	Circular	191.58	0.20	0.67	0.50	350.79	350.25	347.62	347.24	2.50	3.18	390.68	410.54	385.93	404.57	-39.89	-59.75	-35.68	-54.32
437	10DC046	10DC042	Circular	408.17	0.45	0.67	0.75	347.81	347.66	345.00	343.17	2.75	3.53	380.42	397.80	365.86	378.55	-32.61	-49.99	-18.20	-30.89
438	10DD064	10DC046	Circular	378.67	0.35	0.67	0.66	349.61	347.81	346.31	345.00	1.52	1.94	384.21	402.70	380.42	397.80	-34.60	-53.09	-32.61	-49.99
446	10DD065	10DD060	Circular	304.60	0.54	0.67	0.82	350.25	350.88	347.14	345.51	2.47	3.13	385.93	404.57	377.90	394.40	-35.68	-54.32	-27.02	-43.52
479	15AD053	15AD054	Circular	202.87	0.77	1.00	2.90	353.45	354.41	348.70	347.14	-1.56	-1.95	351.97	352.60	352.33	353.22	1.49	0.86	2.08	1.19
482	15AD048	15AD053	Circular	170.64	0.16	1.00	1.32	353.77	353.45	348.97	348.70	-1.55	-1.94	351.75	352.34	351.97	352.60	2.02	1.43	1.49	0.86
484	15AD032	15AD048	Circular	21.83	1.33	0.83	2.34	353.85	353.77	349.38	349.09	-1.54	-1.93	351.71	352.30	351.75	352.34	2.15	1.55	2.02	1.43
490	15DD058	15DD059	Circular	79.92	0.91	1.25	5.73	359.79	360.01	353.43	352.70	2.81	3.34	356.27	357.85	356.10	357.62	3.52	1.94	3.92	2.39
491	15DD059	15DD065	Circular	319.52	0.06	1.25	1.46	360.01	359.95	352.65	352.46	3.67	4.37	356.10	357.62	355.00	356.03	3.92	2.39	4.95	3.92
492	14CC033	14CC034	Circular	145.83	-0.09	3.00	18.49	360.82	360.47	355.13	355.26	3.80	4.50	356.14	356.25	356.02	356.15	4.68	4.57	4.45	4.32
493	14CC034	23BB038	Circular	291.42	0.21	3.00	28.57	360.47	359.84	355.26	354.64	3.78	4.44	356.02	356.15	355.57	355.96	4.45	4.32	4.27	3.88
494	14CC036	23BB038	Circular	105.25	0.34	1.25	3.51	359.90	359.84	355.00	354.64	3.09	3.66	355.91	356.22	355.57	355.96	3.99	3.68	4.27	3.88
495	14CC039	14CC036	Circular	195.54	0.23	1.25	2.88	360.87	359.90	355.47	355.02	3.10	3.69	356.50	356.82	355.91	356.22	4.37	4.05	3.99	3.68
496	23BB038	23BB043	Circular	270.55	0.05	3.50	21.25	359.84	359.46	354.24	354.10	6.73	7.74	355.57	355.96	355.45	355.91	4.27	3.88	4.01	3.55
497	23BB043	23BB006	Circular	20.86	0.24	3.50	45.74	359.46	359.82	354.10	354.05	6.64	7.49	355.45	355.91	355.44	355.91	4.01	3.55	4.38	3.91
511	03BD006	03BD007	Natural	287.18	0.50	1.93	198.23	332.79	331.34	330.86	329.41	4.31	6.23	331.47	331.56	330.30	330.43	1.32	1.23	1.04	0.91
520	10BB045	10BB039	Circular	185.05	0.06	1.50	2.38	337.04	336.10	332.60	332.49	7.03	7.03	337.04	337.04	336.10	336.10	0.00	0.00	0.00	0.00
524	03CD006	03CD009	Circular	46.21	0.17	1.00	1.38	338.05	337.85	335.50	335.42	2.20	2.20	338.05	338.05	337.85	337.85	0.00	0.00	0.00	0.00
529	10BA043	10BA069	Circular	313.28	0.11	1.50	3.21	339.25	339.38	336.22	335.88	4.08	4.05	338.30	338.42	338.22	338.45	0.95	0.83	1.16	0.93
530	10BA067	10BA068	Circular	23.67	0.25	1.00	1.67	338.60	339.67	335.81	335.75	-0.03	-0.03	338.16	338.40	338.16	338.40	0.44	0.20	1.51	1.27
531	03CD034	03CD033	Circular	164.90	0.18	1.00	1.39	338.51	338.91	336.94	336.65	1.79	1.88	337.84	337.95	337.05	337.05	0.67	0.57	1.87	1.86
579	15AD056	15AD054	Circular	27.71	3.46	2.00	39.10	354.69	354.41	349.96	349.00	5.49	7.08	352.35	353.25	352.33	353.22	2.34	1.44	2.08	1.19
616	15AC023	15AC022	Circular	225.56	0.14	3.00	23.33	352.81	352.88	347.38	347.06	6.84	7.56	351.47	352.07	351.46	352.07	1.34	0.74	1.42	0.81
618	15AC050	15AC045	Circular	59.53	1.93	1.33	9.90	352.08	352.75	349.40	348.25	5.82	6.37	351.70	352.30	351.51	352.09	0.38	-0.22	1.24	0.66
637	15BA007	15BA001	Circular	38.74	3.02	0.83	3.53	347.44	347.15	345.55	344.38	1.38	1.78	346.84	347.70	346.67	347.41	0.60	-0.26	0.48	-0.26
639	15BA040	15BA001	Circular	169.40	-0.01	1.25	0.46	347.79	347.15	344.37	344.38	1.71	2.23	346.80	347.64	346.67	347.41	0.99	0.15	0.48	-0.26
640	15BA036	15BA040	Circular	228.92	0.65	1.25	4.82	348.16	347.79	345.93	344.45	1.72	2.23	346.97	347.94	346.80	347.64	1.19	0.22	0.99	0.15
664	22DA019	22DA076	Circular	59.50	0.39	1.00	2.06	364.00	364.55	359.60	359.37	-0.21	-0.67	364.73	369.84	364.73	369.84	-0.73	-5.84	-0.18	-5.29
665	22DA076	22AD053	Circular	57.64	0.12	1.50	3.40	364.55	364.32	359.16	359.09	1.43	1.85	364.73	369.84	364.72	369.82	-0.18	-5.29	-0.40	-5.50
669	22AD053	22AD051	Circular	134.58	0.17	1.50	4.03	364.32	364.84	359.09	358.86	1.37	1.81	364.72	369.82	364.69	369.78	-0.40	-5.50	0.15	-4.94
670	22AD051	22AD050	Circular	90.55	0.19	1.50	4.23	364.84	365.23	358.76	358.59	3.11	4.13	364.69	369.78	364.60	369.63	0.15	-4.94	0.63	-4.40
676	23BC001	23BC022	Circular	144.70	0.21	1.00	1.51	365.46	365.46	362.90	362.60	1.91	2.40	366.15	372.19	365.76	371.54	-0.69	-6.73	-0.30	-6.08
677	23BC022	22AD052	Circular	229.60	0.17	1.00	1.38	365.46	365.37	362.57	362.17	1.88	2.35	365.76	371.54	365.15	370.53	-0.30	-6.08	0.22	-5.16
678	22AD052	22AD032	Circular	121.98	0.01	1.00	0.30	365.37	365.26	361.99	361.98	1.85	2.31	365.15	370.53	364.82	370.00	0.22	-5.16	0.44	-4.74
679	22AD032	22AD051	Circular	49.50	3.98	1.00	6.60	365.26	364.84	361.52	359.55	1.88	2.31	364.82	370.00	364.69	369.78	0.44	-4.74	0.15	-4.94
684	10DD077	10DC045	Circular	394.19	0.30	0.67	0.62	349.88	349.68	346.31	345.11	1.39	1.77	386.36	405.93	383.17	401.89	-36.48	-56.05	-33.49	-52.21
691	10DC038	10DC041	Circular	321.91	0.13	1.75	5.38	348.19	347.52	342.16	341.73	23.86	30.49	360.33	371.45	352.64	359.69	-12.14	-23.26	-5.12	-12.17
695	10DC042	10DC041	Circular	394.14	0.32	0.83	1.16	347.66	347.52	343.17	341.89	4.23	5.42	365.86	378.55	352.64	359.69	-18.20	-30.89	-5.12	-12.17
700	10DC041	10DC048	Circular	300.86	0.08	2.00	5.81	347.52	347.34	341.61	341.38	28.93	36.98	352.64	359.69	347.19	351.12	-5.12	-12.17	0.15	-3.78
703	10DC043	10DC048	Circular	398.60	0.11	1.25	1.99	347.03	347.34	341.86	341.42	7.86	9.92	353.49	360.59	347.19	351.12	-6.46	-13.56	0.15	-3.78
711	22AA044	22AA048	Circular	54.46	0.37	2.50	23.08	358.80	358.57	354.70	354.50	2.84	3.56	357.44	358.01	357.44	358.01	1.36	0.79	1.13	0.56
712	22AA048	22AA051	Circular	75.47	0.13	2.50	13.86	358.57	358.56	354.55	354.45	2.77	3.51	357.44	358.01	357.44	358.01	1.13	0.56	1.12	0.55
724	15DC015	15DC044	Circular	179.12	-0.23	1.00	1.60	358.33	360.35	351.96	352.38	2.54	2.78	355.76	356.51	354.74	355.32	2.57	1.82	5.61	5.03
726	15DC044	15DC045	Circular	301.12	0.53	1.00	2.42	360.35	356.69	352.23	350.62	2.53	2.79	354.74	355.32	353.04	353.34	5.61	5.03	3.65	3.35
729	15DC045	15DC040	Circular	134.56	0.30	1.25	3.31	356.69	354.50	350.31	349.90	2.53	2.81	353.04	353.34	352.83	353.09	3.65	3.35	1.67	1.41
731	15DC034	15DC040	Circular	135.55	0.27	2.25	14.82	354.36	354.50	350.26	349.90	11.32	13.70	352.97	353.28	352.83	353.09	1.39	1.08	1.67	1.41
735	15DC035	15DC039	Circular	283.10	0.10	2.50	11.98	356.06	355.10	350.18	349.90	14.78	18.55	353.32	353.74	352.96	353.17	2.74	2.32	2.14	1.93
736	15DD061	15DC034	Circular	449.20	0.05	2.25	6.65	356.46	354.36	350.81	350.57	11.36	13.63	353.62	354.23	352.97	353.28	2.84	2.23	1.39	1.08
740	15DD062	15DD061	Circular	106.55	0.11	2.00	7.05	357.52	356.46	350.93	350.81	11.39	13.60	353.93	354.66	353.62	354.23	3.59	2.86	2.84	2.23
741	15DD063	15DD062	Circular	422.16	0.12	2.00	7.16	358.36	357.52	351.44	350.95	8.84	10.25	354.67	355.62	353.93	354.66	3.70	2.74	3.59	2.86
744	15DD064	15DD063	Circular	149.07	1.50	2.00	25.69	358.91	358.36	353.68	351.45	6.49	7.21	354.65	355.78	354.67	355.62	4.26	3.13	3.70	2.74
746	15DD065	15DD064	Circular	406.83	-0.44	2.00	13.93	359.95	358.91	351.90	353.69	5.15	5.38	355.00	356.03	354.65	355.78	4.95	3.92	4.26	3.13
825	10CC031	10CC065	Circular	67.46	1.59	0.83	2.56	343.05	344.69	339.77	338.70	0.89	1.16	341.05	341.22	341.04	341.19	2.00	1.83	3.65	3.50
826	10CC048	10CC062	Circular	96.52	0.39	0.83	1.28	342.45	346.64	338.95	338.57	1.56	2.04	341.05	341.71	340.95	341.08	1.40	0.74	5.68	5.56
829	10CD027.1	10CD027	Circular	94.65	0.19	2.50	16.61	345.00	345.27	341.00	340.82	9.34	-17.38	343.11	343.93	343.09	343.91	1.89	1.07	2.18	1.36
830	10CD030.1	10CD030	Circular	246.88	0.06	2.50	9.39	345.00	345.23	340.60	340.45	9.49	-17.47	343.09	343.91	343.06	344.03	1.91	1.09	2.17	1.20
831	10CD027	10CD030.1	Circular	23.99	0.50	2.50	26.94	345.27	345.00	340.72	340.60	9.40	-17.43	343.09	343.91	343.09	343.91	2.18	1.36	1.91	1.09
834	10CD030	10CD034	Circular	180.61	0.10	2.50	12.02	345.23	344.65	340.35	340.17	11.39	14.66	343.06	344.03	343.03	344.18	2.17	1.20	1.62	0.47
835	10CD034	10CD033	Circular	26.26	0.08	2.50	10.51	344.65	344.45	340.07	340.05	11.47	14.70	343.03	344.18	343.02	344.20	1.62	0.47	1.43	0.25
836	10CD033	10CD032	Circular	72.32	0.11	2.50	12.67	344.45	344.85	339.95	339.87	11.51	14.71	343.02	344.20	343.02	344.27	1.43	0.25	1.83	0.58
837	10CD032	10CD028.1	Circular	54.96	0.31	2.50	21.18	344.85	344.80	339.77	339.60	11.54	14.73	343.02	344.27	343.02	344.32	1.83	0.58	1.78	0.48
838	10CD028.1	10CD028	Circular	23.99	0.83	2.50	34.78	344.80	344.83	339.60	339.40	11.56	14.74	343.02	344.32	343.02	344.34	1.78	0.48	1.81	0.49
841	10CD036	10CD016	Circular	67.55	0.33	1.00	1.89	343.30	343.35	340.47	340.25	-0.07	-0.05	343.02	344.20	343.02	344.20	0.28	-0.90	0.33	-0.85
842	10CD016	10CD033	Circular	15.88	0.63	1.00	2.63	343.35	344.45	340.15	340.05	-0.13	-0.10	343.02	344.20	343.02	344.20	0.33	-0.85	1.43	0.25
852	15AB050	15AB049	Circular	387.86	0.29	0.83	1.10	350.48	349.88	346.47	345.33	4.56	5.90	421.00	452.75	413.02	442.68	-70.52	-102.27	-63.14	-92.80
855	15AA045	15AB050	Circular	411.31	0.26	0.67	0.57	350.64	350.48	347.53	346.47	2.21	2.85	425.49	458.21	421.00	452.75	-74.85	-107.57	-70.52	-102.27
868	15AC056	15AC057	Circular	112.35	0.17	1.00	1.36	352.68	352.49	347.88	347.69	0.78	1.05	348.65	348.94	348.59	348.83	4.03	3.74	3.90	3.66
868.1	03CC006	03CC004	Natural	251.53	0.56	3.55	198.42	338.15	337.84	335.15	333.73	5.63	6.76	335.66	335.73	335.47	335.55	2.49	2.42	2.37	2.29
869	15AC057	15AC058	Circular	86.57	0.18	1.50	4.19	352.49	351.99	347.62	347.46	0.79	1.06	348.59	348.83	348.58	348.82	3.90	3.66	3.41	3.17

Hydraulic Model Results - Full Buildout Conditions																				
Burkhart Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
870	15AC058	15AC060	Circular	232.61	0.15	1.50	3.73	351.99	351.30	347.39	347.05	1.91	2.49	348.58	348.82	348.50	348.69	3.41	3.17	2.80	2.61
871	15AC060	15AB059	Circular	314.65	0.12	2.00	7.20	351.30	350.72	347.03	346.66	2.88	3.82	348.50	348.69	348.43	348.60	2.80	2.61	2.29	2.12
872	15AB059	15AB062	Circular	23.29	0.21	2.00	9.73	350.72	350.82	346.66	346.61	4.06	5.36	348.43	348.60	348.43	348.59	2.29	2.12	2.39	2.23
872.1	10AB004	10BA001	Natural	237.44	0.41	2.00	40.30	341.65	340.68	339.65	338.68	1.62	1.97	340.06	340.21	340.06	340.21	1.59	1.44	0.62	0.47
875	15CD070	15CD068	Natural	301.75	0.18	3.54	91.35	358.09	356.86	354.20	353.66	2.46	3.07	354.38	354.44	354.27	354.42	3.71	3.65	2.59	2.44
882	15CD073	15CD072	Circular	47.53	0.25	1.00	1.66	358.76	358.61	357.57	357.45	0.24	0.34	357.83	357.87	357.71	357.73	0.93	0.88	0.90	0.88
889	15AA003	15AA045	Circular	291.68	0.16	0.67	0.45	350.12	350.64	348.00	347.53	2.05	2.67	428.64	462.02	425.49	458.21	-78.52	-111.90	-74.85	-107.57
895	15AA043	15AB048	Circular	389.11	0.43	0.67	0.74	351.53	350.21	347.58	345.89	1.33	1.72	404.08	430.42	401.80	427.60	-52.55	-78.89	-51.59	-77.39
896	15AB048	15AB047	Circular	387.20	0.36	0.67	0.68	350.21	349.82	345.83	344.42	2.59	3.32	401.80	427.60	392.92	416.70	-51.59	-77.39	-43.10	-66.88
897	15AB047	15AB046	Circular	382.20	0.40	0.83	1.28	349.82	349.41	344.42	342.91	4.03	5.17	392.92	416.70	384.76	406.21	-43.10	-66.88	-35.35	-56.80
927	10AC019	10AB056	Circular	1159.66	0.22	2.50	17.68	342.68	342.85	337.93	335.43	24.02	24.72	342.39	342.63	338.30	338.59	0.29	0.05	4.55	4.26
948	15DC023.1	15DC023	Circular	38.51	0.39	1.00	2.06	357.13	358.76	354.30	354.15	0.83	1.09	354.74	354.80	354.54	354.60	2.39	2.33	4.22	4.16
949	15DC023	15DC033	Circular	164.73	0.95	1.00	3.23	358.76	354.05	354.15	352.58	0.83	1.09	354.54	354.60	352.78	352.81	4.22	4.16	1.27	1.24
957	15DA059	15DA058	Circular	446.20	0.17	1.00	1.37	356.68	354.76	352.35	351.58	7.05	8.59	380.11	392.91	364.52	372.36	-23.43	-36.22	-9.75	-17.60
959	10AB023	10AB064	Circular	474.12	0.48	1.00	2.29	343.88	342.55	339.23	336.95	2.56	2.51	343.66	343.66	342.55	342.55	0.22	0.22	0.00	0.00
960	15DB030	15DB026	Circular	13.06	0.31	0.67	0.62	352.36	353.92	350.29	350.25	2.40	2.62	351.56	351.89	350.98	351.19	0.80	0.47	2.94	2.73
961	15DB026	15DB027	Circular	29.20	0.24	1.00	1.62	353.92	353.92	350.05	349.98	2.40	2.62	350.98	351.19	350.84	351.02	2.94	2.73	3.09	2.90
963	15DB014	15DB041	Circular	210.62	0.41	0.67	0.72	352.29	352.82	349.64	348.77	4.38	5.70	374.66	386.56	351.17	351.81	-22.36	-34.27	1.65	1.02
964	15DB041	15DC048.2	Circular	79.28	0.06	2.00	5.28	352.82	356.74	348.71	348.66	21.67	27.55	351.17	351.81	350.40	350.49	1.65	1.02	6.33	6.25
965	09AA012	09AB019	Circular	222.13	0.12	1.00	1.13	337.47	336.74	333.14	332.88	4.27	4.23	337.47	337.47	334.36	334.37	0.00	0.00	2.38	2.37
966	15DB034	15DB033	Circular	289.16	0.10	2.00	6.54	353.88	353.44	349.31	349.03	17.35	21.92	355.06	357.96	353.12	354.91	-1.18	-4.08	0.32	-1.47
967	15DB035	15DB034	Circular	139.86	0.24	2.00	10.20	354.79	353.88	349.70	349.37	17.35	21.92	355.99	359.41	355.06	357.96	-1.20	-4.62	-1.18	-4.08
968	15DB032	15DB035	Circular	356.66	0.04	2.00	4.16	353.30	354.79	349.84	349.70	17.36	21.92	358.34	363.07	355.99	359.41	-5.04	-9.77	-1.20	-4.62
969	09AA017	09AA018	Circular	230.57	0.27	1.00	1.72	337.19	336.41	333.86	333.24	2.07	2.08	337.19	337.19	336.41	336.41	0.00	0.00	0.00	0.00
972	15DA055	15DB032	Circular	178.64	0.17	2.00	8.75	353.93	353.30	350.15	349.84	15.74	19.82	359.30	364.55	358.34	363.07	-5.37	-10.62	-5.04	-9.77
975	15DA058	15DA055	Circular	316.44	0.33	1.50	5.62	354.76	353.93	351.23	350.18	13.06	16.42	364.52	372.36	359.30	364.55	-9.75	-17.60	-5.37	-10.62
1022	22AD049	22AD048	Circular	234.17	0.03	1.50	1.69	365.75	364.76	357.62	357.55	5.23	6.95	363.97	368.54	363.33	367.48	1.78	-2.79	1.43	-2.72
1025	22AD047	22AD048	Circular	22.21	0.68	1.25	4.93	364.50	364.76	357.91	357.76	2.18	2.74	363.36	367.52	363.33	367.48	1.14	-3.02	1.43	-2.72
1027	22AD048	22AD055	Circular	292.84	0.06	1.75	3.55	364.76	363.96	357.02	356.85	7.14	9.42	363.33	367.48	362.67	366.36	1.43	-2.72	1.29	-2.40
1028	03CD032	03CD004	Natural	105.08	1.00	3.55	161.52	339.63	339.69	336.63	335.58	1.40	1.49	336.88	336.89	335.98	336.00	2.75	2.74	3.70	3.68
1032	22AD055	22AD054	Circular	194.86	0.03	1.75	2.58	363.96	363.16	356.80	356.74	8.32	10.97	362.67	366.36	362.06	365.33	1.29	-2.40	1.10	-2.17
1035	22AD054	22AA038	Circular	101.45	0.15	1.75	5.66	363.16	362.69	356.52	356.37	8.32	10.97	362.06	365.33	361.74	364.79	1.10	-2.17	0.95	-2.10
1036	22AA038	22AA037	Circular	65.72	0.09	1.75	4.45	362.69	361.56	356.37	356.31	14.09	18.61	361.74	364.79	361.16	363.78	0.95	-2.10	0.40	-2.22
1038	23BC023	23BB030	Circular	329.17	0.10	2.00	6.65	363.47	362.58	358.84	358.51	5.10	6.72	362.64	366.30	362.45	365.98	0.84	-2.83	0.13	-3.40
1038.1	03DB003	03DB026	Natural	354.89	0.10	4.44	1032.49	339.58	338.94	335.14	334.50	3.01	3.80	335.43	335.49	335.27	335.37	4.15	4.08	3.67	3.57
1039	23BB030	22AA040	Circular	179.08	0.66	1.50	7.95	362.58	361.74	358.51	357.32	5.09	6.71	362.45	365.98	361.97	365.17	0.13	-3.40	-0.23	-3.43
1041	03DB013	03DB013.1	Natural	352.96	0.11	4.31	579.08	338.31	337.93	334.00	333.62	13.09	14.40	334.93	335.02	334.86	334.95	3.38	3.29	3.07	2.99
1041.1	03DB013.1	03CA013	Natural	658.03	0.10	4.31	567.82	337.93	337.26	333.62	332.95	12.13	15.97	334.86	334.95	334.79	334.86	3.07	2.99	2.47	2.39
1042	22AA040	22AA038	Circular	85.00	0.24	1.50	4.73	361.74	362.69	356.94	356.74	5.09	6.72	361.97	365.17	361.74	364.79	-0.23	-3.43	0.95	-2.10
1044	23BB036	23BB033	Circular	74.01	0.68	1.00	2.72	361.00	364.89	359.15	358.65	10.25	13.10	361.13	361.29	359.87	360.02	-0.13	-0.29	5.02	4.87
1050	22AA035	22AA034	Circular	348.82	0.14	2.25	10.67	361.90	360.60	355.95	355.47	16.13	21.32	359.20	360.41	358.14	358.58	2.70	1.49	2.46	2.02
1051	22AA034	22AA042	Circular	101.19	0.08	2.25	8.09	360.60	361.50	355.44	355.36	16.11	21.32	358.14	358.58	357.87	358.10	2.46	2.02	3.63	3.40
1053	03BB011	03BB012	Natural	97.60	-0.19	2.43	132.17	328.54	328.73	326.11	326.30	-81.78	-100.54	328.54	328.54	328.63	328.66	0.00	0.00	0.10	0.07
1054	23BB024	22AA033	Circular	177.10	0.28	2.00	11.16	359.65	358.76	355.71	355.21	4.03	5.03	357.98	358.22	357.92	358.15	1.67	1.43	0.84	0.61
1057	22AA032	22AA039	Circular	147.28	0.14	1.00	1.25	358.96	361.40	355.51	355.30	-0.01	-0.01	357.58	358.04	357.58	358.04	1.38	0.92	3.82	3.36
1058	22AA042	22AA039	Rectangular	78.20	0.08	4.00	79.68	361.50	361.40	355.36	355.30	46.42	59.29	357.87	358.10	357.58	358.04	3.63	3.40	3.82	3.36
1059	22AA033	22AA042	Circular	146.53	0.12	2.00	7.16	358.76	361.50	355.21	355.04	4.03	5.03	357.92	358.15	357.87	358.10	0.84	0.61	3.63	3.40
1061	22AA003	22AA031	Circular	16.53	0.30	3.00	34.06	358.92	359.18	353.90	353.85	7.90	9.44	355.42	355.90	355.41	355.90	3.50	3.02	3.77	3.28
1062	22AA031	15DD068	Circular	367.48	0.04	3.00	11.65	359.18	359.34	353.85	353.72	7.97	9.62	355.41	355.90	355.18	355.79	3.77	3.28	4.16	3.55
1067	15DD068	15DD085	Circular	48.02	0.04	3.00	12.64	359.34	358.94	353.57	353.55	10.25	11.34	355.18	355.79	355.14	355.77	4.16	3.55	3.80	3.17
1068	15DD068	15DD066	Circular	409.22	0.23	1.00	1.59	359.34	358.64	353.57	352.63	0.80	1.18	355.18	355.79	355.12	356.08	4.16	3.55	3.52	2.56
1074	15DD066	15DD065	Circular	137.94	0.03	1.25	1.02	358.64	359.95	352.50	352.46	2.10	2.45	355.12	356.08	355.00	356.03	3.52	2.56	4.95	3.92
1079	03CC002	03CC001	Natural	4.26	19.01	2.22	554.64	336.64	336.00	334.51	333.70	-44.90	-12.54	335.39	335.45	335.44	335.46	1.25	1.20	0.56	0.54
1081	10AB005	03CD034	Natural	814.23	0.32	1.79	310.55	341.57	338.51	339.57	336.94	2.35	3.16	340.02	340.08	337.84	337.95	1.55	1.49	0.67	0.57
1093	10DA064	10DA061	Circular	301.56	0.15	1.00	1.28	347.87	347.40	343.67	343.22	1.70	1.33	347.87	347.87	347.40	347.40	0.00	0.00	0.00	0.00
1099	10DA061	10DA059	Circular	325.54	0.25	1.00	1.65	347.40	347.28	343.22	342.41	2.51	1.46	347.40	347.40	347.28	347.28	0.00	0.00	0.00	0.00
1104	10DA059	10AD055	Circular	284.99	0.04	1.00	0.68	347.28	346.77	342.36	342.24	2.95	1.71	347.28	347.28	346.77	346.77	0.00	0.00	0.00	0.00
1107	10DA099	10DA093	Circular	479.11	0.38	0.83	1.25	348.36	348.91	345.00	343.20	1.57	0.96	348.36	348.36	345.63	347.58	0.00	0.00	3.28	1.33
1108	10DA093	10AD031	Circular	494.73	0.26	0.83	1.03	348.91	346.78	343.20	341.93	1.56	0.92	345.63	347.58	342.49	346.78	3.28	1.33	4.29	0.00
1109	23BB028	23BB027	Circular	293.64	0.04	1.50	1.97	362.39	361.50	358.09	357.97	1.88	2.23	359.07	359.33	358.88	359.18	3.32	3.06	2.62	2.32
1110	23BB027	23BB026	Circular	260.57	0.11	2.00	7.01	361.50	360.96	357.30	357.01	3.65	4.38	358.88	359.18	358.81	359.08	2.62	2.32	2.15	1.88
1111	23BB026	23BB003	Circular	44.81	0.22	2.00	9.92	360.96	363.32	357.01	356.91	11.63	14.30	358.81	359.08	358.70	358.89	2.15	1.88	4.62	4.43
1112	23BB040	23BB025	Circular	383.79	0.25	1.75	7.32	361.76	361.32	357.76	356.81	4.50	5.36	358.79	358.97	358.13	358.36	2.97	2.79	3.19	2.96
1113	23BB025	23BB024	Circular	376.80	0.12	2.00	7.26	361.32	359.65	356.73	356.28	4.23	5.12	358.13	358.36	357.98	358.22	3.19	2.96	1.67	1.43
1117	10DD071	10DA075	Circular	331.18	0.34	0.83	1.19	349.77	348.90	345.69	344.56	0.93	1.07	349.56	349.77	348.90	348.90	0.21	0.00	0.00	0.00
1118	23BC020	23BC008	Circular	314.70	0.22	1.00	1.54	363.92	362.67	361.05	360.37	2.55	3.31	365.66	371.22	363.93	368.43	-1.74	-7.30	-1.26	-5.76
1119	23BC008	23BC003	Circular	32.72	0.46	1.00	2.24	362.67	362.74	360.35	360.20	2.51	3.28	363.93	368.43	363.74	368.14	-1.26	-5.76	-1.00	-5.40
1122	23BC003	23BC006	Circular	93.69	0.20	1.00	1.49	362.74	362.70	360.05	359.86	2.50	3.28	363.74	368.14	363.23	367.29	-1.00	-5.40	-0.53	-4.60
1123	23BC006	23BC017	Circular	81.33	0.26	1.33	3.62	362.70	363.09	359.76	359.55	2.51	3.29	363.23	367.29	363.13	367.13	-0.53	-4.60	-0.04	-4.04
1124	23BC017	23BC023	Circular	183.77	0.20	1.50	4.32	363.09	363.47	359.53	359.17	5.12	6.73	363.13	367.13	362.64	366.30	-0.04	-4.04	0.84	-2.83

Hydraulic Model Results - Full Buildout Conditions																					
Burkhart Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1137	22AB037	22AB036	Circular	221.51	0.20	1.25	2.67	359.06	362.34	355.92	355.48	2.80	3.73	356.91	357.26	355.69	355.79	2.15	1.80	6.65	6.55
1138	22AB036	22AB040	Circular	135.01	2.86	1.25	10.14	362.34	356.00	355.23	351.37	2.80	3.73	355.69	355.79	353.48	353.56	6.65	6.55	2.52	2.43
1149	14CC013	14CC015	Circular	51.38	0.27	1.00	1.73	358.76	358.76	356.85	356.71	-0.51	-0.45	388.17	403.38	388.17	403.38	-29.41	-44.62	-29.41	-44.62
1150	14CC015	14CC016	Circular	143.85	0.08	1.00	0.91	358.76	358.30	356.71	356.60	-1.01	-0.90	388.17	403.38	388.16	403.38	-29.41	-44.62	-29.86	-45.07
1151	14CC016	14CC014	Circular	107.57	0.19	1.00	1.43	358.30	358.75	356.60	356.40	1.79	2.19	388.16	403.38	387.98	403.16	-29.86	-45.07	-29.23	-44.41
1152	14CC014	15DD057	Circular	365.55	0.11	1.25	2.03	358.75	358.20	356.40	355.98	3.67	4.52	387.98	403.16	386.96	401.80	-29.23	-44.41	-28.75	-43.60
1155	15DD057	15DA068	Circular	185.99	0.03	1.50	1.75	358.20	357.60	355.98	355.92	6.32	7.90	386.96	401.80	386.34	400.94	-28.75	-43.60	-28.74	-43.34
1158	15DA066	15DA064	Circular	212.12	0.16	1.50	3.91	357.17	356.36	353.34	353.00	16.88	20.92	378.17	389.47	372.83	381.88	-21.00	-32.30	-16.47	-25.52
1161	15DA064	15DA051	Circular	41.52	0.22	1.50	4.54	356.36	356.62	353.00	352.91	16.91	20.96	372.83	381.88	371.75	380.33	-16.47	-25.52	-15.13	-23.71
1162	15DA051	15DA062	Circular	275.97	0.08	1.50	2.69	356.62	356.23	352.91	352.70	18.46	22.83	371.75	380.33	362.95	367.63	-15.13	-23.71	-6.72	-11.40
1163	15DA062	15DA002	Circular	68.88	0.13	1.50	3.53	356.23	356.27	352.70	352.61	20.36	25.10	362.95	367.63	360.11	363.46	-6.72	-11.40	-3.84	-7.19
1164	15DA002	15AD057	Circular	106.03	0.37	1.50	5.92	356.27	356.26	352.26	351.87	20.36	25.11	360.11	363.46	355.69	356.92	-3.84	-7.19	0.57	-0.65
1168	14BC027	14BC015	Circular	66.03	-0.02	2.50	4.69	356.86	357.28	349.92	349.93	16.54	17.41	355.66	356.64	355.66	356.68	1.20	0.22	1.62	0.60
1169	14BC015	14BC014	Circular	114.51	0.11	2.50	12.83	357.28	357.30	349.85	349.72	16.54	17.41	355.66	356.68	355.67	356.74	1.62	0.60	1.63	0.56
1170	14BC014	15AD045	Circular	230.55	0.24	2.50	18.60	357.30	356.10	349.72	349.17	16.53	17.41	355.67	356.74	355.68	356.87	1.63	0.56	0.42	-0.77
1171	15AD045	15AD057	Circular	74.17	-0.03	2.50	6.25	356.10	356.26	349.17	349.19	16.53	17.41	355.68	356.87	355.69	356.92	0.42	-0.77	0.57	-0.65
1174	15AD057	15AD055	Circular	356.65	0.15	2.50	14.82	356.26	355.17	349.19	348.65	24.12	24.40	355.69	356.92	354.35	355.49	0.57	-0.65	0.82	-0.32
1177	15AD055	15AD061	Circular	78.67	-0.01	2.50	4.29	355.17	354.86	348.65	348.66	25.23	26.41	354.35	355.49	354.01	355.12	0.82	-0.32	0.85	-0.26
1178	15AD061	15AD028	Circular	90.55	1.12	2.50	40.23	354.86	355.21	348.65	347.64	25.22	26.40	354.01	355.12	353.62	354.70	0.85	-0.26	1.59	0.51
1181	15AD028	15AD046	Circular	203.10	0.15	2.50	14.64	355.21	354.20	347.64	347.34	27.04	28.63	353.62	354.70	352.64	353.57	1.59	0.51	1.56	0.63
1183	15AD046	15AD054	Circular	64.76	0.31	2.50	21.17	354.20	354.41	347.34	347.14	27.03	28.62	352.64	353.57	352.33	353.22	1.56	0.63	2.08	1.19
1184	15AD054	15AC030	Circular	471.51	0.05	3.50	21.08	354.41	352.91	347.14	346.90	30.96	33.74	352.33	353.22	351.86	352.61	2.08	1.19	1.06	0.30
1185	15AC030	15AC029	Circular	103.00	-0.29	3.50	50.42	352.91	353.26	346.90	347.20	30.94	33.73	351.86	352.61	351.76	352.48	1.06	0.30	1.50	0.78
1186	15AC029	15AC032	Circular	91.51	0.44	3.50	61.77	353.26	353.04	347.20	346.80	30.94	33.72	351.76	352.48	351.67	352.37	1.50	0.78	1.37	0.67
1187	15AC032	15AC039	Circular	114.00	0.05	3.50	21.43	353.04	352.88	346.80	346.74	30.93	33.71	351.67	352.37	351.56	352.22	1.37	0.67	1.32	0.66
1188	15AC039	15AC022	Circular	90.57	-0.35	3.50	55.53	352.88	352.88	346.74	347.06	34.41	38.24	351.56	352.22	351.46	352.07	1.32	0.66	1.42	0.81
1192	15DB040	15DB039	Circular	34.52	0.41	0.67	0.72	352.31	352.31	350.74	350.60	3.51	4.55	357.02	361.19	353.93	356.27	-4.70	-8.88	-1.62	-3.96
1193	15DB039	15AC039	Circular	86.98	0.00	0.83	0.06	352.31	352.88	348.92	348.92	3.50	4.55	353.93	356.27	351.56	352.22	-1.62	-3.96	1.32	0.66
1195	15AC022	15AC020	Circular	313.50	0.15	3.50	35.79	352.88	352.07	347.01	346.55	36.26	37.63	351.46	352.07	350.99	351.57	1.42	0.81	1.08	0.50
1198	15AC020	15AC048	Circular	352.50	0.05	3.50	21.11	352.07	352.74	346.55	346.37	36.26	37.62	350.99	351.57	350.48	351.00	1.08	0.50	2.26	1.74
1200	15BD094	15BD095	Circular	130.51	0.09	3.50	28.33	351.07	350.89	346.05	345.93	40.80	44.28	349.69	350.04	349.50	349.83	1.38	1.03	1.39	1.06
1201	15BD095	15BD096	Circular	152.01	0.09	3.50	28.35	350.89	350.67	345.93	345.79	40.73	44.23	349.50	349.83	349.28	349.59	1.39	1.06	1.38	1.07
1202	15BD096	15CA090	Circular	118.99	0.08	3.50	27.08	350.67	352.40	345.79	345.69	40.65	44.17	349.28	349.59	349.12	349.40	1.38	1.07	3.28	2.99
1277	15AC035	15BD093	Circular	219.52	0.05	3.50	19.94	352.66	352.05	346.29	346.19	39.47	42.23	350.35	350.84	350.01	350.41	2.31	1.82	2.04	1.64
1332	15AC036	15AC047	Circular	38.69	0.26	0.67	0.57	351.20	351.70	349.60	349.50	1.52	2.19	353.16	355.32	352.50	353.97	-1.96	-4.12	-0.80	-2.28
1333	15AC047	15AC050	Circular	35.33	0.28	0.83	1.08	351.70	352.08	349.50	349.40	3.63	5.11	352.50	353.97	351.70	352.30	-0.80	-2.28	0.38	-0.22
1334	15AD017	15AD067	Circular	101.66	0.30	3.00	33.64	354.12	354.37	351.12	350.82	-0.11	-0.19	351.71	352.31	351.71	352.31	2.41	1.81	2.66	2.07
1335	15AD067	15AD063	Circular	112.43	1.01	2.00	21.06	354.37	354.83	350.82	349.69	-0.28	-0.50	351.71	352.31	351.71	352.30	2.66	2.07	3.12	2.53
1336	15AD063	15AD064	Circular	101.55	0.03	2.00	3.61	354.83	354.62	349.69	349.66	-0.65	-0.64	351.71	352.30	351.71	352.30	3.12	2.53	2.91	2.32
1337	15AD064	15AD065	Circular	122.46	0.11	2.00	7.10	354.62	354.64	349.66	349.52	-1.05	-0.76	351.71	352.30	351.71	352.30	2.91	2.32	2.94	2.34
1341	15AC041	15AC040	Circular	37.74	0.19	1.50	4.20	351.76	351.69	349.76	349.69	-0.29	-0.49	355.87	369.77	355.87	369.77	-4.11	-18.01	-4.18	-18.08
1342	15AC040	15AB064	Circular	816.35	0.03	1.50	1.67	351.69	350.95	349.69	349.45	7.87	9.56	355.87	369.77	348.41	348.60	-4.18	-18.08	2.54	1.47
1367	15BA001	15BA037	Circular	148.00	0.07	1.25	1.64	347.15	346.06	344.38	344.27	3.08	4.00	346.67	347.41	346.29	346.77	0.48	-0.26	-0.23	-0.71
1368	15BA037	15BA033	Circular	153.60	0.40	1.25	3.81	346.06	347.86	344.27	343.65	3.07	3.99	346.29	346.77	345.95	346.10	-0.23	-0.71	1.91	1.76
1369	15BA033	15BA032	Circular	152.59	0.13	1.25	2.17	347.86	346.36	343.65	343.45	3.07	3.99	345.95	346.10	345.92	345.45	1.91	1.76	0.44	0.91
1370	15BA032	15BA038	Circular	80.50	0.12	1.25	2.11	346.36	346.33	343.45	343.35	3.06	3.98	345.92	345.45	345.90	345.39	0.44	0.91	0.43	0.94
1371	15BB025	15BB036	Circular	26.67	0.45	1.75	9.87	344.96	347.06	340.18	340.06	-0.13	-0.07	342.53	343.16	342.53	343.16	2.43	1.80	4.53	3.90
1372	15BB036	15BB035	Circular	83.06	0.22	1.75	6.85	347.06	346.45	340.06	339.88	1.91	2.37	342.53	343.16	342.53	343.15	4.53	3.90	3.92	3.30
1373	15BB035	15BB034	Circular	323.85	0.14	1.75	5.42	346.45	344.62	339.73	339.29	3.79	4.43	342.53	343.15	342.33	342.90	3.92	3.30	2.29	1.72
1375	15BB034	15BB033	Circular	221.63	0.17	1.75	6.01	344.62	343.46	339.17	338.80	6.64	7.59	342.33	342.90	341.90	342.34	2.29	1.72	1.56	1.12
1376	15BB033	15BB032	Circular	38.98	0.23	1.75	7.07	343.46	343.46	338.80	338.71	7.59	8.80	341.90	342.34	341.81	342.22	1.56	1.12	1.65	1.24
1378	15BB032	15BB030	Circular	283.85	0.22	1.75	6.93	343.46	342.46	338.71	338.08	7.58	8.80	341.81	342.22	341.48	341.47	1.65	1.24	0.98	0.99
1380	15BB030	15BB044	Circular	51.21	0.18	2.00	8.81	342.46	343.99	338.08	337.99	7.58	8.79	341.48	341.47	341.46	341.42	0.98	0.99	2.53	2.57
1382	10CC029	10CC030	Circular	33.72	0.27	0.83	1.05	341.59	341.67	340.59	340.50	1.87	2.42	341.70	342.41	341.57	341.95	-0.11	-0.82	0.11	-0.28
1383	10CC030	15BB041	Circular	173.59	1.48	1.00	4.03	341.67	344.35	340.50	337.93	1.85	2.41	341.57	341.95	341.50	341.35	0.11	-0.28	2.85	3.00
1387	15BB037	15BB038	Circular	75.81	-0.04	1.25	1.19	343.11	343.48	339.29	339.32	2.28	2.95	342.05	342.60	341.94	342.43	1.06	0.51	1.54	1.05
1388	15BB038	15BB039	Circular	83.89	0.48	1.25	4.14	343.48	343.90	339.32	338.92	2.28	2.94	341.94	342.43	341.83	342.23	1.54	1.05	2.07	1.67
1389	15BB039	15BB042	Circular	137.16	0.70	1.50	8.16	343.90	346.78	338.82	337.86	5.16	6.68	341.83	342.23	341.77	341.79	2.07	1.67	5.01	4.99
1390	10CC024	10CC049	Circular	11.28	3.10	0.83	3.58	343.17	343.46	341.07	340.72	0.06	-0.11	342.59	343.87	342.59	343.87	0.58	-0.70	0.87	-0.41
1392	10CC049	10CC055	Circular	339.80	0.32	1.50	5.55	343.46	344.55	340.72	339.62	1.65	2.07	342.59	343.87	342.50	343.72	0.87	-0.41	2.05	0.83
1393	10CC055	10CC054	Circular	79.01	0.51	1.50	6.94	344.55	345.42	339.62	339.22	3.41	4.30	342.50	343.72	342.42	343.58	2.05	0.83	3.00	1.84
1394	10CC054	10CC053	Circular	111.39	0.81	1.50	8.77	345.42	343.39	339.22	338.32	3.40	4.28	342.42	343.58	342.31	343.39	3.00	1.84	1.08	0.00
1395	10CD028	10CC053	Circular	383.65	0.15	3.50	36.64	344.83	343.39	338.91	338.32	42.36	46.64	343.02	344.34	342.31	343.39	1.81	0.49	1.08	0.00
1396	10CC053	10CC052	Circular	66.01	0.26	3.50	47.41	343.39	343.24	338.31	338.14	45.05	50.69	342.31	343.39	342.17	343.20	1.08	0.00	1.07	0.04
1402	10CD029	10CD028	Circular	559.21	0.09	3.50	27.37	345.64	344.83	339.88	339.40	44.66	56.82	344.23	346.39	343.02	344.34	1.41	-0.75	1.81	0.49
1403	10CD031	10CD029	Circular	338.61	0.22	3.00	29.15	346.55	345.64	340.63	339.88	41.68	52.97	345.75	348.82	344.23	346.39	0.80	-2.27	1.41	-0.75
1411	10DC048	10CD031	Circular	395.56	0.15	3.00	24.32	347.34	346.55	341.24	340.63	37.63	47.96	347.19	351.12	345.75	348.82	0.15	-3.78	0.80	-2.27
1412	10CC052	10CC051	Circular	354.62	0.14	3.50	34.73	343.24	342.30	338.14	337.65	48.27	54.94	342.17	343.20	341.34	341.99	1.07	0.04	0.96	0.31
1416	10CC051	10CC063.1	Circular	365.64	0.05	3.50	21.85	342.30	342.30	336.84	336.64	50.72	58.17	341.34	341.99	340.54	340.79	0.96	0.31	1.76	1.51
1420	10CC050	10CC060	Circular	209.57	0.29	2.25	15.39	343.75	343.07	337.75	337.15	11.39	12.38	340.85	341.11	340.57	340.83	2.90	2.64	2.50	2.24

Hydraulic Model Results - Full Buildout Conditions																					
Burkhart Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1421	10CC038	10CC039	Circular	39.82	0.00	1.00	0.10	343.32	343.33	338.85	338.85	-0.11	-0.12	340.57	340.83	340.57	340.83	2.75	2.49	2.75	2.50
1422	10CC060	10CC063.1	Circular	27.01	1.85	2.25	39.13	343.07	342.30	337.14	336.64	11.35	12.29	340.57	340.83	340.54	340.79	2.50	2.24	1.76	1.51
1423	10CC039	10CC060	Circular	25.15	6.76	1.00	8.60	343.33	343.07	338.85	337.15	-0.16	-0.16	340.57	340.83	340.57	340.83	2.75	2.50	2.50	2.24
1425	10CC041	10CC050	Circular	18.08	3.65	1.25	11.46	343.32	343.75	338.41	337.75	-2.14	-2.21	340.85	341.12	340.85	341.11	2.47	2.21	2.90	2.64
1427	10CC070	10CC042	Circular	97.26	1.33	1.00	3.81	346.62	343.75	342.35	341.06	0.76	1.11	342.66	342.72	341.36	341.47	3.96	3.90	2.39	2.28
1428	10CC042	10CC041	Circular	126.72	2.09	1.00	4.78	343.75	343.32	341.06	338.41	0.76	1.11	341.36	341.47	340.85	341.12	2.39	2.28	2.47	2.21
1429	09DD025	10CC050	Circular	481.67	0.24	2.00	10.31	343.05	343.75	338.91	337.75	11.01	11.98	342.00	342.34	340.85	341.11	1.05	0.71	2.90	2.64
1434	09DD004	09DD005	Circular	37.52	1.01	1.00	3.33	343.13	342.55	339.58	339.20	8.08	8.62	344.15	344.71	342.09	342.44	-1.02	-1.58	0.46	0.11
1435	09DD005	09DD025	Circular	18.05	1.61	1.75	18.65	342.55	343.05	339.20	338.91	11.01	11.98	342.09	342.44	342.00	342.34	0.46	0.11	1.05	0.71
1437	10DC044	10DC043	Circular	392.66	0.47	1.00	2.28	348.90	347.03	343.72	341.86	6.36	8.01	365.28	377.24	353.49	360.59	-16.38	-28.34	-6.46	-13.56
1443	10DD060	10DD058	Circular	288.59	0.31	0.83	1.13	350.88	349.67	345.51	344.62	3.70	4.70	377.90	394.40	372.00	386.49	-27.02	-43.52	-22.32	-36.82
1446	10DD061	10DD060	Circular	356.10	0.42	0.67	0.73	350.63	350.88	347.01	345.51	1.16	1.48	380.11	397.24	377.90	394.40	-29.48	-46.61	-27.02	-43.52
1496	09AA018	09AA020	Circular	147.54	0.29	1.00	1.79	336.41	336.18	333.24	332.81	4.14	4.10	336.41	336.41	336.18	336.18	0.00	0.00	0.00	0.00
1497	09AA020	09AA019	Circular	33.16	0.30	1.00	1.82	336.18	336.66	332.81	332.71	4.14	4.10	336.18	336.18	336.26	336.66	0.00	0.00	0.40	0.00
1498	09AA019	09AA021	Circular	54.42	5.26	1.00	7.58	336.66	336.72	332.71	329.85	9.77	9.97	336.26	336.66	331.78	332.17	0.40	0.00	4.94	4.55
1499	10BA034	10BB024	Circular	380.10	0.12	3.00	21.31	338.93	337.98	332.94	332.49	19.68	22.71	336.13	335.90	335.89	335.47	2.80	3.03	2.09	2.51
1570	03DB006	03DB012	Circular	259.86	0.09	2.00	6.25	336.89	337.64	334.33	334.10	11.27	11.66	336.18	336.28	335.14	335.22	0.71	0.61	2.50	2.42
1571	03DC004	03DB006	Circular	339.39	0.04	2.00	4.27	337.75	336.89	334.57	334.43	11.29	11.85	337.13	337.28	336.18	336.28	0.62	0.47	0.71	0.61
1572	03DC005	03DC004	Circular	294.19	0.01	2.00	2.45	338.53	337.75	334.81	334.77	11.30	11.91	337.96	338.17	337.13	337.28	0.57	0.36	0.62	0.47
1579	03BA025	03BA023	Natural	217.23	0.54	2.03	62.66	331.18	330.21	329.25	328.07	4.22	6.11	329.73	329.80	329.31	329.60	1.45	1.38	0.90	0.61
1750	22AD050	22AD062	Circular	98.07	0.36	1.50	5.83	365.23	365.83	358.59	358.24	3.14	4.18	364.60	369.63	364.51	369.47	0.63	-4.40	1.32	-3.64
1751	22AD062	22AD049	Circular	200.81	0.21	1.50	4.51	365.83	365.75	358.19	357.76	5.20	6.90	364.51	369.47	363.97	368.54	1.32	-3.64	1.78	-2.79
1752	22AD064	22AD063	Circular	314.69	0.06	2.00	5.16	363.55	365.63	359.10	358.91	2.21	2.77	364.58	369.59	364.55	369.54	-1.03	-6.04	1.08	-3.91
1753	22AD063	22AD062	Circular	40.02	1.17	1.25	6.50	365.63	365.83	358.86	358.39	2.07	2.74	364.55	369.54	364.51	369.47	1.08	-3.91	1.32	-3.64
1788	10CA028	10CA050	Circular	325.61	0.32	1.00	1.88	343.66	343.94	341.00	339.95	2.28	2.22	343.66	343.66	343.17	343.17	0.00	0.00	0.77	0.77
1789	10CA050	10CA027	Circular	184.59	0.38	1.00	2.04	343.94	343.95	339.27	338.57	2.10	2.17	343.17	343.17	342.89	342.90	0.77	0.77	1.06	1.05
1793	10CA027	10CA022	Circular	204.89	0.39	1.00	2.07	343.95	343.27	338.55	337.75	2.09	2.11	342.89	342.90	342.59	342.60	1.06	1.05	0.68	0.67
1794	10CA022	10CA011	Circular	115.51	0.01	1.00	0.31	343.27	343.74	337.75	337.74	2.09	2.05	342.59	342.60	342.42	342.44	0.68	0.67	1.32	1.30
1797	10CA017	10CA011	Circular	64.00	1.16	1.00	3.56	343.00	343.74	338.48	337.74	3.36	3.30	343.00	343.00	342.42	342.44	0.00	0.00	1.32	1.30
1798	10CA011	10CA051	Circular	283.12	0.36	1.25	3.62	343.74	342.61	337.53	336.50	4.66	4.59	342.42	342.44	340.86	340.92	1.32	1.30	1.75	1.69
1799	10CA051	10CA009	Circular	326.77	0.21	1.50	4.51	342.61	340.91	336.36	335.66	6.76	6.16	340.86	340.92	339.73	339.86	1.75	1.69	1.18	1.05
1802	10CA010	10CA051	Circular	202.01	0.34	1.00	1.92	341.15	342.61	337.18	336.50	2.65	2.29	341.15	341.15	340.86	340.92	0.00	0.00	1.75	1.69
1814	10BD015	10CA049	Circular	312.66	0.31	0.83	1.14	341.04	341.69	338.57	337.59	-0.95	-0.95	341.04	341.04	341.69	341.69	0.00	0.00	0.00	0.00
1815	10CA049	10CA009	Circular	523.11	0.33	1.00	1.91	341.69	340.91	337.40	335.66	2.59	2.40	341.69	341.69	339.73	339.86	0.00	0.00	1.18	1.05
1823	15DC059	15DC061	Circular	9.50	2.21	1.50	14.50	354.86	354.89	350.57	350.36	1.85	2.62	353.54	354.15	353.54	354.13	1.32	0.71	1.35	0.76
1824	15DC063	15DC061	Circular	25.04	0.88	2.50	35.70	355.03	354.89	350.52	350.30	13.01	15.26	353.57	354.16	353.54	354.13	1.46	0.87	1.35	0.76
1825	15DC061	15DC035	Circular	150.75	0.12	2.50	13.16	354.89	356.06	350.36	350.18	14.80	17.98	353.54	354.13	353.32	353.74	1.35	0.76	2.74	2.32
1906	15AB064	15AB062	Special	53.83	1.50	1.50	16.80	350.95	350.82	347.42	346.61	-3.09	-3.08	348.41	348.60	348.43	348.59	2.54	1.47	2.39	2.23
1906	15AB064	15AB062	Circular	53.83	1.50	1.50	11.97	350.95	350.82	347.42	346.61	12.73	13.57	348.41	348.60	348.43	348.59	2.54	1.47	2.39	2.23
2007	10DB040	10DB042	Circular	318.14	0.05	2.25	6.24	345.43	344.80	339.14	338.99	10.27	13.25	343.94	344.55	343.54	343.89	1.49	0.88	1.26	0.91
2008	10DB023	10DB042	Circular	399.58	0.19	1.25	2.58	344.57	344.80	339.73	338.99	5.37	5.37	344.57	344.57	343.54	343.89	0.00	0.00	1.26	0.91
2009	10DB024	10DB023	Circular	451.60	0.20	1.25	2.71	346.24	344.57	340.65	339.73	4.54	4.49	346.24	346.24	344.57	344.57	0.00	0.00	0.00	0.00
2013	10DB042	10DB020	Circular	329.01	0.06	2.50	9.15	344.80	343.21	338.74	338.55	14.91	17.36	343.54	343.89	343.07	343.21	1.26	0.91	0.14	0.00
2017	10DB020	10AC019	Circular	345.84	0.10	2.50	12.29	343.21	342.68	338.37	338.01	17.45	18.24	343.07	343.21	342.39	342.63	0.14	0.00	0.29	0.05
2018	15BA006	15BA005	Circular	22.19	0.00	1.00	0.10	347.96	349.53	346.75	346.75	2.51	3.02	347.49	347.58	347.28	347.34	0.47	0.38	2.25	2.19
2019	15BA003	15BA002	Circular	20.76	0.00	0.83	0.06	348.01	347.96	346.75	346.75	2.40	3.00	347.75	348.03	347.49	347.58	0.25	-0.02	0.47	0.38
2020	15BA003.2	15BA003.1	Trapezoidal	56.50	0.16	0.50	31.69	348.47	348.37	347.95	347.86	3.79	5.15	348.09	348.12	347.75	348.03	0.37	0.35	0.61	0.34
2020	15BA003.2	15BA003.1	Circular	56.50	0.16	0.50	0.21	348.47	348.37	346.95	346.86	0.61	0.60	348.09	348.12	347.75	348.03	0.37	0.35	0.61	0.34
2027	10DB021	10DB020	Circular	401.61	0.27	0.83	1.06	344.38	343.21	339.65	338.55	2.14	2.09	344.38	344.38	343.07	343.21	0.00	0.00	0.14	0.00
2031	10DD080	10DC040	Circular	366.38	0.27	0.67	0.58	348.61	348.39	345.81	344.83	0.50	0.49	348.61	348.61	348.39	348.39	0.00	0.00	0.00	0.00
2036	15BA011	15BA014	Circular	53.54	0.62	2.00	16.49	351.13	349.95	347.10	346.77	16.16	20.66	347.95	348.07	347.77	347.87	3.18	3.06	2.18	2.08
2037	15BA012	15BA014	Circular	39.27	1.53	1.00	4.09	348.37	349.95	347.37	346.77	4.65	6.16	348.43	349.04	347.77	347.87	-0.06	-0.67	2.18	2.08
2045	10DA068	10DB025	Circular	372.62	0.42	0.67	0.73	347.52	346.59	342.79	341.23	0.73	0.73	347.52	347.52	346.59	346.59	0.00	0.00	0.00	0.00
2058	10DA075	10DA064	Circular	343.51	0.26	1.00	1.68	348.90	347.87	344.56	343.67	1.85	1.85	348.90	348.90	347.87	347.87	0.00	0.00	0.00	0.00
2064	10DB025	10DB024	Circular	327.07	0.08	1.00	0.95	346.59	346.24	341.14	340.87	2.44	2.45	346.59	346.59	346.24	346.24	0.00	0.00	0.00	0.00
2069	10DB038	10DB024	Circular	196.03	0.26	1.25	3.06	347.35	346.24	341.38	340.87	1.00	1.22	346.29	346.32	346.24	346.24	1.06	1.03	0.00	0.00
2072	10AC001	10AC017	Circular	434.17	0.31	1.25	3.32	346.46	344.44	340.33	339.00	4.10	4.15	345.99	346.17	344.44	344.44	0.47	0.29	0.00	0.00
2076	10AC017	10AC019	Circular	403.10	0.25	1.25	2.97	344.44	342.68	339.00	338.01	5.35	5.55	344.44	344.44	342.39	342.63	0.00	0.00	0.29	0.05
2078	10AD024	10AC001	Circular	701.19	0.21	1.25	2.77	347.05	346.46	341.82	340.33	2.91	3.51	346.77	346.78	345.99	346.17	0.28	0.27	0.47	0.29
2087	15BA026	15BA024	Circular	39.39	1.19	1.00	3.61	349.91	348.62	346.75	346.28	1.84	2.45	347.26	347.35	346.73	346.79	2.65	2.55	1.89	1.83
2126	15CA074	15CA085	Circular	93.50	1.17	1.25	6.48	350.20	352.31	348.16	347.07	1.17	1.59	349.40	349.89	349.39	349.88	0.80	0.31	2.92	2.43
2127	15CA013	15CA085	Circular	174.04	2.80	1.00	5.54	356.55	352.31	353.04	348.16	4.21	5.31	353.70	354.06	349.39	349.88	2.85	2.49	2.92	2.43
2128	15CA085	15CA090	Circular	51.55	0.52	1.25	4.34	352.31	352.40	347.07	346.80	5.21	6.69	349.39	349.88	349.12	349.40	2.92	2.43	3.28	2.99
2152	15CC005	15CC006	Circular	46.58	0.39	1.00	2.06	356.11	356.26	353.38	353.20	2.07	2.24	354.33	354.55	354.26	354.42	1.78	1.55	2.00	1.84
2178	15CA094	15CA095	Circular	39.50	0.58	1.00	2.52	350.95	350.72	349.95	349.72	1.73	2.21	350.54	350.65	350.23	350.37	0.41	0.30	0.49	0.35
2179	15CA095	15BD094	Circular	70.90	1.00	1.00	3.31	350.72	351.07	349.72	349.01	1.73	2.20	350.23	350.37	349.69	350.04	0.49	0.35	1.38	1.03
2180	15BD093	15BD094	Circular	215.01	0.07	3.50	23.84	352.05	351.07	346.19	346.05	39.38	42.21	350.01	350.41	349.69	350.04	2.04	1.64	1.38	1.03
2208	15DB027	15DC048.2	Circular	86.61	0.82	1.00	3.00	353.92	356.74	349.78	349.07	2.40	2.62	350.84	351.02	350.40	350.49	3.09	2.90	6.33	6.25
2219	15AD052	15AD057	Circular	236.03	-0.09	2.00	6.41	357.21	356.26	351.65	351.87	7.35	8.96	355.94	357.31	355.69	356.92	1.28	-0.10	0.57	-0.65
2239	22AA002	22AA025	Circular	13.50	0.37	3.00	37.69	357.20	358.87	354.00	353.95	6.21	7.76	355.42	355.90	355.42	355.90	1.78	1.30	3.45	2.97

Hydraulic Model Results - Full Buildout Conditions																				
Burkhart Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
2250	23BB041	23BB033	Circular	120.71	0.29	1.00	1.78	362.10	364.89	359.59	359.24	1.86	2.39	360.53	360.63	359.87	360.02	1.58	1.47	5.02	4.87
2259	22AB002.2	22AB002.1	Circular	194.83	0.70	1.50	8.18	359.25	358.97	357.75	356.38	1.51	2.03	358.19	358.26	357.35	357.98	1.06	0.99	1.61	0.98
2260	22AB002	22AB039	Circular	163.02	1.34	1.50	11.31	357.79	356.86	355.00	352.81	2.76	2.96	357.35	357.98	357.31	357.93	0.44	-0.19	-0.45	-1.06
2342	10BB050	09AA010	Circular	47.57	0.13	3.00	22.00	336.42	336.25	329.96	329.90	27.78	32.21	335.27	333.56	335.24	333.50	1.15	2.86	1.01	2.75
2343	10BA025	10BA034	Circular	410.08	0.06	2.50	9.59	341.35	338.93	333.30	333.04	17.92	20.80	336.96	336.95	336.13	335.90	4.39	4.40	2.80	3.03
2345	10BB015	10BB050	Circular	124.57	0.26	3.00	31.39	336.35	336.42	330.28	329.96	27.79	32.28	335.34	333.77	335.27	333.56	1.01	2.58	1.15	2.86
2377	03CA018	03CA019	Circular	45.59	0.44	1.50	6.46	334.92	331.93	329.72	329.52	9.11	11.44	331.09	331.40	330.69	330.81	3.83	3.52	1.24	1.12
2378	03CA020	03CA021	Circular	127.04	0.10	1.50	3.12	335.75	334.91	329.98	329.85	9.10	11.44	332.52	333.65	331.42	331.92	3.23	2.10	3.49	2.99
2379	03CA021	03CA018	Circular	38.00	0.08	1.50	2.74	334.91	334.92	329.75	329.72	9.10	11.44	331.42	331.92	331.09	331.40	3.49	2.99	3.83	3.52
2428	10BB051	10BB052	Circular	54.49	0.46	0.83	1.38	337.81	337.25	332.63	332.38	2.78	2.65	337.81	337.81	337.25	337.25	0.00	0.00	0.00	0.00
2429	10BB052	10BB032	Circular	171.55	0.28	0.83	1.08	337.25	337.25	332.38	331.90	2.70	2.58	337.25	337.25	335.67	335.67	0.00	0.00	1.58	1.58
2594	03BB013	03BB012	Circular	36.68	0.27	1.00	1.73	328.11	328.73	326.00	325.90	-3.91	-5.89	327.52	327.56	328.63	328.66	0.59	0.54	0.10	0.07
2597	03BB008	03BB020	Circular	39.47	0.28	1.00	1.75	329.77	328.87	326.27	326.16	5.73	6.72	328.73	329.21	327.56	327.62	1.04	0.56	1.31	1.25
2639	03CD031	03CD032	Circular	178.56	0.01	1.50	1.03	340.19	339.63	336.65	336.63	1.40	1.49	337.34	337.36	336.88	336.89	2.85	2.83	2.75	2.74
2641	03CC001	03CC004	Circular	101.44	0.10	1.50	3.06	336.00	337.84	333.70	333.60	3.12	-3.24	335.44	335.46	335.47	335.55	0.56	0.54	2.37	2.29
2643	10AC015	10AB023	Circular	334.47	0.48	1.00	2.28	343.68	343.88	340.82	339.23	1.48	1.46	343.68	343.68	343.66	343.66	0.00	0.00	0.22	0.22
2652	10DC049	10DB045	Circular	537.99	0.20	2.00	9.50	346.85	345.72	341.31	340.21	5.26	6.33	344.51	345.51	344.22	345.03	2.34	1.34	1.50	0.69
2653	10DB046	10DB040	Circular	288.38	0.16	2.25	11.49	345.85	345.43	339.60	339.14	7.52	9.62	344.13	344.87	343.94	344.55	1.73	0.98	1.49	0.88
2654	10DB045	10DB046	Circular	79.15	0.15	2.00	8.18	345.72	345.85	340.09	339.97	7.56	9.62	344.22	345.03	344.13	344.87	1.50	0.69	1.73	0.98
2864	15BB024	15BB036	Circular	42.01	0.95	0.83	1.98	347.96	347.06	340.80	340.40	1.91	2.37	342.67	343.30	342.53	343.16	5.29	4.66	4.53	3.90
2865	15BB022	15BB035	Circular	66.41	0.35	1.00	1.95	343.16	346.45	340.29	340.06	3.34	4.42	343.11	344.21	342.53	343.15	0.05	-1.05	3.92	3.30
2866	15BB045	15BB022	Circular	32.41	0.00	0.83	0.06	345.69	343.16	340.70	340.70	2.29	3.02	343.49	344.89	343.11	344.21	2.20	0.80	0.05	-1.05
2868	15BB050	15BB045	Circular	110.02	-0.44	1.00	2.19	344.96	345.69	341.14	341.62	2.30	3.02	344.00	345.77	343.49	344.89	0.96	-0.80	2.20	0.80
2874	15BA035	15BA041	Circular	45.95	0.15	0.83	0.79	346.46	346.39	345.46	345.39	2.69	3.55	346.84	347.57	346.04	346.21	-0.38	-1.11	0.35	0.18
2875	15BA041	15BA039	Circular	310.54	1.16	1.00	3.56	346.39	347.45	345.39	341.80	2.69	3.54	346.04	346.21	342.46	342.57	0.35	0.18	4.99	4.88
2877	15AC059	15AC058	Circular	15.00	0.40	0.83	1.29	350.78	351.99	347.52	347.46	1.20	1.50	348.63	348.90	348.58	348.82	2.15	1.88	3.41	3.17
2879	15AC055	15AC056	Circular	14.02	1.21	0.67	1.24	350.97	352.68	348.07	347.90	0.78	1.05	348.70	349.06	348.65	348.94	2.27	1.91	4.03	3.74
2881	15AC052	15AC054	Circular	743.01	0.17	1.50	4.06	352.61	350.94	349.45	348.16	0.00	9.55	349.45	362.93	348.83	356.39	3.16	-10.31	2.11	-5.44
2882	15AC054	15AC049	Circular	140.95	0.14	1.50	3.67	350.94	350.56	348.16	347.96	-0.14	9.55	348.83	356.39	348.83	355.10	2.11	-5.44	1.73	-4.54
2883	15AC051	15AC023	Circular	156.77	0.50	3.00	43.69	352.71	352.81	348.16	347.38	6.17	6.77	351.48	352.07	351.47	352.07	1.23	0.64	1.34	0.74
2885	15AC045	15AC051	Circular	129.00	0.07	2.00	5.55	352.75	352.71	348.25	348.16	6.16	6.76	351.51	352.09	351.48	352.07	1.24	0.66	1.23	0.64
2888	15AD015	15AD068	Circular	74.69	0.44	1.50	6.48	352.36	352.69	350.69	350.36	3.03	4.00	351.70	352.30	351.70	352.30	0.66	0.06	0.98	0.39
2889	15AD065	15AD066	Circular	36.03	0.28	2.00	11.07	354.64	353.97	349.47	349.37	-1.38	-0.97	351.71	352.30	351.70	352.30	2.94	2.34	2.26	1.66
2890	15AD066	15AD015	Circular	19.29	0.52	2.00	15.12	353.97	352.36	350.36	350.26	3.08	4.06	351.70	352.30	351.70	352.30	2.26	1.66	0.66	0.06
2891	15AD066	15AD032	Circular	23.01	-0.04	2.00	4.38	353.97	353.85	349.37	349.38	-1.54	-1.93	351.70	352.30	351.71	352.30	2.26	1.66	2.15	1.55
2892	15AD016	15AD049	Circular	306.31	0.47	2.00	14.35	355.53	358.74	353.53	352.10	-1.71	-1.69	355.95	357.33	355.95	357.33	-0.42	-1.80	2.79	1.41
2893	15AD049	15AD052	Circular	97.75	0.46	2.00	14.25	358.74	357.21	352.10	351.65	4.22	3.63	355.95	357.33	355.94	357.31	2.79	1.41	1.28	-0.10
2994	15DA067	15DA066	Circular	95.58	0.26	1.50	4.99	357.11	357.17	353.59	353.34	15.17	18.89	380.06	392.15	378.17	389.47	-22.95	-35.04	-21.00	-32.30
2996	15DA076	15DA067	Circular	16.00	0.63	1.25	4.74	357.29	357.11	353.69	353.59	-3.67	4.05	380.08	392.17	380.06	392.15	-22.79	-34.88	-22.95	-35.04
2997	15DA075	15DA076	Circular	36.43	0.14	1.25	2.22	357.48	357.29	353.74	353.69	-3.52	3.80	380.12	392.23	380.08	392.17	-22.64	-34.75	-22.79	-34.88
2998	14CB024	15DA075	Circular	225.12	0.14	1.25	2.26	357.56	357.48	354.09	353.77	-3.39	3.56	380.35	392.55	380.12	392.23	-22.79	-34.99	-22.64	-34.75
3000	14CB054	14CB024	Circular	41.70	0.14	2.00	7.97	357.34	357.56	354.15	354.09	-4.20	-2.27	380.35	392.55	380.35	392.55	-23.01	-35.21	-22.79	-34.99
3001	14CB023	14CB024	Circular	21.92	1.32	2.00	24.16	357.28	357.56	352.38	352.09	1.44	1.84	380.35	392.55	380.35	392.55	-23.07	-35.27	-22.79	-34.99
3006	15DA068	15DA057	Circular	177.84	0.41	1.50	6.25	357.60	357.19	355.92	355.19	8.89	11.19	386.34	400.94	385.17	399.26	-28.74	-43.34	-27.98	-42.07
3009	15DA057	15DA067	Circular	357.04	0.14	1.50	3.65	357.19	357.11	354.26	353.76	13.15	16.34	385.17	399.26	380.06	392.15	-27.98	-42.07	-22.95	-35.04
3010	15DC062	15DC063	Circular	355.92	0.07	2.50	10.29	357.46	355.03	350.73	350.47	13.01	15.17	353.98	354.54	353.57	354.16	3.48	2.92	1.46	0.87
3011	15DC060	15DC062	Circular	214.51	-0.09	2.50	11.34	356.61	357.46	350.54	350.73	12.34	14.28	354.21	354.84	353.98	354.54	2.40	1.77	3.48	2.92
3012	15DD093	15DC060	Circular	192.20	0.34	2.50	22.15	355.65	356.61	351.19	350.54	12.34	14.39	354.41	355.03	354.21	354.84	1.24	0.62	2.40	1.77
3013	15DC038	15DC015	Circular	61.75	0.10	1.00	1.03	358.37	358.33	352.27	352.21	1.91	2.05	355.93	356.68	355.76	356.51	2.44	1.69	2.57	1.82
3014	15DC047	15DC038	Circular	292.78	0.19	1.00	1.45	357.87	358.37	353.09	352.53	1.91	2.04	356.77	357.53	355.93	356.68	1.10	0.34	2.44	1.69
3018	15DC008	15DC047	Circular	92.02	0.21	1.00	1.50	357.97	357.87	353.33	353.14	1.27	1.37	356.82	357.59	356.77	357.53	1.15	0.38	1.10	0.34
3020	15DC049	15DC048	Circular	48.24	0.06	2.00	5.24	353.29	355.45	349.79	349.76	67.36	16.33	352.38	352.73	352.33	352.44	0.91	0.56	3.12	3.00
3020	15DC049	15DC048	Circular	48.24	0.06	3.00	15.44	353.29	355.45	349.79	349.76	23.44	47.16	352.38	352.73	352.33	352.44	0.91	0.56	3.12	3.00
3051	22AA051	22AA052	Circular	28.69	0.07	1.00	0.87	358.56	357.05	354.45	354.43	2.73	3.49	357.44	358.01	357.41	357.98	1.12	0.55	-0.36	-0.93
3052	22AA045	22AA053	Circular	29.08	0.21	1.00	1.50	356.93	357.72	354.33	354.27	1.76	1.81	357.41	357.98	357.38	357.95	-0.48	-1.05	0.34	-0.23
3059	22AA037	22AA036	Circular	160.66	0.07	1.75	3.85	361.56	361.30	356.26	356.15	14.08	18.61	361.16	363.78	359.71	361.29	0.40	-2.22	1.59	0.01
3060	22AA036	22AA035	Circular	42.95	0.12	1.75	5.02	361.30	361.90	356.05	356.00	16.13	21.32	359.71	361.29	359.20	360.41	1.59	0.01	2.70	1.49
3258	03BA022	03BA023	Circular	27.07	1.51	1.00	4.07	330.27	330.21	328.48	328.07	-0.13	-0.58	329.31	329.60	329.31	329.60	0.96	0.67	0.90	0.61
3262	03BA031	03BA048	Circular	42.08	0.78	1.00	2.93	329.89	329.59	327.75	327.42	2.89	3.71	329.29	329.59	328.77	329.23	0.60	0.30	0.82	0.36
3351	15DD060	15DD069	Circular	148.24	0.11	1.00	1.12	357.48	357.08	353.59	353.42	0.85	1.04	380.27	393.11	380.21	393.03	-22.79	-35.63	-23.13	-35.95
3352	15DD069	15DA059	Circular	222.17	0.18	1.00	1.40	357.08	356.68	353.13	352.73	1.06	1.34	380.21	393.03	380.11	392.91	-23.13	-35.95	-23.43	-36.22
3361	22AB043	22AB041	Circular	171.00	4.25	1.00	6.82	362.26	357.95	361.25	353.98	2.14	2.87	361.64	361.70	353.59	353.67	0.62	0.55	4.36	4.28
3403	15DA056	15DA059	Circular	244.86	0.15	1.00	1.27	355.52	356.68	352.71	352.35	3.14	3.76	381.67	394.87	380.11	392.91	-26.15	-39.35	-23.43	-36.22
3489	03DB026	03DB012	Circular	95.89	-0.03	1.67	8.35	338.94	337.64	334.50	334.10	2.76	3.41	335.27	335.37	335.14	335.22	3.67	3.57	2.50	2.42
3491	14CB027	14CB026	Circular	36.63	1.64	0.83	2.60	356.90	356.83	354.92	354.32	-0.05	-0.05	355.88	356.45	355.88	356.45	1.02	0.45	0.95	0.38
3492	14CB034	14CB031	Circular	195.18	0.22	1.25	2.82	359.34	357.69	355.73	355.30	4.64	5.56	358.84	359.34	357.69	357.69	0.50	0.00	0.00	0.00
3493	14CB029	14CB028	Circular	33.08	-0.60	0.83	1.58	356.60	356.48	354.53	354.73	-0.04	-0.05	355.93	356.47	355.93	356.47	0.67	0.13	0.55	0.00
3494	14CB028	14CB026	Circular	67.45	0.16	1.33	2.88	356.48	356.83	354.43	354.32	3.58	3.58	355.93	356.47	355.88	356.45	0.55	0.00	0.95	0.38
3495	15DD090	15DD093	Circular	240.16	0.25	2.50	18.88	356.29	355.65	351.78	351.19	11.34	13.31	354.61	355.23	354.41	355.03	1.68	1.06	1.24	0.62
3495.1	14CB030	14CB028	Circular	63.80	0.20	1.33	3.21	356.68	356.48	354.86	354.73	3.58	3.58	356.03	356.50	355.93	356.47	0.65	0.18	0.55	0.00

Hydraulic Model Results - Full Buildout Conditions																				
Burkhart Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
3496	14CB031	14CB030	Circular	165.21	0.18	1.00	1.41	357.69	356.68	355.26	354.96	3.58	3.58	357.69	357.69	356.03	356.50	0.00	0.00	0.65	0.18
3498	15DD087	15DD090	Circular	285.18	0.25	2.50	19.00	357.85	356.29	352.49	351.78	11.32	13.27	354.83	355.50	354.61	355.23	3.02	2.35	1.68	1.06
3499	15DD085	15DD084	Circular	189.05	0.24	2.50	18.79	358.94	358.53	353.55	353.09	10.10	11.40	355.14	355.77	354.97	355.70	3.80	3.17	3.56	2.83
3500	14CA010	14CB034	Circular	145.46	0.14	1.25	2.22	360.92	359.34	355.98	355.78	4.64	5.85	359.69	360.68	358.84	359.34	1.23	0.24	0.50	0.00
3501	15DD084	15DD087	Circular	238.62	0.25	2.50	19.10	358.53	357.85	353.09	352.49	9.63	11.42	354.97	355.70	354.83	355.50	3.56	2.83	3.02	2.35
3501.1	14CB026	14CB035	Circular	49.88	0.58	1.25	4.57	356.83	357.31	354.31	354.02	3.58	3.58	355.88	356.45	355.83	356.43	0.95	0.38	1.48	0.88
3503	14CB035	14CB050	Circular	45.78	2.42	2.00	32.71	357.31	359.21	354.02	352.91	10.73	12.47	355.83	356.43	355.82	356.34	1.48	0.88	3.39	2.87
3508	14BC007	14BC027	Circular	148.05	0.08	2.50	10.84	356.77	356.86	350.04	349.92	16.54	17.41	355.67	356.56	355.66	356.64	1.10	0.21	1.20	0.22
3509	14CB039	14BC007	Circular	65.25	0.41	2.50	24.50	354.35	356.77	351.85	351.58	3.23	2.72	355.67	356.56	355.67	356.56	-1.32	-2.21	1.10	0.21
3512	14CB040	14BC007	Circular	170.78	0.09	2.50	11.66	357.01	356.77	350.20	350.04	16.14	17.05	355.70	356.40	355.67	356.56	1.31	0.61	1.10	0.21
3515	14CB042	14CB040	Circular	217.75	0.06	2.50	9.66	357.83	357.01	350.34	350.20	16.13	17.05	355.76	356.22	355.70	356.40	2.07	1.61	1.31	0.61
3516	14CB042.1	14CB042	Circular	43.85	3.65	1.00	6.32	354.00	357.83	352.00	350.40	3.86	4.71	356.07	356.98	355.76	356.22	-2.07	-2.98	2.07	1.61
3518	14CB043	14CB042	Circular	127.04	0.06	2.50	8.94	358.29	357.83	350.47	350.40	15.51	-16.51	355.79	356.27	355.76	356.22	2.50	2.02	2.07	1.61
3519	14CB044	14CB043	Circular	86.75	1.68	2.50	49.41	357.89	358.29	352.00	350.54	14.98	-20.59	355.82	356.34	355.79	356.27	2.07	1.55	2.50	2.02
3521	14CB046	14CB043	Circular	73.10	0.21	1.00	1.50	359.06	358.29	352.15	352.00	0.98	-0.20	355.80	356.27	355.79	356.27	3.27	2.79	2.50	2.02
3523	14CB047	14CB046	Circular	144.48	1.75	0.67	1.49	358.20	359.06	354.78	352.25	-0.07	-0.08	355.80	356.27	355.80	356.27	2.40	1.93	3.27	2.79
3538	14CB055	14CB054	Circular	50.23	1.19	1.50	10.66	357.57	357.34	354.75	354.15	-4.08	-2.20	380.35	392.55	380.35	392.55	-22.78	-34.98	-23.01	-35.21
3540	14CB057	14CB055	Circular	396.91	0.17	2.00	8.63	358.85	357.57	355.42	354.75	-3.51	-1.83	380.36	392.56	380.35	392.55	-21.51	-33.71	-22.78	-34.98
3545	14CB062	14CB057	Circular	254.55	0.05	2.00	4.75	360.27	358.85	355.55	355.42	1.15	1.11	380.36	392.56	380.36	392.56	-20.09	-32.29	-21.51	-33.71
3551	10BC061	10BC060	Circular	38.51	0.18	1.00	1.41	339.41	337.41	333.63	333.56	6.35	6.84	337.97	338.25	336.88	336.81	1.44	1.16	0.53	0.60
3553	10BC063	10BC064	Circular	221.20	0.11	1.00	1.09	338.37	349.49	335.36	335.12	-1.20	-1.32	338.37	338.37	338.65	338.71	0.00	0.00	10.84	10.78
3554	10BC064	10CB025	Circular	292.58	0.10	1.00	1.02	349.49	340.09	335.12	334.84	-1.20	-1.32	338.65	338.71	339.03	339.16	10.84	10.78	1.06	0.93
3555	22AB053	22AB054	Circular	189.93	0.11	1.50	3.24	358.71	356.33	353.21	353.00	1.58	2.17	353.91	354.03	353.67	353.75	4.81	4.68	2.66	2.58
3556	22AB052	22AB053	Circular	38.55	-0.26	1.50	4.97	362.41	358.71	353.16	353.26	1.59	2.18	353.95	354.08	353.91	354.03	8.46	8.33	4.81	4.68
3559	10BC028	10CB021	Circular	215.12	-0.01	1.00	0.32	340.12	339.75	334.87	334.89	2.35	2.31	340.12	340.12	339.11	339.26	0.00	0.00	0.64	0.49
3560	10BC060	10BC058	Circular	288.50	-0.28	1.50	5.17	337.41	337.39	332.91	333.72	6.32	6.83	336.88	336.81	335.96	335.56	0.53	0.60	1.43	1.83
3561	10BC058	10BB048	Circular	149.45	0.88	1.50	9.13	337.39	336.84	333.62	332.31	6.14	6.78	335.96	335.56	335.71	334.90	1.43	1.83	1.13	1.94
3562	09DA022	09DA023	Circular	39.90	0.40	2.00	13.30	340.21	341.50	334.66	334.50	4.01	3.88	338.02	338.45	338.02	338.44	2.19	1.76	3.48	3.06
3618	14CB052	14CB035	Circular	129.22	0.34	2.00	12.26	356.71	357.31	354.46	354.02	9.83	11.59	355.98	356.61	355.83	356.43	0.73	0.10	1.48	0.88
3619	14CB053	14CB052	Circular	16.66	0.42	2.00	13.62	357.10	356.71	353.12	353.05	4.96	4.74	355.98	356.62	355.98	356.61	1.11	0.48	0.73	0.10
3620	14CA011	14CB052	Circular	69.05	0.29	2.00	11.31	356.82	356.71	354.66	354.46	6.39	7.94	356.03	356.66	355.98	356.61	0.79	0.17	0.73	0.10
3621	14CA012	14CA011	Circular	9.65	1.87	2.00	28.69	358.74	356.82	355.00	354.82	6.39	7.94	355.99	356.65	356.03	356.66	2.75	2.09	0.79	0.17
3622	14CA014	14CA016	Circular	11.85	1.77	1.00	4.40	358.88	359.61	354.71	354.50	-0.04	-0.04	355.84	356.35	355.84	356.35	3.05	2.54	3.78	3.26
3623	14CA016	14CA013	Circular	10.51	0.19	1.00	1.44	359.61	359.75	354.28	354.26	-0.08	-0.09	355.84	356.35	355.84	356.35	3.78	3.26	3.92	3.41
3624	14CA015	14CA017	Circular	12.01	3.91	1.00	6.54	359.57	359.64	354.78	354.31	-0.04	-0.04	355.84	356.35	355.84	356.35	3.74	3.23	3.80	3.29
3625	14CA017	14CA013	Circular	26.01	0.19	1.00	1.45	359.64	359.75	354.31	354.26	-0.09	-0.10	355.84	356.35	355.84	356.35	3.80	3.29	3.92	3.41
3626	14CA013	14CA018	Circular	30.23	-0.13	2.00	7.64	359.75	360.14	354.02	354.06	-0.26	-0.32	355.84	356.35	355.84	356.35	3.92	3.41	4.30	3.79
3643	14CA018	14CB050	Circular	432.63	0.21	3.00	28.72	360.14	359.21	353.87	352.94	4.99	6.20	355.84	356.35	355.82	356.34	4.30	3.79	3.39	2.87
3644	14CA019	14CA018	Circular	326.74	0.10	3.00	19.68	360.93	360.14	354.39	354.06	5.31	6.61	355.87	356.35	355.84	356.35	5.06	4.58	4.30	3.79
3648	14CA023	14CA019	Circular	342.06	0.27	2.00	10.83	362.67	360.93	355.30	354.39	5.51	6.89	356.38	356.62	355.87	356.35	6.30	6.06	5.06	4.58
3667	22AA025	22AA003	Circular	4.11	1.22	3.00	68.31	358.87	358.92	353.95	353.90	6.22	7.81	355.42	355.90	355.42	355.90	3.45	2.97	3.50	3.02
3670	14DB058	14CA040	Circular	189.59	0.17	2.00	8.63	360.13	362.58	355.99	355.67	5.60	7.05	357.20	357.41	356.92	357.13	2.93	2.71	5.66	5.45
3671	14DB059	14DB058	Circular	197.88	0.14	2.00	7.76	358.73	360.13	356.30	356.03	5.61	7.07	357.52	357.73	357.20	357.41	1.21	1.00	2.93	2.71
3675	14DB063	14DB059	Circular	291.61	0.16	2.00	8.52	360.94	358.73	356.79	356.31	1.04	1.14	357.56	357.75	357.52	357.73	3.38	3.19	1.21	1.00
3677	14DB065	14DB063	Circular	129.96	0.19	2.00	9.21	361.38	360.94	357.04	356.79	0.96	1.01	357.61	357.77	357.56	357.75	3.77	3.61	3.38	3.19
3678	14DC013	14DB065	Circular	182.66	0.16	1.50	3.95	362.62	361.38	357.37	357.07	0.92	0.95	357.87	357.92	357.61	357.77	4.75	4.70	3.77	3.61
3680	14DC014	14DC013	Circular	276.72	0.16	1.50	3.89	364.22	362.62	357.81	357.37	0.92	0.92	358.31	358.31	357.87	357.92	5.91	5.90	4.75	4.70
3681	14DC015	14DC014	Circular	309.50	0.08	1.50	2.83	364.64	364.22	358.35	358.09	0.92	0.92	358.93	358.93	358.31	358.31	5.72	5.72	5.91	5.90
3684	14DC018	14DC015	Circular	160.24	0.17	0.50	0.21	363.39	364.64	358.62	358.35	0.92	0.92	363.39	363.39	358.93	358.93	0.00	0.00	5.72	5.72
3685	14DC019	14DC018	Circular	30.98	0.48	0.83	1.41	363.88	363.39	358.77	358.62	1.94	2.64	363.65	363.88	363.39	363.39	0.23	0.00	0.00	0.00
3687	14DC021	14DC019	Circular	225.75	0.13	1.25	2.19	366.82	363.88	359.07	358.77	1.94	2.64	363.88	364.30	363.65	363.88	2.93	2.52	0.23	0.00
3707	10DC047	10DC048	Circular	50.08	0.16	1.00	1.32	347.35	347.34	341.24	341.16	-0.10	-0.14	347.19	351.12	347.19	351.12	0.16	-3.77	0.15	-3.78
3714	15DB033	15DB041	Circular	290.79	0.05	2.00	4.77	353.44	352.82	348.86	348.71	17.35	21.92	353.12	354.91	351.17	351.81	0.32	-1.47	1.65	1.02
4929	15BA004	15BA003.2	Natural	106.59	0.04	1.35	66.57	348.21	348.47	347.00	346.96	4.36	5.57	348.09	348.12	348.09	348.12	0.11	0.09	0.37	0.35
5083	23BB006	22AA002	Natural	235.82	0.02	4.48	16.82	359.82	357.20	354.05	354.00	6.27	6.70	355.44	355.91	355.42	355.90	4.38	3.91	1.78	1.30
5207	15BA003.1	15BA003	Natural	110.61	0.05	1.35	80.03	348.37	348.01	346.86	346.80	3.12	4.11	347.75	348.03	347.75	348.03	0.61	0.34	0.25	-0.02
5208	15BA002	15BA006	Natural	27.66	0.00	1.20	10.87	347.96	347.96	346.75	346.75	2.44	3.01	347.49	347.58	347.49	347.58	0.47	0.38	0.47	0.38
5215	15BA010	15BA014	Natural	61.91	1.60	2.09	58.39	348.76	349.95	347.76	346.77	2.12	2.70	348.05	348.08	347.77	347.87	0.71	0.68	2.18	2.08
5216	15BA013	15BA012	Natural	27.38	2.67	1.04	75.40	349.18	348.37	348.10	347.37	4.57	-49.73	348.45	348.70	348.43	349.04	0.73	0.48	-0.06	-0.67
5217	15AB062	15BA011	Natural	597.35	-0.05	4.03	190.17	350.82	351.13	346.79	347.10	16.27	20.73	348.43	348.59	347.95	348.07	2.39	2.23	3.18	3.06
5325	15BA014	15BA043	Natural	222.85	0.83	3.93	380.59	349.95	349.60	346.77	344.91	22.06	27.82	347.77	347.87	347.27	347.35	2.18	2.08	2.32	2.24
5329	15BA024	15BA050	Natural	437.34	0.58	2.51	241.20	348.62	346.41	346.28	343.74	3.24	4.34	346.73	346.79	346.10	345.86	1.89	1.83	0.31	0.55
5399	22AA039	22AA053	Natural	422.00	0.24	4.78	184.32	361.40	357.72	355.30	354.27	45.38	56.48	357.58	358.04	357.38	357.95	3.82	3.36	0.34	-0.23
5409	22AB002.1	22AB002	Natural	189.72	0.77	2.65	287.34	358.97	357.79	356.46	355.00	3.82	5.08	357.35	357.98	357.35	357.98	1.61	0.98	0.44	-0.19
5708	15DC007	15DC008	Natural	57.33	5.23	3.32	34.79	358.33	357.97	356.33	353.33	2.13	4.61	356.82	357.59	356.82	357.59	1.51	0.73	1.15	0.38
5716	22AA052	22AA045	Natural	93.66	0.11	2.61	137.17	357.05	356.93	354.43	354.33	1.90	2.34	357.41	357.98	357.41	357.98	-0.36	-0.93	-0.48	-1.05
Link1017	10BC006	10CB001	Natural	720.35	0.06	2.00	21.54	340.31	339.85	338.31	337.85	2.36	3.13	338.73	338.74	338.34	338.60	1.58	1.57	1.51	1.25
Link1018	10CB025	10CB021	Circular	65.81	0.15	1.00	1.29	340.09	339.75	334.84	334.74	-1.20	-1.32	339.03	339.16	339.11	339.26	1.06	0.93	0.64	0.49
Link1020	10BC057	10BC061	Natural	387.53	0.33	2.00	10.18	340.69	339.41	338.69	337.41	2.81	3.41	338.99	339.01	337.97	338.25	1.70	1.68	1.44	1.16
Link1023	09BA002	09AB009	Natural	989.43	0.19	4.23	536.77	338.39	336.50	334.16	332.27	42.58	58.35	336.55	336.64	336.50	336.50	1.84	1.75	0.00	0.00

Hydraulic Model Results - Full Buildout Conditions																				
Burkhart Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
Link1026	09AA015	09AA017	Circular	344.11	0.34	1.00	1.94	339.98	337.19	335.04	333.86	-0.10	-0.11	337.22	337.20	337.19	337.19	2.76	2.78	0.00	0.00
Link1030	09AB002	09AB017	Natural	392.08	0.50	4.02	1068.27	336.43	334.47	332.41	330.45	4.04	3.96	332.88	332.86	332.87	332.43	3.54	3.57	1.60	2.04
Link1031	09AB021	09AB002	Circular	70.01	0.57	1.00	2.50	336.23	336.43	332.81	332.41	3.97	3.96	334.35	334.37	332.88	332.86	1.88	1.86	3.54	3.57
Link1032	09AB019	09AB021	Natural	158.36	0.04	3.64	159.49	336.74	336.23	332.88	332.81	3.97	3.96	334.36	334.37	334.35	334.37	2.38	2.37	1.88	1.86
Link1033	10BB025	10BB048	Circular	16.50	0.30	3.00	34.09	336.93	336.84	331.94	331.89	22.38	26.35	335.72	334.92	335.71	334.90	1.21	2.01	1.13	1.94
Link1034	10BC031	10BC032	Circular	282.22	0.37	0.83	1.22	339.79	339.53	338.00	336.96	0.82	0.72	339.79	339.79	339.53	339.53	0.00	0.00	0.00	0.00
Link1035	10BC032	10CB020	Circular	345.55	0.60	0.83	1.56	339.53	339.95	336.96	334.89	1.55	1.33	339.53	339.53	339.48	339.63	0.00	0.00	0.47	0.32
Link1038	10CC043	10CC044	Circular	40.50	1.01	0.83	2.03	341.05	341.05	338.73	338.32	3.72	3.56	341.05	341.05	340.34	340.38	0.00	0.00	0.71	0.67
Link1039	10AB064	10AB059	Circular	274.93	0.48	1.00	2.29	342.55	342.05	336.95	335.63	4.50	4.52	342.55	342.55	338.50	338.78	0.00	0.00	3.55	3.28
Link1040	10AB017	10AB018	Circular	23.96	1.25	0.83	2.25	342.35	341.77	337.80	337.50	1.61	2.00	341.92	341.99	341.77	341.77	0.44	0.36	0.00	0.00
Link1041	10BA024	10BA025	Circular	109.07	0.18	2.50	16.31	340.44	341.35	333.50	333.30	17.96	20.82	337.19	337.23	336.96	336.95	3.25	3.21	4.39	4.40
Link1043	10AD055	10AD024	Circular	42.93	0.98	1.00	3.27	346.77	347.05	342.24	341.82	2.57	1.69	346.77	346.77	346.77	346.78	0.00	0.00	0.28	0.27
Link1044	10DC040	10DB026	Circular	303.67	0.61	0.67	0.89	348.39	347.34	344.83	342.98	0.97	0.93	348.39	348.39	347.34	347.34	0.00	0.00	0.00	0.00
Link1045	10DB026	10DB025	Circular	325.09	0.57	0.67	0.86	347.34	346.59	342.98	341.14	0.93	0.91	347.34	347.34	346.59	346.59	0.00	0.00	0.00	0.00
Link1649	14CA040	14CA023	Circular	325.09	0.11	2.00	7.09	362.58	362.67	355.67	355.30	5.58	7.01	356.92	357.13	356.38	356.62	5.66	5.45	6.30	6.06
Link1768	03BA046	03BA047	Circular	71.06	0.03	1.00	0.56	330.54	331.31	329.54	329.52	0.00	0.00	329.54	329.60	329.52	329.60	1.00	0.94	1.79	1.71
Link1769	03BA047	03BA022	Natural	245.12	0.42	1.79	58.11	331.31	330.27	329.52	328.48	0.00	-0.04	329.52	329.60	329.31	329.60	1.79	1.71	0.96	0.67
Link1770	03BA023	03BA031	Natural	327.15	0.10	2.14	27.19	330.21	329.89	328.07	327.75	2.94	4.13	329.31	329.60	329.29	329.59	0.90	0.61	0.60	0.30
Link1771	03BD007	03BA025	Natural	441.67	0.04	1.93	53.10	331.34	331.18	329.41	329.25	4.24	6.15	330.30	330.43	329.73	329.80	1.04	0.91	1.45	1.38
Link1772	03BD002	03BA005	Natural	496.25	0.19	1.41	60.02	331.43	331.29	330.43	329.47	0.57	0.93	330.53	330.56	329.69	329.74	0.90	0.87	1.59	1.55
Link1773	03BA005	03BA048	Natural	315.87	0.65	1.99	140.02	331.29	329.59	329.47	327.42	0.53	0.86	329.69	329.74	328.77	329.23	1.59	1.55	0.82	0.36
Link1774	03BD010	03BA037	Natural	540.00	0.09	1.41	34.11	331.23	330.76	329.82	329.35	1.59	2.15	330.36	330.42	329.67	329.71	0.87	0.81	1.09	1.05
Link1775	03BA037	03BA031	Natural	194.23	0.82	1.77	49.62	330.76	329.89	329.35	327.75	1.58	2.13	329.67	329.71	329.29	329.59	1.09	1.05	0.60	0.30
Link1776	03BB005	03BB008	Natural	455.20	0.10	3.50	133.56	330.23	329.77	326.73	326.27	5.86	7.34	328.75	329.22	328.73	329.21	1.48	1.01	1.04	0.56
Link1777	03BA048	03BB005	Natural	676.39	0.10	2.84	33.63	329.59	330.23	327.42	326.73	2.82	3.22	328.77	329.23	328.75	329.22	0.82	0.36	1.48	1.01
Link1797	14CD007	14CD006	Circular	31.72	1.05	0.50	0.53	363.71	363.38	361.71	361.38	1.31	1.31	363.71	363.71	361.98	362.04	0.00	0.00	1.40	1.34
Link1798	14CD006	14CD004	Natural	330.92	0.14	2.00	91.43	363.38	362.93	361.38	360.93	2.97	3.40	361.98	362.04	361.81	361.94	1.40	1.34	1.12	0.99
Link1799	14CD004	14CD003	Circular	23.52	0.63	1.00	2.62	362.93	362.53	360.93	360.78	4.03	4.49	361.81	361.94	361.42	361.49	1.12	0.99	1.11	1.04
Link1800	14CD003	14CD002	Natural	93.51	0.27	1.47	28.09	362.53	361.73	360.78	360.53	4.02	4.49	361.42	361.49	361.36	361.44	1.11	1.04	0.37	0.29
Link1801	14CD002	14CD001	Circular	24.52	1.26	1.00	3.72	361.73	362.52	360.53	360.22	4.03	4.51	361.36	361.44	360.99	361.04	0.37	0.29	1.53	1.48
Link1802	14CD001	14CD009	Natural	30.54	0.39	3.33	26.19	362.52	364.45	360.22	360.10	4.04	4.52	360.99	361.04	360.98	361.03	1.53	1.48	3.48	3.42
Link1803	14CD009	14CD009.1	Natural	163.75	0.12	4.35	262.59	364.45	364.25	360.10	359.90	6.26	7.47	360.98	361.03	360.38	360.42	3.48	3.42	3.87	3.83
Link1804	14CD009.1	14CB053	Natural	1230.32	0.55	4.16	914.16	364.25	357.10	359.90	353.12	5.95	7.08	360.38	360.42	355.98	356.62	3.87	3.83	1.11	0.48
Link1805	14CA012.2	14CA012.1	Natural	712.11	0.01	5.42	763.65	358.94	358.86	353.52	353.44	2.58	-4.63	356.00	356.65	356.00	356.65	2.94	2.29	2.86	2.21
Link1805.1	14CA012.1	14CA012	Natural	674.76	0.01	5.40	203.27	358.86	358.74	353.44	353.36	-7.16	-11.52	356.00	356.65	355.99	356.65	2.86	2.21	2.75	2.09
Link587	23BB003	23BB007	Natural	306.36	0.12	4.60	83.94	363.32	359.34	356.91	356.55	27.45	34.70	358.70	358.89	358.22	358.51	4.62	4.43	1.11	0.82
Link588	23BB007	23BB008	Rectangular	9.51	3.68	2.00	201.71	359.34	361.45	356.55	356.20	27.00	33.98	358.22	358.51	358.09	358.29	1.11	0.82	3.36	3.15
Link589	23BB008	22AA042	Natural	217.13	0.39	5.69	356.99	361.45	361.50	356.20	355.36	26.88	33.66	358.09	358.29	357.87	358.10	3.36	3.15	3.63	3.40
Link593	22AA053	22AB039	Natural	819.48	0.12	3.50	127.63	357.72	356.86	354.27	353.31	33.84	40.75	357.38	357.95	357.31	357.93	0.34	-0.23	-0.45	-1.06
Link598	15CD072	15DC007	Natural	106.65	1.05	1.58	22.22	358.61	358.33	357.45	356.33	1.63	2.16	357.71	357.73	356.82	357.59	0.90	0.88	1.51	0.73
Link599	15CD002	15CD002.1	Natural	632.17	0.58	2.00	213.97	360.36	356.70	358.36	354.70	1.47	1.98	358.54	358.54	354.91	354.93	1.81	1.81	1.79	1.76
Link599.1	15CD002.1	15CC005	Natural	551.76	0.24	2.36	20.96	356.70	356.11	354.70	353.38	1.29	1.82	354.91	354.93	354.33	354.55	1.79	1.76	1.78	1.55
Link601	15DC033	15DC048	Natural	226.70	1.24	3.58	166.53	354.05	355.45	352.58	349.76	1.51	1.98	352.78	352.81	352.33	352.44	1.27	1.24	3.12	3.00
Link603	15CA007	15DB030	Natural	430.91	1.35	1.57	51.36	357.19	352.36	356.12	350.29	3.07	3.85	356.40	356.42	351.56	351.89	0.79	0.77	0.80	0.47
Link606	15CA046	15CA013	Natural	702.99	0.01	3.86	31.58	357.31	356.55	353.10	353.04	3.41	4.54	354.00	354.23	353.70	354.06	3.31	3.08	2.85	2.49
Link611	15BD006	15BA026	Natural	926.70	0.62	3.15	522.05	355.66	349.91	352.50	346.75	1.11	1.43	352.80	352.83	347.26	347.35	2.86	2.82	2.65	2.55
Link612	15BD004	15BA024	Natural	955.54	0.63	1.62	57.42	353.20	348.62	352.29	346.28	0.55	0.76	352.45	352.46	346.73	346.79	0.75	0.74	1.89	1.83
Link616	15BA038	15BA019	Natural	9.83	7.02	3.31	767.43	346.33	346.30	343.35	342.66	-17.54	-14.83	345.90	345.39	345.90	345.39	0.43	0.94	0.40	0.91
Link621	15BB044	10CC069	Natural	43.99	0.20	6.44	1027.20	343.99	344.79	337.99	337.90	7.22	8.48	341.46	341.42	341.46	341.42	2.53	2.57	3.33	3.37
Link626	10CC015	10CC070	Natural	443.43	0.27	1.75	101.32	347.83	346.62	346.08	344.87	0.76	1.12	346.47	346.52	342.66	342.72	1.36	1.31	3.96	3.90
Link627	16AD056	16AD056.3	Natural	1222.64	0.20	3.55	195.96	349.86	347.41	346.31	343.86	6.34	7.71	347.06	347.14	345.16	345.30	2.79	2.72	2.25	2.11
Link627.1	16AD056.1	09DD004	Natural	908.05	0.21	3.55	201.81	345.06	343.13	341.51	339.58	19.36	20.74	344.15	344.71	344.15	344.71	0.91	0.35	-1.02	-1.58
Link627.2	16AD056.2	16AD056.1	Natural	417.37	0.22	3.61	204.40	345.83	345.06	342.29	341.38	23.77	28.24	344.16	344.71	344.15	344.71	1.67	1.12	0.91	0.35
Link627.3	16AD056.3	16AD056.2	Natural	815.09	0.21	3.60	199.09	347.41	345.83	343.86	342.18	19.76	24.04	345.16	345.30	344.16	344.71	2.25	2.11	1.67	1.12
Link628	16AD037	09DD005	Natural	3304.05	0.20	3.23	117.62	348.94	342.55	345.84	339.20	4.19	5.20	346.67	346.74	342.09	342.44	2.27	2.20	0.46	0.11
Link629	15BC008	15BC008.1	Natural	653.93	0.38	1.37	129.49	352.33	349.82	350.96	348.46	0.84	1.12	351.15	351.18	346.27	346.29	1.18	1.15	3.55	3.53
Link629.1	15BC008.1	15BB024	Natural	493.32	1.07	5.46	215.91	349.82	347.96	346.06	340.80	2.33	2.99	346.27	346.29	342.67	343.30	3.55	3.53	5.29	4.66
Link633	15BA013.2	15BA013.1	Natural	514.91	0.01	1.53	4.07	350.16	349.22	348.18	348.14	2.40	3.18	348.92	348.98	348.86	348.92	1.24	1.18	0.36	0.30
Link633.1	15BA013.1	15BA013	Natural	580.12	0.01	1.08	3.83	349.22	349.18	348.14	348.10	3.65	4.77	348.86	348.92	348.45	348.70	0.36	0.30	0.73	0.48
Link634	23BB033	23BB003	Natural	697.67	0.25	6.33	488.74	364.89	363.32	358.65	356.91	13.77	17.79	359.87	360.02	358.70	358.89	5.02	4.87	4.62	4.43
Link645	15CD068	15CC006	Natural	672.15	0.18	3.60	11.64	356.86	356.26	353.56	352.37	1.21	1.05	354.27	354.42	354.26	354.42	2.59	2.44	2.00	1.84
Link647	15CC048	15CC005	Natural	190.99	0.30	2.73	103.15	356.68	356.11	353.95	353.38	2.30	2.87	354.45	354.57	354.33	354.55	2.23	2.11	1.78	1.55
Link648	15CC006	15CA056	Natural	615.26	0.01	3.06	18.79	356.26	356.20	353.20	353.14	2.36	3.16	354.26	354.42	354.06	354.26	2.00	1.84	2.15	1.94
Link649	15CA053	15CA056	Natural	219.78	1.41	2.09	87.30	357.34	356.20	356.23	353.14	1.20	1.69	356.47	356.50	354.06	354.26	0.87	0.84	2.15	1.94
Link650	15CA056	15CA046	Natural	192.49	0.02	3.64	30.84	356.20	357.31	353.14	353.10	2.80	3.77	354.06	354.26	354.00	354.23	2.15	1.94	3.31	3.08
Link651	15BA005	10CD027.1	Natural	777.40	0.74	3.39	1308.30	349.53	345.00	346.75	341.00	4.39	5.80	347.28	347.34	343.11	343.93	2.25	2.19	1.89	1.07
Link653	14CB050	14CB044	Natural	476.76	0.19	6.10	2051.54	359.21	357.89	352.91	352.00	13.17	14.73	355.82	356.34	355.82	356.34	3.39	2.87	2.07	1.55
Link654	03DB012	03DB013	Circular	14.00	0.71	2.00	17.75	337.64	338.31	334.10	334.00	13.64	14.96	335.14	335.22	334.93	335.02	2.50	2.42	3.38	3.29
Link655	03CA015	03CA015.1	Natural	15.09	1.33	3.45	209.80	335.30	337.13	332.82	332.70	1.79	1.76	334.47	334.27	334.47	334.27	0.84	1.03	2.66	2.86
Link655.1	03CA015.1	03CA016	Natural	534.83	0.02	4.43	253.70	337.13	337.03	332.70	332.60	15.81	18.75	334.47	334.27	334.38	334.00	2.66	2.86	2.65	3.02

Hydraulic Model Results - Full Buildout Conditions																					
Burkhart Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
Link657	03CA014	03CA015.1	Natural	16.83	1.19	3.42	256.76	335.32	337.13	332.90	332.70	13.74	16.89	334.46	334.27	334.47	334.27	0.86	1.06	2.66	2.86
Link658	10BA001	03CD003	Circular	399.20	0.07	1.00	0.84	340.68	341.96	338.68	338.42	1.40	1.49	340.06	340.21	338.73	338.74	0.62	0.47	3.23	3.22
Link659	03CD003	03CD031	Natural	165.63	1.07	3.54	1355.57	341.96	340.19	338.42	336.65	1.40	1.49	338.73	338.74	337.34	337.36	3.23	3.22	2.85	2.83
Link660	03CD004	03CC004	Natural	765.62	0.24	4.11	931.40	339.69	337.84	335.58	333.73	1.35	1.45	335.98	336.00	335.47	335.55	3.70	3.68	2.37	2.29
Link661	03CC003	03CC002	Circular	68.13	1.32	1.00	3.80	338.08	336.64	335.82	334.92	1.74	1.87	336.30	336.32	335.39	335.45	1.79	1.77	1.25	1.20
Link662	03CC002	03CC001.1	Natural	509.94	0.38	2.36	67.01	336.64	336.00	334.92	333.00	3.68	4.95	335.39	335.45	333.33	333.37	1.25	1.20	2.67	2.63
Link663	03CD033	03CC003	Natural	830.85	0.10	2.26	148.45	338.91	338.08	336.65	335.82	1.77	1.87	337.05	337.05	336.30	336.32	1.87	1.86	1.79	1.77
Link664	03CC004	03CC004.1	Circular	449.06	0.13	1.00	1.21	337.84	336.00	333.60	333.00	1.95	2.00	335.47	335.55	333.59	333.60	2.37	2.29	2.41	2.40
Link672	03BB012	03BB021	Natural	126.04	-1.03	2.60	340.66	328.73	329.57	325.90	327.20	3.73	3.71	328.63	328.66	328.63	328.66	0.10	0.07	0.94	0.91
Link673	03BB020	03BB013	Natural	357.12	0.12	2.28	27.26	328.87	328.11	326.42	326.00	5.73	6.72	327.56	327.62	327.52	327.56	1.31	1.25	0.59	0.54
Link677	03BB015	03BB016	Circular	30.50	0.62	1.00	2.61	328.28	327.78	326.97	326.78	3.34	3.42	327.87	327.89	327.56	327.57	0.41	0.39	0.22	0.21
Link678	03BB014	03BB015	Natural	18.00	1.00	1.31	173.26	328.46	328.28	327.15	326.97	3.34	3.42	327.87	327.89	327.87	327.89	0.59	0.57	0.41	0.39
Link679	03BB021	03BB014	Circular	71.57	0.31	1.00	1.83	329.57	328.46	327.37	327.15	3.34	3.43	328.63	328.66	327.87	327.89	0.94	0.91	0.59	0.57
Link684	03DB013.0	03DB013.1	Natural	907.84	0.55	2.66	45.36	339.63	337.93	338.63	333.62	4.18	5.58	338.77	338.79	334.86	334.95	0.86	0.84	3.07	2.99
Link685	03CB001.0	03CB001.1	Natural	3240.86	0.25	5.08	265.24	337.38	336.86	336.08	328.00	3.08	4.78	336.28	336.31	328.12	328.19	1.10	1.07	8.74	8.67
Link687	03CB001	03CB001.1	Natural	1925.33	0.22	8.86	15575.16	341.16	336.86	332.30	328.00	20.60	26.14	332.75	332.78	328.12	328.19	8.41	8.38	8.74	8.67
Link689	09DA017.0	09DA017.1	Natural	852.50	0.83	5.66	1389.97	340.39	340.11	338.13	331.05	3.29	4.35	338.40	338.44	335.47	335.32	1.99	1.96	4.64	4.80
Link690	09AA02.1	09AA022	Natural	732.00	0.89	5.79	681.61	338.16	339.55	336.34	329.79	6.18	8.35	336.60	336.64	335.21	333.42	1.55	1.52	4.34	6.13
Link691	09AB017.1	09AB017	Natural	1614.69	0.39	2.95	273.06	338.68	334.47	336.80	330.45	12.05	14.79	337.36	337.41	332.87	332.43	1.32	1.27	1.60	2.04
Link696	03CB001.3	03CB001.2	Natural	1529.80	0.31	2.20	340.77	323.13	320.83	322.13	317.44	2.43	4.11	322.31	322.35	318.76	318.84	0.82	0.78	2.08	1.99
Link699	15AD068	15AC050	Natural	690.50	0.00	2.58	112.42	352.69	352.08	350.20	349.40	2.62	-3.81	351.70	352.30	351.70	352.30	0.98	0.39	0.38	-0.22

Hydraulic Model Results - Full Buildout Conditions - Capital Improvement Plan Projects																				
Burkhart Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
14	03DC006	03DC005	Circular	285.09	0.01	2.00	2.49	339.48	338.53	335.05	335.01	11.30	12.07	338.78	339.05	337.97	338.18	0.70	0.43	0.56	0.35
21	10AB056	10AB061	Circular	63.52	0.99	3.00	61.68	342.85	342.85	335.43	334.80	15.17	14.70	339.78	341.40	339.74	341.37	3.07	1.45	3.11	1.48
22	10AB061	10BA029	Circular	273.06	0.18	3.00	26.50	342.85	342.55	334.80	334.30	15.18	14.72	339.74	341.37	339.58	341.26	3.11	1.48	2.97	1.29
23	10BA029	10BA028	Circular	376.60	0.08	2.50	11.10	342.55	341.85	334.30	333.98	20.69	21.10	339.58	341.26	338.52	340.13	2.97	1.29	3.33	1.72
24	10BA028	10BA024	Circular	42.50	1.13	2.50	40.48	341.85	340.44	333.98	333.50	20.68	21.10	338.52	340.13	338.40	340.01	3.33	1.72	2.04	0.43
25	10AB001	10BA016	Circular	311.07	0.10	4.00	36.27	342.09	342.75	335.18	334.95	50.09	64.70	339.70	341.21	339.38	340.48	2.39	0.88	3.37	2.27
26	10BB021	10BB049	Circular	136.57	0.15	3.00	24.29	338.35	336.82	331.76	331.55	54.78	57.24	336.11	336.82	335.11	335.73	2.24	1.53	1.71	1.09
27	10BB022	10BB021	Circular	150.05	0.20	3.00	27.69	338.75	338.35	332.06	331.76	54.83	57.21	337.26	338.01	336.11	336.82	1.49	0.74	2.24	1.53
28	10BB023	10BB022	Circular	146.55	0.20	4.00	59.33	339.65	338.75	332.35	332.06	54.85	57.28	337.51	338.27	337.26	338.01	2.14	1.38	1.49	0.74
29	10BB014	10BB023	Circular	98.05	0.20	4.00	60.24	340.45	339.65	332.55	332.35	54.83	57.42	337.68	338.44	337.51	338.27	2.77	2.02	2.14	1.38
30	10BA031	10BB014	Circular	213.67	0.20	4.00	59.84	340.45	340.45	332.98	332.55	54.79	57.46	338.04	338.79	337.68	338.44	2.41	1.66	2.77	2.02
31	10BA032	10BA031	Circular	294.60	0.20	4.00	59.69	340.75	340.45	333.57	332.98	54.86	57.38	338.53	339.25	338.04	338.79	2.22	1.50	2.41	1.66
32	10BA023	10BA015	Circular	88.02	0.10	4.00	42.65	340.13	341.35	333.88	333.79	54.93	57.36	338.93	339.64	338.80	339.51	1.20	0.49	2.56	1.84
33	10BA015	10BA032	Circular	161.55	0.14	4.00	49.22	341.35	340.75	333.79	333.57	55.02	57.33	338.80	339.51	338.53	339.25	2.56	1.84	2.22	1.50
34	10BB012	09AA021	Circular	115.01	0.20	4.00	59.65	338.15	336.72	330.08	329.85	95.04	108.72	333.50	333.80	332.04	332.12	4.65	4.36	4.68	4.60
35	10BB018	10BB017	Circular	13.01	0.23	4.00	64.05	337.75	337.65	330.71	330.68	69.68	77.57	334.10	334.45	334.07	334.41	3.65	3.30	3.58	3.24
36	10BB017	10BB016	Circular	12.50	0.24	4.00	65.34	337.65	337.55	330.68	330.65	69.68	77.58	334.07	334.41	334.04	334.37	3.58	3.24	3.51	3.18
37	10BB016	10BB013	Circular	140.50	0.21	4.00	61.63	337.55	336.65	330.65	330.35	69.71	77.62	334.04	334.37	333.65	333.94	3.51	3.18	3.00	2.71
38	10BB013	10BB012	Circular	124.00	0.22	5.00	112.85	336.65	338.15	330.35	330.08	69.78	77.58	333.65	333.94	333.50	333.80	3.00	2.71	4.65	4.36
39	10BB019	10BB018	Circular	118.53	0.19	4.00	58.76	337.65	337.75	330.94	330.71	69.67	77.65	334.42	334.83	334.10	334.45	3.23	2.83	3.65	3.30
40	10BB049	10BB020	Circular	76.50	0.07	4.00	34.10	336.82	337.55	331.38	331.33	69.65	77.71	335.11	335.73	334.91	335.48	1.71	1.09	2.64	2.07
41	10BB020	10BB019	Circular	195.55	0.20	4.00	59.57	337.55	337.65	331.33	330.94	69.64	77.71	334.91	335.48	334.42	334.83	2.64	2.07	3.23	2.83
42	09AA010	09AA009	Circular	9.24	0.76	4.00	116.10	336.25	337.01	329.90	329.83	32.56	38.72	335.55	336.12	335.55	336.12	0.70	0.13	1.46	0.89
43	10BB007	10BB015	Circular	81.66	0.27	4.00	69.23	336.95	336.35	330.50	330.28	33.05	39.10	335.58	336.14	335.57	336.13	1.37	0.81	0.78	0.22
44	10BB008	10BB007	Circular	69.02	0.25	4.00	66.20	337.55	336.95	330.67	330.50	33.22	39.19	335.59	336.15	335.58	336.14	1.96	1.40	1.37	0.81
45	10BB009	10BB008	Circular	13.01	0.31	3.00	34.34	337.55	337.55	330.71	330.67	33.35	39.23	335.59	336.15	335.59	336.15	1.96	1.40	1.96	1.40
46	10BB001	10BB009	Circular	13.50	0.30	3.00	33.71	337.65	337.55	330.75	330.71	33.38	39.24	335.60	336.16	335.59	336.15	2.05	1.49	1.96	1.40
47	10BB011	10BB001	Circular	42.50	0.26	3.00	31.51	337.75	337.65	330.86	330.75	33.42	39.25	335.62	336.18	335.60	336.16	2.13	1.58	2.05	1.49
48	10BB002	10BB011	Circular	92.05	0.26	3.00	31.62	337.65	337.75	331.10	330.86	33.51	39.25	335.67	336.21	335.62	336.18	1.98	1.44	2.13	1.58
49	10BB048	10BB003	Circular	135.53	0.30	3.00	34.06	336.84	337.75	331.89	331.48	33.79	39.24	335.83	336.49	335.75	336.28	1.01	0.35	2.00	1.47
50	10BB003	10BB002	Circular	146.55	0.26	3.00	31.54	337.75	337.65	331.48	331.10	33.63	39.25	335.75	336.28	335.67	336.21	2.00	1.47	1.98	1.44
51	10BB024	10BB004	Circular	141.52	0.20	3.00	28.04	337.98	338.65	332.49	332.20	28.27	34.28	336.31	337.42	336.07	337.01	1.67	0.56	2.58	1.64
55	10BD035	10BD001	Circular	264.30	0.13	2.00	7.64	339.38	338.73	335.50	335.15	2.09	2.88	336.91	338.52	336.90	338.47	2.47	0.86	1.83	0.26
59	10BD001	10BA034	Circular	295.45	0.57	2.00	15.79	338.73	338.93	335.05	333.38	4.48	6.38	336.90	338.47	336.85	338.22	1.83	0.26	2.08	0.71
61	10BD009	10BA024	Circular	540.95	0.67	2.00	11.57	340.00	340.44	335.62	333.98	1.61	2.64	338.42	340.00	338.40	340.01	1.58	0.00	2.04	0.43
64	10BA016	10BA014	Circular	344.10	0.22	4.00	62.27	342.75	341.55	334.95	334.20	47.73	64.71	339.38	340.48	339.01	339.75	3.37	2.27	2.54	1.80
65	10BA014	10BA023	Circular	55.03	0.75	4.00	101.71	341.55	340.13	334.20	333.88	46.80	64.71	339.01	339.75	338.93	339.64	2.54	1.80	1.20	0.49
66	10AB059	10AB056	Circular	42.62	0.47	4.00	91.37	342.05	342.85	335.63	335.43	15.79	22.53	339.78	341.41	339.78	341.40	2.27	0.64	3.07	1.45
71	10AB021	10AB064	Circular	337.23	0.25	3.00	31.09	342.22	342.55	337.80	336.95	5.84	8.09	339.85	341.54	339.81	341.49	2.37	0.68	2.74	1.06
72	10AB016	10AB021	Circular	311.81	0.06	2.50	13.64	341.50	342.22	338.20	337.80	1.73	2.78	339.89	341.50	339.85	341.54	1.61	0.00	2.37	0.68
76	15AA037	15AB045	Circular	366.72	0.19	1.50	4.26	350.50	350.20	346.75	346.05	1.19	1.63	347.32	347.49	346.03	347.27	3.18	3.01	4.17	2.93
82	10AB055	10AB021	Circular	474.14	0.24	2.50	18.51	341.67	342.22	338.92	337.80	1.93	-6.04	339.91	341.65	339.85	341.54	1.76	0.02	2.37	0.68
88	10AB018	10AB019	Circular	68.75	0.28	2.00	11.04	341.77	341.46	337.50	337.31	3.36	4.42	339.89	341.49	339.89	341.46	1.88	0.28	1.58	0.00
93	03BB013	03BB001	Natural	319.72	0.22	1.95	27.15	328.11	327.43	325.90	325.73	10.24	10.91	326.86	326.88	326.28	326.29	1.25	1.22	1.15	1.14
98	10BC052	10BC053	Circular	296.22	0.22	2.00	9.84	338.36	337.48	334.80	334.15	1.20	1.78	336.33	337.50	336.32	337.48	2.03	0.86	1.16	0.00
99	10BC053	10BB024	Circular	268.39	0.19	2.00	9.16	337.48	337.98	334.02	333.51	2.06	3.40	336.32	337.48	336.31	337.42	1.16	0.00	1.67	0.56
109	10BD022	10BD009	Circular	297.70	0.09	2.00	13.67	340.00	340.00	337.00	335.74	2.02	2.67	338.43	340.00	338.42	340.00	1.57	0.00	1.58	0.00
110	10BD010	10BD011	Circular	342.74	0.25	2.50	19.19	340.60	340.77	337.27	336.40	1.34	1.84	338.46	339.84	338.45	339.84	2.14	0.76	2.32	0.94
115	10BD011	10CA009	Circular	321.02	0.22	2.50	18.04	340.77	340.91	336.38	335.66	2.65	3.83	338.45	339.84	338.44	339.81	2.32	0.94	2.47	1.10
117	10CA009	10CA029	Circular	72.27	0.06	3.50	21.98	340.91	340.35	335.48	335.44	20.83	27.94	338.44	339.81	338.41	339.75	2.47	1.10	1.94	0.60
125	10CB021	10CB023	Circular	372.73	0.03	3.50	26.94	339.75	340.75	334.74	334.43	29.61	39.51	338.04	339.10	337.74	338.49	1.71	0.65	3.01	2.26
126	10CB001	10CB023	Circular	26.15	11.82	1.00	11.37	339.85	340.75	337.85	334.76	1.98	2.55	338.26	338.44	337.74	338.49	1.59	1.41	3.01	2.26
127	10CA029	10CB020	Circular	321.49	0.02	3.50	12.76	340.35	339.95	335.44	335.38	20.73	27.94	338.41	339.75	338.26	339.49	1.94	0.60	1.70	0.46
130	10CB020	10CB021	Circular	343.53	0.14	3.50	35.28	339.95	339.75	335.38	334.89	25.13	33.59	338.26	339.49	338.04	339.10	1.70	0.46	1.71	0.65
131	10CB023	10CB024	Circular	272.52	0.14	3.50	34.89	340.75	338.76	334.43	334.05	31.30	39.47	337.74	338.49	337.50	338.07	3.01	2.26	1.26	0.69
134	10CB024	09DA016	Circular	261.08	0.21	3.50	42.49	338.76	338.55	334.04	333.50	32.34	41.02	337.50	338.07	337.30	337.81	1.26	0.69	1.25	0.75
135	09DA016	09DA017	Circular	142.55	0.07	3.50	24.74	338.55	341.15	333.50	333.40	33.67	42.93	337.30	337.81	337.23	337.77	1.25	0.75	3.92	3.38
149	10BB026	10BB049	Circular	73.37	0.08	4.00	38.14	336.51	336.82	331.61	331.55	17.83	23.40	335.12	335.76	335.11	335.73	1.39	0.75	1.71	1.09
150	10BB032	10BB027	Circular	149.94	0.05	3.00	13.38	337.25	336.30	331.70	331.63	13.83	17.89	335.19	335.92	335.13	335.80	2.06	1.33	1.17	0.50
151	10BB027	10BB026	Circular	193.92	-0.02	4.00	13.55	336.30	336.51	331.63	331.61	13.57	17.92	335.13	335.80	335.12	335.76	1.17	0.50	1.39	0.75
156	10BB037	10BB032	Circular	237.77	0.11	3.00	20.08	337.41	337.25	332.15	331.90	8.78	11.28	335.23	336.00	335.19	335.92	2.18	1.41	2.06	1.33
157	10BB039	10BB037	Circular	212.53	0.11	3.00	20.81	336.80	337.41	332.39	332.15	8.98	11.28	335.26	336.06	335.23	336.00	1.54	0.74	2.18	1.41
158	10BA036	10BB045	Circular	321.09	0.07	2.00	5.74	337.46	337.04	332.94	332.70	3.92	4.91	335.64	336.77	335.55	336.59	1.82	0.69	1.49	0.45
159	10BA041	10BA036	Circular	200.00	0.15	2.00	8.14	338.46	337.46	333.34	333.04	3.94	4.91	335.70	336.88	335.64	336.77	2.76	1.58	1.82	0.69
164	10BA059	10BA054	Circular	74.73	0.24	3.50	45.85	340.95	340.36	334.93	334.75	10.38	-12.61	338.95	339.54	338.95	339.58	2.00	1.41	1.41	0.78
166	10BA064	10BA059	Circular	209.18	0.16	3.00	24.60	339.41	340.95	335.46	335.13	10.56	-12.61	338.98	339.41	338.95	339.54	0.43	0.00	2.00	1.41
167	10BA068	10BA064	Circular	90.11	0.06	2.00	4.95	339.67	339.41	335.65	335.60	10.86	11.63	339.10	339.39	338.98	339.41	0.57	0.28	0.43	0.00
169	10BA069	10BA068	Circular	32.41	0.09	2.00	6.39	339.38	339.67	335.78	335.75	10.90	11.65	339.14	339.38	339.10	339.39	0.24	0.00	0.57	0.28
171	10BA051	10BA044	Circular	187.59	0.19	2.00	9.20	339.50	339.50	336.67	336.31	4.07	4.66	339.40	339.50	339.36	339.50	0.10	0.00	0.14	0.00

Hydraulic Model Results - Full Buildout Conditions - Capital Improvement Plan Projects																				
Burkhart Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
172	10BA044	10BA043	Circular	43.52	0.21	2.00	9.55	339.50	339.50	336.31	336.22	4.07	4.46	339.36	339.50	339.35	339.50	0.14	0.00	0.15	0.00
173	10BA053	10BA043	Circular	184.01	0.20	2.00	9.29	339.50	339.50	336.58	336.22	3.73	4.42	339.38	339.50	339.35	339.50	0.12	0.00	0.15	0.00
174	03CD009	03CD012	Circular	145.22	0.33	2.00	12.08	337.85	337.32	335.42	334.94	12.24	14.72	336.69	337.39	336.54	337.23	1.16	0.46	0.78	0.09
175	03CD012	03CD018	Circular	238.52	0.25	2.00	10.54	337.32	337.00	334.94	334.34	12.01	14.63	336.54	337.23	336.36	336.96	0.78	0.09	0.64	0.04
176	03CD018	03CD023	Circular	188.67	0.20	2.00	9.43	337.00	337.89	334.34	333.96	11.91	14.61	336.36	336.96	335.75	336.09	0.64	0.04	2.14	1.80
180	03CD013	03CD020	Circular	285.79	0.24	0.83	1.00	338.08	337.26	335.02	334.33	-0.12	-0.14	335.72	336.05	335.71	336.04	2.36	2.04	1.55	1.22
183	03CD020	03CD024	Circular	188.06	0.36	0.83	1.22	337.26	337.70	334.33	333.65	-0.22	-0.22	335.71	336.04	335.71	336.04	1.55	1.22	1.99	1.66
184	03CD023	03CD024	Circular	49.01	0.33	2.50	21.76	337.89	337.70	333.96	333.80	11.90	14.59	335.75	336.09	335.71	336.04	2.14	1.80	1.99	1.66
185	03CD024	03CD030	Circular	279.31	0.09	2.50	11.39	337.70	336.98	333.80	333.55	11.86	14.55	335.71	336.04	335.38	335.66	1.99	1.66	1.61	1.32
188	03CD026	03CA002	Circular	253.02	0.16	2.00	8.46	336.70	336.00	334.31	333.90	8.80	10.70	335.36	335.55	335.03	335.27	1.34	1.15	0.98	0.73
189	03CD030	03CA006	Circular	255.39	0.11	2.50	12.61	336.98	336.22	333.55	333.27	11.81	14.49	335.38	335.66	335.05	335.30	1.61	1.32	1.17	0.92
192	03CA002	03CA007	Circular	168.36	0.24	2.00	10.24	336.00	335.80	333.80	333.40	8.61	10.47	335.03	335.27	334.93	335.18	0.98	0.73	0.87	0.62
193	03CA006	03CA009	Circular	322.92	0.11	2.50	12.72	336.22	337.65	333.27	332.91	11.76	14.42	335.05	335.30	334.61	334.79	1.17	0.92	3.04	2.86
194	03CA007	03CA008	Circular	83.88	0.25	2.00	10.51	335.80	336.25	333.40	333.19	8.50	10.36	334.93	335.18	334.87	335.08	0.87	0.62	1.38	1.17
195	03CA008	03CA010	Circular	101.56	0.28	2.50	20.00	336.25	337.25	333.19	332.91	8.41	10.29	334.87	335.08	334.85	335.06	1.38	1.17	2.40	2.19
196	03CA013	03CA010	Circular	54.72	0.07	2.50	10.30	337.26	337.25	332.95	332.91	13.54	16.23	334.92	335.14	334.85	335.06	2.34	2.12	2.40	2.19
197	03CA011	03CA010	Circular	83.24	0.20	1.00	1.50	335.35	337.25	333.08	332.91	-0.01	-0.01	334.85	335.06	334.85	335.06	0.50	0.29	2.40	2.19
198	03CA009	03CA012	Circular	42.80	0.12	2.50	13.02	337.65	336.92	332.91	332.86	11.70	14.36	334.61	334.79	334.55	334.72	3.04	2.86	2.37	2.20
199	03CA012	03CA015	Circular	33.00	0.12	2.50	13.26	336.92	335.32	332.86	332.82	11.68	14.34	334.55	334.72	334.51	334.67	2.37	2.20	0.81	0.65
200	03CA010	03CA014	Circular	130.02	0.07	2.50	10.02	337.25	335.32	332.91	332.82	17.33	20.66	334.85	335.06	334.51	334.66	2.40	2.19	0.81	0.66
201	03CA016	03CB001	Circular	143.00	0.21	2.50	17.45	337.03	341.16	332.60	332.30	37.24	45.73	334.16	334.34	332.81	332.86	2.87	2.68	8.35	8.31
202	10BA054	10BA009	Circular	195.72	0.34	4.00	78.04	340.36	339.93	334.62	333.95	11.93	12.28	338.95	339.58	338.95	339.64	1.41	0.78	0.98	0.29
203	10BB047	10BB025	Circular	56.04	0.11	3.00	20.27	337.95	336.93	332.00	331.94	28.04	34.21	335.86	336.60	335.83	336.52	2.09	1.35	1.10	0.41
204	10BB004	10BB047	Circular	169.53	0.12	3.00	21.27	338.65	337.95	332.20	332.00	28.15	34.24	336.07	337.01	335.86	336.60	2.58	1.64	2.09	1.35
208	10AA004	10AB023	Circular	429.66	0.18	1.50	4.13	344.35	343.88	340.00	339.23	3.34	4.41	341.04	343.30	340.41	342.52	3.31	1.05	3.47	1.36
211	10AB056	10AB022	Circular	34.97	0.29	4.00	71.33	342.85	342.35	335.43	335.33	43.80	57.30	339.78	341.40	339.75	341.33	3.07	1.45	2.60	1.02
215	09AA009	09AA022	Circular	43.00	0.09	4.00	40.68	337.01	339.55	329.83	329.79	32.52	38.68	335.55	336.12	335.54	336.11	1.46	0.89	4.01	3.44
220	09AB009	09AB017	Circular	69.45	2.62	1.50	15.79	336.50	334.47	332.27	330.45	23.92	24.02	336.49	336.50	332.38	332.52	0.01	0.00	2.09	1.95
221	09AB017	09AB016	Circular	89.70	0.37	2.00	12.74	334.47	334.63	330.45	330.12	37.22	39.11	332.38	332.52	331.67	331.71	2.09	1.95	2.96	2.92
224	10BA009	10BA023	Circular	34.31	0.20	4.00	60.25	339.93	340.13	333.95	333.88	11.41	11.63	338.95	339.64	338.93	339.64	0.98	0.29	1.20	0.49
225	10AB022	10AB042	Circular	17.16	0.70	4.00	111.54	342.35	342.25	335.33	335.21	43.64	57.32	339.75	341.33	339.74	341.30	2.60	1.02	2.51	0.95
226	10AB042	10AB001	Circular	48.56	-0.56	4.00	33.15	342.25	342.09	335.21	335.18	43.47	57.34	339.74	341.30	339.70	341.21	2.51	0.95	2.39	0.88
227	10AB019	10AB001	Circular	227.23	0.81	2.00	18.85	341.46	342.09	337.31	335.48	7.57	10.27	339.89	341.46	339.70	341.21	1.58	0.00	2.39	0.88
234	10AB007	03DC018	Circular	139.75	0.11	1.50	3.20	340.65	340.29	336.55	336.40	3.35	4.47	339.59	339.93	339.42	339.66	1.06	0.72	0.87	0.63
235	03DC009	03DC018	Circular	45.53	0.20	1.00	1.47	340.14	340.29	336.49	336.40	-0.20	-0.24	339.42	339.66	339.42	339.66	0.72	0.48	0.87	0.63
236	03DC018	03DC008	Circular	42.09	0.10	1.50	3.01	340.29	340.04	336.20	336.16	3.36	4.47	339.42	339.66	339.38	339.57	0.87	0.63	0.66	0.47
237	03DC008	03DC007	Circular	200.00	-0.02	2.00	2.97	340.04	339.46	335.61	335.65	3.38	4.47	339.38	339.57	339.32	339.46	0.66	0.47	0.14	0.00
241	03DC007	03DC006	Circular	501.64	0.08	2.00	5.93	339.46	339.48	335.45	335.05	6.95	7.30	339.32	339.46	338.78	339.05	0.14	0.00	0.70	0.43
270	15AC048	15AC021	Circular	47.00	0.15	3.50	36.05	352.74	352.44	346.36	346.29	36.99	42.42	349.91	350.45	349.84	350.37	2.83	2.29	2.60	2.07
271	15AC021	15AC035	Circular	43.00	0.00	4.50	5.77	352.44	352.66	346.29	346.29	40.15	46.70	349.84	350.37	349.82	350.34	2.60	2.07	2.84	2.32
275	15DB043	15DB031	Circular	353.81	0.23	2.00	10.11	352.85	352.26	350.00	349.18	0.00	-0.31	350.00	350.45	349.92	350.45	2.85	2.40	2.34	1.81
278	15DB031	15AC021	Circular	218.44	0.62	2.00	16.58	352.26	352.44	349.11	347.75	3.28	4.63	349.92	350.45	349.84	350.37	2.34	1.81	2.60	2.07
282	09DA020	09DA019	Circular	454.97	0.31	1.75	8.13	339.69	341.60	336.86	335.47	4.76	6.19	338.76	339.69	338.33	338.94	0.93	0.00	3.27	2.66
284	09DA019	09DA010	Circular	264.34	0.05	1.75	3.13	341.60	339.35	335.47	335.35	4.75	6.19	338.33	338.94	338.19	338.58	3.27	2.66	1.16	0.77
285	09DA010	09DA001	Circular	34.76	0.43	1.75	9.67	339.35	340.12	335.35	335.20	4.75	6.18	338.19	338.58	338.18	338.58	1.16	0.77	1.94	1.54
286	09DA001	09DA008	Circular	61.34	0.54	1.75	10.79	340.12	339.35	335.18	334.85	4.74	6.17	338.18	338.58	338.17	338.57	1.94	1.54	1.18	0.78
287	09DA008	09DA022	Circular	78.40	0.24	1.75	7.24	339.35	340.21	334.85	334.66	4.73	6.17	338.17	338.57	338.16	338.56	1.18	0.78	2.05	1.65
290	10CB006	10CB007	Circular	63.04	0.16	1.50	3.88	339.70	339.70	336.50	336.40	2.92	3.81	339.61	339.70	339.60	339.70	0.09	0.00	0.10	0.00
291	10CB007	10CB004	Circular	130.47	0.06	1.50	2.42	339.70	343.76	336.40	336.32	2.92	3.81	339.60	339.70	339.57	339.82	0.10	0.00	4.19	3.94
292	15AB046	15AB043	Circular	322.94	0.10	4.00	41.99	349.41	348.55	342.91	342.59	16.05	18.36	344.98	346.19	344.85	346.13	4.43	3.22	3.71	2.42
293	10CC044	10CC058	Circular	180.26	1.00	2.00	20.99	341.05	343.81	338.32	336.52	7.58	9.91	340.13	340.51	340.09	340.35	0.92	0.54	3.72	3.47
294	10CC017	10CC059	Circular	441.35	0.01	2.00	2.45	340.85	343.40	336.45	336.39	4.86	5.47	340.23	340.43	340.18	340.43	0.62	0.42	3.22	2.96
299	10CB005	10CC017	Circular	291.12	0.26	2.00	10.73	340.43	340.85	337.37	336.61	4.87	5.48	340.34	340.43	340.23	340.43	0.09	0.00	0.62	0.42
347	15AC049	15AB064	Circular	410.89	0.09	2.50	11.58	350.56	350.06	346.96	346.58	17.18	18.43	349.17	349.33	348.15	348.30	1.39	1.23	1.91	1.76
354	15AB049	15AB065	Circular	480.96	0.26	2.00	10.75	349.88	349.90	345.26	344.00	7.08	8.81	346.46	346.89	345.12	346.21	3.42	2.99	4.79	3.70
355	15AB065	15AB046	Circular	324.18	0.34	4.00	77.34	349.90	349.41	344.00	342.91	8.19	9.57	345.12	346.21	344.98	346.19	4.79	3.70	4.43	3.22
362	10DA098	10DA099	Circular	652.70	0.15	0.67	0.45	350.32	348.36	346.00	345.00	0.47	0.52	346.70	346.80	345.41	345.50	3.62	3.52	2.95	2.86
379	15AB045	15AB044	Circular	390.70	0.33	1.50	5.56	350.20	349.69	345.24	343.97	2.59	3.11	346.03	347.27	345.41	346.94	4.17	2.93	4.29	2.75
383	15AB044	15AB043	Circular	400.65	0.25	1.50	4.90	349.69	348.55	343.97	342.96	3.91	4.95	345.41	346.94	344.85	346.13	4.29	2.75	3.71	2.42
386	15AB043	10DC038	Circular	342.97	0.10	4.00	43.21	348.55	348.19	342.59	342.23	20.46	23.86	344.85	346.13	344.66	346.04	3.71	2.42	3.53	2.15
387	10DC039	10DC038	Circular	399.16	0.38	1.50	6.00	349.04	348.19	343.97	342.46	4.24	5.11	345.30	346.99	344.66	346.04	3.74	2.05	3.53	2.15
388	10DC045	10DC039	Circular	386.19	0.30	1.50	5.30	349.68	349.04	345.11	343.97	2.74	3.21	345.94	347.41	345.30	346.99	3.74	2.27	3.74	2.05
394	15DA052	15DA049	Circular	276.68	0.19	1.00	1.43	355.23	354.57	351.38	350.86	2.92	3.76	354.92	358.00	352.81	354.63	0.31	-2.77	1.76	-0.06
397	15DA049	15DA048	Circular	271.64	0.04	1.50	2.05	354.57	354.17	350.82	350.70	5.60	7.12	352.81	354.63	351.97	353.22	1.76	-0.06	2.20	0.95
398	15DA020	15DA048	Circular	19.61	-0.15	0.83	0.79	352.36	354.17	350.67	350.70	0.11	-0.12	351.97	353.22	351.97	353.22	0.39	-0.86	2.20	0.95
399	15DA019	15DA048	Circular	20.21	-0.15	0.83	0.78	352.38	354.17	350.67	350.70	-0.10	0.10	351.97	353.22	351.97	353.22	0.41	-0.84	2.20	0.95
400	15DA048	15AD056	Circular	119.45	0.12	2.00	7.19	354.17	354.69	350.54	350.40	5.51	7.10	351.97	353.22	351.87	353.08	2.20	0.95	2.82	1.61
402	15DA074	15DD058	Circular	338.25	0.12	1.00	1.14	358.09	359.79	353.83	353.43	0.61	0.71	356.38	358.04	356.28	357.89	1.71	0.06	3.51	1.90
424	10DD058	10DC044	Circular	389.62	0.23	2.00	10.10	349.67	348.90	344.62	343.72	5.80	6.53	345.81	347.38	345.27	347.03	3.86	2.29	3.63	1.87
429	10AD032	10AD031	Circular	193.59	0.86	0.67	1.06	347.45	346.78	343.60	341.93	1.06	1.19	346.90	347.45	345.29	345.71	0.55	0.00	1.49	1.07

Hydraulic Model Results - Full Buildout Conditions - Capital Improvement Plan Projects																				
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xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
431	10DD066	10DD001	Circular	187.62	0.43	2.00	13.72	351.68	350.79	348.60	347.80	1.36	1.74	349.03	349.08	348.39	348.49	2.65	2.60	2.40	2.30
432	10DD001	10DD065	Circular	191.58	0.20	2.00	9.36	350.79	350.25	347.62	347.24	2.93	3.76	348.39	348.49	347.73	347.86	2.40	2.30	2.52	2.39
437	10DC046	10DC042	Circular	408.17	0.45	1.50	6.53	347.81	347.66	345.00	343.17	2.88	3.49	345.85	347.50	345.22	346.98	1.96	0.32	2.44	0.68
438	10DD064	10DC046	Circular	378.67	0.35	1.50	5.74	349.61	347.81	346.31	345.00	1.65	2.02	346.86	347.63	345.85	347.50	2.75	1.98	1.96	0.32
446	10DD065	10DD060	Circular	304.60	0.54	2.00	15.37	350.25	350.88	347.14	345.51	2.93	3.76	347.73	347.86	346.38	347.52	2.52	2.39	4.50	3.36
479	15AD053	15AD054	Circular	202.87	0.77	1.00	2.90	353.45	354.41	348.70	347.14	-1.43	-2.15	351.50	352.25	351.87	353.05	1.95	1.20	2.54	1.36
482	15AD048	15AD053	Circular	170.64	0.16	1.00	1.32	353.77	353.45	348.97	348.70	-1.43	-2.14	351.19	351.58	351.50	352.25	2.58	2.19	1.95	1.20
484	15AD032	15AD048	Circular	21.83	1.33	0.83	2.34	353.85	353.77	349.38	349.09	-1.43	-2.14	351.08	351.45	351.19	351.58	2.77	2.40	2.58	2.19
490	15DD058	15DD059	Circular	79.92	0.91	1.25	5.73	359.79	360.01	353.43	352.70	2.81	3.34	356.28	357.89	356.11	357.65	3.51	1.90	3.90	2.36
491	15DD059	15DD065	Circular	319.52	0.06	1.25	1.46	360.01	359.95	352.65	352.46	3.67	4.36	356.11	357.65	355.03	356.08	3.90	2.36	4.92	3.87
492	14CC033	14CC034	Circular	145.83	-0.09	3.00	18.49	360.82	360.47	355.13	355.26	3.80	4.50	356.14	356.26	356.02	356.17	4.68	4.56	4.45	4.30
493	14CC034	23BB038	Circular	291.42	0.21	3.00	28.57	360.47	359.84	355.26	354.64	3.78	4.41	356.02	356.17	355.58	356.02	4.45	4.30	4.26	3.82
494	14CC036	23BB038	Circular	105.25	0.34	1.25	3.51	359.90	359.84	355.00	354.64	3.09	3.66	355.91	356.28	355.58	356.02	3.99	3.62	4.26	3.82
495	14CC039	14CC036	Circular	195.54	0.23	1.25	2.88	360.87	359.90	355.47	355.02	3.10	3.69	356.50	356.88	355.91	356.28	4.37	3.99	3.99	3.62
496	23BB038	23BB043	Circular	270.55	0.05	3.50	21.25	359.84	359.46	354.24	354.10	6.73	7.67	355.58	356.02	355.47	355.99	4.26	3.82	4.00	3.47
497	23BB043	23BB006	Circular	20.86	0.24	3.50	45.74	359.46	359.82	354.10	354.05	6.62	7.38	355.47	355.99	355.46	355.98	4.00	3.47	4.36	3.84
511	03BD006	03BD007	Natural	287.18	0.50	1.93	198.23	332.79	331.34	330.86	329.41	4.31	6.23	331.47	331.56	330.30	330.43	1.32	1.23	1.04	0.91
520	10BB045	10BB039	Circular	185.05	0.06	2.00	5.12	337.04	336.80	332.60	332.49	9.12	11.30	335.55	336.59	335.26	336.06	1.49	0.45	1.54	0.74
524	03CD006	03CD009	Circular	46.21	0.17	2.00	8.74	338.05	337.85	335.50	335.42	12.33	14.84	336.76	337.44	336.69	337.39	1.29	0.61	1.16	0.46
529	10BA043	10BA069	Circular	313.28	0.11	2.00	6.92	339.50	339.38	336.22	335.88	7.90	8.21	339.35	339.50	339.14	339.38	0.15	0.00	0.24	0.00
530	10BA067	10BA068	Circular	23.67	0.25	1.00	1.67	339.30	339.67	335.81	335.75	-0.10	-2.03	339.10	339.30	339.10	339.39	0.20	0.00	0.57	0.28
531	03CD034	03CD033	Circular	164.90	0.18	1.00	1.39	338.51	338.91	336.94	336.65	1.79	1.88	337.84	337.95	337.05	337.05	0.67	0.57	1.87	1.86
579	15AD056	15AD054	Circular	27.71	3.46	2.00	39.10	354.69	354.41	349.96	349.00	6.11	7.09	351.87	353.08	351.87	353.05	2.82	1.61	2.54	1.36
616	15AC023	15AC022	Circular	225.56	0.14	3.00	23.33	352.81	352.88	347.38	347.06	1.80	2.55	350.86	351.79	350.86	351.79	1.95	1.02	2.02	1.09
618	15AC050	15AC045	Circular	59.53	1.93	2.00	29.20	352.08	352.75	349.40	348.25	14.03	14.79	350.85	351.40	350.75	351.15	1.22	0.67	2.00	1.60
637	15BA007	15BA001	Circular	38.74	3.02	0.83	3.53	347.44	347.15	345.55	344.38	1.38	1.78	346.88	348.34	346.70	348.06	0.57	-0.90	0.45	-0.91
639	15BA040	15BA001	Circular	169.40	-0.01	1.25	0.46	347.79	347.15	344.37	344.38	1.71	2.22	346.84	348.28	346.70	348.06	0.95	-0.49	0.45	-0.91
640	15BA036	15BA040	Circular	228.92	0.65	1.25	4.82	348.16	347.79	345.93	344.45	1.72	2.23	347.00	348.58	346.84	348.28	1.16	-0.42	0.95	-0.49
664	22DA019	22DA076	Circular	59.50	0.39	1.00	2.06	364.00	364.55	359.60	359.37	0.03	-0.14	360.04	362.74	360.04	362.74	3.96	1.26	4.51	1.81
665	22DA076	22AD053	Circular	57.64	0.12	1.50	3.40	364.55	364.32	359.16	359.09	1.50	1.91	360.04	362.74	360.02	362.72	4.51	1.81	4.30	1.60
669	22AD053	22AD051	Circular	134.58	0.17	1.50	4.03	364.32	364.84	359.09	358.86	1.47	1.88	360.02	362.72	359.99	362.68	4.30	1.60	4.85	2.16
670	22AD051	22AD050	Circular	90.55	0.19	1.50	4.23	364.84	365.23	358.76	358.59	3.31	4.32	359.99	362.68	359.92	362.53	4.85	2.16	5.31	2.70
676	23BC001	23BC022	Circular	144.70	0.21	1.00	1.51	365.46	365.46	362.90	362.60	1.92	2.48	364.28	365.47	363.80	364.67	1.18	-0.01	1.66	0.79
677	23BC022	22AD052	Circular	229.60	0.17	1.00	1.38	365.46	365.37	362.57	362.17	1.91	2.48	363.80	364.67	363.08	363.42	1.66	0.79	2.30	1.95
678	22AD052	22AD032	Circular	121.98	0.01	1.00	0.30	365.37	365.26	361.99	361.98	1.91	2.48	363.08	363.42	361.89	362.90	2.30	1.95	3.37	2.36
679	22AD032	22AD051	Circular	49.50	3.98	1.00	6.60	365.26	364.84	361.52	359.55	1.91	2.47	361.89	362.90	359.99	362.68	3.37	2.36	4.85	2.16
684	10DD077	10DC045	Circular	394.19	0.30	1.50	5.38	349.88	349.68	346.31	345.11	1.51	1.85	346.85	347.53	345.94	347.41	3.03	2.35	3.74	2.27
691	10DC038	10DC041	Circular	321.91	0.13	4.00	48.75	348.19	347.52	342.16	341.73	25.10	29.42	344.66	346.04	344.47	345.90	3.53	2.15	3.05	1.62
695	10DC042	10DC041	Circular	394.14	0.32	1.50	5.56	347.66	347.52	343.17	341.89	4.41	5.38	345.22	346.98	344.47	345.90	2.44	0.68	3.05	1.62
700	10DC041	10DC048	Circular	300.86	0.08	4.00	36.88	347.52	347.34	341.61	341.38	29.93	35.21	344.47	345.90	344.27	345.70	3.05	1.62	3.07	1.64
703	10DC043	10DC048	Circular	398.60	0.11	2.00	6.98	347.03	347.34	341.86	341.42	8.45	9.76	344.87	346.49	344.27	345.70	2.16	0.54	3.07	1.64
711	22AA044	22AA048	Circular	54.46	0.37	2.50	23.08	358.80	358.57	354.70	354.50	2.84	3.54	357.04	357.42	357.04	357.42	1.76	1.38	1.53	1.15
712	22AA048	22AA051	Circular	75.47	0.13	2.50	13.86	358.57	358.56	354.55	354.45	2.77	3.47	357.04	357.42	357.04	357.42	1.53	1.15	1.52	1.14
724	15DC015	15DC044	Circular	179.12	-0.23	1.00	1.60	358.33	360.35	351.96	352.38	2.52	2.75	355.79	356.50	354.79	355.32	2.54	1.83	5.56	5.03
726	15DC044	15DC045	Circular	301.12	0.53	1.00	2.42	360.35	356.69	352.23	350.62	2.52	2.74	354.79	355.32	353.17	353.37	5.56	5.03	3.52	3.32
729	15DC045	15DC040	Circular	134.56	0.30	1.25	3.31	356.69	354.49	350.31	349.90	2.51	2.74	353.17	353.37	352.98	353.13	3.52	3.32	1.51	1.36
731	15DC034	15DC040	Circular	135.55	0.27	2.25	14.82	354.36	354.49	350.26	349.90	11.27	13.55	353.06	353.28	352.98	353.13	1.30	1.08	1.51	1.36
735	15DC035	15DC039	Circular	283.10	0.10	2.50	11.98	356.06	355.10	350.18	349.90	14.64	16.67	353.47	353.77	353.17	353.35	2.59	2.29	1.93	1.75
736	15DD061	15DC034	Circular	449.20	0.05	2.25	6.65	356.46	354.36	350.81	350.57	11.32	13.57	353.70	354.24	353.06	353.28	2.76	2.22	1.30	1.08
740	15DD062	15DD061	Circular	106.55	0.11	2.00	7.05	357.52	356.46	350.93	350.81	11.33	13.57	354.00	354.68	353.70	354.24	3.52	2.84	2.76	2.22
741	15DD063	15DD062	Circular	422.16	0.12	2.00	7.16	358.36	357.52	351.44	350.95	8.78	10.19	354.73	355.66	354.00	354.68	3.63	2.71	3.52	2.84
744	15DD064	15DD063	Circular	149.07	1.50	2.00	25.69	358.91	358.36	353.68	351.45	6.47	7.13	354.70	355.83	354.73	355.66	4.21	3.09	3.63	2.71
746	15DD065	15DD064	Circular	406.83	-0.44	2.00	13.93	359.95	358.91	351.90	353.69	5.14	5.37	355.03	356.08	354.70	355.83	4.92	3.87	4.21	3.09
825	10CC031	10CC065	Circular	67.46	1.59	0.83	2.56	343.05	344.69	339.77	338.70	0.89	1.15	341.31	341.68	341.30	341.66	1.74	1.37	3.39	3.03
826	10CC048	10CC062	Circular	96.52	0.39	0.83	1.28	342.45	346.64	338.95	338.57	1.55	2.04	341.31	342.02	341.23	341.60	1.14	0.43	5.40	5.03
829	10CD027.1	10CD027	Circular	94.65	0.19	2.50	16.61	345.00	345.27	341.00	340.82	9.02	-14.43	343.18	343.94	343.17	343.92	1.82	1.06	2.10	1.35
830	10CD030.1	10CD030	Circular	246.88	0.06	2.50	9.39	345.00	345.23	340.60	340.45	9.11	-14.53	343.16	343.92	343.14	343.89	1.84	1.08	2.09	1.34
831	10CD027	10CD030.1	Circular	23.99	0.50	2.50	26.94	345.27	345.00	340.72	340.60	9.05	-14.47	343.17	343.92	343.16	343.92	2.10	1.35	1.84	1.08
834	10CD030	10CD034	Circular	180.61	0.10	2.50	12.02	345.23	344.65	340.35	340.17	10.95	13.10	343.14	343.89	343.10	343.95	2.09	1.34	1.55	0.70
835	10CD034	10CD033	Circular	26.26	0.08	2.50	10.51	344.65	344.45	340.07	340.05	10.99	13.13	343.10	343.95	343.10	343.96	1.55	0.70	1.35	0.49
836	10CD033	10CD032	Circular	72.32	0.11	2.50	12.67	344.45	344.85	339.95	339.87	11.01	13.15	343.10	343.96	343.10	343.99	1.35	0.49	1.75	0.86
837	10CD032	10CD028.1	Circular	54.96	0.31	2.50	21.18	344.85	344.80	339.77	339.60	11.03	13.15	343.10	343.99	343.10	344.01	1.75	0.86	1.70	0.79
838	10CD028.1	10CD028	Circular	23.99	0.83	2.50	34.78	344.80	344.83	339.60	339.40	11.03	13.16	343.10	344.01	343.10	344.03	1.70	0.79	1.73	0.81
841	10CD036	10CD016	Circular	67.55	0.33	1.00	1.89	343.30	343.35	340.47	340.25	-0.07	-0.05	343.10	343.96	343.10	343.96	0.20	-0.66	0.25	-0.61
842	10CD016	10CD033	Circular	15.88	0.63	1.00	2.63	343.35	344.45	340.15	340.05	-0.11	-0.09	343.10	343.96	343.10	343.96	0.25	-0.61	1.35	0.49
852	15AB050	15AB049	Circular	387.86	0.29	2.00	11.39	350.48	349.88	346.47	345.33	5.19	6.69	347.43	347.63	346.46	346.89	3.05	2.86	3.42	2.99
855	15AA045	15AB050	Circular	411.31	0.26	2.00	10.66	350.64	350.48	347.53	346.47	2.38	3.09	348.18	348.30	347.43	347.63	2.46	2.34	3.05	2.86
868	15AC056	15AC057	Circular	112.35	0.17	1.00	1.36	352.68	352.49	347.88	347.69	0.77	1.04	348.48	348.69	348.36	348.59	4.20	3.99	4.13	3.90
868.1	03CC006	03CC004	Natural	251.53	0.56	3.55	198.42	338.15	337.84	335.15	333.73	5.63	6.75	335.66	335.74	335.47	335.58	2.49	2.41	2.37	2.26
869	15AC057	15AC058	Circular	86.57	0.18	1.50	4.19	352.49	351.99	347.62	347.46	0.77	1.06	348.36	348.59	348.35	348.57	4.13	3.90	3.64	3.42

Hydraulic Model Results - Full Buildout Conditions - Capital Improvement Plan Projects																				
Burkhart Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
870	15AC058	15AC060	Circular	232.61	0.15	1.50	3.73	351.99	351.30	347.39	347.05	1.88	2.45	348.35	348.57	348.23	348.43	3.64	3.42	3.07	2.87
871	15AC060	15AB059	Circular	314.65	0.12	2.00	7.20	351.30	350.72	347.03	346.66	2.76	3.78	348.23	348.43	348.15	348.31	3.07	2.87	2.58	2.41
872	15AB059	15AB062	Circular	23.29	0.21	2.00	9.73	350.72	350.82	346.66	346.61	3.88	5.30	348.15	348.31	348.14	348.29	2.58	2.41	2.68	2.52
872.1	10AB004	10BA001	Natural	237.44	0.41	2.00	40.30	341.65	340.68	339.65	338.68	1.62	1.97	340.06	340.21	340.06	340.21	1.59	1.44	0.62	0.47
875	15CD070	15CD068	Natural	301.75	0.18	3.54	91.35	358.09	356.86	354.20	353.66	2.46	3.07	354.38	354.43	354.27	354.42	3.71	3.66	2.59	2.44
882	15CD073	15CD072	Circular	47.53	0.25	1.00	1.66	358.76	358.61	357.57	357.45	0.24	0.34	357.83	357.87	357.71	357.73	0.93	0.88	0.90	0.87
889	15AA003	15AA045	Circular	291.68	0.16	2.00	8.43	350.12	350.64	348.00	347.53	2.39	3.10	348.73	348.84	348.18	348.30	1.39	1.28	2.46	2.34
895	15AA043	15AB048	Circular	389.11	0.43	1.50	6.43	351.53	350.21	347.58	345.89	1.51	1.96	348.07	348.19	346.61	347.67	3.46	3.34	3.60	2.54
896	15AB048	15AB047	Circular	387.20	0.36	1.50	5.89	350.21	349.82	345.83	344.42	2.91	3.42	346.61	347.67	345.70	347.22	3.60	2.54	4.12	2.60
897	15AB047	15AB046	Circular	382.20	0.40	1.50	6.13	349.82	349.41	344.42	342.91	4.43	5.43	345.70	347.22	344.98	346.19	4.12	2.60	4.43	3.22
927	10AC019	10AB056	Circular	1159.66	0.22	4.00	61.93	342.68	342.85	337.93	335.43	43.66	48.18	340.88	342.68	339.78	341.40	1.80	0.00	3.07	1.45
948	15DC023.1	15DC023	Circular	38.51	0.39	1.00	2.06	357.13	358.76	354.30	354.15	0.83	1.09	354.74	354.80	354.54	354.60	2.39	2.33	4.22	4.16
949	15DC023	15DC033	Circular	164.73	0.95	1.00	3.23	358.76	354.05	354.15	352.58	0.83	1.09	354.54	354.60	352.78	352.81	4.22	4.16	1.27	1.24
957	15DA059	15DA058	Circular	446.20	0.17	2.50	15.82	356.68	354.76	352.35	351.58	7.28	8.45	353.57	354.05	352.96	353.81	3.11	2.63	1.80	0.95
959	10AB023	10AB064	Circular	474.12	0.48	2.00	14.57	343.88	342.55	339.23	336.95	7.78	9.93	340.41	342.52	339.81	341.49	3.47	1.36	2.74	1.06
960	15DB030	15DB026	Circular	13.06	0.31	0.67	0.62	352.36	353.92	350.29	350.25	2.49	2.89	351.55	351.82	350.88	350.97	0.81	0.54	3.04	2.95
961	15DB026	15DB027	Circular	29.20	0.24	1.00	1.62	353.92	353.92	350.05	349.98	2.49	2.89	350.88	350.97	350.53	350.73	3.04	2.95	3.39	3.19
963	15DB014	15DB041	Circular	210.62	0.41	2.00	13.50	352.29	352.82	349.64	348.77	4.40	5.72	350.61	350.80	350.40	350.58	1.68	1.49	2.42	2.24
964	15DB041	15DC048.2	Circular	79.28	0.06	3.00	15.55	352.82	356.74	348.71	348.66	21.48	26.87	350.40	350.58	350.04	350.19	2.42	2.24	6.69	6.54
965	09AA012	09AB019	Circular	222.13	0.12	2.00	7.19	337.47	336.74	333.14	332.88	11.30	14.14	336.21	337.05	335.95	336.24	1.26	0.42	0.79	0.50
966	15DB034	15DB033	Circular	289.16	0.10	3.00	19.27	353.88	353.44	349.31	349.03	17.18	21.26	351.29	351.57	350.87	351.11	2.59	2.31	2.57	2.33
967	15DB035	15DB034	Circular	139.86	0.24	3.00	30.08	354.79	353.88	349.70	349.37	17.19	21.28	351.50	351.79	351.29	351.57	3.29	3.00	2.59	2.31
968	15DB032	15DB035	Circular	356.66	0.04	2.50	7.55	353.30	354.79	349.84	349.70	17.21	21.31	352.28	352.84	351.50	351.79	1.02	0.46	3.29	3.00
969	09AA017	09AA018	Circular	230.57	0.27	2.00	10.89	337.19	336.41	333.86	333.24	7.84	9.57	335.40	336.00	335.08	335.56	1.79	1.19	1.33	0.85
972	15DA055	15DB032	Circular	178.64	0.17	2.50	15.87	353.93	353.30	350.15	349.84	15.64	19.25	352.54	353.28	352.28	352.84	1.39	0.65	1.02	0.46
975	15DA058	15DA055	Circular	316.44	0.33	2.50	21.94	354.76	353.93	351.23	350.18	13.04	16.02	352.96	353.81	352.54	353.28	1.80	0.95	1.39	0.65
1022	22AD049	22AD048	Circular	234.17	0.03	3.00	10.71	365.75	364.76	357.62	357.55	4.75	6.66	359.41	361.47	359.38	361.44	6.34	4.28	5.38	3.32
1025	22AD047	22AD048	Circular	22.21	0.68	1.25	4.93	364.50	364.76	357.91	357.76	2.20	2.78	359.39	361.47	359.38	361.44	5.11	3.03	5.38	3.32
1027	22AD048	22AD055	Circular	292.84	0.06	3.00	14.92	364.76	363.96	357.02	356.85	6.37	9.08	359.38	361.44	359.35	361.37	5.38	3.32	4.62	2.59
1028	03CD032	03CD004	Natural	105.08	1.00	3.55	161.52	339.63	339.69	336.63	335.58	1.40	1.49	336.88	336.89	335.98	336.00	2.75	2.74	3.70	3.68
1032	22AD055	22AD054	Circular	194.86	0.03	3.00	10.87	363.96	363.16	356.80	356.74	7.55	10.58	359.35	361.37	359.32	361.32	4.62	2.59	3.84	1.84
1035	22AD054	22AA038	Circular	101.45	0.15	3.00	23.81	363.16	362.69	356.52	356.37	7.85	10.56	359.32	361.32	359.31	361.29	3.84	1.84	3.38	1.40
1036	22AA038	22AA037	Circular	65.72	0.09	3.00	18.71	362.69	361.56	356.37	356.31	12.58	17.82	359.31	361.29	359.28	361.23	3.38	1.40	2.28	0.33
1038	23BC023	23BB030	Circular	329.17	0.10	2.00	6.65	363.47	362.58	358.84	358.51	5.18	6.59	360.15	362.72	359.87	362.42	3.32	0.75	2.71	0.17
1038.1	03DB003	03DB026	Natural	354.89	0.18	4.44	1032.49	339.58	338.94	335.14	334.50	3.00	3.76	335.43	335.50	335.28	335.40	4.15	4.08	3.66	3.54
1039	23BB030	22AA040	Circular	179.08	0.66	1.50	7.95	362.58	361.74	358.51	357.32	4.88	6.54	359.87	362.42	359.51	361.65	2.71	0.17	2.24	0.09
1041	03DB013	03DB013.1	Natural	352.96	0.11	4.31	579.08	338.31	337.93	334.00	333.62	12.70	13.55	335.03	335.21	334.97	335.18	3.28	3.10	2.96	2.75
1041.1	03DB013.1	03CA013	Natural	658.03	0.10	4.31	567.82	337.93	337.26	333.62	332.95	12.89	15.39	334.97	335.18	334.92	335.14	2.96	2.75	2.34	2.12
1042	22AA040	22AA038	Circular	85.00	0.24	1.50	4.73	361.74	362.69	356.94	356.74	4.87	6.48	359.51	361.65	359.31	361.29	2.24	0.09	3.38	1.40
1044	23BB036	23BB033	Circular	74.01	0.68	1.00	2.72	361.00	364.89	359.15	358.65	10.25	13.10	360.65	361.29	359.87	360.02	0.35	-0.29	5.02	4.87
1050	22AA035	22AA034	Circular	348.82	0.14	2.25	10.67	361.90	360.60	355.95	355.47	14.38	20.49	358.87	360.41	358.03	358.66	3.03	1.49	2.57	1.94
1051	22AA034	22AA042	Circular	101.19	0.08	2.25	8.09	360.60	361.50	355.44	355.36	14.37	20.48	358.03	358.66	357.79	358.17	2.57	1.94	3.71	3.33
1053	03BB011	03BB012	Natural	97.60	-0.19	3.00	138.96	330.00	330.00	327.11	326.90	-6.02	-5.80	329.63	329.62	329.62	329.61	0.37	0.38	0.38	0.39
1054	23BB024	22AA033	Circular	177.10	0.28	2.00	11.16	359.65	358.76	355.71	355.21	4.15	4.89	357.89	358.33	357.84	358.24	1.76	1.32	0.92	0.52
1057	22AA032	22AA039	Circular	147.28	0.14	1.00	1.25	358.96	361.40	355.51	355.30	-0.01	-0.01	357.50	357.82	357.50	357.82	1.46	1.14	3.90	3.58
1058	22AA042	22AA039	Rectangular	78.20	0.08	4.00	79.68	361.50	361.40	355.36	355.30	45.25	58.10	357.79	358.17	357.50	357.82	3.71	3.33	3.90	3.58
1059	22AA033	22AA042	Circular	146.53	0.12	2.00	7.16	358.76	361.50	355.21	355.04	4.14	4.89	357.84	358.24	357.79	358.17	0.92	0.52	3.71	3.33
1061	22AA003	22AA031	Circular	16.53	0.30	3.00	34.06	358.92	359.18	353.90	353.85	7.79	9.25	355.44	355.98	355.44	355.97	3.48	2.94	3.75	3.21
1062	22AA031	15DD068	Circular	367.48	0.04	3.00	11.65	359.18	359.34	353.85	353.72	7.88	9.49	355.44	355.97	355.22	355.88	3.75	3.21	4.12	3.47
1067	15DD068	15DD085	Circular	48.02	0.04	3.00	12.64	359.34	358.94	353.57	353.55	10.15	10.90	355.22	355.88	355.19	355.86	4.12	3.47	3.75	3.08
1068	15DD068	15DD066	Circular	409.22	0.23	1.00	1.59	359.34	358.64	353.57	352.63	0.85	1.27	355.22	355.88	355.16	356.13	4.12	3.47	3.48	2.51
1074	15DD066	15DD065	Circular	137.94	0.03	1.25	1.02	358.64	359.95	352.50	352.46	2.12	2.50	355.16	356.13	355.03	356.08	3.48	2.51	4.92	3.87
1079	03CC002	03CC001	Natural	4.26	19.01	2.72	554.64	336.64	337.00	334.51	333.70	-32.91	-15.17	335.39	335.43	335.58	336.79	1.25	1.21	1.42	0.21
1081	10AB005	03CD034	Natural	814.23	0.32	1.79	310.55	341.57	338.51	339.57	336.94	2.35	3.16	340.02	340.08	337.84	337.95	1.55	1.49	0.67	0.57
1093	10DA064	10DA061	Circular	301.56	0.15	2.50	14.71	347.87	347.40	343.67	343.22	6.14	7.78	344.83	345.01	344.43	344.78	3.05	2.86	2.97	2.62
1099	10DA061	10DA059	Circular	325.54	0.25	2.50	19.00	347.40	347.28	343.22	342.41	8.12	10.15	344.43	344.78	343.88	344.62	2.97	2.62	3.40	2.66
1104	10DA059	10AD055	Circular	284.99	0.04	2.50	7.82	347.28	346.77	342.36	342.24	8.99	11.16	343.88	344.62	343.38	344.50	3.40	2.66	3.39	2.27
1107	10DA099	10DA093	Circular	479.11	0.38	0.83	1.23	348.36	348.91	345.00	343.20	0.44	0.45	345.41	345.50	345.32	345.61	2.95	2.86	3.59	3.30
1108	10DA093	10AD031	Circular	494.73	0.26	0.83	1.02	348.91	346.78	343.20	341.93	0.36	0.36	345.32	345.61	345.29	345.71	3.59	3.30	1.49	1.07
1109	23BB028	23BB027	Circular	293.64	0.04	1.50	1.97	362.39	361.50	358.09	357.97	1.88	2.23	359.07	359.33	358.88	359.19	3.32	3.06	2.62	2.32
1110	23BB027	23BB026	Circular	260.57	0.11	2.00	7.01	361.50	360.96	357.30	357.01	3.65	4.38	358.88	359.19	358.81	359.09	2.62	2.32	2.15	1.87
1111	23BB026	23BB003	Circular	44.81	0.22	2.00	9.92	360.96	363.32	357.01	356.91	11.63	14.30	358.81	359.09	358.69	358.90	2.15	1.87	4.63	4.42
1112	23BB040	23BB025	Circular	383.79	0.25	1.75	7.32	361.76	361.32	357.76	356.81	4.50	5.35	358.79	359.00	358.08	358.50	2.97	2.76	3.24	2.82
1113	23BB025	23BB024	Circular	376.80	0.12	2.00	7.26	361.32	359.65	356.73	356.28	4.28	5.05	358.08	358.50	357.89	358.33	3.24	2.82	1.76	1.32
1117	10DD071	10DA075	Circular	331.18	0.34	1.50	5.70	349.77	348.90	345.69	344.56	2.67	3.26	346.43	346.55	345.58	345.78	3.34	3.22	3.32	3.12
1118	23BC020	23BC008	Circular	314.70	0.22	1.00	1.54	363.92	362.67	361.05	360.37	2.60	3.30	363.57	367.45	361.66	364.76	0.35	-3.53	1.01	-2.09
1119	23BC008	23BC003	Circular	32.72	0.46	1.00	2.24	362.67	362.74	360.35	360.20	2.60	3.25	361.66	364.76	361.45	364.48	1.01	-2.09	1.29	-1.74
1122	23BC003	23BC006	Circular	93.69	0.20	1.00	1.49	362.74	362.70	360.05	359.86	2.60	3.22	361.45	364.48	360.89	363.66	1.29	-1.74	1.80	-0.97
1123	23BC006	23BC017	Circular	81.33	0.26	1.33	3.62	362.70	363.09	359.76	359.55	2.60	3.19	360.89	363.66	360.80	363.51	1.80	-0.97	2.29	-0.42
1124	23BC017	23BC023	Circular	183.77	0.20	1.50	4.32	363.09	363.47	359.53	359.17	5.30	6.65	360.80	363.51	360.15	362.72	2.29	-0.42	3.32	0.75

Hydraulic Model Results - Full Buildout Conditions - Capital Improvement Plan Projects																					
Burkhart Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1137	22AB037	22AB036	Circular	221.51	0.20	1.25	2.67	359.06	362.34	355.92	355.48	2.80	3.73	356.91	357.26	355.71	355.82	2.15	1.80	6.63	6.52
1138	22AB036	22AB040	Circular	135.01	2.86	1.25	10.14	362.34	356.00	355.23	351.37	2.80	3.73	355.71	355.82	353.76	353.91	6.63	6.52	2.24	2.09
1149	14CC013	14CC015	Circular	51.38	2.22	1.00	4.93	358.76	358.76	356.85	355.71	-0.15	-0.69	357.14	359.91	357.24	359.91	1.62	-1.15	1.52	-1.15
1150	14CC015	14CC016	Circular	143.85	0.08	1.00	0.91	358.76	358.30	355.71	355.60	-0.99	-1.83	357.24	359.91	357.19	359.91	1.52	-1.15	1.11	-1.60
1151	14CC016	14CC014	Circular	107.57	0.19	2.00	9.06	358.30	358.75	354.60	354.40	1.82	2.28	357.19	359.91	357.19	359.90	1.11	-1.60	1.56	-1.15
1152	14CC014	15DD057	Circular	365.55	0.11	2.00	7.12	358.75	358.20	354.40	353.98	4.06	5.14	357.19	359.90	357.04	359.69	1.56	-1.15	1.16	-1.49
1155	15DD057	15DA068	Circular	185.99	0.15	2.00	8.15	358.20	357.60	353.98	353.70	6.95	8.69	357.04	359.69	356.83	359.38	1.16	-1.49	0.77	-1.78
1158	15DA066	15DA064	Circular	212.12	0.16	3.00	24.80	357.17	356.36	351.34	351.00	16.70	23.18	356.23	358.43	356.08	358.14	0.94	-1.26	0.28	-1.78
1161	15DA064	15DA051	Circular	41.52	0.22	3.00	28.84	356.36	356.62	351.00	350.91	16.70	23.18	356.08	358.14	356.05	358.08	0.28	-1.78	0.58	-1.46
1162	15DA051	15DA062	Circular	275.97	0.08	3.00	17.08	356.62	356.23	350.91	350.70	18.42	25.38	356.05	358.08	355.81	357.63	0.58	-1.46	0.42	-1.40
1163	15DA062	15DA002	Circular	68.88	0.13	3.00	22.39	356.23	356.27	350.70	350.61	20.55	27.95	355.81	357.63	355.73	357.49	0.42	-1.40	0.54	-1.22
1164	15DA002	15AD057	Circular	106.03	0.37	3.00	37.56	356.27	356.26	350.26	349.87	20.56	27.94	355.73	357.49	355.62	357.28	0.54	-1.22	0.64	-1.02
1168	14BC027	14BC015	Circular	66.03	-0.02	2.50	4.69	356.86	357.28	349.92	349.93	17.20	17.77	355.66	356.93	355.64	356.97	1.20	-0.07	1.64	0.31
1169	14BC015	14BC014	Circular	114.51	0.11	2.50	12.83	357.28	357.30	349.85	349.72	17.21	17.77	355.64	356.97	355.62	357.06	1.64	0.31	1.68	0.24
1170	14BC014	15AD045	Circular	230.55	0.24	2.50	18.60	357.30	356.10	349.72	349.17	17.21	17.77	355.62	357.06	355.62	357.23	1.68	0.24	0.48	-1.13
1171	15AD045	15AD057	Circular	74.17	-0.03	2.50	6.25	356.10	356.26	349.17	349.19	17.21	17.77	355.62	357.23	355.62	357.28	0.48	-1.13	0.64	-1.02
1174	15AD057	15AD055	Circular	356.65	0.15	2.50	14.82	356.26	355.17	349.19	348.65	25.87	26.33	355.62	357.28	354.12	355.64	0.64	-1.02	1.05	-0.47
1177	15AD055	15AD061	Circular	78.67	-0.01	2.50	4.29	355.17	354.86	348.65	348.66	26.76	28.31	354.12	355.64	353.75	355.22	1.05	-0.47	1.11	-0.36
1178	15AD061	15AD028	Circular	90.55	1.12	2.50	40.23	354.86	355.21	348.65	347.64	26.77	28.30	353.75	355.22	353.32	354.73	1.11	-0.36	1.90	0.48
1181	15AD028	15AD046	Circular	203.10	0.15	2.50	14.64	355.21	354.20	347.64	347.34	28.55	30.57	353.32	354.73	352.22	353.46	1.90	0.48	1.98	0.74
1183	15AD046	15AD054	Circular	64.76	0.31	2.50	21.17	354.20	354.41	347.34	347.14	28.54	30.56	352.22	353.46	351.87	353.05	1.98	0.74	2.54	1.36
1184	15AD054	15AC030	Circular	471.51	0.05	3.50	21.08	354.41	352.91	347.14	346.90	32.45	35.50	351.87	353.05	351.32	352.39	2.54	1.36	1.59	0.53
1185	15AC030	15AC029	Circular	103.00	-0.29	3.50	50.42	352.91	353.26	346.90	347.20	32.41	35.48	351.32	352.39	351.20	352.24	1.59	0.53	2.06	1.02
1186	15AC029	15AC032	Circular	91.51	0.44	3.50	61.77	353.26	353.04	347.20	346.80	32.33	35.47	351.20	352.24	351.10	352.11	2.06	1.02	1.94	0.93
1187	15AC032	15AC039	Circular	114.00	0.05	3.50	21.43	353.04	352.88	346.80	346.74	32.29	35.46	351.10	352.11	350.98	351.95	1.94	0.93	1.90	0.93
1188.1	15AC039	15AC022	Circular	90.57	-0.35	3.50	55.53	352.88	352.88	346.74	347.06	35.73	39.99	350.98	351.95	350.86	351.79	1.90	0.93	2.02	1.09
1192	15DB040	15DB039	Circular	34.52	0.23	2.00	10.11	352.31	352.31	349.00	348.92	3.51	4.57	351.01	352.01	351.00	351.99	1.30	0.30	1.31	0.32
1193	15DB039	15AC039	Circular	86.98	1.06	2.00	21.60	352.31	352.88	348.92	348.00	3.50	4.56	351.00	351.99	350.98	351.95	1.31	0.32	1.90	0.93
1195	15AC022	15AC020	Circular	313.50	0.15	3.50	35.79	352.88	352.07	347.01	346.55	37.32	42.49	350.86	351.79	350.42	351.15	2.02	1.09	1.65	0.92
1198	15AC020	15AC048	Circular	352.50	0.05	3.50	21.11	352.07	352.74	346.55	346.37	37.14	42.47	350.42	351.15	349.91	350.45	1.65	0.92	2.83	2.29
1200	15BD094	15BD095	Circular	130.51	0.09	3.50	28.33	351.07	350.89	346.05	345.93	40.95	48.50	349.61	350.10	349.44	349.78	1.46	0.97	1.45	1.11
1201	15BD095	15BD096	Circular	152.01	0.09	3.50	28.35	350.89	350.67	345.93	345.79	40.88	48.47	349.44	349.78	349.27	349.52	1.45	1.11	1.40	1.14
1202	15BD096	15CA090	Circular	118.99	0.08	3.50	27.08	350.67	352.40	345.79	345.69	40.80	48.42	349.27	349.52	349.14	349.40	1.40	1.14	3.25	2.99
1277	15AC035	15BD093	Circular	219.52	0.05	4.50	38.97	352.66	352.05	346.29	346.19	39.95	46.60	349.82	350.34	349.71	350.22	2.84	2.32	2.34	1.83
1332	15AC036	15AC047	Circular	46.60	0.21	1.50	4.52	351.60	351.70	349.60	349.50	7.87	9.61	351.41	352.24	351.15	351.83	0.19	-0.64	0.54	-0.13
1333	15AC047	15AC050	Circular	35.33	0.28	1.50	5.19	351.70	352.08	349.50	349.40	9.96	12.51	351.15	351.83	350.85	351.40	0.54	-0.13	1.22	0.67
1334	15AD017	15AD067	Circular	101.66	0.30	3.00	33.64	354.12	354.37	351.12	350.82	0.00	-0.05	351.12	351.45	351.08	351.45	3.00	2.67	3.29	2.92
1335	15AD067	15AD063	Circular	112.43	1.01	2.00	21.06	354.37	354.83	350.82	349.69	-0.12	-0.14	351.08	351.45	351.08	351.45	3.29	2.92	3.75	3.38
1336	15AD063	15AD064	Circular	101.55	0.03	2.00	3.61	354.83	354.62	349.69	349.66	-0.40	-0.37	351.08	351.45	351.08	351.45	3.75	3.38	3.54	3.17
1337	15AD064	15AD065	Circular	122.46	0.11	2.00	7.10	354.62	354.64	349.66	349.52	-0.78	-0.54	351.08	351.45	351.08	351.45	3.54	3.17	3.56	3.19
1341	15AC041	15AC040	Circular	37.74	0.19	1.50	4.20	351.76	351.69	348.76	348.69	-0.02	-0.02	349.55	349.64	349.55	349.64	2.21	2.12	2.14	2.05
1342	15AC040	15AB064	Circular	816.35	0.03	1.50	1.67	351.69	350.06	348.69	348.45	1.30	1.57	349.55	349.64	348.15	348.30	2.14	2.05	1.91	1.76
1367	15BA001	15BA037	Circular	148.00	0.07	1.25	1.64	347.15	346.50	344.38	344.27	3.08	3.98	346.70	348.06	346.33	347.43	0.45	-0.91	0.17	-0.93
1368	15BA037	15BA033	Circular	153.60	0.40	1.25	3.81	346.50	347.86	344.27	343.65	3.07	3.97	346.33	347.43	346.10	346.79	0.17	-0.93	1.76	1.07
1369	15BA033	15BA032	Circular	152.59	0.13	1.25	2.17	347.86	346.36	343.65	343.45	3.07	3.96	346.10	346.79	346.07	346.42	1.76	1.07	0.29	-0.06
1370	15BA032	15BA038	Circular	80.50	0.12	1.25	2.11	346.36	346.33	343.45	343.35	3.06	3.96	346.07	346.42	346.05	346.37	0.29	-0.06	0.27	-0.04
1371	15BB025	15BB036	Circular	26.67	0.45	1.75	9.87	344.96	347.06	340.18	340.06	-0.08	-0.06	342.61	343.33	342.61	343.33	2.35	1.63	4.45	3.73
1372	15BB036	15BB035	Circular	83.06	0.22	1.75	6.85	347.06	346.45	340.06	339.88	1.74	1.98	342.61	343.33	342.60	343.32	4.45	3.73	3.85	3.13
1373	15BB035	15BB034	Circular	323.85	0.14	1.75	5.42	346.45	344.62	339.73	339.29	3.60	4.04	342.60	343.32	342.42	343.12	3.85	3.13	2.20	1.50
1375	15BB034	15BB033	Circular	221.63	0.17	1.75	6.01	344.62	343.46	339.17	338.80	6.43	7.26	342.42	343.12	342.03	342.63	2.20	1.50	1.43	0.83
1376	15BB033	15BB032	Circular	38.98	0.23	1.75	7.07	343.46	343.46	338.80	338.71	7.42	8.51	342.03	342.63	341.98	342.53	1.43	0.83	1.48	0.93
1378	15BB032	15BB030	Circular	283.85	0.22	1.75	6.93	343.46	342.46	338.71	338.08	7.41	8.50	341.98	342.53	341.71	342.10	1.48	0.93	0.75	0.36
1380	15BB030	15BB044	Circular	51.21	0.18	2.00	8.81	342.46	343.99	338.08	337.99	7.41	8.49	341.71	342.10	341.69	342.07	0.75	0.36	2.29	1.92
1382	10CC029	10CC030	Circular	33.72	0.27	0.83	1.05	342.00	342.00	340.59	340.50	1.87	2.41	341.88	342.86	341.81	342.41	0.12	-0.86	0.19	-0.41
1383	10CC030	15BB041	Circular	173.59	1.03	1.00	3.36	342.00	344.35	340.50	338.71	1.85	2.40	341.81	342.41	341.76	342.16	0.19	-0.41	2.59	2.19
1387	15BB037	15BB038	Circular	75.81	-0.04	1.25	1.19	343.11	343.48	339.29	339.32	2.28	2.94	342.09	342.75	341.99	342.58	1.02	0.36	1.49	0.90
1388	15BB038	15BB039	Circular	83.89	0.48	1.25	4.14	343.48	343.90	339.32	338.92	2.28	2.94	341.99	342.58	341.98	342.39	1.49	0.90	1.92	1.51
1389	15BB039	15BB042	Circular	137.16	0.70	1.50	8.16	343.90	346.78	338.82	337.86	5.16	6.67	341.98	342.39	341.94	342.27	1.92	1.51	4.83	4.51
1390	10CC024	10CC049	Circular	11.28	3.10	0.83	3.58	343.17	343.46	341.07	340.72	-0.08	-0.08	342.93	343.96	342.93	343.96	0.24	-0.79	0.53	-0.50
1392	10CC049	10CC055	Circular	339.80	0.32	1.50	5.55	343.46	344.55	340.72	339.62	1.65	2.08	342.93	343.96	342.86	343.84	0.53	-0.50	1.69	0.72
1393	10CC055	10CC054	Circular	79.01	0.51	1.50	6.94	344.55	345.42	339.62	339.22	3.41	4.31	342.86	343.84	342.81	343.72	1.69	0.72	2.61	1.70
1394	10CC054	10CC053	Circular	111.39	0.81	1.50	8.77	345.42	343.39	339.22	338.32	3.39	4.29	342.81	343.72	342.75	343.59	2.61	1.70	0.64	-0.20
1395	10CD028	10CC053	Circular	383.65	0.15	4.00	52.31	344.83	343.39	338.91	338.32	41.42	45.00	343.10	344.03	342.75	343.59	1.73	0.81	0.64	-0.20
1396	10CC053	10CC052	Circular	66.01	0.26	3.50	47.41	343.39	343.24	338.31	338.14	43.79	47.83	342.75	343.59	342.61	343.42	0.64	-0.20	0.63	-0.18
1402	10CD029	10CD028	Circular	559.21	0.09	4.00	39.08	345.64	344.83	339.88	339.40	44.46	52.43	343.63	344.84	343.10	344.03	2.02	0.80	1.73	0.81
1403	10CD031	10CD029	Circular	338.61	0.22	4.00	62.77	346.55	345.64	340.63	339.88	42.17	49.50	343.91	345.28	343.63	344.84	2.64	1.27	2.02	0.80
1411	10DC048	10CD031	Circular	395.56	0.15	4.00	52.38	347.34	346.55	341.24	340.63	38.79	45.46	344.27	345.70	343.91	345.28	3.07	1.64	2.64	1.27
1412	10CC052	10CC051	Circular	354.62	0.14	3.50	34.73	343.24	342.30	338.14	337.65	46.75	51.52	342.61	343.42	341.83	342.38	0.63	-0.18	0.47	-0.08
1416	10CC051	10CC063.1	Circular	365.64	0.05	3.50	21.85	342.30	342.30	336.84	336.64	49.14	54.58	341.83	342.38	341.08	341.43	0.47	-0.08	1.23	0.87
1420	10CC050	10CC060	Circular	209.57	0.29	2.25	15.39	343.75	343.07	337.75	337.15	15.80	16.92	341.78	342.20	341.15	341.52	1.97	1.55	1.92	1.55

Hydraulic Model Results - Full Buildout Conditions - Capital Improvement Plan Projects																					
Burkhart Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1421	10CC038	10CC039	Circular	39.82	0.00	1.00	0.10	343.32	343.33	338.85	338.85	-0.03	-0.02	341.15	341.52	341.15	341.52	2.17	1.80	2.17	1.81
1422	10CC060	10CC063.1	Circular	27.01	1.85	2.25	39.13	343.07	342.30	337.14	336.64	15.80	16.92	341.15	341.52	341.08	341.43	1.92	1.55	1.23	0.87
1423	10CC039	10CC060	Circular	25.15	6.76	1.00	8.60	343.33	343.07	338.85	337.15	-0.05	-0.03	341.15	341.52	341.15	341.52	2.17	1.81	1.92	1.55
1425	10CC041	10CC050	Circular	18.08	3.65	1.25	11.46	343.32	343.75	338.41	337.75	-2.36	1.08	341.78	342.20	341.78	342.20	1.54	1.12	1.97	1.55
1427	10CC070	10CC042	Circular	97.26	1.33	1.00	3.81	346.62	343.75	342.35	341.06	0.76	1.11	342.65	342.73	341.79	342.22	3.96	3.89	1.96	1.53
1428	10CC042	10CC041	Circular	126.72	2.09	1.00	4.78	343.75	343.32	341.06	338.41	0.75	1.08	341.79	342.22	341.78	342.20	1.96	1.53	1.54	1.12
1429	09DD025	10CC050	Circular	481.67	0.24	2.50	18.69	343.05	343.75	338.91	337.75	15.50	16.53	342.56	343.05	341.78	342.20	0.49	0.00	1.97	1.55
1434	09DD004	09DD005	Circular	37.52	1.01	2.50	38.33	343.13	343.20	339.58	339.20	21.42	26.54	342.63	343.11	342.59	343.08	0.50	0.01	0.61	0.12
1435	09DD005	09DD025	Circular	18.05	1.61	2.50	48.28	343.20	343.05	339.20	338.91	15.50	16.53	342.59	343.08	342.56	343.05	0.61	0.12	0.49	0.00
1437	10DC044	10DC043	Circular	392.66	0.47	2.00	14.46	348.90	347.03	343.72	341.86	6.95	7.87	345.27	347.03	344.87	346.49	3.63	1.87	2.16	0.54
1443	10DD060	10DD058	Circular	288.59	0.31	2.00	11.67	350.88	349.67	345.51	344.62	4.21	4.94	346.38	347.52	345.81	347.38	4.50	3.36	3.86	2.29
1446	10DD061	10DD060	Circular	356.10	0.42	2.00	13.63	350.63	350.88	347.01	345.51	1.31	1.69	347.43	347.62	346.38	347.52	3.20	3.01	4.50	3.36
1496	09AA018	09AA020	Circular	147.54	0.29	2.00	11.34	336.41	336.18	333.24	332.81	15.53	19.04	335.08	335.56	334.18	334.39	1.33	0.85	2.00	1.79
1497	09AA020	09AA019	Circular	33.16	0.30	2.00	11.54	336.18	336.66	332.81	332.71	15.52	19.04	334.18	334.39	333.85	334.07	2.00	1.79	2.81	2.59
1498	09AA019	09AA021	Circular	54.42	5.26	2.00	48.16	336.66	336.72	332.71	329.85	26.89	33.27	333.85	334.07	332.04	332.12	2.81	2.59	4.68	4.60
1499	10BA034	10BB024	Circular	380.10	0.12	3.00	21.31	338.93	337.98	332.94	332.49	25.22	28.82	336.85	338.22	336.31	337.42	2.08	0.71	1.67	0.56
1570	03DB006	03DB012	Circular	259.86	0.09	2.00	6.25	336.89	337.64	334.33	334.10	11.26	11.65	336.19	336.30	335.16	335.31	0.70	0.59	2.48	2.33
1571	03DC004	03DB006	Circular	339.39	0.04	2.00	4.27	337.75	336.89	334.57	334.43	11.29	11.85	337.13	337.29	336.19	336.30	0.62	0.46	0.70	0.59
1572	03DC005	03DC004	Circular	294.19	0.01	2.00	2.45	338.53	337.75	334.81	334.77	11.30	11.98	337.97	338.18	337.13	337.29	0.56	0.35	0.62	0.46
1579	03BA025	03BA023	Natural	217.23	0.54	2.03	62.66	331.18	330.21	329.25	328.07	4.22	6.11	329.73	329.81	329.33	329.81	1.45	1.37	0.87	0.39
1750	22AD050	22AD062	Circular	98.07	0.36	1.50	5.83	365.23	365.83	358.59	358.24	3.25	4.28	359.92	362.53	359.84	362.37	5.31	2.70	5.99	3.46
1751	22AD062	22AD049	Circular	200.81	0.21	1.50	4.51	365.83	365.75	358.19	357.76	5.11	6.65	359.84	362.37	359.41	361.47	5.99	3.46	6.34	4.28
1752	22AD064	22AD063	Circular	314.69	0.06	2.00	5.16	363.55	365.63	359.10	358.91	2.13	2.80	360.00	362.50	359.86	362.45	3.55	1.05	5.77	3.18
1753	22AD063	22AD062	Circular	40.02	1.17	1.25	6.50	365.63	365.83	358.86	358.39	1.98	2.80	359.86	362.45	359.84	362.37	5.77	3.18	5.99	3.46
1788	10CA028	10CA050	Circular	325.61	0.32	2.00	11.93	343.66	343.94	341.00	339.95	5.68	7.33	342.00	342.16	340.11	340.87	1.66	1.50	3.83	3.07
1789	10CA050	10CA027	Circular	184.59	0.38	2.50	23.45	343.94	343.95	339.27	338.57	5.68	7.17	340.11	340.87	339.45	340.81	3.83	3.07	4.50	3.15
1793	10CA027	10CA022	Circular	204.89	0.39	2.50	23.80	343.95	343.27	338.55	337.75	5.64	7.49	339.45	340.81	339.10	340.74	4.50	3.15	4.17	2.53
1794	10CA022	10CA011	Circular	115.51	0.01	2.50	3.54	343.27	343.74	337.75	337.74	5.60	7.68	339.10	340.74	339.00	340.70	4.17	2.53	4.74	3.04
1797	10CA017	10CA011	Circular	64.00	1.16	2.00	22.59	343.00	343.74	338.48	337.74	4.21	5.28	339.13	340.74	339.00	340.70	3.87	2.26	4.74	3.04
1798	10CA011	10CA051	Circular	283.12	0.36	2.50	22.97	343.74	342.61	337.53	336.50	9.38	12.06	339.00	340.70	338.78	340.43	4.74	3.04	3.83	2.18
1799	10CA051	10CA009	Circular	326.77	0.21	2.50	17.63	342.61	340.91	336.36	335.66	13.24	16.78	338.78	340.43	338.44	339.81	3.83	2.18	2.47	1.10
1802	10CA010	10CA051	Circular	202.01	0.34	2.00	12.19	341.15	342.61	337.18	336.50	4.25	5.63	338.83	340.54	338.78	340.43	2.32	0.61	3.83	2.18
1814	10BD015	10CA049	Circular	312.66	0.31	2.00	11.76	341.04	341.69	338.57	337.59	2.44	3.02	339.19	339.90	338.52	339.84	1.85	1.14	3.17	1.85
1815	10CA049	10CA009	Circular	523.11	0.33	3.50	53.88	341.69	340.91	337.40	335.66	5.59	7.53	338.52	339.84	338.44	339.81	3.17	1.85	2.47	1.10
1823	15DC059	15DC061	Circular	9.50	2.21	1.50	14.50	354.86	354.89	350.57	350.36	1.86	2.42	353.68	354.05	353.68	354.04	1.18	0.81	1.22	0.85
1824	15DC063	15DC061	Circular	25.04	0.88	2.50	35.70	355.03	354.89	350.52	350.30	12.83	14.29	353.70	354.08	353.68	354.04	1.33	0.95	1.22	0.85
1825	15DC061	15DC035	Circular	150.75	0.12	2.50	13.16	354.89	356.06	350.36	350.18	14.64	16.67	353.68	354.04	353.47	353.77	1.22	0.85	2.59	2.29
1906	15AB064	15AB062	Special	53.83	0.19	1.50	5.90	350.06	350.82	346.50	346.40	1.96	1.98	348.15	348.30	348.14	348.29	1.91	1.76	2.68	2.52
1906	15AB064	15AB062	Circular	53.83	0.15	2.50	14.68	350.06	350.82	346.58	346.50	17.19	19.23	348.15	348.30	348.14	348.29	1.91	1.76	2.68	2.52
2007	10DB040	10DB042	Circular	318.14	0.05	2.25	6.24	345.43	344.80	339.14	338.99	9.90	13.17	341.56	343.60	341.23	343.03	3.87	1.83	3.57	1.77
2008	10DB023	10DB042	Circular	399.58	0.19	3.00	26.65	344.57	344.80	339.73	338.99	13.23	15.52	341.51	343.23	341.23	343.03	3.06	1.34	3.57	1.77
2009	10DB024	10DB023	Circular	451.60	0.20	3.00	27.95	346.24	344.57	340.65	339.73	12.13	14.68	342.12	343.39	341.51	343.23	4.12	2.85	3.06	1.34
2013	10DB042	10DB020	Circular	329.01	0.06	4.00	32.05	344.80	343.21	338.74	338.55	23.85	27.56	341.23	343.03	341.05	342.90	3.57	1.77	2.16	0.31
2017	10DB020	10AC019	Circular	345.84	0.10	4.00	43.03	343.21	342.68	338.37	338.01	28.72	33.11	341.05	342.90	340.88	342.68	2.16	0.31	1.80	0.00
2018	15BA006	15BA005	Circular	22.19	0.00	1.00	0.10	347.96	349.53	346.75	346.75	2.51	3.04	347.49	347.58	347.28	347.34	0.47	0.38	2.25	2.18
2019	15BA003	15BA002	Circular	20.76	0.00	0.83	0.06	348.01	347.96	346.75	346.75	2.40	3.00	347.75	348.03	347.49	347.58	0.25	-0.02	0.47	0.38
2020	15BA003.2	15BA003.1	Circular	56.50	0.16	0.50	0.21	348.47	348.37	346.95	346.86	0.61	0.60	348.09	348.12	347.75	348.03	0.37	0.35	0.61	0.34
2020	15BA003.2	15BA003.1	Trapezoidal	56.50	0.16	0.50	31.69	348.47	348.37	347.95	347.86	3.79	5.15	348.09	348.12	347.75	348.03	0.37	0.35	0.61	0.34
2027	10DB021	10DB020	Circular	401.61	0.27	2.00	10.99	344.38	343.21	339.65	338.55	4.24	5.54	341.14	343.12	341.05	342.90	3.24	1.26	2.16	0.31
2031	10DD080	10DC040	Circular	366.38	0.27	2.00	10.86	348.61	348.39	345.81	344.83	1.90	2.35	346.38	346.44	345.45	345.53	2.23	2.17	2.94	2.87
2036	15BA011	15BA014	Circular	53.54	0.62	2.00	16.49	351.13	349.95	346.10	345.77	22.92	27.26	347.65	347.82	347.37	347.52	3.48	3.30	2.58	2.43
2037	15BA012	15BA014	Circular	39.27	1.53	1.00	4.09	348.37	349.95	347.37	346.77	4.54	5.74	348.30	348.88	347.37	347.52	0.07	-0.51	2.58	2.43
2045	10DA068	10DB025	Circular	372.62	0.42	2.00	13.59	347.52	346.59	342.79	341.23	2.07	2.60	343.32	343.57	342.49	343.45	4.20	3.95	4.10	3.14
2058	10DA075	10DA064	Circular	343.51	0.26	1.50	4.96	348.90	347.87	344.56	343.67	3.80	4.68	345.58	345.78	344.83	345.01	3.32	3.12	3.05	2.86
2064	10DB025	10DB024	Circular	327.07	0.08	3.00	17.79	346.59	346.24	341.14	340.87	8.17	10.13	342.49	343.45	342.12	343.39	4.10	3.14	4.12	2.85
2069	10DB038	10DB024	Circular	196.03	0.26	1.25	3.06	347.35	346.24	341.38	340.87	0.98	1.19	342.18	343.42	342.12	343.39	5.17	3.93	4.12	2.85
2072	10AC001	10AC017	Circular	434.17	0.31	2.50	21.08	346.46	344.44	340.33	339.00	13.95	15.55	342.00	343.84	341.32	343.30	4.46	2.62	3.12	1.14
2076	10AC017	10AC019	Circular	403.10	0.25	2.50	18.88	344.44	342.68	339.00	338.01	14.99	16.59	341.32	343.30	340.88	342.68	3.12	1.14	1.80	0.00
2078	10AD024	10AC001	Circular	701.19	0.21	2.50	17.56	347.05	346.46	341.82	340.33	12.64	14.83	343.40	344.49	342.00	343.84	3.65	2.56	4.46	2.62
2087	15BA026	15BA024	Circular	39.39	1.19	1.00	3.61	349.91	348.62	346.75	346.28	1.81	2.37	347.43	347.58	346.72	346.78	2.47	2.32	1.89	1.84
2126	15CA074	15CA085	Circular	93.50	1.17	1.25	6.48	350.20	352.31	348.16	347.07	1.17	1.59	349.42	349.87	349.42	349.86	0.78	0.33	2.90	2.45
2127	15CA013	15CA085	Circular	174.04	2.80	1.00	5.54	356.55	352.31	353.04	348.16	4.21	5.36	353.70	354.02	349.42	349.86	2.85	2.53	2.90	2.45
2128	15CA085	15CA090	Circular	51.55	0.52	1.25	4.34	352.31	352.40	347.07	346.80	5.21	6.73	349.42	349.86	349.14	349.40	2.90	2.45	3.25	2.99
2152	15CC005	15CC006	Circular	46.58	0.39	1.00	2.06	356.11	356.26	353.38	353.20	2.07	2.24	354.33	354.55	354.26	354.42	1.78	1.55	2.00	1.85
2178	15CA094	15CA095	Circular	39.50	0.58	1.00	2.52	350.95	350.72	349.95	349.72	1.73	2.21	350.54	350.66	350.23	350.40	0.41	0.30	0.49	0.33
2179	15CA095	15BD094	Circular	70.90	1.00	1.00	3.31	350.72	351.07	349.72	349.01	1.73	2.20	350.23	350.40	349.61	350.10	0.49	0.33	1.46	0.97
2180	15BD093	15BD094	Circular	215.01	0.07	4.50	46.60	352.05	351.07	346.19	346.05	39.60	46.49	349.71	350.22	349.61	350.10	2.34	1.83	1.46	0.97
2208	15DB027	15DC048.2	Circular	86.61	0.82	1.00	3.00	353.92	356.74	349.78	349.07	2.49	2.89	350.53	350.73	350.04	350.19	3.39	3.19	6.69	6.54
2219	15AD052	15AD057	Circular	236.03	-0.09	2.00	6.41	357.21	356.26	351.65	351.87	7.40	9.00	355.90	357.69	355.62	357.28	1.31	-0.48	0.64	-1.02
2239	22AA002	22AA025	Circular	13.50	0.37	3.00	37.69	357.20	358.87	354.00	353.95	6.15	7.69	355.44	355.98	355.44	355.98	1.76	1.22	3.43	2.89

Hydraulic Model Results - Full Buildout Conditions - Capital Improvement Plan Projects																				
Burkhart Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
2250	23BB041	23BB033	Circular	120.71	0.29	1.00	1.78	362.10	364.89	359.59	359.24	1.86	2.39	360.38	360.63	359.87	360.02	1.72	1.47	5.02	4.87
2259	22AB002.2	22AB002.1	Circular	194.83	0.70	1.50	8.18	359.25	358.97	357.75	356.38	1.51	2.03	358.19	358.26	356.88	357.33	1.06	0.99	2.08	1.63
2260	22AB002	22AB039	Circular	163.02	1.34	1.50	11.31	357.79	356.86	355.00	352.81	3.33	3.88	356.65	357.33	356.60	357.26	1.14	0.46	0.26	-0.40
2342	10BB050	09AA010	Circular	47.57	0.13	4.00	47.37	336.42	336.25	329.96	329.90	32.65	38.79	335.55	336.12	335.55	336.12	0.87	0.30	0.70	0.13
2343	10BA025	10BA034	Circular	410.08	0.06	2.50	9.59	341.35	338.93	333.30	333.04	21.88	22.64	338.07	339.63	336.85	338.22	3.28	1.72	2.08	0.71
2345	10BB015	10BB050	Circular	124.57	0.26	4.00	67.60	336.35	336.42	330.28	329.96	32.82	38.94	335.57	336.13	335.55	336.12	0.78	0.22	0.87	0.30
2377	03CA018	03CA019	Circular	45.59	0.44	1.50	6.46	334.92	331.93	329.72	329.52	9.11	11.44	331.09	331.40	330.69	330.81	3.83	3.52	1.24	1.12
2378	03CA020	03CA021	Circular	127.04	0.10	1.50	3.12	335.75	334.91	329.98	329.85	9.10	11.44	332.52	333.65	331.42	331.92	3.23	2.10	3.49	2.99
2379	03CA021	03CA018	Circular	38.00	0.08	1.50	2.74	334.91	334.92	329.75	329.72	9.10	11.44	331.42	331.92	331.09	331.40	3.49	2.99	3.83	3.52
2428	10BB051	10BB052	Circular	54.49	0.46	2.00	14.23	337.81	337.25	332.63	332.38	5.22	6.60	335.30	336.14	335.27	336.09	2.51	1.67	1.98	1.16
2429	10BB052	10BB032	Circular	171.55	0.28	2.00	11.11	337.25	337.25	332.38	331.90	5.21	6.62	335.27	336.09	335.19	335.92	1.98	1.16	2.06	1.33
2594	03BB013	03BB012	Circular	36.68	0.27	1.00	1.73	328.11	330.00	326.00	325.90	-5.99	-5.99	326.86	326.88	329.62	329.61	1.25	1.22	0.38	0.39
2597	03BB008	03BB020	Circular	39.47	0.28	1.00	1.75	329.77	328.87	326.27	326.16	4.82	5.39	328.92	329.40	327.13	327.16	0.85	0.38	1.74	1.71
2639	03CD031	03CD032	Circular	178.56	0.01	1.50	1.03	340.19	339.63	336.65	336.63	1.40	1.49	337.34	337.36	336.88	336.89	2.85	2.83	2.75	2.74
2641	03CC001	03CC004	Circular	101.44	0.10	1.50	3.06	337.00	337.84	333.70	333.60	3.65	4.80	335.58	336.79	335.47	335.58	1.42	0.21	2.37	2.26
2643	10AC015	10AB023	Circular	334.47	0.48	2.00	14.48	343.68	343.88	340.82	339.23	4.59	5.80	341.59	342.75	340.41	342.52	2.09	0.93	3.47	1.36
2652	10DC049	10DB045	Circular	537.99	0.20	2.00	9.50	346.85	345.72	341.31	340.21	4.92	6.25	342.43	344.48	341.79	344.05	4.42	2.37	3.93	1.67
2653	10DB046	10DB040	Circular	288.38	0.16	2.25	11.49	345.85	345.43	339.60	339.14	7.20	9.56	341.71	343.90	341.56	343.60	4.14	1.95	3.87	1.83
2654	10DB045	10DB046	Circular	79.15	0.15	2.00	8.18	345.72	345.85	340.09	339.97	7.26	9.56	341.79	344.05	341.71	343.90	3.93	1.67	4.14	1.95
2864	15BB024	15BB036	Circular	42.01	0.95	0.83	1.98	347.96	347.06	340.80	340.40	1.74	1.97	342.75	343.47	342.61	343.33	5.21	4.49	4.45	3.73
2865	15BB022	15BB035	Circular	66.41	0.35	1.00	3.04	343.16	346.45	340.29	339.73	3.34	4.42	343.15	344.39	342.60	343.32	0.01	-1.23	3.85	3.13
2866	15BB045	15BB022	Circular	32.41	0.00	0.83	2.29	345.69	343.16	340.70	340.29	2.29	3.02	343.54	345.07	343.15	344.39	2.15	0.62	0.01	-1.23
2868	15BB050	15BB045	Circular	110.02	-0.44	1.00	2.19	344.96	345.69	341.62	341.14	2.30	3.02	344.05	345.95	343.54	345.07	0.91	-0.99	2.15	0.62
2874	15BA035	15BA041	Circular	45.95	0.65	1.50	7.88	346.46	346.39	343.30	343.00	2.69	3.55	343.93	344.05	343.72	343.85	2.53	2.41	2.67	2.54
2875	15BA041	15BA039	Circular	310.54	0.39	1.50	6.06	346.39	347.45	343.00	341.80	2.68	3.54	343.72	343.85	342.52	342.67	2.67	2.54	4.93	4.78
2877	15AC059	15AC058	Circular	15.00	0.40	0.83	1.29	350.78	351.99	347.52	347.46	1.20	1.50	348.39	348.65	348.35	348.57	2.39	2.14	3.64	3.42
2879	15AC055	15AC056	Circular	14.02	1.21	0.67	1.24	350.97	352.68	348.07	347.90	0.78	1.05	348.54	348.80	348.48	348.69	2.43	2.17	4.20	3.99
2881	15AC052	15AC054	Circular	743.01	0.17	2.50	13.97	352.61	350.94	348.16	347.16	15.40	16.10	350.45	350.78	349.38	349.55	2.17	1.83	1.56	1.39
2882	15AC054	15AC049	Circular	140.95	0.14	2.50	14.35	350.94	350.56	347.16	346.96	15.44	16.16	349.38	349.55	349.17	349.33	1.56	1.39	1.39	1.23
2883	15AC051	15AC023	Circular	156.77	0.50	3.00	43.69	352.71	352.81	348.16	347.38	-0.33	-0.61	350.86	351.79	350.86	351.79	1.85	0.92	1.95	1.02
2885	15AC045	15AC052	Circular	63.50	0.14	2.00	7.91	352.75	352.61	348.25	348.16	15.43	16.06	350.75	351.15	350.45	350.78	2.00	1.60	2.17	1.83
2888	15AD015	15AD068	Circular	74.69	0.08	1.50	2.76	352.36	352.69	350.26	350.20	3.09	4.07	351.06	351.44	351.01	351.43	1.30	0.92	1.67	1.26
2889	15AD065	15AD066	Circular	36.03	0.28	2.00	11.07	354.64	353.97	349.47	349.37	-1.02	-0.65	351.08	351.45	351.08	351.45	3.56	3.19	2.89	2.52
2890	15AD066	15AD015	Circular	19.29	0.52	2.00	15.12	353.97	352.36	350.36	350.26	3.11	4.13	351.08	351.45	351.06	351.44	2.89	2.52	1.30	0.92
2891	15AD066	15AD032	Circular	23.01	-0.04	2.00	4.38	353.97	353.85	349.37	349.38	-1.43	-2.13	351.08	351.45	351.08	351.45	2.89	2.52	2.77	2.40
2892	15AD016	15AD049	Circular	306.31	0.47	2.00	14.35	356.00	358.74	353.53	352.10	-1.41	-1.89	355.93	357.72	355.92	357.72	0.07	-1.72	2.82	1.03
2893	15AD049	15AD052	Circular	97.75	0.46	2.00	14.25	358.74	357.21	352.10	351.65	3.95	3.70	355.92	357.72	355.90	357.69	2.82	1.03	1.31	-0.48
2994	15DA067	15DA066	Circular	95.58	0.26	3.00	31.68	357.11	357.17	351.59	351.34	14.80	20.73	356.28	358.53	356.23	358.43	0.83	-1.42	0.94	-1.26
2996	15DA076	15DA067	Circular	16.00	0.63	1.25	4.74	357.29	357.11	353.69	353.59	2.37	3.25	356.29	358.58	356.28	358.53	1.00	-1.29	0.83	-1.42
2997	15DA075	15DA076	Circular	36.43	0.14	1.25	2.22	357.48	357.29	353.74	353.69	2.36	3.22	356.31	358.68	356.29	358.58	1.17	-1.20	1.00	-1.29
2998	14CB024	15DA075	Circular	225.12	0.14	1.25	2.26	357.56	357.48	354.09	353.77	2.35	3.23	356.49	359.30	356.31	358.68	1.07	-1.74	1.17	-1.20
3000	14CB054	14CB024	Circular	41.70	0.14	2.00	7.97	357.34	357.56	354.15	354.09	1.40	-3.23	356.50	359.31	356.49	359.30	0.84	-1.96	1.07	-1.74
3001	14CB023	14CB024	Circular	21.92	1.32	2.00	24.16	357.28	357.56	352.38	352.09	1.54	1.98	356.49	359.31	356.49	359.30	0.79	-2.03	1.07	-1.74
3006	15DA068	15DA057	Circular	177.84	0.29	2.00	11.25	357.60	357.19	353.70	353.19	9.61	12.06	356.83	359.38	356.45	358.81	0.77	-1.78	0.74	-1.62
3009	15DA057	15DA067	Circular	357.04	0.14	3.00	23.18	357.19	357.11	352.26	351.76	14.14	17.53	356.45	358.81	356.28	358.53	0.74	-1.62	0.83	-1.42
3010	15DC062	15DC063	Circular	355.92	0.07	2.50	10.29	357.46	355.03	350.73	350.47	12.83	14.29	354.09	354.57	353.70	354.08	3.37	2.89	1.33	0.95
3011	15DC060	15DC062	Circular	214.51	-0.09	2.50	11.34	356.61	357.46	350.54	350.73	12.12	13.36	354.31	354.83	354.09	354.57	2.30	1.78	3.37	2.89
3012	15DD093	15DC060	Circular	192.20	0.34	2.50	22.15	355.65	356.61	351.19	350.54	12.12	13.36	354.50	355.06	354.31	354.83	1.15	0.59	2.30	1.78
3013	15DC038	15DC015	Circular	61.75	0.10	1.00	1.03	358.37	358.33	352.27	352.21	1.88	2.01	355.96	356.66	355.79	356.50	2.41	1.70	2.54	1.83
3014	15DC047	15DC038	Circular	292.78	0.19	1.00	1.45	357.87	358.37	353.09	352.53	1.88	2.01	356.79	357.51	355.96	356.66	1.08	0.36	2.41	1.70
3018	15DC008	15DC047	Circular	92.02	0.21	1.00	1.50	357.97	357.87	353.33	353.14	1.24	1.32	356.84	357.57	356.79	357.51	1.13	0.40	1.08	0.36
3020	15DC049	15DC048	Circular	48.24	0.06	2.00	5.24	353.29	355.45	349.79	349.76	126.17	315.13	352.57	352.79	352.53	352.70	0.72	0.50	2.92	2.74
3020	15DC049	15DC048	Circular	48.24	0.06	3.00	15.44	353.29	355.45	349.79	349.76	33.42	36.45	352.57	352.79	352.53	352.70	0.72	0.50	2.92	2.74
3051	22AA051	22AA052	Circular	28.69	0.07	2.50	10.06	358.56	357.80	354.45	354.43	2.70	3.41	357.04	357.42	357.04	357.42	1.52	1.14	0.76	0.38
3052	22AA045	22AA053	Circular	29.08	0.21	2.50	17.30	357.80	357.72	354.33	354.27	2.34	2.55	357.04	357.42	357.04	357.42	0.76	0.38	0.68	0.30
3059	22AA037	22AA036	Circular	160.66	0.07	2.25	7.52	361.56	361.30	356.26	356.15	12.60	17.82	359.28	361.23	358.98	360.62	2.28	0.33	2.32	0.68
3060	22AA036	22AA035	Circular	42.95	0.12	2.25	9.81	361.30	361.90	356.05	356.00	14.38	20.49	358.98	360.62	358.87	360.41	2.32	0.68	3.03	1.49
3258	03BA022	03BA023	Circular	27.07	1.51	1.00	4.07	330.27	330.21	328.48	328.07	-0.13	-0.34	329.33	329.81	329.33	329.81	0.94	0.46	0.87	0.39
3262	03BA031	03BA048	Circular	42.08	0.78	1.00	2.93	329.89	329.59	327.75	327.42	2.95	2.95	329.32	329.82	328.94	329.40	0.57	0.07	0.65	0.19
3351	15DD060	15DD069	Circular	148.24	0.11	2.50	12.90	357.48	357.08	353.59	353.42	0.95	1.18	354.04	354.12	353.65	354.06	3.44	3.37	3.43	3.02
3352	15DD069	15DA059	Circular	222.17	0.18	2.50	16.16	357.08	356.68	353.13	352.73	0.94	1.11	353.65	354.06	353.57	354.05	3.43	3.02	3.11	2.63
3361	22AB043	22AB041	Circular	171.00	4.25	1.00	6.82	362.26	357.95	361.25	353.98	2.14	2.87	361.64	361.70	353.87	354.01	0.62	0.55	4.08	3.94
3403	15DA056	15DA059	Circular	244.86	0.15	1.00	1.27	356.00	356.68	352.71	352.35	3.25	3.92	355.85	357.21	353.57	354.05	0.15	-1.21	3.11	2.63
3489	03DB026	03DB012	Circular	95.89	0.42	1.67	8.35	338.94	337.64	334.50	334.10	2.66	3.18	335.28	335.40	335.16	335.31	3.66	3.54	2.48	2.33
3491	14CB027	14CB026	Circular	36.63	1.64	0.83	2.60	356.90	356.83	354.92	354.32	-0.02	-0.04	356.07	356.48	356.07	356.48	0.83	0.42	0.76	0.35
3492	14CB034	14CB031	Circular	195.18	0.22	1.25	2.82	359.34	357.69	355.73	355.30	4.64	5.65	357.98	359.34	356.85	357.69	1.36	0.00	0.84	0.00
3493	14CB029	14CB028	Circular	33.08	-0.60	0.83	1.58	356.60	356.48	354.53	354.73	-0.02	-0.03	356.11	356.48	356.11	356.48	0.49	0.13	0.36	0.00
3494	14CB028	14CB026	Circular	67.45	0.16	1.33	2.88	356.48	356.83	354.43	354.32	4.59	5.60	356.11	356.48	356.07	356.48	0.36	0.00	0.76	0.35
3495	15DD090	15DD093	Circular	240.16	0.25	2.50	18.88	356.29	355.65	351.78	351.19	11.10	12.15	354.70	355.30	354.50	355.06	1.59	0.99	1.15	0.59
3495.1	14CB030	14CB028	Circular	63.80	0.20	1.33	3.21	356.68	356.48	354.86	354.73	4.62	5.62	356.19	356.68	356.11	356.48	0.49	0.00	0.36	0.00

Hydraulic Model Results - Full Buildout Conditions - Capital Improvement Plan Projects																				
Burkhart Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
3496	14CB031	14CB030	Circular	165.21	0.18	1.00	1.41	357.69	356.68	355.26	354.96	4.63	5.64	356.85	357.69	356.19	356.68	0.84	0.00	0.49	0.00
3498	15DD087	15DD090	Circular	285.18	0.25	2.50	19.00	357.85	356.29	352.49	351.78	11.10	12.15	354.92	355.59	354.70	355.30	2.93	2.26	1.59	0.99
3499	15DD085	15DD084	Circular	189.05	0.24	2.50	18.79	358.94	358.53	353.55	353.09	9.98	10.53	355.19	355.86	355.04	355.74	3.75	3.08	3.49	2.79
3500	14CA010	14CB034	Circular	145.46	0.14	1.25	2.22	360.92	359.34	355.98	355.78	4.64	5.85	358.83	360.68	357.98	359.34	2.10	0.24	1.36	0.00
3501	15DD084	15DD087	Circular	238.62	0.25	2.50	19.10	358.53	357.85	353.09	352.49	9.45	10.52	355.04	355.74	354.92	355.59	3.49	2.79	2.93	2.26
3501.1	14CB026	14CB035	Circular	49.88	0.58	1.25	4.57	356.83	357.31	354.31	354.02	4.55	5.56	356.07	356.48	356.02	356.48	0.76	0.35	1.29	0.83
3503	14CB035	14CB050	Circular	45.78	2.42	2.00	32.71	357.31	359.21	354.02	352.91	11.87	13.12	356.02	356.48	355.99	356.44	1.29	0.83	3.22	2.77
3508	14BC007	14BC027	Circular	148.05	0.08	2.50	10.84	356.77	356.86	350.04	349.92	17.20	17.77	355.70	356.82	355.66	356.93	1.07	-0.05	1.20	-0.07
3509	14CB039	14BC007	Circular	65.25	0.41	2.50	24.50	356.00	356.77	351.85	351.58	2.44	2.72	355.70	356.82	355.70	356.82	0.30	-0.82	1.07	-0.05
3512	14CB040	14BC007	Circular	170.78	0.09	2.50	11.66	357.01	356.77	350.20	350.04	16.81	17.43	355.76	356.62	355.70	356.82	1.26	0.39	1.07	-0.05
3515	14CB042	14CB040	Circular	217.75	0.06	2.50	9.66	357.83	357.01	350.34	350.20	16.81	17.43	355.87	356.39	355.76	356.62	1.97	1.44	1.26	0.39
3516	14CB042.1	14CB042	Circular	43.85	3.65	1.00	6.32	356.20	357.83	352.00	350.40	3.87	4.72	356.09	357.18	355.87	356.39	0.11	-0.98	1.97	1.44
3518	14CB043	14CB042	Circular	127.04	0.06	2.50	8.94	358.29	357.83	350.47	350.40	16.18	-17.99	355.94	356.40	355.87	356.39	2.35	1.89	1.97	1.44
3519	14CB044	14CB043	Circular	86.75	1.68	2.50	49.41	357.89	358.29	352.00	350.54	15.63	-22.11	355.99	356.44	355.94	356.40	1.91	1.46	2.35	1.89
3521	14CB046	14CB043	Circular	73.10	0.21	1.00	1.50	359.06	358.29	352.15	352.00	-0.47	-0.16	355.94	356.40	355.94	356.40	3.12	2.66	2.35	1.89
3523	14CB047	14CB046	Circular	144.48	1.75	0.67	1.49	358.20	359.06	354.78	352.25	-0.07	-0.12	355.94	356.41	355.94	356.40	2.26	1.80	3.12	2.66
3538	14CB055	14CB054	Circular	50.23	1.19	1.50	10.66	357.57	357.34	354.75	354.15	1.37	-3.18	356.50	359.31	356.50	359.31	1.07	-1.74	0.84	-1.96
3540	14CB057	14CB055	Circular	396.91	0.17	2.00	8.63	358.85	357.57	355.42	354.75	1.13	-2.24	356.53	359.33	356.50	359.31	2.32	-0.48	1.07	-1.74
3545	14CB062	14CB057	Circular	254.55	0.05	2.00	4.75	360.27	358.85	355.55	355.42	1.05	1.37	356.55	359.34	356.53	359.33	3.72	0.93	2.32	-0.48
3551	10BC061	10BC060	Circular	38.51	0.18	1.00	1.41	339.41	337.41	333.63	333.56	6.41	6.41	337.96	338.46	336.94	337.41	1.45	0.95	0.47	0.00
3553	10BC063	10BC064	Circular	221.20	0.11	2.50	12.55	339.50	339.49	335.36	335.12	-0.36	-0.40	338.04	339.10	338.04	339.10	1.46	0.40	1.45	0.39
3554	10BC064	10CB025	Circular	292.58	0.10	2.50	11.78	339.49	340.09	335.12	334.84	-0.99	-1.09	338.04	339.10	338.04	339.10	1.45	0.39	2.05	0.99
3555	22AB053	22AB054	Circular	189.93	0.11	1.50	3.24	358.71	356.33	353.21	353.00	1.55	2.14	353.99	354.13	353.96	354.08	4.72	4.58	2.36	2.24
3556	22AB052	22AB053	Circular	38.55	-0.26	1.50	4.97	362.41	358.71	353.16	353.26	1.58	2.17	354.01	354.16	353.99	354.13	8.40	8.25	4.72	4.58
3559	10BC028	10CB021	Circular	215.12	-0.01	2.00	2.03	340.12	339.75	334.87	334.89	2.39	3.08	338.05	339.13	338.04	339.10	2.07	0.99	1.71	0.65
3560	10BC060	10BC058	Circular	288.50	-0.28	1.50	5.17	337.41	337.39	332.91	333.72	6.39	6.39	336.94	337.41	336.10	336.81	0.47	0.00	1.29	0.58
3561	10BC058	10BB048	Circular	149.45	0.88	1.50	9.13	337.39	336.84	333.62	332.31	6.26	6.22	336.10	336.81	335.83	336.49	1.29	0.58	1.01	0.35
3562	09DA022	09DA023	Circular	39.90	0.40	2.00	13.30	340.21	341.50	334.66	334.50	4.73	6.16	338.16	338.56	338.16	338.55	2.05	1.65	3.34	2.95
3618	14CB052	14CB035	Circular	129.22	0.34	2.00	12.26	356.71	357.31	354.46	354.02	10.96	12.25	356.13	356.71	356.02	356.48	0.58	0.00	1.29	0.83
3619	14CB053	14CB052	Circular	16.66	0.42	2.00	13.62	357.10	356.71	353.12	353.05	9.59	11.14	356.14	356.72	356.13	356.71	0.95	0.38	0.58	0.00
3620	14CA011	14CB052	Circular	69.05	0.29	2.00	11.31	356.82	356.71	354.66	354.46	6.99	-9.89	356.18	356.76	356.13	356.71	0.64	0.06	0.58	0.00
3621	14CA012	14CA011	Circular	9.65	1.87	2.00	28.69	358.74	356.82	355.00	354.82	6.99	-9.89	356.15	356.76	356.18	356.76	2.59	1.98	0.64	0.06
3622	14CA014	14CA016	Circular	11.85	1.77	1.00	4.40	358.88	359.61	354.71	354.50	-0.04	-0.06	356.00	356.45	356.00	356.45	2.89	2.43	3.61	3.16
3623	14CA016	14CA013	Circular	10.51	0.19	1.00	1.44	359.61	359.75	354.28	354.26	-0.08	-0.10	356.00	356.45	356.00	356.45	3.61	3.16	3.76	3.30
3624	14CA015	14CA017	Circular	12.01	3.91	1.00	6.54	359.57	359.64	354.78	354.31	-0.04	-0.05	356.00	356.45	356.00	356.45	3.57	3.12	3.64	3.19
3625	14CA017	14CA013	Circular	26.01	0.19	1.00	1.45	359.64	359.75	354.31	354.26	-0.10	-0.12	356.00	356.45	356.00	356.45	3.64	3.19	3.76	3.30
3626	14CA013	14CA018	Circular	30.23	-0.13	2.00	7.64	359.75	360.14	354.02	354.06	-0.30	-0.36	356.00	356.45	356.00	356.45	3.76	3.30	4.14	3.69
3643	14CA018	14CB050	Circular	432.63	0.21	3.00	28.72	360.14	359.21	353.87	352.94	5.83	7.78	356.00	356.45	355.99	356.44	4.14	3.69	3.22	2.77
3644	14CA019	14CA018	Circular	326.74	0.10	3.00	19.68	360.93	360.14	354.39	354.06	6.15	8.10	356.02	356.47	356.00	356.45	4.91	4.47	4.14	3.69
3648	14CA023	14CA019	Circular	342.06	0.27	2.00	10.83	362.67	360.93	355.30	354.39	6.36	8.32	356.50	356.86	356.02	356.47	6.18	5.81	4.91	4.47
3667	22AA025	22AA003	Circular	4.11	1.22	3.00	68.31	358.87	358.92	353.95	353.90	6.17	7.71	355.44	355.98	355.44	355.98	3.43	2.89	3.48	2.94
3670	14DB058	14CA040	Circular	189.59	0.17	2.00	8.63	360.13	362.58	355.99	355.67	6.49	8.52	357.32	357.66	357.04	357.37	2.80	2.46	5.54	5.21
3671	14DB059	14DB058	Circular	197.88	0.14	2.00	7.76	358.73	360.13	356.30	356.03	6.51	8.57	357.64	357.98	357.32	357.66	1.08	0.74	2.80	2.46
3675	14DB063	14DB059	Circular	291.61	0.16	2.00	8.52	360.94	358.73	356.79	356.31	1.94	2.62	357.73	358.05	357.64	357.98	3.21	2.89	1.08	0.74
3677	14DB065	14DB063	Circular	129.96	0.19	2.00	9.21	361.38	360.94	357.04	356.79	1.89	2.54	357.81	358.09	357.73	358.05	3.57	3.29	3.21	2.89
3678	14DC013	14DB065	Circular	182.66	0.16	1.50	3.95	362.62	361.38	357.37	357.07	1.89	2.54	358.10	358.31	357.81	358.09	4.52	4.30	3.57	3.29
3680	14DC014	14DC013	Circular	276.72	0.16	1.50	3.89	364.22	362.62	357.81	357.37	1.90	2.57	358.55	358.72	358.10	358.31	5.67	5.50	4.52	4.30
3681	14DC015	14DC014	Circular	309.50	0.08	1.50	2.83	364.64	364.22	358.35	358.09	1.90	2.60	359.18	359.33	358.55	358.72	5.47	5.31	5.67	5.50
3684	14DC018	14DC015	Circular	160.24	0.17	1.50	4.00	363.39	364.64	358.62	358.35	1.92	2.61	359.39	359.55	359.18	359.33	4.00	3.84	5.47	5.31
3685	14DC019	14DC018	Circular	30.98	0.48	0.83	1.41	363.88	363.39	358.77	358.62	1.92	2.62	359.66	360.06	359.39	359.55	4.22	3.82	4.00	3.84
3687	14DC021	14DC019	Circular	225.75	0.13	1.25	2.19	366.82	363.88	359.07	358.77	1.93	2.63	359.97	360.46	359.66	360.06	6.84	6.36	4.22	3.82
3707	10DC047	10DC048	Circular	50.08	0.16	1.00	1.32	347.35	347.34	341.24	341.16	-0.02	-0.03	344.27	345.70	344.27	345.70	3.08	1.65	3.07	1.64
3714	15DB033	15DB041	Circular	290.79	0.05	3.00	14.07	353.44	352.82	348.86	348.71	17.15	21.23	350.87	351.11	350.40	350.58	2.57	2.33	2.42	2.24
4929	15BA004	15BA003.2	Natural	106.59	0.04	1.35	66.57	348.21	348.47	347.00	346.96	4.36	5.59	348.09	348.12	348.09	348.12	0.11	0.09	0.37	0.35
5083	23BB006	22AA002	Natural	235.82	0.02	4.48	16.82	359.82	357.20	354.05	354.00	6.23	6.53	355.46	355.98	355.44	355.98	4.36	3.84	1.76	1.22
5207	15BA003.1	15BA003	Natural	110.61	0.05	1.35	80.03	348.37	348.01	346.86	346.80	3.12	4.11	347.75	348.03	347.75	348.03	0.61	0.34	0.25	-0.02
5208	15BA002	15BA006	Natural	27.66	0.00	1.20	10.87	347.96	347.96	346.75	346.75	2.44	3.01	347.49	347.58	347.49	347.58	0.47	0.38	0.47	0.38
5215	15BA010	15BA014	Natural	61.91	1.60	2.09	58.39	348.76	349.95	347.76	346.77	2.12	2.70	348.05	348.08	347.37	347.52	0.71	0.68	2.58	2.43
5216	15BA013	15BA012	Natural	27.38	2.67	1.04	75.40	349.18	348.37	348.10	347.37	4.57	-30.75	348.45	348.62	348.30	348.88	0.73	0.56	0.07	-0.51
5217	15AB062	15BA011	Natural	597.35	0.05	4.72	187.08	350.82	351.13	346.40	346.10	23.44	27.66	348.14	348.29	347.65	347.82	2.68	2.52	3.48	3.30
5325	15BA014	15BA043	Natural	222.85	0.38	4.43	258.47	349.95	349.60	345.77	344.91	28.60	34.70	347.37	347.52	347.32	347.42	2.58	2.43	2.27	2.17
5329	15BA024	15BA050	Natural	437.34	0.58	2.51	241.20	348.62	346.41	346.28	343.74	3.19	4.22	346.72	346.78	346.20	346.48	1.89	1.84	0.21	-0.07
5399	22AA039	22AA053	Natural	422.00	0.24	4.78	184.32	361.40	357.72	355.30	354.27	44.36	56.67	357.50	357.82	357.04	357.42	3.90	3.58	0.68	0.30
5409	22AB002.1	22AB002	Natural	189.72	0.77	2.65	287.34	358.97	357.79	356.46	355.00	3.82	5.09	356.88	357.33	356.65	357.33	2.08	1.63	1.14	0.46
5708	15DC007	15DC008	Natural	57.33	5.23	3.32	34.79	358.33	357.97	356.33	353.33	2.31	-10.69	356.83	357.57	356.84	357.57	1.49	0.75	1.13	0.40
5716	22AA052	22AA045	Trapezoidal	93.66	0.11	2.50	219.25	357.80	357.80	354.43	354.33	1.80	2.18	357.04	357.42	357.04	357.42	0.76	0.38	0.76	0.38
Link1017	10BC006	10CB001	Natural	720.35	0.06	2.00	21.54	340.31	339.85	338.31	337.85	2.35	3.33	338.74	338.74	338.26	338.44	1.57	1.57	1.59	1.41
Link1018	10CB025	10CB021	Circular	65.81	0.15	2.50	14.85	340.09	339.75	334.84	334.74	-1.40	-1.46	338.04	339.10	338.04	339.10	2.05	0.99	1.71	0.65
Link1020	10BC057	10BC061	Natural	387.53	0.33	2.00	10.18	340.69	339.41	338.69	337.41	2.83	3.39	338.99	339.01	337.96	338.46	1.70	1.68	1.45	0.95
Link1023	09BA002	09AB009	Natural	989.43	0.19	4.23	536.77	338.39	336.50	334.16	332.27	43.51	58.27	336.51	336.64	336.49	336.50	1.88	1.75	0.01	0.00

Hydraulic Model Results - Full Buildout Conditions - Capital Improvement Plan Projects																				
Burkhart Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
Link1026	09AA015	09AA017	Circular	344.11	0.34	1.00	1.94	339.98	337.19	335.04	333.86	-0.13	-0.23	335.40	336.00	335.40	336.00	4.58	3.98	1.79	1.19
Link1030	09AB002	09AB017	Natural	392.66	0.50	4.02	1067.48	336.43	334.47	332.41	330.45	6.04	6.40	332.96	332.98	332.38	332.52	3.47	3.45	2.09	1.95
Link1031	09AB021	09AB002	Circular	70.01	0.57	1.00	2.50	336.23	336.43	332.81	332.41	6.05	6.40	335.95	336.23	332.96	332.98	0.28	0.00	3.47	3.45
Link1032	09AB019	09AB021	Natural	158.36	0.04	3.64	159.49	336.74	336.23	332.88	332.81	8.46	14.39	335.95	336.24	335.95	336.23	0.79	0.50	0.28	0.00
Link1033	10BB025	10BB048	Circular	16.50	0.30	3.00	34.09	336.93	336.84	331.94	331.89	28.00	34.22	335.83	336.52	335.83	336.49	1.10	0.41	1.01	0.35
Link1034	10BC031	10BC032	Circular	282.22	0.37	1.50	5.92	340.20	340.20	338.00	336.96	1.38	1.67	338.56	339.83	338.40	339.78	1.64	0.37	1.80	0.42
Link1035	10BC032	10CB020	Circular	345.55	0.46	1.50	6.60	340.20	339.95	336.96	335.38	2.51	3.41	338.40	339.78	338.26	339.49	1.80	0.42	1.70	0.46
Link1038	10CC043	10CC044	Circular	40.50	1.01	2.00	21.14	341.05	341.05	338.73	338.32	7.64	9.94	340.13	340.56	340.13	340.51	0.93	0.49	0.92	0.54
Link1039	10AB064	10AB059	Circular	274.93	0.48	4.00	92.42	342.55	342.05	336.95	335.63	15.38	22.52	339.81	341.49	339.78	341.41	2.74	1.06	2.27	0.64
Link1040	10AB017	10AB018	Circular	23.96	1.25	2.00	23.51	342.35	341.77	337.80	337.50	1.57	1.98	339.89	341.49	339.89	341.49	2.46	0.86	1.88	0.28
Link1041	10BA024	10BA025	Circular	109.07	0.18	2.50	16.31	340.44	341.35	333.50	333.30	21.89	22.62	338.40	340.01	338.07	339.63	2.04	0.43	3.28	1.72
Link1042	10AD031	10AD024	Circular	186.64	0.06	0.83	0.49	346.78	347.05	341.93	341.82	2.07	2.20	345.29	345.71	343.40	344.49	1.49	1.07	3.65	2.56
Link1043	10AD055	10AD024	Circular	42.93	0.98	2.50	37.67	346.77	347.05	342.24	341.82	8.96	10.99	343.38	344.50	343.40	344.49	3.39	2.27	3.65	2.56
Link1044	10DC040	10DB026	Circular	303.67	0.61	2.00	16.40	348.39	347.34	344.83	342.98	3.47	4.25	345.45	345.53	343.76	343.85	2.94	2.87	3.58	3.49
Link1045	10DB026	10DB025	Circular	325.09	0.30	2.00	11.53	347.34	346.59	342.98	342.00	3.46	4.25	343.76	343.85	342.49	343.45	3.58	3.49	4.10	3.14
Link1649	14CA040	14CA023	Circular	325.09	0.11	2.00	7.09	362.58	362.67	355.67	355.30	6.46	8.45	357.04	357.37	356.50	356.86	5.54	5.21	6.18	5.81
Link1768	03BA046	03BA047	Circular	71.06	0.03	1.00	0.56	330.54	331.31	329.54	329.52	0.00	0.03	329.54	329.82	329.52	329.82	1.00	0.72	1.79	1.50
Link1769	03BA047	03BA022	Natural	245.12	0.42	1.79	58.11	331.31	330.27	329.52	328.48	0.00	-0.29	329.52	329.82	329.33	329.81	1.79	1.50	0.94	0.46
Link1770	03BA023	03BA031	Natural	327.15	0.10	2.14	27.19	330.21	329.89	328.07	327.75	2.98	3.76	329.33	329.81	329.32	329.82	0.87	0.39	0.57	0.07
Link1771	03BD007	03BA025	Natural	441.67	0.04	1.93	53.10	331.34	331.18	329.41	329.25	4.24	6.15	330.30	330.43	329.73	329.81	1.04	0.91	1.45	1.37
Link1772	03BD002	03BA005	Natural	496.25	0.19	1.41	60.02	331.43	331.29	330.43	329.47	0.57	0.93	330.53	330.56	329.69	329.74	0.90	0.87	1.59	1.55
Link1773	03BA005	03BA048	Natural	315.87	0.65	1.99	140.02	331.29	329.59	329.47	327.42	0.53	0.86	329.69	329.74	328.94	329.40	1.59	1.55	0.65	0.19
Link1774	03BD010	03BA037	Natural	540.00	0.09	1.41	34.11	331.23	330.76	329.82	329.35	1.59	2.15	330.36	330.42	329.67	329.83	0.87	0.81	1.09	0.93
Link1775	03BA037	03BA031	Natural	194.23	0.82	1.77	49.62	330.76	329.89	329.35	327.75	1.58	-9.66	329.67	329.83	329.32	329.82	1.09	0.93	0.57	0.07
Link1776	03BB005	03BB008	Natural	455.20	0.10	3.50	133.56	330.23	329.77	326.73	326.27	5.14	6.23	328.93	329.40	328.92	329.40	1.30	0.83	0.85	0.38
Link1777	03BA048	03BB005	Natural	676.39	0.10	2.84	33.63	329.59	330.23	327.42	326.73	2.67	2.59	328.94	329.40	328.93	329.40	0.65	0.19	1.30	0.83
Link1797	14CD007	14CD006	Circular	31.72	1.05	1.50	9.98	363.71	363.38	361.71	361.38	-0.02	-0.03	362.04	362.15	362.04	362.15	1.67	1.56	1.34	1.23
Link1799	14CD004	14CD003	Circular	23.52	0.63	1.00	2.62	362.93	362.53	360.93	360.78	1.47	1.93	361.42	361.49	361.13	361.20	1.51	1.44	1.40	1.33
Link1800	14CD003	14CD002	Natural	93.51	0.27	1.86	28.09	362.53	362.50	360.78	360.53	1.47	1.92	361.13	361.20	361.02	361.10	1.40	1.33	1.48	1.40
Link1801	14CD002	14CD001	Circular	24.52	1.26	1.00	3.72	362.50	362.52	360.53	360.22	1.46	1.92	361.02	361.10	360.87	360.95	1.48	1.40	1.65	1.57
Link1802	14CD001	14CD009	Natural	30.54	0.39	3.33	26.19	362.52	364.45	360.22	360.10	1.47	1.92	360.87	360.95	360.87	360.94	1.65	1.57	3.58	3.51
Link1803	14CD009	14CD009.1	Natural	163.75	0.12	4.35	262.59	364.45	364.25	360.10	359.90	3.98	5.15	360.87	360.94	360.62	360.66	3.58	3.51	3.63	3.59
Link1804	14CD009.1	14CB053	Natural	1230.32	0.55	4.16	914.16	364.25	357.10	359.90	353.12	15.03	17.00	360.62	360.66	356.14	356.72	3.63	3.59	0.95	0.38
Link1805	14CA012.2	14CA012.1	Natural	712.11	0.01	5.42	763.65	358.94	358.86	353.52	353.44	-3.55	-5.36	356.15	356.76	356.15	356.76	2.78	2.17	2.70	2.09
Link1805.1	14CA012.1	14CA012	Natural	674.76	0.01	5.40	203.27	358.86	358.74	353.44	353.36	-8.98	-13.73	356.15	356.76	356.15	356.76	2.70	2.09	2.59	1.98
Link587	23BB003	23BB007	Natural	306.36	0.12	4.60	83.94	363.32	359.34	356.91	356.55	27.57	34.49	358.69	358.90	358.19	358.54	4.63	4.42	1.15	0.79
Link588	23BB007	23BB008	Rectangular	9.51	3.68	2.00	201.71	359.34	361.45	356.55	356.20	27.26	33.52	358.19	358.54	358.04	358.35	1.15	0.79	3.40	3.09
Link589	23BB008	22AA042	Natural	217.13	0.39	5.69	356.99	361.45	361.50	356.20	355.36	27.14	33.45	358.04	358.35	357.79	358.17	3.40	3.09	3.71	3.33
Link593	22AA053	22AB039	Natural	819.48	0.12	3.50	127.63	357.72	356.86	354.27	353.31	39.74	48.78	357.04	357.42	356.60	357.26	0.68	0.30	0.26	-0.40
Link598	15CD072	15DC007	Natural	106.65	1.05	1.58	22.22	358.61	358.33	357.45	356.33	1.60	2.10	357.71	357.73	356.83	357.57	0.90	0.87	1.49	0.75
Link599	15CD002	15CD002.1	Natural	632.17	0.58	2.00	213.97	360.36	356.70	358.36	354.70	1.47	1.98	358.54	358.54	354.91	354.93	1.81	1.81	1.79	1.76
Link599.1	15CD002.1	15CC005	Natural	551.76	0.24	2.36	20.96	356.70	356.11	354.70	353.38	1.29	1.82	354.91	354.93	354.33	354.55	1.79	1.76	1.78	1.55
Link601	15DC033	15DC048	Natural	226.70	1.24	3.58	166.53	354.05	355.45	352.58	349.76	1.51	1.98	352.78	352.81	352.53	352.70	1.27	1.24	2.92	2.74
Link603	15CA007	15DB030	Natural	430.91	1.35	1.57	51.36	357.19	352.36	356.12	350.29	3.07	3.85	356.40	356.42	351.55	351.82	0.79	0.77	0.81	0.54
Link606	15CA046	15CA013	Natural	702.99	0.01	3.86	31.58	357.31	356.55	353.10	353.04	3.41	4.55	354.00	354.21	353.70	354.02	3.31	3.10	2.85	2.53
Link611	15BD006	15BA026	Natural	926.70	0.62	3.15	522.05	355.66	349.91	352.50	346.75	1.10	1.42	352.80	352.83	347.43	347.58	2.86	2.82	2.47	2.32
Link612	15BD004	15BA024	Natural	955.54	0.63	1.62	57.42	353.20	348.62	352.29	346.28	0.55	0.76	352.45	352.46	346.72	346.78	0.75	0.74	1.89	1.84
Link616	15BA038	15BA019	Natural	9.83	7.02	3.31	767.43	346.33	346.30	343.35	342.66	-17.11	-16.58	346.05	346.37	346.05	346.37	0.27	-0.04	0.24	-0.07
Link621	15BB044	10CC069	Natural	43.99	0.20	6.44	1027.20	343.99	344.79	337.99	337.90	6.96	7.94	341.69	342.07	341.69	342.07	2.29	1.92	3.09	2.72
Link626	10CC015	10CC070	Natural	443.43	0.27	1.75	101.32	347.83	346.62	346.08	344.87	0.76	1.12	346.47	346.52	342.65	342.73	1.36	1.31	3.96	3.89
Link627	16AD056	16AD056.3	Natural	1222.64	0.20	3.55	195.96	349.86	347.41	346.31	343.86	6.34	7.71	347.06	347.14	345.16	345.29	2.79	2.72	2.25	2.12
Link627.1	16AD056.1	09DD004	Natural	908.05	0.21	3.55	201.81	345.06	343.13	341.51	339.58	25.48	30.61	343.07	343.29	342.63	343.11	1.99	1.77	0.50	0.01
Link627.2	16AD056.2	16AD056.1	Natural	417.37	0.22	3.61	204.40	345.83	345.06	342.29	341.38	24.95	30.27	343.74	343.90	343.07	343.29	2.09	1.93	1.99	1.77
Link627.3	16AD056.3	16AD056.2	Natural	815.09	0.21	3.60	199.09	347.41	345.83	343.86	342.18	19.83	24.21	345.16	345.29	343.74	343.90	2.25	2.12	2.09	1.93
Link628	16AD037	09DD005	Natural	3304.05	0.20	3.55	117.62	348.94	343.20	345.84	339.20	4.10	5.03	346.66	346.73	342.59	343.08	2.28	2.21	0.61	0.12
Link629	15BC008	15BC008.1	Natural	653.93	0.38	1.37	129.49	352.33	349.82	350.96	348.46	0.84	1.12	351.15	351.18	346.27	346.29	1.18	1.15	3.55	3.53
Link629.1	15BC008.1	15BB024	Natural	493.32	1.07	5.46	215.91	349.82	347.96	346.06	340.80	2.33	2.99	346.27	346.29	342.75	343.47	3.55	3.53	5.21	4.49
Link633	15BA013.2	15BA013.1	Natural	514.91	0.01	1.53	4.07	350.16	349.22	348.18	348.14	2.40	3.19	348.92	348.98	348.86	348.92	1.24	1.18	0.36	0.30
Link633.1	15BA013.1	15BA013	Natural	580.12	0.01	1.08	3.83	349.22	349.18	348.14	348.10	3.65	4.86	348.86	348.92	348.45	348.62	0.36	0.30	0.73	0.56
Link634	23BB033	23BB003	Natural	697.67	0.25	6.33	488.74	364.89	363.32	358.65	356.91	13.77	17.79	359.87	360.02	358.69	358.90	5.02	4.87	4.63	4.42
Link645	15CD068	15CC006	Natural	672.15	0.18	3.60	11.64	356.86	356.26	353.56	352.37	1.21	1.04	354.27	354.42	354.26	354.42	2.59	2.44	2.00	1.85
Link647	15CC048	15CC005	Natural	190.99	0.30	2.73	103.15	356.68	356.11	353.95	353.38	2.30	2.87	354.45	354.57	354.33	354.55	2.23	2.11	1.78	1.55
Link648	15CC006	15CA056	Natural	615.26	0.01	3.06	18.79	356.26	356.20	353.20	353.14	2.36	3.19	354.26	354.42	354.06	354.25	2.00	1.85	2.15	1.96
Link649	15CA053	15CA056	Natural	219.78	1.41	2.09	87.30	357.34	356.20	356.23	353.14	1.20	1.69	356.47	356.50	354.06	354.25	0.87	0.84	2.15	1.96
Link650	15CA056	15CA046	Natural	192.49	0.02	3.64	30.84	356.20	357.31	353.14	353.10	2.80	3.79	354.06	354.25	354.00	354.21	2.15	1.96	3.31	3.10
Link651	15BA005	10CD027.1	Natural	777.40	0.74	3.39	1308.30	349.53	345.00	346.75	341.00	4.40	5.87	347.28	347.34	343.18	343.94	2.25	2.18	1.82	1.06
Link653	14CB050	14CB044	Natural	476.76	0.19	6.10	2051.54	359.21	357.89	352.91	352.00	14.20	15.24	355.99	356.44	355.99	356.44	3.22	2.77	1.91	1.46
Link654	03DB012	03DB013	Circular	14.00	0.71	2.00	17.75	337.64	338.31	334.10	334.00	13.55	14.67	335.16	335.31	335.03	335.21	2.48	2.33	3.28	3.10
Link655	03CA015	03CA015.1	Natural	15.09	0.80	3.46	209.80	335.32	337.13	332.82	332.70	11.66	14.32	334.51	334.67	334.51	334.67	0.81	0.65	2.62	2.46
Link655.1	03CA015.1	03CA016	Natural	534.83	0.02	4.43	253.70	337.13	337.03	332.70	332.60	27.02	32.16	334.51	334.67	334.16	334.34	2.62	2.46	2.87	2.68

Hydraulic Model Results - Full Buildout Conditions - Capital Improvement Plan Projects																					
Burkhart Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
Link657	03CA014	03CA015.1	Natural	16.83	1.19	3.42	256.76	335.32	337.13	332.90	332.70	17.36	20.70	334.51	334.66	334.51	334.67	0.81	0.66	2.62	2.46
Link658	10BA001	03CD003	Circular	399.20	0.07	1.00	0.84	340.68	341.96	338.68	338.42	1.40	1.49	340.06	340.21	338.73	338.74	0.62	0.47	3.23	3.22
Link659	03CD003	03CD031	Natural	165.63	1.07	3.54	1355.57	341.96	340.19	338.42	336.65	1.40	1.49	338.73	338.74	337.34	337.36	3.23	3.22	2.85	2.83
Link660	03CD004	03CC004	Natural	765.62	0.24	4.11	931.40	339.69	337.84	335.58	333.73	1.35	1.45	335.98	336.00	335.47	335.58	3.70	3.68	2.37	2.26
Link661	03CC003	03CC002	Circular	68.13	1.32	1.00	3.80	338.08	336.64	335.82	334.92	1.74	1.87	336.30	336.32	335.39	335.43	1.79	1.77	1.25	1.21
Link662	03CC002	03CC001.1	Natural	509.94	0.38	2.36	67.01	336.64	336.00	334.92	333.00	3.70	4.58	335.39	335.43	333.33	333.36	1.25	1.21	2.67	2.64
Link663	03CD033	03CC003	Natural	830.85	0.10	2.26	148.45	338.91	338.08	336.65	335.82	1.77	1.87	337.05	337.05	336.30	336.32	1.87	1.86	1.79	1.77
Link664	03CC004	03CC004.1	Circular	449.06	0.13	1.00	1.21	337.84	336.00	333.60	333.00	1.95	2.01	335.47	335.58	333.60	333.61	2.37	2.26	2.41	2.40
Link672	03BB012	03BB021	Natural	126.04	0.16	3.15	217.51	330.00	329.57	326.90	326.37	83.16	103.88	329.62	329.61	329.57	329.57	0.38	0.39	0.00	0.00
Link673	03BB020	03BB013	Natural	357.12	0.12	2.28	27.26	328.87	328.11	326.42	326.00	4.82	5.39	327.13	327.16	326.86	326.88	1.74	1.71	1.25	1.22
Link677	03BB015	03BB016	Circular	30.50	0.62	2.00	41.49	329.00	327.78	325.97	324.78	33.73	33.73	327.34	327.34	326.15	326.15	1.66	1.66	1.63	1.63
Link678	03BB014	03BB015	Natural	18.00	1.00	2.94	173.26	329.00	329.00	326.15	325.97	33.73	33.73	327.34	327.34	327.34	327.34	1.66	1.66	1.66	1.66
Link679	03BB021	03BB014	Circular	71.57	0.31	2.00	11.65	329.57	329.00	326.37	326.15	33.73	33.73	329.57	329.57	327.34	327.34	0.00	0.00	1.66	1.66
Link684	03DB013.0	03DB013.1	Natural	907.84	0.55	2.66	45.36	339.63	337.93	338.63	333.62	4.18	5.58	338.77	338.79	334.97	335.18	0.86	0.84	2.96	2.75
Link685	03CB001.0	03CB001.1	Natural	3240.86	0.25	5.08	265.24	337.38	336.86	336.08	328.00	3.50	5.20	336.28	336.31	328.16	328.23	1.10	1.07	8.70	8.63
Link687	03CB001	03CB001.1	Natural	1925.33	0.22	8.86	15575.16	341.16	336.86	332.30	328.00	31.03	38.67	332.81	332.86	328.16	328.23	8.35	8.31	8.70	8.63
Link689	09DA017.0	09DA017.1	Natural	852.50	0.83	5.66	1389.97	340.39	340.11	338.13	331.05	3.28	4.33	338.40	338.44	335.72	336.48	1.99	1.96	4.39	3.63
Link690	09AA022.1	09AA022	Natural	732.00	0.89	5.79	681.61	338.16	339.55	336.34	329.79	6.16	7.57	336.60	336.63	335.54	336.11	1.55	1.53	4.01	3.44
Link691	09AB017.1	09AB017	Natural	1614.69	0.39	2.95	273.06	338.68	334.47	336.80	330.45	12.28	14.78	337.36	337.41	332.38	332.52	1.32	1.27	2.09	1.95
Link696	03CB001.3	03CB001.2	Natural	1529.80	0.31	2.20	340.77	323.13	320.83	322.13	317.44	2.42	4.09	322.31	322.35	318.81	318.88	0.82	0.78	2.03	1.95
Link699	15AD068	15AC050	Natural	690.50	0.12	2.58	112.42	352.69	352.08	350.20	349.40	4.29	5.12	351.01	351.43	350.85	351.40	1.67	1.26	1.22	0.67
Link700	10DA099	10DA064	Circular	188.82	0.70	1.50	8.19	348.36	347.87	345.00	343.67	1.32	1.89	345.41	345.50	344.83	345.01	2.95	2.86	3.05	2.86
Link701	10DA098	10DD071	Circular	180.69	0.17	1.50	4.04	350.32	349.77	346.00	345.69	1.75	2.12	346.70	346.80	346.43	346.55	3.62	3.52	3.34	3.22
Link702	14CD006	14CD009.2	Circular	353.97	0.25	1.50	4.86	363.38	364.50	361.38	360.50	1.86	2.46	362.04	362.15	361.37	361.38	1.34	1.23	3.13	3.12
Link703	14CD009.2	14CD009.1	Natural	376.26	0.16	0.05	491.76	364.50	364.25	360.50	359.90	12.15	12.74	361.37	361.38	360.62	360.66	3.13	3.12	3.63	3.59
Link704	14CD009.4	14CD009.3	Circular	490.19	0.15	1.50	6.36	363.30	363.50	361.20	360.75	10.53	10.34	362.48	363.30	361.66	361.66	0.82	0.00	1.84	1.84
Link705	14CD009.3	14CD009.2	Natural	312.24	0.08	1.00	12.53	363.50	364.50	360.75	360.50	10.43	10.36	361.66	361.66	361.37	361.38	1.84	1.84	3.13	3.12

Hydraulic Model Results - Existing Conditions																				
Oak Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1	22DB032	22DB047	Circular	116.31	0.14	1.50	3.62	359.38	358.82	354.32	354.16	2.45	3.08	355.23	355.41	355.08	355.27	4.15	3.97	3.74	3.56
2	22DB033	22DB032	Circular	28.50	0.70	1.00	2.77	359.55	359.38	354.58	354.38	2.46	3.10	355.38	355.65	355.23	355.41	4.18	3.91	4.15	3.97
3	22DB047	22DB044	Circular	178.18	0.11	1.50	3.27	358.82	360.26	354.06	353.86	2.42	3.06	355.08	355.27	354.93	355.10	3.74	3.56	5.33	5.17
4	22DB044	22DB043	Circular	82.28	0.11	1.50	3.23	360.26	359.35	353.86	353.77	2.39	3.03	354.93	355.10	354.90	355.04	5.33	5.17	4.45	4.31
9	22DB036	22DB035	Circular	31.01	0.42	1.00	2.14	359.37	359.00	355.07	354.94	2.46	3.10	356.00	356.65	355.84	356.38	3.38	2.72	3.16	2.62
10	22DB035	22DB033	Circular	84.55	0.32	1.00	1.87	359.00	359.55	354.89	354.62	2.46	3.10	355.84	356.38	355.38	355.65	3.16	2.62	4.18	3.91
13	22DB040	22DB036	Circular	115.57	1.06	1.00	3.41	359.44	359.37	356.88	355.65	2.47	3.17	357.51	357.70	356.00	356.65	1.93	1.74	3.38	2.72
114	23DD076	23DD087	Natural	616.56	0.14	3.71	267.74	380.94	379.62	377.00	376.14	3.81	4.77	378.29	378.94	378.29	378.94	2.65	2.01	1.33	0.68
131	26AC006	26AC007	Natural	415.22	1.18	6.66	466.75	381.21	381.22	376.99	372.11	18.40	27.00	378.24	378.45	373.00	373.20	2.97	2.76	8.22	8.02
182	15BC015	15BC023	Natural	305.79	0.20	1.98	82.98	353.90	353.25	351.90	351.28	2.86	3.86	352.61	352.69	349.52	349.67	1.28	1.20	3.73	3.58
192	15BC014	15BC012	Natural	236.73	0.20	2.41	63.33	352.17	352.51	350.17	349.70	1.60	2.21	350.59	350.66	350.14	350.24	1.58	1.51	2.37	2.27
259	26BB030	26BB027	Natural	416.32	0.26	2.33	104.52	371.12	370.70	369.12	368.04	1.99	2.80	369.61	369.68	368.59	368.66	1.51	1.44	2.11	2.03
302	22CA009	22CB009	Circular	925.39	0.10	5.00	77.49	357.84	352.30	346.02	345.07	50.81	62.53	349.33	349.77	349.09	349.39	8.52	8.08	3.21	2.91
303	22BD043	22CA009	Circular	417.49	0.10	5.00	76.71	357.46	357.84	346.45	346.03	51.28	62.65	349.63	350.10	349.33	349.77	7.84	7.37	8.52	8.08
306	22BD040	22BD039	Circular	109.62	0.47	1.75	10.13	356.04	356.32	347.52	347.00	4.02	5.25	349.71	350.24	349.64	350.13	6.33	5.80	6.68	6.20
307	22BD039	22BD043	Circular	63.12	0.86	2.00	19.43	356.32	357.46	347.00	346.46	4.01	5.25	349.64	350.13	349.63	350.10	6.68	6.20	7.84	7.37
308	22BD055	22BD043	Circular	348.66	0.06	4.50	44.81	355.54	357.46	346.67	346.46	47.74	57.98	349.95	350.45	349.63	350.10	5.60	5.10	7.84	7.37
309	22BD041	22BD040	Circular	202.14	0.35	1.50	5.74	359.19	356.04	348.95	348.25	2.40	3.10	349.87	350.42	349.71	350.24	9.32	8.76	6.33	5.80
310	22BD038	22BD041	Circular	119.35	0.39	1.50	6.12	359.82	359.19	349.57	349.10	2.45	3.16	350.24	350.56	349.87	350.42	9.57	9.26	9.32	8.76
311	22BD042	22BD038	Circular	249.05	0.67	1.50	7.99	358.08	359.82	351.25	349.58	2.46	3.23	351.82	351.91	350.24	350.56	6.26	6.17	9.57	9.26
312	22BD065	22BD042	Circular	124.28	0.57	1.50	7.37	357.43	358.08	352.12	351.41	2.47	3.23	352.72	352.82	351.82	351.91	4.71	4.61	6.26	6.17
316	22BB009	22BB003	Natural	403.58	1.69	5.76	297.69	358.97	358.97	356.62	349.79	2.18	3.18	356.89	356.94	350.18	350.24	2.08	2.03	8.79	8.73
317	22BD051	22BD052	Circular	123.57	0.22	1.00	1.55	356.29	356.49	352.64	352.37	1.67	1.78	356.29	356.29	356.05	356.06	0.00	0.00	0.44	0.44
319	22BD052	22BD066	Circular	111.67	0.56	1.00	2.47	356.49	356.12	352.27	351.65	1.69	1.80	356.05	356.06	355.83	355.83	0.44	0.44	0.29	0.29
320	22BD063	22BD059	Circular	158.12	0.34	1.00	1.93	355.78	355.23	351.43	350.89	2.98	2.95	355.78	355.78	354.59	354.75	0.00	0.00	0.64	0.48
321	22BD059	22BD058	Circular	99.05	0.23	1.00	1.59	355.23	356.04	350.89	350.66	2.95	2.94	354.59	354.75	353.84	354.09	0.64	0.48	2.20	1.95
322	22BD066	22BD063	Circular	21.27	0.80	1.00	2.96	356.12	355.78	351.65	351.48	1.71	1.81	355.83	355.83	355.78	355.78	0.29	0.29	0.00	0.00
324	22BD058	22BD057	Circular	223.10	0.33	1.00	1.91	356.04	355.53	350.41	349.67	4.11	4.26	353.84	354.09	350.13	350.65	2.20	1.95	5.40	4.88
327	22BD057	22BD046	Circular	131.53	0.30	4.50	100.70	355.53	355.20	347.12	346.72	42.42	51.34	350.13	350.65	350.06	350.57	5.40	4.88	5.14	4.63
343	15CB095	15CB082	Circular	125.88	0.08	2.00	5.92	350.06	350.77	345.62	345.52	4.77	6.15	347.14	347.49	347.06	347.39	2.92	2.57	3.71	3.38
344	15CB099	15CB095	Circular	66.21	0.06	2.00	5.16	349.90	350.06	345.66	345.62	4.75	6.14	347.18	347.54	347.14	347.49	2.72	2.36	2.92	2.57
345	15CB105	15CB099	Circular	296.93	0.22	1.75	6.94	351.57	349.90	346.32	345.66	4.20	5.35	347.50	347.89	347.18	347.54	4.07	3.68	2.72	2.36
346	15CB103	15CB105	Circular	150.24	0.09	2.25	8.78	350.77	351.57	346.46	346.32	4.21	5.34	347.61	347.97	347.50	347.89	3.16	2.80	4.07	3.68
348	15CB046	15CB103	Circular	18.55	0.65	1.75	11.83	350.09	350.77	346.58	346.46	4.22	5.36	347.62	347.98	347.61	347.97	2.47	2.11	3.16	2.80
352	15CB060	15CB074	Circular	246.62	0.28	1.00	1.74	351.46	350.01	347.64	346.96	1.38	1.77	348.34	348.48	347.32	347.52	3.12	2.98	2.69	2.49
353	15CB074	15CB082	Circular	117.16	0.37	1.25	3.63	350.01	350.77	346.76	346.33	1.38	1.76	347.32	347.52	347.06	347.39	2.69	2.49	3.71	3.38
384	22BD046	22BD055	Circular	135.23	0.04	4.50	35.11	355.20	355.54	346.72	346.67	46.68	56.61	350.06	350.57	349.95	350.45	5.14	4.63	5.60	5.10
387	22BD045	22BD050	Circular	230.26	1.35	1.00	3.84	356.93	356.40	351.49	348.38	4.88	5.62	355.32	356.93	350.50	351.18	1.61	0.00	5.90	5.22
388	22BD050	22BD046	Circular	207.22	0.55	1.50	7.20	356.40	355.20	347.85	346.72	4.87	5.61	350.50	351.18	350.06	350.57	5.90	5.22	5.14	4.63
393	22BC015	22BC016	Circular	11.01	3.63	1.00	6.31	355.02	354.42	353.00	352.60	2.60	3.89	353.46	353.57	352.91	352.96	1.56	1.45	1.51	1.45
396	22BD047	22BD044	Circular	364.05	0.39	1.25	3.76	357.96	358.10	351.85	350.42	1.46	1.83	354.10	355.16	353.89	354.83	3.86	2.80	4.21	3.27
397	22BD044	22BA055	Circular	190.25	0.18	1.25	2.57	358.10	356.89	350.29	349.94	2.17	2.73	353.89	354.83	353.65	354.46	4.21	3.27	3.24	2.43
398	22BA055	22BA054	Circular	301.21	0.27	1.50	5.03	356.89	355.15	349.59	348.79	5.89	5.99	353.65	354.46	352.61	353.44	3.24	2.43	2.54	1.71
402	22BA054	22BA053	Circular	363.69	0.04	1.50	1.84	355.15	356.57	348.79	348.66	8.01	8.60	352.61	353.44	350.37	350.90	2.54	1.71	6.20	5.67
404	22BD033	22BA053	Circular	27.57	1.49	1.00	4.03	356.35	356.57	349.07	348.66	1.35	1.72	350.40	350.94	350.37	350.90	5.95	5.41	6.20	5.67
405	22BD036	22BD033	Circular	140.65	0.19	1.00	1.45	357.18	356.35	349.34	349.07	1.40	1.74	350.57	351.23	350.40	350.94	6.61	5.95	5.95	5.41
407	22BD034	22BD036	Circular	302.27	0.25	1.00	1.66	355.74	357.18	350.29	349.53	0.74	0.88	350.85	351.41	350.57	351.23	4.89	4.33	6.61	5.95
408	22BD035	22BD034	Circular	20.50	1.27	1.00	3.73	355.59	355.74	350.55	350.29	0.76	0.93	350.89	351.42	350.85	351.41	4.70	4.17	4.89	4.33
409	22BC010	22BD035	Circular	58.56	0.15	1.00	1.30	355.39	355.59	350.64	350.55	0.76	0.94	351.12	351.46	350.89	351.42	4.27	3.94	4.70	4.17
410	22DA102	22DA105	Circular	264.55	0.49	2.00	14.67	366.21	363.85	360.63	359.34	0.59	0.77	361.55	362.28	361.55	362.28	4.65	3.93	2.29	1.57
411	22DA108	22DA113	Circular	76.15	1.47	2.50	46.19	364.44	364.36	358.77	357.65	8.42	9.00	361.53	362.24	361.51	362.21	2.91	2.21	2.85	2.15
412	22DA105	22DA108	Circular	92.79	0.51	2.50	27.11	363.85	364.44	359.34	358.87	8.37	8.99	361.55	362.28	361.53	362.24	2.29	1.57	2.91	2.21
417	26AD001	26AD013	Natural	235.15	0.22	3.26	511.45	381.88	381.36	378.62	378.10	2.35	2.62	379.15	379.17	378.47	378.49	2.74	2.71	2.89	2.87
433	09DC012	09DC018	Natural	322.11	0.27	3.23	77.54	339.82	338.21	336.21	335.35	-16.39	-16.46	338.25	338.25	338.21	338.21	1.57	1.57	0.00	0.00
440	22CA007	22CA006	Natural	109.53	0.58	2.46	131.58	360.02	359.74	357.74	357.10	1.43	1.98	357.98	358.02	357.41	357.47	2.03	1.99	2.33	2.27
441	22CA005	22CA004	Natural	296.65	0.63	2.14	183.00	358.42	356.55	356.28	354.41	1.41	1.95	356.61	356.65	353.38	353.45	1.81	1.77	3.16	3.10
442	22CA002	22CA003	Natural	116.52	3.02	2.75	690.99	359.58	356.06	356.82	353.30	2.65	3.69	357.07	357.11	354.03	354.32	2.51	2.47	2.03	1.74
456	22BC011	22BC010	Circular	187.09	0.31	1.00	1.84	354.88	355.39	351.22	350.64	0.76	0.96	351.67	351.76	351.12	351.46	3.21	3.12	4.27	3.94
459	22BA053	22BD057	Circular	352.45	0.01	4.50	19.45	356.57	355.53	347.16	347.12	38.48	47.36	350.37	350.90	350.13	350.65	6.20	5.67	5.40	4.88
462	22BA031	22BA051	Circular	157.69	0.21	1.00	1.51	353.21	355.63	350.53	350.20	1.05	-1.31	353.21	353.21	353.23	353.46	0.00	0.00	2.40	2.17
463	27AB007	27AB004	Natural	992.14	8.64	4.55	4025.83	465.85	380.09	461.30	375.54	18.16	27.68	461.71	461.78	380.09	380.09	4.14	4.07	0.00	0.00
466	22BA036	22BA062	Circular	205.05	0.27	1.00	1.73	355.49	354.52	349.63	349.07	2.88	2.87	353.12	353.36	351.97	352.33	2.37	2.13	2.55	2.19
467	22BA062	22BA033	Circular	238.18	0.20	1.00	1.47	354.52	356.63	348.96	348.49	2.84	2.84	351.97	352.33	350.64	351.16	2.55	2.19	5.99	5.47
470	22BA052	22BA053	Circular	305.84	0.17	4.50	74.57	356.84	356.57	347.67	347.16	30.20	38.32	350.50	351.03	350.37	350.90	6.35	5.81	6.20	5.67
472	22AB038	22AB030	Circular	332.62	0.69	2.00	17.51	359.90	358.06	356.31	354.00	1.89	2.42	356.75	356.81	355.49	355.81	3.14	3.08	2.57	2.25
474	22AB030	22AB029	Circular	331.18	0.45	2.00	14.14	358.06	356.40	354.00	352.50	1.99	2.41	355.49	355.81	355.47	355.77	2.57	2.25	0.93	0.63
475	22AB029	22AC006	Circular	36.77	1.63	2.00	26.83	356.40	356.59	352.50	351.90	2.05	2.42	355.47	355.77	355.47	355.76	0.93	0.63	1.12	0.83
476	22AC006	22AC007	Circular	53.53	1.10	2.00	22.05	356.59	356.72	351.90	351.31	2.06	2.42	355.47	355.76	355.46	355.75	1.12	0.83	1.25	0.96
477	22AC007	22AC020	Circular	101.07	0.04	2.00	4.18	356.72	357.30	351.31	351.27	5.60	5.83	355.46	355.75	355.39	355.68	1.25	0.96	1.91	1.62

Hydraulic Model Results - Existing Conditions																				
Oak Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
478	22AC021	22AC020	Circular	95.00	1.90	1.00	4.56	355.08	357.30	353.08	351.27	-1.92	-2.67	355.08	355.08	355.39	355.68	0.00	0.00	1.91	1.62
479	22AC020	22BD030	Circular	110.82	1.51	1.00	4.06	357.30	356.98	351.27	349.60	4.23	4.13	355.39	355.68	354.09	354.77	1.91	1.62	2.89	2.21
480	22BD030	22BA055	Circular	37.16	0.03	1.00	0.54	356.98	356.89	349.60	349.59	4.24	4.13	354.09	354.77	353.65	354.46	2.89	2.21	3.24	2.43
484	22BA048	22BA049	Circular	471.71	0.01	2.50	3.51	352.99	354.82	348.58	348.54	2.81	3.85	350.82	351.35	350.80	351.32	2.18	1.64	4.02	3.50
489	22BA023	22BA046	Circular	283.96	0.53	2.00	15.32	355.74	354.35	352.18	350.67	3.10	4.07	352.79	352.88	351.38	351.58	2.94	2.85	2.97	2.77
490	22BA046	22BA047	Circular	54.45	1.62	2.00	26.71	354.35	354.16	350.67	349.79	5.99	7.92	351.38	351.58	350.91	351.41	2.97	2.77	3.24	2.75
493	22BA047	22BA049	Circular	276.11	0.45	2.50	25.42	354.16	354.82	349.77	348.54	5.88	7.76	350.91	351.41	350.80	351.32	3.24	2.75	4.02	3.50
532	22AB026	22AB028	Circular	29.21	0.27	1.00	1.73	355.54	355.08	351.58	351.50	1.78	2.25	352.75	353.19	352.68	353.05	2.79	2.35	2.41	2.03
534	22BA004	22BA005	Circular	36.03	0.14	2.00	7.83	355.21	354.87	350.50	350.45	3.61	4.62	351.45	351.61	351.40	351.56	3.76	3.60	3.47	3.31
535	22BA005	22BA061	Circular	382.34	0.14	2.00	7.89	354.87	356.70	350.45	349.91	3.60	4.60	351.40	351.56	350.59	351.12	3.47	3.31	6.11	5.58
540	22BA061	22BA060	Circular	108.09	0.17	2.50	15.54	356.70	356.83	349.36	349.18	5.18	6.41	350.59	351.12	350.54	351.09	6.11	5.58	6.29	5.74
541	22BA060	22BA050	Circular	162.64	0.54	2.50	28.02	356.83	354.34	349.18	348.30	7.02	8.79	350.54	351.09	350.51	351.05	6.29	5.74	3.83	3.29
542	22BA050	22BA052	Circular	86.93	0.49	4.50	128.43	354.34	356.84	348.30	347.87	27.73	36.08	350.51	351.05	350.50	351.03	3.83	3.29	6.35	5.81
543	22BA049	22BA050	Circular	426.65	0.04	4.00	25.83	354.82	354.34	348.46	348.30	21.29	27.82	350.80	351.32	350.51	351.05	4.02	3.50	3.83	3.29
548	15CD071	15CD064	Circular	355.59	0.27	1.50	5.07	354.47	354.02	350.39	349.43	1.66	2.12	351.15	351.59	350.93	351.46	3.32	2.88	3.09	2.57
574	26AD025	26AD021	Natural	565.76	0.10	3.21	136.66	383.28	382.71	380.07	379.50	18.96	28.09	381.94	382.18	381.17	381.39	1.34	1.10	1.54	1.32
576	26AA021	26AD004	Natural	511.02	0.14	3.48	407.68	383.78	383.50	380.52	379.80	1.64	-2.13	382.11	382.70	382.11	382.70	1.67	1.08	1.40	0.80
584	26AA031	26AA036	Natural	346.37	0.51	4.00	455.36	384.95	382.69	380.70	378.94	2.64	4.05	381.10	381.19	379.41	379.51	3.85	3.76	3.28	3.18
586	26AA010	26AA031	Natural	141.63	0.21	3.12	93.93	383.00	384.95	381.00	380.70	2.65	4.06	381.53	381.64	381.10	381.19	1.47	1.37	3.85	3.76
592	26AA009	26AA010	Natural	114.13	0.16	2.00	58.93	383.18	383.00	381.18	381.00	2.65	4.06	381.71	381.82	381.53	381.64	1.48	1.37	1.47	1.37
670	23DC036	23DC003	Natural	275.33	0.03	1.68	25.85	377.57	378.11	376.20	376.11	1.28	1.73	376.60	376.72	376.60	376.72	0.97	0.85	1.51	1.40
672	23DC031	23DC036	Natural	141.59	0.07	1.52	31.90	377.97	377.57	376.30	376.20	1.88	2.65	376.71	376.77	376.60	376.72	1.26	1.21	0.97	0.85
738	22DA084	22DA082	Circular	36.00	0.11	1.50	3.25	361.01	366.96	355.83	355.79	5.29	5.68	358.13	358.25	358.08	358.17	2.88	2.76	8.88	8.78
740	22DA077	22DA059	Circular	194.06	0.25	1.50	4.85	360.70	361.34	356.45	355.97	5.30	5.69	358.73	358.94	358.20	358.34	1.97	1.76	3.14	2.99
741	22DA056	22DA054	Circular	169.95	0.33	1.25	3.44	361.56	360.75	357.31	356.75	2.23	2.91	359.04	359.47	358.81	359.07	2.52	2.10	1.95	1.68
743	22DA063	22DA040	Circular	102.16	0.16	1.00	1.31	360.58	363.04	358.75	358.59	1.54	1.99	359.54	359.71	359.33	359.40	1.04	0.87	3.71	3.64
744	22DA062	22DA081	Circular	89.01	0.39	1.33	4.46	361.72	362.50	359.92	359.57	1.77	2.33	360.50	360.61	360.16	360.26	1.21	1.11	2.35	2.24
748	22DA047	22DA049.1	Circular	78.01	0.36	1.00	1.98	361.53	361.10	358.08	357.80	1.28	1.63	358.79	359.15	358.66	358.98	2.74	2.38	2.44	2.12
749	22DA049.1	22DA049	Circular	195.18	0.11	1.00	1.09	361.10	359.85	357.80	357.59	1.26	1.62	358.66	358.98	358.44	358.56	2.44	2.12	1.42	1.29
750	22DA079	22DA083	Circular	159.13	0.19	2.00	9.27	359.69	362.39	356.70	356.39	16.38	17.89	359.35	359.65	358.43	358.53	0.35	0.05	3.96	3.87
752	22DA113	22DA079	Circular	358.17	0.21	2.00	9.68	364.36	359.69	357.50	356.74	16.38	17.89	361.51	362.21	359.35	359.65	2.85	2.15	0.35	0.05
754	22DA138	22DA113	Circular	84.47	3.30	2.00	38.18	364.42	364.36	360.44	357.65	15.38	19.70	361.78	362.42	361.51	362.21	2.65	2.00	2.85	2.15
756	23CB075	23CB027	Circular	161.78	0.14	2.00	7.92	366.87	365.85	361.73	361.50	9.41	12.47	363.94	365.74	363.64	365.18	2.93	1.13	2.21	0.67
758	23CB074	23CB075	Circular	39.83	0.45	2.00	14.12	366.83	366.87	361.91	361.73	8.61	10.99	364.00	365.85	363.94	365.74	2.83	0.98	2.93	1.13
760	23CB072	23CB074	Circular	488.68	0.26	1.50	4.99	367.97	366.83	363.36	362.08	5.66	6.99	365.41	367.61	364.00	365.85	2.56	0.35	2.83	0.98
762	09DC033	09DC029	Natural	259.28	0.11	2.64	56.18	342.72	342.43	340.08	339.79	0.00	0.00	340.00	340.00	339.79	339.79	2.72	2.72	2.64	2.64
791	23CB071	23CB072	Circular	102.04	0.08	1.50	2.73	367.98	367.97	363.75	363.67	5.52	6.98	365.70	367.98	365.41	367.61	2.28	0.00	2.56	0.35
800	16DB014	16DB001	Natural	289.65	0.33	5.35	497.47	345.66	346.49	341.20	340.25	4.50	4.80	343.72	343.71	343.72	343.71	1.94	1.96	2.77	2.78
801	16DA006	16DB015	Natural	541.72	0.04	4.51	148.03	346.91	344.92	341.50	341.30	12.59	26.60	344.92	344.93	344.92	344.92	1.99	1.98	0.00	0.00
802	16DA009	16DA007	Natural	281.60	0.45	5.68	154.65	348.84	346.99	342.86	341.60	6.74	7.41	345.33	345.71	345.33	345.71	3.51	3.12	1.66	1.27
803	16AD054	16AC008	Natural	317.16	0.03	4.40	107.42	347.01	346.49	342.40	342.30	11.74	15.27	343.69	343.82	343.28	343.40	3.33	3.19	3.21	3.09
845	22AC024	22AC023	Circular	389.72	0.30	1.50	5.34	356.31	356.20	354.00	352.83	3.75	4.35	356.16	356.31	355.59	355.86	0.15	0.00	0.61	0.34
849	22AC023	22AC007	Circular	202.85	0.75	1.75	12.74	356.20	356.72	352.83	351.31	3.74	4.31	355.59	355.86	355.46	355.75	0.61	0.34	1.25	0.96
851	16DA034	16DA013	Natural	555.73	0.37	5.88	410.89	353.28	352.41	348.00	345.92	7.13	9.58	348.66	348.76	346.58	346.67	4.62	4.52	5.83	5.74
868	15CD064	15CD065	Circular	251.63	0.09	2.50	11.26	354.02	354.45	349.26	349.04	3.04	3.99	350.93	351.46	350.91	351.44	3.09	2.57	3.53	3.00
869	15CD065	15CD066	Circular	233.12	0.17	2.50	15.78	354.45	356.45	348.94	348.54	4.18	5.57	350.91	351.44	350.90	351.41	3.53	3.00	5.56	5.04
904	15CD066	22BA049	Circular	509.75	0.02	4.00	16.71	356.45	354.82	348.54	348.46	11.91	15.42	350.90	351.41	350.80	351.32	5.56	5.04	4.02	3.50
905	15CC045	15CD062	Circular	452.16	0.01	3.00	5.83	354.62	354.33	349.81	349.77	0.84	1.12	351.01	351.51	351.00	351.50	3.61	3.12	3.33	2.83
906	15CD062	15CD063	Circular	256.10	0.02	3.00	9.48	354.33	355.55	349.42	349.36	1.21	1.65	351.00	351.50	351.00	351.49	3.33	2.83	4.56	4.06
910	15CD058	15CD063	Circular	182.08	0.14	3.00	23.40	355.27	355.55	349.89	349.63	4.80	6.18	351.06	351.53	351.00	351.49	4.21	3.75	4.56	4.06
913	15CD063	15CD059	Circular	252.53	0.11	3.50	31.66	355.55	354.66	349.36	349.07	6.40	8.24	351.00	351.49	350.95	351.46	4.56	4.06	3.70	3.20
917	15CD059	15CD066	Circular	403.11	0.13	3.50	33.88	354.66	356.45	349.07	348.54	7.40	9.75	350.95	351.46	350.90	351.41	3.70	3.20	5.56	5.04
919	22DA067	22DA066	Natural	293.76	0.03	4.86	44.22	365.90	363.70	359.98	359.90	1.35	1.62	361.44	361.83	361.43	361.82	4.47	4.08	2.27	1.87
920	22DA032	22DB050	Natural	363.19	0.06	3.16	52.70	363.65	362.07	359.80	359.60	2.90	3.42	360.52	360.58	360.09	360.11	3.12	3.07	1.99	1.97
927	22DC005	22DC011	Natural	47.96	0.20	4.24	439.12	362.44	362.35	358.20	358.11	4.77	6.80	358.90	358.99	357.97	358.41	3.55	3.45	4.38	3.94
969	22DA148	22DA044	Natural	30.93	0.36	3.11	446.90	362.50	362.50	359.45	359.34	1.76	2.32	360.00	360.11	360.00	360.11	2.50	2.39	2.50	2.39
971	23CC090	22DD023.1	Natural	1253.64	0.02	7.25	384.85	369.56	369.25	362.31	362.00	4.39	5.23	363.30	363.39	362.96	363.04	6.26	6.17	6.29	6.21
972	22DD023	22DD024	Natural	15.65	0.32	7.62	638.92	368.54	369.25	361.30	361.25	12.76	15.57	362.45	362.56	362.44	362.56	6.09	5.97	6.81	6.69
986	09DC008	09DC036	Circular	134.59	0.24	2.50	18.57	340.39	340.00	337.20	336.88	5.45	7.24	338.27	338.33	338.25	338.25	2.11	2.05	1.75	1.75
1004	09DC032	09DC022	Natural	360.03	0.55	5.41	622.15	344.30	343.49	339.47	337.50	5.49	7.38	340.08	340.16	338.54	338.83	4.22	4.14	4.95	4.66
1048	23CA023	23CA022	Circular	8.81	45.40	1.00	22.29	369.77	370.28	368.07	364.07	5.44	6.95	368.42	369.18	366.33	368.87	1.35	0.59	3.95	1.41
1109	16AD067	16AD005	Natural	152.53	0.04	4.65	79.33	348.14	346.22	342.56	342.50	11.12	14.50	343.79	343.94	343.78	343.93	4.35	4.20	2.44	2.29
1114	16AC008	16AC010	Natural	577.11	0.37	3.93	286.77	346.49	343.84	342.30	340.17	11.71	15.25	343.28	343.40	340.75	340.81	3.21	3.09	3.08	3.03
1115	16AD005	16AD054	Natural	213.56	0.05	4.17	100.31	346.22	347.01	342.50	342.40	10.98	14.37	343.78	343.93	343.69	343.82	2.44	2.29	3.33	3.19
1121	22BB027	15CC015	Natural	655.27	0.46	3.50	353.52	360.97	358.24	357.63	354.58	0.72	1.04	357.83	357.86	354.99	355.05	3.14	3.11	3.26	3.19
1123	15CC015	15CC047	Natural	444.55	0.09	3.66	93.18	358.24	357.82	354.58	354.16	0.69	1.01	354.99	355.05	354.49	354.55	3.26	3.19	3.33	3.28
1134	22AB049	22BA004	Circular	227.52	0.10	1.50	3.03	355.66	355.21	351.28	351.06	3.61	4.63	352.40	352.59	351.45	351.61	3.26	3.07	3.76	3.60
1136	22AB028	22AB049	Circular	100.91	0.12	1.00	1.14	355.08	355.66	351.40	351.28	1.78	2.25	352.68	353.05	352.40	352.59	2.41	2.03	3.26	3.07
1139	22AB031	22AB026	Circular	125.19	1.00	0.67	1.12	357.91	355.54	352.93	351.68	1.78	2.25	355.81	357.91	352.75	353.19	2.10	0.00	2.79	2.35
1156	16DA013	16DA030	Natural	161.49	0.44	6.49	1669.71	352.41	351.70	345.92	345.21	8.37	11.42	346.58	346.67	345.67	345.94	5.83	5.74	6.02	5.76

Hydraulic Model Results - Existing Conditions																				
Oak Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1159	15CB084	16DA034	Natural	267.54	0.04	5.27	320.51	353.36	353.28	348.10	348.00	7.21	9.82	349.02	349.14	348.66	348.76	4.34	4.22	4.62	4.52
1160	15CB100	15CB083	Natural	538.40	0.09	5.04	237.86	354.20	352.78	348.71	348.20	4.95	6.59	349.60	349.73	349.22	349.38	4.60	4.47	3.56	3.41
1161	15CB016	15CB101	Natural	173.26	0.58	3.51	380.33	354.41	353.62	351.00	350.00	1.25	1.87	351.37	351.43	350.19	350.23	3.03	2.98	3.43	3.39
1168	15CB112	15CB015	Natural	117.79	0.49	2.18	213.11	354.00	353.18	351.70	351.12	1.25	1.88	351.97	352.02	351.60	351.70	2.03	1.98	1.58	1.48
1198	15CB093	15CB040	Circular	142.83	0.15	1.00	1.27	350.52	352.42	348.54	348.33	1.10	1.42	349.36	349.62	349.22	349.39	1.15	0.90	3.19	3.03
1200	15CB040	15CB048	Circular	168.62	0.08	1.25	1.67	352.42	352.01	348.33	348.20	1.07	1.39	349.22	349.39	349.17	349.32	3.19	3.03	2.84	2.69
1201	15CB048	15CB047	Circular	27.50	0.15	3.00	23.62	352.01	352.17	348.19	348.15	7.24	9.86	349.17	349.32	349.08	349.22	2.84	2.69	3.08	2.95
1202	15CB083	15CB048	Circular	20.05	0.05	3.00	13.83	352.78	352.01	348.20	348.19	6.50	8.91	349.22	349.38	349.17	349.32	3.56	3.41	2.84	2.69
1203	15CB047	15CB084	Circular	19.00	0.26	3.00	31.77	352.17	353.36	348.15	348.10	7.24	9.86	349.08	349.22	349.02	349.14	3.08	2.95	4.34	4.22
1206	15CB049	15CB050	Circular	202.62	0.22	0.83	0.95	352.48	352.21	349.67	349.23	1.84	2.23	351.64	352.48	350.03	350.13	0.84	0.00	2.19	2.09
1208	15CB050	15CB051	Circular	90.57	0.03	1.25	1.09	352.21	351.89	349.23	349.20	1.84	2.23	350.03	350.13	349.77	349.88	2.19	2.09	2.12	2.02
1210	15CB079	15CB078	Circular	20.00	0.45	1.50	6.54	351.75	351.77	349.22	349.13	2.27	2.93	349.93	350.05	349.89	350.01	1.83	1.70	1.88	1.75
1212	15CB051	15CB097	Circular	18.73	0.27	1.50	5.04	351.89	353.00	349.10	349.05	1.84	2.22	349.77	349.88	349.74	349.85	2.12	2.02	3.27	3.16
1215	15CB097	15CB085	Circular	97.57	0.14	1.75	5.57	353.00	354.21	349.05	348.91	1.83	2.22	349.74	349.85	349.60	349.73	3.27	3.16	4.61	4.47
1216	15CB085	15CB100	Circular	16.50	0.67	3.50	76.28	354.21	354.20	348.82	348.71	5.05	6.70	349.60	349.73	349.60	349.73	4.61	4.47	4.60	4.47
1217	15CB101	15CB068	Circular	8.06	9.68	2.00	65.35	353.62	353.39	350.00	349.22	1.25	1.87	350.19	350.23	349.71	349.84	3.43	3.39	3.68	3.55
1218	15CB068	15CB085	Circular	84.04	0.11	3.00	20.27	353.39	354.21	348.91	348.82	3.30	4.50	349.71	349.84	349.60	349.73	3.68	3.55	4.61	4.47
1219	15CB078	15CB114	Circular	66.95	0.09	1.75	4.40	351.77	353.23	349.13	349.07	2.27	2.93	349.89	350.01	349.76	349.89	1.88	1.75	3.47	3.34
1221	15CB005	15CB006	Circular	173.10	0.11	1.75	4.87	354.16	353.40	349.85	349.66	2.28	2.95	350.65	350.77	350.37	350.49	3.51	3.39	3.03	2.91
1223	15CB006	15CB007	Circular	231.13	0.11	1.75	4.93	353.40	351.76	349.56	349.30	2.28	2.94	350.37	350.49	350.03	350.15	3.03	2.91	1.73	1.61
1225	15CB007	15CB079	Circular	54.52	0.09	1.75	4.46	351.76	351.75	349.27	349.22	2.28	2.93	350.03	350.15	349.93	350.05	1.73	1.61	1.83	1.70
1227	22AA041	22AA030	Natural	195.75	0.03	3.04	110.67	360.89	361.04	357.95	357.90	4.11	4.56	359.55	359.74	359.54	359.74	1.34	1.14	1.50	1.30
1233	15CB102	15CB044	Circular	9.55	0.73	1.50	8.35	350.85	350.34	346.76	346.69	4.23	5.38	347.73	348.08	347.71	348.06	3.12	2.77	2.63	2.28
1234	15CB044	15CB046	Circular	31.56	0.35	1.50	5.76	350.34	350.09	346.69	346.58	4.23	5.37	347.71	348.06	347.62	347.98	2.63	2.28	2.47	2.11
1235	15CB104	15CB102	Circular	328.66	0.15	2.25	11.10	353.22	350.85	347.35	346.86	4.26	5.48	348.31	348.49	347.73	348.08	4.91	4.73	3.12	2.77
1239	22DB050	22DB004	Natural	380.32	0.77	2.28	217.24	362.07	358.78	359.60	356.68	5.20	5.74	360.09	360.11	358.58	358.78	1.99	1.97	0.20	0.00
1241	22DA070	22DA031	Natural	763.34	0.45	2.91	349.65	368.14	364.72	365.23	361.81	0.90	1.27	365.54	365.59	362.21	362.30	2.60	2.55	2.51	2.42
1250	22DB025	22DB013	Natural	286.77	0.29	2.53	81.96	362.72	362.96	360.72	359.90	0.89	1.26	361.19	361.26	360.10	360.14	1.53	1.46	2.86	2.82
1266	22CB006	22CB010	Natural	226.05	2.22	4.52	1335.09	355.41	351.50	351.44	346.42	1.91	2.64	351.85	351.91	349.09	349.39	3.56	3.50	2.41	2.11
1304	22DB062	22DC005	Natural	241.47	0.48	3.42	159.19	360.76	362.44	358.76	357.60	4.82	6.85	359.22	359.31	358.90	358.99	1.54	1.46	3.55	3.45
1305	22DC011	22DC003	Natural	290.02	0.15	3.64	178.24	362.35	360.71	358.11	357.67	0.00	0.28	357.97	358.41	355.52	355.56	4.38	3.94	5.19	5.16
1306	22DC001	22DC015	Natural	17.21	5.99	3.78	998.63	361.84	360.82	358.06	357.03	0.53	0.79	358.28	358.31	357.81	358.29	3.57	3.53	3.00	2.53
1307	22DC015	22DC002	Natural	296.00	0.37	3.79	621.17	360.82	359.73	357.03	355.94	4.90	6.34	357.81	358.29	357.75	358.28	3.00	2.53	1.98	1.45
1310	27AB003	22DC019	Natural	760.81	1.92	5.85	1871.42	374.55	363.84	370.64	356.05	12.06	12.06	371.12	371.12	357.48	357.67	3.43	3.43	6.36	6.16
1349	26BB027	27AA001	Natural	533.84	0.29	2.65	97.53	370.70	369.14	368.04	366.48	1.94	2.74	368.59	368.66	366.84	366.91	2.11	2.03	2.30	2.22
1351	27AA011	27AA005	Natural	30.99	7.46	6.36	2123.74	367.53	368.80	362.96	360.64	2.11	2.90	363.27	363.32	361.40	361.63	4.26	4.21	7.40	7.17
1352	27AA017	27AA012	Natural	323.37	0.76	2.73	242.97	369.06	366.61	366.33	363.88	2.11	2.91	366.87	366.92	364.37	364.47	2.20	2.14	2.24	2.14
1356	22DD025	27AA017	Natural	557.40	0.23	2.37	48.12	369.62	369.06	367.62	366.33	2.13	2.93	368.07	368.14	366.87	366.92	1.55	1.48	2.20	2.14
1367	22DD013	22DD006	Natural	418.27	0.52	2.46	140.57	369.78	367.60	367.32	365.14	2.95	4.36	367.98	368.09	365.49	365.57	1.80	1.69	2.12	2.04
1368	22DD006	22DD003	Natural	271.38	0.80	3.43	360.71	367.60	367.38	365.14	362.98	2.94	4.35	365.49	365.57	364.25	364.30	2.12	2.04	3.13	3.09
1370	23CC012	22DD003	Natural	365.47	0.20	4.40	248.24	368.10	367.38	363.70	362.98	6.58	6.58	364.77	364.78	364.25	364.30	3.33	3.32	3.13	3.09
1374	26BB032	26BB036	Natural	373.25	0.15	2.00	51.58	370.77	370.20	368.77	368.20	2.19	3.23	369.45	369.54	368.50	368.56	1.32	1.23	1.69	1.64
1375	26BB036	27AA002	Natural	597.30	0.50	2.00	90.09	370.20	367.21	368.20	365.21	2.15	3.18	368.50	368.56	365.51	365.56	1.69	1.64	1.70	1.65
1377	23CC066	23CC012	Natural	197.19	0.20	4.09	315.73	367.87	368.10	364.10	363.70	6.58	6.58	365.00	365.00	364.77	364.78	2.88	2.87	3.33	3.32
1385	23CC055	23CC036	Natural	347.69	0.37	2.39	79.34	370.71	369.42	368.32	367.03	2.96	4.24	368.92	369.00	368.77	368.77	1.78	1.70	0.65	0.65
1386	23CC025	23CC063	Natural	543.53	0.41	3.27	75.25	368.98	368.77	366.73	364.49	7.22	8.89	368.77	368.77	368.77	368.77	0.21	0.21	0.00	0.00
1388	23CC061	23CC063	Natural	562.88	0.34	4.28	367.05	370.70	368.77	366.41	364.49	5.97	6.60	368.77	368.78	368.77	368.77	1.92	1.92	0.00	0.00
1392	22AC012	22AC018	Circular	90.70	0.17	0.67	0.46	358.13	360.15	357.34	357.19	0.80	0.80	358.13	358.13	357.50	357.55	0.00	0.00	2.65	2.59
1394	22AC009	22AC001	Circular	313.72	0.21	1.00	1.53	359.81	359.98	358.54	357.87	1.77	1.74	359.81	359.81	359.00	359.00	0.00	0.00	0.98	0.98
1395	22AC001	22AC017	Circular	198.66	0.02	1.00	0.47	359.98	360.72	357.82	357.78	1.70	1.70	359.00	359.00	357.62	357.66	0.98	0.98	3.10	3.07
1399	22AD042	22AD056	Circular	244.11	0.09	1.25	1.84	360.41	362.12	358.77	358.54	2.26	2.33	360.41	360.41	360.21	360.31	0.00	0.00	1.91	1.81
1401	22AD056	22AA001	Circular	359.49	0.09	1.25	1.82	362.12	360.12	358.33	358.00	3.19	3.23	360.21	360.31	359.56	359.76	1.91	1.81	0.56	0.37
1402	22AA001	22AA041	Circular	57.65	0.09	2.00	6.19	360.12	360.89	358.00	357.95	5.04	5.61	359.56	359.76	359.55	359.74	0.56	0.37	1.34	1.14
1405	23CD014	23CC048	Natural	412.48	0.12	2.15	54.39	373.70	373.21	371.55	371.06	0.90	1.26	371.99	372.05	371.45	371.55	1.71	1.65	1.76	1.66
1413	23CC011	23CC008	Natural	359.21	0.35	2.23	47.84	372.53	371.73	370.53	369.26	0.87	1.21	370.95	371.44	370.95	371.44	1.58	1.09	0.78	0.29
1414	23CC036	23CC025	Natural	151.81	0.20	2.32	91.74	369.42	368.98	367.03	366.73	2.95	4.22	368.77	368.77	368.77	368.77	0.65	0.65	0.21	0.21
1430	26BB008	26BB007	Natural	219.64	0.23	2.69	166.57	373.58	373.50	371.10	370.60	2.51	3.61	371.51	371.59	370.96	371.44	2.07	1.99	2.54	2.06
1437	26BB014	26BB013	Natural	68.02	0.29	2.24	133.89	372.44	372.24	370.20	370.00	2.06	2.78	370.70	370.84	370.65	370.82	1.74	1.60	1.59	1.43
1438	26BB048	26BB011	Natural	530.99	0.21	2.00	99.27	373.03	371.94	371.03	369.94	2.51	3.78	371.54	371.63	370.50	370.66	1.49	1.40	1.44	1.28
1439	26BB012	26BB049	Natural	417.53	1.41	5.56	170.24	370.55	371.79	368.55	362.68	4.49	6.42	368.81	368.85	363.75	363.95	1.74	1.71	8.04	7.83
1444	23CD033	23CD040	Natural	517.14	0.02	3.51	44.13	372.34	372.22	368.83	368.71	5.47	6.33	371.18	371.83	371.16	371.82	1.16	0.51	1.06	0.40
1448	23CA010	23CA009	Natural	171.36	1.17	2.00	142.15	373.10	371.10	371.10	369.10	2.04	3.27	371.55	371.63	369.88	370.45	1.56	1.47	1.22	0.65
1452	23CA021	23CA024	Natural	172.62	0.50	2.00	19.34	372.17	371.31	370.17	369.31	1.14	1.62	370.42	370.47	368.70	369.28	1.75	1.70	2.61	2.03
1453	23CA008	23CA025	Natural	119.54	0.62	2.28	38.13	371.56	370.26	369.00	368.26	1.87	2.97	369.79	370.23	369.78	370.23	1.78	1.33	0.47	0.03
1459	23CD042	23CC068	Natural	47.52	1.08	4.56	698.49	371.78	370.83	367.00	366.49	4.43	5.24	367.50	367.55	367.28	367.39	4.28	4.23	3.55	3.44
1460	23CC067	23CC089	Natural	135.64	1.05	4.86	827.71	371.16	369.74	366.29	364.87	4.43	5.24	366.76	366.80	363.30	363.39	4.40	4.36	6.43	6.35
1465	23CD031	23CD025	Natural	737.57	0.37	3.94	323.89	374.40	371.66	370.46	367.72	6.94	9.91	371.35	371.49	369.87	370.48	3.05	2.90	1.79	1.18
1466	23CD021	23CD031	Natural	219.48	0.57	3.32	202.47	374.42	374.40	371.71	370.46	3.61	5.21	372.44	372.53	371.35	371.49	1.98	1.89	3.05	2.90
1559	23CA026	23CA007	Natural	165.48	0.21	2.50	39.89	370.46	370.88	368.35	368.00	2.63	3.32	370.24	370.46	370.24	370.47	0.21	0.00	0.64	0.41
1579	15CB094	15CB060	Circular	46.35	0.45	1.00	2.23	351.18	351.46	347.85	347.64	1.39	1.78	348.47	348.61	348.34	348.48	2.70	2.56	3.12	2.98

Hydraulic Model Results - Existing Conditions																					
Oak Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1580	15CB058	15CB094	Circular	158.44	0.25	1.00	1.64	350.85	351.18	348.31	347.92	1.39	1.78	349.00	349.14	348.47	348.61	1.85	1.71	2.70	2.56
2125	22DA038	22DA080	Circular	24.86	1.37	1.00	3.87	358.85	360.38	357.68	357.34	1.02	0.99	358.85	358.85	358.85	358.86	0.00	0.00	1.54	1.52
2126	22DA080	22DA050	Circular	128.01	0.19	1.00	1.43	360.38	359.91	357.29	357.05	1.00	0.95	358.85	358.86	358.80	358.89	1.54	1.52	1.11	1.02
2128	22DA050	22DA077	Circular	226.24	0.08	1.00	0.93	359.91	360.70	357.05	356.87	0.99	0.92	358.80	358.89	358.73	358.94	1.11	1.02	1.97	1.76
2132	22DB041	22DB040	Circular	277.20	0.20	1.00	1.47	362.51	359.44	357.58	357.03	2.47	3.18	359.38	360.32	357.51	357.70	3.13	2.19	1.93	1.74
2139	22DA049	22DA033	Circular	43.60	0.21	1.00	1.50	359.85	362.27	357.34	357.25	1.24	1.61	358.44	358.56	358.43	358.52	1.42	1.29	3.84	3.75
2140	22DA044	22DA043	Circular	121.57	0.28	1.25	3.17	362.50	362.67	359.34	359.00	1.76	2.31	360.00	360.11	359.49	359.58	2.50	2.39	3.18	3.09
2141	22DA042	22DA041	Circular	27.75	0.11	1.25	1.97	362.46	362.56	358.79	358.76	1.68	2.23	359.46	359.56	359.42	359.49	3.00	2.91	3.15	3.07
2143	22DA054	22DA077	Circular	56.69	0.53	1.25	4.36	360.75	360.70	356.75	356.45	2.23	2.91	358.81	359.07	358.73	358.94	1.95	1.68	1.97	1.76
2144	22DA059	22DA084	Circular	32.62	0.37	1.50	5.92	361.34	361.01	355.97	355.85	5.30	5.68	358.20	358.34	358.13	358.25	3.14	2.99	2.88	2.76
2146	15CD087	15CD058	Circular	355.68	0.24	2.00	10.39	356.45	355.27	351.09	350.22	2.73	3.52	351.79	351.95	351.06	351.53	4.66	4.50	4.21	3.75
2191	23CB073	23CB029	Circular	209.32	0.06	2.00	5.03	365.37	364.57	361.12	361.00	11.63	15.62	363.33	364.58	362.72	363.45	2.04	0.79	1.85	1.12
2192	22DA118	22DA138	Circular	127.56	0.19	2.00	9.11	364.10	364.42	360.68	360.44	15.42	19.71	362.56	363.15	361.78	362.42	1.54	0.95	2.65	2.00
2193	23CB039	23CB046	Circular	259.49	0.18	3.00	26.64	367.99	367.44	363.31	362.83	4.20	5.32	364.12	364.26	363.56	363.96	3.87	3.73	3.87	3.47
2194	22DA135	22DA119	Circular	194.30	0.19	1.50	4.20	365.54	364.00	361.18	360.82	3.96	4.86	362.89	363.63	362.60	363.19	2.65	1.91	1.40	0.81
2201	23CB046	23CB051	Circular	260.59	0.13	3.00	22.70	367.44	366.44	362.64	362.29	4.16	4.96	363.56	363.96	363.32	363.89	3.87	3.47	3.12	2.55
2202	23CB051	23CB057	Circular	259.17	0.08	2.00	6.12	366.44	365.57	362.19	361.97	4.07	4.77	363.32	363.89	363.05	363.77	3.12	2.55	2.52	1.79
2203	23CB057	23CB061	Circular	131.09	0.12	2.00	7.34	365.57	364.98	361.85	361.69	3.99	4.80	363.05	363.77	362.95	363.71	2.52	1.79	2.02	1.27
2204	23CB061	23CB063	Circular	111.57	0.20	2.00	9.33	364.98	365.46	361.63	361.41	3.96	4.83	362.95	363.71	362.90	363.66	2.02	1.27	2.56	1.81
2205	23CB063	22DA135	Circular	54.76	0.40	2.00	13.31	365.46	365.54	361.40	361.18	3.96	4.85	362.90	363.66	362.89	363.63	2.56	1.81	2.65	1.91
2206	23CA022	23CB071	Circular	208.63	0.15	1.50	3.82	370.28	367.98	364.07	363.75	5.47	6.96	366.33	368.87	365.70	367.98	3.95	1.41	2.28	0.00
2207	23CB027	23CB073	Circular	147.51	0.22	2.00	9.78	365.85	365.37	361.50	361.18	10.05	13.50	363.64	365.18	363.33	364.58	2.21	0.67	2.04	0.79
2208	23CB029	22DA118	Circular	60.65	0.40	2.00	13.21	364.57	364.10	361.00	360.76	11.59	15.60	362.72	363.45	362.56	363.15	1.85	1.12	1.54	0.95
2215	22DA119	22DA118	Circular	21.29	0.28	1.50	5.18	364.00	364.10	360.82	360.76	3.97	4.87	362.60	363.19	362.56	363.15	1.40	0.81	1.54	0.95
2223	23CC079	23CC080	Circular	78.07	0.20	1.50	4.42	365.23	365.20	362.54	362.38	3.21	3.21	363.48	363.49	363.32	363.33	1.75	1.74	1.88	1.87
2228	23CC076	23CC077	Circular	78.06	0.23	1.00	1.59	365.63	365.57	363.12	362.94	3.21	3.21	364.57	364.58	363.87	363.87	1.06	1.05	1.69	1.69
2230	23CC075	23CC076	Circular	229.58	0.23	1.00	1.59	367.35	365.63	363.68	363.15	3.22	3.22	366.70	366.70	364.57	364.58	0.66	0.66	1.06	1.05
2238	23CC071	23CC075	Circular	205.70	0.31	1.00	1.85	368.57	367.35	364.37	363.73	3.25	3.24	368.57	368.57	366.70	366.70	0.00	0.00	0.66	0.66
2240	23CC077	23CC079	Circular	186.61	0.16	1.50	3.85	365.57	365.23	362.88	362.59	3.21	3.21	363.87	363.87	363.48	363.49	1.69	1.69	1.75	1.74
2241	23CC080	23CC082	Circular	149.06	0.06	1.50	2.40	365.20	365.65	362.25	362.16	3.21	3.21	363.32	363.33	363.03	363.05	1.88	1.87	2.63	2.61
2242	23CC082	22DA124	Circular	97.27	0.14	1.50	3.70	365.65	364.90	362.09	361.95	3.21	3.21	363.03	363.05	362.76	362.82	2.63	2.61	2.13	2.08
2243	22DA124	22DA125	Circular	25.92	0.15	1.50	3.83	364.90	365.21	361.85	361.81	3.21	3.21	362.76	362.82	362.70	362.76	2.13	2.08	2.51	2.45
2247	22DA125	22DD020	Circular	98.71	0.15	1.50	3.80	365.21	364.93	361.72	361.57	3.21	3.21	362.70	362.76	362.49	362.60	2.51	2.45	2.44	2.33
2249	22DD020	22DD021	Circular	19.50	0.62	1.50	7.65	364.93	363.95	361.47	361.35	3.20	3.21	362.49	362.60	362.48	362.59	2.44	2.33	1.47	1.36
2250	22DD021	22DD023	Circular	26.13	0.19	1.50	4.27	363.95	368.54	361.35	361.30	3.20	3.21	362.48	362.59	362.45	362.56	1.47	1.36	6.09	5.97
2305	09DC018	09DC015	Circular	11.39	0.70	2.50	31.92	338.21	340.00	335.35	335.27	20.48	20.59	338.21	338.21	338.22	338.23	0.00	0.00	1.78	1.77
2307	09DC014	09DC017	Circular	75.19	0.23	1.00	1.57	337.80	338.65	335.69	335.52	3.76	2.85	337.80	337.80	338.24	338.24	0.00	0.00	0.41	0.41
2322	09DC024	09DC008	Circular	102.05	0.04	2.50	7.54	340.53	340.39	337.24	337.20	5.46	7.19	338.32	338.50	338.27	338.33	2.21	2.03	2.11	2.05
2324	09DC013	09DC015	Circular	3.97	5.79	2.50	91.67	339.95	340.00	336.50	336.27	25.24	25.10	338.17	338.17	338.22	338.23	1.79	1.78	1.78	1.77
2520	22DA145	22DA083	Circular	55.76	1.27	6.00	443.76	363.41	362.39	357.10	356.39	14.49	16.50	358.40	358.49	358.43	358.53	5.01	4.92	3.96	3.87
2521	22DA066	22DA032	Circular	116.52	0.09	1.00	0.97	363.70	363.65	359.90	359.80	2.91	3.43	361.43	361.82	360.52	360.58	2.27	1.87	3.12	3.07
2523	22AC011	22DB050	Circular	120.48	0.33	1.00	1.91	361.00	362.07	360.00	359.60	2.34	2.36	361.00	361.00	360.09	360.11	0.00	0.00	1.99	1.97
2526	22DD024	22DA136	Circular	124.07	0.20	8.00	380.18	369.25	369.25	361.25	361.00	12.76	15.57	362.44	362.56	361.41	361.48	6.81	6.69	7.84	7.77
2527	23CC089	23CC090	Circular	35.13	1.14	3.00	66.09	369.74	369.56	360.40	360.00	4.43	5.24	363.30	363.39	363.30	363.39	6.43	6.35	6.26	6.17
2532	22DA136	22DA137	Rectangular	108.26	0.92	3.00	259.45	369.25	368.00	361.00	360.00	12.76	15.57	361.41	361.48	360.63	360.70	7.84	7.77	7.37	7.31
2534	22DA081	22DA148	Circular	31.83	0.28	1.25	3.19	362.50	362.50	359.54	359.45	1.77	2.33	360.16	360.26	360.00	360.11	2.35	2.24	2.50	2.39
2549	09DC017	09DC015	Circular	151.05	0.17	2.50	15.49	338.65	340.00	335.52	335.27	-6.49	-6.55	338.24	338.24	338.22	338.23	0.41	0.41	1.78	1.77
2552	09DC032	09DC033	Circular	42.52	0.28	1.25	3.19	344.30	342.72	340.20	340.08	0.00	0.00	340.08	340.16	340.00	340.00	4.22	4.14	2.72	2.72
2745	15BC012	15BC023	Circular	44.92	1.56	1.00	4.13	352.51	353.25	349.70	349.00	1.58	2.19	350.14	350.24	349.52	349.67	2.37	2.27	3.73	3.58
2746	15BC023	15CB082	Circular	44.69	7.79	1.00	9.23	353.25	350.77	349.00	345.52	4.44	6.04	349.52	349.67	347.06	347.39	3.73	3.58	3.71	3.38
2747	15CB082	15CB087	Circular	231.54	0.15	2.50	14.81	350.77	350.37	345.52	345.17	10.44	13.77	347.06	347.39	346.71	347.03	3.71	3.38	3.66	3.34
2749	15CB087	15CB086	Circular	256.63	0.15	2.50	14.66	350.37	349.63	345.17	344.79	10.41	13.72	346.71	347.03	346.31	346.60	3.66	3.34	3.32	3.02
2751	15CB086	16AD047	Circular	345.71	0.15	2.50	14.77	349.63	349.55	344.79	344.27	10.37	13.66	346.31	346.60	345.75	346.01	3.32	3.02	3.81	3.54
2753	16AD047	16AD053	Circular	70.17	0.16	2.50	15.08	349.55	349.31	344.27	344.16	10.28	13.55	345.75	346.01	345.65	345.92	3.81	3.54	3.66	3.39
2754	16DA027	16AD053	Circular	51.74	0.12	2.00	7.15	349.16	349.31	344.16	344.10	3.34	5.77	345.66	345.93	345.65	345.92	3.50	3.22	3.66	3.39
2755	16AD042	16AD053	Circular	16.08	0.87	0.33	0.16	350.83	349.31	344.40	344.26	1.16	1.15	350.83	350.83	345.65	345.92	0.00	0.00	3.66	3.39
2756	16DA027	16DA022	Circular	123.71	0.12	2.25	10.01	349.16	349.00	344.16	344.01	8.57	10.27	345.66	345.93	345.48	345.81	3.50	3.22	3.52	3.18
2758	16AD053	16AD048	Circular	122.51	0.10	2.50	11.92	349.31	348.63	344.10	343.98	11.35	14.70	345.65	345.92	345.38	345.64	3.66	3.39	3.25	3.00
2760	16AD048	16AD066	Circular	304.26	0.25	2.50	19.04	348.63	347.28	343.98	343.22	11.35	14.70	345.38	345.64	344.65	344.89	3.25	3.00	2.62	2.39
2761	16DA022	16DA029	Circular	270.56	0.15	2.25	11.06	349.00	347.43	344.01	343.61	8.52	10.17	345.48	345.81	345.35	345.75	3.52	3.18	2.08	1.69
2762	16DA029	16DA009	Circular	334.67	0.22	2.25	13.61	347.43	348.84	343.61	342.86	8.33	9.94	345.35	345.75	345.33	345.71	2.08	1.69	3.51	3.12
2763	16AD066	16AD067	Circular	305.04	0.22	2.50	17.72	347.28	348.14	343.22	342.56	11.34	14.69	344.65	344.89	343.79	343.94	2.62	2.39	4.35	4.20
2788	15CB013	15CB099	Circular	62.01	2.42	1.00	5.15	352.50	349.90	347.16	345.66	-0.01	-0.04	347.18	347.54	347.18	347.54	5.32	4.97	2.72	2.36
2881	15CB003	15CB112	Circular	29.62	0.43	1.00	2.16	354.52	354.00	351.83	351.70	1.25	1.88	352.30	352.41	351.97	352.02	2.22	2.11	2.03	1.98
2882	15CB015	15CB016	Circular	25.77	0.45	1.00	2.23	353.18	354.41	351.12	351.00	1.25	1.87	351.60	351.70	351.37	351.43	1.58	1.48	3.03	2.98
2959	22AA030	22AD046	Circular	83.62	0.12	1.00	1.14	361.04	361.59	357.90	357.80	3.43	3.73	359.54	359.74	358.31	358.33	1.50	1.30	3.27	3.25
2960	22DB003	22DB058	Circular	74.11	1.08	2.25	29.88	360.17	357.49	355.00	354.20	11.34	12.18	356.38	356.44	354.96	355.00	3.80	3.73	2.52	2.49
3020	22BB017	22BB016	Circular	39.75	0.98	1.00	3.27	350.00	353.84	344.54	344.15	5.37	6.49	345.70	346.19	345.75	346.27	4.30	3.81	8.10	7.57
3025	22DC002	22DC003	Circular	48.07	0.42	1.00	2.13	359.73	360.71	355.30	355.10	3.77	4.36	357.75	358.28	355.52	355.56	1.98	1.45	5.19	5.16
3026	22DC015	22DC011	Circular	48.61	2.24	2.00	31.44	360.82	362.35	357.03	355.94	-4.77	-6.58	357.81	358.29	357.97	358.41	3.00	2.53	4.38	3.94

Hydraulic Model Results - Existing Conditions																				
Oak Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
3105	23CD040	23CD041	Circular	39.73	2.11	1.00	4.81	372.22	371.53	368.71	367.87	5.42	6.16	371.16	371.82	368.86	368.88	1.06	0.40	2.67	2.65
3145	23CA024	23CA023	Circular	50.66	0.10	1.00	1.04	371.31	369.77	368.12	368.07	1.14	1.62	368.70	369.28	368.42	369.18	2.61	2.03	1.35	0.59
3149	23CA025	23CA023	Circular	37.01	0.36	1.00	2.00	370.26	369.77	368.26	368.12	4.79	5.93	369.78	370.23	368.42	369.18	0.47	0.03	1.35	0.59
3153	23CD025	23CD042	Circular	38.55	0.74	1.00	2.84	371.66	371.78	367.72	367.44	4.43	5.24	369.87	370.48	367.50	367.55	1.79	1.18	4.28	4.23
3774	09DC036	09DC012	Circular	79.12	0.67	2.50	31.17	340.00	339.82	336.88	336.35	5.61	7.45	338.25	338.25	338.25	338.25	1.75	1.75	1.57	1.57
3779	15CB114	15CB113	Circular	3.69	1.36	1.75	17.13	353.23	352.89	349.07	349.02	2.27	2.92	349.76	349.89	349.77	349.90	3.47	3.34	3.12	3.00
3780	15CB113	15CB068	Circular	44.95	0.24	1.75	7.28	352.89	353.39	349.02	348.91	2.26	2.92	349.77	349.90	349.71	349.84	3.12	3.00	3.68	3.55
Link2350	26AA024	26AD025	Natural	456.43	0.25	2.89	97.31	383.76	383.28	381.21	380.05	2.12	2.90	381.98	382.20	381.94	382.18	1.78	1.56	1.34	1.10
Link2351	26AD004	26AD001	Circular	439.72	0.27	1.00	1.71	383.50	381.88	379.80	378.62	2.35	2.62	382.11	382.70	379.15	379.17	1.40	0.80	2.74	2.71
Link2352	23DC003	23DC004	Circular	29.04	0.86	1.00	3.07	378.11	379.02	376.11	375.86	0.92	1.30	376.60	376.72	375.88	375.92	1.51	1.40	3.14	3.10
Link2356	26AA018	26AA021	Natural	542.50	0.30	3.13	655.54	385.17	383.78	382.17	380.52	3.43	5.01	382.68	382.79	382.11	382.70	2.49	2.38	1.67	1.08
Link2358	26AA036	23DD076	Natural	425.24	0.46	3.84	322.43	382.69	380.94	378.94	377.00	2.62	4.03	379.41	379.51	378.29	378.94	3.28	3.18	2.65	2.01
Link2359	26AD021	26AC006	Natural	630.93	0.24	3.21	209.93	382.71	381.21	379.50	378.00	18.40	26.99	381.17	381.39	378.24	378.45	1.54	1.32	2.97	2.76
Link2360	26AD013	26AC007.1	Natural	676.74	0.92	6.19	1040.94	381.36	381.01	378.10	371.90	2.35	2.62	378.47	378.49	372.74	372.91	2.89	2.87	8.27	8.10
Link2362	27AD015	27AA004	Natural	1103.31	1.08	6.30	2848.04	376.92	368.76	372.48	360.60	8.70	13.12	372.81	372.85	361.57	361.79	4.11	4.07	7.19	6.97
Link2363	27AA002	27AA008	Natural	261.65	1.35	5.39	295.35	367.21	370.46	365.21	361.69	4.07	5.90	365.51	365.56	362.63	362.82	1.70	1.65	7.83	7.63
Link2365	27AB004	27AB003	Circular	48.66	10.08	1.00	10.51	380.09	374.55	375.54	370.64	12.06	12.06	380.09	380.09	371.12	371.12	0.00	0.00	3.43	3.43
Link2368	26AC007	26AC007.1	Natural	66.85	0.31	9.11	741.89	381.22	381.01	372.11	371.90	18.39	26.98	373.00	373.20	372.74	372.91	8.22	8.02	8.27	8.10
Link2371	27AA004	27AA005	Natural	45.41	0.22	8.23	2907.90	368.76	368.80	360.60	360.50	31.96	46.26	361.57	361.79	361.40	361.63	7.19	6.97	7.40	7.17
Link2372	27AA005	27AA003	Natural	44.00	1.19	8.23	1691.89	368.80	368.14	360.50	359.98	32.98	47.68	361.40	361.63	361.35	361.61	7.40	7.17	6.78	6.53
Link2373	27AA003	27AA006	Natural	64.55	0.80	7.33	2356.54	368.14	365.97	359.98	359.46	32.94	47.63	361.35	361.61	361.30	361.56	6.78	6.53	4.67	4.41
Link2375	22DC019	22DC017	Natural	32.16	0.35	7.82	9173.34	363.84	363.79	356.05	355.94	49.90	67.44	357.48	357.67	356.94	357.14	6.36	6.16	6.85	6.64
Link2376	22DC017	22DC018	Natural	42.05	1.09	6.50	6833.92	363.79	363.45	355.48	355.02	49.90	67.45	356.94	357.14	356.77	357.02	6.85	6.64	6.68	6.43
Link2377	22DC018	22DC014	Natural	39.51	0.31	10.63	8669.69	363.45	367.74	355.02	354.90	57.17	78.62	356.77	357.02	356.65	356.90	6.68	6.43	11.08	10.84
Link2379	26BB015	26BB014	Circular	162.47	0.12	1.00	1.16	373.02	372.44	370.40	370.20	2.07	2.80	371.57	372.15	370.70	370.84	1.45	0.87	1.74	1.60
Link2380	26BB013	26BB012	Circular	144.38	1.00	1.00	3.31	372.24	370.55	370.00	368.55	2.06	2.78	370.65	370.82	368.81	368.85	1.59	1.43	1.74	1.71
Link2381	26BB011	26BB012	Circular	59.97	2.30	1.00	5.02	371.94	370.55	369.94	368.55	2.48	3.67	370.50	370.66	368.81	368.85	1.44	1.28	1.74	1.71
Link2382	23CC008	23CC095	Circular	29.05	1.31	1.00	3.79	371.73	371.81	369.26	368.88	3.92	4.63	370.95	371.44	369.46	369.48	0.78	0.29	2.35	2.33
Link2383	23CC095	23CC025	Natural	803.32	0.27	2.59	89.39	371.81	368.98	368.88	366.73	3.92	4.63	369.46	369.48	368.77	368.77	2.35	2.33	0.21	0.21
Link2385	26BB007	23CC008	Natural	324.05	0.41	2.69	177.80	373.50	371.73	370.60	369.26	2.48	3.58	370.96	371.44	370.95	371.44	2.54	2.06	0.78	0.29
Link2386	23CC048	23CC011	Circular	36.69	1.44	1.00	3.97	373.21	372.53	371.06	370.53	0.89	1.23	371.45	371.55	370.95	371.44	1.76	1.66	1.58	1.09
Link2388	23CA006.3	23CA006.2	Natural	400.40	0.51	2.00	92.84	376.22	374.19	374.22	372.19	3.70	5.10	374.63	374.70	372.64	372.71	1.59	1.53	1.55	1.48
Link2389	23CA006.2	23CA006.1	Natural	976.36	0.30	2.00	67.55	374.19	371.25	372.19	369.25	3.57	4.93	372.64	372.71	369.63	369.69	1.55	1.48	1.63	1.56
Link2390	23CA006.1	23CA006	Natural	288.51	0.82	2.00	37.77	371.25	368.89	369.25	366.89	3.90	5.41	369.63	369.69	368.36	368.89	1.63	1.56	0.53	0.00
Link2391	23CA006	23CA005	Circular	49.21	0.58	1.00	2.52	368.89	368.62	366.89	366.60	4.39	5.32	368.36	368.89	367.06	367.10	0.53	0.00	1.57	1.52
Link2393	23CA007	23CA025	Circular	101.54	0.62	1.00	2.60	370.88	370.26	368.88	368.26	2.36	2.52	370.24	370.47	369.78	370.23	0.64	0.41	0.47	0.03
Link2397	27AA001	27AA002	Circular	22.71	5.61	1.00	7.84	369.14	367.21	366.48	365.21	1.94	2.74	366.84	366.91	365.51	365.56	2.30	2.22	1.70	1.65
Link2398	27AA012	27AA011	Circular	42.15	2.18	1.00	4.89	366.61	367.53	363.88	362.96	2.11	2.90	364.37	364.47	363.27	363.32	2.24	2.14	4.26	4.21
Link2399	23CD041	23CC061	Natural	314.70	0.46	3.97	348.81	371.53	370.70	367.87	366.41	5.42	6.18	368.86	368.88	368.77	368.78	2.67	2.65	1.92	1.92
Link2400	23CC063	23CC066	Circular	50.55	0.76	1.00	2.89	368.77	367.87	364.49	364.10	6.58	6.58	368.77	368.77	365.00	365.00	0.00	0.00	2.88	2.87
Link2401	22DA137	22DA041	Natural	336.16	0.41	5.98	605.34	368.00	362.56	360.00	358.61	12.75	15.57	360.63	360.70	359.42	359.49	7.37	7.31	3.15	3.07
Link2402	22DA041	22DA040	Natural	42.37	0.26	4.25	389.51	362.56	363.04	358.61	358.50	13.60	16.52	359.42	359.49	359.33	359.40	3.15	3.07	3.71	3.64
Link2405	22DA043	22DA042	Natural	113.22	0.19	3.67	314.43	362.67	362.46	359.00	358.79	1.72	2.27	359.49	359.58	359.46	359.56	3.18	3.09	3.00	2.91
Link2406	22DA040	22DA033	Natural	259.88	0.30	4.54	664.73	363.04	362.27	358.50	357.73	14.24	17.30	359.33	359.40	358.43	358.52	3.71	3.64	3.84	3.75
Link2407	22DA033	22DA036	Natural	30.02	0.33	4.10	259.15	362.27	360.32	357.25	357.15	14.76	17.93	358.43	358.52	358.41	358.51	3.84	3.75	1.91	1.82
Link2408	22DA036	22DA145	Natural	23.64	0.21	4.74	146.81	360.32	363.41	357.15	357.10	14.49	16.50	358.41	358.51	358.40	358.49	1.91	1.82	5.01	4.92
Link2409	23CC068	23CC067	Circular	18.00	1.08	1.00	3.43	370.83	371.16	366.49	366.29	4.43	5.24	367.28	367.39	366.76	366.80	3.55	3.44	4.40	4.36
Link2412	23CA009	23CA008	Circular	26.72	0.37	1.00	2.02	371.10	371.56	369.10	369.00	2.01	3.04	369.88	370.45	369.79	370.23	1.22	0.65	1.78	1.33
Link2413	22DC012	22DC013	Circular	58.86	0.32	1.00	1.86	361.89	361.96	359.89	359.70	0.53	0.79	360.25	360.33	359.90	359.95	1.63	1.55	2.06	2.01
Link2414	22DC013	22DC001	Circular	50.26	3.27	1.00	5.98	361.96	361.84	359.70	358.06	0.53	0.79	359.90	359.95	358.28	358.31	2.06	2.01	3.57	3.53
Link2417	22CB010	22CB012	Natural	26.86	1.52	5.29	2152.66	351.50	351.52	346.42	346.02	113.48	141.63	349.09	349.39	349.10	349.40	2.41	2.11	2.41	2.11
Link2418	22CB012	22CB009	Natural	37.62	0.36	5.50	1045.02	351.52	352.30	346.02	345.88	125.32	160.20	349.10	349.40	349.09	349.39	2.41	2.11	3.21	2.91
Link2421	22BC020	22BC021	Natural	63.54	0.30	6.50	2618.98	351.89	351.70	345.39	345.20	156.75	201.88	347.47	347.70	346.87	347.10	4.42	4.19	4.83	4.60
Link2422	22DA082	22DB043	Natural	788.38	0.09	7.71	146.89	366.96	359.35	355.79	355.10	33.66	37.48	358.08	358.17	354.90	355.04	8.88	8.78	4.45	4.31
Link2423	22CA010.3	22CA010.2	Natural	645.80	0.16	4.19	311.31	359.00	355.32	353.50	352.45	39.64	46.84	354.90	355.04	353.91	354.01	4.10	3.96	1.41	1.31
Link2424	22CA010.2	22CA010.1	Natural	511.95	0.27	2.55	135.33	355.32	353.29	352.45	351.06	51.34	59.86	353.91	354.01	352.52	352.65	1.41	1.31	0.77	0.65
Link2425	22DB058	22CA010.2	Natural	554.89	0.32	3.08	64.24	357.49	355.32	354.20	352.45	12.58	14.03	354.96	355.00	353.91	354.01	2.52	2.49	1.41	1.31
Link2426	22DA083	22DA082	Natural	261.98	0.23	8.58	237.61	362.39	366.96	356.39	355.79	30.95	34.42	358.43	358.53	358.08	358.17	3.96	3.87	8.88	8.78
Link2427	22DB013	22DB014	Natural	688.13	0.64	4.07	454.15	362.96	360.59	359.90	355.50	0.87	1.23	360.10	360.14	356.20	356.34	2.86	2.82	4.39	4.24
Link2428	22DB014	22DB057	Circular	24.50	1.22	1.50	10.79	360.59	358.96	355.50	355.20	5.14	7.51	356.20	356.34	355.67	355.75	4.39	4.24	3.29	3.21
Link2429	22DB057	22DB043	Natural	91.57	1.56	4.67	1007.74	358.96	359.35	355.20	353.77	5.14	7.51	355.67	355.75	354.90	355.04	3.29	3.21	4.45	4.31
Link2430	22DB043	22CA010.3	Rectangular	66.77	0.40	5.50	957.43	359.35	359.00	353.77	353.50	39.92	47.30	354.90	355.04	354.90	355.04	4.45	4.31	4.10	3.96
Link2431	22AD046	22AC017	Natural	308.69	0.28	3.79	695.71	361.59	360.72	357.80	356.94	3.43	3.73	358.31	358.33	357.62	357.66	3.27	3.25	3.10	3.07
Link2432	22AC017	22AC018	Natural	182.68	0.18	3.66	530.49	360.72	360.15	356.94	356.60	5.11	5.43	357.62	357.66	357.50	357.55	3.10	3.07	2.65	2.59
Link2433	22AC018	22AC016	Natural	97.00	0.23	4.36	398.46	360.15	361.55	356.60	356.38	5.91	6.24	357.50	357.55	357.46	357.52	2.65	2.59	4.09	4.03
Link2434	22AC016	22DB003	Natural	1160.41	0.12	5.17	3113.90	361.55	360.17	356.38	355.00	6.63	7.22	357.46	357.52	356.38	356.44	4.09	4.03	3.80	3.73
Link2435	22CA004	22CA010.1	Natural	499.05	0.35	2.99	52.51	356.55	353.29	352.80	351.06	3.61	4.78	353.38	353.45	352.52	352.65	3.16	3.10	0.77	0.65
Link2436	22CA010.1	22CA010	Natural	289.92	0.60	5.01	152.33	353.29	357.12	351.06	349.33	53.08	63.36	352.52	352.65	351.54	351.78	0.77	0.65	5.58	5.34
Link2437	22CA003	22CA004	Circular	64.09	0.79	1.00	2.93	356.06	356.55	353.30	352.80	2.65	3.64	354.03	354.32	353.38	353.45	2.03	1.74	3.16	3.10
Link2438	22CA006	22CA005	Circular	19.74	4.14	1.00	6.73	359.74	358.42	357.10	356.28	1.43	1.97	357.41	357.47	356.61	356.65	2.33	2.27	1.81	1.77

Hydraulic Model Results - Existing Conditions																				
Oak Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
Link2440	22BA051	22BA036	Circular	19.05	2.99	1.00	5.72	355.63	355.49	350.20	349.63	2.94	2.92	353.23	353.46	353.12	353.36	2.40	2.17	2.37	2.13
Link2441	22BA033	22BA052	Circular	25.87	1.89	1.00	4.55	356.63	356.84	348.49	348.00	2.83	2.82	350.64	351.16	350.50	351.03	5.99	5.47	6.35	5.81
Link2451	22BC021	22BC021.1	Natural	236.18	0.97	6.14	3305.01	351.70	348.68	345.20	342.90	156.74	202.38	346.87	347.10	345.61	346.05	4.83	4.60	3.07	2.63
Link2452	22CB007	22CB012	Natural	233.98	1.14	4.63	491.52	352.43	351.52	348.68	346.02	14.96	24.84	349.59	349.78	349.10	349.40	2.84	2.65	2.41	2.11
Link2453	22BC006	22CB007	Natural	627.10	0.93	3.75	1087.13	358.27	352.43	354.51	348.68	14.97	24.85	355.34	355.54	349.59	349.78	2.93	2.73	2.84	2.65
Link2456	22BC016	22BB017	Natural	1285.02	0.63	3.64	61.81	354.42	350.00	352.60	344.54	2.38	3.49	352.91	352.96	345.70	346.19	1.51	1.45	4.30	3.81
Link2457	22BB016	22BC021.1	Natural	185.68	0.67	7.74	3102.56	353.84	348.68	344.15	342.90	-43.19	-122.20	345.75	346.27	345.61	346.05	8.10	7.57	3.07	2.63
Link2458	22BC021.1	22BC021.2	Natural	1773.52	0.16	8.42	1353.70	348.68	351.06	342.90	340.00	172.53	230.79	345.61	346.05	343.67	344.17	3.07	2.63	7.39	6.89
Link2460	22BB003	22BB017	Natural	462.39	1.14	7.32	483.73	358.97	350.00	349.79	344.54	2.16	3.17	350.18	350.24	345.70	346.19	8.79	8.73	4.30	3.81
Link2462	15CC004	15CB003	Natural	220.34	0.03	4.36	34.67	357.92	354.52	351.90	351.83	0.67	1.00	352.35	352.45	352.30	352.41	5.57	5.47	2.22	2.11
Link2463	15CC047	15CB018	Natural	520.90	0.41	3.33	268.80	357.82	355.00	354.16	352.00	0.65	0.97	354.49	354.55	352.45	352.57	3.33	3.28	2.55	2.44
Link2464	15CB018	15CC004	Circular	41.28	0.24	1.50	4.80	355.00	357.92	352.00	351.90	0.65	0.96	352.45	352.57	352.35	352.45	2.55	2.44	5.57	5.47
Link2466	15CA078.1	15CA078	Natural	387.72	0.04	2.32	43.03	357.55	357.38	355.23	355.06	1.53	2.07	355.94	356.02	349.18	349.54	1.61	1.53	8.21	7.85
Link2467	15CA078	15CA087	Circular	134.59	0.25	1.00	1.66	357.38	355.05	348.37	348.03	1.54	2.08	349.18	349.54	348.89	349.05	8.21	7.85	6.16	6.01
Link2468	15CA087	15CB104	Circular	345.94	0.15	2.25	11.26	355.05	353.22	347.93	347.40	4.28	5.58	348.89	349.05	348.31	348.49	6.16	6.01	4.91	4.73
Link2472	15CB110	16DA030	Natural	295.68	0.40	6.54	1780.48	352.71	351.70	346.25	345.08	0.92	1.27	346.31	346.32	345.67	345.94	6.40	6.39	6.02	5.76
Link2473	15CB107	15CB110	Natural	514.80	0.31	5.67	803.40	352.71	352.71	347.84	346.25	0.00	0.00	347.84	347.84	346.31	346.32	4.88	4.88	6.40	6.39
Link2474	15CB013	15CB107	Natural	221.75	0.90	3.78	489.11	352.50	352.71	349.82	347.84	0.00	0.00	347.18	347.54	347.84	347.84	5.32	4.97	4.88	4.88
Link2486	16DA007	16DA006	Circular	48.03	0.21	1.00	1.51	346.99	346.91	341.60	341.50	3.51	3.31	345.33	345.71	344.92	344.93	1.66	1.27	1.99	1.98
Link2488	16DB015	16DB014	Circular	37.02	0.27	1.00	1.72	344.92	345.66	341.30	341.20	4.88	5.20	344.92	344.92	343.72	343.71	0.00	0.00	1.94	1.96
Link2490	09DC015	09DC019	Circular	52.15	0.13	1.50	3.57	340.00	339.14	335.27	335.20	9.69	10.13	338.22	338.23	335.88	335.93	1.78	1.77	3.26	3.21
Link2495	09DC022	09DC024.2	Circular	26.33	0.68	1.33	5.85	343.49	340.69	337.50	337.32	5.46	7.20	338.54	338.83	338.38	338.56	4.95	4.66	2.31	2.12
Link2496	09DC024.2	09DC024.1	Circular	44.03	0.14	1.67	4.77	340.69	340.60	337.32	337.26	5.46	7.20	338.38	338.56	338.35	338.53	2.31	2.12	2.25	2.07
Link2497	09DC024.1	09DC024	Circular	28.58	0.07	1.67	3.44	340.60	340.53	337.26	337.24	5.46	7.20	338.35	338.53	338.32	338.50	2.25	2.07	2.21	2.03
Link2498	09DC029	09DC020	Circular	100.57	1.93	1.25	8.33	342.43	341.09	339.79	337.85	0.00	0.00	339.79	339.79	338.35	338.53	2.64	2.64	2.74	2.57
Link2499	09DC020	09DC024.1	Circular	26.63	2.29	1.33	10.71	341.09	340.60	337.85	337.24	-0.68	-0.12	338.35	338.53	338.35	338.53	2.74	2.57	2.25	2.07
Link2505	16AA038	16AA037	Circular	134.10	0.55	0.67	0.84	345.04	344.39	342.42	341.69	3.86	4.23	344.38	344.80	342.45	342.57	0.66	0.24	1.94	1.82
Link2511	16AA037	16AA037.1	Natural	145.25	0.21	3.08	126.44	344.39	344.84	341.69	341.39	3.87	4.24	342.45	342.57	342.43	342.55	1.94	1.82	2.41	2.29
Link2517	22DB004	22DB003	Circular	114.33	0.67	1.00	2.71	358.78	360.17	356.68	355.91	4.20	4.42	358.58	358.78	356.38	356.44	0.20	0.00	3.80	3.73
Link2518	22DA031	22DB025	Circular	170.03	0.64	1.00	2.65	364.72	362.72	361.81	360.72	0.89	1.27	362.21	362.30	361.19	361.26	2.51	2.42	1.53	1.46
Link2519	22DA068	22DA075	Circular	61.01	0.15	2.00	8.07	362.65	364.38	360.09	360.00	1.71	2.19	361.44	361.83	361.44	361.83	1.21	0.82	2.95	2.56
Link2520	22DA075	22DA067	Circular	76.67	0.55	2.00	15.55	364.38	365.90	360.40	359.98	1.66	2.13	361.44	361.83	361.44	361.83	2.95	2.56	4.47	4.08
Link2521	23DD087	23DD029	Circular	48.70	0.29	1.00	1.77	379.62	379.89	376.14	376.00	2.68	3.14	378.29	378.94	376.22	376.23	1.33	0.68	3.67	3.66
Link2522	23DD029	23DD029.1	Natural	1437.85	0.31	3.10	485.55	379.89	373.87	376.00	371.55	3.73	4.89	376.22	376.23	371.86	371.90	3.67	3.66	2.01	1.97
Link2522.1	23DD029.1	23CD033	Natural	881.26	0.31	2.92	485.21	373.87	372.34	371.55	368.83	11.55	16.65	371.86	371.90	371.18	371.83	2.01	1.97	1.16	0.51
Link2526	23DC004	23DD029.1	Natural	785.43	0.47	2.73	375.75	379.02	373.87	375.56	371.87	4.39	6.47	375.88	375.92	371.86	371.90	3.14	3.10	2.01	1.97
Link2527	23DC024	23DC004	Natural	697.26	0.23	3.15	3778.36	380.63	379.02	377.48	375.86	3.80	5.60	377.79	377.84	375.88	375.92	2.84	2.79	3.14	3.10
Link2530	22DD003	22DD023.1	Circular	77.49	1.27	1.50	10.99	367.38	369.25	362.98	362.00	7.39	7.71	364.25	364.30	362.96	363.04	3.13	3.09	6.29	6.21
Link2531	22DD023.1	22DD023	Natural	74.34	0.10	6.93	2893.00	369.25	368.54	362.00	361.93	10.24	12.37	362.96	363.04	362.45	362.56	6.29	6.21	6.09	5.97
Link2535	22DB014.1	22DB014	Natural	904.57	0.53	3.77	450.51	362.78	360.59	360.33	355.50	1.98	2.84	360.79	360.86	356.20	356.34	1.99	1.92	4.39	4.24
Link2536	22DA105.1	22DA105	Natural	998.45	0.49	3.74	1291.03	367.18	363.85	364.20	359.34	8.40	10.45	364.87	364.93	361.55	362.28	2.31	2.24	2.29	1.57
Link2537	23CC008.1	23CC008	Natural	2644.36	0.32	2.08	932.89	379.38	371.73	377.68	369.26	5.45	9.08	377.94	377.99	370.95	371.44	1.44	1.39	0.78	0.29
Link2539	16DA030	16DA027	Natural	206.71	0.45	5.81	979.49	351.70	349.16	345.08	344.16	10.16	12.71	345.67	345.94	345.66	345.93	6.02	5.76	3.50	3.22
Link2540	16DB001	16AC010	Circular	88.26	0.09	1.00	1.01	346.49	343.84	340.25	340.17	4.02	4.07	343.72	343.71	340.75	340.81	2.77	2.78	3.08	3.03
Link2541	23CA005	22DA105.1	Natural	667.09	0.36	2.50	73.63	368.62	367.18	366.60	364.20	4.38	5.32	367.06	367.10	364.87	364.93	1.57	1.52	2.31	2.24

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																				
Oak Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1	22DB032	22DB047	Circular	116.31	0.14	1.50	3.62	359.38	358.82	354.32	354.16	2.44	3.07	355.24	355.45	355.10	355.33	4.14	3.93	3.72	3.49
2	22DB033	22DB032	Circular	28.50	0.70	1.00	2.77	359.55	359.38	354.58	354.38	2.46	3.09	355.38	355.68	355.24	355.45	4.17	3.87	4.14	3.93
3	22DB047	22DB044	Circular	178.18	0.11	1.50	3.27	358.82	360.26	354.06	353.86	2.41	3.03	355.10	355.33	354.99	355.20	3.72	3.49	5.27	5.07
4	22DB044	22DB043	Circular	82.28	0.11	1.50	3.23	360.26	359.35	353.86	353.77	2.36	3.00	354.99	355.20	354.97	355.15	5.27	5.07	4.38	4.19
9	22DB036	22DB035	Circular	31.01	0.42	1.00	2.14	359.37	359.00	355.07	354.94	2.46	3.10	356.00	356.68	355.85	356.41	3.37	2.70	3.16	2.59
10	22DB035	22DB033	Circular	84.55	0.32	1.00	1.87	359.00	359.55	354.89	354.62	2.46	3.10	355.85	356.41	355.38	355.68	3.16	2.59	4.17	3.87
13	22DB040	22DB036	Circular	115.57	1.06	1.00	3.41	359.44	359.37	356.88	355.65	2.47	3.17	357.51	357.71	356.00	356.68	1.93	1.73	3.37	2.70
114	23DD076	23DD087	Natural	616.56	0.14	3.71	267.74	380.94	379.62	377.00	376.14	3.81	4.77	378.29	378.94	378.29	378.94	2.65	2.01	1.33	0.68
131	26AC006	26AC007	Natural	415.22	1.18	6.66	466.75	381.21	381.22	376.99	372.11	18.40	27.00	378.24	378.45	373.00	373.20	2.97	2.76	8.22	8.02
182	15BC015	15BC023	Natural	305.79	0.20	1.98	82.98	353.90	353.25	351.90	351.28	2.86	3.86	352.61	352.69	349.52	349.67	1.28	1.20	3.73	3.58
192	15BC014	15BC012	Natural	236.73	0.20	2.41	63.33	352.17	352.51	350.17	349.70	1.60	2.21	350.59	350.66	350.14	350.24	1.58	1.51	2.37	2.27
259	26BB030	26BB027	Natural	416.32	0.26	2.33	104.52	371.12	370.70	369.12	368.04	1.99	2.80	369.61	369.68	368.59	368.66	1.51	1.44	2.11	2.03
302	22CA009	22CB009	Circular	925.39	0.10	5.00	77.49	357.84	352.30	346.02	345.07	54.02	67.50	349.43	349.92	349.21	349.57	8.41	7.92	3.09	2.73
303	22BD043	22CA009	Circular	417.49	0.10	5.00	76.71	357.46	357.84	346.45	346.03	54.55	67.74	349.74	350.26	349.43	349.92	7.72	7.20	8.41	7.92
306	22BD040	22BD039	Circular	109.62	0.47	1.75	10.13	356.04	356.32	347.52	347.00	3.99	5.23	349.82	350.41	349.76	350.29	6.22	5.63	6.57	6.03
307	22BD039	22BD043	Circular	63.12	0.86	2.00	19.43	356.32	357.46	347.00	346.46	3.99	5.23	349.76	350.29	349.74	350.26	6.57	6.03	7.72	7.20
308	22BD055	22BD043	Circular	348.66	0.06	4.50	44.81	355.54	357.46	346.67	346.46	51.10	63.12	350.07	350.65	349.74	350.26	5.47	4.90	7.72	7.20
309	22BD041	22BD040	Circular	202.14	0.35	1.50	5.74	359.19	356.04	348.95	348.25	2.37	3.09	349.94	350.59	349.82	350.41	9.25	8.59	6.22	5.63
310	22BD038	22BD041	Circular	119.35	0.39	1.50	6.12	359.82	359.19	349.57	349.10	2.45	3.13	350.26	350.70	349.94	350.59	9.56	9.12	9.25	8.59
311	22BD042	22BD038	Circular	249.05	0.67	1.50	7.99	358.08	359.82	351.25	349.58	2.46	3.23	351.82	351.91	350.26	350.70	6.26	6.17	9.56	9.12
312	22BD065	22BD042	Circular	124.28	0.57	1.50	7.37	357.43	358.08	352.12	351.41	2.47	3.23	352.72	352.82	351.82	351.91	4.71	4.61	6.26	6.17
316	22BB009	22BB003	Natural	403.58	1.69	5.76	297.69	358.97	358.97	356.62	349.79	2.18	3.18	356.89	356.94	350.18	350.24	2.08	2.03	8.79	8.73
317	22BD051	22BD052	Circular	123.57	0.22	1.00	1.55	356.29	356.49	352.64	352.37	1.75	2.43	353.81	355.71	353.50	355.06	2.48	0.58	3.00	1.43
319	22BD052	22BD066	Circular	111.67	0.56	1.00	2.47	356.49	356.12	352.27	351.65	1.78	2.45	353.50	355.06	353.19	354.47	3.00	1.43	2.93	1.65
320	22BD063	22BD059	Circular	158.12	0.34	1.00	1.93	355.78	355.23	351.43	350.89	3.21	4.31	353.13	354.36	351.64	351.76	2.65	1.42	3.59	3.47
321	22BD059	22BD058	Circular	99.05	0.23	2.00	10.12	355.23	356.04	350.89	350.66	3.21	4.31	351.64	351.76	351.26	351.41	3.59	3.47	4.78	4.64
322	22BD066	22BD063	Circular	21.27	0.80	1.00	2.96	356.12	355.78	351.65	351.48	1.80	2.47	353.19	354.47	353.13	354.36	2.93	1.65	2.65	1.42
324	22BD058	22BD057	Circular	223.10	0.33	2.00	12.10	356.04	355.53	350.41	349.67	4.38	5.82	351.26	351.41	350.27	350.88	4.78	4.64	5.26	4.65
327	22BD057	22BD046	Circular	131.53	0.30	4.50	100.70	355.53	355.20	347.12	346.72	45.94	56.58	350.27	350.88	350.19	350.79	5.26	4.65	5.01	4.41
343	15CB095	15CB082	Circular	125.88	0.08	2.00	5.92	350.06	350.77	345.62	345.52	4.76	6.15	347.14	347.49	347.07	347.40	2.92	2.57	3.71	3.37
344	15CB099	15CB095	Circular	66.21	0.06	2.00	5.16	349.90	350.06	345.66	345.62	4.75	6.13	347.18	347.54	347.14	347.49	2.72	2.36	2.92	2.57
345	15CB105	15CB099	Circular	296.93	0.22	1.75	6.94	351.57	349.90	346.32	345.66	4.20	5.34	347.50	347.89	347.18	347.54	4.07	3.68	2.72	2.36
346	15CB103	15CB105	Circular	150.24	0.09	2.25	8.78	350.77	351.57	346.46	346.32	4.21	5.33	347.61	347.97	347.50	347.89	3.16	2.80	4.07	3.68
348	15CB046	15CB103	Circular	18.55	0.65	1.75	11.83	350.09	350.77	346.58	346.46	4.22	5.36	347.62	347.98	347.61	347.97	2.47	2.11	3.16	2.80
352	15CB060	15CB074	Circular	246.62	0.28	1.00	1.74	351.46	350.01	347.64	346.96	1.38	1.77	348.34	348.48	347.32	347.53	3.12	2.98	2.68	2.48
353	15CB074	15CB082	Circular	117.16	0.37	1.25	3.63	350.01	350.77	346.76	346.33	1.38	1.75	347.32	347.53	347.07	347.40	2.68	2.48	3.71	3.37
384	22BD046	22BD055	Circular	135.23	0.04	4.50	35.11	355.20	355.54	346.72	346.67	50.07	61.76	350.19	350.79	350.07	350.65	5.01	4.41	5.47	4.90
387	22BD045	22BD050	Circular	230.26	1.35	1.00	3.84	356.93	356.40	351.49	348.38	4.88	5.60	355.41	356.93	350.61	351.37	1.53	0.00	5.79	5.03
388	22BD050	22BD046	Circular	207.22	0.55	1.50	7.20	356.40	355.20	347.85	346.72	4.87	5.59	350.61	351.37	350.19	350.79	5.79	5.03	5.01	4.41
393	22BC015	22BC016	Circular	11.01	3.63	1.00	6.31	355.02	354.42	353.00	352.60	2.60	3.89	353.46	353.57	352.91	352.96	1.56	1.45	1.51	1.45
396	22BD047	22BD044	Circular	364.05	0.39	1.25	3.76	357.96	358.10	351.85	350.42	1.50	1.85	354.96	355.80	354.80	355.46	3.00	2.16	3.30	2.64
397	22BD044	22BA055	Circular	190.25	0.18	1.25	2.57	358.10	356.89	350.29	349.94	2.20	2.78	354.80	355.46	354.65	355.06	3.30	2.64	2.24	1.83
398	22BA055	22BA054	Circular	301.21	0.27	2.00	10.83	356.89	355.15	349.59	348.79	8.21	7.95	354.65	355.06	354.20	354.68	2.24	1.83	0.95	0.47
402	22BA054	22BA053	Circular	363.69	0.04	1.50	1.84	355.15	356.57	348.79	348.66	10.01	10.54	354.20	354.68	350.53	351.15	0.95	0.47	6.05	5.43
404	22BD033	22BA053	Circular	27.57	1.49	1.00	4.03	356.35	356.57	349.07	348.66	1.34	1.67	350.55	351.19	350.53	351.15	5.80	5.17	6.05	5.43
405	22BD036	22BD033	Circular	140.65	0.19	1.00	1.45	357.18	356.35	349.34	349.07	1.39	1.69	350.69	351.42	350.55	351.19	6.49	5.76	5.80	5.17
407	22BD034	22BD036	Circular	302.27	0.25	1.00	1.66	355.74	357.18	350.29	349.53	0.73	0.87	350.90	351.61	350.69	351.42	4.84	4.14	6.49	5.76
408	22BD035	22BD034	Circular	20.50	1.27	1.00	3.73	355.59	355.74	350.55	350.29	0.76	0.92	350.91	351.62	350.90	351.61	4.69	3.98	4.84	4.14
409	22BC010	22BD035	Circular	58.56	0.15	1.00	1.30	355.39	355.59	350.64	350.55	0.76	0.94	351.12	351.65	350.91	351.62	4.27	3.74	4.69	3.98
410	22DA102	22DA105	Circular	264.55	0.49	2.00	14.67	366.21	363.85	360.63	359.34	0.59	0.77	361.58	362.30	361.58	362.30	4.63	3.90	2.27	1.54
411	22DA108	22DA113	Circular	76.15	1.47	2.50	46.19	364.44	364.36	358.77	357.65	8.29	8.80	361.56	362.26	361.53	362.23	2.89	2.18	2.83	2.13
412	22DA105	22DA108	Circular	92.79	0.51	2.50	27.11	363.85	364.44	359.34	358.87	8.25	8.79	361.58	362.30	361.56	362.26	2.27	1.54	2.89	2.18
417	26AD001	26AD013	Natural	235.15	0.22	3.26	511.45	381.88	381.36	378.62	378.10	2.35	2.62	379.15	379.17	378.47	378.49	2.74	2.71	2.89	2.87
433	09DC012	09DC018	Natural	322.11	0.27	3.23	77.54	339.82	338.21	336.21	335.35	4.41	5.82	337.77	338.19	337.77	338.19	2.05	1.63	0.45	0.02
440	22CA007	22CA006	Natural	109.53	0.58	2.46	131.58	360.02	359.74	357.74	357.10	1.43	1.97	357.98	358.02	357.54	357.65	2.03	1.99	2.20	2.08
441	22CA005	22CA004	Natural	296.65	0.63	2.14	183.00	358.42	356.55	356.28	354.41	1.38	1.89	356.60	356.64	353.38	353.45	1.82	1.78	3.17	3.10
442	22CA002	22CA003	Natural	116.52	3.02	2.75	690.99	359.58	356.06	356.82	353.30	2.65	3.69	357.07	357.11	354.35	354.96	2.51	2.47	1.71	1.10
456	22BC011	22BC010	Circular	187.09	0.31	1.00	1.84	354.88	355.39	351.22	350.64	0.76	0.96	351.67	351.83	351.12	351.65	3.21	3.05	4.27	3.74
459	22BA053	22BD057	Circular	352.45	0.01	4.50	19.45	356.57	355.53	347.16	347.12	41.88	51.36	350.53	351.15	350.27	350.88	6.05	5.43	5.26	4.65
462	22BA031	22BA051	Circular	157.69	0.21	1.00	1.51	353.21	355.63	350.53	350.20	1.84	2.56	351.67	353.17	351.22	352.27	1.55	0.04	4.41	3.36
463	27AB007	27AB004	Natural	992.14	8.64	4.55	4025.83	465.85	380.09	461.30	375.54	18.18	27.70	461.71	461.78	376.47	376.85	4.14	4.07	3.62	3.24
466	22BA036	22BA062	Circular	205.05	0.27	2.00	10.98	355.49	354.52	349.63	349.07	4.61	6.20	350.86	351.63	350.74	351.48	4.63	3.86	3.78	3.04
467	22BA062	22BA033	Circular	238.18	0.20	2.00	9.33	354.52	356.63	348.96	348.49	4.46	6.14	350.74	351.48	350.65	351.30	3.78	3.04	5.98	5.33
470	22BA052	22BA053	Circular	305.84	0.17	4.50	74.57	356.84	356.57	347.67	347.16	31.06	40.58	350.64	351.28	350.53	351.15	6.20	5.57	6.05	5.43
472	22AB038	22AB030	Circular	332.62	0.69	2.00	17.51	359.90	358.06	356.31	354.00	1.89	2.42	356.75	356.81	354.90	355.50	3.14	3.08	3.16	2.56
474	22AB030	22AB029	Circular	331.18	0.45	2.00	14.14	358.06	356.40	354.00	352.50	1.94	3.53	354.90	355.50	354.85	355.34	3.16	2.56	1.55	1.06
475	22AB029	22AC006	Circular	36.77	1.63	2.00	26.83	356.40	356.59	352.50	351.90	2.19	3.65	354.85	355.34	354.85	355.32	1.55	1.06	1.74	1.26
476	22AC006	22AC007	Circular	53.53	1.10	2.00	22.05	356.59	356.72	351.90	351.31	2.45	3.68	354.85	355.32	354.84	355.29	1.74	1.26	1.87	1.42
477	22AC007	22AC020	Circular	101.07	0.04	2.00	4.18	356.72	357.30	351.31	351.27	5.44	8.27	354.84	355.29	354.79	355.15	1.87	1.42	2.51	2.15

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																				
Oak Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
478	22AC021	22AC020	Circular	95.00	1.90	2.00	28.97	355.08	357.30	353.08	351.27	2.06	-3.43	354.79	355.08	354.79	355.15	0.29	0.00	2.51	2.15
479	22AC020	22BD030	Circular	110.82	1.51	2.00	25.79	357.30	356.98	351.27	349.60	6.69	6.41	354.79	355.15	354.68	355.08	2.51	2.15	2.30	1.90
480	22BD030	22BA055	Circular	37.16	0.03	2.00	3.45	356.98	356.89	349.60	349.59	6.71	6.43	354.68	355.08	354.65	355.06	2.30	1.90	2.24	1.83
484	22BA048	22BA049	Circular	471.71	0.01	2.50	3.51	352.99	354.82	348.58	348.54	2.79	3.79	350.89	351.52	350.88	351.49	2.10	1.47	3.94	3.33
489	22BA023	22BA046	Circular	283.96	0.53	2.00	15.32	355.74	354.35	352.18	350.67	3.10	4.07	352.79	352.88	351.39	351.60	2.94	2.85	2.96	2.75
490	22BA046	22BA047	Circular	54.45	1.62	2.00	26.71	354.35	354.16	350.67	349.79	5.99	7.90	351.39	351.60	350.97	351.57	2.96	2.75	3.19	2.58
493	22BA047	22BA049	Circular	276.11	0.45	2.50	25.42	354.16	354.82	349.77	348.54	5.85	7.70	350.97	351.57	350.88	351.49	3.19	2.58	3.94	3.33
532	22AB026	22AB028	Circular	29.21	0.27	1.00	1.73	355.54	355.08	351.58	351.50	1.78	2.25	352.75	353.19	352.68	353.05	2.79	2.35	2.41	2.03
534	22BA004	22BA005	Circular	36.03	0.14	2.00	7.83	355.21	354.87	350.50	350.45	3.61	4.62	351.45	351.69	351.40	351.65	3.76	3.52	3.47	3.22
535	22BA005	22BA061	Circular	382.34	0.14	2.00	7.89	354.87	356.70	350.45	349.91	3.62	4.55	351.40	351.65	350.71	351.36	3.47	3.22	6.00	5.34
540	22BA061	22BA060	Circular	108.09	0.17	2.50	15.54	356.70	356.83	349.36	349.18	5.11	6.26	350.71	351.36	350.67	351.34	6.00	5.34	6.16	5.49
541	22BA060	22BA050	Circular	162.64	0.54	2.50	28.02	356.83	354.34	349.18	348.30	6.94	8.57	350.67	351.34	350.65	351.29	6.16	5.49	3.70	3.05
542	22BA050	22BA052	Circular	86.93	0.49	4.50	128.43	354.34	356.84	348.30	347.87	26.71	34.75	350.65	351.29	350.64	351.28	3.70	3.05	6.20	5.57
543	22BA049	22BA050	Circular	426.65	0.04	4.00	25.83	354.82	354.34	348.46	348.30	20.46	26.72	350.88	351.49	350.65	351.29	3.94	3.33	3.70	3.05
548	15CD071	15CD064	Circular	355.59	0.27	1.50	5.07	354.47	354.02	350.39	349.43	1.65	2.10	351.17	351.72	350.99	351.61	3.30	2.75	3.04	2.41
574	26AD025	26AD021	Natural	565.76	0.10	3.21	136.66	383.28	382.71	380.07	379.50	18.96	28.09	381.94	382.18	381.17	381.39	1.34	1.10	1.54	1.32
576	26AA021	26AD004	Natural	511.02	0.14	3.48	407.68	383.78	383.50	380.52	379.80	1.64	-2.13	382.11	382.70	382.11	382.70	1.67	1.08	1.40	0.80
584	26AA031	26AA036	Natural	346.37	0.51	4.00	455.36	384.95	382.69	380.70	378.94	2.64	4.05	381.10	381.19	379.41	379.51	3.85	3.76	3.28	3.18
586	26AA010	26AA031	Natural	141.63	0.21	3.12	93.93	383.00	384.95	381.00	380.70	2.65	4.06	381.53	381.64	381.10	381.19	1.47	1.37	3.85	3.76
592	26AA009	26AA010	Natural	114.13	0.16	2.00	58.93	383.18	383.00	381.18	381.00	2.65	4.06	381.71	381.82	381.53	381.64	1.48	1.37	1.47	1.37
670	23DC036	23DC003	Natural	275.33	0.03	1.68	25.85	377.57	378.11	376.20	376.11	1.28	1.73	376.60	376.72	376.60	376.72	0.97	0.85	1.51	1.40
672	23DC031	23DC036	Natural	141.59	0.07	1.52	31.90	377.97	377.57	376.30	376.20	1.88	2.65	376.71	376.77	376.60	376.72	1.26	1.21	0.97	0.85
738	22DA084	22DA082	Circular	36.00	0.11	1.50	3.25	361.01	366.96	355.83	355.79	5.75	7.11	358.20	358.44	358.16	358.31	2.81	2.57	8.80	8.65
740	22DA077	22DA059	Circular	194.06	0.25	1.50	4.85	360.70	361.34	356.45	355.97	5.76	7.12	358.95	359.60	358.29	358.60	1.76	1.11	3.04	2.74
741	22DA056	22DA054	Circular	169.95	0.33	1.25	3.44	361.56	360.75	357.31	356.75	2.23	2.91	359.25	360.12	359.02	359.73	2.31	1.44	1.73	1.02
743	22DA063	22DA040	Circular	102.16	0.16	1.00	1.31	360.58	363.04	358.75	358.59	1.53	1.99	359.58	359.80	359.40	359.48	1.01	0.78	3.64	3.56
744	22DA062	22DA081	Circular	89.01	0.39	1.33	4.46	361.72	362.50	359.92	359.57	1.77	2.33	360.50	360.61	360.16	360.26	1.21	1.11	2.35	2.24
748	22DA047	22DA049.1	Circular	78.01	0.36	1.00	1.98	361.53	361.10	358.08	357.80	1.28	1.63	358.81	359.28	358.70	359.10	2.72	2.24	2.40	2.00
749	22DA049.1	22DA049	Circular	195.18	0.11	1.00	1.09	361.10	359.85	357.80	357.59	1.25	1.62	358.70	359.10	358.52	358.67	2.40	2.00	1.34	1.18
750	22DA079	22DA083	Circular	159.13	0.19	2.00	9.27	359.69	362.39	356.70	356.39	16.23	17.56	359.41	359.69	358.51	358.65	0.28	0.00	3.88	3.74
752	22DA113	22DA079	Circular	358.17	0.21	2.00	9.68	364.36	359.69	357.50	356.74	16.23	17.80	361.53	362.23	359.41	359.69	2.83	2.13	0.28	0.00
754	22DA138	22DA113	Circular	84.47	3.30	2.00	38.18	364.42	364.36	360.44	357.65	15.38	19.69	361.78	362.45	361.53	362.23	2.64	1.97	2.83	2.13
756	23CB075	23CB027	Circular	161.78	0.14	2.00	7.92	366.87	365.85	361.73	361.50	9.41	12.47	363.94	365.74	363.64	365.18	2.93	1.13	2.21	0.67
758	23CB074	23CB075	Circular	39.83	0.45	2.00	14.12	366.83	366.87	361.91	361.73	8.61	10.99	364.00	365.85	363.94	365.74	2.83	0.98	2.93	1.13
760	23CB072	23CB074	Circular	488.68	0.26	1.50	4.99	367.97	366.83	363.36	362.08	5.66	6.98	365.41	367.61	364.00	365.85	2.56	0.35	2.83	0.98
762	09DC033	09DC029	Natural	259.28	0.11	2.64	56.18	342.72	342.43	340.08	339.79	0.00	0.00	340.00	340.00	339.79	339.79	2.72	2.72	2.64	2.64
791	23CB071	23CB072	Circular	102.04	0.08	1.50	2.73	367.98	367.97	363.75	363.67	5.52	6.97	365.70	367.98	365.41	367.61	2.28	0.00	2.56	0.35
800	16DB014	16DB001	Natural	289.65	0.33	5.35	497.47	345.66	346.49	341.20	340.25	14.63	17.99	342.43	342.64	342.21	342.47	3.23	3.03	4.29	4.02
801	16DA006	16DB015	Natural	541.72	0.04	4.76	148.03	346.91	345.40	341.50	341.30	16.81	21.62	343.49	343.96	343.47	343.95	3.42	2.95	1.93	1.45
802	16DA009	16DA007	Natural	281.60	0.45	5.68	154.65	348.84	346.99	342.86	341.60	7.22	8.23	345.16	345.61	345.16	345.61	3.67	3.23	1.82	1.38
803	16AD054	16AC008	Natural	317.16	0.03	4.40	107.42	347.01	346.49	342.40	342.30	12.32	16.07	343.70	343.84	343.28	343.39	3.31	3.17	3.21	3.10
845	22AC024	22AC023	Circular	389.72	0.30	1.50	5.34	356.31	356.20	354.00	352.83	3.74	4.69	355.37	356.31	354.95	355.49	0.94	0.00	1.25	0.71
849	22AC023	22AC007	Circular	202.85	0.75	1.75	12.74	356.20	356.72	352.83	351.31	3.44	4.70	354.95	355.49	354.84	355.29	1.25	0.71	1.87	1.42
851	16DA034	16DA013	Natural	555.73	0.37	5.88	410.89	353.28	352.41	348.00	345.92	6.93	9.27	348.65	348.75	346.58	346.65	4.63	4.53	5.83	5.76
868	15CD064	15CD065	Circular	251.63	0.09	2.50	11.26	354.02	354.45	349.26	349.04	2.99	3.95	350.99	351.61	350.97	351.60	3.04	2.41	3.47	2.85
869	15CD065	15CD066	Circular	233.12	0.17	2.50	15.78	354.45	356.45	348.94	348.54	4.13	5.53	350.97	351.60	350.96	351.57	3.47	2.85	5.49	4.88
904	15CD066	22BA049	Circular	509.75	0.02	4.00	16.71	356.45	354.82	348.54	348.46	11.46	14.94	350.96	351.57	350.88	351.49	5.49	4.88	3.94	3.33
905	15CC045	15CD062	Circular	452.16	0.01	3.00	5.83	354.62	354.33	349.81	349.77	0.83	1.12	351.06	351.65	351.05	351.64	3.57	2.98	3.28	2.69
906	15CD062	15CD063	Circular	256.10	0.02	3.00	9.48	354.33	355.55	349.42	349.36	1.22	1.69	351.05	351.64	351.04	351.64	3.28	2.69	4.51	3.91
910	15CD058	15CD063	Circular	182.08	0.14	3.00	23.40	355.27	355.55	349.89	349.63	4.76	6.06	351.09	351.66	351.04	351.64	4.18	3.61	4.51	3.91
913	15CD063	15CD059	Circular	252.53	0.11	3.50	31.66	355.55	354.66	349.36	349.07	6.14	7.97	351.04	351.64	351.01	351.61	4.51	3.91	3.65	3.05
917	15CD059	15CD066	Circular	403.11	0.13	3.50	33.88	354.66	356.45	349.07	348.54	7.14	9.49	351.01	351.61	350.96	351.57	3.65	3.05	5.49	4.88
919	22DA067	22DA066	Natural	293.76	0.03	4.86	44.22	365.90	363.70	359.98	359.90	1.35	1.62	361.44	361.82	361.43	361.82	4.47	4.08	2.27	1.88
920	22DA032	22DB050	Natural	363.19	0.06	3.16	52.70	363.65	362.07	359.80	359.60	2.86	3.41	360.51	360.57	359.80	359.85	3.13	3.08	2.27	2.22
927	22DC005	22DC011	Natural	47.96	0.20	4.24	439.12	362.44	362.35	358.20	358.11	4.77	6.80	358.90	358.99	357.78	358.01	3.55	3.45	4.57	4.33
969	22DA148	22DA044	Natural	30.93	0.36	3.11	446.90	362.50	362.50	359.45	359.34	1.76	2.32	360.00	360.11	360.00	360.11	2.50	2.39	2.50	2.39
971	23CC090	22DD023.1	Natural	1253.64	0.02	7.25	384.85	369.56	369.25	362.31	362.00	4.07	4.55	363.33	363.40	363.10	363.18	6.23	6.16	6.15	6.07
972	22DD023	22DD024	Natural	15.65	0.32	7.62	638.92	368.54	369.25	361.30	361.25	15.88	18.91	362.62	362.74	362.62	362.74	5.91	5.79	6.63	6.51
986	09DC008	09DC036	Circular	134.59	0.24	2.50	18.57	340.39	340.00	337.20	336.88	5.45	7.20	338.11	338.26	337.76	338.19	2.27	2.12	2.24	1.81
1004	09DC032	09DC022	Natural	360.03	0.55	5.41	622.15	344.30	343.49	339.47	337.50	5.49	7.38	340.08	340.16	338.54	338.81	4.22	4.14	4.95	4.68
1048	23CA023	23CA022	Circular	8.81	45.40	1.00	22.29	369.77	370.28	368.07	364.07	5.44	6.95	368.42	369.18	366.33	368.87	1.35	0.59	3.95	1.41
1109	16AD067	16AD005	Natural	152.53	0.04	4.65	79.33	348.14	346.22	342.56	342.50	11.67	15.21	343.81	343.97	343.80	343.96	4.33	4.18	2.42	2.27
1114	16AC008	16AC010	Natural	577.11	0.37	3.93	286.77	346.49	343.84	342.30	340.17	12.33	16.14	343.28	343.39	340.90	341.04	3.21	3.10	2.94	2.80
1115	16AD005	16AD054	Natural	213.56	0.05	4.17	100.31	346.22	347.01	342.50	342.40	11.53	15.12	343.80	343.96	343.70	343.84	2.42	2.27	3.31	3.17
1121	22BB027	15CC015	Natural	655.27	0.46	3.50	353.52	360.97	358.24	357.63	354.58	0.72	1.04	357.83	357.86	354.99	355.05	3.14	3.11	3.26	3.19
1123	15CC015	15CC047	Natural	444.55	0.09	3.66	93.18	358.24	357.82	354.58	354.16	0.69	1.01	354.99	355.05	354.49	354.55	3.26	3.19	3.33	3.28
1134	22AB049	22BA004	Circular	227.52	0.10	1.50	3.03	355.66	355.21	351.28	351.06	3.61	4.63	352.40	352.59	351.45	351.69	3.26	3.07	3.76	3.52
1136	22AB028	22AB049	Circular	100.91	0.12	1.00	1.14	355.08	355.66	351.40	351.28	1.78	2.25	352.68	353.05	352.40	352.59	2.41	2.03	3.26	3.07
1139	22AB031	22AB026	Circular	125.19	1.00	0.67	1.12	357.91	355.54	352.93	351.68	1.78	2.25	355.81	357.91	352.75	353.19	2.10	0.00	2.79	2.35
1156	16DA013	16DA030	Natural	161.49	0.44	6.49	1669.71	352.41	351.70	345.92	345.21	8.19	11.19	346.58	346.65	345.71	345.99	5.83	5.76	5.98	5.71

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																				
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xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1159	15CB084	16DA034	Natural	267.54	0.04	5.27	320.51	353.36	353.28	348.10	348.00	7.01	9.55	349.01	349.13	348.65	348.75	4.35	4.23	4.63	4.53
1160	15CB100	15CB083	Natural	538.40	0.09	5.04	237.86	354.20	352.78	348.71	348.20	4.75	6.28	349.58	349.71	349.21	349.36	4.62	4.49	3.57	3.42
1161	15CB016	15CB101	Natural	173.26	0.58	3.51	380.33	354.41	353.62	351.00	350.00	1.16	1.68	351.36	351.41	350.18	350.22	3.04	2.99	3.44	3.40
1168	15CB112	15CB015	Natural	117.79	0.49	2.18	213.11	354.00	353.18	351.70	351.12	1.17	1.70	351.96	352.04	351.74	351.90	2.04	1.96	1.44	1.28
1198	15CB093	15CB040	Circular	142.83	0.15	1.00	1.27	350.52	352.42	348.54	348.33	1.10	1.42	349.36	349.61	349.21	349.37	1.16	0.91	3.20	3.04
1200	15CB040	15CB048	Circular	168.62	0.08	1.25	1.67	352.42	352.01	348.33	348.20	1.07	1.39	349.21	349.37	349.16	349.31	3.20	3.04	2.85	2.71
1201	15CB048	15CB047	Circular	27.50	0.15	3.00	23.62	352.01	352.17	348.19	348.15	7.04	9.59	349.16	349.31	349.07	349.20	2.85	2.71	3.09	2.96
1202	15CB083	15CB048	Circular	20.05	0.05	3.00	13.83	352.78	352.01	348.20	348.19	6.30	8.62	349.21	349.36	349.16	349.31	3.57	3.42	2.85	2.71
1203	15CB047	15CB084	Circular	19.00	0.26	3.00	31.77	352.17	353.36	348.15	348.10	7.04	9.59	349.07	349.20	349.01	349.13	3.09	2.96	4.35	4.23
1206	15CB049	15CB050	Circular	202.62	0.22	1.50	4.55	352.48	352.21	349.67	349.23	1.84	2.34	350.36	350.48	350.02	350.14	2.12	2.01	2.19	2.07
1208	15CB050	15CB051	Circular	90.57	0.03	1.25	1.09	352.21	351.89	349.23	349.20	1.84	2.34	350.02	350.14	349.77	349.87	2.19	2.07	2.13	2.02
1210	15CB079	15CB078	Circular	20.00	0.45	1.50	6.54	351.75	351.77	349.22	349.13	2.28	2.93	349.92	350.04	349.88	350.00	1.83	1.71	1.88	1.77
1212	15CB051	15CB097	Circular	18.73	0.27	1.50	5.04	351.89	353.00	349.10	349.05	1.84	2.34	349.77	349.87	349.73	349.84	2.13	2.02	3.27	3.16
1215	15CB097	15CB085	Circular	97.57	0.14	1.75	5.57	353.00	354.21	349.05	348.91	1.83	2.33	349.73	349.84	349.58	349.71	3.27	3.16	4.62	4.49
1216	15CB085	15CB100	Circular	16.50	0.67	3.50	76.28	354.21	354.20	348.82	348.71	4.83	6.37	349.58	349.71	349.58	349.71	4.62	4.49	4.62	4.49
1217	15CB101	15CB068	Circular	8.06	9.68	2.00	65.35	353.62	353.39	350.00	349.22	1.16	1.68	350.18	350.22	349.68	349.81	3.44	3.40	3.70	3.58
1218	15CB068	15CB085	Circular	84.04	0.11	3.00	20.27	353.39	354.21	348.91	348.82	3.06	4.12	349.68	349.81	349.58	349.71	3.70	3.58	4.62	4.49
1219	15CB078	15CB114	Circular	66.95	0.09	1.75	4.40	351.77	353.23	349.13	349.07	2.27	2.93	349.88	350.00	349.74	349.87	1.88	1.77	3.48	3.36
1221	15CB005	15CB006	Circular	173.10	0.11	1.75	4.87	354.16	353.40	349.85	349.66	2.28	2.95	350.65	350.77	350.37	350.49	3.51	3.39	3.03	2.91
1223	15CB006	15CB007	Circular	231.13	0.11	1.75	4.93	353.40	351.76	349.56	349.30	2.28	2.94	350.37	350.49	350.03	350.14	3.03	2.91	1.73	1.62
1225	15CB007	15CB079	Circular	54.52	0.09	1.75	4.46	351.76	351.75	349.27	349.22	2.28	2.94	350.03	350.14	349.92	350.04	1.73	1.62	1.83	1.71
1227	22AA041	22AA030	Natural	195.75	0.03	3.04	110.67	360.89	361.04	357.95	357.90	4.51	5.35	359.61	359.94	359.61	359.94	1.28	0.95	1.43	1.11
1233	15CB102	15CB044	Circular	9.55	0.73	1.50	8.35	350.85	350.34	346.76	346.69	4.23	5.37	347.73	348.08	347.71	348.06	3.12	2.77	2.63	2.28
1234	15CB044	15CB046	Circular	31.56	0.35	1.50	5.76	350.34	350.09	346.69	346.58	4.23	5.36	347.71	348.06	347.62	347.98	2.63	2.28	2.47	2.11
1235	15CB104	15CB102	Circular	328.66	0.15	2.25	11.10	353.22	350.85	347.35	346.86	4.26	5.47	348.31	348.49	347.73	348.08	4.91	4.73	3.12	2.77
1239	22DB050	22DB004	Natural	380.32	0.77	2.46	203.80	362.07	358.78	359.25	356.68	6.55	8.22	359.80	359.85	357.58	357.74	2.27	2.22	1.20	1.04
1241	22DA070	22DA031	Natural	763.34	0.45	2.91	349.65	368.14	364.72	365.23	361.81	0.90	1.27	365.54	365.59	362.24	362.34	2.60	2.55	2.49	2.38
1250	22DB025	22DB013	Natural	286.77	0.29	2.53	81.96	362.72	362.96	360.72	359.90	0.89	1.26	361.19	361.26	360.10	360.14	1.53	1.46	2.86	2.82
1266	22CB006	22CB010	Natural	226.05	2.22	4.52	1335.09	355.41	351.50	351.44	346.42	1.91	2.64	351.85	351.91	349.20	349.57	3.56	3.50	2.29	1.93
1304	22DB062	22DC005	Natural	241.47	0.48	3.42	159.19	360.76	362.44	358.76	357.60	4.82	6.85	359.22	359.31	358.90	358.99	1.54	1.46	3.55	3.45
1305	22DC011	22DC003	Natural	290.02	0.15	3.64	178.24	362.35	360.71	358.11	357.67	0.00	0.00	357.78	358.01	355.55	355.61	4.57	4.33	5.16	5.10
1306	22DC001	22DC015	Natural	17.21	5.99	3.78	998.63	361.84	360.82	358.06	357.03	0.53	0.79	358.28	358.31	357.68	357.86	3.57	3.53	3.14	2.96
1307	22DC015	22DC002	Natural	296.00	0.37	3.79	621.17	360.82	359.73	357.03	355.94	5.08	7.11	357.68	357.86	357.05	357.72	3.14	2.96	2.68	2.01
1310	27AB003	22DC019	Natural	760.81	1.92	5.85	1871.42	374.55	363.84	370.64	356.05	18.14	27.63	371.22	371.34	357.52	357.80	3.33	3.21	6.32	6.04
1349	26BB027	27AA001	Natural	533.84	0.29	2.65	97.53	370.70	369.14	368.04	366.48	1.94	2.74	368.59	368.66	366.84	366.91	2.11	2.03	2.30	2.22
1351	27AA011	27AA005	Natural	30.99	7.46	6.36	2123.74	367.53	368.80	362.96	360.64	2.11	2.90	363.27	363.32	361.39	361.61	4.26	4.21	7.41	7.19
1352	27AA017	27AA012	Natural	323.37	0.76	2.73	242.97	369.06	366.61	366.33	363.88	2.11	2.91	366.87	366.92	364.37	364.47	2.20	2.14	2.24	2.14
1356	22DD025	27AA017	Natural	557.40	0.23	2.37	48.12	369.62	369.06	367.62	366.33	2.13	2.93	368.07	368.14	366.87	366.92	1.55	1.48	2.20	2.14
1367	22DD013	22DD006	Natural	418.27	0.52	2.46	140.57	369.78	367.60	367.32	365.14	2.95	4.36	367.98	368.09	365.54	366.26	1.80	1.69	2.06	1.34
1368	22DD006	22DD003	Natural	271.38	0.80	3.43	360.71	367.60	367.38	365.14	362.98	2.94	-50.35	365.54	366.26	365.54	366.26	2.06	1.34	1.84	1.12
1370	23CC012	22DD003	Natural	365.47	0.20	4.40	248.24	368.10	367.38	363.70	362.98	10.78	17.34	365.60	366.28	365.54	366.26	2.50	1.82	1.84	1.12
1374	26BB032	26BB036	Natural	373.25	0.15	2.00	51.58	370.77	370.20	368.77	368.20	2.19	3.23	369.45	369.54	368.50	368.56	1.32	1.23	1.69	1.64
1375	26BB036	27AA002	Natural	597.30	0.50	2.00	90.09	370.20	367.21	368.20	365.21	2.15	3.18	368.50	368.56	365.51	365.56	1.69	1.64	1.70	1.65
1377	23CC066	23CC012	Natural	197.19	0.20	4.09	315.73	367.87	368.10	364.10	363.70	10.79	16.47	365.65	366.30	365.60	366.28	2.22	1.57	2.50	1.82
1385	23CC055	23CC036	Natural	347.69	0.37	2.39	79.34	370.71	369.42	368.32	367.03	2.96	4.24	368.92	369.00	367.55	367.67	1.78	1.70	1.87	1.75
1386	23CC025	23CC063	Natural	543.53	0.41	3.27	75.25	368.98	368.77	366.73	364.49	6.21	8.75	367.04	367.08	366.21	366.84	1.95	1.90	2.56	1.93
1388	23CC061	23CC063	Natural	562.88	0.34	4.28	367.05	370.70	368.77	366.41	364.49	5.76	6.57	367.12	367.24	366.21	366.84	3.58	3.45	2.56	1.93
1392	22AC012	22AC018	Circular	90.70	0.17	1.50	4.53	358.40	360.15	356.80	356.60	2.16	2.83	357.71	357.84	357.67	357.79	0.69	0.56	2.48	2.36
1394	22AC009	22AC001	Circular	313.72	0.21	1.50	3.48	359.81	359.98	357.50	357.10	4.00	5.19	358.80	359.37	358.28	358.52	1.01	0.44	1.70	1.46
1395	22AC001	22AC017	Circular	198.66	0.02	1.50	2.81	359.98	360.72	357.10	356.94	3.99	5.18	358.28	358.52	357.75	357.86	1.70	1.46	2.97	2.86
1399	22AD042	22AD056	Circular	244.11	0.09	1.25	1.84	360.41	362.12	358.77	358.54	2.58	3.14	360.10	360.41	359.72	360.09	0.31	0.00	2.40	2.03
1401	22AD056	22AA001	Circular	359.49	0.09	1.75	4.46	362.12	360.12	358.33	358.00	3.56	4.35	359.72	360.09	359.62	359.96	2.40	2.03	0.50	0.17
1402	22AA001	22AA041	Circular	57.65	0.09	2.00	6.19	360.12	360.89	358.00	357.95	5.59	6.87	359.62	359.96	359.61	359.94	0.50	0.17	1.28	0.95
1405	23CD014	23CC048	Natural	412.48	0.12	2.15	54.39	373.70	373.21	371.55	371.06	0.90	1.26	371.99	372.05	371.45	371.55	1.71	1.65	1.76	1.66
1413	23CC011	23CC008	Natural	359.21	0.35	2.23	47.84	372.53	371.73	370.53	369.26	0.87	1.21	370.92	371.41	370.92	371.41	1.61	1.12	0.81	0.32
1414	23CC036	23CC025	Natural	151.81	0.20	2.32	91.74	369.42	368.98	367.03	366.73	2.95	4.22	367.55	367.67	367.04	367.08	1.87	1.75	1.95	1.90
1430	26BB008	26BB007	Natural	219.64	0.23	2.69	166.57	373.58	373.50	371.10	370.60	2.51	3.61	371.51	371.59	370.96	371.41	2.07	1.99	2.54	2.09
1437	26BB014	26BB013	Natural	68.02	0.29	2.24	133.89	372.44	372.24	370.20	370.00	2.06	2.78	370.70	370.84	370.65	370.82	1.74	1.60	1.59	1.43
1438	26BB048	26BB011	Natural	530.99	0.21	2.00	99.27	373.03	371.94	371.03	369.94	2.51	3.78	371.54	371.63	370.50	370.66	1.49	1.40	1.44	1.28
1439	26BB012	26BB049	Natural	417.53	1.41	5.56	170.24	370.55	371.79	368.55	362.68	4.49	6.42	368.81	368.85	363.75	363.95	1.74	1.71	8.04	7.83
1444	23CD033	23CD040	Natural	517.14	0.02	3.51	44.13	372.34	372.22	368.83	368.71	5.43	6.31	371.19	371.84	371.18	371.83	1.15	0.50	1.04	0.39
1448	23CA010	23CA009	Natural	171.36	1.17	2.00	142.15	373.10	371.10	371.10	369.10	2.04	3.27	371.55	371.63	369.88	370.45	1.56	1.47	1.22	0.65
1452	23CA021	23CA024	Natural	172.62	0.50	2.00	19.34	372.17	371.31	370.17	369.31	1.14	1.62	370.42	370.47	368.70	369.28	1.75	1.70	2.61	2.03
1453	23CA008	23CA025	Natural	119.54	0.62	2.28	38.13	371.56	370.26	369.00	368.26	1.87	2.98	369.79	370.23	369.78	370.23	1.78	1.33	0.47	0.03
1459	23CD042	23CC068	Natural	47.52	1.08	4.56	698.49	371.78	370.83	367.00	366.49	4.10	4.57	368.51	368.84	368.51	368.84	3.27	2.94	2.32	1.99
1460	23CC067	23CC089	Natural	135.64	1.05	4.86	827.71	371.16	369.74	366.29	364.87	4.10	4.57	366.74	366.76	363.34	363.41	4.42	4.39	6.39	6.33
1465	23CD031	23CD025	Natural	737.57	0.37	3.94	323.89	374.40	371.66	370.46	367.72	6.94	9.91	371.35	371.49	369.87	370.53	3.05	2.90	1.79	1.13
1466	23CD021	23CD031	Natural	219.48	0.57	3.32	202.47	374.42	374.40	371.71	370.46	3.61	5.21	372.44	372.53	371.35	371.49	1.98	1.89	3.05	2.90
1559	23CA026	23CA007	Natural	165.48	0.21	2.50	39.89	370.46	370.88	368.35	368.00	2.63	3.32	370.24	370.46	370.24	370.47	0.22	0.00	0.64	0.41
1579	15CB094	15CB060	Circular	46.35	0.45	1.00	2.23	351.18	351.46	347.85	347.64	1.39	1.78	348.47	348.61	348.34	348.48	2.70	2.56	3.12	2.98

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																				
Oak Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1580	15CB058	15CB094	Circular	158.44	0.25	1.00	1.64	350.85	351.18	348.31	347.92	1.39	1.78	349.00	349.14	348.47	348.61	1.85	1.71	2.70	2.56
2125	22DA038	22DA080	Circular	24.86	1.37	1.00	3.87	360.00	360.38	357.68	357.34	1.15	1.64	359.40	360.04	359.37	360.01	0.60	-0.04	1.02	0.38
2126	22DA080	22DA050	Circular	128.01	0.19	1.00	1.43	360.38	359.91	357.29	357.05	1.15	1.64	359.37	360.01	359.21	359.85	1.02	0.38	0.70	0.06
2128	22DA050	22DA077	Circular	226.24	0.08	1.00	0.93	359.91	360.70	357.05	356.87	1.15	1.65	359.21	359.85	358.95	359.60	0.70	0.06	1.76	1.11
2132	22DB041	22DB040	Circular	277.20	0.20	1.00	1.47	362.51	359.44	357.58	357.03	2.47	3.18	359.38	360.32	357.51	357.71	3.13	2.19	1.93	1.73
2139	22DA049	22DA033	Circular	43.60	0.21	1.00	1.50	359.85	362.27	357.34	357.25	1.23	1.61	358.52	358.67	358.50	358.63	1.34	1.18	3.77	3.64
2140	22DA044	22DA043	Circular	121.57	0.28	1.25	3.17	362.50	362.67	359.34	359.00	1.76	2.31	360.00	360.11	359.54	359.64	2.50	2.39	3.13	3.03
2141	22DA042	22DA041	Circular	27.75	0.11	1.25	1.97	362.46	362.56	358.79	358.76	1.63	2.21	359.52	359.62	359.49	359.57	2.94	2.84	3.07	2.99
2143	22DA054	22DA077	Circular	56.69	0.53	1.25	4.36	360.75	360.70	356.75	356.45	2.23	2.91	359.02	359.73	358.95	359.60	1.73	1.02	1.76	1.11
2144	22DA059	22DA084	Circular	32.62	0.37	1.50	5.92	361.34	361.01	355.97	355.85	5.76	7.11	358.29	358.60	358.20	358.44	3.04	2.74	2.81	2.57
2146	15CD087	15CD058	Circular	355.68	0.24	2.00	10.39	356.45	355.27	351.09	350.22	2.73	3.50	351.79	351.97	351.09	351.66	4.66	4.48	4.18	3.61
2191	23CB073	23CB029	Circular	209.32	0.06	2.00	5.03	365.37	364.57	361.12	361.00	11.63	15.62	363.33	364.58	362.72	363.45	2.04	0.79	1.85	1.11
2192	22DA118	22DA138	Circular	127.56	0.19	2.00	9.11	364.10	364.42	360.68	360.44	15.41	19.71	362.56	363.15	361.78	362.45	1.54	0.95	2.64	1.97
2193	23CB039	23CB046	Circular	259.49	0.18	3.00	26.64	367.99	367.44	363.31	362.83	4.20	5.32	364.12	364.26	363.56	363.96	3.87	3.73	3.87	3.47
2194	22DA135	22DA119	Circular	194.30	0.19	1.50	4.20	365.54	364.00	361.18	360.82	3.96	4.85	362.89	363.63	362.60	363.20	2.65	1.91	1.40	0.80
2201	23CB046	23CB051	Circular	260.59	0.13	3.00	22.70	367.44	366.44	362.64	362.29	4.16	4.96	363.56	363.96	363.32	363.90	3.87	3.47	3.12	2.55
2202	23CB051	23CB057	Circular	259.17	0.08	2.00	6.12	366.44	365.57	362.19	361.97	4.07	4.76	363.32	363.90	363.05	363.77	3.12	2.55	2.52	1.79
2203	23CB057	23CB061	Circular	131.09	0.12	2.00	7.34	365.57	364.98	361.85	361.69	3.99	4.79	363.05	363.77	362.96	363.71	2.52	1.79	2.02	1.26
2204	23CB061	23CB063	Circular	111.57	0.20	2.00	9.33	364.98	365.46	361.63	361.41	3.96	4.82	362.96	363.71	362.90	363.66	2.02	1.26	2.56	1.80
2205	23CB063	22DA135	Circular	54.76	0.40	2.00	13.31	365.46	365.54	361.40	361.18	3.96	4.84	362.90	363.66	362.89	363.63	2.56	1.80	2.65	1.91
2206	23CA022	23CB071	Circular	208.63	0.15	1.50	3.82	370.28	367.98	364.07	363.75	5.47	6.96	366.33	368.87	365.70	367.98	3.95	1.41	2.28	0.00
2207	23CB027	23CB073	Circular	147.51	0.22	2.00	9.78	365.85	365.37	361.50	361.18	10.05	13.50	363.64	365.18	363.33	364.58	2.21	0.67	2.04	0.79
2208	23CB029	22DA118	Circular	60.65	0.40	2.00	13.21	364.57	364.10	361.00	360.76	11.59	15.60	362.72	363.45	362.56	363.15	1.85	1.11	1.54	0.95
2215	22DA119	22DA118	Circular	21.29	0.28	1.50	5.18	364.00	364.10	360.82	360.76	3.97	4.86	362.60	363.20	362.56	363.15	1.40	0.80	1.54	0.95
2223	23CC079	23CC080	Circular	78.07	0.20	1.50	4.42	365.23	365.20	362.54	362.38	6.01	6.59	364.33	364.76	364.06	364.43	0.90	0.47	1.14	0.77
2228	23CC076	23CC077	Circular	78.06	0.23	2.00	10.09	365.63	365.57	363.12	362.94	6.03	6.60	365.09	365.63	365.03	365.56	0.54	0.00	0.54	0.01
2230	23CC075	23CC076	Circular	229.58	0.23	2.00	10.09	367.35	365.63	363.68	363.15	6.11	8.27	365.26	365.97	365.09	365.63	2.09	1.38	0.54	0.00
2238	23CC071	23CC075	Circular	205.70	0.31	2.00	11.72	368.57	367.35	364.37	363.73	6.34	8.27	365.56	366.24	365.26	365.97	3.01	2.32	2.09	1.38
2240	23CC077	23CC079	Circular	186.61	0.16	1.50	3.85	365.57	365.23	362.88	362.59	6.02	6.59	365.03	365.56	364.33	364.76	0.54	0.01	0.90	0.47
2241	23CC080	23CC082	Circular	149.06	0.06	1.50	2.40	365.20	365.65	362.25	362.16	6.01	6.57	364.06	364.43	363.54	363.79	1.14	0.77	2.12	1.86
2242	23CC082	22DA124	Circular	97.27	0.14	1.50	3.70	365.65	364.90	362.09	361.95	6.00	6.54	363.54	363.79	363.19	363.40	2.12	1.86	1.71	1.49
2243	22DA124	22DA125	Circular	25.92	0.15	1.50	3.83	364.90	365.21	361.85	361.81	5.99	6.50	363.19	363.40	363.09	363.29	1.71	1.49	2.12	1.92
2247	22DA125	22DD020	Circular	98.71	0.15	1.50	3.80	365.21	364.93	361.72	361.57	5.99	6.49	363.09	363.29	362.72	362.88	2.12	1.92	2.21	2.05
2249	22DD020	22DD021	Circular	19.50	0.62	1.50	7.65	364.93	363.95	361.47	361.35	5.97	6.47	362.72	362.88	362.67	362.82	2.21	2.05	1.28	1.12
2250	22DD021	22DD023	Circular	26.13	0.19	1.50	4.27	363.95	368.54	361.35	361.30	5.97	6.47	362.67	362.82	362.62	362.74	1.28	1.12	5.91	5.79
2305	09DC018	09DC015	Circular	11.39	0.70	2.50	31.92	338.21	340.00	335.35	335.27	3.01	4.00	337.77	338.19	337.77	338.19	0.45	0.02	2.23	1.81
2307	09DC014	09DC017	Circular	75.19	0.23	2.00	9.99	338.70	338.65	335.69	335.52	5.74	7.44	337.77	338.20	337.77	338.20	0.93	0.50	0.89	0.46
2322	09DC024	09DC008	Circular	102.05	0.04	2.50	7.54	340.53	340.39	337.24	337.20	5.45	7.20	338.32	338.48	338.11	338.26	2.21	2.05	2.27	2.12
2324	09DC013	09DC015	Circular	3.97	5.79	2.50	91.67	339.95	340.00	336.50	336.27	16.85	20.85	337.79	338.12	337.77	338.19	2.16	1.84	2.23	1.81
2520	22DA145	22DA083	Circular	55.76	1.27	6.00	443.76	363.41	362.39	357.10	356.39	17.75	21.92	358.47	358.60	358.51	358.65	4.94	4.80	3.88	3.74
2521	22DA066	22DA032	Circular	116.52	0.09	1.00	0.97	363.70	363.65	359.90	359.80	2.91	3.44	361.43	361.82	360.51	360.57	2.27	1.88	3.13	3.08
2523	22AC011	22DB050	Circular	120.48	0.33	1.50	4.44	361.50	362.07	359.50	359.25	3.92	5.10	360.46	360.61	359.80	359.85	1.04	0.89	2.27	2.22
2526	22DD024	22DA136	Circular	124.07	0.20	8.00	380.18	369.25	369.25	361.25	361.00	15.88	18.91	362.62	362.74	361.39	361.43	6.63	6.51	7.86	7.82
2527	23CC089	23CC090	Circular	35.13	1.14	3.00	66.09	369.74	369.56	360.40	360.00	4.10	4.57	363.34	363.41	363.33	363.40	6.39	6.33	6.23	6.16
2532	22DA136	22DA137	Rectangular	108.26	0.92	3.00	259.45	369.25	368.00	361.00	360.00	15.88	18.91	361.39	361.43	360.70	360.77	7.86	7.82	7.30	7.23
2534	22DA081	22DA148	Circular	31.83	0.28	1.25	3.19	362.50	362.50	359.54	359.45	1.77	2.33	360.16	360.26	360.00	360.11	2.35	2.24	2.50	2.39
2549	09DC017	09DC015	Circular	151.05	0.17	2.50	15.49	338.65	340.00	335.52	335.27	4.95	6.66	337.77	338.20	337.77	338.19	0.89	0.46	2.23	1.81
2552	09DC032	09DC033	Circular	42.52	0.28	1.25	3.19	344.30	342.72	340.20	340.08	0.00	0.00	340.08	340.16	340.00	340.00	4.22	4.14	2.72	2.72
2745	15BC012	15BC023	Circular	44.92	1.56	1.00	4.13	352.51	353.25	349.70	349.00	1.58	2.19	350.14	350.24	349.52	349.67	2.37	2.27	3.73	3.58
2746	15BC023	15CB082	Circular	44.69	7.79	1.00	9.23	353.25	350.77	349.00	345.52	4.44	6.04	349.52	349.67	347.07	347.40	3.73	3.58	3.71	3.37
2747	15CB082	15CB087	Circular	231.54	0.15	2.50	14.81	350.77	350.37	345.52	345.17	10.44	13.76	347.07	347.40	346.71	347.04	3.71	3.37	3.65	3.33
2749	15CB087	15CB086	Circular	256.63	0.15	2.50	14.66	350.37	349.63	345.17	344.79	10.41	13.71	346.71	347.04	346.32	346.62	3.65	3.33	3.31	3.00
2751	15CB086	16AD047	Circular	345.71	0.15	2.50	14.77	349.63	349.55	344.79	344.27	10.36	13.64	346.32	346.62	345.79	346.07	3.31	3.00	3.77	3.49
2753	16AD047	16AD053	Circular	70.17	0.16	2.50	15.08	349.55	349.31	344.27	344.16	10.30	13.53	345.79	346.07	345.70	345.98	3.77	3.49	3.62	3.33
2754	16DA027	16AD053	Circular	51.74	0.12	2.00	7.15	349.16	349.31	344.16	344.10	3.37	5.32	345.70	345.99	345.70	345.98	3.45	3.17	3.62	3.33
2755	16AD042	16AD053	Circular	16.08	0.87	1.00	3.09	350.83	349.31	344.40	344.26	3.31	4.02	345.74	346.04	345.70	345.98	5.09	4.79	3.62	3.33
2756	16DA027	16DA022	Circular	123.71	0.12	2.25	10.01	349.16	349.00	344.16	344.01	9.00	10.95	345.70	345.99	345.52	345.84	3.45	3.17	3.48	3.16
2758	16AD053	16AD048	Circular	122.51	0.10	2.50	11.92	349.31	348.63	344.10	343.98	11.89	15.42	345.70	345.98	345.42	345.69	3.62	3.33	3.21	2.94
2760	16AD048	16AD066	Circular	304.26	0.25	2.50	19.04	348.63	347.28	343.98	343.22	11.89	15.41	345.42	345.69	344.69	344.94	3.21	2.94	2.58	2.34
2761	16DA022	16DA029	Circular	270.56	0.15	2.25	11.06	349.00	347.43	344.01	343.61	8.96	10.87	345.52	345.84	345.25	345.68	3.48	3.16	2.19	1.75
2762	16DA029	16DA009	Circular	334.67	0.22	2.25	13.61	347.43	348.84	343.61	342.86	8.78	10.64	345.25	345.68	345.16	345.61	2.19	1.75	3.67	3.23
2763	16AD066	16AD067	Circular	305.04	0.22	2.50	17.72	347.28	348.14	343.22	342.56	11.88	15.40	344.69	344.94	343.81	343.97	2.58	2.34	4.33	4.18
2788	15CB013	15CB099	Circular	62.01	2.42	1.00	5.15	352.50	349.90	347.16	345.66	-0.01	-0.04	347.18	347.54	347.18	347.54	5.32	4.96	2.72	2.36
2881	15CB003	15CB112	Circular	29.62	0.43	1.00	2.16	354.52	354.00	351.83	351.70	1.17	1.71	352.46	352.63	351.96	352.04	2.06	1.89	2.04	1.96
2882	15CB015	15CB016	Circular	25.77	0.45	1.00	2.23	353.18	354.41	351.12	351.00	1.16	1.68	351.74	351.90	351.36	351.41	1.44	1.28	3.04	2.99
2959	22AA030	22AD046	Circular	83.62	0.12	1.00	1.14	361.04	361.59	357.90	357.80	3.54	4.04	359.61	359.94	358.33	358.36	1.43	1.11	3.26	3.22
2960	22DB003	22DB058	Circular	74.11	1.08	2.25	29.88	360.17	357.49	355.00	354.20	15.06	17.20	356.67	356.85	355.06	355.09	3.50	3.32	2.42	2.39
3020	22BB017	22BB016	Circular	39.75	0.98	1.00	3.27	350.00	353.84	344.54	344.15	5.55	6.62	345.77	346.30	345.74	346.41	4.23	3.70	8.10	7.43
3025	22DC002	22DC003	Circular	48.07	0.42	1.00	2.13	359.73	360.71	355.30	355.10	4.73	5.90	357.05	357.72	355.55	355.61	2.68	2.01	5.16	5.10
3026	22DC015	22DC011	Circular	48.61	2.24	2.00	31.44	360.82	362.35	357.03	355.94	-4.77	-6.80	357.68	357.86	357.78	358.01	3.14	2.96	4.57	4.33

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																				
Oak Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
3105	23CD040	23CD041	Circular	39.73	2.11	1.00	4.81	372.22	371.53	368.71	367.87	5.39	6.13	371.18	371.83	368.57	368.61	1.04	0.39	2.96	2.92
3145	23CA024	23CA023	Circular	50.66	0.10	1.00	1.04	371.31	369.77	368.12	368.07	1.14	1.62	368.70	369.28	368.42	369.18	2.61	2.03	1.35	0.59
3149	23CA025	23CA023	Circular	37.01	0.36	1.00	2.00	370.26	369.77	368.26	368.12	4.79	5.93	369.78	370.23	368.42	369.18	0.47	0.03	1.35	0.59
3153	23CD025	23CD042	Circular	38.55	0.74	1.00	2.84	371.66	371.78	367.72	367.44	4.38	4.97	369.87	370.53	368.51	368.84	1.79	1.13	3.27	2.94
3774	09DC036	09DC012	Circular	79.12	0.67	2.50	31.17	340.00	339.82	336.88	336.35	5.44	7.16	337.76	338.19	337.77	338.19	2.24	1.81	2.05	1.63
3779	15CB114	15CB113	Circular	3.69	1.36	1.75	17.13	353.23	352.89	349.07	349.02	2.27	2.92	349.74	349.87	349.75	349.87	3.48	3.36	3.14	3.02
3780	15CB113	15CB068	Circular	44.95	0.24	1.75	7.28	352.89	353.39	349.02	348.91	2.27	2.92	349.75	349.87	349.68	349.81	3.14	3.02	3.70	3.58
Link2350	26AA024	26AD025	Natural	456.43	0.25	2.89	97.31	383.76	383.28	381.21	380.05	2.12	2.90	381.98	382.20	381.94	382.18	1.78	1.56	1.34	1.10
Link2351	26AD004	26AD001	Circular	439.72	0.27	1.00	1.71	383.50	381.88	379.80	378.62	2.35	2.62	382.11	382.70	379.15	379.17	1.40	0.80	2.74	2.71
Link2352	23DC003	23DC004	Circular	29.04	0.86	1.00	3.07	378.11	379.02	376.11	375.86	0.92	1.30	376.60	376.72	375.88	375.92	1.51	1.40	3.14	3.10
Link2356	26AA018	26AA021	Natural	542.50	0.30	3.13	655.54	385.17	383.78	382.17	380.52	3.43	5.01	382.68	382.79	382.11	382.70	2.49	2.38	1.67	1.08
Link2358	26AA036	23DD076	Natural	425.24	0.46	3.84	322.43	382.69	380.94	378.94	377.00	2.62	4.03	379.41	379.51	378.29	378.94	3.28	3.18	2.65	2.01
Link2359	26AD021	26AC006	Natural	630.93	0.24	3.21	209.93	382.71	381.21	379.50	378.00	18.40	26.99	381.17	381.39	378.24	378.45	1.54	1.32	2.97	2.76
Link2360	26AD013	26AC007.1	Natural	676.74	0.92	6.19	1040.94	381.36	381.01	378.10	371.90	2.35	2.62	378.47	378.49	372.74	372.91	2.89	2.87	8.27	8.10
Link2362	27AD015	27AA004	Natural	1103.31	1.08	6.30	2848.04	376.92	368.76	372.48	360.60	8.70	13.12	372.81	372.85	361.57	361.78	4.11	4.07	7.19	6.98
Link2363	27AA002	27AA008	Natural	261.65	1.35	5.39	295.35	367.21	370.46	365.21	361.69	4.07	5.90	365.51	365.56	362.63	362.82	1.70	1.65	7.83	7.63
Link2365	27AB004	27AB003	Circular	48.66	10.08	1.50	30.97	380.09	374.55	375.54	370.64	18.18	27.70	376.47	376.85	371.22	371.34	3.62	3.24	3.33	3.21
Link2368	26AC007	26AC007.1	Natural	66.85	0.31	5.00	741.89	381.22	381.01	372.11	371.90	18.39	26.98	373.00	373.20	372.74	372.91	8.22	8.02	8.27	8.10
Link2371	27AA004	27AA005	Natural	45.41	0.22	8.23	2907.90	368.76	368.80	360.60	360.50	31.95	46.26	361.57	361.78	361.39	361.61	7.19	6.98	7.41	7.19
Link2372	27AA005	27AA003	Natural	44.00	1.19	5.00	1612.42	368.80	368.14	360.50	359.98	32.97	47.67	361.39	361.61	361.35	361.59	7.41	7.19	6.79	6.55
Link2373	27AA003	27AA006	Natural	64.55	0.80	7.33	2356.54	368.14	365.97	359.98	359.46	32.92	47.60	361.35	361.59	361.29	361.53	6.79	6.55	4.68	4.44
Link2375	22DC019	22DC017	Natural	32.16	0.35	7.82	9173.34	363.84	363.79	356.05	355.94	53.21	80.06	357.52	357.80	356.92	357.23	6.32	6.04	6.86	6.55
Link2376	22DC017	22DC018	Natural	42.05	1.09	5.00	1336.49	363.79	363.45	355.48	355.02	53.21	80.06	356.92	357.23	356.82	357.15	6.86	6.55	6.63	6.30
Link2377	22DC018	22DC014	Natural	39.51	0.31	10.63	8669.69	363.45	367.74	355.02	354.90	61.56	92.69	356.82	357.15	356.71	357.04	6.63	6.30	11.03	10.70
Link2379	26BB015	26BB014	Circular	162.47	0.12	1.00	1.16	373.02	372.44	370.40	370.20	2.07	2.80	371.57	372.15	370.70	370.84	1.45	0.87	1.74	1.60
Link2380	26BB013	26BB012	Circular	144.38	1.00	1.00	3.31	372.24	370.55	370.00	368.55	2.06	2.78	370.65	370.82	368.81	368.85	1.59	1.43	1.74	1.71
Link2381	26BB011	26BB012	Circular	59.97	2.30	1.00	5.02	371.94	370.55	369.94	368.55	2.48	3.67	370.50	370.66	368.81	368.85	1.44	1.28	1.74	1.71
Link2382	23CC008	23CC095	Circular	29.05	1.31	1.00	3.79	371.73	371.81	369.26	368.88	4.00	4.74	370.92	371.41	369.51	369.56	0.81	0.32	2.30	2.25
Link2383	23CC095	23CC025	Natural	803.32	0.27	2.59	89.39	371.81	368.98	368.88	366.73	4.00	4.74	369.51	369.56	367.04	367.08	2.30	2.25	1.95	1.90
Link2385	26BB007	23CC008	Natural	324.05	0.41	2.69	177.80	373.50	371.73	370.60	369.26	2.48	3.58	370.96	371.41	370.92	371.41	2.54	2.09	0.81	0.32
Link2386	23CC048	23CC011	Circular	36.69	1.44	1.00	3.97	373.21	372.53	371.06	370.53	0.89	1.23	371.45	371.55	370.92	371.41	1.76	1.66	1.61	1.12
Link2388	23CA006.3	23CA006.2	Natural	400.40	0.51	2.00	92.84	376.22	374.19	374.22	372.19	3.70	5.10	374.63	374.70	372.64	372.71	1.59	1.53	1.55	1.48
Link2389	23CA006.2	23CA006.1	Natural	976.36	0.30	2.00	67.55	374.19	371.25	372.19	369.25	3.57	4.93	372.64	372.71	369.63	369.69	1.55	1.48	1.63	1.56
Link2390	23CA006.1	23CA006	Natural	288.51	0.82	2.00	37.77	371.25	368.89	369.25	366.89	3.90	5.41	369.63	369.69	368.36	368.89	1.63	1.56	0.53	0.00
Link2391	23CA006	23CA005	Circular	49.21	0.58	1.00	2.52	368.89	368.62	366.89	366.60	4.39	5.32	368.36	368.89	367.06	367.10	0.53	0.00	1.57	1.52
Link2393	23CA007	23CA025	Circular	101.54	0.62	1.00	2.60	370.88	370.26	368.88	368.26	2.36	2.52	370.24	370.47	369.78	370.23	0.64	0.41	0.47	0.03
Link2397	27AA001	27AA002	Circular	22.71	5.61	1.00	7.84	369.14	367.21	366.48	365.21	1.94	2.74	366.84	366.91	365.51	365.56	2.30	2.22	1.70	1.65
Link2398	27AA012	27AA011	Circular	42.15	2.18	1.00	4.89	366.61	367.53	363.88	362.96	2.11	2.90	364.37	364.47	363.27	363.32	2.24	2.14	4.26	4.21
Link2399	23CD041	23CC061	Natural	314.70	0.46	3.97	348.81	371.53	370.70	367.87	366.41	5.39	6.13	368.57	368.61	367.12	367.24	2.96	2.92	3.58	3.45
Link2400	23CC063	23CC066	Circular	50.55	0.76	2.00	18.33	368.77	367.87	364.49	364.10	10.80	12.47	366.21	366.84	365.65	366.30	2.56	1.93	2.22	1.57
Link2401	22DA137	22DA041	Natural	336.16	0.41	5.98	605.34	368.00	362.56	360.00	358.61	15.88	18.89	360.70	360.77	359.49	359.57	7.30	7.23	3.07	2.99
Link2402	22DA041	22DA040	Natural	42.37	0.26	4.25	389.51	362.56	363.04	358.61	358.50	16.45	20.11	359.49	359.57	359.40	359.48	3.07	2.99	3.64	3.56
Link2405	22DA043	22DA042	Natural	113.22	0.19	3.67	314.43	362.67	362.46	359.00	358.79	1.69	2.26	359.54	359.64	359.52	359.62	3.13	3.03	2.94	2.84
Link2406	22DA040	22DA033	Natural	259.88	0.30	4.54	664.73	363.04	362.27	358.50	357.73	17.16	21.02	359.40	359.48	358.50	358.63	3.64	3.56	3.77	3.64
Link2407	22DA033	22DA036	Natural	30.02	0.33	4.10	259.15	362.27	360.32	357.25	357.15	17.79	21.88	358.50	358.63	358.49	358.62	3.77	3.64	1.83	1.70
Link2408	22DA036	22DA145	Natural	23.64	0.21	4.74	146.81	360.32	363.41	357.15	357.10	17.75	21.92	358.49	358.62	358.47	358.60	1.83	1.70	4.94	4.80
Link2409	23CC068	23CC067	Circular	18.00	1.08	1.00	3.43	370.83	371.16	366.49	366.29	4.10	4.57	368.51	368.84	366.74	366.76	2.32	1.99	4.42	4.39
Link2412	23CA009	23CA008	Circular	26.72	0.37	1.00	2.02	371.10	371.56	369.10	369.00	2.01	3.04	369.88	370.45	369.79	370.23	1.22	0.65	1.78	1.33
Link2413	22DC012	22DC013	Circular	58.86	0.32	1.00	1.86	361.89	361.96	359.89	359.70	0.53	0.79	360.25	360.33	359.90	359.95	1.63	1.55	2.06	2.01
Link2414	22DC013	22DC001	Circular	50.26	3.27	1.00	5.98	361.96	361.84	359.70	358.06	0.53	0.79	359.90	359.95	358.28	358.31	2.06	2.01	3.57	3.53
Link2417	22CB010	22CB012	Natural	26.86	1.52	5.07	2152.66	351.50	351.09	346.42	346.02	123.81	164.76	349.20	349.57	349.22	349.59	2.29	1.93	1.87	1.50
Link2418	22CB012	22CB009	Natural	37.62	0.36	4.00	553.87	351.09	352.30	346.02	345.88	136.12	184.02	349.22	349.59	349.21	349.57	1.87	1.50	3.09	2.73
Link2420	22BC020	22BC017	Natural	46.15	0.04	6.42	948.36	351.83	351.81	345.41	345.39	167.41	226.37	347.77	348.06	347.53	347.81	4.06	3.77	4.28	4.00
Link2421	22BC017	22BC021	Natural	63.54	0.30	4.00	602.33	351.81	350.98	345.39	345.20	167.41	226.37	347.53	347.81	346.93	347.21	4.28	4.00	4.06	3.77
Link2422	22DA082	22DB043	Natural	788.38	0.09	7.71	146.89	366.96	359.35	355.79	355.10	36.86	43.54	358.16	358.31	354.97	355.15	8.80	8.65	4.38	4.19
Link2423	22CA010.3	22CA010.2	Natural	645.80	0.16	4.19	311.31	359.00	355.32	353.50	352.45	42.65	52.21	354.97	355.16	354.00	354.14	4.03	3.84	1.32	1.19
Link2424	22CA010.2	22CA010.1	Natural	511.95	0.27	2.55	135.33	355.32	353.29	352.45	351.06	58.65	70.01	354.00	354.14	352.63	352.69	1.32	1.19	0.66	0.61
Link2425	22DB058	22CA010.2	Natural	554.89	0.32	3.08	64.24	357.49	355.32	354.20	352.45	16.61	19.25	355.06	355.09	354.00	354.14	2.42	2.39	1.32	1.19
Link2426	22DA083	22DA082	Natural	261.98	0.23	8.58	237.61	362.39	366.96	356.39	355.79	33.85	39.02	358.51	358.65	358.16	358.31	3.88	3.74	8.80	8.65
Link2427	22DB013	22DB014	Natural	688.13	0.64	4.07	454.15	362.96	360.59	359.90	355.50	0.87	1.23	360.10	360.14	356.20	356.34	2.86	2.82	4.39	4.24
Link2428	22DB014	22DB057	Circular	24.50	1.22	1.50	10.79	360.59	358.96	355.50	355.20	5.14	7.50	356.20	356.34	355.67	355.75	4.39	4.24	3.29	3.21
Link2429	22DB057	22DB043	Natural	91.57	1.56	4.67	1007.74	358.96	359.35	355.20	353.77	5.13	7.50	355.67	355.75	354.97	355.15	3.29	3.21	4.38	4.19
Link2430	22DB043	22CA010.3	Rectangular	66.77	0.40	5.50	957.43	359.35	359.00	353.77	353.50	43.02	53.00	354.97	355.15	354.97	355.16	4.38	4.19	4.03	3.84
Link2431	22AD046	22AC017	Natural	308.69	0.28	3.79	695.71	361.59	360.72	357.80	356.94	3.54	4.04	358.33	358.36	357.75	357.86	3.26	3.22	2.97	2.86
Link2432	22AC017	22AC018	Natural	182.68	0.18	3.66	530.49	360.72	360.15	356.94	356.60	6.94	8.52	357.75	357.86	357.67	357.79	2.97	2.86	2.48	2.36
Link2433	22AC018	22AC016	Natural	97.00	0.23	4.36	398.46	360.15	361.55	356.60	356.38	8.66	10.85	357.67	357.79	357.64	357.76	2.48	2.36	3.91	3.79
Link2434	22AC016	22DB003	Natural	1160.41	0.12	5.17	3113.90	361.55	360.17	356.38	355.00	8.67	10.56	357.64	357.76	356.67	356.85	3.91	3.79	3.50	3.32
Link2435	22CA004	22CA010.1	Natural	499.05	0.35	2.99	52.51	356.55	353.29	352.80	351.06	3.55	4.71	353.38	353.45	352.63	352.69	3.17	3.10	0.66	0.61
Link2436	22CA010.1	22CA010	Natural	289.92	0.60	5.01	152.33	353.29	357.12	351.06	349.33	60.63	74.12	352.63	352.69	351.63	351.94	0.66	0.61	5.48	5.18
Link2437	22CA003	22CA004	Circular	64.09	0.79	1.00	2.93	356.06	356.55	353.30	352.80	2.64	3.50	354.35	354.96	353.38	353.45	1.71	1.10	3.17	3.10

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																					
Oak Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
Link2438	22CA006	22CA005	Circular	19.74	4.14	1.00	6.73	359.74	358.42	357.10	356.28	1.40	1.91	357.54	357.65	356.60	356.64	2.20	2.08	1.82	1.78
Link2440	22BA051	22BA036	Circular	19.05	2.99	1.00	5.72	355.63	355.49	350.20	349.63	4.68	6.26	351.22	352.27	350.86	351.63	4.41	3.36	4.63	3.86
Link2441	22BA033	22BA052	Circular	25.87	1.89	2.00	28.91	356.63	356.84	348.49	348.00	7.05	7.31	350.65	351.30	350.64	351.28	5.98	5.33	6.20	5.57
Link2451	22BC021	22BC021.1	Natural	236.18	0.97	5.78	3305.01	350.98	348.68	345.20	342.90	167.41	227.21	346.93	347.21	345.69	346.21	4.06	3.77	3.00	2.47
Link2452	22CB007	22CB012	Natural	233.98	1.14	4.41	491.52	352.43	351.09	348.68	346.02	14.96	24.84	349.59	349.78	349.22	349.59	2.84	2.65	1.87	1.50
Link2453	22BC006	22CB007	Natural	627.10	0.93	3.75	1087.13	358.27	352.43	354.51	348.68	14.97	24.85	355.34	355.54	349.59	349.78	2.93	2.73	2.84	2.65
Link2456	22BC016	22BB017	Natural	1285.02	0.63	3.64	61.81	354.42	350.00	352.60	344.54	2.38	3.49	352.91	352.96	345.77	346.30	1.51	1.45	4.23	3.70
Link2457	22BB016	22BC021.1	Natural	185.68	0.67	7.74	3102.56	353.84	348.68	344.15	342.90	-37.26	-145.98	345.74	346.41	345.69	346.21	8.10	7.43	3.00	2.47
Link2458	22BC021.1	22BC021.2	Natural	1773.52	0.16	8.42	1353.70	348.68	351.06	342.90	340.00	182.72	254.87	345.69	346.21	343.75	344.33	3.00	2.47	7.31	6.74
Link2460	22BB003	22BB017	Natural	462.39	1.14	7.32	483.73	358.97	350.00	349.79	344.54	2.16	3.17	350.18	350.24	345.77	346.30	8.79	8.73	4.23	3.70
Link2462	15CC004	15CB003	Natural	220.34	0.03	4.36	34.67	357.92	354.52	351.90	351.83	0.65	0.96	352.48	352.64	352.46	352.63	5.44	5.27	2.06	1.89
Link2463	15CC047	15CB018	Natural	520.90	0.41	3.33	268.80	357.82	355.00	354.16	352.00	0.65	0.97	354.49	354.55	352.53	352.69	3.33	3.28	2.47	2.31
Link2464	15CB018	15CC004	Circular	41.28	0.24	1.50	4.80	355.00	357.92	352.00	351.90	0.64	0.94	352.53	352.69	352.48	352.64	2.47	2.31	5.44	5.27
Link2466	15CA078.1	15CA078	Natural	387.72	0.04	2.32	43.03	357.55	357.38	355.23	355.06	1.53	2.07	355.94	356.02	349.18	349.54	1.61	1.53	8.21	7.85
Link2467	15CA078	15CA087	Circular	134.59	0.25	1.00	1.66	357.38	355.05	348.37	348.03	1.54	2.08	349.18	349.54	348.89	349.05	8.21	7.85	6.16	6.01
Link2468	15CA087	15CB104	Circular	345.94	0.15	2.25	11.26	355.05	353.22	347.93	347.40	4.28	5.58	348.89	349.05	348.31	348.49	6.16	6.01	4.91	4.73
Link2472	15CB110	16DA030	Natural	295.68	0.40	6.54	1780.48	352.71	351.70	346.25	345.08	0.92	1.27	346.31	346.32	345.71	345.99	6.40	6.39	5.98	5.71
Link2473	15CB107	15CB110	Natural	514.80	0.31	5.67	803.40	352.71	352.71	347.84	346.25	0.00	0.00	347.84	347.84	346.31	346.32	4.88	4.88	6.40	6.39
Link2474	15CB013	15CB107	Natural	221.75	0.90	3.78	489.11	352.50	352.71	349.82	347.84	0.00	0.00	347.18	347.54	347.84	347.84	5.32	4.96	4.88	4.88
Link2486	16DA007	16DA006	Circular	48.03	0.21	1.00	1.51	346.99	346.91	341.60	341.50	4.45	4.42	345.16	345.61	343.49	343.96	1.82	1.38	3.42	2.95
Link2488	16DB015	16DB014	Circular	37.02	0.27	2.00	10.92	345.40	345.66	341.30	341.20	14.65	18.01	343.47	343.95	342.43	342.64	1.93	1.45	3.23	3.03
Link2490	09DC015	09DC019	Circular	52.15	0.13	2.50	13.95	340.00	339.14	335.27	335.20	21.01	25.57	337.77	338.19	336.00	336.07	2.23	1.81	3.14	3.07
Link2495	09DC022	09DC024.2	Circular	26.33	0.68	1.33	5.85	343.49	340.69	337.50	337.32	5.46	7.21	338.54	338.81	338.37	338.55	4.95	4.68	2.31	2.14
Link2496	09DC024.2	09DC024.1	Circular	44.03	0.14	1.67	4.77	340.69	340.60	337.32	337.26	5.46	7.21	338.37	338.55	338.34	338.51	2.31	2.14	2.26	2.09
Link2497	09DC024.1	09DC024	Circular	28.58	0.07	1.67	3.44	340.60	340.53	337.26	337.24	5.45	7.20	338.34	338.51	338.32	338.48	2.26	2.09	2.21	2.05
Link2498	09DC029	09DC020	Circular	100.57	1.93	1.25	8.33	342.43	341.09	339.79	337.85	0.00	0.00	339.79	339.79	338.34	338.51	2.64	2.64	2.75	2.58
Link2499	09DC020	09DC024.1	Circular	26.63	2.29	1.33	10.71	341.09	340.60	337.85	337.24	-0.02	-0.02	338.34	338.51	338.34	338.51	2.75	2.58	2.26	2.09
Link2505	16AA038	16AA037	Circular	134.10	0.55	0.67	0.84	345.04	344.39	342.42	341.69	3.88	4.24	344.38	344.80	342.47	342.58	0.66	0.24	1.92	1.81
Link2511	16AA037	16AA037.1	Natural	145.25	0.21	3.08	126.44	344.39	344.84	341.69	341.39	3.88	4.24	342.47	342.58	342.45	342.57	1.92	1.81	2.39	2.27
Link2517	22DB004	22DB003	Circular	114.33	0.67	1.50	11.83	358.78	360.17	356.68	355.00	6.48	8.09	357.58	357.74	356.67	356.85	1.20	1.04	3.50	3.32
Link2518	22DA031	22DB025	Circular	170.03	0.64	1.00	2.65	364.72	362.72	361.81	360.72	0.89	1.26	362.24	362.34	361.19	361.26	2.49	2.38	1.53	1.46
Link2519	22DA068	22DA075	Circular	61.01	0.15	2.00	8.07	362.65	364.38	360.09	360.00	1.71	2.19	361.44	361.83	361.44	361.83	1.21	0.82	2.95	2.56
Link2520	22DA075	22DA067	Circular	76.67	0.55	2.00	15.55	364.38	365.90	360.40	359.98	1.65	2.13	361.44	361.83	361.44	361.82	2.95	2.56	4.47	4.08
Link2521	23DD087	23DD029	Circular	48.70	0.29	1.00	1.77	379.62	379.89	376.14	376.00	2.68	3.14	378.29	378.94	376.22	376.23	1.33	0.68	3.67	3.66
Link2522	23DD029	23DD029.1	Natural	1437.85	0.31	3.10	485.55	379.89	373.87	376.00	371.55	3.73	4.89	376.22	376.23	371.86	371.90	3.67	3.66	2.01	1.97
Link2522.1	23DD029.1	23CD033	Natural	881.26	0.31	2.92	485.21	373.87	372.34	371.55	368.83	11.55	16.65	371.86	371.90	371.19	371.84	2.01	1.97	1.15	0.50
Link2526	23DC004	23DD029.1	Natural	785.43	0.47	2.73	375.75	379.02	373.87	375.56	371.87	4.39	6.47	375.88	375.92	371.86	371.90	3.14	3.10	2.01	1.97
Link2527	23DC024	23DC004	Natural	697.26	0.23	3.15	3778.36	380.63	379.02	377.48	375.86	3.80	5.60	377.79	377.84	375.88	375.92	2.84	2.79	3.14	3.10
Link2530	22DD003	22DD023.1	Circular	77.49	1.27	1.50	10.99	367.38	369.25	362.98	362.00	11.51	13.25	365.54	366.26	363.10	363.18	1.84	1.12	6.15	6.07
Link2531	22DD023.1	22DD023	Natural	74.34	0.10	6.93	2893.00	369.25	368.54	362.00	361.93	14.17	16.68	363.10	363.18	362.62	362.74	6.15	6.07	5.91	5.79
Link2535	22DB014.1	22DB014	Natural	904.57	0.53	3.77	450.51	362.78	360.59	360.33	355.50	1.98	2.84	360.79	360.86	356.20	356.34	1.99	1.92	4.39	4.24
Link2536	22DA105.1	22DA105	Natural	998.45	0.49	3.74	1291.03	367.18	363.85	364.20	359.34	8.40	10.45	364.87	364.93	361.58	362.30	2.31	2.24	2.27	1.54
Link2537	23CC008.1	23CC008	Natural	2644.36	0.32	2.08	932.89	379.38	371.73	377.68	369.26	5.45	9.08	377.94	377.99	370.92	371.41	1.44	1.39	0.81	0.32
Link2539	16DA030	16DA027	Natural	206.71	0.45	5.81	979.49	351.70	349.16	345.08	344.16	10.22	12.91	345.71	345.99	345.70	345.99	5.98	5.71	3.45	3.17
Link2540	16DB001	16AC010	Circular	88.26	0.09	2.50	11.61	346.49	343.84	340.25	340.17	14.61	17.97	342.21	342.47	340.90	341.04	4.29	4.02	2.94	2.80
Link2541	23CA005	22DA105.1	Natural	667.09	0.36	2.50	73.63	368.62	367.18	366.60	364.20	4.38	5.32	367.06	367.10	364.87	364.93	1.57	1.52	2.31	2.24

Hydraulic Model Results - Full Buildout Conditions																					
Oak Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1	22DB032	22DB047	Circular	116.31	0.14	1.50	3.62	359.38	358.82	354.32	354.16	2.56	3.21	355.36	355.56	355.25	355.44	4.02	3.82	3.57	3.38
2	22DB033	22DB032	Circular	28.50	0.70	1.00	2.77	359.55	359.38	354.58	354.38	2.57	3.23	355.50	355.80	355.36	355.56	4.05	3.75	4.02	3.82
3	22DB047	22DB044	Circular	178.18	0.11	1.50	3.27	358.82	360.26	354.06	353.86	2.53	3.19	355.25	355.44	355.15	355.28	3.57	3.38	5.11	4.98
4	22DB044	22DB043	Circular	82.28	0.11	1.50	3.23	360.26	359.35	353.86	353.77	2.50	3.18	355.15	355.28	355.12	355.22	5.11	4.98	4.23	4.12
9	22DB036	22DB035	Circular	31.01	0.42	1.00	2.14	359.37	359.00	355.07	354.94	2.58	3.23	356.16	356.88	355.99	356.59	3.21	2.49	3.02	2.41
10	22DB035	22DB033	Circular	84.55	0.32	1.00	1.87	359.00	359.55	354.89	354.62	2.58	3.23	355.99	356.59	355.50	355.80	3.02	2.41	4.05	3.75
13	22DB040	22DB036	Circular	115.57	1.06	1.00	3.41	359.44	359.37	356.88	355.65	2.60	3.29	357.53	357.93	356.16	356.88	1.91	1.51	3.21	2.49
114	23DD076	23DD087	Natural	616.56	0.14	3.71	267.74	380.94	379.62	377.00	376.14	7.25	12.70	379.60	379.63	379.60	379.62	1.34	1.31	0.01	0.00
131	26AC006	26AC007	Natural	415.22	1.18	6.66	466.75	381.21	381.22	376.99	372.11	35.89	48.70	378.65	378.81	373.24	373.42	2.56	2.40	7.99	7.80
182	15BC015	15BC023	Natural	305.79	0.20	1.98	82.98	353.90	353.25	351.90	351.28	3.53	4.61	352.67	352.75	349.73	350.28	1.23	1.15	3.52	2.97
192	15BC014	15BC012	Natural	236.73	0.20	2.41	63.33	352.17	352.51	350.17	349.70	3.29	3.97	350.75	350.85	350.38	350.68	1.42	1.32	2.13	1.83
259	26BB030	26BB027	Natural	416.32	0.26	2.33	104.52	371.12	370.70	369.12	368.04	1.99	2.80	369.61	369.68	368.55	368.62	1.51	1.44	2.14	2.08
302	22CA009	22CB009	Circular	925.39	0.10	5.00	77.49	357.84	352.30	346.02	345.07	49.45	60.77	350.02	350.45	349.73	350.03	7.82	7.39	2.57	2.27
303	22BD043	22CA009	Circular	417.49	0.10	5.00	76.71	357.46	357.84	346.45	346.03	49.36	60.29	350.19	350.66	350.02	350.45	7.27	6.80	7.82	7.39
306	22BD040	22BD039	Circular	109.62	0.47	1.75	10.13	356.04	356.32	347.52	347.00	4.08	5.40	350.27	350.80	350.21	350.69	5.77	5.24	6.12	5.63
307	22BD039	22BD043	Circular	63.12	0.86	2.00	19.43	356.32	357.46	347.00	346.46	4.07	5.39	350.21	350.69	350.19	350.66	6.12	5.63	7.27	6.80
308	22BD055	22BD043	Circular	348.66	0.06	4.50	44.81	355.54	357.46	346.67	346.46	45.80	55.46	350.40	350.93	350.19	350.66	5.15	4.61	7.27	6.80
309	22BD041	22BD040	Circular	202.14	0.35	1.50	5.74	359.19	356.04	348.95	348.25	2.35	3.12	350.36	351.00	350.27	350.80	8.82	8.19	5.77	5.24
310	22BD038	22BD041	Circular	119.35	0.39	1.50	6.12	359.82	359.19	349.57	349.10	2.40	3.13	350.46	351.11	350.36	351.00	9.36	8.71	8.82	8.19
311	22BD042	22BD038	Circular	249.05	0.67	1.50	7.99	358.08	359.82	351.25	349.58	2.47	3.21	351.82	351.94	350.46	351.11	6.26	6.14	9.36	8.71
312	22BD065	22BD042	Circular	124.28	0.57	1.50	7.37	357.43	358.08	352.12	351.41	2.48	3.24	352.72	352.82	351.82	351.94	4.71	4.61	6.26	6.14
316	22BB009	22BB003	Natural	403.58	1.69	5.76	297.69	358.97	358.97	356.62	349.79	5.00	6.32	357.01	357.05	350.31	350.36	1.96	1.91	8.66	8.61
317	22BD051	22BD052	Circular	123.57	0.22	1.00	1.55	356.29	356.49	352.64	352.37	1.95	1.90	356.29	356.29	356.05	356.06	0.00	0.00	0.45	0.44
319	22BD052	22BD066	Circular	111.67	0.56	1.00	2.47	356.49	356.12	352.27	351.65	1.97	1.91	356.05	356.06	355.83	355.83	0.45	0.44	0.29	0.29
320	22BD063	22BD059	Circular	158.12	0.34	1.00	1.93	355.78	355.23	351.43	350.89	3.05	3.06	355.78	355.78	354.59	354.87	0.00	0.00	0.64	0.36
321	22BD059	22BD058	Circular	99.05	0.23	1.00	1.59	355.23	356.04	350.89	350.66	3.00	2.98	354.59	354.87	353.84	354.29	0.64	0.36	2.20	1.75
322	22BD066	22BD063	Circular	21.27	0.80	1.00	2.96	356.12	355.78	351.65	351.48	1.98	1.92	355.83	355.83	355.78	355.78	0.29	0.29	0.00	0.00
324	22BD058	22BD057	Circular	223.10	0.33	1.00	1.91	356.04	355.53	350.41	349.67	4.11	4.24	353.84	354.29	350.52	351.10	2.20	1.75	5.01	4.43
327	22BD057	22BD046	Circular	131.53	0.30	4.50	100.70	355.53	355.20	347.12	346.72	40.60	49.01	350.52	351.10	350.47	351.03	5.01	4.43	4.73	4.17
343	15CB095	15CB082	Circular	125.88	0.08	2.00	5.92	350.06	350.77	345.62	345.52	5.74	7.00	347.48	347.89	347.40	347.76	2.58	2.17	3.37	3.01
344	15CB099	15CB095	Circular	66.21	0.06	2.00	5.16	349.90	350.06	345.66	345.62	5.73	7.01	347.53	347.95	347.48	347.89	2.37	1.95	2.58	2.17
345	15CB105	15CB099	Circular	296.93	0.22	1.75	6.94	351.57	349.90	346.32	345.66	4.72	5.71	347.80	348.38	347.53	347.95	3.77	3.19	2.37	1.95
346	15CB103	15CB105	Circular	150.24	0.09	2.25	8.78	350.77	351.57	346.46	346.32	4.68	5.69	347.88	348.43	347.80	348.38	2.89	2.34	3.77	3.19
348	15CB046	15CB103	Circular	18.55	0.65	1.75	11.83	350.09	350.77	346.58	346.46	4.69	5.68	347.89	348.45	347.88	348.43	2.21	1.64	2.89	2.34
352	15CB060	15CB074	Circular	246.62	0.28	1.00	1.74	351.46	350.01	347.64	346.96	1.40	1.78	348.34	348.48	347.49	347.83	3.12	2.98	2.52	2.18
353	15CB074	15CB082	Circular	117.16	0.37	1.25	3.63	350.01	350.77	346.76	346.33	1.38	1.73	347.49	347.83	347.40	347.76	2.52	2.18	3.37	3.01
384	22BD046	22BD055	Circular	135.23	0.04	4.50	35.11	355.20	355.54	346.72	346.67	44.80	54.08	350.47	351.03	350.40	350.93	4.73	4.17	5.15	4.61
387	22BD045	22BD050	Circular	230.26	1.35	1.00	3.84	356.93	356.40	351.49	348.38	4.90	5.52	355.72	356.93	350.88	351.59	1.22	0.00	5.52	4.81
388	22BD050	22BD046	Circular	207.22	0.55	1.50	7.20	356.40	355.20	347.85	346.72	4.89	5.51	350.88	351.59	350.47	351.03	5.52	4.81	4.73	4.17
393	22BC015	22BC016	Circular	11.01	3.63	1.00	6.31	355.02	354.42	353.00	352.60	6.89	8.70	353.81	354.13	353.04	353.06	1.21	0.89	1.38	1.36
396	22BD047	22BD044	Circular	364.05	0.39	1.25	3.76	357.96	358.10	351.85	350.42	1.46	1.83	354.24	355.31	354.03	354.98	3.71	2.65	4.07	3.12
397	22BD044	22BA055	Circular	190.25	0.18	1.25	2.57	358.10	356.89	350.29	349.94	2.17	2.73	354.03	354.98	353.81	354.61	4.07	3.12	3.09	2.28
398	22BA055	22BA054	Circular	301.21	0.27	1.50	5.03	356.89	355.15	349.59	348.79	5.77	5.88	353.81	354.61	352.82	353.65	3.09	2.28	2.33	1.49
402	22BA054	22BA053	Circular	363.69	0.04	1.50	1.84	355.15	356.57	348.79	348.66	7.90	8.46	352.82	353.65	350.68	351.29	2.33	1.49	5.89	5.29
404	22BD033	22BA053	Circular	27.57	1.49	1.00	4.03	356.35	356.57	349.07	348.66	1.36	1.69	350.71	351.32	350.68	351.29	5.65	5.03	5.89	5.29
405	22BD036	22BD033	Circular	140.65	0.19	1.00	1.45	357.18	356.35	349.34	349.07	1.37	1.70	350.84	351.55	350.71	351.32	6.34	5.63	5.65	5.03
407	22BD034	22BD036	Circular	302.27	0.25	1.00	1.66	355.74	357.18	350.29	349.53	0.72	0.84	350.99	351.74	350.84	351.55	4.75	4.00	6.34	5.63
408	22BD035	22BD034	Circular	20.50	1.27	1.00	3.73	355.59	355.74	350.55	350.29	0.75	0.90	350.97	351.75	350.99	351.74	4.62	3.84	4.75	4.00
409	22BC010	22BD035	Circular	58.56	0.15	1.00	1.30	355.39	355.59	350.64	350.55	0.76	0.92	351.13	351.79	350.97	351.75	4.27	3.61	4.62	3.84
410	22DA102	22DA105	Circular	264.55	0.49	2.00	14.67	366.21	363.85	360.63	359.34	1.04	1.28	361.61	362.18	361.61	362.18	4.59	4.02	2.23	1.67
411	22DA108	22DA113	Circular	76.15	1.47	2.50	46.19	364.44	364.36	358.77	357.65	8.48	9.01	361.59	362.14	361.56	362.11	2.86	2.30	2.80	2.25
412	22DA105	22DA108	Circular	92.79	0.51	2.50	27.11	363.85	364.44	359.34	358.87	8.47	9.00	361.61	362.18	361.59	362.14	2.23	1.67	2.86	2.30
417	26AD001	26AD013	Natural	235.15	0.22	3.26	511.45	381.88	381.36	378.62	378.10	2.73	2.96	379.18	379.20	378.50	378.51	2.70	2.68	2.86	2.85
433	09DC012	09DC018	Natural	322.11	0.27	3.23	77.54	339.82	338.21	336.21	335.35	-17.90	-17.88	338.25	338.25	338.21	338.21	1.57	1.57	0.00	0.00
440	22CA007	22CA006	Natural	109.53	0.58	2.46	131.58	360.02	359.74	357.74	357.10	2.68	3.34	358.04	358.04	357.55	357.61	1.98	1.97	2.19	2.13
441	22CA005	22CA004	Natural	296.65	0.63	2.14	183.00	358.42	356.55	356.28	354.41	2.66	3.31	356.69	356.73	353.53	353.54	1.73	1.70	3.02	3.01
442	22CA002	22CA003	Natural	116.52	3.02	2.75	690.99	359.58	356.06	356.82	353.30	5.19	6.45	357.17	357.20	355.03	355.61	2.41	2.37	1.02	0.45
456	22BC011	22BC010	Circular	187.09	0.31	1.00	1.84	354.88	355.39	351.22	350.64	0.76	0.95	351.67	351.91	351.13	351.79	3.21	2.97	4.27	3.61
459	22BA053	22BD057	Circular	352.45	0.01	4.50	19.45	356.57	355.53	347.16	347.12	36.73	45.27	350.68	351.29	350.52	351.10	5.89	5.29	5.01	4.43
462	22BA031	22BA051	Circular	157.69	0.21	1.00	1.51	353.21	355.63	350.53	350.20	1.04	-1.43	353.21	353.21	353.24	353.50	0.00	0.00	2.39	2.13
463	27AB007	27AB004	Natural	992.14	8.64	4.55	4025.83	465.85	380.09	461.30	375.54	61.61	77.66	461.94	461.99	380.09	380.09	3.91	3.85	0.00	0.00
466	22BA036	22BA062	Circular	205.05	0.27	1.00	1.73	355.49	354.52	349.63	349.07	2.82	2.79	353.14	353.42	352.10	352.50	2.35	2.08	2.43	2.02
467	22BA062	22BA033	Circular	238.18	0.20	1.00	1.47	354.52	356.63	348.96	348.49	2.79	2.76	352.10	352.50	350.90	351.49	2.43	2.02	5.73	5.13
470	22BA052	22BA053	Circular	305.84	0.17	4.50	74.57	356.84	356.57	347.67	347.16	28.74	36.53	350.77	351.39	350.68	351.29	6.08	5.46	5.89	5.29
472	22AB038	22AB030	Circular	332.62	0.69	2.00	17.51	359.90	358.06	356.31	354.00	1.89	2.42	356.75	356.81	355.53	355.83	3.14	3.08	2.53	2.23
474	22AB030	22AB029	Circular	331.18	0.45	2.00	14.14	358.06	356.40	354.00	352.50	1.99	2.41	355.53	355.83	355.51	355.79	2.53	2.23	0.89	0.61
475	22AB029	22AC006	Circular	36.77	1.63	2.00	26.83	356.40	356.59	352.50	351.90	2.05	2.41	355.51	355.79	355.50	355.79	0.89	0.61	1.08	0.80
476	22AC006	22AC007	Circular	53.53	1.10	2.00	22.05	356.59	356.72	351.90	351.31	2.06	2.41	355.50	355.79	355.50	355.78	1.08	0.80	1.22	0.93
477	22AC007	22AC020	Circular	101.07	0.04	2.00	4.18	356.72	357.30	351.31	351.27	5.59	5.75	355.50	355.78	355.43	355.71	1.22	0.93	1.87	1.59

Hydraulic Model Results - Full Buildout Conditions																					
Oak Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
478	22AC021	22AC020	Circular	95.00	1.90	1.00	4.56	355.08	357.30	353.08	351.27	-2.04	-2.74	355.08	355.08	355.43	355.71	0.00	0.00	1.87	1.59
479	22AC020	22BD030	Circular	110.82	1.51	1.00	4.06	357.30	356.98	351.27	349.60	4.08	3.96	355.43	355.71	354.21	354.89	1.87	1.59	2.77	2.09
480	22BD030	22BA055	Circular	37.16	0.03	1.00	0.54	356.98	356.89	349.60	349.59	4.09	3.96	354.21	354.89	353.81	354.61	2.77	2.09	3.09	2.28
484	22BA048	22BA049	Circular	471.71	0.01	2.50	3.51	352.99	354.82	348.58	348.54	2.80	3.82	350.98	351.61	350.97	351.58	2.01	1.38	3.85	3.24
489	22BA023	22BA046	Circular	283.96	0.53	2.00	15.32	355.74	354.35	352.18	350.67	3.10	4.07	352.79	352.88	351.42	351.63	2.94	2.85	2.94	2.73
490	22BA046	22BA047	Circular	54.45	1.62	2.00	26.71	354.35	354.16	350.67	349.79	5.98	7.89	351.42	351.63	351.04	351.66	2.94	2.73	3.11	2.50
493	22BA047	22BA049	Circular	276.11	0.45	2.50	25.42	354.16	354.82	349.77	348.54	5.82	7.69	351.04	351.66	350.97	351.58	3.11	2.50	3.85	3.24
532	22AB026	22AB028	Circular	29.21	0.27	1.00	1.73	355.54	355.08	351.58	351.50	1.78	2.25	352.75	353.19	352.68	353.05	2.79	2.35	2.41	2.03
534	22BA004	22BA005	Circular	36.03	0.14	2.00	7.83	355.21	354.87	350.50	350.45	3.61	4.61	351.45	351.74	351.40	351.71	3.76	3.47	3.47	3.16
535	22BA005	22BA061	Circular	382.34	0.14	2.00	7.89	354.87	356.70	350.45	349.91	3.62	4.49	351.40	351.71	350.82	351.46	3.47	3.16	5.88	5.24
540	22BA061	22BA060	Circular	108.09	0.17	2.50	15.54	356.70	356.83	349.36	349.18	5.00	6.23	350.82	351.46	350.79	351.45	5.88	5.24	6.03	5.38
541	22BA060	22BA050	Circular	162.64	0.54	2.50	28.02	356.83	354.34	349.18	348.30	6.81	8.55	350.79	351.45	350.77	351.40	6.03	5.38	3.57	2.95
542	22BA050	22BA052	Circular	86.93	0.49	4.50	128.43	354.34	356.84	348.30	347.87	26.47	34.54	350.77	351.40	350.77	351.39	3.57	2.95	6.08	5.46
543	22BA049	22BA050	Circular	426.65	0.04	4.00	25.83	354.82	354.34	348.46	348.30	20.26	26.55	350.97	351.58	350.77	351.40	3.85	3.24	3.57	2.95
548	15CD071	15CD064	Circular	355.59	0.27	1.50	5.07	354.47	354.02	350.39	349.43	1.64	2.11	351.21	351.80	351.07	351.69	3.26	2.67	2.96	2.33
574	26AD025	26AD021	Natural	565.76	0.10	3.21	136.66	383.28	382.71	380.07	379.50	37.47	49.94	382.33	382.45	381.59	381.72	0.95	0.83	1.12	0.99
576	26AA021	26AD004	Natural	511.02	0.14	3.48	407.68	383.78	383.50	380.52	379.80	-2.89	-4.75	382.96	383.51	382.96	383.50	0.82	0.27	0.55	0.00
584	26AA031	26AA036	Natural	346.37	0.51	4.00	455.36	384.95	382.69	380.70	378.94	7.80	10.00	381.39	381.48	379.71	379.82	3.56	3.47	2.98	2.87
586	26AA010	26AA031	Natural	141.63	0.21	3.12	93.93	383.00	384.95	381.00	380.70	7.83	10.02	381.84	381.94	381.39	381.48	1.16	1.06	3.56	3.47
592	26AA009	26AA010	Natural	114.13	0.16	2.00	58.93	383.18	383.00	381.18	381.00	7.84	10.04	382.03	382.12	381.84	381.94	1.16	1.07	1.16	1.06
670	23DC036	23DC003	Natural	275.33	0.03	1.68	25.85	377.57	378.11	376.20	376.11	1.29	1.75	376.61	376.72	376.60	376.72	0.96	0.85	1.51	1.39
672	23DC031	23DC036	Natural	141.59	0.07	1.52	31.90	377.97	377.57	376.30	376.20	1.90	2.67	376.71	376.77	376.61	376.72	1.26	1.20	0.96	0.85
738	22DA084	22DA082	Circular	36.00	0.11	1.50	3.25	361.01	366.96	355.83	355.79	5.13	5.46	358.20	358.30	358.13	358.21	2.81	2.71	8.83	8.74
740	22DA077	22DA059	Circular	194.06	0.25	1.50	4.85	360.70	361.34	356.45	355.97	5.14	5.46	358.79	358.97	358.28	358.39	1.92	1.73	3.06	2.94
741	22DA056	22DA054	Circular	169.95	0.33	1.25	3.44	361.56	360.75	357.31	356.75	2.23	2.91	359.10	359.50	358.86	359.10	2.47	2.06	1.89	1.65
743	22DA063	22DA040	Circular	102.16	0.16	1.00	1.31	360.58	363.04	358.75	358.59	1.64	2.10	359.60	359.80	359.38	359.44	0.98	0.78	3.66	3.61
744	22DA062	22DA081	Circular	89.01	0.39	1.33	4.46	361.72	362.50	359.92	359.57	1.77	2.33	360.50	360.61	360.16	360.26	1.21	1.11	2.35	2.24
748	22DA047	22DA049.1	Circular	78.01	0.36	1.00	1.98	361.53	361.10	358.08	357.80	1.28	1.63	358.84	359.25	358.73	359.07	2.69	2.28	2.37	2.03
749	22DA049.1	22DA049	Circular	195.18	0.11	1.00	1.09	361.10	359.85	357.80	357.59	1.26	1.63	358.73	359.07	358.49	358.62	2.37	2.03	1.36	1.23
750	22DA079	22DA083	Circular	159.13	0.19	2.00	9.27	359.69	362.39	356.70	356.39	16.42	17.55	359.39	359.65	358.47	358.56	0.30	0.05	3.92	3.83
752	22DA113	22DA079	Circular	358.17	0.21	2.00	9.68	364.36	359.69	357.50	356.74	16.42	17.55	361.56	362.11	359.39	359.65	2.80	2.25	0.30	0.05
754	22DA138	22DA113	Circular	84.47	3.30	2.00	38.18	364.42	364.36	360.44	357.65	15.71	19.64	361.81	362.29	361.56	362.11	2.62	2.13	2.80	2.25
756	23CB075	23CB027	Circular	161.78	0.14	2.00	7.92	366.87	365.85	361.73	361.50	9.74	12.41	364.07	365.77	363.75	365.22	2.80	1.10	2.10	0.63
758	23CB074	23CB075	Circular	39.83	0.45	2.00	14.12	366.83	366.87	361.91	361.73	8.86	10.93	364.13	365.88	364.07	365.77	2.70	0.95	2.80	1.10
760	23CB072	23CB074	Circular	488.68	0.26	1.50	4.99	367.97	366.83	363.36	362.08	5.43	6.34	365.50	367.62	364.13	365.88	2.47	0.35	2.70	0.95
762	09DC033	09DC029	Natural	259.28	0.11	2.64	56.18	342.72	342.43	340.08	339.79	0.00	0.01	340.00	340.17	339.79	339.81	2.72	2.55	2.64	2.61
791	23CB071	23CB072	Circular	102.04	0.08	1.50	2.73	367.98	367.97	363.75	363.67	5.23	6.31	365.78	367.98	365.50	367.62	2.20	0.00	2.47	0.35
800	16DB014	16DB001	Natural	289.65	0.33	5.35	497.47	345.66	346.49	341.20	340.25	5.23	5.19	344.29	344.28	344.29	344.28	1.38	1.39	2.21	2.22
801	16DA006	16DB015	Natural	541.72	0.04	4.51	148.03	346.91	344.92	341.50	341.30	53.37	62.98	344.94	344.93	344.92	344.92	1.97	1.98	0.00	0.00
802	16DA009	16DA007	Natural	281.60	0.45	5.68	154.65	348.84	346.99	342.86	341.60	5.93	6.62	345.78	346.05	345.78	346.05	3.06	2.78	1.21	0.93
803	16AD054	16AC008	Natural	317.16	0.03	4.40	107.42	347.01	346.49	342.40	342.30	16.30	20.28	343.86	343.99	343.43	343.54	3.16	3.03	3.06	2.95
845	22AC024	22AC023	Circular	389.72	0.30	1.50	5.34	356.31	356.20	354.00	352.83	3.76	4.25	356.20	356.31	355.63	355.88	0.11	0.00	0.57	0.32
849	22AC023	22AC007	Circular	202.85	0.75	1.75	12.74	356.20	356.72	352.83	351.31	3.75	4.19	355.63	355.88	355.50	355.78	0.57	0.32	1.22	0.93
851	16DA034	16DA013	Natural	555.73	0.37	5.88	410.89	353.28	352.41	348.00	345.92	9.52	12.25	348.76	348.85	346.65	346.75	4.52	4.43	5.76	5.66
868	15CD064	15CD065	Circular	251.63	0.09	2.50	11.26	354.02	354.45	349.26	349.04	2.97	4.01	351.07	351.69	351.06	351.68	2.96	2.33	3.39	2.77
869	15CD065	15CD066	Circular	233.12	0.17	2.50	15.78	354.45	356.45	348.94	348.54	4.10	5.59	351.06	351.68	351.04	351.65	3.39	2.77	5.41	4.80
904	15CD066	22BA049	Circular	509.75	0.02	4.00	16.71	356.45	354.82	348.54	348.46	11.33	14.67	351.04	351.65	350.97	351.58	5.41	4.80	3.85	3.24
905	15CC045	15CD062	Circular	452.16	0.01	3.00	5.83	354.62	354.33	349.81	349.77	0.83	1.11	351.13	351.72	351.12	351.72	3.50	2.90	3.21	2.61
906	15CD062	15CD063	Circular	256.10	0.02	3.00	9.48	354.33	355.55	349.42	349.36	1.17	1.64	351.12	351.72	351.11	351.72	3.21	2.61	4.44	3.84
910	15CD058	15CD063	Circular	182.08	0.14	3.00	23.40	355.27	355.55	349.89	349.63	4.73	6.05	351.15	351.74	351.11	351.72	4.12	3.54	4.44	3.84
913	15CD063	15CD059	Circular	252.53	0.11	3.50	31.66	355.55	354.66	349.36	349.07	6.01	7.86	351.11	351.72	351.08	351.69	4.44	3.84	3.57	2.97
917	15CD059	15CD066	Circular	403.11	0.13	3.50	33.88	354.66	356.45	349.07	348.54	7.10	9.37	351.08	351.69	351.04	351.65	3.57	2.97	5.41	4.80
919	22DA067	22DA066	Natural	293.76	0.03	4.86	44.22	365.90	363.70	359.98	359.90	1.25	1.42	361.64	361.99	361.64	361.99	4.26	3.91	2.06	1.70
920	22DA032	22DB050	Natural	363.19	0.06	3.16	52.70	363.65	362.07	359.80	359.60	2.63	3.04	360.50	360.54	360.08	360.09	3.15	3.11	2.00	1.98
927	22DC005	22DC011	Natural	47.96	0.20	4.24	439.12	362.44	362.35	358.20	358.11	12.11	15.08	359.17	359.26	358.66	358.86	3.27	3.18	3.69	3.48
969	22DA148	22DA044	Natural	30.93	0.36	3.11	446.90	362.50	362.50	359.45	359.34	1.76	2.32	360.00	360.11	360.00	360.11	2.50	2.39	2.50	2.39
971	23CC090	22DD023.1	Natural	1253.64	0.02	7.25	384.85	369.56	369.25	362.31	362.00	4.77	5.53	363.35	363.42	363.02	363.09	6.21	6.14	6.23	6.16
972	22DD023	22DD024	Natural	15.65	0.32	7.62	638.92	368.54	369.25	361.30	361.25	14.72	17.07	362.23	362.29	362.20	362.26	6.31	6.25	7.05	6.99
986	09DC008	09DC036	Circular	134.59	0.24	2.50	18.57	340.39	340.00	337.20	336.88	7.70	9.69	338.43	338.52	338.25	338.26	1.96	1.86	1.75	1.74
1004	09DC032	09DC022	Natural	360.03	0.55	5.41	622.15	344.30	343.49	339.47	337.50	7.84	10.10	340.18	340.27	338.96	339.30	4.12	4.03	4.53	4.19
1048	23CA023	23CA022	Circular	8.81	45.40	1.00	22.29	369.77	370.28	368.07	364.07	5.19	6.23	368.42	369.10	366.37	368.80	1.35	0.67	3.91	1.48
1109	16AD067	16AD005	Natural	152.53	0.04	4.65	79.33	348.14	346.22	342.56	342.50	15.68	19.46	343.98	344.12	343.97	344.11	4.16	4.03	2.25	2.12
1114	16AC008	16AC010	Natural	577.11	0.37	3.93	286.77	346.49	343.84	342.30	340.17	16.28	20.26	343.43	343.54	340.84	340.89	3.06	2.95	3.00	2.94
1115	16AD005	16AD054	Natural	213.56	0.05	4.17	100.31	346.22	347.01	342.50	342.40	15.56	19.38	343.97	344.11	343.86	343.99	2.25	2.12	3.16	3.03
1121	22BB027	15CC015	Natural	655.27	0.46	3.50	353.52	360.97	358.24	357.63	354.58	1.25	1.65	357.89	357.92	355.09	355.15	3.08	3.05	3.15	3.09
1123	15CC015	15CC047	Natural	444.55	0.09	3.66	93.18	358.24	357.82	354.58	354.16	1.22	1.61	355.09	355.15	354.57	354.62	3.15	3.09	3.25	3.20
1134	22AB049	22BA004	Circular	227.52	0.10	1.50	3.03	355.66	355.21	351.28	351.06	3.61	4.63	352.40	352.59	351.45	351.74	3.26	3.07	3.76	3.47
1136	22AB028	22AB049	Circular	100.91	0.12	1.00	1.14	355.08	355.66	351.40	351.28	1.78	2.25	352.68	353.05	352.40	352.59	2.41	2.03	3.26	3.07
1139	22AB031	22AB026	Circular	125.19	1.00	0.67	1.12	357.91	355.54	352.93	351.68	1.78	2.25	355.81	357.91	352.75	353.19	2.10	0.00	2.79	2.35
1156	16DA013	16DA030	Natural	161.49	0.44	6.49	1669.71	352.41	351.70	345.92	345.21	11.17	13.93	346.65	346.75	346.04	346.40	5.76	5.66	5.65	5.30

Hydraulic Model Results - Full Buildout Conditions																					
Oak Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1159	15CB084	16DA034	Natural	267.54	0.04	5.27	320.51	353.36	353.28	348.10	348.00	9.83	12.57	349.14	349.26	348.76	348.85	4.22	4.10	4.52	4.43
1160	15CB100	15CB083	Natural	538.40	0.09	5.04	237.86	354.20	352.78	348.71	348.20	5.73	7.19	349.69	349.81	349.38	349.52	4.51	4.39	3.40	3.26
1161	15CB016	15CB101	Natural	173.26	0.58	3.51	380.33	354.41	353.62	351.00	350.00	2.16	2.64	351.45	351.48	350.25	350.27	2.96	2.92	3.37	3.35
1168	15CB112	15CB015	Natural	117.79	0.49	2.18	213.11	354.00	353.18	351.70	351.12	2.18	2.68	352.13	352.27	352.05	352.24	1.87	1.73	1.13	0.94
1198	15CB093	15CB040	Circular	142.83	0.15	1.00	1.27	350.52	352.42	348.54	348.33	1.09	1.42	349.50	349.76	349.36	349.53	1.02	0.75	3.05	2.88
1200	15CB040	15CB048	Circular	168.62	0.08	1.25	1.67	352.42	352.01	348.33	348.20	1.07	1.40	349.36	349.53	349.32	349.46	3.05	2.88	2.69	2.56
1201	15CB048	15CB047	Circular	27.50	0.15	3.00	23.62	352.01	352.17	348.19	348.15	9.89	12.64	349.32	349.46	349.22	349.34	2.69	2.56	2.95	2.82
1202	15CB083	15CB048	Circular	20.05	0.05	3.00	13.83	352.78	352.01	348.20	348.19	9.08	11.56	349.38	349.52	349.32	349.46	3.40	3.26	2.69	2.56
1203	15CB047	15CB084	Circular	19.00	0.26	3.00	31.77	352.17	353.36	348.15	348.10	9.89	12.63	349.22	349.34	349.14	349.26	2.95	2.82	4.22	4.10
1206	15CB049	15CB050	Circular	202.62	0.22	0.83	0.95	352.48	352.21	349.67	349.23	1.84	2.23	351.66	352.48	350.04	350.14	0.82	0.00	2.18	2.07
1208	15CB050	15CB051	Circular	90.57	0.03	1.25	1.09	352.21	351.89	349.23	349.20	1.84	2.23	350.04	350.14	349.81	349.92	2.18	2.07	2.08	1.97
1210	15CB079	15CB078	Circular	20.00	0.45	1.50	6.54	351.75	351.77	349.22	349.13	2.27	2.93	349.96	350.08	349.93	350.05	1.80	1.67	1.84	1.72
1212	15CB051	15CB097	Circular	18.73	0.27	1.50	5.04	351.89	353.00	349.10	349.05	1.84	2.22	349.81	349.92	349.78	349.90	2.08	1.97	3.22	3.11
1215	15CB097	15CB085	Circular	97.57	0.14	1.75	5.57	353.00	354.21	349.05	348.91	1.83	2.21	349.78	349.90	349.69	349.81	3.22	3.11	4.52	4.40
1216	15CB085	15CB100	Circular	16.50	0.67	3.50	76.28	354.21	354.20	348.82	348.71	5.80	7.24	349.69	349.81	349.69	349.81	4.52	4.40	4.51	4.39
1217	15CB101	15CB068	Circular	8.06	9.68	2.00	65.35	353.62	353.39	350.00	349.22	2.16	2.64	350.25	350.27	349.80	349.91	3.37	3.35	3.59	3.48
1218	15CB068	15CB085	Circular	84.04	0.11	3.00	20.27	353.39	354.21	348.91	348.82	4.06	5.05	349.80	349.91	349.69	349.81	3.59	3.48	4.52	4.40
1219	15CB078	15CB114	Circular	66.95	0.09	1.75	4.40	351.77	353.23	349.13	349.07	2.27	2.92	349.93	350.05	349.83	349.95	1.84	1.72	3.40	3.28
1221	15CB005	15CB006	Circular	173.10	0.11	1.75	4.87	354.16	353.40	349.85	349.66	2.28	2.95	350.65	350.77	350.37	350.50	3.51	3.39	3.03	2.91
1223	15CB006	15CB007	Circular	231.13	0.11	1.75	4.93	353.40	351.76	349.56	349.30	2.28	2.94	350.37	350.50	350.05	350.17	3.03	2.91	1.71	1.59
1225	15CB007	15CB079	Circular	54.52	0.09	1.75	4.46	351.76	351.75	349.27	349.22	2.27	2.93	350.05	350.17	349.96	350.08	1.71	1.59	1.80	1.67
1227	22AA041	22AA030	Natural	195.75	0.03	3.04	110.67	360.89	361.04	357.95	357.90	4.11	4.55	359.55	359.74	359.54	359.74	1.34	1.15	1.50	1.30
1233	15CB102	15CB044	Circular	9.55	0.73	1.50	8.35	350.85	350.34	346.76	346.69	4.69	5.69	347.96	348.60	347.95	348.56	2.89	2.25	2.39	1.78
1234	15CB044	15CB046	Circular	31.56	0.35	1.50	5.76	350.34	350.09	346.69	346.58	4.69	5.69	347.95	348.56	347.89	348.45	2.39	1.78	2.21	1.64
1235	15CB104	15CB102	Circular	328.66	0.15	2.25	11.10	353.22	350.85	347.35	346.86	4.77	5.80	348.40	348.79	347.96	348.60	4.82	4.43	2.89	2.25
1239	22DB050	22DB004	Natural	380.32	0.77	2.28	217.24	362.07	358.78	359.60	356.68	4.94	5.36	360.08	360.09	358.50	358.78	2.00	1.98	0.28	0.00
1241	22DA070	22DA031	Natural	763.34	0.45	2.91	349.65	368.14	364.72	365.23	361.81	1.69	2.15	365.63	365.68	362.46	362.59	2.50	2.46	2.27	2.13
1250	22DB025	22DB013	Natural	286.77	0.29	2.53	81.96	362.72	362.96	360.72	359.90	1.67	2.10	361.32	361.38	360.18	360.21	1.40	1.34	2.78	2.75
1266	22CB006	22CB010	Natural	226.05	2.22	4.52	1335.09	355.41	351.50	351.44	346.42	3.48	4.35	351.96	352.01	349.73	350.03	3.45	3.40	1.77	1.47
1304	22DB062	22DC005	Natural	241.47	0.48	3.42	159.19	360.76	362.44	358.76	357.60	12.20	15.18	359.48	359.56	359.17	359.26	1.28	1.20	3.27	3.18
1305	22DC011	22DC003	Natural	290.02	0.15	3.64	178.24	362.35	360.71	358.11	357.67	1.43	3.75	358.66	358.86	355.69	355.77	3.69	3.48	5.02	4.94
1306	22DC001	22DC015	Natural	17.21	5.99	3.78	998.63	361.84	360.82	358.06	357.03	-3.33	-9.47	358.68	359.02	358.52	358.76	3.16	2.83	2.29	2.06
1307	22DC015	22DC002	Natural	296.00	0.37	3.79	621.17	360.82	359.73	357.03	355.94	10.49	11.19	358.52	358.76	358.51	358.75	2.29	2.06	1.21	0.97
1310	27AB003	22DC019	Natural	760.81	1.92	5.85	1871.42	374.55	363.84	370.64	356.05	12.06	12.06	371.12	371.12	357.83	357.99	3.43	3.43	6.01	5.84
1349	26BB027	27AA001	Natural	533.84	0.29	2.65	97.53	370.70	369.14	368.04	366.48	1.98	2.75	368.55	368.62	366.98	367.12	2.14	2.08	2.16	2.01
1351	27AA011	27AA005	Natural	30.99	7.46	6.36	2123.74	367.53	368.80	362.96	360.64	2.14	2.91	363.27	363.32	361.80	362.00	4.26	4.21	7.00	6.80
1352	27AA017	27AA012	Natural	323.37	0.76	2.73	242.97	369.06	366.61	366.33	363.88	2.14	2.95	366.86	366.92	364.56	364.77	2.21	2.14	2.05	1.84
1356	22DD025	27AA017	Natural	557.40	0.23	2.37	48.12	369.62	369.06	367.62	366.33	2.17	2.98	368.08	368.14	366.86	366.92	1.55	1.48	2.21	2.14
1367	22DD013	22DD006	Natural	418.27	0.52	2.46	140.57	369.78	367.60	367.32	365.14	2.95	4.37	367.98	368.09	365.49	365.57	1.80	1.69	2.12	2.04
1368	22DD006	22DD003	Natural	271.38	0.80	3.43	360.71	367.60	367.38	365.14	362.98	2.95	4.36	365.49	365.57	364.26	364.50	2.12	2.04	3.12	2.88
1370	23CC012	22DD003	Natural	365.47	0.20	4.40	248.24	368.10	367.38	363.70	362.98	6.58	6.59	364.77	364.79	364.26	364.50	3.33	3.31	3.12	2.88
1374	26BB032	26BB036	Natural	373.25	0.15	2.00	51.58	370.77	370.20	368.77	368.20	3.96	5.25	369.60	369.68	368.61	368.66	1.17	1.09	1.59	1.54
1375	26BB036	27AA002	Natural	597.30	0.50	2.00	90.09	370.20	367.21	368.20	365.21	3.92	5.21	368.61	368.66	365.56	365.60	1.59	1.54	1.65	1.60
1377	23CC066	23CC012	Natural	197.19	0.20	4.09	315.73	367.87	368.10	364.10	363.70	6.58	6.58	365.00	365.00	364.77	364.79	2.88	2.87	3.33	3.31
1385	23CC055	23CC036	Natural	347.69	0.37	2.39	79.34	370.71	369.42	368.32	367.03	4.44	5.91	369.02	369.10	368.77	368.78	1.69	1.61	0.65	0.65
1386	23CC025	23CC063	Natural	543.53	0.41	3.27	75.25	368.98	368.77	366.73	364.49	9.94	11.32	368.77	368.77	368.77	368.77	0.21	0.21	0.00	0.00
1388	23CC061	23CC063	Natural	562.88	0.34	4.28	367.05	370.70	368.77	366.41	364.49	6.78	7.37	368.78	368.78	368.77	368.77	1.92	1.92	0.00	0.00
1392	22AC012	22AC018	Circular	90.70	0.17	0.67	0.46	358.13	360.15	357.34	357.19	0.80	0.80	358.13	358.13	357.55	357.62	0.00	0.00	2.59	2.53
1394	22AC009	22AC001	Circular	313.72	0.21	1.00	1.53	359.81	359.98	358.54	357.87	1.78	1.74	359.81	359.81	359.00	359.00	0.00	0.00	0.98	0.98
1395	22AC001	22AC017	Circular	198.66	0.02	1.00	0.47	359.98	360.72	357.82	357.78	1.70	1.70	359.00	359.00	357.65	357.70	0.98	0.98	3.07	3.02
1399	22AD042	22AD056	Circular	244.11	0.09	1.25	1.84	360.41	362.12	358.77	358.54	2.26	2.33	360.41	360.41	360.21	360.31	0.00	0.00	1.91	1.81
1401	22AD056	22AA001	Circular	359.49	0.09	1.25	1.82	362.12	360.12	358.33	358.00	3.19	3.23	360.21	360.31	359.56	359.76	1.91	1.81	0.56	0.37
1402	22AA001	22AA041	Circular	57.65	0.09	2.00	6.19	360.12	360.89	358.00	357.95	5.04	5.60	359.56	359.76	359.55	359.74	0.56	0.37	1.34	1.15
1405	23CD014	23CC048	Natural	412.48	0.12	2.15	54.39	373.70	373.21	371.55	371.06	0.96	1.32	372.00	372.06	371.74	371.74	1.70	1.64	1.48	1.47
1413	23CC011	23CC008	Natural	359.21	0.35	2.23	47.84	372.53	371.73	370.53	369.26	0.91	1.14	371.73	371.74	371.73	371.73	0.80	0.80	0.00	0.00
1414	23CC036	23CC025	Natural	151.81	0.20	2.32	91.74	369.42	368.98	367.03	366.73	4.43	5.79	368.77	368.78	368.77	368.77	0.65	0.65	0.21	0.21
1430	26BB008	26BB007	Natural	219.64	0.23	2.69	166.57	373.58	373.50	371.10	370.60	2.81	3.96	371.74	371.75	371.73	371.74	1.84	1.83	1.77	1.77
1437	26BB014	26BB013	Natural	68.02	0.29	2.24	133.89	372.44	372.24	370.20	370.00	2.74	2.98	371.34	371.74	371.34	371.74	1.10	0.71	0.90	0.51
1438	26BB048	26BB011	Natural	530.99	0.21	2.00	99.27	373.03	371.94	371.03	369.94	6.72	8.29	371.81	371.91	371.58	371.85	1.23	1.13	0.36	0.09
1439	26BB012	26BB049	Natural	417.53	1.41	5.56	170.24	370.55	371.79	368.55	362.68	5.94	6.36	368.84	368.85	364.13	364.33	1.71	1.71	7.65	7.46
1444	23CD033	23CD040	Natural	517.14	0.02	3.51	44.13	372.34	372.22	368.83	368.71	8.54	11.61	371.88	371.90	371.87	371.87	0.46	0.44	0.35	0.35
1448	23CA010	23CA009	Natural	171.36	1.17	2.00	142.15	373.10	371.10	371.10	369.10	2.08	3.32	371.55	371.63	370.34	370.52	1.55	1.47	0.76	0.58
1452	23CA021	23CA024	Natural	172.62	0.50	2.00	19.34	372.17	371.31	370.17	369.31	1.76	2.32	370.48	370.52	368.81	369.32	1.69	1.65	2.49	1.98
1453	23CA008	23CA025	Natural	119.54	0.62	2.28	38.13	371.56	370.26	369.00	368.26	1.98	3.41	370.26	370.27	370.26	370.26	1.30	1.30	0.00	0.00
1459	23CD042	23CC068	Natural	47.52	1.08	4.56	698.49	371.78	370.83	367.00	366.49	4.80	5.53	367.52	367.57	367.32	367.44	4.26	4.20	3.50	3.39
1460	23CC067	23CC089	Natural	135.64	1.05	4.86	827.71	371.16	369.74	366.29	364.87	4.80	5.53	366.78	366.81	363.36	363.44	4.38	4.35	6.37	6.30
1465	23CD031	23CD025	Natural	737.57	0.37	3.94	323.89	374.40	371.66	370.46	367.72	8.20	11.35	371.42	371.56	370.14	370.72	2.98	2.84	1.52	0.94
1466	23CD021	23CD031	Natural	219.48	0.57	3.32	202.47	374.42	374.40	371.71	370.46	4.03	5.70	372.46	372.56	371.42	371.56	1.96	1.86	2.98	2.84
1559	23CA026	23CA007	Natural	165.48	0.21	2.50	39.89	370.46	370.88	368.35	368.00	2.57	3.28	370.46	370.46	370.47	370.47	0.00	0.00	0.41	0.41
1579	15CB094	15CB060	Circular	46.35	0.45	1.00	2.23	351.18	351.46	347.85	347.64	1.40	1.79	348.48	348.61	348.34	348.48	2.70	2.56	3.12	2.98

Hydraulic Model Results - Full Buildout Conditions																					
Oak Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1580	15CB058	15CB094	Circular	158.44	0.25	1.00	1.64	350.85	351.18	348.31	347.92	1.40	1.79	349.01	349.15	348.48	348.61	1.85	1.71	2.70	2.56
2125	22DA038	22DA080	Circular	24.86	1.37	1.00	3.87	358.85	360.38	357.68	357.34	0.96	0.91	358.85	358.85	358.85	358.86	0.00	0.00	1.53	1.52
2126	22DA080	22DA050	Circular	128.01	0.19	1.00	1.43	360.38	359.91	357.29	357.05	0.95	0.89	358.85	358.86	358.83	358.90	1.53	1.52	1.08	1.01
2128	22DA050	22DA077	Circular	226.24	0.08	1.00	0.93	359.91	360.70	357.05	356.87	0.94	0.88	358.83	358.90	358.79	358.97	1.08	1.01	1.92	1.73
2132	22DB041	22DB040	Circular	277.20	0.20	1.00	1.47	362.51	359.44	357.58	357.03	2.60	3.32	359.54	360.58	357.53	357.93	2.97	1.93	1.91	1.51
2139	22DA049	22DA033	Circular	43.60	0.21	1.00	1.50	359.85	362.27	357.34	357.25	1.25	1.62	358.49	358.62	358.47	358.55	1.36	1.23	3.80	3.72
2140	22DA044	22DA043	Circular	121.57	0.28	1.25	3.17	362.50	362.67	359.34	359.00	1.76	2.31	360.00	360.11	359.52	359.61	2.50	2.39	3.15	3.07
2141	22DA042	22DA041	Circular	27.75	0.11	1.25	1.97	362.46	362.56	358.79	358.76	1.69	2.24	359.50	359.59	359.47	359.53	2.96	2.88	3.10	3.04
2143	22DA054	22DA077	Circular	56.69	0.53	1.25	4.36	360.75	360.70	356.75	356.45	2.23	2.91	358.86	359.10	358.79	358.97	1.89	1.65	1.92	1.73
2144	22DA059	22DA084	Circular	32.62	0.37	1.50	5.92	361.34	361.01	355.97	355.85	5.13	5.46	358.28	358.39	358.20	358.30	3.06	2.94	2.81	2.71
2146	15CD087	15CD058	Circular	355.68	0.24	2.00	10.39	356.45	355.27	351.09	350.22	2.71	3.49	351.80	351.99	351.15	351.74	4.66	4.46	4.12	3.54
2191	23CB073	23CB029	Circular	209.32	0.06	2.00	5.03	365.37	364.57	361.12	361.00	11.97	15.57	363.42	364.62	362.79	363.49	1.95	0.75	1.78	1.07
2192	22DA118	22DA138	Circular	127.56	0.19	2.00	9.11	364.10	364.42	360.68	360.44	15.71	19.68	362.63	363.19	361.81	362.29	1.48	0.91	2.62	2.13
2193	23CB039	23CB046	Circular	259.49	0.18	3.00	26.64	367.99	367.44	363.31	362.83	4.20	5.32	364.12	364.26	363.57	363.99	3.87	3.72	3.87	3.44
2194	22DA135	22DA119	Circular	194.30	0.19	1.50	4.20	365.54	364.00	361.18	360.82	4.07	4.90	362.95	363.67	362.66	363.24	2.59	1.87	1.34	0.76
2201	23CB046	23CB051	Circular	260.59	0.13	3.00	22.70	367.44	366.44	362.64	362.29	4.15	4.93	363.57	363.99	363.34	363.93	3.87	3.44	3.11	2.51
2202	23CB051	23CB057	Circular	259.17	0.08	2.00	6.12	366.44	365.57	362.19	361.97	4.06	4.72	363.34	363.93	363.09	363.81	3.11	2.51	2.47	1.75
2203	23CB057	23CB061	Circular	131.09	0.12	2.00	7.34	365.57	364.98	361.85	361.69	3.96	4.79	363.09	363.81	363.01	363.75	2.47	1.75	1.96	1.22
2204	23CB061	23CB063	Circular	111.57	0.20	2.00	9.33	364.98	365.46	361.63	361.41	3.97	4.84	363.01	363.75	362.97	363.70	1.96	1.22	2.50	1.77
2205	23CB063	22DA135	Circular	54.76	0.40	2.00	13.31	365.46	365.54	361.40	361.18	4.03	4.88	362.97	363.70	362.95	363.67	2.50	1.77	2.59	1.87
2206	23CA022	23CB071	Circular	208.63	0.15	1.50	3.82	370.28	367.98	364.07	363.75	5.20	6.28	366.37	368.80	365.78	367.98	3.91	1.48	2.20	0.00
2207	23CB027	23CB073	Circular	147.51	0.22	2.00	9.78	365.85	365.37	361.50	361.18	10.44	13.46	363.75	365.22	363.42	364.62	2.10	0.63	1.95	0.75
2208	23CB029	22DA118	Circular	60.65	0.40	2.00	13.21	364.57	364.10	361.00	360.76	11.94	15.56	362.79	363.49	362.63	363.19	1.78	1.07	1.48	0.91
2215	22DA119	22DA118	Circular	21.29	0.28	1.50	5.18	364.00	364.10	360.82	360.76	4.09	4.90	362.66	363.24	362.63	363.19	1.34	0.76	1.48	0.91
2223	23CC079	23CC080	Circular	78.07	0.20	1.50	4.42	365.23	365.20	362.54	362.38	3.21	3.21	363.48	363.48	363.32	363.32	1.75	1.75	1.88	1.88
2228	23CC076	23CC077	Circular	78.06	0.23	1.00	1.59	365.63	365.57	363.12	362.94	3.21	3.21	364.57	364.57	363.87	363.87	1.06	1.06	1.69	1.69
2230	23CC075	23CC076	Circular	229.58	0.23	1.00	1.59	367.35	365.63	363.68	363.15	3.22	3.22	366.70	366.70	364.57	364.57	0.66	0.66	1.06	1.06
2238	23CC071	23CC075	Circular	205.70	0.31	1.00	1.85	368.57	367.35	364.37	363.73	3.25	3.23	368.57	368.57	366.70	366.70	0.00	0.00	0.66	0.66
2240	23CC077	23CC079	Circular	186.61	0.16	1.50	3.85	365.57	365.23	362.88	362.59	3.21	3.21	363.87	363.87	363.48	363.48	1.69	1.69	1.75	1.75
2241	23CC080	23CC082	Circular	149.06	0.06	1.50	2.40	365.20	365.65	362.25	362.16	3.21	3.21	363.32	363.32	363.01	363.02	1.88	1.88	2.64	2.64
2242	23CC082	22DA124	Circular	97.27	0.14	1.50	3.70	365.65	364.90	362.09	361.95	3.21	3.21	363.01	363.02	362.72	362.73	2.64	2.64	2.18	2.17
2243	22DA124	22DA125	Circular	25.92	0.15	1.50	3.83	364.90	365.21	361.85	361.81	3.21	3.21	362.72	362.73	362.63	362.65	2.18	2.17	2.58	2.57
2247	22DA125	22DD020	Circular	98.71	0.15	1.50	3.80	365.21	364.93	361.72	361.57	3.21	3.21	362.63	362.65	362.31	362.36	2.58	2.57	2.62	2.57
2249	22DD020	22DD021	Circular	19.50	0.62	1.50	7.65	364.93	363.95	361.47	361.35	3.21	3.21	362.31	362.36	362.28	362.34	2.62	2.57	1.66	1.61
2250	22DD021	22DD023	Circular	26.13	0.19	1.50	4.27	363.95	368.54	361.35	361.30	3.21	3.21	362.28	362.34	362.23	362.29	1.66	1.61	6.31	6.25
2305	09DC018	09DC015	Circular	11.39	0.70	2.50	31.92	338.21	340.00	335.35	335.27	-40.43	-50.06	338.21	338.21	338.32	338.41	0.00	0.00	1.68	1.59
2307	09DC014	09DC017	Circular	75.19	0.23	1.00	1.57	337.80	338.65	335.69	335.52	-2.78	-2.98	337.80	337.80	338.32	338.40	0.00	0.00	0.34	0.26
2322	09DC024	09DC008	Circular	102.05	0.04	2.50	7.54	340.53	340.39	337.24	337.20	7.70	9.69	338.59	338.72	338.43	338.52	1.94	1.81	1.96	1.86
2324	09DC013	09DC015	Circular	3.97	5.79	2.50	91.67	339.95	340.00	336.50	336.27	53.93	64.05	338.41	338.52	338.32	338.41	1.54	1.43	1.68	1.59
2520	22DA145	22DA083	Circular	55.76	1.27	6.00	443.76	363.41	362.39	357.10	356.39	15.78	17.78	358.44	358.52	358.47	358.56	4.97	4.89	3.92	3.83
2521	22DA066	22DA032	Circular	116.52	0.09	1.00	0.97	363.70	363.65	359.90	359.80	2.64	3.04	361.64	361.99	360.50	360.54	2.06	1.70	3.15	3.11
2523	22AC011	22DB050	Circular	120.48	0.33	1.00	1.91	361.00	362.07	360.00	359.60	2.35	2.36	361.00	361.00	360.08	360.09	0.00	0.00	2.00	1.98
2526	22DD024	22DA136	Circular	124.07	0.20	8.00	380.18	369.25	369.25	361.25	361.00	14.72	17.07	362.20	362.26	361.38	361.43	7.05	6.99	7.87	7.82
2527	23CC089	23CC090	Circular	35.13	1.14	3.00	66.09	369.74	369.56	360.40	360.00	4.80	5.53	363.36	363.44	363.35	363.42	6.37	6.30	6.21	6.14
2532	22DA136	22DA137	Rectangular	108.26	0.92	3.00	259.45	369.25	368.00	361.00	360.00	14.72	17.07	361.38	361.43	360.68	360.73	7.87	7.82	7.33	7.27
2534	22DA081	22DA148	Circular	31.83	0.28	1.25	3.19	362.50	362.50	359.54	359.45	1.77	2.33	360.16	360.26	360.00	360.11	2.35	2.24	2.50	2.39
2549	09DC017	09DC015	Circular	151.05	0.17	2.50	15.49	338.65	340.00	335.52	335.27	-6.51	-6.46	338.32	338.40	338.32	338.41	0.34	0.26	1.68	1.59
2552	09DC032	09DC033	Circular	42.52	0.28	1.25	3.19	344.30	342.72	340.20	340.08	0.00	0.02	340.18	340.27	340.00	340.17	4.12	4.03	2.72	2.55
2745	15BC012	15BC023	Circular	44.92	1.56	1.00	4.13	352.51	353.25	349.70	349.00	3.24	3.89	350.38	350.68	349.73	350.28	2.13	1.83	3.52	2.97
2746	15BC023	15CB082	Circular	44.69	7.79	1.00	9.23	353.25	350.77	349.00	345.52	6.77	8.01	349.73	350.28	347.40	347.76	3.52	2.97	3.37	3.01
2747	15CB082	15CB087	Circular	231.54	0.15	2.50	14.81	350.77	350.37	345.52	345.17	13.79	16.57	347.40	347.76	347.04	347.38	3.37	3.01	3.33	2.99
2749	15CB087	15CB086	Circular	256.63	0.15	2.50	14.66	350.37	349.63	345.17	344.79	13.74	16.48	347.04	347.38	346.63	346.97	3.33	2.99	3.00	2.66
2751	15CB086	16AD047	Circular	345.71	0.15	2.50	14.77	349.63	349.55	344.79	344.27	13.66	16.35	346.63	346.97	346.09	346.45	3.00	2.66	3.46	3.11
2753	16AD047	16AD053	Circular	70.17	0.16	2.50	15.08	349.55	349.31	344.27	344.16	13.53	16.20	346.09	346.45	346.02	346.37	3.46	3.11	3.29	2.95
2754	16DA027	16AD053	Circular	51.74	0.12	2.00	7.15	349.16	349.31	344.16	344.10	6.76	8.78	346.04	346.40	346.02	346.37	3.11	2.76	3.29	2.95
2755	16AD042	16AD053	Circular	16.08	0.87	1.00	3.09	350.83	349.31	344.40	344.26	3.31	4.02	346.06	346.42	346.02	346.37	4.77	4.41	3.29	2.95
2756	16DA027	16DA022	Circular	123.71	0.12	2.25	10.01	349.16	349.00	344.16	344.01	8.11	8.79	346.04	346.40	345.98	346.32	3.11	2.76	3.02	2.68
2758	16AD053	16AD048	Circular	122.51	0.10	2.50	11.92	349.31	348.63	344.10	343.98	15.90	19.62	346.02	346.37	345.73	346.05	3.29	2.95	2.90	2.59
2760	16AD048	16AD066	Circular	304.26	0.25	2.50	19.04	348.63	347.28	343.98	343.22	15.89	19.61	345.73	346.05	344.97	345.23	2.90	2.59	2.30	2.05
2761	16DA022	16DA029	Circular	270.56	0.15	2.25	11.06	349.00	347.43	344.01	343.61	8.00	8.65	345.98	346.32	345.87	346.18	3.02	2.68	1.57	1.26
2762	16DA029	16DA009	Circular	334.67	0.22	2.25	13.61	347.43	348.84	343.61	342.86	7.87	8.56	345.87	346.18	345.78	346.05	1.57	1.26	3.06	2.78
2763	16AD066	16AD067	Circular	305.04	0.22	2.50	17.72	347.28	348.14	343.22	342.56	15.88	19.60	344.97	345.23	343.98	344.12	2.30	2.05	4.16	4.03
2788	15CB013	15CB099	Circular	62.01	2.42	1.00	5.15	352.50	349.90	347.16	345.66	-0.04	-0.05	347.53	347.95	347.53	347.95	4.98	4.55	2.37	1.95
2881	15CB003	15CB112	Circular	29.62	0.43	1.00	2.16	354.52	354.00	351.83	351.70	2.20	2.73	352.80	353.00	352.13	352.27	1.73	1.52	1.87	1.73
2882	15CB015	15CB016	Circular	25.77	0.45	1.00	2.23	353.18	354.41	351.12	351.00	2.16	2.64	352.05	352.24	351.45	351.48	1.13	0.94	2.96	2.92
2959	22AA030	22AD046	Circular	83.62	0.12	1.00	1.14	361.04	361.59	357.90	357.80	3.43	3.73	359.54	359.74	358.31	358.34	1.50	1.30	3.27	3.25
2960	22DB003	22DB058	Circular	74.11	1.08	2.25	29.88	360.17	357.49	355.00	354.20	11.07	11.96	356.35	356.42	355.01	355.06	3.82	3.75	2.48	2.43
3020	22BB017	22BB016	Circular	39.75	0.98	1.00	3.27	350.00	353.84	344.54	344.15	10.09	10.84	346.72	347.04	346.56	346.85	3.29	2.96	7.28	7.00
3025	22DC002	22DC003	Circular	48.07	0.42	1.00	2.13	359.73	360.71	355.30	355.10	7.30	7.92	358.51	358.75	355.69	355.77	1.21	0.97	5.02	4.94
3026	22DC015	22DC011	Circular	48.61	2.24	2.00	31.44	360.82	362.35	357.03	355.94	-10.72	-11.97	358.52	358.76	358.66	358.86	2.29	2.06	3.69	3.48

Hydraulic Model Results - Full Buildout Conditions																				
Oak Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
3105	23CD040	23CD041	Circular	39.73	2.11	1.00	4.81	372.22	371.53	368.71	367.87	6.21	6.21	371.87	371.87	368.89	368.89	0.35	0.35	2.65	2.65
3145	23CA024	23CA023	Circular	50.66	0.10	1.00	1.04	371.31	369.77	368.12	368.07	1.76	2.31	368.81	369.32	368.42	369.10	2.49	1.98	1.35	0.67
3149	23CA025	23CA023	Circular	37.01	0.36	1.00	2.00	370.26	369.77	368.26	368.12	4.04	4.04	370.26	370.26	368.42	369.10	0.00	0.00	1.35	0.67
3153	23CD025	23CD042	Circular	38.55	0.74	1.00	2.84	371.66	371.78	367.72	367.44	4.80	5.53	370.14	370.72	367.52	367.57	1.52	0.94	4.26	4.20
3774	09DC036	09DC012	Circular	79.12	0.67	2.50	31.17	340.00	339.82	336.88	336.35	7.70	9.69	338.25	338.26	338.25	338.25	1.75	1.74	1.57	1.57
3779	15CB114	15CB113	Circular	3.69	1.36	1.75	17.13	353.23	352.89	349.07	349.02	2.26	2.92	349.83	349.95	349.84	349.95	3.40	3.28	3.06	2.94
3780	15CB113	15CB068	Circular	44.95	0.24	1.75	7.28	352.89	353.39	349.02	348.91	2.26	2.91	349.84	349.95	349.80	349.91	3.06	2.94	3.59	3.48
Link2350	26AA024	26AD025	Natural	456.43	0.25	2.89	97.31	383.76	383.28	381.21	380.05	2.26	3.20	382.34	382.46	382.33	382.45	1.43	1.30	0.95	0.83
Link2351	26AD004	26AD001	Circular	439.72	0.27	1.00	1.71	383.50	381.88	379.80	378.62	2.73	2.96	382.96	383.50	379.18	379.20	0.55	0.00	2.70	2.68
Link2352	23DC003	23DC004	Circular	29.04	0.86	1.00	3.07	378.11	379.02	376.11	375.86	0.93	1.31	376.60	376.72	375.92	375.95	1.51	1.39	3.10	3.07
Link2356	26AA018	26AA021	Natural	542.50	0.30	3.13	655.54	385.17	383.78	382.17	380.52	6.08	7.78	382.96	383.51	382.96	383.51	2.21	1.66	0.82	0.27
Link2358	26AA036	23DD076	Natural	425.24	0.46	3.84	322.43	382.69	380.94	378.94	377.00	7.77	9.78	379.71	379.82	379.60	379.63	2.98	2.87	1.34	1.31
Link2359	26AD021	26AC006	Natural	630.93	0.24	3.21	209.93	382.71	381.21	379.50	378.00	35.87	48.68	381.59	381.72	378.65	378.81	1.12	0.99	2.56	2.40
Link2360	26AD013	26AC007.1	Natural	676.74	0.92	6.19	1040.94	381.36	381.01	378.10	371.90	2.73	2.96	378.50	378.51	373.06	373.24	2.86	2.85	7.96	7.78
Link2362	27AD015	27AA004	Natural	1103.31	1.08	6.30	2848.04	376.92	368.76	372.48	360.60	25.88	32.58	372.93	372.96	361.94	362.13	3.99	3.96	6.82	6.63
Link2363	27AA002	27AA008	Natural	261.65	1.35	5.39	295.35	367.21	370.46	365.21	361.69	5.89	7.92	365.56	365.60	362.98	363.17	1.65	1.60	7.48	7.29
Link2365	27AB004	27AB003	Circular	48.66	10.08	1.00	10.51	380.09	374.55	375.54	370.64	12.06	12.06	380.09	380.09	371.12	371.12	0.00	0.00	3.43	3.43
Link2368	26AC007	26AC007.1	Natural	66.85	0.31	9.11	10596.91	381.22	381.01	372.11	371.90	35.84	48.63	373.24	373.42	373.06	373.24	7.99	7.80	7.96	7.78
Link2371	27AA004	27AA005	Natural	45.41	0.22	8.23	2907.90	368.76	368.80	360.60	360.50	56.93	74.32	361.94	362.13	361.80	362.00	6.82	6.63	7.00	6.80
Link2372	27AA005	27AA003	Natural	44.00	1.19	8.23	6749.39	368.80	368.14	360.50	359.98	58.00	75.90	361.80	362.00	361.79	362.00	7.00	6.80	6.34	6.14
Link2373	27AA003	27AA006	Natural	64.55	0.80	7.33	2356.54	368.14	365.97	359.98	359.46	58.05	76.01	361.79	362.00	361.75	361.96	6.34	6.14	4.21	4.00
Link2375	22DC019	22DC017	Natural	32.16	0.35	7.82	9173.34	363.84	363.79	356.05	355.94	83.98	104.08	357.83	357.99	357.32	357.53	6.01	5.84	6.46	6.26
Link2376	22DC017	22DC018	Natural	42.05	1.09	5.00	1336.49	363.79	363.45	355.48	355.02	84.00	104.11	357.32	357.53	357.27	357.49	6.46	6.26	6.18	5.96
Link2377	22DC018	22DC014	Natural	39.51	0.31	10.63	8669.69	363.45	367.74	355.02	354.90	105.97	131.77	357.27	357.49	357.16	357.38	6.18	5.96	10.58	10.36
Link2379	26BB015	26BB014	Circular	162.47	0.12	1.00	1.16	373.02	372.44	370.40	370.20	2.87	3.28	372.42	373.02	371.34	371.74	0.60	0.00	1.10	0.71
Link2380	26BB013	26BB012	Circular	144.38	1.00	1.00	3.31	372.24	370.55	370.00	368.55	2.55	2.77	371.34	371.74	368.84	368.85	0.90	0.51	1.71	1.71
Link2381	26BB011	26BB012	Circular	59.97	2.30	1.00	5.02	371.94	370.55	369.94	368.55	3.40	3.59	371.58	371.85	368.84	368.85	0.36	0.09	1.71	1.71
Link2382	23CC008	23CC095	Circular	29.05	1.31	1.00	3.79	371.73	371.81	369.26	368.88	5.02	5.02	371.73	371.73	369.50	369.50	0.00	0.00	2.31	2.31
Link2383	23CC095	23CC025	Natural	803.32	0.27	2.59	89.39	371.81	368.98	368.88	366.73	5.02	5.02	369.50	369.50	368.77	368.77	2.31	2.31	0.21	0.21
Link2385	26BB007	23CC008	Natural	324.05	0.41	2.69	177.80	373.50	371.73	370.60	369.26	2.77	3.68	371.73	371.74	371.73	371.73	1.77	1.77	0.00	0.00
Link2386	23CC048	23CC011	Circular	36.69	1.44	1.00	3.97	373.21	372.53	371.06	370.53	0.94	1.30	371.74	371.74	371.73	371.74	1.48	1.47	0.80	0.80
Link2388	23CA006.3	23CA006.2	Natural	400.40	0.51	2.00	92.84	376.22	374.19	374.22	372.19	3.69	5.09	374.63	374.70	372.64	372.71	1.59	1.53	1.55	1.48
Link2389	23CA006.2	23CA006.1	Natural	976.36	0.30	2.00	67.55	374.19	371.25	372.19	369.25	3.56	4.94	372.64	372.71	369.63	369.69	1.55	1.48	1.63	1.56
Link2390	23CA006.1	23CA006	Natural	288.51	0.82	2.00	37.77	371.25	368.89	369.25	366.89	3.89	5.40	369.63	369.69	368.89	368.89	1.63	1.56	0.00	0.00
Link2391	23CA006	23CA005	Circular	49.21	0.58	1.00	2.52	368.89	368.62	366.89	366.60	3.41	3.41	368.89	368.89	367.01	367.01	0.00	0.00	1.61	1.61
Link2393	23CA007	23CA025	Circular	101.54	0.62	1.00	2.60	370.88	370.26	368.88	368.26	1.91	1.91	370.47	370.47	370.26	370.26	0.41	0.41	0.00	0.00
Link2397	27AA001	27AA002	Circular	22.71	5.61	1.00	7.84	369.14	367.21	366.48	365.21	1.98	2.73	366.98	367.12	365.56	365.60	2.16	2.01	1.65	1.60
Link2398	27AA012	27AA011	Circular	42.15	2.18	1.00	4.89	366.61	367.53	363.88	362.96	2.14	2.91	364.56	364.77	363.27	363.32	2.05	1.84	4.26	4.21
Link2399	23CD041	23CC061	Natural	314.70	0.46	3.97	348.81	371.53	370.70	367.87	366.41	6.21	6.21	368.89	368.89	368.78	368.78	2.65	2.65	1.92	1.92
Link2400	23CC063	23CC066	Circular	50.55	0.76	1.00	2.89	368.77	367.87	364.49	364.10	6.58	6.58	368.77	368.77	365.00	365.00	0.00	0.00	2.88	2.87
Link2401	22DA137	22DA041	Natural	336.16	0.41	5.98	605.34	368.00	362.56	360.00	358.61	14.71	17.06	360.68	360.73	359.47	359.53	7.33	7.27	3.10	3.04
Link2402	22DA041	22DA040	Natural	42.37	0.26	4.25	389.51	362.56	363.04	358.61	358.50	15.53	17.99	359.47	359.53	359.38	359.44	3.10	3.04	3.66	3.61
Link2405	22DA043	22DA042	Natural	113.22	0.19	3.67	314.43	362.67	362.46	359.00	358.79	1.72	2.27	359.52	359.61	359.50	359.59	3.15	3.07	2.96	2.88
Link2406	22DA040	22DA033	Natural	259.88	0.30	4.54	664.73	363.04	362.27	358.50	357.73	16.20	18.78	359.38	359.44	358.47	358.55	3.66	3.61	3.80	3.72
Link2407	22DA033	22DA036	Natural	30.02	0.33	4.10	259.15	362.27	360.32	357.25	357.15	16.72	19.41	358.47	358.55	358.45	358.54	3.80	3.72	1.87	1.79
Link2408	22DA036	22DA145	Natural	23.64	0.21	4.74	146.81	360.32	363.41	357.15	357.10	15.78	17.78	358.45	358.54	358.44	358.52	1.87	1.79	4.97	4.89
Link2409	23CC068	23CC067	Circular	18.00	1.08	1.00	3.43	370.83	371.16	366.49	366.29	4.80	5.53	367.32	367.44	366.78	366.81	3.50	3.39	4.38	4.35
Link2412	23CA009	23CA008	Circular	26.72	0.37	1.00	2.02	371.10	371.56	369.10	369.00	1.91	3.28	370.34	370.52	370.26	370.27	0.76	0.58	1.30	1.30
Link2413	22DC012	22DC013	Circular	58.86	0.32	1.00	1.86	361.89	361.96	359.89	359.70	1.34	1.70	360.47	360.54	360.03	360.07	1.42	1.34	1.93	1.88
Link2414	22DC013	22DC001	Circular	50.26	3.27	1.00	5.98	361.96	361.84	359.70	358.06	1.34	1.70	360.03	360.07	358.68	359.02	1.93	1.88	3.16	2.83
Link2417	22CB010	22CB012	Natural	26.86	1.52	5.07	2152.66	351.50	351.09	346.42	346.02	168.55	204.20	349.73	350.03	349.74	350.04	1.77	1.47	1.34	1.05
Link2418	22CB012	22CB009	Natural	37.62	0.36	4.00	553.87	351.09	352.30	346.02	345.88	204.08	256.15	349.74	350.04	349.73	350.03	1.34	1.05	2.57	2.27
Link2420	22BC020	22BC017	Natural	46.15	0.04	6.42	948.36	351.83	351.81	345.41	345.39	255.12	316.60	348.18	348.42	347.94	348.17	3.64	3.41	3.88	3.65
Link2421	22BC017	22BC021	Natural	63.54	0.30	4.00	602.33	351.81	350.98	345.39	345.20	255.11	316.61	347.94	348.17	347.36	347.60	3.88	3.65	3.63	3.39
Link2422	22DA082	22DB043	Natural	788.38	0.09	7.71	146.89	366.96	359.35	355.79	355.10	35.57	39.27	358.13	358.21	355.12	355.22	8.83	8.74	4.23	4.12
Link2423	22CA010.3	22CA010.2	Natural	645.80	0.16	4.19	311.31	359.00	355.32	353.50	352.45	45.58	50.47	355.02	355.12	354.00	354.08	3.98	3.88	1.32	1.24
Link2424	22CA010.2	22CA010.1	Natural	511.95	0.27	2.55	135.33	355.32	353.29	352.45	351.06	58.63	65.30	354.00	354.08	352.65	352.68	1.32	1.24	0.65	0.61
Link2425	22DB058	22CA010.2	Natural	554.89	0.32	3.08	64.24	357.49	355.32	354.20	352.45	14.36	16.43	355.01	355.06	354.00	354.08	2.48	2.43	1.32	1.24
Link2426	22DA083	22DA082	Natural	261.98	0.23	8.58	237.61	362.39	366.96	356.39	355.79	32.54	35.72	358.47	358.56	358.13	358.21	3.92	3.83	8.83	8.74
Link2427	22DB013	22DB014	Natural	688.13	0.64	4.07	454.15	362.96	360.59	359.90	355.50	1.64	2.07	360.18	360.21	357.26	357.54	2.78	2.75	3.33	3.05
Link2428	22DB014	22DB057	Circular	24.50	1.22	1.50	10.79	360.59	358.96	355.50	355.20	8.25	8.85	357.26	357.54	355.78	355.79	3.33	3.05	3.19	3.17
Link2429	22DB057	22DB043	Natural	91.57	1.56	4.67	1007.74	358.96	359.35	355.20	353.77	8.25	8.85	355.78	355.79	355.12	355.22	3.19	3.17	4.23	4.12
Link2430	22DB043	22CA010.3	Rectangular	66.77	0.40	5.50	957.43	359.35	359.00	353.77	353.50	45.94	50.79	355.12	355.22	355.02	355.12	4.23	4.12	3.98	3.88
Link2431	22AD046	22AC017	Natural	308.69	0.28	3.79	695.71	361.59	360.72	357.80	356.94	3.43	3.73	358.31	358.34	357.65	357.70	3.27	3.25	3.07	3.02
Link2432	22AC017	22AC018	Natural	182.68	0.18	3.66	530.49	360.72	360.15	356.94	356.60	5.14	5.46	357.65	357.70	357.55	357.62	3.07	3.02	2.59	2.53
Link2433	22AC018	22AC016	Natural	97.00	0.23	4.36	398.46	360.15	361.55	356.60	356.38	5.96	6.31	357.55	357.62	357.52	357.60	2.59	2.53	4.03	3.95
Link2434	22AC016	22DB003	Natural	1160.41	0.12	5.17	3113.90	361.55	360.17	356.38	355.00	7.31	8.00	357.52	357.60	356.35	356.42	4.03	3.95	3.82	3.75
Link2435	22CA004	22CA010.1	Natural	499.05	0.35	2.99	52.51	356.55	353.29	352.80	351.06	7.58	9.16	353.53	353.54	352.65	352.68	3.02	3.01	0.65	0.61
Link2436	22CA010.1	22CA010	Natural	289.92	0.60	5.01	152.33	353.29	357.12	351.06	349.33	63.55	72.40	352.65	352.68	351.96	352.19	0.65	0.61	5.16	4.93
Link2437	22CA003	22CA004	Circular	64.09	0.79	1.00	2.93	356.06	356.55	353.30	352.80	5.02	5.93	355.03	355.61	353.53	353.54	1.02	0.45	3.02	3.01

Hydraulic Model Results - Full Buildout Conditions																					
Oak Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
Link2438	22CA006	22CA005	Circular	19.74	4.14	1.00	6.73	359.74	358.42	357.10	356.28	2.67	3.33	357.55	357.61	356.69	356.73	2.19	2.13	1.73	1.70
Link2440	22BA051	22BA036	Circular	19.05	2.99	1.00	5.72	355.63	355.49	350.20	349.63	2.88	2.86	353.24	353.50	353.14	353.42	2.39	2.13	2.35	2.08
Link2441	22BA033	22BA052	Circular	25.87	1.89	1.00	4.55	356.63	356.84	348.49	348.00	2.77	2.74	350.90	351.49	350.77	351.39	5.73	5.13	6.08	5.46
Link2451	22BC021	22BC021.1	Natural	236.18	0.97	5.78	3305.01	350.98	348.68	345.20	342.90	255.07	316.67	347.36	347.60	346.56	346.84	3.63	3.39	2.12	1.84
Link2452	22CB007	22CB012	Natural	233.98	1.14	4.41	491.52	352.43	351.09	348.68	346.02	66.71	86.19	350.06	350.16	349.74	350.04	2.37	2.27	1.34	1.05
Link2453	22BC006	22CB007	Natural	627.10	0.93	3.75	1087.13	358.27	352.43	354.51	348.68	66.72	86.22	356.21	356.41	350.06	350.16	2.06	1.85	2.37	2.27
Link2456	22BC016	22BB017	Natural	1285.02	0.63	3.64	61.81	354.42	350.00	352.60	344.54	5.33	6.03	353.04	353.06	346.72	347.04	1.38	1.36	3.29	2.96
Link2457	22BB016	22BC021.1	Natural	185.68	0.67	7.74	3102.56	353.84	348.68	344.15	342.90	-94.08	-109.06	346.56	346.85	346.56	346.84	7.28	7.00	2.12	1.84
Link2458	22BC021.1	22BC021.2	Natural	1773.52	0.16	8.42	1353.70	348.68	351.06	342.90	340.00	294.98	377.67	346.56	346.84	344.78	345.25	2.12	1.84	6.28	5.82
Link2460	22BB003	22BB017	Natural	462.39	1.14	7.32	483.73	358.97	350.00	349.79	344.54	4.99	6.30	350.31	350.36	346.72	347.04	8.66	8.61	3.29	2.96
Link2462	15CC004	15CB003	Natural	220.34	0.03	4.36	34.67	357.92	354.52	351.90	351.83	1.23	1.57	352.80	353.01	352.80	353.00	5.11	4.91	1.73	1.52
Link2463	15CC047	15CB018	Natural	520.90	0.41	3.33	268.80	357.82	355.00	354.16	352.00	1.17	1.54	354.57	354.62	352.85	353.05	3.25	3.20	2.16	1.96
Link2464	15CB018	15CC004	Circular	41.28	0.24	1.50	4.80	355.00	357.92	352.00	351.90	1.15	1.48	352.85	353.05	352.80	353.01	2.16	1.96	5.11	4.91
Link2466	15CA078.1	15CA078	Natural	387.72	0.04	2.32	43.03	357.55	357.38	355.23	355.06	2.02	2.61	356.01	356.09	349.44	349.99	1.54	1.47	7.95	7.40
Link2467	15CA078	15CA087	Circular	134.59	0.25	1.00	1.66	357.38	355.05	348.37	348.03	2.02	2.61	349.44	349.99	348.96	349.17	7.95	7.40	6.09	5.88
Link2468	15CA087	15CB104	Circular	345.94	0.15	2.25	11.26	355.05	353.22	347.93	347.40	4.84	6.11	348.96	349.17	348.40	348.79	6.09	5.88	4.82	4.43
Link2472	15CB110	16DA030	Natural	295.68	0.40	6.54	1780.48	352.71	351.70	346.25	345.08	0.92	-2.13	346.31	346.40	346.04	346.40	6.40	6.31	5.65	5.30
Link2473	15CB107	15CB110	Natural	514.80	0.31	5.67	803.40	352.71	352.71	347.84	346.25	0.00	0.00	347.84	347.84	346.31	346.40	4.88	4.88	6.40	6.31
Link2474	15CB013	15CB107	Natural	221.75	0.90	3.78	489.11	352.50	352.71	349.82	347.84	0.00	0.00	347.53	347.95	347.84	347.84	4.98	4.55	4.88	4.88
Link2486	16DA007	16DA006	Circular	48.03	0.21	1.00	1.51	346.99	346.91	341.60	341.50	4.50	5.18	345.78	346.05	344.94	344.93	1.21	0.93	1.97	1.98
Link2488	16DB015	16DB014	Circular	37.02	0.27	1.00	1.72	344.92	345.66	341.30	341.20	6.16	6.07	344.92	344.92	344.29	344.28	0.00	0.00	1.38	1.39
Link2490	09DC015	09DC019	Circular	52.15	0.13	1.50	3.57	340.00	339.14	335.27	335.20	10.92	11.21	338.32	338.41	336.10	336.15	1.68	1.59	3.04	2.99
Link2495	09DC022	09DC024.2	Circular	26.33	0.68	1.33	5.85	343.49	340.69	337.50	337.32	7.70	9.68	338.96	339.30	338.66	338.81	4.53	4.19	2.03	1.87
Link2496	09DC024.2	09DC024.1	Circular	44.03	0.14	1.67	4.77	340.69	340.60	337.32	337.26	7.70	9.68	338.66	338.81	338.62	338.76	2.03	1.87	1.98	1.84
Link2497	09DC024.1	09DC024	Circular	28.58	0.07	1.67	3.44	340.60	340.53	337.26	337.24	7.69	9.68	338.62	338.76	338.59	338.72	1.98	1.84	1.94	1.81
Link2498	09DC029	09DC020	Circular	100.57	1.93	1.25	8.33	342.43	341.09	339.79	337.85	0.00	0.01	339.79	339.81	338.62	338.76	2.64	2.61	2.47	2.33
Link2499	09DC020	09DC024.1	Circular	26.63	2.29	1.33	10.71	341.09	340.60	337.85	337.24	-0.87	-0.94	338.62	338.76	338.62	338.76	2.47	2.33	1.98	1.84
Link2505	16AA038	16AA037	Circular	134.10	0.55	0.67	0.84	345.04	344.39	342.42	341.69	3.82	4.21	344.46	344.85	342.81	342.88	0.58	0.19	1.58	1.51
Link2511	16AA037	16AA037.1	Natural	145.25	0.21	3.08	126.44	344.39	344.84	341.69	341.39	3.83	4.22	342.81	342.88	342.81	342.87	1.58	1.51	2.03	1.97
Link2517	22DB004	22DB003	Circular	114.33	0.67	1.00	2.71	358.78	360.17	356.68	355.91	4.11	4.42	358.50	358.78	356.35	356.42	0.28	0.00	3.82	3.75
Link2518	22DA031	22DB025	Circular	170.03	0.64	1.00	2.65	364.72	362.72	361.81	360.72	1.68	2.11	362.46	362.59	361.32	361.38	2.27	2.13	1.40	1.34
Link2519	22DA068	22DA075	Circular	61.01	0.15	2.00	8.07	362.65	364.38	360.09	360.00	1.71	2.20	361.64	362.00	361.64	362.00	1.01	0.65	2.75	2.39
Link2520	22DA075	22DA067	Circular	76.67	0.55	2.00	15.55	364.38	365.90	360.40	359.98	1.64	2.14	361.64	362.00	361.64	361.99	2.75	2.39	4.26	3.91
Link2521	23DD087	23DD029	Circular	48.70	0.29	1.00	1.77	379.62	379.89	376.14	376.00	3.54	3.71	379.60	379.62	376.23	376.25	0.01	0.00	3.66	3.64
Link2522	23DD029	23DD029.1	Natural	1437.85	0.31	3.10	485.55	379.89	373.87	376.00	371.55	4.85	5.93	376.23	376.25	371.92	371.96	3.66	3.64	1.95	1.91
Link2522.1	23DD029.1	23CD033	Natural	881.26	0.31	2.92	485.21	373.87	372.34	371.55	368.83	20.06	26.36	371.92	371.96	371.88	371.90	1.95	1.91	0.46	0.44
Link2526	23DC004	23DD029.1	Natural	785.43	0.47	2.73	375.75	379.02	373.87	375.56	371.87	6.62	9.11	375.92	375.95	371.92	371.96	3.10	3.07	1.95	1.91
Link2527	23DC024	23DC004	Natural	697.26	0.23	3.15	3778.36	380.63	379.02	377.48	375.86	6.15	8.45	377.85	377.89	375.92	375.95	2.78	2.74	3.10	3.07
Link2530	22DD003	22DD023.1	Circular	77.49	1.27	1.50	10.99	367.38	369.25	362.98	362.00	7.48	8.59	364.26	364.50	363.02	363.09	3.12	2.88	6.23	6.16
Link2531	22DD023.1	22DD023	Natural	74.34	0.10	6.93	2893.00	369.25	368.54	362.00	361.93	11.86	13.86	363.02	363.09	362.23	362.29	6.23	6.16	6.31	6.25
Link2535	22DB014.1	22DB014	Natural	904.57	0.53	3.77	450.51	362.78	360.59	360.33	355.50	2.61	3.54	360.84	360.91	357.26	357.54	1.94	1.87	3.33	3.05
Link2536	22DA105.1	22DA105	Natural	998.45	0.49	3.74	1291.03	367.18	363.85	364.20	359.34	8.40	10.37	364.87	364.93	361.61	362.18	2.31	2.24	2.23	1.67
Link2537	23CC008.1	23CC008	Natural	2644.36	0.32	2.08	932.89	379.38	371.73	377.68	369.26	20.40	24.90	378.11	378.14	371.73	371.73	1.27	1.24	0.00	0.00
Link2539	16DA030	16DA027	Natural	206.71	0.45	5.81	979.49	351.70	349.16	345.08	344.16	11.61	14.18	346.04	346.40	346.04	346.40	5.65	5.30	3.11	2.76
Link2540	16DB001	16AC010	Circular	88.26	0.09	1.00	1.01	346.49	343.84	340.25	340.17	4.73	4.90	344.29	344.28	340.84	340.89	2.21	2.22	3.00	2.94
Link2541	23CA005	22DA105.1	Natural	667.09	0.36	2.50	73.63	368.62	367.18	366.60	364.20	3.41	3.41	367.01	367.01	364.87	364.93	1.61	1.61	2.31	2.24

Hydraulic Model Results - Full Buildout Conditions																				
Oak Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1	22DB032	22DB047	Circular	116.31	0.14	1.50	3.62	359.38	358.82	354.32	354.16	2.50	3.19	355.52	355.84	355.46	355.73	3.86	3.54	3.36	3.10
2	22DB033	22DB032	Circular	28.50	0.70	1.00	2.77	359.55	359.38	354.58	354.38	2.54	3.21	355.66	356.10	355.52	355.84	3.90	3.45	3.86	3.54
3	22DB047	22DB044	Circular	178.18	0.11	1.50	3.27	358.82	360.26	354.06	353.86	2.45	3.17	355.46	355.73	355.41	355.57	3.36	3.10	4.85	4.69
4	22DB044	22DB043	Circular	82.28	0.11	1.50	3.23	360.26	359.35	353.86	353.77	2.42	3.16	355.41	355.57	355.39	355.53	4.85	4.69	3.95	3.81
9	22DB036	22DB035	Circular	31.01	0.42	1.00	2.14	359.37	359.00	355.07	354.94	2.55	3.22	356.27	357.17	356.11	356.89	3.10	2.20	2.90	2.12
10	22DB035	22DB033	Circular	84.55	0.32	1.00	1.87	359.00	359.55	354.89	354.62	2.55	3.21	356.11	356.89	355.66	356.10	2.90	2.12	3.90	3.45
13	22DB040	22DB036	Circular	115.57	1.06	1.00	3.41	359.44	359.37	356.88	355.65	2.60	3.28	357.53	358.27	356.27	357.17	1.91	1.17	3.10	2.20
114	23DD076	23DD087	Circular	616.56	0.14	2.00	7.85	380.94	379.62	377.00	376.14	9.60	10.48	379.97	380.58	378.73	379.13	0.98	0.36	0.88	0.49
131	26AC006	26AC007	Natural	415.22	1.18	6.66	466.75	381.21	381.22	376.99	372.11	33.53	36.10	378.61	378.65	373.21	373.26	2.60	2.56	8.01	7.96
182	15BC015	15BC023	Natural	305.79	0.20	1.98	82.98	353.90	353.25	351.90	351.28	3.53	4.61	352.67	352.75	349.73	350.29	1.23	1.15	3.52	2.96
192	15BC014	15BC012	Natural	236.73	0.20	2.41	63.33	352.17	352.51	350.17	349.70	3.29	3.97	350.75	350.85	350.38	350.69	1.42	1.32	2.13	1.83
259	26BB030	26BB027	Natural	416.32	0.26	2.33	104.52	371.12	370.70	369.12	368.04	1.99	2.80	369.61	369.68	368.55	368.62	1.51	1.44	2.14	2.08
302	22CA009	22CB009	Circular	925.39	0.10	5.00	77.49	357.84	352.30	346.02	345.07	52.04	63.22	350.23	350.75	349.97	350.28	7.61	7.10	2.33	2.02
303	22BD043	22CA009	Circular	417.49	0.10	5.00	76.71	357.46	357.84	346.45	346.03	51.91	62.67	350.39	350.97	350.23	350.75	7.08	6.49	7.61	7.10
306	22BD040	22BD039	Circular	109.62	0.47	1.75	10.13	356.04	356.32	347.52	347.00	4.03	5.41	350.46	351.10	350.40	351.00	5.58	4.94	5.92	5.33
307	22BD039	22BD043	Circular	63.12	0.86	2.00	19.43	356.32	357.46	347.00	346.46	4.03	5.40	350.40	351.00	350.39	350.97	5.92	5.33	7.08	6.49
308	22BD055	22BD043	Circular	348.66	0.06	4.50	44.81	355.54	357.46	346.67	346.46	48.43	57.96	350.60	351.31	350.39	350.97	4.95	4.24	7.08	6.49
309	22BD041	22BD040	Circular	202.14	0.35	1.50	5.74	359.19	356.04	348.95	348.25	2.33	3.11	350.57	351.28	350.46	351.10	8.62	7.91	5.58	4.94
310	22BD038	22BD041	Circular	119.35	0.39	1.50	6.12	359.82	359.19	349.57	349.10	2.37	3.12	350.62	351.39	350.57	351.28	9.19	8.42	8.62	7.91
311	22BD042	22BD038	Circular	249.05	0.67	1.50	7.99	358.08	359.82	351.25	349.58	2.47	3.20	351.82	351.98	350.62	351.39	6.26	6.10	9.19	8.42
312	22BD065	22BD042	Circular	124.28	0.57	1.50	7.37	357.43	358.08	352.12	351.41	2.48	3.24	352.72	352.82	351.82	351.98	4.71	4.61	6.26	6.10
316	22BB009	22BB003	Natural	403.58	1.69	5.76	297.69	358.97	358.97	356.62	349.79	5.00	6.32	357.01	357.05	350.31	350.36	1.96	1.91	8.66	8.61
317	22BD051	22BD052	Circular	123.57	0.22	1.00	1.55	356.29	356.49	352.64	352.37	2.50	2.85	355.42	356.29	354.73	355.53	0.87	0.00	1.76	0.97
319	22BD052	22BD066	Circular	111.67	0.56	1.00	2.47	356.49	356.12	352.27	351.65	2.51	2.87	354.73	355.53	354.11	354.83	1.76	0.97	2.01	1.28
320	22BD063	22BD059	Circular	158.12	0.34	1.00	1.93	355.78	355.23	351.43	350.89	4.01	4.58	353.99	354.70	351.73	351.86	1.79	1.08	3.50	3.37
321	22BD059	22BD058	Circular	99.05	0.23	2.00	10.12	355.23	356.04	350.89	350.66	4.00	4.57	351.73	351.86	351.34	351.70	3.50	3.37	4.71	4.34
322	22BD066	22BD063	Circular	21.27	0.80	1.00	2.96	356.12	355.78	351.65	351.48	2.52	2.88	354.11	354.83	353.99	354.70	2.01	1.28	1.79	1.08
324	22BD058	22BD057	Circular	223.10	0.33	2.00	12.10	356.04	355.53	350.41	349.67	5.21	6.04	351.34	351.70	350.73	351.52	4.71	4.34	4.80	4.01
327	22BD057	22BD046	Circular	131.53	0.30	4.50	100.70	355.53	355.20	347.12	346.72	43.37	51.77	350.73	351.52	350.68	351.43	4.80	4.01	4.52	3.77
343	15CB095	15CB082	Circular	125.88	0.08	2.00	5.92	350.06	350.77	345.62	345.52	5.72	6.92	347.49	347.94	347.41	347.84	2.57	2.12	3.37	2.94
344	15CB099	15CB095	Circular	66.21	0.06	2.00	5.16	349.90	350.06	345.66	345.62	5.71	6.94	347.53	348.00	347.49	347.94	2.37	1.90	2.57	2.12
345	15CB105	15CB099	Circular	296.93	0.22	1.75	6.94	351.57	349.90	346.32	345.66	4.69	5.56	347.81	348.41	347.53	348.00	3.77	3.17	2.37	1.90
346	15CB103	15CB105	Circular	150.24	0.09	2.25	8.78	350.77	351.57	346.46	346.32	4.67	5.59	347.88	348.45	347.81	348.41	2.89	2.31	3.77	3.17
348	15CB046	15CB103	Circular	18.55	0.65	1.75	11.83	350.09	350.77	346.58	346.46	4.68	5.61	347.89	348.48	347.88	348.45	2.21	1.61	2.89	2.31
352	15CB060	15CB074	Circular	246.62	0.28	1.00	1.74	351.46	350.01	347.64	346.96	1.40	1.78	348.34	348.48	347.49	347.88	3.12	2.98	2.52	2.13
353	15CB074	15CB082	Circular	117.16	0.37	1.25	3.63	350.01	350.77	346.76	346.33	1.38	1.73	347.49	347.88	347.41	347.84	2.52	2.13	3.37	2.94
384	22BD046	22BD055	Circular	135.23	0.04	4.50	35.11	355.20	355.54	346.72	346.67	47.45	56.64	350.68	351.43	350.60	351.31	4.52	3.77	4.95	4.24
387	22BD045	22BD050	Circular	230.26	1.35	1.00	3.84	356.93	356.40	351.49	348.38	4.90	5.48	355.86	356.93	351.06	351.95	1.08	0.00	5.34	4.45
388	22BD050	22BD046	Circular	207.22	0.55	1.50	7.20	356.40	355.20	347.85	346.72	4.89	5.46	351.06	351.95	350.68	351.43	5.34	4.45	4.52	3.77
393	22BC015	22BC016	Circular	11.01	3.63	1.00	6.31	355.02	354.42	353.00	352.60	6.89	8.70	353.81	354.14	353.03	353.05	1.21	0.88	1.39	1.37
396	22BD047	22BD044	Circular	364.05	0.39	1.25	3.76	357.96	358.10	351.85	350.42	1.48	1.86	355.92	356.81	355.80	356.42	2.04	1.15	2.30	1.68
397	22BD044	22BA055	Circular	190.25	0.18	1.25	2.57	358.10	356.89	350.29	349.94	2.18	2.82	355.80	356.42	355.68	356.03	2.30	1.68	1.21	0.86
398	22BA055	22BA054	Circular	301.21	0.27	1.50	5.03	356.89	355.15	349.59	348.79	7.48	7.11	355.68	356.03	353.99	354.66	1.21	0.86	1.16	0.49
402	22BA054	22BA053	Circular	363.69	0.04	1.50	1.84	355.15	356.57	348.79	348.66	9.12	9.78	353.99	354.66	350.89	351.74	1.16	0.49	5.68	4.83
404	22BD033	22BA053	Circular	27.57	1.49	1.00	4.03	356.35	356.57	349.07	348.66	1.34	1.69	350.91	351.77	350.89	351.74	5.44	4.58	5.68	4.83
405	22BD036	22BD033	Circular	140.65	0.19	1.00	1.45	357.18	356.35	349.34	349.07	1.36	1.70	351.02	351.93	350.91	351.77	6.16	5.25	5.44	4.58
407	22BD034	22BD036	Circular	302.27	0.25	1.00	1.66	355.74	357.18	350.29	349.53	0.71	0.82	351.09	352.06	351.02	351.93	4.65	3.68	6.16	5.25
408	22BD035	22BD034	Circular	20.50	1.27	1.00	3.73	355.59	355.74	350.55	350.29	0.75	0.89	351.09	352.07	351.09	352.06	4.51	3.52	4.65	3.68
409	22BC010	22BD035	Circular	58.56	0.15	1.00	1.30	355.39	355.59	350.64	350.55	0.76	0.91	351.16	352.11	351.09	352.07	4.23	3.29	4.51	3.52
410	22DA102	22DA105	Circular	264.55	0.49	2.00	14.67	366.21	363.85	360.63	359.34	1.03	1.25	362.05	362.62	362.05	362.62	4.15	3.59	1.80	1.23
411	22DA108	22DA113	Circular	76.15	1.47	2.50	46.19	364.44	364.36	358.77	357.65	9.04	9.37	362.02	362.58	362.00	362.56	2.42	1.86	2.36	1.80
412	22DA105	22DA108	Circular	92.79	0.51	2.50	27.11	363.85	364.44	359.34	358.87	9.03	9.36	362.05	362.62	362.02	362.58	1.80	1.23	2.42	1.86
417	26AD001	26AD013	Natural	235.15	0.22	3.26	511.45	381.88	381.36	378.62	378.10	2.73	2.96	379.18	379.20	378.50	378.51	2.70	2.68	2.86	2.85
433	09DC012	09DC018	Natural	322.11	0.27	3.38	77.54	339.82	338.50	336.21	335.35	4.62	6.23	338.26	338.50	338.26	338.50	1.56	1.32	0.24	0.00
440	22CA007	22CA006	Natural	109.53	0.58	2.46	131.58	360.02	359.74	357.74	357.10	2.68	3.34	358.04	358.04	357.80	357.95	1.98	1.97	1.94	1.79
441	22CA005	22CA004	Natural	296.65	0.63	2.14	183.00	358.42	356.55	356.28	354.41	2.57	3.18	356.69	356.72	353.52	353.53	1.74	1.70	3.02	3.02
442	22CA002	22CA003	Natural	116.52	3.02	2.75	690.99	359.58	356.06	356.82	353.30	5.19	6.45	357.17	357.20	355.79	356.06	2.41	2.37	0.26	0.00
456	22BC011	22BC010	Circular	187.09	0.31	1.00	1.84	354.88	355.39	351.22	350.64	0.76	0.95	351.67	352.22	351.16	352.11	3.21	2.67	4.23	3.29
459	22BA053	22BD057	Circular	352.45	0.01	4.50	19.45	356.57	355.53	347.16	347.12	38.87	46.38	350.89	351.74	350.73	351.52	5.68	4.83	4.80	4.01
462	22BA031	22BA051	Circular	157.69	0.21	1.00	1.51	353.21	355.63	350.53	350.20	1.85	2.48	351.96	353.21	351.49	352.63	1.25	0.00	4.14	2.99
463	27AB007	27AB004	Circular	992.14	8.64	2.00	61.76	465.85	380.09	461.30	375.54	61.68	64.18	462.94	465.85	377.29	377.69	2.91	0.00	2.80	2.40
466	22BA036	22BA062	Circular	205.05	0.27	2.00	10.98	355.49	354.52	349.63	349.07	4.58	6.05	351.14	352.14	351.07	352.01	4.35	3.36	3.45	2.51
467	22BA062	22BA033	Circular	238.18	0.20	2.00	9.33	354.52	356.63	348.96	348.49	4.48	6.01	351.07	352.01	350.98	351.86	3.45	2.51	5.65	4.76
470	22BA052	22BA053	Circular	305.84	0.17	4.50	74.57	356.84	356.57	347.67	347.16	28.97	36.55	350.97	351.85	350.89	351.74	5.87	5.00	5.68	4.83
472	22AB038	22AB030	Circular	332.62	0.69	2.00	17.51	359.90	358.06	356.31	354.00	1.89	2.45	356.75	356.82	355.80	356.38	3.14	3.08	2.26	1.68
474	22AB030	22AB029	Circular	331.18	0.45	2.00	14.14	358.06	356.40	354.00	352.50	1.87	3.52	355.80	356.38	355.77	356.18	2.26	1.68	0.63	0.22
475	22AB029	22AC006	Circular	36.77	1.63	2.00	26.83	356.40	356.59	352.50	351.90	1.93	3.58	355.77	356.18	355.77	356.16	0.63	0.22	0.82	0.43
476	22AC006	22AC007	Circular	53.53	1.10	2.00	22.05	356.59	356.72	351.90	351.31	1.95	3.63	355.77	356.16	355.77	356.13	0.82	0.43	0.95	0.58
477	22AC007	22AC020	Circular	101.07	0.04	2.00	4.18	356.72	357.30	351.31	351.27	4.88	6.55	355.77	356.13	355.72	356.04	0.95	0.58	1.58	1.26

Hydraulic Model Results - Full Buildout Conditions																				
Oak Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
478	22AC021	22AC020	Circular	95.00	1.90	2.50	52.53	356.00	357.30	353.08	351.27	1.90	-2.33	355.72	356.00	355.72	356.04	0.28	0.00	1.58	1.26
479	22AC020	22BD030	Circular	110.82	1.51	2.50	46.76	357.30	356.98	351.27	349.60	6.01	5.64	355.72	356.04	355.69	356.03	1.58	1.26	1.29	0.95
480	22BD030	22BA055	Circular	37.16	0.03	2.50	6.25	356.98	356.89	349.60	349.59	6.03	5.66	355.69	356.03	355.68	356.03	1.29	0.95	1.21	0.86
484	22BA048	22BA049	Circular	471.71	0.01	2.50	3.51	352.99	354.82	348.58	348.54	2.81	4.08	351.13	352.01	351.11	351.98	1.86	0.99	3.70	2.84
489	22BA023	22BA046	Circular	283.96	0.53	2.00	15.32	355.74	354.35	352.18	350.67	3.10	4.07	352.79	352.88	351.43	352.01	2.94	2.85	2.92	2.34
490	22BA046	22BA047	Circular	54.45	1.62	2.00	26.71	354.35	354.16	350.67	349.79	6.00	7.76	351.43	352.01	351.17	352.05	2.92	2.34	2.99	2.11
493	22BA047	22BA049	Circular	276.11	0.45	2.50	25.42	354.16	354.82	349.77	348.54	5.81	7.48	351.17	352.05	351.11	351.98	2.99	2.11	3.70	2.84
532	22AB026	22AB028	Circular	29.21	0.27	1.00	1.73	355.54	355.08	351.58	351.50	1.78	2.25	352.75	353.19	352.68	353.05	2.79	2.35	2.41	2.03
534	22BA004	22BA005	Circular	36.03	0.14	2.00	7.83	355.21	354.87	350.50	350.45	3.61	4.60	351.45	352.05	351.40	352.04	3.76	3.16	3.47	2.83
535	22BA005	22BA061	Circular	382.34	0.14	2.00	7.89	354.87	356.70	350.45	349.91	3.61	4.35	351.40	352.04	351.01	351.93	3.47	2.83	5.69	4.77
540	22BA061	22BA060	Circular	108.09	0.17	2.50	15.54	356.70	356.83	349.36	349.18	4.88	5.97	351.01	351.93	350.99	351.91	5.69	4.77	5.84	4.92
541	22BA060	22BA050	Circular	162.64	0.54	2.50	28.02	356.83	354.34	349.18	348.30	6.65	8.33	350.99	351.91	350.97	351.86	5.84	4.92	3.37	2.48
542	22BA050	22BA052	Circular	86.93	0.49	4.50	128.43	354.34	356.84	348.30	347.87	24.79	31.29	350.97	351.86	350.97	351.85	3.37	2.48	5.87	5.00
543	22BA049	22BA050	Circular	426.65	0.04	4.00	25.83	354.82	354.34	348.46	348.30	18.96	24.08	351.11	351.98	350.97	351.86	3.70	2.84	3.37	2.48
548	15CD071	15CD064	Circular	355.59	0.27	1.50	5.07	354.47	354.02	350.39	349.43	1.62	2.13	351.28	352.16	351.19	352.07	3.19	2.31	2.83	1.96
574	26AD025	26AD021	Circular	565.76	0.10	3.00	19.66	383.28	382.71	378.07	377.50	33.54	36.12	382.61	383.28	380.98	381.37	0.67	0.00	1.73	1.34
576	26AA021	26AD004	Natural	511.02	0.14	3.48	407.68	383.78	383.50	380.52	379.80	-2.89	-4.74	382.96	383.50	382.96	383.50	0.82	0.27	0.55	0.00
584	26AA031	26AA036	Natural	346.37	0.51	4.00	455.36	384.95	382.69	380.70	378.94	7.80	10.00	381.39	381.48	380.02	380.59	3.56	3.47	2.67	2.10
586	26AA010	26AA031	Natural	141.63	0.21	3.12	93.93	383.00	384.95	381.00	380.70	7.83	10.02	381.84	381.94	381.39	381.48	1.16	1.06	3.56	3.47
592	26AA009	26AA010	Natural	114.13	0.16	2.00	58.93	383.18	383.00	381.18	381.00	7.84	10.04	382.03	382.12	381.84	381.94	1.16	1.07	1.16	1.06
670	23DC036	23DC003	Natural	275.33	0.03	1.68	25.85	377.57	378.11	376.20	376.11	1.29	1.75	376.61	376.72	376.60	376.72	0.96	0.85	1.51	1.39
672	23DC031	23DC036	Natural	141.59	0.07	1.52	31.90	377.97	377.57	376.30	376.20	1.90	2.67	376.71	376.77	376.61	376.72	1.26	1.20	0.96	0.85
738	22DA084	22DA082	Circular	36.00	0.11	1.50	3.25	361.01	366.96	355.83	355.79	5.76	6.87	358.45	358.67	358.42	358.56	2.56	2.34	8.54	8.40
740	22DA077	22DA059	Circular	194.06	0.25	1.50	4.85	360.70	361.34	356.45	355.97	5.77	6.87	359.20	359.75	358.55	358.82	1.50	0.96	2.79	2.52
741	22DA056	22DA054	Circular	169.95	0.33	1.25	3.44	361.56	360.75	357.31	356.75	2.23	2.91	359.51	360.27	359.28	359.88	2.05	1.29	1.47	0.88
743	22DA063	22DA040	Circular	102.16	0.16	1.00	1.31	360.58	363.04	358.75	358.59	1.64	2.10	359.80	360.06	359.64	359.73	0.78	0.52	3.40	3.32
744	22DA062	22DA081	Circular	89.01	0.39	1.33	4.46	361.72	362.50	359.92	359.57	1.77	2.33	360.50	360.61	360.16	360.27	1.21	1.11	2.35	2.23
748	22DA047	22DA049.1	Circular	78.01	0.36	1.00	1.98	361.53	361.10	358.08	357.80	1.27	1.63	359.06	359.55	358.96	359.37	2.47	1.98	2.14	1.73
749	22DA049.1	22DA049	Circular	195.18	0.11	1.00	1.09	361.10	359.85	357.80	357.59	1.26	1.63	358.96	359.37	358.78	358.92	2.14	1.73	1.08	0.94
750	22DA079	22DA083	Circular	159.13	0.19	2.00	9.27	359.90	362.39	356.70	356.39	16.68	17.50	359.77	359.90	358.78	358.92	0.13	0.00	3.61	3.48
752	22DA113	22DA079	Circular	358.17	0.21	2.00	9.68	364.36	359.90	357.50	356.74	16.68	18.22	362.00	362.56	359.77	359.90	2.36	1.80	0.13	0.00
754	22DA138	22DA113	Circular	84.47	3.30	2.00	38.18	364.42	364.36	360.44	357.65	17.54	19.68	362.19	362.81	362.00	362.56	2.24	1.61	2.36	1.80
756	23CB075	23CB027	Circular	161.78	0.14	2.00	7.92	366.87	365.85	361.73	361.50	11.62	12.50	365.03	365.83	364.54	365.28	1.84	1.04	1.31	0.57
758	23CB074	23CB075	Circular	39.83	0.45	2.00	14.12	366.83	366.87	361.91	361.73	10.59	10.96	365.13	365.94	365.03	365.83	1.70	0.89	1.84	1.04
760	23CB072	23CB074	Circular	488.68	0.26	1.50	4.99	367.97	366.83	363.36	362.08	7.90	7.46	367.40	367.63	365.13	365.94	0.56	0.34	1.70	0.89
762	09DC033	09DC029	Natural	259.28	0.11	2.64	56.18	342.72	342.43	340.08	339.79	0.00	0.01	340.00	340.17	339.79	339.81	2.72	2.55	2.64	2.61
791	23CB071	23CB072	Circular	102.04	0.08	1.50	2.73	367.98	367.97	363.75	363.67	7.90	7.46	367.97	367.98	367.40	367.63	0.01	0.00	0.56	0.34
800	16DB014	16DB001	Circular	289.65	0.33	3.00	18.20	345.66	346.49	340.50	340.25	33.81	34.30	344.16	344.20	343.36	343.39	1.50	1.46	3.13	3.10
801	16DA006	16DB015	Circular	541.72	0.04	3.00	22.26	346.91	344.92	341.40	340.70	33.81	37.76	346.47	346.91	344.86	344.92	0.45	0.00	0.05	0.00
802	16DA009	16DA007	Natural	281.60	0.45	5.68	154.65	348.84	346.99	342.86	341.60	10.51	-14.39	346.45	346.90	346.45	346.90	2.38	1.94	0.53	0.09
803	16AD054	16AC008	Natural	317.16	0.03	4.40	107.42	347.01	346.49	342.40	342.30	19.62	22.90	343.95	344.05	343.46	343.56	3.06	2.96	3.03	2.93
845	22AC024	22AC023	Circular	389.72	0.30	2.00	11.51	356.31	356.20	354.00	352.83	3.61	4.03	355.93	356.31	355.86	356.20	0.38	0.00	0.34	0.00
849	22AC023	22AC007	Circular	202.85	0.75	1.75	12.74	356.20	356.72	352.83	351.31	3.14	3.70	355.86	356.20	355.77	356.13	0.34	0.00	0.95	0.58
851	16DA034	16DA013	Natural	555.73	0.37	5.88	410.89	353.28	352.41	348.00	345.92	9.61	12.25	348.76	348.85	346.67	346.94	4.52	4.43	5.74	5.47
868	15CD064	15CD065	Circular	251.63	0.09	2.50	11.26	354.02	354.45	349.26	349.04	2.90	4.02	351.19	352.07	351.18	352.06	2.83	1.96	3.26	2.39
869	15CD065	15CD066	Circular	233.12	0.17	2.50	15.78	354.45	356.45	348.94	348.54	3.96	5.61	351.18	352.06	351.17	352.03	3.26	2.39	5.28	4.42
904	15CD066	22BA049	Circular	509.75	0.02	4.00	16.71	356.45	354.82	348.54	348.46	10.82	13.80	351.17	352.03	351.11	351.98	5.28	4.42	3.70	2.84
905	15CC045	15CD062	Circular	452.16	0.01	3.00	5.83	354.62	354.33	349.81	349.77	0.83	1.12	351.23	352.09	351.23	352.09	3.39	2.53	3.10	2.24
906	15CD062	15CD063	Circular	256.10	0.02	3.00	9.48	354.33	355.55	349.42	349.36	1.19	1.73	351.23	352.09	351.23	352.08	3.10	2.24	4.32	3.47
910	15CD058	15CD063	Circular	182.08	0.14	3.00	23.40	355.27	355.55	349.89	349.63	4.64	5.83	351.25	352.09	351.23	352.08	4.02	3.18	4.32	3.47
913	15CD063	15CD059	Circular	252.53	0.11	3.50	31.66	355.55	354.66	349.36	349.07	5.68	7.58	351.23	352.08	351.20	352.06	4.32	3.47	3.45	2.59
917	15CD059	15CD066	Circular	403.11	0.13	3.50	33.88	354.66	356.45	349.07	348.54	6.81	9.04	351.20	352.06	351.17	352.03	3.45	2.59	5.28	4.42
919	22DA067	22DA066	Natural	293.76	0.03	4.86	44.22	365.90	363.70	359.98	359.90	1.25	1.42	361.64	361.99	361.64	361.99	4.26	3.91	2.06	1.70
920	22DA032	22DB050	Natural	363.19	0.06	3.16	52.70	363.65	362.07	359.80	359.60	2.64	3.05	360.50	360.54	360.13	360.18	3.15	3.10	1.94	1.90
927	22DC005	22DC011	Natural	47.96	0.20	4.24	439.12	362.44	362.35	358.20	358.11	12.11	14.90	359.17	359.27	358.86	359.02	3.27	3.18	3.49	3.33
969	22DA148	22DA044	Natural	30.93	0.36	3.11	446.90	362.50	362.50	359.45	359.34	1.75	2.31	360.01	360.14	360.01	360.14	2.49	2.36	2.49	2.36
971	23CC090	22DD023.1	Natural	1253.64	0.02	7.25	384.85	369.56	369.25	362.31	362.00	4.31	4.75	363.52	363.56	363.39	363.44	6.04	5.99	5.86	5.80
972	22DD023	22DD024	Natural	15.65	0.32	7.62	638.92	368.54	369.25	361.30	361.25	27.36	31.77	362.52	362.60	362.49	362.57	6.02	5.94	6.76	6.68
986	09DC008	09DC036	Circular	134.59	0.24	2.50	18.57	340.39	340.00	337.20	336.88	7.59	9.50	338.33	338.55	338.26	338.50	2.06	1.84	1.74	1.50
1004	09DC032	09DC022	Natural	360.03	0.55	5.41	622.15	344.30	343.49	339.47	337.50	7.84	10.10	340.18	340.27	338.90	339.26	4.12	4.03	4.59	4.23
1048	23CA023	23CA022	Circular	8.81	45.40	1.00	22.29	369.77	370.28	368.07	364.07	7.89	7.82	369.72	369.77	369.23	369.29	0.05	0.00	1.04	0.99
1109	16AD067	16AD005	Natural	152.53	0.04	4.65	79.33	348.14	346.22	342.56	342.50	19.12	22.14	344.09	344.19	344.08	344.18	4.06	3.96	2.15	2.05
1114	16AC008	16AC010	Natural	577.11	0.37	3.93	286.77	346.49	343.84	342.30	340.17	19.57	22.88	343.46	343.56	341.17	341.19	3.03	2.93	2.67	2.64
1115	16AD005	16AD054	Natural	213.56	0.05	4.17	100.31	346.22	347.01	342.50	342.40	18.93	22.05	344.08	344.18	343.95	344.05	2.15	2.05	3.06	2.96
1121	22BB027	15CC015	Natural	655.27	0.46	3.50	353.52	360.97	358.24	357.63	354.58	1.25	1.65	357.89	357.92	355.09	355.15	3.08	3.05	3.15	3.09
1123	15CC015	15CC047	Natural	444.55	0.09	3.66	93.18	358.24	357.82	354.58	354.16	1.22	1.61	355.09	355.15	354.57	354.62	3.15	3.09	3.25	3.20
1134	22AB049	22BA004	Circular	227.52	0.10	1.50	3.03	355.66	355.21	351.28	351.06	3.61	4.63	352.40	352.59	351.45	352.05	3.26	3.07	3.76	3.16
1136	22AB028	22AB049	Circular	100.91	0.12	1.00	1.14	355.08	355.66	351.40	351.28	1.78	2.25	352.68	353.05	352.40	352.59	2.41	2.03	3.26	3.07
1139	22AB031	22AB026	Circular	125.19	1.00	0.67	1.12	357.91	355.54	352.93	351.68	1.78	2.25	355.81	357.91	352.75	353.19	2.10	0.00	2.79	2.35
1156	16DA013	16DA030	Natural	161.49	0.44	6.49	1669.71	352.41	351.70	345.92	345.21	11.13	13.54	346.67	346.94	346.43	346.87	5.74	5.47	5.27	4.82

Hydraulic Model Results - Full Buildout Conditions																				
Oak Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1159	15CB084	16DA034	Natural	267.54	0.04	5.27	320.51	353.36	353.28	348.10	348.00	9.83	12.57	349.14	349.26	348.76	348.85	4.22	4.10	4.52	4.43
1160	15CB100	15CB083	Natural	538.40	0.09	5.04	237.86	354.20	352.78	348.71	348.20	5.73	7.19	349.69	349.81	349.38	349.52	4.51	4.39	3.40	3.26
1161	15CB016	15CB101	Natural	173.26	0.58	3.51	380.33	354.41	353.62	351.00	350.00	2.16	2.64	351.45	351.48	350.25	350.27	2.96	2.92	3.37	3.35
1168	15CB112	15CB015	Natural	117.79	0.49	2.18	213.11	354.00	353.18	351.70	351.12	2.18	2.68	352.13	352.27	352.05	352.24	1.87	1.73	1.13	0.94
1198	15CB093	15CB040	Circular	142.83	0.15	1.00	1.27	350.52	352.42	348.54	348.33	1.09	1.42	349.50	349.76	349.36	349.53	1.02	0.75	3.05	2.88
1200	15CB040	15CB048	Circular	168.62	0.08	1.25	1.67	352.42	352.01	348.33	348.20	1.07	1.40	349.36	349.53	349.32	349.46	3.05	2.88	2.69	2.56
1201	15CB048	15CB047	Circular	27.50	0.15	3.00	23.62	352.01	352.17	348.19	348.15	9.89	12.64	349.32	349.46	349.22	349.34	2.69	2.56	2.95	2.82
1202	15CB083	15CB048	Circular	20.05	0.05	3.00	13.83	352.78	352.01	348.20	348.19	9.08	11.56	349.38	349.52	349.32	349.46	3.40	3.26	2.69	2.56
1203	15CB047	15CB084	Circular	19.00	0.26	3.00	31.77	352.17	353.36	348.15	348.10	9.89	12.63	349.22	349.34	349.14	349.26	2.95	2.82	4.22	4.10
1206	15CB049	15CB050	Circular	202.62	0.22	0.83	0.95	352.48	352.21	349.67	349.23	1.84	2.23	351.66	352.48	350.04	350.14	0.82	0.00	2.18	2.07
1208	15CB050	15CB051	Circular	90.57	0.03	1.25	1.09	352.21	351.89	349.23	349.20	1.84	2.23	350.04	350.14	349.81	349.92	2.18	2.07	2.08	1.97
1210	15CB079	15CB078	Circular	20.00	0.45	1.50	6.54	351.75	351.77	349.22	349.13	2.27	2.93	349.96	350.08	349.93	350.05	1.80	1.67	1.84	1.72
1212	15CB051	15CB097	Circular	18.73	0.27	1.50	5.04	351.89	353.00	349.10	349.05	1.84	2.22	349.81	349.92	349.78	349.90	2.08	1.97	3.22	3.11
1215	15CB097	15CB085	Circular	97.57	0.14	1.75	5.57	353.00	354.21	349.05	348.91	1.83	2.21	349.78	349.90	349.69	349.81	3.22	3.11	4.52	4.40
1216	15CB085	15CB100	Circular	16.50	0.67	3.50	76.28	354.21	354.20	348.82	348.71	5.80	7.24	349.69	349.81	349.69	349.81	4.52	4.40	4.51	4.39
1217	15CB101	15CB068	Circular	8.06	9.68	2.00	65.35	353.62	353.39	350.00	349.22	2.16	2.64	350.25	350.27	349.80	349.91	3.37	3.35	3.59	3.48
1218	15CB068	15CB085	Circular	84.04	0.11	3.00	20.27	353.39	354.21	348.91	348.82	4.06	5.05	349.80	349.91	349.69	349.81	3.59	3.48	4.52	4.40
1219	15CB078	15CB114	Circular	66.95	0.09	1.75	4.40	351.77	353.23	349.13	349.07	2.27	2.92	349.93	350.05	349.83	349.95	1.84	1.72	3.40	3.28
1221	15CB005	15CB006	Circular	173.10	0.11	1.75	4.87	354.16	353.40	349.85	349.66	2.28	2.95	350.65	350.77	350.37	350.50	3.51	3.39	3.03	2.91
1223	15CB006	15CB007	Circular	231.13	0.11	1.75	4.93	353.40	351.76	349.56	349.30	2.28	2.94	350.37	350.50	350.05	350.17	3.03	2.91	1.71	1.59
1225	15CB007	15CB079	Circular	54.52	0.09	1.75	4.46	351.76	351.75	349.27	349.22	2.27	2.93	350.05	350.17	349.96	350.08	1.71	1.59	1.80	1.67
1227	22AA041	22AA030	Natural	195.75	0.03	3.04	110.67	360.89	361.04	357.95	357.90	4.51	5.34	359.61	359.94	359.61	359.94	1.28	0.95	1.43	1.11
1233	15CB102	15CB044	Circular	9.55	0.73	1.50	8.35	350.85	350.34	346.76	346.69	4.69	5.62	347.96	348.61	347.95	348.58	2.89	2.24	2.39	1.76
1234	15CB044	15CB046	Circular	31.56	0.35	1.50	5.76	350.34	350.09	346.69	346.58	4.69	5.62	347.95	348.58	347.89	348.48	2.39	1.76	2.21	1.61
1235	15CB104	15CB102	Circular	328.66	0.15	2.25	11.10	353.22	350.85	347.35	346.86	4.77	5.78	348.40	348.80	347.96	348.61	4.82	4.42	2.89	2.24
1239	22DB050	22DB004	Natural	380.32	0.77	2.28	217.24	362.07	358.78	359.60	356.68	6.38	7.93	360.13	360.18	357.94	358.22	1.94	1.90	0.84	0.56
1241	22DA070	22DA031	Natural	763.34	0.45	2.91	349.65	368.14	364.72	365.23	361.81	1.69	2.15	365.63	365.68	362.46	362.59	2.50	2.46	2.27	2.13
1250	22DB025	22DB013	Natural	286.77	0.29	2.53	81.96	362.72	362.96	360.72	359.90	1.67	2.10	361.32	361.38	360.18	360.21	1.40	1.34	2.78	2.75
1266	22CB006	22CB010	Natural	226.05	2.22	4.52	1335.09	355.41	351.50	351.44	346.42	3.48	4.35	351.96	352.01	349.96	350.27	3.45	3.40	1.53	1.23
1304	22DB062	22DC005	Natural	241.47	0.48	3.42	159.19	360.76	362.44	358.76	357.60	12.20	15.16	359.48	359.56	359.17	359.27	1.28	1.20	3.27	3.18
1305	22DC011	22DC003	Natural	290.02	0.15	3.64	178.24	362.35	360.71	358.11	357.67	3.68	6.59	358.86	359.02	355.68	355.77	3.49	3.33	5.03	4.94
1306	22DC001	22DC015	Natural	17.21	5.99	3.78	998.63	361.84	360.82	358.06	357.03	-8.95	-14.92	358.91	359.16	358.70	358.88	2.93	2.69	2.11	1.93
1307	22DC015	22DC002	Natural	296.00	0.37	3.79	621.17	360.82	359.73	357.03	355.94	7.86	8.03	358.70	358.88	358.70	358.88	2.11	1.93	1.03	0.85
1310	27AB003	22DC019	Natural	760.81	1.92	5.85	1871.42	374.55	363.84	370.64	356.05	61.47	63.21	371.63	371.65	358.18	358.36	2.92	2.91	5.65	5.48
1349	26BB027	27AA001	Natural	533.84	0.29	2.65	97.53	370.70	369.14	368.04	366.48	1.98	2.75	368.55	368.62	366.98	367.12	2.14	2.08	2.16	2.01
1351	27AA011	27AA005	Natural	30.99	7.46	6.36	2123.74	367.53	368.80	362.96	360.64	2.14	2.91	363.27	363.32	361.79	361.97	4.26	4.21	7.01	6.83
1352	27AA017	27AA012	Natural	323.37	0.76	2.73	242.97	369.06	366.61	366.33	363.88	2.14	2.95	366.86	366.92	364.56	364.77	2.21	2.14	2.05	1.84
1356	22DD025	27AA017	Natural	557.40	0.23	2.37	48.12	369.62	369.06	367.62	366.33	2.17	2.98	368.08	368.14	366.86	366.92	1.55	1.48	2.21	2.14
1367	22DD013	22DD006	Natural	418.27	0.52	2.46	140.57	369.78	367.60	367.32	365.14	2.95	4.37	367.98	368.09	365.49	365.56	1.80	1.69	2.12	2.04
1368	22DD006	22DD003	Natural	271.38	0.80	3.43	360.71	367.60	367.38	365.14	362.98	2.94	4.32	365.49	365.56	364.80	364.96	2.12	2.04	2.58	2.42
1370	23CC012	22DD003	Natural	365.47	0.20	4.40	248.24	368.10	367.38	363.70	362.98	19.15	20.24	365.34	365.41	364.80	364.96	2.76	2.69	2.58	2.42
1374	26BB032	26BB036	Natural	373.25	0.15	2.00	51.58	370.77	370.20	368.77	368.20	3.96	5.25	369.60	369.68	368.61	368.66	1.17	1.09	1.59	1.54
1375	26BB036	27AA002	Natural	597.30	0.50	2.00	90.09	370.20	367.21	368.20	365.21	3.92	5.21	368.61	368.66	365.56	365.60	1.59	1.54	1.65	1.60
1377	23CC066	23CC012	Natural	197.19	0.20	4.09	315.73	367.87	368.10	364.10	363.70	19.15	20.23	365.58	365.63	365.34	365.41	2.30	2.24	2.76	2.69
1385	23CC055	23CC036	Natural	347.69	0.37	2.39	79.34	370.71	369.42	368.32	367.03	4.34	5.47	369.09	369.44	369.07	369.42	1.61	1.27	0.36	0.00
1386	23CC025	23CC063	Circular	543.53	0.41	2.00	13.50	370.00	368.77	366.73	364.49	12.91	13.22	369.07	369.42	367.15	367.33	0.93	0.58	1.62	1.44
1388	23CC061	23CC063	Natural	562.88	0.34	4.28	367.05	370.70	368.77	366.41	364.49	6.90	7.51	367.37	367.49	367.15	367.33	3.33	3.20	1.62	1.44
1392	22AC012	22AC018	Circular	90.70	0.17	1.50	3.97	360.00	360.15	357.34	357.19	2.17	2.84	358.06	358.17	357.72	357.84	1.94	1.83	2.42	2.31
1394	22AC009	22AC001	Circular	313.72	0.21	1.50	4.51	360.30	359.98	358.54	357.87	4.02	5.22	359.68	360.23	359.07	359.39	0.62	0.07	0.90	0.59
1395	22AC001	22AC017	Circular	198.66	0.02	1.50	1.38	359.98	360.72	357.82	357.78	4.01	5.21	359.07	359.39	357.79	357.90	0.90	0.59	2.93	2.82
1399	22AD042	22AD056	Circular	244.11	0.09	1.25	1.84	360.41	362.12	358.77	358.54	2.58	3.14	360.10	360.41	359.72	360.09	0.31	0.00	2.40	2.03
1401	22AD056	22AA001	Circular	359.49	0.09	1.75	4.46	362.12	360.12	358.33	358.00	3.56	4.35	359.72	360.09	359.62	359.96	2.40	2.03	0.50	0.17
1402	22AA001	22AA041	Circular	57.65	0.09	2.00	6.19	360.12	360.89	358.00	357.95	5.60	6.87	359.62	359.96	359.61	359.94	0.50	0.17	1.28	0.95
1405	23CD014	23CC048	Natural	412.48	0.12	2.15	54.39	373.70	373.21	371.55	371.06	0.95	1.32	372.01	372.07	371.39	371.46	1.69	1.63	1.82	1.76
1413	23CC011	23CC008	Natural	359.21	0.35	2.23	47.84	372.53	371.73	370.53	369.26	0.92	1.27	370.98	371.40	370.98	371.39	1.55	1.14	0.75	0.34
1414	23CC036	23CC025	Natural	151.81	0.20	2.83	91.74	369.42	370.00	367.03	366.73	2.71	2.80	369.07	369.42	369.07	369.42	0.36	0.00	0.93	0.58
1430	26BB008	26BB007	Natural	219.64	0.23	2.69	166.57	373.58	373.50	371.10	370.60	2.81	3.95	371.53	371.61	370.99	371.39	2.05	1.96	2.51	2.11
1437	26BB014	26BB013	Natural	68.02	0.29	2.24	133.89	372.44	372.24	370.20	370.00	3.05	3.39	370.92	371.38	370.90	371.38	1.52	1.06	1.34	0.86
1438	26BB048	26BB011	Natural	530.99	0.21	2.00	99.27	373.03	371.94	371.03	369.94	6.72	8.30	371.81	371.91	371.57	371.84	1.23	1.13	0.37	0.09
1439	26BB012	26BB049	Natural	417.53	1.41	5.56	170.24	370.55	371.79	368.55	362.68	6.41	6.81	368.85	368.85	364.11	364.18	1.71	1.70	7.68	7.61
1444	23CD033	23CD040	Natural	517.14	0.02	3.51	44.13	372.34	372.22	368.83	368.71	7.50	11.92	372.05	372.23	372.04	372.22	0.29	0.11	0.18	0.00
1448	23CA010	23CA009	Natural	171.36	1.17	2.00	142.15	373.10	371.10	371.10	369.10	2.08	3.32	371.55	371.63	369.88	370.15	1.55	1.47	1.22	0.95
1452	23CA021	23CA024	Natural	172.62	0.50	2.00	19.34	372.17	371.31	370.17	369.31	1.76	2.40	370.48	370.51	369.76	369.99	1.69	1.66	1.54	1.31
1453	23CA008	23CA025	Natural	119.54	0.62	2.28	38.13	371.56	370.26	369.00	368.26	2.06	3.35	369.77	369.88	369.76	369.87	1.80	1.68	0.49	0.38
1459	23CD042	23CC068	Natural	47.52	1.08	4.56	698.49	371.78	370.83	367.00	366.49	4.31	4.75	368.65	368.97	368.65	368.97	3.13	2.81	2.18	1.86
1460	23CC067	23CC089	Natural	135.64	1.05	4.86	827.71	371.16	369.74	366.29	364.87	4.31	4.75	366.75	366.77	363.53	363.58	4.41	4.38	6.21	6.16
1465	23CD031	23CD025	Natural	737.57	0.37	3.94	323.89	374.40	371.66	370.46	367.72	8.20	11.35	371.42	371.56	370.15	370.79	2.98	2.84	1.50	0.87
1466	23CD021	23CD031	Natural	219.48	0.57	3.32	202.47	374.42	374.40	371.71	370.46	4.03	5.70	372.46	372.56	371.42	371.56	1.96	1.86	2.98	2.84
1559	23CA026	23CA007	Circular	165.48	0.21	2.00	9.62	370.46	370.88	368.35	368.00	3.63	5.50	369.83	370.03	369.78	369.94	0.63	0.43	1.10	0.94
1579	15CB094	15CB060	Circular	46.35	0.45	1.00	2.23	351.18	351.46	347.85	347.64	1.40	1.79	348.48	348.61	348.34	348.48	2.70	2.56	3.12	2.98

Hydraulic Model Results - Full Buildout Conditions																				
Oak Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1580	15CB058	15CB094	Circular	158.44	0.25	1.00	1.64	350.85	351.18	348.31	347.92	1.40	1.79	349.01	349.15	348.48	348.61	1.85	1.71	2.70	2.56
2125	22DA038	22DA080	Circular	24.86	1.37	1.00	3.87	360.00	360.38	357.68	357.34	1.15	1.29	359.65	360.00	359.62	359.98	0.35	0.00	0.76	0.40
2126	22DA080	22DA050	Circular	128.01	0.19	1.00	1.43	360.38	359.91	357.29	357.05	1.15	1.28	359.62	359.98	359.47	359.90	0.76	0.40	0.44	0.01
2128	22DA050	22DA077	Circular	226.24	0.08	1.00	0.93	359.91	360.70	357.05	356.87	1.15	1.25	359.47	359.90	359.20	359.75	0.44	0.01	1.50	0.96
2132	22DB041	22DB040	Circular	277.20	0.20	1.00	1.47	362.51	359.44	357.58	357.03	2.60	3.30	359.54	360.91	357.53	358.27	2.97	1.60	1.91	1.17
2139	22DA049	22DA033	Circular	43.60	0.21	1.00	1.50	359.85	362.27	357.34	357.25	1.25	1.63	358.78	358.92	358.76	358.89	1.08	0.94	3.51	3.38
2140	22DA044	22DA043	Circular	121.57	0.28	1.25	3.17	362.50	362.67	359.34	359.00	1.73	2.29	360.01	360.14	359.75	359.84	2.49	2.36	2.92	2.83
2141	22DA042	22DA041	Circular	27.75	0.11	1.25	1.97	362.46	362.56	358.79	358.76	1.54	2.15	359.75	359.84	359.74	359.83	2.71	2.62	2.82	2.74
2143	22DA054	22DA077	Circular	56.69	0.53	1.25	4.36	360.75	360.70	356.75	356.45	2.23	2.91	359.28	359.88	359.20	359.75	1.47	0.88	1.50	0.96
2144	22DA059	22DA084	Circular	32.62	0.37	1.50	5.92	361.34	361.01	355.97	355.85	5.76	6.87	358.55	358.82	358.45	358.67	2.79	2.52	2.56	2.34
2146	15CD087	15CD058	Circular	355.68	0.24	2.00	10.39	356.45	355.27	351.09	350.22	2.71	3.46	351.80	352.17	351.25	352.09	4.65	4.28	4.02	3.18
2191	23CB073	23CB029	Circular	209.32	0.06	2.00	5.03	365.37	364.57	361.12	361.00	14.09	15.67	364.03	364.69	363.10	363.57	1.34	0.68	1.47	1.00
2192	22DA118	22DA138	Circular	127.56	0.19	2.00	9.11	364.10	364.42	360.68	360.44	17.54	19.74	362.84	363.26	362.19	362.81	1.26	0.84	2.24	1.61
2193	23CB039	23CB046	Circular	259.49	0.18	3.00	26.64	367.99	367.44	363.31	362.83	4.20	5.31	364.12	364.29	363.61	364.06	3.87	3.70	3.83	3.38
2194	22DA135	22DA119	Circular	194.30	0.19	1.50	4.20	365.54	364.00	361.18	360.82	3.97	4.71	363.17	363.75	362.87	363.31	2.37	1.79	1.13	0.69
2201	23CB046	23CB051	Circular	260.59	0.13	3.00	22.70	367.44	366.44	362.64	362.29	4.06	4.91	363.61	364.06	363.44	364.01	3.83	3.38	3.00	2.43
2202	23CB051	23CB057	Circular	259.17	0.08	2.00	6.12	366.44	365.57	362.19	361.97	3.92	4.71	363.44	364.01	363.28	363.90	3.00	2.43	2.29	1.67
2203	23CB057	23CB061	Circular	131.09	0.12	2.00	7.34	365.57	364.98	361.85	361.69	3.90	4.70	363.28	363.90	363.22	363.83	2.29	1.67	1.75	1.14
2204	23CB061	23CB063	Circular	111.57	0.20	2.00	9.33	364.98	365.46	361.63	361.41	3.93	4.70	363.22	363.83	363.19	363.78	1.75	1.14	2.28	1.68
2205	23CB063	22DA135	Circular	54.76	0.40	2.00	13.31	365.46	365.54	361.40	361.18	3.96	4.71	363.19	363.78	363.17	363.75	2.28	1.68	2.37	1.79
2206	23CA022	23CB071	Circular	208.63	0.15	1.50	3.82	370.28	367.98	364.07	363.75	7.89	7.82	369.23	369.29	367.97	367.98	1.04	0.99	0.01	0.00
2207	23CB027	23CB073	Circular	147.51	0.22	2.00	9.78	365.85	365.37	361.50	361.18	12.42	13.55	364.54	365.28	364.03	364.69	1.31	0.57	1.34	0.68
2208	23CB029	22DA118	Circular	60.65	0.40	2.00	13.21	364.57	364.10	361.00	360.76	14.07	15.65	363.10	363.57	362.84	363.26	1.47	1.00	1.26	0.84
2215	22DA119	22DA118	Circular	21.29	0.28	1.50	5.18	364.00	364.10	360.82	360.76	3.97	4.71	362.87	363.31	362.84	363.26	1.13	0.69	1.26	0.84
2223	23CC079	23CC080	Circular	78.07	0.20	1.50	4.42	365.23	365.20	362.54	362.38	6.17	6.61	364.44	364.74	364.14	364.40	0.80	0.49	1.05	0.80
2228	23CC076	23CC077	Circular	78.06	0.23	2.00	10.09	365.63	365.57	363.12	362.94	6.20	6.63	365.23	365.63	365.17	365.56	0.40	0.00	0.40	0.01
2230	23CC075	23CC076	Circular	229.58	0.23	2.00	10.09	367.35	365.63	363.68	363.15	6.28	8.49	365.41	365.98	365.23	365.63	1.95	1.37	0.40	0.00
2238	23CC071	23CC075	Circular	205.70	0.31	2.00	11.72	368.57	367.35	364.37	363.73	6.52	8.49	365.65	366.27	365.41	365.98	2.92	2.29	1.95	1.37
2240	23CC077	23CC079	Circular	186.61	0.16	1.50	3.85	365.57	365.23	362.88	362.59	6.17	6.62	365.17	365.56	364.44	364.74	0.40	0.01	0.80	0.49
2241	23CC080	23CC082	Circular	149.06	0.06	1.50	2.40	365.20	365.65	362.25	362.16	6.15	6.61	364.14	364.40	363.59	363.75	1.05	0.80	2.06	1.91
2242	23CC082	22DA124	Circular	97.27	0.14	1.50	3.70	365.65	364.90	362.09	361.95	6.13	6.57	363.59	363.75	363.19	363.34	2.06	1.91	1.71	1.56
2243	22DA124	22DA125	Circular	25.92	0.15	1.50	3.83	364.90	365.21	361.85	361.81	6.13	6.57	363.19	363.34	363.08	363.23	1.71	1.56	2.13	1.99
2247	22DA125	22DD020	Circular	98.71	0.15	1.50	3.80	365.21	364.93	361.72	361.57	6.13	6.57	363.08	363.23	362.67	362.76	2.13	1.99	2.26	2.17
2249	22DD020	22DD021	Circular	19.50	0.62	1.50	7.65	364.93	363.95	361.47	361.35	6.12	6.56	362.67	362.76	362.61	362.70	2.26	2.17	1.34	1.25
2250	22DD021	22DD023	Circular	26.13	0.19	1.50	4.27	363.95	368.54	361.35	361.30	6.11	6.56	362.61	362.70	362.52	362.60	1.34	1.25	6.02	5.94
2305	09DC018	09DC015	Circular	11.39	0.70	2.50	31.92	338.50	340.00	335.35	335.27	6.87	6.90	338.26	338.50	338.26	338.50	0.24	0.00	1.74	1.50
2307	09DC014	09DC017	Circular	75.19	0.23	2.00	9.99	338.50	338.65	335.69	335.52	7.27	9.04	338.28	338.50	338.26	338.50	0.22	0.00	0.39	0.15
2322	09DC024	09DC008	Circular	102.05	0.04	2.50	7.54	340.53	340.39	337.24	337.20	7.62	9.56	338.52	338.71	338.33	338.55	2.01	1.82	2.06	1.84
2324	09DC013	09DC015	Circular	3.97	5.79	2.50	91.67	339.95	340.00	336.50	336.27	48.62	56.36	338.34	338.58	338.26	338.50	1.62	1.37	1.74	1.50
2520	22DA145	22DA083	Circular	55.76	1.27	6.00	443.76	363.41	362.39	357.10	356.39	29.57	34.74	358.73	358.86	358.78	358.92	4.68	4.55	3.61	3.48
2521	22DA066	22DA032	Circular	116.52	0.09	1.00	0.97	363.70	363.65	359.90	359.80	2.64	3.04	361.64	361.99	360.50	360.54	2.06	1.70	3.15	3.10
2523	22AC011	22DB050	Circular	120.48	0.33	1.50	5.62	362.00	362.07	360.00	359.60	3.96	5.14	360.90	361.03	360.13	360.18	1.10	0.97	1.94	1.90
2526	22DD024	22DA136	Circular	124.07	0.20	8.00	380.18	369.25	369.25	361.25	361.00	27.36	31.78	362.49	362.57	361.59	361.66	6.76	6.68	7.66	7.60
2527	23CC089	23CC090	Circular	35.13	1.14	3.00	66.09	369.74	369.56	360.40	360.00	4.31	4.75	363.53	363.58	363.52	363.56	6.21	6.16	6.04	5.99
2532	22DA136	22DA137	Rectangular	108.26	0.92	3.00	259.45	369.25	368.00	361.00	360.00	27.36	31.78	361.59	361.66	360.93	361.01	7.66	7.60	7.07	6.99
2534	22DA081	22DA148	Circular	31.83	0.28	1.25	3.19	362.50	362.50	359.54	359.45	1.77	2.33	360.16	360.27	360.01	360.14	2.35	2.23	2.49	2.36
2549	09DC017	09DC015	Circular	151.05	0.17	2.50	15.49	338.65	340.00	335.52	335.27	6.07	7.72	338.26	338.50	338.26	338.50	0.39	0.15	1.74	1.50
2552	09DC032	09DC033	Circular	42.52	0.28	1.25	3.19	344.30	342.72	340.20	340.08	0.00	0.02	340.18	340.27	340.00	340.17	4.12	4.03	2.72	2.55
2745	15BC012	15BC023	Circular	44.92	1.56	1.00	4.13	352.51	353.25	349.70	349.00	3.24	3.80	350.38	350.69	349.73	350.29	2.13	1.83	3.52	2.96
2746	15BC023	15CB082	Circular	44.69	7.79	1.00	9.23	353.25	350.77	349.00	345.52	6.77	8.01	349.73	350.29	347.41	347.84	3.52	2.96	3.37	2.94
2747	15CB082	15CB087	Circular	231.54	0.15	2.50	14.81	350.77	350.37	345.52	345.17	13.77	16.48	347.41	347.84	347.05	347.54	3.37	2.94	3.32	2.83
2749	15CB087	15CB086	Circular	256.63	0.15	2.50	14.66	350.37	349.63	345.17	344.79	13.68	16.29	347.05	347.54	346.69	347.23	3.32	2.83	2.94	2.40
2751	15CB086	16AD047	Circular	345.71	0.15	2.50	14.77	349.63	349.55	344.79	344.27	13.48	15.98	346.69	347.23	346.37	346.82	2.94	2.40	3.18	2.73
2753	16AD047	16AD053	Circular	70.17	0.16	2.50	15.08	349.55	349.31	344.27	344.16	13.17	15.80	346.37	346.82	346.34	346.76	3.18	2.73	2.98	2.55
2754	16DA027	16AD053	Circular	51.74	0.12	2.00	7.15	349.16	349.31	344.16	344.10	10.08	11.89	346.43	346.87	346.34	346.76	2.73	2.28	2.98	2.55
2755	16AD042	16AD053	Circular	16.08	0.87	1.00	3.09	350.83	349.31	344.40	344.26	3.31	4.02	346.37	346.80	346.34	346.76	4.46	4.03	2.98	2.55
2756	16DA027	16DA022	Circular	123.71	0.12	2.25	10.01	349.16	349.00	344.16	344.01	7.54	8.64	346.43	346.87	346.41	346.86	2.73	2.28	2.58	2.14
2758	16AD053	16AD048	Circular	122.51	0.10	2.50	11.92	349.31	348.63	344.10	343.98	19.40	22.27	346.34	346.76	346.02	346.35	2.98	2.55	2.61	2.28
2760	16AD048	16AD066	Circular	304.26	0.25	2.50	19.04	348.63	347.28	343.98	343.22	19.37	22.26	346.02	346.35	345.21	345.42	2.61	2.28	2.07	1.85
2761	16DA022	16DA029	Circular	270.56	0.15	2.25	11.06	349.00	347.43	344.01	343.61	7.68	8.75	346.41	346.86	346.41	346.85	2.58	2.14	1.02	0.59
2762	16DA029	16DA009	Circular	334.67	0.22	2.25	13.61	347.43	348.84	343.61	342.86	7.87	8.90	346.41	346.85	346.45	346.90	1.02	0.59	2.38	1.94
2763	16AD066	16AD067	Circular	305.04	0.22	2.50	17.72	347.28	348.14	343.22	342.56	19.35	22.25	345.21	345.42	344.09	344.19	2.07	1.85	4.06	3.96
2788	15CB013	15CB099	Circular	62.01	2.42	1.00	5.15	352.50	349.90	347.16	345.66	-0.03	-0.05	347.53	348.00	347.53	348.00	4.97	4.50	2.37	1.90
2881	15CB003	15CB112	Circular	29.62	0.43	1.00	2.16	354.52	354.00	351.83	351.70	2.20	2.73	352.80	353.00	352.13	352.27	1.73	1.52	1.87	1.73
2882	15CB015	15CB016	Circular	25.77	0.45	1.00	2.23	353.18	354.41	351.12	351.00	2.16	2.64	352.05	352.24	351.45	351.48	1.13	0.94	2.96	2.92
2959	22AA030	22AD046	Circular	83.62	0.12	1.00	1.14	361.04	361.59	357.90	357.80	3.54	4.04	359.61	359.94	358.33	358.37	1.43	1.11	3.26	3.22
2960	22DB003	22DB058	Circular	74.11	1.08	2.25	29.88	360.17	357.49	355.00	354.20	15.42	17.43	356.70	356.87	355.09	355.11	3.47	3.31	2.40	2.37
3020	22BB017	22BB016	Circular	39.75	0.98	1.00	3.27	350.00	353.84	344.54	344.15	8.05	8.41	346.98	347.23	346.80	346.97	3.02	2.77	7.05	6.87
3025	22DC002	22DC003	Circular	48.07	0.42	1.00	2.13	359.73	360.71	355.30	355.10	5.13	5.55	358.70	358.88	355.68	355.77	1.03	0.85	5.03	4.94
3026	22DC015	22DC011	Circular	48.61	2.24	2.00	31.44	360.82	362.35	357.03	355.94	-8.64	-8.91	358.70	358.88	358.86	359.02	2.11	1.93	3.49	3.33

Hydraulic Model Results - Full Buildout Conditions																				
Oak Creek Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
3105	23CD040	23CD041	Circular	39.73	2.11	1.00	4.81	372.22	371.53	368.71	367.87	6.36	6.54	372.04	372.22	368.62	368.63	0.18	0.00	2.91	2.90
3145	23CA024	23CA023	Circular	50.66	0.10	1.00	1.04	371.31	369.77	368.12	368.07	1.73	2.21	369.76	369.99	369.72	369.77	1.54	1.31	0.05	0.00
3149	23CA025	23CA023	Circular	37.01	0.36	2.00	12.69	370.26	369.77	367.26	367.12	6.98	11.17	369.76	369.87	369.72	369.77	0.49	0.38	0.05	0.00
3153	23CD025	23CD042	Circular	38.55	0.74	1.00	2.84	371.66	371.78	367.72	367.44	4.64	5.15	370.15	370.79	368.65	368.97	1.50	0.87	3.13	2.81
3774	09DC036	09DC012	Circular	79.12	0.67	2.50	31.17	340.00	339.82	336.88	336.35	7.48	9.39	338.26	338.50	338.26	338.50	1.74	1.50	1.56	1.32
3779	15CB114	15CB113	Circular	3.69	1.36	1.75	17.13	353.23	352.89	349.07	349.02	2.26	2.92	349.83	349.95	349.84	349.95	3.40	3.28	3.06	2.94
3780	15CB113	15CB068	Circular	44.95	0.24	1.75	7.28	352.89	353.39	349.02	348.91	2.26	2.91	349.84	349.95	349.80	349.91	3.06	2.94	3.59	3.48
Link2350	26AA024	26AD025	Natural	456.43	0.25	2.89	97.31	383.76	383.28	381.21	380.05	3.10	5.33	382.62	383.31	382.61	383.28	1.14	0.46	0.67	0.00
Link2351	26AD004	26AD001	Circular	439.72	0.27	1.00	1.71	383.50	381.88	379.80	378.62	2.73	2.96	382.96	383.50	379.18	379.20	0.55	0.00	2.70	2.68
Link2352	23DC003	23DC004	Circular	29.04	0.86	1.00	3.07	378.11	379.02	376.11	375.86	0.93	1.31	376.60	376.72	375.92	375.95	1.51	1.39	3.10	3.07
Link2356	26AA018	26AA021	Natural	542.50	0.30	3.13	655.54	385.17	383.78	382.17	380.52	6.08	7.78	382.96	383.51	382.96	383.50	2.21	1.66	0.82	0.27
Link2358	26AA036	23DD076	Natural	425.24	0.46	3.84	322.43	382.69	380.94	378.94	377.00	6.87	7.80	380.02	380.59	379.97	380.58	2.67	2.10	0.98	0.36
Link2359	26AD021	26AC006	Circular	630.93	0.24	3.00	17.44	382.71	381.21	377.50	377.00	33.53	36.09	380.98	381.37	378.61	378.65	1.73	1.34	2.60	2.56
Link2360	26AD013	26AC007.1	Natural	676.74	0.92	6.19	1040.94	381.36	381.01	378.10	371.90	2.73	2.96	378.50	378.51	373.04	373.08	2.86	2.85	7.98	7.93
Link2362	27AD015	27AA004	Natural	1103.31	1.08	6.30	2848.04	376.92	368.76	372.48	360.60	25.88	32.58	372.93	372.96	361.95	362.12	3.99	3.96	6.80	6.64
Link2363	27AA002	27AA008	Natural	261.65	1.35	5.39	295.35	367.21	370.46	365.21	361.69	5.89	7.92	365.56	365.60	362.96	363.04	1.65	1.60	7.50	7.42
Link2365	27AB004	27AB003	Circular	48.66	10.08	2.00	66.71	380.09	374.55	375.54	370.64	61.68	64.30	377.29	377.69	371.63	371.65	2.80	2.40	2.92	2.91
Link2368	26AC007	26AC007.1	Natural	66.85	0.31	5.00	741.89	381.22	381.01	372.11	371.90	33.52	36.09	373.21	373.26	373.04	373.08	8.01	7.96	7.98	7.93
Link2371	27AA004	27AA005	Natural	45.41	0.22	8.23	2907.90	368.76	368.80	360.60	360.50	60.06	73.39	361.95	362.12	361.79	361.97	6.80	6.64	7.01	6.83
Link2372	27AA005	27AA003	Natural	44.00	1.19	5.00	1612.42	368.80	368.14	360.50	359.98	61.94	76.19	361.79	361.97	361.77	361.96	7.01	6.83	6.36	6.18
Link2373	27AA003	27AA006	Natural	64.55	0.80	7.33	2356.54	368.14	365.97	359.98	359.46	61.81	76.06	361.77	361.96	361.72	361.91	6.36	6.18	4.25	4.05
Link2375	22DC019	22DC017	Natural	32.16	0.35	7.82	9173.34	363.84	363.79	356.05	355.94	131.18	158.46	358.18	358.36	357.72	357.92	5.65	5.48	6.07	5.86
Link2376	22DC017	22DC018	Natural	42.05	1.09	5.00	1336.49	363.79	363.45	355.48	355.02	131.19	158.49	357.72	357.92	357.68	357.89	6.07	5.86	5.77	5.56
Link2377	22DC018	22DC014	Natural	39.51	0.31	10.63	8669.69	363.45	367.74	355.02	354.90	157.02	186.67	357.68	357.89	357.57	357.78	5.77	5.56	10.17	9.96
Link2379	26BB015	26BB014	Circular	162.47	0.12	1.00	1.16	373.02	372.44	370.40	370.20	3.08	3.58	372.38	373.02	370.92	371.38	0.64	0.00	1.52	1.06
Link2380	26BB013	26BB012	Circular	144.38	1.00	1.00	3.31	372.24	370.55	370.00	368.55	3.03	3.20	370.90	371.38	368.85	368.85	1.34	0.86	1.71	1.70
Link2381	26BB011	26BB012	Circular	59.97	2.30	1.00	5.02	371.94	370.55	369.94	368.55	3.42	3.62	371.57	371.84	368.85	368.85	0.37	0.09	1.71	1.70
Link2382	23CC008	23CC095	Circular	29.05	1.31	2.00	24.09	371.73	371.81	369.26	368.88	12.96	13.60	370.98	371.39	370.95	371.33	0.75	0.34	0.86	0.48
Link2383	23CC095	23CC025	Circular	803.32	0.27	2.00	10.87	371.81	370.00	368.88	366.73	10.75	10.74	370.95	371.33	369.07	369.42	0.86	0.48	0.93	0.93
Link2385	26BB007	23CC008	Natural	324.05	0.41	2.69	177.80	373.50	371.73	370.60	369.26	2.78	3.92	370.99	371.39	370.98	371.39	2.51	2.11	0.75	0.34
Link2386	23CC048	23CC011	Circular	36.69	1.44	1.00	3.97	373.21	372.53	371.06	370.53	0.95	1.31	371.39	371.46	370.98	371.40	1.82	1.76	1.55	1.14
Link2388	23CA006.3	23CA006.2	Natural	400.40	0.51	2.00	92.84	376.22	374.19	374.22	372.19	3.69	5.09	374.63	374.70	372.64	372.71	1.59	1.53	1.55	1.48
Link2389	23CA006.2	23CA006.1	Natural	976.36	0.30	2.00	67.55	374.19	371.25	372.19	369.25	3.56	4.93	372.64	372.71	369.63	369.69	1.55	1.48	1.63	1.56
Link2390	23CA006.1	23CA006	Natural	288.51	0.82	2.00	37.77	371.25	368.89	369.25	366.89	3.89	5.40	369.63	369.69	368.41	368.89	1.63	1.56	0.48	0.00
Link2391	23CA006	23CA005	Circular	49.21	0.58	1.00	2.52	368.89	368.62	366.89	366.60	4.48	5.32	368.41	368.89	367.06	367.10	0.48	0.00	1.56	1.52
Link2393	23CA007	23CA025	Circular	101.54	0.62	2.00	16.48	370.88	370.26	367.88	367.26	3.60	5.50	369.78	369.94	369.76	369.87	1.10	0.94	0.49	0.38
Link2397	27AA001	27AA002	Circular	22.71	5.61	1.00	7.84	369.14	367.21	366.48	365.21	1.98	2.73	366.98	367.12	365.56	365.60	2.16	2.01	1.65	1.60
Link2398	27AA012	27AA011	Circular	42.15	2.18	1.00	4.89	366.61	367.53	363.88	362.96	2.14	2.91	364.56	364.77	363.27	363.32	2.05	1.84	4.26	4.21
Link2399	23CD041	23CC061	Natural	314.70	0.46	3.97	348.81	371.53	370.70	367.87	366.41	6.36	6.54	368.62	368.63	367.37	367.49	2.91	2.90	3.33	3.20
Link2400	23CC063	23CC066	Circular	50.55	0.76	2.00	18.33	368.77	367.87	364.49	364.10	19.15	20.23	367.15	367.33	365.58	365.63	1.62	1.44	2.30	2.24
Link2401	22DA137	22DA041	Natural	336.16	0.41	5.98	605.34	368.00	362.56	360.00	358.61	27.33	31.77	360.93	361.01	359.74	359.83	7.07	6.99	2.82	2.74
Link2402	22DA041	22DA040	Natural	42.37	0.26	4.25	389.51	362.56	363.04	358.61	358.50	28.31	33.02	359.74	359.83	359.64	359.73	2.82	2.74	3.40	3.32
Link2405	22DA043	22DA042	Natural	113.22	0.19	3.67	314.43	362.67	362.46	359.00	358.79	1.64	2.22	359.75	359.84	359.75	359.84	2.92	2.83	2.71	2.62
Link2406	22DA040	22DA033	Natural	259.88	0.30	4.54	664.73	363.04	362.27	358.50	357.73	29.08	33.99	359.64	359.73	358.76	358.89	3.40	3.32	3.51	3.38
Link2407	22DA033	22DA036	Natural	30.02	0.33	4.10	259.15	362.27	360.32	357.25	357.15	29.65	34.74	358.76	358.89	358.75	358.88	3.51	3.38	1.57	1.44
Link2408	22DA036	22DA145	Natural	23.64	0.21	4.74	146.81	360.32	363.41	357.15	357.10	29.58	34.74	358.75	358.88	358.73	358.86	1.57	1.44	4.68	4.55
Link2409	23CC068	23CC067	Circular	18.00	1.08	1.00	3.43	370.83	371.16	366.49	366.29	4.31	4.75	368.65	368.97	366.75	366.77	2.18	1.86	4.41	4.38
Link2412	23CA009	23CA008	Circular	26.72	0.37	1.00	2.02	371.10	371.56	369.10	369.00	2.04	3.32	369.88	370.15	369.77	369.88	1.22	0.95	1.80	1.68
Link2413	22DC012	22DC013	Circular	58.86	0.32	1.00	1.86	361.89	361.96	359.89	359.70	1.34	1.70	360.47	360.54	360.03	360.07	1.42	1.34	1.93	1.88
Link2414	22DC013	22DC001	Circular	50.26	3.27	1.00	5.98	361.96	361.84	359.70	358.06	1.34	1.70	360.03	360.07	358.91	359.16	1.93	1.88	2.93	2.69
Link2417	22CB010	22CB012	Natural	26.86	1.52	5.07	2152.66	351.50	351.09	346.42	346.02	217.37	264.66	349.96	350.27	349.98	350.29	1.53	1.23	1.11	0.80
Link2418	22CB012	22CB009	Natural	37.62	0.36	4.00	553.87	351.09	352.30	346.02	345.88	252.91	310.47	349.98	350.29	349.97	350.28	1.11	0.80	2.33	2.02
Link2420	22BC020	22BC017	Natural	46.15	0.04	6.42	948.36	351.83	351.81	345.41	345.39	301.51	372.97	348.37	348.61	348.11	348.35	3.46	3.22	3.70	3.46
Link2421	22BC017	22BC021	Natural	63.54	0.30	4.00	602.33	351.81	350.98	345.39	345.20	301.51	372.98	348.11	348.35	347.55	347.79	3.70	3.46	3.44	3.20
Link2422	22DA082	22DB043	Natural	788.38	0.09	7.71	146.89	366.96	359.35	355.79	355.10	48.72	55.61	358.42	358.56	355.39	355.53	8.54	8.40	3.95	3.81
Link2423	22CA010.3	22CA010.2	Natural	645.80	0.16	4.19	311.31	359.00	355.32	353.50	352.45	57.86	66.11	355.26	355.39	354.19	354.31	3.74	3.61	1.13	1.02
Link2424	22CA010.2	22CA010.1	Natural	511.95	0.27	2.55	135.33	355.32	353.29	352.45	351.06	74.78	85.51	354.19	354.31	352.71	352.78	1.13	1.02	0.59	0.52
Link2425	22DB058	22CA010.2	Natural	554.89	0.32	3.08	64.24	357.49	355.32	354.20	352.45	18.40	21.29	355.09	355.11	354.19	354.31	2.40	2.37	1.13	1.02
Link2426	22DA083	22DA082	Natural	261.98	0.23	8.58	237.61	362.39	366.96	356.39	355.79	45.97	51.86	358.78	358.92	358.42	358.56	3.61	3.48	8.54	8.40
Link2427	22DB013	22DB014	Natural	688.13	0.64	4.07	454.15	362.96	360.59	359.90	355.50	1.64	2.07	360.18	360.21	357.26	357.54	2.78	2.75	3.33	3.05
Link2428	22DB014	22DB057	Circular	24.50	1.22	1.50	10.79	360.59	358.96	355.50	355.20	8.25	8.85	357.26	357.54	355.78	355.79	3.33	3.05	3.19	3.17
Link2429	22DB057	22DB043	Natural	91.57	1.56	4.67	1007.74	358.96	359.35	355.20	353.77	8.25	8.85	355.78	355.79	355.39	355.53	3.19	3.17	3.95	3.81
Link2430	22DB043	22CA010.3	Rectangular	66.77	0.40	5.50	957.43	359.35	359.00	353.77	353.50	58.13	66.55	355.39	355.53	355.26	355.39	3.95	3.81	3.74	3.61
Link2431	22AD046	22AC017	Natural	308.69	0.28	3.79	695.71	361.59	360.72	357.80	356.94	3.54	4.05	358.33	358.37	357.79	357.90	3.26	3.22	2.93	2.82
Link2432	22AC017	22AC018	Natural	182.68	0.18	3.66	530.49	360.72	360.15	356.94	356.60	6.99	8.56	357.79	357.90	357.72	357.84	2.93	2.82	2.42	2.31
Link2433	22AC018	22AC016	Natural	97.00	0.23	4.36	398.46	360.15	361.55	356.60	356.38	8.74	10.93	357.72	357.84	357.70	357.82	2.42	2.31	3.85	3.73
Link2434	22AC016	22DB003	Natural	1160.41	0.12	5.17	3113.90	361.55	360.17	356.38	355.00	9.64	11.24	357.70	357.82	356.70	356.87	3.85	3.73	3.47	3.31
Link2435	22CA004	22CA010.1	Natural	499.05	0.35	2.99	52.51	356.55	353.29	352.80	351.06	6.52	7.92	353.52	353.53	352.71	352.78	3.02	3.02	0.59	0.52
Link2436	22CA010.1	22CA010	Natural	289.92	0.60	5.01	152.33	353.29	357.12	351.06	349.33	79.98	92.27	352.71	352.78	352.27	352.54	0.59	0.52	4.85	4.58
Link2437	22CA003	22CA004	Circular	64.09	0.79	1.00	2.93	356.06	356.55	353.30	352.80	4.52	4.81	355.79	356.06	353.52	353.53	0.26	0.00	3.02	3.02

Hydraulic Model Results - Full Buildout Conditions																					
Oak Creek Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
Link2438	22CA006	22CA005	Circular	19.74	4.14	1.00	6.73	359.74	358.42	357.10	356.28	2.59	3.20	357.80	357.95	356.69	356.72	1.94	1.79	1.74	1.70
Link2440	22BA051	22BA036	Circular	19.05	2.99	1.00	5.72	355.63	355.49	350.20	349.63	4.71	6.14	351.49	352.63	351.14	352.14	4.14	2.99	4.35	3.36
Link2441	22BA033	22BA052	Circular	25.87	1.89	2.00	28.91	356.63	356.84	348.49	348.00	5.53	6.00	350.98	351.86	350.97	351.85	5.65	4.76	5.87	5.00
Link2451	22BC021	22BC021.1	Natural	236.18	0.97	5.78	3305.01	350.98	348.68	345.20	342.90	301.58	373.00	347.55	347.79	346.80	346.97	3.44	3.20	1.89	1.71
Link2452	22CB007	22CB012	Natural	233.98	1.14	4.41	491.52	352.43	351.09	348.68	346.02	-1.86	-2.56	349.98	350.29	349.98	350.29	2.45	2.14	1.11	0.80
Link2453	22BC006	22CB007	Natural	627.10	0.93	3.75	1087.13	358.27	352.43	354.51	348.68	0.00	0.00	354.51	354.51	349.98	350.29	3.75	3.75	2.45	2.14
Link2456	22BC016	22BB017	Natural	1285.02	0.63	3.64	61.81	354.42	350.00	352.60	344.54	5.09	5.74	353.03	353.05	346.98	347.23	1.39	1.37	3.02	2.77
Link2457	22BB016	22BC021.1	Natural	185.68	0.67	7.74	3102.56	353.84	348.68	344.15	342.90	-98.39	-151.07	346.80	346.97	346.80	346.97	7.05	6.87	1.89	1.71
Link2458	22BC021.1	22BC021.2	Natural	1773.52	0.16	8.42	1353.70	348.68	351.06	342.90	340.00	338.94	423.15	346.80	346.97	344.97	345.46	1.89	1.71	6.09	5.60
Link2460	22BB003	22BB017	Natural	462.39	1.14	7.32	483.73	358.97	350.00	349.79	344.54	4.99	6.30	350.31	350.36	346.98	347.23	8.66	8.61	3.02	2.77
Link2462	15CC004	15CB003	Natural	220.34	0.03	4.36	34.67	357.92	354.52	351.90	351.83	1.23	1.57	352.80	353.01	352.80	353.00	5.11	4.91	1.73	1.52
Link2463	15CC047	15CB018	Natural	520.90	0.41	3.33	268.80	357.82	355.00	354.16	352.00	1.17	1.54	354.57	354.62	352.85	353.05	3.25	3.20	2.16	1.96
Link2464	15CB018	15CC004	Circular	41.28	0.24	1.50	4.80	355.00	357.92	352.00	351.90	1.15	1.48	352.85	353.05	352.80	353.01	2.16	1.96	5.11	4.91
Link2466	15CA078.1	15CA078	Natural	387.72	0.04	2.32	43.03	357.55	357.38	355.23	355.06	2.02	2.61	356.01	356.09	349.44	349.99	1.54	1.47	7.95	7.40
Link2467	15CA078	15CA087	Circular	134.59	0.25	1.00	1.66	357.38	355.05	348.37	348.03	2.02	2.61	349.44	349.99	348.96	349.17	7.95	7.40	6.09	5.88
Link2468	15CA087	15CB104	Circular	345.94	0.15	2.25	11.26	355.05	353.22	347.93	347.40	4.84	6.11	348.96	349.17	348.40	348.80	6.09	5.88	4.82	4.42
Link2472	15CB110	16DA030	Natural	295.68	0.40	6.54	1780.48	352.71	351.70	346.25	345.08	-4.07	-7.86	346.43	346.88	346.43	346.87	6.28	5.83	5.27	4.82
Link2473	15CB107	15CB110	Natural	514.80	0.31	5.67	803.40	352.71	352.71	347.84	346.25	0.00	0.00	347.84	347.84	346.43	346.88	4.88	4.88	6.28	5.83
Link2474	15CB013	15CB107	Natural	221.75	0.90	3.78	489.11	352.50	352.71	349.82	347.84	0.00	0.00	347.53	348.00	347.84	347.84	4.97	4.50	4.88	4.88
Link2486	16DA007	16DA006	Circular	48.03	0.21	3.00	39.97	346.99	346.91	341.60	341.40	-16.87	-23.29	346.45	346.90	346.47	346.91	0.53	0.09	0.45	0.00
Link2488	16DB015	16DB014	Circular	37.02	0.27	3.00	45.52	344.92	345.66	340.70	340.50	33.81	34.30	344.86	344.92	344.16	344.20	0.05	0.00	1.50	1.46
Link2490	09DC015	09DC019	Circular	52.15	0.13	2.50	13.95	340.00	339.14	335.27	335.20	54.77	58.40	338.26	338.50	336.35	336.41	1.74	1.50	2.79	2.73
Link2495	09DC022	09DC024.2	Circular	26.33	0.68	1.33	5.85	343.49	340.69	337.50	337.32	7.64	9.59	338.90	339.26	338.59	338.80	4.59	4.23	2.09	1.89
Link2496	09DC024.2	09DC024.1	Circular	44.03	0.14	1.67	4.77	340.69	340.60	337.32	337.26	7.64	9.58	338.59	338.80	338.55	338.74	2.09	1.89	2.05	1.85
Link2497	09DC024.1	09DC024	Circular	28.58	0.07	1.67	3.44	340.60	340.53	337.26	337.24	7.63	9.57	338.55	338.74	338.52	338.71	2.05	1.85	2.01	1.82
Link2498	09DC029	09DC020	Circular	100.57	1.93	1.25	8.33	342.43	341.09	339.79	337.85	0.00	0.01	339.79	339.81	338.55	338.74	2.64	2.61	2.54	2.35
Link2499	09DC020	09DC024.1	Circular	26.63	2.29	1.33	10.71	341.09	340.60	337.85	337.24	-0.03	-0.04	338.55	338.74	338.55	338.74	2.54	2.35	2.05	1.85
Link2505	16AA038	16AA037	Circular	134.10	0.55	0.67	0.84	345.04	344.39	342.42	341.69	3.77	4.16	344.47	344.86	342.85	342.90	0.57	0.18	1.54	1.49
Link2511	16AA037	16AA037.1	Natural	145.25	0.21	3.08	126.44	344.39	344.84	341.69	341.39	3.78	4.16	342.85	342.90	342.85	342.90	1.54	1.49	2.00	1.95
Link2517	22DB004	22DB003	Circular	114.33	0.67	1.50	8.00	358.78	360.17	356.68	355.91	6.11	7.25	357.94	358.22	356.70	356.87	0.84	0.56	3.47	3.31
Link2518	22DA031	22DB025	Circular	170.03	0.64	1.00	2.65	364.72	362.72	361.81	360.72	1.68	2.11	362.46	362.59	361.32	361.38	2.27	2.13	1.40	1.34
Link2519	22DA068	22DA075	Circular	61.01	0.15	2.00	8.07	362.65	364.38	360.09	360.00	1.71	2.20	361.64	362.00	361.64	362.00	1.01	0.65	2.75	2.39
Link2520	22DA075	22DA067	Circular	76.67	0.55	2.00	15.55	364.38	365.90	360.40	359.98	1.64	2.14	361.64	362.00	361.64	361.99	2.75	2.39	4.26	3.91
Link2521	23DD087	23DD029	Circular	48.70	0.29	2.00	11.22	379.62	379.89	376.14	376.00	10.81	11.99	378.73	379.13	376.32	376.33	0.88	0.49	3.57	3.56
Link2522	23DD029	23DD029.1	Natural	1437.85	0.31	3.10	485.55	379.89	373.87	376.00	371.55	12.12	14.05	376.32	376.33	372.05	372.23	3.57	3.56	1.82	1.64
Link2522.1	23DD029.1	23CD033	Natural	881.26	0.31	2.92	485.21	373.87	372.34	371.55	368.83	26.62	33.81	372.05	372.23	372.05	372.23	1.82	1.64	0.29	0.11
Link2526	23DC004	23DD029.1	Natural	785.43	0.47	2.73	375.75	379.02	373.87	375.56	371.87	6.62	9.11	375.92	375.95	372.05	372.23	3.10	3.07	1.82	1.64
Link2527	23DC024	23DC004	Natural	697.26	0.23	3.15	3778.36	380.63	379.02	377.48	375.86	6.15	8.45	377.85	377.89	375.92	375.95	2.78	2.74	3.10	3.07
Link2530	22DD003	22DD023.1	Circular	77.49	1.27	2.50	42.90	367.38	369.25	362.98	362.00	20.43	22.83	364.80	364.96	363.39	363.44	2.58	2.42	5.86	5.80
Link2531	22DD023.1	22DD023	Natural	74.34	0.10	6.93	2893.00	369.25	368.54	362.00	361.93	24.70	26.89	363.39	363.44	362.52	362.60	5.86	5.80	6.02	5.94
Link2535	22DB014.1	22DB014	Natural	904.57	0.53	3.77	450.51	362.78	360.59	360.33	355.50	2.61	3.54	360.84	360.91	357.26	357.54	1.94	1.87	3.33	3.05
Link2536	22DA105.1	22DA105	Natural	998.45	0.49	3.74	1291.03	367.18	363.85	364.20	359.34	9.21	11.42	364.89	364.96	362.05	362.62	2.28	2.21	1.80	1.23
Link2537	23CC008.1	23CC008	Natural	2644.36	0.32	2.23	932.89	379.68	371.73	377.68	369.26	21.70	27.22	378.12	378.16	370.98	371.39	1.56	1.52	0.75	0.34
Link2539	16DA030	16DA027	Natural	206.71	0.45	5.81	979.49	351.70	349.16	345.08	344.16	13.81	17.14	346.43	346.87	346.43	346.87	5.27	4.82	2.73	2.28
Link2540	16DB001	16AC010	Circular	88.26	0.09	3.00	18.88	346.49	343.84	340.25	340.17	33.82	34.30	343.36	343.39	341.17	341.19	3.13	3.10	2.67	2.64
Link2541	23CA005	22DA105.1	Natural	667.09	0.36	2.50	73.63	368.62	367.18	366.60	364.20	4.47	5.32	367.06	367.10	364.89	364.96	1.56	1.52	2.28	2.21

Hydraulic Model Results - Existing Conditions																					
Albany-Santiam Canal Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
143	03DB011	03DB004	Circular	79.14	0.28	2.00	11.08	338.20	338.41	334.54	334.32	1.70	2.48	334.97	335.06	334.60	334.78	3.23	3.15	3.23	3.15
144	03DA016	03DA014	Circular	63.13	0.40	2.00	13.22	338.27	337.93	334.75	334.50	0.57	0.77	335.07	335.13	334.76	334.82	3.20	3.15	3.20	3.15
145	03DA014	03DA015	Circular	17.76	0.56	2.00	15.76	337.93	337.03	334.50	334.40	0.56	0.77	334.76	334.82	334.69	334.80	3.17	3.11	3.17	3.11
146	03DB004	03DB022	Circular	17.98	1.78	2.00	28.02	338.41	337.29	334.32	334.00	1.70	2.56	334.60	334.78	334.63	334.81	3.82	3.63	3.82	3.63
420	14BB019	14BB021	Circular	183.16	0.17	1.25	2.51	352.87	351.75	345.97	345.65	3.70	4.06	352.41	352.55	351.75	351.75	0.46	0.32	0.46	0.32
421	14BB020	14BB021	Circular	268.93	0.50	0.67	0.80	352.74	351.75	347.00	345.65	0.87	0.92	352.74	352.74	351.75	351.75	0.00	0.00	0.00	0.00
424	14BB021	11CC001	Circular	546.94	0.29	1.25	3.22	351.75	350.76	345.62	344.04	5.24	5.22	351.75	351.75	348.03	348.35	0.00	0.00	0.00	0.00
505	03DB016	03AC003	Natural	350.87	-0.98	3.69	930.90	333.93	334.68	328.90	332.33	-1.41	-2.08	331.39	331.88	332.65	332.70	2.54	2.05	2.54	2.05
521	03AB010	03AB011	Natural	123.06	0.08	3.55	106.08	332.35	331.85	328.60	328.50	1.65	2.25	329.23	329.34	329.16	329.29	3.12	3.01	3.12	3.01
522	03AB012	03AB013	Natural	76.55	0.35	2.52	180.74	330.97	330.59	328.40	328.13	1.64	2.22	328.83	328.94	328.77	328.89	2.14	2.03	2.14	2.03
528	03DA007	03DA008	Natural	113.12	0.31	5.40	824.08	339.78	339.36	334.35	334.00	3.23	3.23	334.48	334.48	334.34	334.35	5.30	5.30	5.30	5.30
622	14BC025	15AD058	Circular	500.38	0.22	0.67	0.53	352.00	351.43	348.80	347.70	0.50	0.50	351.61	351.61	351.30	351.32	0.39	0.38	0.39	0.38
629	14BC002	14BC001	Circular	276.14	0.50	0.50	0.37	352.98	351.71	351.25	349.86	0.49	0.49	352.98	352.98	351.71	351.71	0.00	0.00	0.00	0.00
630	14BC001	14BC025	Circular	171.62	0.51	0.67	0.80	351.71	352.00	349.79	348.91	0.49	0.49	351.71	351.71	351.61	351.61	0.00	0.00	0.00	0.00
637	15AD062	15AA042	Circular	467.40	0.16	0.67	0.45	351.02	348.66	347.06	346.30	0.82	0.82	351.02	351.02	348.66	348.66	0.00	0.00	0.00	0.00
639	15AA042	15AA011.1	Circular	230.03	0.09	1.00	0.98	348.66	348.05	346.30	346.10	1.71	1.71	348.66	348.66	348.05	348.05	0.00	0.00	0.00	0.00
642	15AA011.1	15AA011	Circular	204.38	0.10	1.00	1.03	348.05	348.85	346.10	345.90	-1.95	-2.09	348.05	348.05	348.75	348.85	0.00	0.00	0.00	0.00
651	14BA008	14BA004	Circular	246.66	0.08	0.67	0.32	355.31	354.16	349.89	349.69	0.80	0.80	355.31	355.31	354.16	354.16	0.00	0.00	0.00	0.00
655	14BA004	14BA045	Circular	258.00	0.24	0.83	0.99	354.16	354.91	349.57	348.96	-1.13	-1.13	354.16	354.16	354.91	354.91	0.00	0.00	0.00	0.00
660	14BA045	14BA001	Circular	311.59	0.27	1.00	1.73	354.91	355.24	348.98	348.13	1.04	-1.12	354.91	354.91	355.18	355.24	0.00	0.00	0.00	0.00
672	14BB018	14BB019	Circular	166.53	0.19	1.25	2.59	353.96	352.87	346.28	345.97	3.01	3.03	352.66	352.78	352.41	352.55	1.31	1.19	1.31	1.19
679	11CC040	11CC062	Circular	376.72	0.27	0.67	0.58	353.39	353.25	348.13	347.13	1.01	1.00	353.26	353.39	352.91	353.25	0.12	0.00	0.12	0.00
681	11CC062	11CC001	Circular	386.79	0.54	0.67	0.83	353.25	350.76	347.04	344.94	1.34	1.37	352.91	353.25	348.03	348.35	0.34	0.00	0.34	0.00
685	11CC038	11CC039	Circular	26.04	0.04	2.50	7.46	349.44	349.16	341.90	341.89	20.40	21.06	345.01	345.22	344.95	345.14	4.43	4.22	4.43	4.22
714	14BA043	14BA003	Circular	173.06	0.16	1.00	1.33	354.59	354.10	351.34	351.06	-0.77	0.53	354.15	354.13	354.10	354.10	0.44	0.45	0.44	0.45
721	14BA003	14BA002	Circular	411.79	0.26	1.00	1.69	354.10	355.95	350.86	349.78	-1.41	-1.47	354.10	354.10	354.81	354.87	0.00	0.00	0.00	0.00
722	14BA002	14BA044	Circular	220.43	0.22	1.00	1.54	355.95	355.87	349.78	349.30	-1.41	-1.47	354.81	354.87	355.18	355.28	1.14	1.08	1.14	1.08
730	14BA044	14BA001	Circular	211.48	0.55	1.00	2.46	355.87	355.24	349.30	348.13	1.36	1.35	355.18	355.28	355.18	355.24	0.69	0.59	0.69	0.59
769	15AA015	15AA027	Circular	297.46	0.20	1.50	4.38	347.79	347.59	344.80	344.20	5.30	5.27	347.79	347.79	347.41	347.55	0.00	0.00	0.00	0.00
776	15AA028	15AA027	Circular	62.10	0.97	0.50	0.51	347.93	347.59	344.80	344.20	1.01	1.01	347.93	347.93	347.41	347.55	0.00	0.00	0.00	0.00
777	15AA040	15AA028	Circular	6.63	3.02	0.67	1.95	348.06	347.93	345.00	344.80	1.61	1.61	348.06	348.06	347.93	347.93	0.00	0.00	0.00	0.00
778	15AA039	15AA040	Circular	354.66	0.27	1.00	1.71	349.70	348.06	345.95	345.00	2.29	2.29	349.70	349.70	348.06	348.06	0.00	0.00	0.00	0.00
952	11BB011	11BB016	Circular	11.51	18.16	1.00	14.10	344.65	349.35	343.65	341.56	1.41	2.01	343.98	344.08	341.81	341.99	0.67	0.57	0.67	0.57
1122	15AA049	15AA015	Circular	98.72	0.20	1.50	4.39	348.21	347.79	345.00	344.80	6.06	6.30	348.17	348.20	347.79	347.79	0.04	0.01	0.04	0.01
1124	11CC039	11CC052	Circular	250.96	0.01	2.50	4.16	349.16	349.74	341.89	341.86	21.70	22.81	344.95	345.14	344.19	344.30	4.21	4.01	4.21	4.01
1125	11CC053	11CC054	Circular	99.99	0.05	2.50	8.52	348.99	347.17	341.75	341.70	22.92	24.38	343.97	344.05	343.56	343.62	5.01	4.93	5.01	4.93
1127	15AA048	15AA049	Circular	169.33	0.08	1.50	2.80	348.45	348.21	345.14	345.00	4.81	4.82	348.45	348.45	348.17	348.20	0.00	0.00	0.00	0.00
1137	11CC037	11CC038	Circular	232.01	0.01	2.50	3.54	347.78	349.44	341.92	341.90	20.40	21.06	345.67	345.92	345.01	345.22	2.11	1.86	2.11	1.86
1138	11CC057	11CC037	Circular	51.01	0.04	2.50	7.54	347.03	347.78	341.94	341.92	20.40	21.06	345.82	346.07	345.67	345.92	1.21	0.95	1.21	0.95
1140	11CC059	11CC057	Circular	20.92	0.38	1.50	6.03	346.85	347.03	342.18	342.10	7.21	7.29	345.93	346.19	345.82	346.07	0.92	0.66	0.92	0.66
1142	10DD063	10DD083	Circular	63.51	0.27	1.50	5.05	348.47	347.75	343.63	343.46	7.67	7.49	346.50	346.75	346.21	346.47	1.97	1.72	1.97	1.72
1143	11CC001	11CC058	Circular	332.52	0.47	1.50	6.68	350.76	347.86	344.04	342.48	7.18	7.28	348.03	348.35	346.27	346.54	2.73	2.42	2.73	2.42
1146	14BB024	11CC056	Circular	213.38	0.11	1.50	3.27	350.61	347.21	342.20	341.96	4.37	4.61	346.42	346.75	346.00	346.29	4.20	3.87	4.20	3.87
1147	11CC056	11CC057	Circular	61.01	0.03	1.50	1.77	347.21	347.03	341.96	341.94	5.41	5.86	346.00	346.29	345.82	346.07	1.21	0.92	1.21	0.92
1148	14CA009	14BD018	Natural	255.25	0.08	3.43	68.79	357.68	358.39	354.70	354.50	0.73	1.17	355.32	355.44	355.26	355.38	2.36	2.24	2.36	2.24
1531	11CB062	11CB061	Circular	132.29	1.00	1.00	3.30	349.95	350.18	346.15	344.83	1.12	1.44	346.55	346.61	343.06	343.19	3.40	3.33	3.40	3.33
1532	11CA044	11CA034	Circular	234.85	0.39	1.00	2.06	350.80	350.14	346.14	345.23	1.62	2.23	346.83	347.03	345.80	346.00	3.97	3.76	3.97	3.76
1533	11CA034	11CA045	Circular	103.10	0.70	1.00	2.76	350.14	350.70	345.23	344.51	1.62	2.21	345.80	346.00	345.28	345.55	4.35	4.14	4.35	4.14
1538	11CA032	11CA036	Circular	256.88	1.31	1.00	3.78	351.36	350.75	348.52	345.16	0.81	1.29	348.84	348.92	345.68	345.86	2.53	2.44	2.53	2.44
1539	11CA036	11CA045	Circular	47.50	1.37	1.00	3.87	350.75	350.70	345.16	344.51	1.76	2.64	345.68	345.86	345.28	345.55	5.07	4.89	5.07	4.89
1540	11CA029	11CA032	Circular	177.40	0.12	1.00	1.17	352.68	351.36	348.74	348.52	0.82	1.29	349.32	349.49	348.84	348.92	3.36	3.19	3.36	3.19
1543	11CA045	11CA043	Circular	40.99	-0.07	2.25	7.78	350.70	350.79	344.02	344.05	5.77	8.44	345.28	345.55	345.23	345.50	5.42	5.14	5.42	5.14
1544	11CA043	11CA0281	Circular	356.01	0.12	2.25	9.76	350.79	350.33	344.05	343.64	5.75	8.42	345.23	345.50	342.79	342.90	5.57	5.30	5.57	5.30
1546	11CA017	11CA047	Circular	656.24	0.45	0.50	0.35	351.24	347.87	346.57	343.64	0.57	0.57	351.24	351.24	342.79	342.90	0.00	0.00	0.00	0.00
1611.1	03DB015	03DB016	Natural	512.73	0.01	5.03	216.06	333.98	333.93	328.95	328.90	-3.29	-3.80	331.39	331.88	331.39	331.88	2.59	2.10	2.59	2.10
1665	15AD047	15AD022	Circular	228.10	0.18	1.00	1.39	353.08	351.28	348.30	347.90	2.99	2.99	353.08	353.08	351.28	351.28	0.00	0.00	0.00	0.00
1666	15AD022	15AD058	Circular	27.91	0.72	1.00	2.80	351.28	351.43	347.90	347.70	0.83	-1.16	351.28	351.28	351.30	351.32	0.00	0.00	0.00	0.00
1667	15AD058	15AD021	Circular	26.14	1.15	1.00	3.54	351.43	351.36	347.70	347.40	1.61	1.64	351.30	351.32	351.24	351.25	0.13	0.11	0.13	0.11
1668	15AD021	15AD041	Circular	202.87	0.20	1.00	1.47	351.36	350.78	347.40	347.00	1.61	1.64	351.24	351.25	350.78	350.78	0.12	0.10	0.12	0.10
1669	15AD041	15AA014	Circular	255.70	0.08	1.00	0.93	350.78	350.37	347.00	346.80	1.64	1.64	350.78	350.78	350.19	350.19	0.00	0.00	0.00	0.00
1671	15AA013	15AA001	Circular	276.66	0.05	1.00	0.77	349.97	348.97	346.00	345.85	2.53	2.53	349.97	349.97	348.97	348.97	0.00	0.00	0.00	0.00
1675	14BD007	14BD006	Circular	160.52	0.14	2.00	7.95	354.84	355.42	351.53	351.30	1.27	1.57	352.07	352.12	351.76	351.81	2.77	2.71	2.77	2.71
1676	14BD006	14BC003	Circular	230.58	0.31	2.00	11.74	355.42	354.32	351.30	350.58	1.27	1.57	351.76	351.81	350.97	351.01	3.66	3.61	3.66	3.61
1959	11CB065	11CB064	Circular	36.20	0.44	1.00	2.20	349.68	349.96	346.49	346.33	1.01	1.25	346.96	347.02	346.46	346.53	2.72	2.66	2.72	2.66
1960	11CB064	11CB068	Circular	91.77	0.48	1.00	2.29	349.96	350.07	345.99	345.55	1.01	1.25	346.46	346.53	346.09	346.15	3.49	3.43	3.49	3.43
1976	11CC028	11CC027	Circular	387.65	0.45	0.67	0.76	350.05	348.05	346.11	344.35	0.83	0.83	350.05	350.05	348.05	348.05	0.00	0.00	0.00	0.00
1984	11CC032	11CB043	Circular	151.33	0.21	0.67	0.52	349.23	349.76	346.52	346.20	1.46	1.46	349.23	349.23	346.80	346.80	0.00	0.00	0.00	0.00
1985	11CB043	11CB047	Circular	28.38	1.41	0.67	1.33	349.76	350.48	346.20	345.80	1.46	1.46	346.80	346.80	343.24	343.32	2.96	2.96	2.96	2.96
2124	11BD022	11BD027	Circular	80.21	0.44	1.50	6.44	347.35	349.35	345.35	345.00	0.97	1.40	345.80	345.91	341.97	342.16	1.55	1.44	1.55	1.44

Hydraulic Model Results - Existing Conditions																					
Albany-Santiam Canal Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
2325	14BD040	14BD041	Circular	21.22	9.47	0.50	1.60	353.74	353.69	349.54	347.53	-2.00	-1.98	349.09	349.09	353.69	353.69	4.65	4.65	4.65	4.65
2326	14BC037	14BC032	Circular	89.09	0.11	2.00	7.04	355.87	356.43	346.90	346.80	1.94	1.94	347.54	347.54	347.28	347.28	8.33	8.33	8.33	8.33
2328	14BD040	14BD038	Circular	5.87	1.87	1.00	4.53	353.74	353.73	347.80	347.69	1.98	1.96	349.09	349.09	349.07	349.07	4.65	4.65	4.65	4.65
2331	14BD044	14BD041	Circular	49.73	-0.02	0.67	0.16	353.60	353.69	350.71	350.72	-0.50	-0.50	353.60	353.60	353.69	353.69	0.00	0.00	0.00	0.00
2332	14BD038	14BC037	Circular	345.21	0.18	1.00	1.40	353.73	355.87	347.65	347.03	1.94	1.94	349.07	349.07	347.54	347.54	4.66	4.66	4.66	4.66
2337	14BD041	14BA008	Circular	295.97	0.28	0.67	0.60	353.69	355.31	350.72	349.89	-0.90	-0.91	353.69	353.69	355.31	355.31	0.00	0.00	0.00	0.00
2338	14BD005	14BD043	Circular	113.76	0.24	0.67	0.55	354.91	354.32	352.59	352.32	-0.43	-0.43	353.18	353.18	353.36	353.36	1.73	1.73	1.73	1.73
2339	14BD043	14BD044	Circular	168.14	0.89	0.67	1.06	354.32	353.60	352.17	350.68	-0.44	-0.44	353.36	353.36	353.60	353.60	0.96	0.96	0.96	0.96
2355	15AA001	15AA047	Circular	173.60	0.06	1.00	0.79	348.97	348.57	345.85	345.75	2.53	2.53	348.97	348.97	348.57	348.57	0.00	0.00	0.00	0.00
2356	15AA011	15AA047	Circular	124.85	0.12	1.00	1.15	348.85	348.57	345.90	345.75	1.55	1.61	348.75	348.85	348.57	348.57	0.11	0.00	0.11	0.00
2357	15AA047	15AA048	Circular	88.75	0.52	1.50	7.02	348.57	348.45	345.60	345.14	4.45	4.47	348.57	348.57	348.45	348.45	0.00	0.00	0.00	0.00
2373	11CC051	11CC053	Circular	27.90	0.18	2.50	16.12	349.34	348.99	341.80	341.75	22.93	24.39	344.07	344.16	343.97	344.05	5.27	5.18	5.27	5.18
2374	11CC052	11CC051	Circular	35.92	0.17	2.50	15.57	349.74	349.34	341.86	341.80	22.93	24.39	344.19	344.30	344.07	344.16	5.55	5.44	5.55	5.44
2376	11CC058	11CC059	Circular	64.51	0.47	1.50	6.65	347.86	346.85	342.48	342.18	7.19	7.28	346.27	346.54	345.93	346.19	1.59	1.32	1.59	1.32
2420	15AA014	15AA051	Circular	23.31	1.46	1.00	4.00	350.37	350.24	346.80	346.46	1.64	1.64	350.19	350.19	350.14	350.14	0.18	0.18	0.18	0.18
2421	15AA051	15AA013	Circular	24.80	1.65	1.00	4.25	350.24	349.97	346.41	346.00	2.82	2.82	350.14	350.14	349.97	349.97	0.10	0.10	0.10	0.10
2425	14BB003	14BB028	Circular	286.13	0.36	0.67	0.68	353.38	352.29	349.66	348.62	0.79	0.79	353.38	353.38	352.03	352.03	0.00	0.00	0.00	0.00
2426	14BB027	15AA051	Circular	472.76	0.29	0.83	1.10	351.74	350.24	347.85	346.46	1.21	1.21	351.74	351.74	350.14	350.14	0.00	0.00	0.00	0.00
2427	14BB028	14BB027	Circular	197.16	0.34	0.83	1.18	352.29	351.74	348.59	347.92	0.79	0.79	352.03	352.03	351.74	351.74	0.26	0.26	0.26	0.26
2453	14BB002.1	14BB002	Circular	176.59	0.21	1.00	1.51	354.45	354.06	347.90	347.53	2.48	2.49	354.45	354.45	354.06	354.06	0.00	0.00	0.00	0.00
2454	14BA001	14BB002.1	Circular	224.04	0.10	1.00	1.06	355.24	354.45	348.13	347.90	2.48	2.50	355.18	355.24	354.45	354.45	0.06	0.00	0.06	0.00
2602	03DA028	03DA030	Circular	57.94	0.43	1.00	2.17	337.80	337.99	334.75	334.50	3.23	3.24	336.16	336.16	335.62	335.62	1.64	1.64	1.64	1.64
2605	03DA031	03DA028	Circular	205.90	0.19	1.00	1.46	338.10	337.80	335.15	334.75	3.24	3.24	338.10	338.10	336.16	336.16	0.00	0.00	0.00	0.00
2657	11CC018	11CC047	Circular	165.27	0.30	0.67	0.62	347.99	349.71	344.00	343.50	1.59	1.59	347.99	347.99	344.84	344.84	0.00	0.00	0.00	0.00
2659	11CD026	11CA045	Circular	525.29	0.03	2.25	4.86	350.04	350.70	344.66	344.51	2.70	4.11	345.67	345.92	345.28	345.55	4.38	4.12	4.38	4.12
2663	11CD027	11CD005	Circular	35.70	0.67	2.25	23.58	349.14	349.65	345.11	344.87	2.71	4.07	345.75	345.98	345.73	345.98	3.39	3.15	3.39	3.15
3445	03DB023	03DB015	Circular	38.02	0.13	1.00	1.20	333.48	333.98	329.00	328.95	-2.25	-2.74	331.22	331.62	331.39	331.88	2.26	1.86	2.26	1.86
3447	03DB020	03DB022	Circular	7.50	1.07	2.00	21.70	337.29	337.29	334.20	334.12	0.68	2.13	334.63	334.78	334.63	334.81	2.66	2.51	2.66	2.51
3448	03DB022	03DB019	Circular	143.99	0.42	1.25	3.87	337.29	334.65	334.00	333.40	1.94	2.74	334.63	334.81	334.10	334.30	2.65	2.47	2.65	2.47
3449	03DB019	03DB018	Circular	45.06	0.42	1.25	3.90	334.65	335.39	333.36	333.17	1.93	2.69	334.10	334.30	334.02	334.21	0.55	0.35	0.55	0.35
3450	03DB018	03DB017	Circular	264.81	0.11	1.25	2.02	335.39	334.22	333.14	332.84	1.93	2.60	334.02	334.21	333.21	333.34	1.37	1.18	1.37	1.18
3451	03DB017	03DB016	Circular	154.25	2.48	1.50	15.35	334.22	333.93	332.72	328.90	3.57	4.93	333.21	333.34	331.39	331.88	1.01	0.88	1.01	0.88
3692	03DB027	03AC009	Circular	348.61	0.16	2.00	8.49	335.31	334.33	328.65	328.08	2.25	2.74	329.36	329.43	328.76	328.84	5.95	5.87	5.95	5.87
3694	03AC009	03AC010	Circular	54.47	0.15	2.00	8.05	334.33	334.48	328.08	328.00	2.25	2.74	328.76	328.84	328.65	328.73	5.57	5.50	5.57	5.50
3697	03AC014	03AC015	Circular	179.06	0.17	2.00	8.60	333.53	333.93	327.78	327.48	2.25	2.74	328.48	328.56	328.29	328.43	5.05	4.98	5.05	4.98
3698	03AC015	03AC019	Circular	34.92	-0.14	2.50	14.41	333.93	333.82	327.43	327.48	3.60	4.93	328.29	328.43	328.23	328.37	5.65	5.50	5.65	5.50
3699	03AC010	03AC014	Circular	100.56	0.17	2.00	8.64	334.48	333.53	327.95	327.78	2.25	2.74	328.65	328.73	328.48	328.56	5.83	5.75	5.83	5.75
3704	03AC031	03AC015	Circular	86.45	0.02	1.25	0.91	333.99	333.93	327.50	327.48	2.49	3.33	328.49	328.70	328.29	328.43	5.50	5.30	5.50	5.30
3712	03AC019	03AC021	Circular	255.99	0.19	2.50	16.49	333.82	332.92	327.43	326.95	3.60	4.93	328.23	328.37	327.69	327.84	5.59	5.45	5.59	5.45
3714	03AC021	03AC024	Circular	167.58	0.18	2.50	16.11	332.92	332.77	326.90	326.60	3.59	4.91	327.69	327.84	327.33	327.54	5.23	5.08	5.23	5.08
3718	03AC024	03AC026	Circular	81.37	0.49	2.50	26.70	332.77	332.76	326.60	326.20	3.57	4.86	327.33	327.54	327.25	327.50	5.44	5.23	5.44	5.23
3719	03AC026	03AC027	Circular	216.40	0.05	2.50	8.19	332.76	332.21	326.20	326.10	3.53	4.78	327.25	327.50	327.13	327.41	5.51	5.26	5.51	5.26
3721	03AC027	03AC006	Circular	184.00	0.15	2.50	14.86	332.21	331.60	326.05	325.77	3.43	4.64	327.13	327.41	327.06	327.36	5.08	4.80	5.08	4.80
3722	03AC006	03AB020	Circular	173.49	0.15	3.00	23.98	331.60	331.80	325.72	325.46	10.15	14.43	327.06	327.36	326.77	327.07	4.53	4.23	4.53	4.23
3723	03AB020	03AB018	Circular	521.02	0.15	3.00	23.96	331.80	329.44	325.41	324.63	10.15	14.42	326.77	327.07	325.88	326.13	5.03	4.73	5.03	4.73
3724	03AB018	03AB019	Circular	102.88	0.16	3.00	24.42	329.44	329.46	324.58	324.42	10.14	14.41	325.88	326.13	325.68	325.91	3.56	3.31	3.56	3.31
3728	03DB023	03DB027	Circular	175.64	0.08	1.00	0.93	333.48	335.31	329.80	329.66	2.25	2.74	331.22	331.62	329.36	329.43	2.26	1.86	2.26	1.86
3775	10DD083	11CC055	Circular	286.64	0.44	2.00	13.93	347.75	347.48	343.46	342.20	8.28	8.32	346.21	346.47	345.82	346.08	1.54	1.27	1.54	1.27
Link1633	11CC047	11CC044	Circular	54.19	0.55	0.67	0.84	349.71	347.17	343.50	343.20	1.59	1.59	344.84	344.84	343.54	343.60	4.87	4.87	4.87	4.87
Link1634	11CC027	11CC018	Circular	29.51	1.19	0.67	1.22	348.05	347.99	344.35	344.00	0.90	0.89	348.05	348.05	347.99	347.99	0.00	0.00	0.00	0.00
Link1635	11CB068	11CB069	Circular	22.85	0.00	1.00	0.10	350.07	350.65	345.55	345.55	1.01	1.25	346.09	346.15	343.06	343.19	3.98	3.92	3.98	3.92
Link1636	11CB063	11CB062	Circular	43.58	1.84	0.67	1.52	349.87	349.95	346.95	346.15	1.12	1.44	347.38	347.47	346.55	346.61	2.49	2.40	2.49	2.40
Link1637	11CD005	11CD026	Circular	92.96	0.23	2.25	13.67	349.65	350.04	344.87	344.66	2.70	4.08	345.73	345.98	345.67	345.92	3.92	3.67	3.92	3.67
Link1639	15AA027	10DD063	Circular	244.46	0.23	1.50	4.71	347.59	348.47	344.20	343.63	7.11	6.94	347.41	347.55	346.50	346.75	0.17	0.04	0.17	0.04
Link1640	14BB002	14BB001	Circular	62.00	0.77	1.00	2.91	354.06	354.10	347.53	347.05	2.71	2.71	354.06	354.06	353.97	354.02	0.00	0.00	0.00	0.00
Link1641	14BB001	14BB018	Circular	276.39	0.28	1.00	1.75	354.10	353.96	347.05	346.28	3.01	3.02	353.97	354.02	352.66	352.78	0.13	0.08	0.13	0.08
Link1642	14BD007	14BD005	Circular	12.93	0.85	0.67	1.04	354.84	354.91	352.70	352.59	-0.43	-0.43	352.07	352.12	353.18	353.18	2.77	2.71	2.77	2.71
Link1644	14BD002	14BD046	Natural	86.89	0.16	4.07	36.32	357.44	359.45	354.44	354.30	1.63	2.63	354.82	354.90	354.29	354.38	2.62	2.55	2.62	2.55
Link1645	14BD004	14BD047	Natural	166.60	0.06	4.58	70.43	358.62	359.45	354.50	354.40	0.62	0.94	354.93	355.00	354.29	354.38	3.70	3.63	3.70	3.63
Link1646	14BD018	14BD002	Natural	402.94	0.01	3.44	18.89	358.39	357.44	354.50	354.44	1.64	2.65	355.26	355.38	354.82	354.90	3.13	3.01	3.13	3.01
Link1647	14BD020	14BD004	Natural	303.13	0.10	3.45	30.18	357.59	358.62	354.80	354.50	0.62	0.94	355.19	355.26	354.93	355.00	2.39	2.33	2.39	2.33
Link1765	03AB011	03AB012	Circular	33.05	0.30	1.50	5.37	331.85	330.97	328.50	328.40	1.64	2.23	329.16	329.29	328.83	328.94	2.69	2.57	2.69	2.57
Link1766	03AB013	03AB014	Circular	21.50	0.61	1.50	7.64	330.59	331.83	328.13	328.00	1.63	2.22	328.77	328.89	328.27	328.30	1.83	1.70	1.83	1.70
Link1767	03AB014	03BA017	Natural	33.51	17.91	5.78	3329.64	331.83	329.73	328.00	322.00	1.63	2.22	328.27	328.30	322.48	322.66	3.56	3.53	3.56	3.53
Link1778	03AB019	03AB021	Circular	93.93	0.06	3.00	15.65	329.46	330.89	324.42	324.36	10.14	14.41	325.68	325.91	324.25	324.48	3.78	3.55	3.78	3.55
Link1779	03AC003	03AC002	Natural	14.04	1.28	2.33	1817.21	334.68	334.47	332.33	332.15	1.28	1.70	332.65	332.70	332.62	332.68	2.03	1.98	2.03	1.98
Link1780	03AC002	03AC001.1	Natural	483.70	0.07	3.25	431.72	334.47	335.99	332.15	331.80	1.23	1.65	332.62	332.68	332.17	332.22	1.84	1.79	1.84	1.79
Link1781	03AC001.1	03AC001	Natural	266.62	0.70	6.25	2454.38	335.99	338.37	331.87	330.00	1.19	1.61	332.17	332.22	330.11	330.14	3.82	3.77	3.82	3.77
Link1782	03AC001	03AC004	Natural	183.43	3.91	8.51	5208.64	338.37	331.47	330.00	322.84	1.19	1.61	330.11	330.14	324.52	324.75	8.26	8.24	8.26	8.24
Link1784	03DA015	03DB020	Natural	393.69	0.05	2.86	151.25	337.03	337.29	334.40	334.20	0.47	0.68	334.69	334.80	334.63	334.78	2.34	2.23	2.34	2.23

Hydraulic Model Results - Existing Conditions																					
Albany-Santiam Canal Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
Link1786	03DA016	03DB011	Natural	374.27	0.02	3.50	160.57	338.27	338.20	334.77	334.70	0.67	0.91	335.07	335.13	334.97	335.06	3.20	3.15	3.20	3.15
Link1790	03DA030	03DA007	Circular	52.72	0.28	1.00	1.76	337.99	339.78	334.50	334.35	3.23	3.24	335.62	335.62	334.48	334.48	2.37	2.37	2.37	2.37
Link1791	03DA008	03AC005	Natural	1277.21	0.31	4.30	2637.17	339.36	333.23	334.00	330.00	2.75	3.11	334.34	334.35	325.83	325.91	5.02	5.01	5.02	5.01
Link1792	14BA012	14BA011	Circular	65.46	0.23	0.50	0.25	355.20	355.20	351.60	351.45	0.39	0.35	355.20	355.20	355.19	355.19	0.00	0.00	0.00	0.00
Link1793	14BA011	14BA006	Circular	95.62	0.22	0.50	0.24	355.20	355.17	351.45	351.24	0.36	0.34	355.19	355.19	355.17	355.17	0.01	0.01	0.01	0.01
Link1794	14BA006	14BA044	Circular	465.31	0.09	0.50	0.16	355.17	355.87	351.24	350.80	0.34	0.34	355.17	355.17	355.18	355.28	0.00	0.00	0.00	0.00
Link1795	11CA011	11CA010	Circular	28.29	0.35	0.50	0.31	350.95	350.95	348.95	348.85	0.67	0.73	350.68	350.95	350.22	350.43	0.28	0.00	0.28	0.00
Link1796	11CA010	11CB048	Circular	81.88	0.43	0.50	0.34	350.95	350.88	348.85	348.50	0.67	0.72	350.22	350.43	342.95	343.08	0.73	0.52	0.73	0.52
Link1806	11CD027.2	11CD027.1	Circular	143.67	0.36	1.00	1.99	351.12	352.82	348.09	347.57	1.03	1.61	348.78	349.23	347.69	347.71	2.34	1.89	2.34	1.89
Link1807	11CD027.1	11CD027	Natural	254.35	0.97	4.64	718.66	352.82	349.14	347.57	345.11	1.02	1.60	347.69	347.71	345.75	345.98	5.13	5.11	5.13	5.11
Link1808	11CD002	11CC040	Natural	452.34	0.39	1.48	239.94	355.16	353.39	353.67	351.90	2.20	2.97	353.83	353.85	353.26	353.39	1.32	1.30	1.32	1.30
Link1810	11BD022.1	Canal-023	Circular	53.25	0.94	0.50	0.50	347.45	348.91	346.00	345.50	0.76	0.76	347.45	347.45	342.72	342.80	0.00	0.00	0.00	0.00
Link1811	11CA047.2	11CA047.1	Circular	31.69	1.58	1.00	4.16	349.75	349.81	348.00	347.50	2.24	3.27	348.54	348.67	347.83	347.91	1.21	1.08	1.21	1.08
Link1812	11CA047.1	Canal-028	Circular	44.92	7.88	1.00	9.29	349.81	349.81	347.50	343.96	2.24	3.27	347.83	347.91	342.76	342.86	1.98	1.90	1.98	1.90
Link1819	11CC055	11CC057	Circular	3.09	3.24	2.50	68.52	347.48	347.03	342.20	342.10	8.22	8.26	345.82	346.08	345.82	346.07	1.66	1.40	1.66	1.40
Link1820	14BD007.4	14BD007.3	Circular	180.80	0.18	1.00	1.41	355.04	355.61	352.40	352.07	0.84	1.13	352.95	353.07	352.60	352.70	2.09	1.97	2.09	1.97
Link1821	14BD007.3	14BD007.2	Circular	13.60	0.22	1.00	1.55	355.61	355.96	352.07	352.04	0.84	1.13	352.60	352.70	352.57	352.67	3.01	2.91	3.01	2.91
Link1822	14BD007.2	14BD007.1	Circular	119.90	0.21	1.00	1.51	355.96	354.64	352.04	351.79	0.84	1.13	352.57	352.67	352.29	352.37	3.39	3.29	3.39	3.29
Link1823	14BD007.1	14BD007	Circular	47.20	0.17	1.00	1.36	354.64	354.84	351.79	351.71	0.84	1.13	352.29	352.37	352.07	352.12	2.36	2.27	2.36	2.27
Link1824	14BD007.5	14BD007.4	Circular	96.70	0.20	1.00	1.47	354.25	355.04	352.59	352.40	0.84	1.14	353.14	353.26	352.95	353.07	1.11	1.00	1.11	1.00
Link1825	Ralston Park	11CC044	Circular	134.11	2.24	1.50	14.59	350.00	347.17	345.00	342.00	0.35	0.50	345.16	345.19	343.54	343.60	4.84	4.81	4.84	4.81

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																				
Albany-Santiam Canal Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
143	03DB011	03DB004	Circular	79.14	0.28	2.00	11.08	338.20	338.41	334.54	334.32	1.75	2.58	334.93	335.00	334.60	334.81	3.27	3.20	3.81	3.61
144	03DA016	03DA014	Circular	63.13	0.40	2.00	13.22	338.27	337.93	334.75	334.50	0.56	0.74	335.07	335.12	334.76	334.82	3.21	3.16	3.17	3.11
145	03DA014	03DA015	Circular	17.76	0.56	2.00	15.76	337.93	337.03	334.50	334.40	0.56	0.74	334.76	334.82	334.69	334.80	3.17	3.11	2.34	2.23
146	03DB004	03DB022	Circular	17.98	1.78	2.00	28.02	338.41	337.29	334.32	334.00	1.75	2.57	334.60	334.81	334.64	334.80	3.81	3.61	2.65	2.48
420	14BB019	14BB021	Circular	183.16	0.26	3.00	31.37	352.87	351.75	345.97	345.50	19.20	25.61	347.72	348.10	347.31	347.68	5.15	4.77	4.43	4.07
421	14BB020	14BB021	Circular	268.93	0.35	0.67	0.66	352.74	351.75	347.81	346.88	1.06	1.31	349.77	350.92	347.31	347.68	2.97	1.82	4.43	4.07
424	14BB021	11CC001	Circular	546.94	0.27	3.00	32.00	351.75	351.15	345.50	344.04	21.18	28.21	347.31	347.68	345.32	346.41	4.43	4.07	5.83	4.74
505	03DB016	03AC003	Natural	352.38	-0.97	3.69	928.90	333.93	334.68	328.90	332.33	-1.41	-2.08	331.39	331.88	332.65	332.70	2.54	2.05	2.03	1.98
521	03AB010	03AB011	Natural	123.06	0.08	3.55	106.08	332.35	331.85	328.60	328.50	1.65	2.25	329.23	329.34	329.16	329.29	3.12	3.01	2.69	2.57
522	03AB012	03AB013	Natural	76.55	0.35	2.52	180.74	330.97	330.59	328.40	328.13	1.64	2.22	328.83	328.93	328.76	328.88	2.15	2.04	1.83	1.71
528	03DA007	03DA008	Natural	113.12	0.31	5.40	824.08	339.78	339.36	334.35	334.00	4.94	7.04	334.51	334.55	334.36	334.40	5.27	5.24	5.00	4.97
622	14BC025	15AD058	Circular	500.38	0.22	2.00	9.85	352.00	351.43	348.80	347.70	3.25	4.20	349.61	349.88	348.77	349.43	2.39	2.12	2.66	1.99
629	14BC002	14BC001	Circular	276.14	0.50	1.50	6.92	352.98	351.71	351.25	349.86	3.25	4.33	351.99	352.13	350.52	350.65	0.99	0.85	1.20	1.06
630	14BC001	14BC025	Circular	171.62	0.51	1.50	6.98	351.71	352.00	349.79	348.91	3.25	4.33	350.52	350.65	349.61	349.88	1.20	1.06	2.39	2.12
637	15AD062	15AA042	Circular	467.40	0.16	2.50	15.36	351.02	348.66	346.06	345.30	2.16	3.73	347.10	348.26	347.04	348.15	3.92	2.76	1.61	0.51
639	15AA042	15AA011.1	Circular	230.03	0.09	2.50	11.23	348.66	348.05	345.30	345.10	4.56	7.51	347.04	348.15	347.01	348.05	1.61	0.51	1.05	0.00
642	15AA011.1	15AA011	Circular	204.38	0.10	2.50	11.91	348.05	348.85	345.10	344.90	4.61	8.52	347.01	348.05	346.98	348.08	1.05	0.00	1.88	0.78
651	14BA008	14BA004	Circular	246.66	0.08	2.00	5.98	355.31	354.16	349.89	349.69	3.57	4.91	350.92	351.16	350.62	350.88	4.39	4.15	3.54	3.28
655	14BA004	14BA045	Circular	258.00	0.24	2.00	10.21	354.16	354.91	349.57	348.96	5.21	7.09	350.62	350.88	350.14	350.43	3.54	3.28	4.77	4.48
660	14BA045	14BA001	Circular	311.59	0.27	3.00	32.35	354.91	355.24	348.98	348.13	7.24	9.77	350.14	350.43	349.90	350.22	4.77	4.48	5.34	5.02
672	14BB018	14BB019	Circular	166.53	0.19	3.00	26.72	353.96	352.87	346.28	345.97	17.96	23.95	348.06	348.44	347.72	348.10	5.91	5.52	5.15	4.77
679	11CC040	11CC001.1	Circular	360.55	0.28	2.00	11.06	353.39	353.15	348.13	347.13	2.48	3.42	348.80	348.92	345.10	346.08	4.58	4.46	8.05	7.07
681	11CC062	11CC001.1	Circular	34.86	6.02	2.00	51.56	353.25	353.15	347.04	344.94	1.41	1.82	347.27	347.30	345.10	346.08	5.98	5.95	8.05	7.07
705.1	14BA038	14AB006	Circular	198.86	0.25	1.50	4.89	354.13	354.02	351.00	350.50	3.54	4.73	351.94	352.12	351.18	351.31	2.19	2.01	2.83	2.70
706.1	14AB006	14AB005	Circular	65.05	0.77	1.50	8.55	354.02	353.91	350.50	350.00	3.54	4.73	351.18	351.31	350.74	350.87	2.83	2.70	3.18	3.04
707.1	14AB005	14AB002	Circular	56.52	0.53	1.50	7.11	353.91	354.40	350.00	349.70	3.54	4.73	350.74	350.87	350.33	350.47	3.18	3.04	4.06	3.93
709.1	14AB002	14AB003	Circular	39.50	1.01	2.00	21.14	354.40	354.20	349.70	349.30	4.47	6.22	350.33	350.47	349.96	350.12	4.06	3.93	4.24	4.07
714	14BA043	14BA003	Circular	172.69	0.16	1.00	1.33	354.59	354.10	351.34	351.06	2.16	2.83	352.52	353.07	351.59	351.72	2.07	1.52	2.51	2.38
721	14BA003	14BA002	Circular	411.79	0.26	2.00	10.76	354.10	355.95	350.86	349.78	3.04	4.03	351.59	351.72	350.60	350.81	2.51	2.38	5.35	5.14
722	14BA002	14BA044	Circular	220.43	0.22	2.00	9.80	355.95	355.87	349.78	349.30	3.04	4.02	350.60	350.81	350.29	350.57	5.35	5.14	5.59	5.30
730	14BA044	14BA001	Circular	211.48	0.55	2.00	15.62	355.87	355.24	349.30	348.13	6.11	8.05	350.29	350.57	349.90	350.22	5.59	5.30	5.34	5.02
769	15AA015	15AA027	Circular	297.46	0.20	3.00	27.82	347.79	347.59	343.80	343.20	28.50	33.01	346.39	347.34	345.86	347.05	1.41	0.45	1.73	0.53
776	15AA028	15AA027	Circular	62.10	0.97	2.00	20.65	347.93	347.59	344.80	344.20	5.83	10.28	345.83	347.09	345.86	347.05	2.09	0.83	1.73	0.53
777	15AA040	15AA028	Circular	6.63	3.02	2.00	36.48	348.06	347.93	345.00	344.80	5.85	9.65	345.77	347.10	345.83	347.09	2.29	0.95	2.09	0.83
778	15AA039	15AA040	Circular	354.66	0.27	2.00	10.87	349.70	348.06	345.95	345.00	3.44	4.51	346.73	347.34	345.77	347.10	2.96	2.35	2.29	0.95
952	11BB011	11BB016	Circular	11.51	18.16	1.00	14.10	344.65	349.35	343.65	341.56	1.41	2.01	343.86	343.91	341.00	341.09	0.79	0.74	8.35	8.26
1122	15AA049	15AA015	Circular	98.72	0.20	3.00	27.88	348.21	347.79	344.00	343.80	28.79	33.00	346.57	347.57	346.39	347.34	1.64	0.64	1.41	0.45
1124	11CC052	11CC039	Circular	273.61	0.09	2.50	11.51	349.67	349.16	342.17	341.92	4.77	7.11	345.48	347.02	345.46	346.83	4.19	2.65	3.70	2.33
1127	15AA048	15AA049	Circular	169.33	0.08	3.00	17.81	348.45	348.21	344.14	344.00	27.03	30.78	346.86	347.93	346.57	347.57	1.59	0.52	1.64	0.64
1138	11CC057	11CC037	Circular	47.94	0.15	3.00	23.67	347.03	347.78	341.77	341.70	40.52	88.95	345.49	347.03	345.44	346.64	1.54	0.00	2.34	1.14
1142	10DD063	10DD083	Circular	63.51	0.27	3.00	32.04	348.47	347.75	342.63	342.46	35.36	43.59	345.71	347.01	345.67	347.00	2.76	1.45	2.08	0.75
1146	14BB024	11CC056	Circular	213.38	0.11	1.50	3.27	350.61	347.21	342.20	341.96	4.30	5.42	345.83	347.11	345.57	347.07	4.78	3.50	1.64	0.14
1147	11CC056	11CC057	Circular	61.01	0.03	1.50	1.77	347.21	347.03	341.96	341.94	5.34	6.73	345.57	347.07	345.49	347.03	1.64	0.14	1.54	0.00
1148	14CA009	14BD018	Natural	255.25	0.02	3.56	34.40	357.68	358.39	354.50	354.45	0.75	1.19	355.25	355.37	355.23	355.35	2.43	2.31	3.16	3.04
1532	11CA044	11CA034	Circular	234.85	0.39	1.00	2.06	350.80	350.14	346.14	345.23	1.62	2.23	346.83	347.04	345.79	345.93	3.97	3.76	4.35	4.21
1533	11CA034	11CA045	Circular	106.69	0.67	1.00	2.72	350.14	350.70	345.23	344.51	1.62	2.23	345.79	345.93	345.06	345.25	4.35	4.21	5.64	5.44
1538	11CA032	11CA036	Circular	254.46	1.32	1.00	3.80	351.36	350.75	348.52	345.16	0.81	1.29	348.83	348.92	345.63	345.78	2.53	2.44	5.12	4.97
1539	11CA036	11CA045	Circular	43.69	1.49	1.00	4.04	350.75	350.70	345.16	344.51	1.76	2.65	345.63	345.78	345.06	345.25	5.12	4.97	5.64	5.44
1540	11CA029	11CA032	Circular	177.40	0.12	1.00	1.17	352.68	351.36	348.74	348.52	0.82	1.29	349.32	349.49	348.83	348.92	3.36	3.19	2.53	2.44
1543	11CA045	11CA043	Circular	39.27	-0.08	2.25	7.95	350.70	350.79	344.02	344.05	5.86	8.66	345.06	345.25	340.61	340.92	5.64	5.44	10.18	9.88
1546	11CA017	11CA017.2	Circular	426.56	0.45	1.50	6.56	351.24	349.02	346.57	344.64	1.02	1.47	346.97	347.05	345.29	345.47	4.27	4.18	3.74	3.56
1611.1	03DB015	03DB016	Natural	512.73	0.01	5.03	216.06	333.98	333.93	328.95	328.90	-3.29	-3.80	331.39	331.88	331.39	331.88	2.59	2.10	2.54	2.05
1665	15AD047	15AD022	Circular	228.10	0.18	2.50	15.95	353.08	351.28	348.30	347.90	3.51	4.42	349.11	349.51	348.76	349.43	3.97	3.57	2.52	1.85
1666	15AD022	15AD058	Circular	27.91	0.72	2.50	32.24	351.28	351.43	347.90	347.70	3.49	4.25	348.76	349.43	348.77	349.43	2.52	1.85	2.66	1.99
1667	15AD058	15AD021	Circular	26.14	1.15	2.50	40.80	351.43	351.36	347.70	347.40	8.61	10.47	348.77	349.43	348.80	349.44	2.66	1.99	2.56	1.92
1668	15AD021	15AD041	Circular	202.87	0.20	2.50	16.91	351.36	350.78	347.40	347.00	8.60	10.33	348.80	349.44	348.55	349.31	2.56	1.92	2.23	1.46
1669	15AD041	15AA014	Circular	255.70	0.08	2.50	10.65	350.78	350.37	347.00	346.80	9.97	11.80	348.55	349.31	348.08	349.11	2.23	1.46	2.30	1.26
1671	15AA013	15AA001	Circular	276.66	0.05	2.50	8.87	349.97	348.97	346.00	345.85	15.44	18.65	348.17	349.05	347.66	348.45	1.80	0.91	1.30	0.51
1675	14BD007	14BD006	Circular	160.52	0.14	2.00	7.95	354.84	355.42	351.53	351.30	0.84	1.13	351.97	352.04	351.72	351.79	2.87	2.80	3.70	3.63
1676	14BD006	14BC003	Circular	230.58	0.20	2.00	9.28	355.42	354.32	351.30	350.85	0.83	1.13	351.72	351.79	351.16	351.22	3.70	3.63	3.16	3.11
1976	11CC028	11CC027	Circular	387.65	0.45	1.50	6.57	350.05	348.05	346.11	344.35	1.20	1.74	346.54	346.89	345.53	346.92	3.51	3.17	2.52	1.13
2124	11BD022	11BD027	Circular	80.21	0.44	1.50	6.44	347.35	349.35	345.35	345.00	0.97	1.40	345.75	345.83	341.04	341.14	1.60	1.52	8.32	8.21
2325	14BD040	14BD041	Circular	21.22	9.47	0.50	1.60	353.74	353.69	349.54	347.53	-1.22	-1.28	348.38	348.40	351.18	351.35	5.37	5.34	2.52	2.34
2326	14BC037	14BC032	Circular	89.09	0.11	2.00	7.04	355.87	356.43	346.90	346.80	1.22	1.28	347.41	347.43	347.18	347.19	8.46	8.45	9.25	9.24
2328	14BD040	14BD038	Circular	5.87	1.87	1.00	4.53	353.74	353.73	347.80	347.69	1.22	1.28	348.38	348.40	348.39	348.42	5.37	5.34	5.34	5.31
2331	14BD044	14BD041	Circular	49.73	-0.02	0.67	0.39	353.60	353.69	350.71	350.65	-0.09	-0.13	351.18	351.35	351.18	351.35	2.42	2.25	2.52	2.34
2332	14BD038	14BC037	Circular	345.21	0.18	1.00	1.40	353.73	355.87	347.65	347.03	1.22	1.28	348.39	348.42	347.41	347.43	5.34	5.31	8.46	8.45
2337	14BD041	14BA008	Circular	295.97	0.28	2.00	10.64	353.69	355.31	350.65	349.89	1.29	1.92	351.18	351.35	350.92	351.16	2.52	2.34	4.39	4.15
2338	14BD005	14BD043	Circular	113.76	0.04	0.67	0.24	354.91	354.32	350.95	350.90	-0.02	-0.04	351.18	351.35	351.18	351.35	3.73	3.56	3.14	2.96

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																					
Albany-Santiam Canal Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
2339	14BD043	14BD044	Circular	168.14	0.13	0.67	0.41	354.32	353.60	350.90	350.68	-0.05	-0.09	351.18	351.35	351.18	351.35	3.14	2.96	2.42	2.25
2355	15AA001	15AA047	Circular	173.60	0.06	2.50	9.14	348.97	348.57	345.85	345.75	15.43	18.79	347.66	348.45	346.96	348.06	1.30	0.51	1.61	0.50
2356	15AA011	15AA047	Circular	124.85	0.12	3.00	21.47	348.85	348.57	344.90	344.75	7.37	10.78	346.98	348.08	346.96	348.06	1.88	0.78	1.61	0.50
2357	15AA047	15AA048	Circular	88.75	0.52	3.00	44.59	348.57	348.45	344.60	344.14	25.14	29.12	346.96	348.06	346.86	347.93	1.61	0.50	1.59	0.52
2374	11CC051	11CC052	Circular	37.88	1.58	1.00	4.16	349.34	349.67	344.50	343.90	-0.06	0.64	345.48	347.06	345.48	347.02	3.86	2.28	4.19	2.65
2420	15AA014	15AA051	Circular	23.31	1.46	2.50	46.00	350.37	350.24	346.80	346.46	9.93	11.84	348.08	349.11	348.13	349.10	2.30	1.26	2.11	1.14
2421	15AA051	15AA013	Circular	24.80	1.65	2.50	48.97	350.24	349.97	346.41	346.00	15.45	18.59	348.13	349.10	348.17	349.05	2.11	1.14	1.80	0.91
2425	14BB003	14BB028	Circular	286.13	0.36	2.00	12.66	353.38	352.29	349.66	348.62	3.00	3.97	350.32	350.44	349.30	349.66	3.06	2.94	2.99	2.63
2426	14BB027	15AA051	Circular	472.76	0.29	2.00	11.39	351.74	350.24	347.85	346.46	5.56	6.79	348.92	349.54	348.13	349.10	2.83	2.20	2.11	1.14
2427	14BB028	14BB027	Circular	197.16	0.34	2.00	12.25	352.29	351.74	348.59	347.92	2.99	3.82	349.30	349.66	348.92	349.54	2.99	2.63	2.83	2.20
2453	14BB002.1	14BB002	Circular	176.59	0.21	3.00	28.35	354.45	354.06	347.90	347.53	16.12	21.43	349.44	349.72	348.84	349.16	5.02	4.73	5.22	4.90
2454	14BA001	14BB002.1	Circular	224.04	0.10	3.00	19.84	355.24	354.45	348.13	347.90	16.12	21.44	349.90	350.22	349.44	349.72	5.34	5.02	5.02	4.73
2602	03DA028	03DA030	Circular	57.94	0.43	1.50	6.41	337.80	337.99	334.75	334.50	4.96	7.07	335.69	335.92	335.34	335.51	2.11	1.88	2.65	2.48
2605	03DA031	03DA028	Circular	205.90	0.19	1.50	4.30	338.10	337.80	335.15	334.75	4.96	7.07	336.39	336.97	335.69	335.92	1.71	1.13	2.11	1.88
2657	11CC018	11CC047	Circular	165.27	0.30	2.00	11.55	347.99	349.71	344.00	343.50	3.78	6.19	345.53	346.89	345.50	346.97	2.46	1.10	4.21	2.75
2659	11CD026	11CA045	Circular	527.16	0.03	2.25	4.85	350.04	350.70	344.66	344.51	2.69	4.14	345.63	345.85	345.06	345.25	4.41	4.19	5.64	5.44
2663	11CD027	11CD005	Circular	35.70	0.67	2.25	23.58	349.14	349.65	345.11	344.87	2.73	4.13	345.73	345.94	345.70	345.93	3.41	3.20	3.95	3.73
3445	03DB023	03DB015	Circular	39.50	0.13	1.00	1.18	333.48	333.98	329.00	328.95	-2.24	-2.73	331.22	331.62	331.39	331.88	2.27	1.86	2.59	2.10
3447	03DB020	03DB022	Circular	7.50	1.07	2.00	21.70	337.29	337.29	334.20	334.12	0.69	2.37	334.63	334.78	334.64	334.80	2.65	2.51	2.65	2.48
3448	03DB022	03DB019	Circular	143.99	0.42	1.25	3.87	337.29	334.65	334.00	333.40	1.95	2.70	334.64	334.80	334.10	334.30	2.65	2.48	0.55	0.35
3449	03DB019	03DB018	Circular	45.06	0.42	1.25	3.90	334.65	335.39	333.36	333.17	1.95	2.73	334.10	334.30	334.02	334.21	0.55	0.35	1.37	1.18
3450	03DB018	03DB017	Circular	264.81	0.11	1.25	2.02	335.39	334.22	333.14	332.84	1.95	2.62	334.02	334.21	333.21	333.34	1.37	1.18	1.01	0.88
3451	03DB017	03DB016	Circular	152.65	2.50	1.50	15.43	334.22	333.93	332.72	328.90	3.62	4.99	333.21	333.34	331.39	331.88	1.01	0.88	2.54	2.05
3692	03DB027	03AC009	Circular	348.61	0.16	2.00	8.49	335.31	334.33	328.65	328.08	2.24	2.73	329.35	329.43	328.76	328.84	5.95	5.87	5.57	5.50
3694	03AC009	03AC010	Circular	54.47	0.15	2.00	8.05	334.33	334.48	328.08	328.00	2.24	2.73	328.76	328.84	328.65	328.72	5.57	5.50	5.83	5.75
3697	03AC014	03AC015	Circular	179.06	0.17	2.00	8.60	333.53	333.93	327.78	327.48	2.24	2.73	328.48	328.56	328.29	328.43	5.05	4.98	5.65	5.50
3698	03AC015	03AC019	Circular	34.92	-0.14	2.50	14.41	333.93	333.82	327.43	327.48	3.60	4.93	328.29	328.43	328.23	328.37	5.65	5.50	5.59	5.45
3699	03AC010	03AC014	Circular	100.56	0.17	2.00	8.64	334.48	333.53	327.95	327.78	2.24	2.73	328.65	328.72	328.48	328.56	5.83	5.75	5.05	4.98
3704	03AC031	03AC015	Circular	86.45	0.02	1.25	0.91	333.99	333.93	327.50	327.48	2.49	3.33	328.49	328.70	328.29	328.43	5.50	5.30	5.65	5.50
3712	03AC019	03AC021	Circular	255.99	0.19	2.50	16.49	333.82	332.92	327.43	326.95	3.60	4.93	328.23	328.37	327.69	327.84	5.59	5.45	5.23	5.08
3714	03AC021	03AC024	Circular	167.58	0.18	2.50	16.11	332.92	332.77	326.90	326.60	3.59	4.91	327.69	327.84	327.33	327.54	5.23	5.08	5.44	5.23
3718	03AC024	03AC026	Circular	81.37	0.49	2.50	26.70	332.77	332.76	326.60	326.20	3.57	4.86	327.33	327.54	327.25	327.50	5.44	5.23	5.51	5.26
3719	03AC026	03AC027	Circular	216.40	0.05	2.50	8.19	332.76	332.21	326.20	326.10	3.53	4.78	327.25	327.50	327.13	327.41	5.51	5.26	5.08	4.80
3721	03AC027	03AC006	Circular	184.00	0.15	2.50	14.86	332.21	331.60	326.05	325.77	3.43	4.64	327.13	327.41	327.06	327.36	5.08	4.80	4.53	4.23
3722	03AC006	03AB020	Circular	173.49	0.15	3.00	23.98	331.60	331.80	325.72	325.46	10.15	14.43	327.06	327.36	326.77	327.07	4.53	4.23	5.03	4.73
3723	03AB020	03AB018	Circular	521.02	0.15	3.00	23.96	331.80	329.44	325.41	324.63	10.15	14.42	326.77	327.07	325.88	326.13	5.03	4.73	3.57	3.31
3724	03AB018	03AB019	Circular	102.88	0.16	3.00	24.42	329.44	329.46	324.58	324.42	10.14	14.41	325.88	326.13	325.67	325.90	3.57	3.31	3.79	3.55
3728	03DB023	03DB027	Circular	175.64	0.08	1.00	0.93	333.48	335.31	329.80	329.66	2.24	2.73	331.22	331.62	329.35	329.43	2.27	1.86	5.95	5.87
3775	10DD083	11CC055	Circular	286.64	0.22	3.00	29.04	347.75	347.48	342.46	341.83	35.88	44.63	345.67	347.00	345.49	346.85	2.08	0.75	1.99	0.63
Link1634	11CC027	11CC018	Circular	29.51	1.19	1.50	10.62	348.05	347.99	344.35	344.00	2.22	4.14	345.53	346.92	345.53	346.89	2.52	1.13	2.46	1.10
Link1636	11CB063	11CB062	Circular	43.58	1.84	0.67	1.52	349.87	349.95	346.95	346.15	1.12	1.44	347.41	347.55	346.79	346.90	2.47	2.32	3.16	3.04
Link1637	11CD005	11CD026	Circular	92.96	0.23	2.25	13.67	349.65	350.04	344.87	344.66	2.73	4.13	345.70	345.93	345.63	345.85	3.95	3.73	4.41	4.19
Link1639	15AA027	10DD063	Circular	244.46	0.23	3.00	29.91	347.59	348.47	343.20	342.63	35.24	42.99	345.86	347.05	345.71	347.01	1.73	0.53	2.76	1.45
Link1640	14BB002	14BB001	Circular	62.00	0.77	3.00	54.49	354.06	354.10	347.53	347.05	16.93	22.55	348.84	349.16	348.69	349.06	5.22	4.90	5.41	5.04
Link1641	14BB001	14BB018	Circular	276.39	0.28	3.00	32.69	354.10	353.96	347.05	346.28	17.96	23.94	348.69	349.06	348.06	348.44	5.41	5.04	5.91	5.52
Link1642	14BD007	14BD005	Circular	12.93	2.47	0.67	1.77	354.84	354.91	353.20	352.88	0.00	0.00	351.97	352.04	351.18	351.35	2.87	2.80	3.73	3.56
Link1644	14BD002	14BD046	Natural	86.89	0.16	4.07	36.32	357.44	359.45	354.44	354.30	1.65	2.64	354.83	354.90	354.29	354.38	2.62	2.54	5.16	5.07
Link1645	14BD004	14BD047	Natural	166.60	0.06	4.58	70.43	358.62	359.45	354.50	354.40	0.62	0.94	354.93	355.00	354.29	354.38	3.70	3.63	5.15	5.06
Link1646	14BD018	14BD002	Natural	402.94	0.00	3.47	7.01	358.39	357.44	354.45	354.44	1.66	2.66	355.23	355.35	354.83	354.90	3.16	3.04	2.62	2.54
Link1647	14BD020	14BD004	Natural	303.13	0.10	3.45	30.18	357.59	358.62	354.80	354.50	0.62	0.94	355.19	355.26	354.93	355.00	2.39	2.33	3.70	3.63
Link1765	03AB011	03AB012	Circular	33.05	0.30	1.50	5.37	331.85	330.97	328.50	328.40	1.64	2.23	329.16	329.29	328.83	328.93	2.69	2.57	2.15	2.04
Link1766	03AB013	03AB014	Circular	21.50	0.61	1.50	7.64	330.59	331.83	328.13	328.00	1.63	2.22	328.76	328.88	328.31	328.35	1.83	1.71	3.52	3.48
Link1767	03AB014	03BA017	Natural	69.56	8.63	5.78	2311.03	331.83	329.73	328.00	322.00	1.63	2.22	328.31	328.35	322.29	322.50	3.52	3.48	7.44	7.23
Link1778	03AB019	03AB021	Circular	91.40	0.07	3.00	15.87	329.46	330.89	324.42	324.36	10.14	14.41	325.67	325.90	323.28	323.48	3.79	3.55	7.61	7.40
Link1779	03AC003	03AC002	Natural	14.04	1.28	2.33	1817.21	334.68	334.47	332.33	332.15	1.28	1.70	332.65	332.70	332.62	332.68	2.03	1.98	1.84	1.79
Link1780	03AC002	03AC001.1	Natural	483.70	0.07	3.25	431.72	334.47	335.99	332.15	331.80	1.23	1.65	332.62	332.68	332.17	332.22	1.84	1.79	3.82	3.77
Link1781	03AC001.1	03AC001	Natural	266.62	0.70	6.25	2454.38	335.99	338.37	331.87	330.00	1.19	1.61	332.17	332.22	330.11	330.14	3.82	3.77	8.26	8.24
Link1782	03AC001	03AC004	Natural	183.43	3.91	8.51	5208.64	338.37	331.47	330.00	322.84	1.19	1.61	330.11	330.14	323.64	323.81	8.26	8.24	7.83	7.67
Link1784	03DA015	03DB020	Natural	393.69	0.05	2.86	151.25	337.03	337.29	334.40	334.20	0.47	0.69	334.69	334.80	334.63	334.78	2.34	2.23	2.65	2.51
Link1786	03DA016	03DB011	Natural	374.27	0.02	3.50	160.57	338.27	338.20	334.77	334.70	0.69	0.98	335.07	335.12	334.93	335.00	3.21	3.16	3.27	3.20
Link1790	03DA030	03DA007	Circular	52.72	0.28	1.50	5.20	337.99	339.78	334.50	334.35	4.96	7.07	335.34	335.51	334.51	334.55	2.65	2.48	5.27	5.24
Link1791	03DA008	03AC005	Natural	1277.21	0.31	4.30	2637.17	339.36	333.23	334.00	330.00	3.50	5.21	334.36	334.40	325.50	325.58	5.00	4.97	7.73	7.65
Link1792	14BA012	14BA011	Circular	65.46	0.23	1.50	4.67	355.20	355.20	351.60	351.45	1.64	2.17	352.25	352.37	352.14	352.27	2.95	2.83	3.06	2.93
Link1793	14BA011	14BA006	Circular	95.62	0.22	1.50	4.57	355.20	355.17	351.45	351.24	1.63	2.16	352.14	352.27	352.02	352.15	3.06	2.93	3.15	3.02
Link1794	14BA006	14BA044	Circular	465.31	0.09	1.50	3.00	355.17	355.87	351.24	350.80	1.61	2.14	352.02	352.15	350.29	350.57	3.15	3.02	5.59	5.30
Link1795	11CA011	11CA010	Circular	28.29	0.35	0.50	0.31	350.95	350.95	348.95	348.85	0.67	1.03	349.75	350.41	349.11	349.17	1.20	0.54	1.84	1.78
Link1806	11CD027.2	11CD027.1	Circular	143.67	0.36	1.00	1.99	351.12	352.82	348.09	347.57	1.03	1.61	348.63	348.78	347.69	347.71	2.49	2.34	5.13	5.11
Link1807	11CD027.1	11CD027	Natural	254.35	0.97	4.64	718.66	352.82	349.14	347.57	345.11	1.02	1.60	347.69	347.71	345.73	345.94	5.13	5.11	3.41	3.20
Link1808	11CD002	11CC040	Natural	452.34	0.39	1.48	239.94	355.16	353.39	353.67	351.90	2.09	2.85	353.85	353.87	348.80	348.92	1.31	1.28	4.58	4.46
Link1819	11CC055	11CC057	Circular	3.09	1.94	3.00	86.30	347.48	347.03	341.83	341.77	35.58	66.88	345.49	346.85	345.49	347.03	1.99	0.63	1.54	0.00

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																				
Albany-Santiam Canal Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
Link1820	14BD007.4	14BD007.3	Circular	180.80	0.18	1.00	1.41	355.04	355.61	352.40	352.07	0.84	1.13	352.95	353.07	352.60	352.70	2.09	1.97	3.01	2.91
Link1820.1	11CA017.2	11CA047.1	Circular	215.46	1.03	1.25	6.08	349.02	348.30	344.64	342.43	3.22	4.70	345.29	345.47	343.11	343.33	3.74	3.56	5.20	4.97
Link1821	11CA047.1	11CA028.1	Circular	46.33	0.93	1.25	5.78	348.30	348.20	342.43	342.00	3.22	4.70	343.11	343.33	342.69	342.99	5.20	4.97	5.51	5.21
Link1821.1	14BD007.3	14BD007.2	Circular	13.60	0.22	1.00	1.55	355.61	355.96	352.07	352.04	0.84	1.13	352.60	352.70	352.57	352.67	3.01	2.91	3.39	3.29
Link1822	11CA028.1	11CA043	Circular	324.38	0.86	1.25	5.55	348.20	350.79	342.00	339.22	3.22	4.69	342.69	342.99	340.61	340.92	5.51	5.21	10.18	9.88
Link1822.1	14BD007.2	14BD007.1	Circular	119.90	0.21	1.00	1.51	355.96	354.64	352.04	351.79	0.84	1.13	352.57	352.67	352.29	352.37	3.39	3.29	2.36	2.27
Link1823	11CA043	11CA043.1	Circular	388.83	0.12	4.00	45.88	350.79	352.25	339.22	338.76	12.02	17.36	340.61	340.92	340.14	340.44	10.18	9.88	12.11	11.81
Link1823.1	14BD007.1	14BD007	Circular	47.20	0.17	1.00	1.36	354.64	354.84	351.79	351.71	0.84	1.13	352.29	352.37	351.97	352.04	2.36	2.27	2.87	2.80
Link1824	11CA043.1	11CA043.2	Circular	312.12	0.12	4.00	46.54	352.25	352.69	338.76	338.38	11.97	17.30	340.14	340.44	339.76	340.04	12.11	11.81	12.93	12.65
Link1824.1	14BD007.5	14BD007.4	Circular	96.70	0.20	1.00	1.47	354.25	355.04	352.59	352.40	0.84	1.14	353.14	353.26	352.95	353.07	1.11	1.00	2.09	1.97
Link1825	11CA043.2	11CA043.3	Circular	457.73	0.12	4.00	46.24	352.69	351.10	338.38	337.83	11.94	17.27	339.76	340.04	339.12	339.37	12.93	12.65	11.98	11.74
Link1826	11CA043.3	11DB029	Circular	180.95	0.12	4.00	45.44	351.10	349.67	337.83	337.62	11.91	17.24	339.12	339.37	338.73	338.93	11.98	11.74	10.94	10.74
Link1827	11CA010	11CC032.2	Circular	152.80	2.00	1.00	4.67	350.95	350.50	348.85	345.80	0.67	1.03	349.11	349.17	346.34	346.43	1.84	1.78	4.17	4.07
Link1828	11CC032.2	11CA043	Circular	352.18	0.94	2.00	20.37	350.50	350.79	345.80	342.49	3.18	4.35	346.34	346.43	340.61	340.92	4.17	4.07	10.18	9.88
Link1829	11CB062	11CC032.2	Circular	175.01	0.20	1.00	1.48	349.95	350.50	346.15	345.80	1.11	1.44	346.79	346.90	346.34	346.43	3.16	3.04	4.17	4.07
Link1830	11CC032	11CC032.1	Circular	365.18	0.10	1.00	1.04	349.23	351.40	346.52	346.16	1.48	1.96	347.69	348.72	347.02	347.46	1.54	0.51	4.38	3.94
Link1831	11CC032.1	11CC032.2	Circular	253.17	0.14	1.00	1.25	351.40	350.50	346.16	345.80	1.47	1.96	347.02	347.46	346.34	346.43	4.38	3.94	4.17	4.07
Link1832	11CC047.1	11CC052	Circular	250.24	0.13	2.50	13.83	350.33	349.67	342.50	342.17	3.63	6.38	345.49	346.99	345.48	347.02	4.83	3.34	4.19	2.65
Link1836	11CC047	11CC047.1	Circular	31.22	1.60	2.00	26.58	349.71	350.33	343.50	343.00	3.69	6.33	345.50	346.97	345.49	346.99	4.21	2.75	4.83	3.34
Link1837	11CA047.2	11CA047.3	Circular	46.21	1.08	1.25	6.24	349.75	349.50	347.00	346.50	2.24	3.27	347.53	347.67	347.10	347.25	2.22	2.08	2.41	2.25
Link1838	11CA047.3	11CA017.2	Circular	282.01	1.01	1.25	4.87	349.50	349.02	346.50	344.64	2.24	3.27	347.10	347.25	345.29	345.47	2.41	2.25	3.74	3.56
Link1843	11DB029	11DB029.1	Natural	525.00	0.12	13.28	4206.13	349.67	351.50	337.62	337.00	11.83	17.16	338.73	338.93	337.60	337.73	10.94	10.74	13.90	13.77
Link1852	11CC039	11CC037	Circular	230.84	0.12	3.00	21.18	349.16	347.78	341.92	341.65	5.99	8.89	345.46	346.83	345.44	346.64	3.70	2.33	2.34	1.14
Link1853	11CC037	11CC001	Circular	433.80	0.10	5.00	75.25	347.78	351.15	341.65	341.23	45.54	68.76	345.44	346.64	345.32	346.41	2.34	1.14	5.83	4.74
Link1854	11CC001	11CC001.1	Circular	396.12	0.10	5.00	75.88	351.15	353.15	341.23	340.84	65.83	76.91	345.32	346.41	345.10	346.08	5.83	4.74	8.05	7.07
Link1855	11CC001.1	11CC001.2	Circular	373.19	0.10	5.00	78.18	353.15	354.03	340.84	340.45	67.93	78.40	345.10	346.08	344.87	345.74	8.05	7.07	9.15	8.29
Link1856	11CC001.2	11CC001.3	Circular	428.43	0.10	5.00	76.62	354.03	354.47	340.45	340.02	66.29	77.13	344.87	345.74	344.62	345.36	9.15	8.29	9.85	9.12
Link1857	11CC001.3	11CC001.4	Circular	706.28	0.10	5.00	76.14	354.47	353.81	340.02	339.32	65.36	76.73	344.62	345.36	344.18	344.83	9.85	9.12	9.63	8.98
Link1858	11CC001.4	11CC001.5	Circular	623.18	0.10	5.00	76.89	353.81	356.77	339.32	338.69	67.42	78.40	344.18	344.83	343.72	344.41	9.63	8.98	13.05	12.36
Link1859	11CC001.6	11CC001.7	Circular	699.87	0.10	5.00	76.48	358.00	355.35	338.50	337.80	83.95	91.42	342.90	343.61	342.13	342.67	15.10	14.39	13.22	12.68
Link1860	11CC001.7	11CC001.8	Circular	699.84	0.11	5.00	81.77	355.35	352.20	337.80	337.00	100.08	113.28	342.13	342.67	340.91	341.21	13.22	12.68	11.29	10.99
Link1861	11CC001.8	11CC001.9	Circular	357.37	0.06	5.00	57.21	352.20	344.20	337.00	336.80	100.07	113.28	340.91	341.21	339.97	340.19	11.29	10.99	4.23	4.02
Link1862	11CC001.9	11CC001.10	Circular	117.39	0.17	5.00	99.82	344.20	341.60	336.80	336.60	100.07	113.28	339.97	340.19	339.45	339.64	4.23	4.02	2.15	1.96
Link1863	14AB008	14AB011	Circular	277.00	0.36	2.00	12.62	355.00	355.17	349.50	348.50	1.57	1.99	350.20	350.71	350.14	350.69	4.80	4.29	5.03	4.48
Link1865	11CD019	11CC001.4	Circular	186.75	0.80	1.50	8.74	350.50	353.81	347.50	346.00	2.04	2.97	347.99	348.10	344.18	344.83	2.51	2.40	9.63	8.98
Link1866.1	14AB003.1	11CC001.6	Circular	130.54	0.38	2.00	13.00	356.13	358.00	348.00	347.50	12.25	16.02	349.46	349.77	342.90	343.61	6.67	6.36	15.10	14.39
Link1870	14AC026	14AB011.1	Circular	267.77	0.37	2.00	12.84	355.49	355.46	350.00	349.00	1.66	2.08	350.52	350.85	350.21	350.78	4.97	4.64	5.25	4.68
Link1873	14AC030	14AB011.2	Circular	106.76	0.47	1.00	2.26	356.81	357.22	350.50	350.00	1.44	1.92	351.20	351.59	350.98	351.28	5.61	5.22	6.24	5.94
Link1877	14BD035	14AB011.2	Circular	744.07	0.20	2.00	9.43	356.78	357.22	351.50	350.00	2.94	3.85	352.27	352.41	350.98	351.28	4.51	4.37	6.24	5.94
Link1878	11CC001.5	11CC001.6	Circular	892.99	0.02	5.00	35.28	356.77	358.00	338.69	338.50	73.29	82.78	343.72	344.41	342.90	343.61	13.05	12.36	15.10	14.39
Link1879	14AB003	14AB003.1	Circular	130.54	1.00	2.00	20.96	354.20	356.13	349.30	348.00	4.47	6.21	349.96	350.12	349.46	349.77	4.24	4.07	6.67	6.36
Link1880	14AB011	14AB003.1	Circular	432.68	0.12	2.00	7.14	355.17	356.13	348.50	348.00	7.86	10.02	350.14	350.69	349.46	349.77	5.03	4.48	6.67	6.36
Link1881	14AB011.1	14AB011	Circular	94.90	0.53	2.00	15.25	355.46	355.17	349.00	348.50	5.93	7.60	350.21	350.78	350.14	350.69	5.25	4.68	5.03	4.48
Link1882	14AB011.2	14AB011.1	Circular	478.75	0.21	2.00	9.60	357.22	355.46	350.00	349.00	4.33	5.55	350.98	351.28	350.21	350.78	6.24	5.94	5.25	4.68
Link1883	14BD025	14BD035	Circular	167.21	0.30	2.00	11.49	355.68	356.78	352.00	351.50	1.44	1.88	352.51	352.61	352.27	352.41	3.17	3.07	4.51	4.37

Hydraulic Model Results - Full Buildout Conditions																				
Albany-Santiam Canal Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
143	03DB011	03DB004	Circular	79.14	0.28	2.00	11.08	338.20	338.41	334.54	334.32	4.30	5.11	335.15	335.27	335.08	335.23	3.05	2.93	3.33	3.18
144	03DA016	03DA014	Circular	63.13	0.40	2.00	13.22	338.27	337.93	334.75	334.50	1.08	1.26	335.20	335.28	335.10	335.24	3.07	2.99	2.83	2.69
145	03DA014	03DA015	Circular	17.76	0.56	2.00	15.76	337.93	337.03	334.50	334.40	1.06	1.23	335.10	335.24	335.10	335.24	2.83	2.69	1.93	1.79
146	03DB004	03DB022	Circular	17.98	1.78	2.00	28.02	338.41	337.29	334.32	334.00	4.23	5.02	335.08	335.23	335.09	335.24	3.33	3.18	2.19	2.04
420	14BB019	14BB021	Circular	183.16	0.17	1.25	2.51	352.87	351.75	345.97	345.65	3.74	4.11	352.43	352.57	351.75	351.75	0.44	0.30	0.00	0.00
421	14BB020	14BB021	Circular	268.93	0.50	0.67	0.80	352.74	351.75	347.00	345.65	0.84	0.87	352.74	352.74	351.75	351.75	0.00	0.00	0.00	0.00
424	14BB021	11CC001	Circular	546.94	0.29	1.25	3.22	351.75	350.76	345.62	344.04	5.21	5.19	351.75	351.75	348.14	348.46	0.00	0.00	2.62	2.30
505	03DB016	03AC003	Natural	350.87	-0.98	3.69	930.90	333.93	334.68	328.90	332.33	-3.46	-4.31	332.18	332.63	332.77	332.81	1.75	1.30	1.91	1.87
521	03AB010	03AB011	Natural	123.06	0.08	3.55	106.08	332.35	331.85	328.60	328.50	1.65	2.25	329.23	329.34	329.16	329.29	3.12	3.01	2.69	2.57
522	03AB012	03AB013	Natural	76.55	0.35	2.52	180.74	330.97	330.59	328.40	328.13	1.64	2.22	328.83	328.94	328.77	328.89	2.14	2.03	1.83	1.70
528	03DA007	03DA008	Natural	113.12	0.31	5.40	824.08	339.78	339.36	334.35	334.00	3.23	3.23	334.48	334.48	334.34	334.35	5.30	5.30	5.02	5.01
622	14BC025	15AD058	Circular	500.38	0.22	0.67	0.53	352.00	351.43	348.80	347.70	0.49	0.50	351.61	351.61	351.30	351.32	0.39	0.38	0.13	0.11
629	14BC002	14BC001	Circular	276.14	0.50	0.50	0.37	352.98	351.71	351.25	349.86	0.49	0.48	352.98	352.98	351.71	351.71	0.00	0.00	0.00	0.00
630	14BC001	14BC025	Circular	171.62	0.51	0.67	0.80	351.71	352.00	349.79	348.91	0.49	0.49	351.71	351.71	351.61	351.61	0.00	0.00	0.39	0.38
637	15AD062	15AA042	Circular	467.40	0.16	0.67	0.45	351.02	348.66	347.06	346.30	0.82	0.82	351.02	351.02	348.66	348.66	0.00	0.00	0.00	0.00
639	15AA042	15AA011.1	Circular	230.03	0.09	1.00	0.98	348.66	348.05	346.30	346.10	1.71	1.71	348.66	348.66	348.05	348.05	0.00	0.00	0.00	0.00
642	15AA011.1	15AA011	Circular	204.38	0.10	1.00	1.03	348.05	348.85	346.10	345.90	-1.97	-2.09	348.05	348.05	348.76	348.85	0.00	0.00	0.09	0.00
651	14BA008	14BA004	Circular	246.66	0.08	0.67	0.32	355.31	354.16	349.89	349.69	0.80	0.80	355.31	355.31	354.16	354.16	0.00	0.00	0.00	0.00
655	14BA004	14BA045	Circular	258.00	0.24	0.83	0.99	354.16	354.91	349.57	348.96	-1.13	-1.13	354.16	354.16	354.91	354.91	0.00	0.00	0.00	0.00
660	14BA045	14BA001	Circular	311.59	0.27	1.00	1.73	354.91	355.24	348.98	348.13	-1.09	-1.12	354.91	354.91	355.22	355.24	0.00	0.00	0.02	0.00
672	14BB018	14BB019	Circular	166.53	0.19	1.25	2.59	353.96	352.87	346.28	345.97	3.03	3.04	352.67	352.80	352.43	352.57	1.29	1.17	0.44	0.30
679	11CC040	11CC062	Circular	376.72	0.27	0.67	0.58	353.39	353.25	348.13	347.13	1.01	1.00	353.31	353.39	352.94	353.25	0.08	0.00	0.31	0.00
681	11CC062	11CC001	Circular	386.79	0.54	0.67	0.83	353.25	350.76	347.04	344.94	1.33	1.36	352.94	353.25	348.14	348.46	0.31	0.00	2.62	2.30
685	11CC038	11CC039	Circular	26.04	0.04	2.50	7.46	349.44	349.16	341.90	341.89	20.45	21.04	345.06	345.28	344.99	345.21	4.38	4.16	4.17	3.95
714	14BA043	14BA003	Circular	173.06	0.16	1.00	1.33	354.59	354.10	351.34	351.06	-0.54	0.52	354.14	354.13	354.10	354.10	0.45	0.46	0.00	0.00
721	14BA003	14BA002	Circular	411.79	0.26	1.00	1.69	354.10	355.95	350.86	349.78	-1.43	-1.47	354.10	354.10	354.84	354.87	0.00	0.00	1.12	1.08
722	14BA002	14BA044	Circular	220.43	0.22	1.00	1.54	355.95	355.87	349.78	349.30	-1.43	-1.47	354.84	354.87	355.22	355.28	1.12	1.08	0.65	0.59
730	14BA044	14BA001	Circular	211.48	0.55	1.00	2.46	355.87	355.24	349.30	348.13	1.34	1.34	355.22	355.28	355.22	355.24	0.65	0.59	0.02	0.00
769	15AA015	15AA027	Circular	297.46	0.20	1.50	4.38	347.79	347.59	344.80	344.20	5.28	5.26	347.79	347.79	347.43	347.57	0.00	0.00	0.16	0.02
776	15AA028	15AA027	Circular	62.10	0.97	0.50	0.51	347.93	347.59	344.80	344.20	0.98	0.98	347.93	347.93	347.43	347.57	0.00	0.00	0.16	0.02
777	15AA040	15AA028	Circular	6.63	3.02	0.67	1.95	348.06	347.93	345.00	344.80	1.61	1.61	348.06	348.06	347.93	347.93	0.00	0.00	0.00	0.00
778	15AA039	15AA040	Circular	354.66	0.27	1.00	1.71	349.70	348.06	345.95	345.00	2.29	2.29	349.70	349.70	348.06	348.06	0.00	0.00	0.00	0.00
952	11BB011	11BB016	Circular	11.51	18.16	1.00	14.10	344.65	349.35	343.65	341.56	1.46	2.06	343.99	344.08	341.95	342.16	0.66	0.57	7.41	7.19
1122	15AA049	15AA015	Circular	98.72	0.20	1.50	4.39	348.21	347.79	345.00	344.80	6.06	6.30	348.17	348.20	347.79	347.79	0.04	0.01	0.00	0.00
1124	11CC039	11CC052	Circular	250.96	0.01	2.50	4.16	349.16	349.74	341.89	341.86	21.86	22.92	344.99	345.21	344.22	344.35	4.17	3.95	5.52	5.39
1125	11CC053	11CC054	Circular	99.99	0.05	2.50	8.52	348.99	347.17	341.75	341.70	23.08	24.47	344.00	344.09	343.61	343.69	4.99	4.89	3.56	3.47
1127	15AA048	15AA049	Circular	169.33	0.08	1.50	2.80	348.45	348.21	345.14	345.00	4.81	4.81	348.45	348.45	348.17	348.20	0.00	0.00	0.04	0.01
1137	11CC037	11CC038	Circular	232.01	0.01	2.50	3.54	347.78	349.44	341.92	341.90	20.45	21.05	345.73	345.98	345.06	345.28	2.05	1.80	4.38	4.16
1138	11CC057	11CC037	Circular	51.01	0.04	2.50	7.54	347.03	347.78	341.94	341.92	20.45	21.05	345.87	346.13	345.73	345.98	1.15	0.89	2.05	1.80
1140	11CC059	11CC057	Circular	20.92	0.38	1.50	6.03	346.85	347.03	342.18	342.10	7.29	7.38	345.99	346.25	345.87	346.13	0.86	0.60	1.15	0.89
1142	10DD063	10DD083	Circular	63.51	0.27	1.50	5.05	348.47	347.75	343.63	343.46	7.59	7.38	346.55	346.80	346.26	346.53	1.92	1.67	1.49	1.22
1143	11CC001	11CC058	Circular	332.52	0.47	1.50	6.68	350.76	347.86	344.04	342.48	7.27	7.38	348.14	348.46	346.34	346.61	2.62	2.30	1.52	1.25
1146	14BB024	11CC056	Circular	213.38	0.11	1.50	3.27	350.61	347.21	342.20	341.96	4.37	4.52	346.47	346.78	346.06	346.34	4.14	3.83	1.16	0.87
1147	11CC056	11CC057	Circular	61.01	0.03	1.50	1.77	347.21	347.03	341.96	341.94	5.41	5.79	346.06	346.34	345.87	346.13	1.16	0.87	1.15	0.89
1148	14CA009	14BD018	Natural	255.25	0.08	3.43	68.79	357.68	358.39	354.70	354.50	1.78	2.40	355.59	355.69	355.54	355.64	2.09	1.99	2.84	2.75
1531	11CB062	11CB061	Circular	132.29	1.00	1.00	3.30	349.95	350.18	346.15	344.83	1.12	1.44	346.55	346.61	343.17	343.28	3.40	3.33	7.02	6.90
1532	11CA044	11CA034	Circular	234.85	0.39	1.00	2.06	350.80	350.14	346.14	345.23	1.62	2.23	346.83	347.03	345.81	346.04	3.97	3.77	4.33	4.10
1533	11CA034	11CA045	Circular	103.10	0.70	1.00	2.76	350.14	350.70	345.23	344.51	1.62	2.21	345.81	346.04	345.35	345.63	4.33	4.10	5.34	5.07
1538	11CA032	11CA036	Circular	256.88	1.31	1.00	3.78	351.36	350.75	348.52	345.16	0.99	1.49	348.87	348.96	345.71	345.93	2.49	2.40	5.04	4.82
1539	11CA036	11CA045	Circular	47.50	1.37	1.00	3.87	350.75	350.70	345.16	344.51	1.94	2.85	345.71	345.93	345.35	345.63	5.04	4.82	5.34	5.07
1540	11CA029	11CA032	Circular	177.40	0.12	1.00	1.17	352.68	351.36	348.74	348.52	0.99	1.49	349.39	349.57	348.87	348.96	3.30	3.11	2.49	2.40
1543	11CA045	11CA043	Circular	40.99	-0.07	2.25	7.78	350.70	350.79	344.02	344.05	6.48	9.22	345.35	345.63	345.30	345.57	5.34	5.07	5.49	5.22
1544	11CA043	11CA0281	Circular	356.01	0.12	2.25	9.76	350.79	350.33	344.05	343.64	6.46	9.21	345.30	345.57	342.87	342.98	5.49	5.22	7.46	7.35
1546	11CA017	11CA047	Circular	656.24	0.45	0.50	0.35	351.24	347.87	346.57	343.64	0.57	0.57	351.24	351.24	342.87	342.98	0.00	0.00	5.01	4.89
1611.1	03DB015	03DB016	Natural	512.73	0.01	5.03	216.06	333.98	333.93	328.95	328.90	-4.48	-5.10	332.18	332.63	332.18	332.63	1.80	1.35	1.75	1.30
1665	15AD047	15AD022	Circular	228.10	0.18	1.00	1.39	353.08	351.28	348.30	347.90	2.99	2.99	353.08	353.08	351.28	351.28	0.00	0.00	0.00	0.00
1666	15AD022	15AD058	Circular	27.91	0.72	1.00	2.80	351.28	351.43	347.90	347.70	0.83	-1.16	351.28	351.28	351.30	351.32	0.00	0.00	0.13	0.11
1667	15AD058	15AD021	Circular	26.14	1.15	1.00	3.54	351.43	351.36	347.70	347.40	1.61	1.64	351.30	351.32	351.24	351.25	0.13	0.11	0.12	0.10
1668	15AD021	15AD041	Circular	202.87	0.20	1.00	1.47	351.36	350.78	347.40	347.00	1.61	1.64	351.24	351.25	350.78	350.78	0.12	0.10	0.00	0.00
1669	15AD041	15AA014	Circular	255.70	0.08	1.00	0.93	350.78	350.37	347.00	346.80	1.70	1.71	350.78	350.78	350.19	350.19	0.00	0.00	0.18	0.18
1671	15AA013	15AA001	Circular	276.66	0.05	1.00	0.77	349.97	348.97	346.00	345.85	2.53	2.54	349.97	349.97	348.97	348.97	0.00	0.00	0.00	0.00
1675	14BD007	14BD006	Circular	160.52	0.14	2.00	7.95	354.84	355.42	351.53	351.30	1.49	1.82	352.11	352.17	351.80	351.85	2.73	2.67	3.62	3.57
1676	14BD006	14BC003	Circular	230.58	0.31	2.00	11.74	355.42	354.32	351.30	350.58	1.49	1.82	351.80	351.85	351.00	351.05	3.62	3.57	3.32	3.28
1959	11CB065	11CB064	Circular	36.20	0.44	1.00	2.20	349.68	349.96	346.49	346.33	1.01	1.25	346.96	347.02	346.46	346.53	2.72	2.66	3.49	3.43
1960	11CB064	11CB068	Circular	91.77	0.48	1.00	2.29	349.96	350.07	345.99	345.55	1.01	1.25	346.46	346.53	346.09	346.15	3.49	3.43	3.98	3.92
1976	11CC028	11CC027	Circular	387.65	0.45	0.67	0.76	350.05	348.05	346.11	344.35	0.83	0.83	350.05	350.05	348.05	348.05	0.00	0.00	0.00	0.00
1984	11CC032	11CB043	Circular	151.33	0.21	0.67	0.52	349.23	349.76	346.52	346.20	1.46	1.46	349.23	349.23	346.80	346.80	0.00	0.00	2.96	2.96
1985	11CB043	11CB047	Circular	28.38	1.41	0.67	1.33	349.76	350.48	346.20	345.80	1.46	1.46	346.80	346.80	343.30	343.40	2.96	2.96	7.18	7.08
2124	11BD022	11BD027	Circular	80.21	0.44	1.50	6.44	347.35	349.35	345.35	345.00	1.08	1.54	345.83	345.94	342.11	342.35	1.52	1.41	7.24	7.00

Hydraulic Model Results - Full Buildout Conditions																					
Albany-Santiam Canal Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
2325	14BD040	14BD041	Circular	21.22	9.47	0.50	1.60	353.74	353.69	349.54	347.53	-2.00	-1.98	349.09	349.09	353.69	353.69	4.65	4.65	0.00	0.00
2326	14BC037	14BC032	Circular	89.09	0.11	2.00	7.04	355.87	356.43	346.90	346.80	1.94	1.94	347.54	347.54	347.28	347.28	8.33	8.33	9.15	9.15
2328	14BD040	14BD038	Circular	5.87	1.87	1.00	4.53	353.74	353.73	347.80	347.69	1.97	1.96	349.09	349.09	349.07	349.07	4.65	4.65	4.66	4.66
2331	14BD044	14BD041	Circular	49.73	-0.02	0.67	0.16	353.60	353.69	350.71	350.72	-0.50	-0.50	353.60	353.60	353.69	353.69	0.00	0.00	0.00	0.00
2332	14BD038	14BC037	Circular	345.21	0.18	1.00	1.40	353.73	355.87	347.65	347.03	1.94	1.94	349.07	349.07	347.54	347.54	4.66	4.66	8.33	8.33
2337	14BD041	14BA008	Circular	295.97	0.28	0.67	0.60	353.69	355.31	350.72	349.89	-0.91	-0.92	353.69	353.69	355.31	355.31	0.00	0.00	0.00	0.00
2338	14BD005	14BD043	Circular	113.76	0.24	0.67	0.55	354.91	354.32	352.59	352.32	-0.44	-0.43	353.18	353.18	353.36	353.36	1.73	1.73	0.96	0.96
2339	14BD043	14BD044	Circular	168.14	0.89	0.67	1.06	354.32	353.60	352.17	350.68	-0.44	-0.44	353.36	353.36	353.60	353.60	0.96	0.96	0.00	0.00
2355	15AA001	15AA047	Circular	173.60	0.06	1.00	0.79	348.97	348.57	345.85	345.75	2.54	2.54	348.97	348.97	348.57	348.57	0.00	0.00	0.00	0.00
2356	15AA011	15AA047	Circular	124.85	0.12	1.00	1.15	348.85	348.57	345.90	345.75	1.56	1.61	348.76	348.85	348.57	348.57	0.09	0.00	0.00	0.00
2357	15AA047	15AA048	Circular	88.75	0.52	1.50	7.02	348.57	348.45	345.60	345.14	4.45	4.47	348.57	348.57	348.45	348.45	0.00	0.00	0.00	0.00
2373	11CC051	11CC053	Circular	27.90	0.18	2.50	16.12	349.34	348.99	341.80	341.75	23.08	24.48	344.10	344.20	344.00	344.09	5.25	5.14	4.99	4.89
2374	11CC052	11CC051	Circular	35.92	0.17	2.50	15.57	349.74	349.34	341.86	341.80	23.09	24.49	344.22	344.35	344.10	344.20	5.52	5.39	5.25	5.14
2376	11CC058	11CC059	Circular	64.51	0.47	1.50	6.65	347.86	346.85	342.48	342.18	7.28	7.37	346.34	346.61	345.99	346.25	1.52	1.25	0.86	0.60
2420	15AA014	15AA051	Circular	23.31	1.46	1.00	4.00	350.37	350.24	346.80	346.46	1.68	1.68	350.19	350.19	350.14	350.14	0.18	0.18	0.10	0.10
2421	15AA051	15AA013	Circular	24.80	1.65	1.00	4.25	350.24	349.97	346.41	346.00	2.82	2.82	350.14	350.14	349.97	349.97	0.10	0.10	0.00	0.00
2425	14BB003	14BB028	Circular	286.13	0.36	0.67	0.68	353.38	352.29	349.66	348.62	0.79	0.79	353.38	353.38	352.03	352.03	0.00	0.00	0.25	0.26
2426	14BB027	15AA051	Circular	472.76	0.29	0.83	1.10	351.74	350.24	347.85	346.46	1.21	1.21	351.74	351.74	350.14	350.14	0.00	0.00	0.10	0.10
2427	14BB028	14BB027	Circular	197.16	0.34	0.83	1.18	352.29	351.74	348.59	347.92	0.79	0.79	352.03	352.03	351.74	351.74	0.25	0.26	0.00	0.00
2453	14BB002.1	14BB002	Circular	176.59	0.21	1.00	1.51	354.45	354.06	347.90	347.53	2.47	2.45	354.45	354.45	354.06	354.06	0.00	0.00	0.00	0.00
2454	14BA001	14BB002.1	Circular	224.04	0.10	1.00	1.06	355.24	354.45	348.13	347.90	2.47	2.46	355.22	355.24	354.45	354.45	0.02	0.00	0.00	0.00
2602	03DA028	03DA030	Circular	57.94	0.43	1.00	2.17	337.80	337.99	334.75	334.50	3.23	3.24	336.16	336.16	335.62	335.62	1.64	1.64	2.37	2.37
2605	03DA031	03DA028	Circular	205.90	0.19	1.00	1.46	338.10	337.80	335.15	334.75	3.24	3.24	338.10	338.10	336.16	336.16	0.00	0.00	1.64	1.64
2657	11CC018	11CC047	Circular	165.27	0.30	0.67	0.62	347.99	349.71	344.00	343.50	1.59	1.59	347.99	347.99	344.84	344.84	0.00	0.00	4.87	4.87
2659	11CD026	11CA045	Circular	525.29	0.03	2.25	4.86	350.04	350.70	344.66	344.51	3.23	4.71	345.76	346.01	345.35	345.63	4.28	4.03	5.34	5.07
2663	11CD027	11CD005	Circular	35.70	0.67	2.25	23.58	349.14	349.65	345.11	344.87	3.23	4.67	345.83	346.08	345.82	346.07	3.31	3.06	3.83	3.58
3445	03DB023	03DB015	Circular	38.02	0.13	1.00	1.20	333.48	333.98	329.00	328.95	-3.02	-3.37	331.87	332.25	332.18	332.63	1.61	1.23	1.80	1.35
3447	03DB020	03DB022	Circular	7.50	1.07	2.00	21.70	337.29	337.29	334.20	334.12	3.29	3.21	335.09	335.24	335.09	335.24	2.19	2.04	2.19	2.04
3448	03DB022	03DB019	Circular	143.99	0.42	1.25	3.87	337.29	334.65	334.00	333.40	3.44	3.87	335.09	335.24	334.65	334.65	2.19	2.04	0.00	0.00
3449	03DB019	03DB018	Circular	45.06	0.42	1.25	3.90	334.65	335.39	333.36	333.17	3.29	3.29	334.65	334.65	334.53	334.52	0.00	0.00	0.86	0.86
3450	03DB018	03DB017	Circular	264.81	0.11	1.25	2.02	335.39	334.22	333.14	332.84	3.27	3.28	334.53	334.52	333.51	333.62	0.86	0.71	0.71	0.60
3451	03DB017	03DB016	Circular	154.25	2.48	1.50	15.35	334.22	333.93	332.72	328.90	6.86	7.95	333.51	333.62	332.18	332.63	0.71	0.60	1.75	1.30
3692	03DB027	03AC009	Circular	348.61	0.16	2.00	8.49	335.31	334.33	328.65	328.08	3.02	3.37	329.48	329.53	328.88	329.19	5.83	5.78	5.45	5.15
3694	03AC009	03AC010	Circular	54.47	0.15	2.00	8.05	334.33	334.48	328.08	328.00	3.02	3.37	328.88	329.19	328.77	329.17	5.45	5.15	5.71	5.31
3697	03AC014	03AC015	Circular	179.06	0.17	2.00	8.60	333.53	333.93	327.78	327.48	3.02	3.37	328.64	329.14	328.53	329.10	4.90	4.40	5.40	4.83
3698	03AC015	03AC019	Circular	34.92	-0.14	2.50	14.41	333.93	333.82	327.43	327.48	4.33	5.90	328.53	329.10	328.50	329.09	5.40	4.83	5.32	4.73
3699	03AC010	03AC014	Circular	100.56	0.17	2.00	8.64	334.48	333.53	327.95	327.78	3.02	3.37	328.77	329.17	328.64	329.14	5.71	5.31	4.90	4.40
3704	03AC031	03AC015	Circular	86.45	0.02	1.25	0.91	333.99	333.93	327.50	327.48	2.49	3.32	328.64	329.28	328.53	329.10	5.35	4.72	5.40	4.83
3712	03AC019	03AC021	Circular	255.99	0.19	2.50	16.49	333.82	332.92	327.43	326.95	4.37	6.25	328.50	329.09	328.33	329.03	5.32	4.73	4.59	3.90
3714	03AC021	03AC024	Circular	167.58	0.18	2.50	16.11	332.92	332.77	326.90	326.60	4.65	6.76	328.33	329.03	328.29	329.00	4.59	3.90	4.48	3.77
3718	03AC024	03AC026	Circular	81.37	0.49	2.50	26.70	332.77	332.76	326.60	326.20	4.84	7.06	328.29	329.00	328.28	328.98	4.48	3.77	4.48	3.78
3719	03AC026	03AC027	Circular	216.40	0.05	2.50	8.19	332.76	332.21	326.20	326.10	5.02	7.26	328.28	328.98	328.26	328.95	4.48	3.78	3.95	3.26
3721	03AC027	03AC006	Circular	184.00	0.15	2.50	14.86	332.21	331.60	326.05	325.77	5.28	7.50	328.26	328.95	328.23	328.92	3.95	3.26	3.36	2.68
3722	03AC006	03AB020	Circular	173.49	0.15	3.00	23.98	331.60	331.80	325.72	325.46	27.06	32.37	328.23	328.92	327.90	328.45	3.36	2.68	3.90	3.35
3723	03AB020	03AB018	Circular	521.02	0.15	3.00	23.96	331.80	329.44	325.41	324.63	27.03	32.25	327.90	328.45	326.76	327.01	3.90	3.35	2.68	2.43
3724	03AB018	03AB019	Circular	102.88	0.16	3.00	24.42	329.44	329.46	324.58	324.42	27.00	32.22	326.76	327.01	326.46	326.67	2.68	2.43	2.99	2.79
3728	03DB023	03DB027	Circular	175.64	0.08	1.00	0.93	333.48	335.31	329.80	329.66	3.02	3.37	331.87	332.25	329.48	329.53	1.61	1.23	5.83	5.78
3775	10DD083	11CC055	Circular	286.64	0.44	2.00	13.93	347.75	347.48	343.46	342.20	8.26	8.30	346.26	346.53	345.87	346.13	1.49	1.22	1.60	1.34
Link1633	11CC047	11CC044	Circular	54.19	0.55	0.67	0.84	349.71	347.17	343.50	343.20	1.59	1.59	344.84	344.84	343.59	343.67	4.87	4.87	3.58	3.50
Link1634	11CC027	11CC018	Circular	29.51	1.19	0.67	1.22	348.05	347.99	344.35	344.00	0.88	0.88	348.05	348.05	347.99	347.99	0.00	0.00	0.00	0.00
Link1635	11CB068	11CB069	Circular	22.85	0.00	1.00	0.10	350.07	350.65	345.55	345.55	1.01	1.25	346.09	346.15	343.17	343.28	3.98	3.92	7.49	7.37
Link1636	11CB063	11CB062	Circular	43.58	1.84	0.67	1.52	349.87	349.95	346.95	346.15	1.12	1.44	347.38	347.47	346.55	346.61	2.49	2.40	3.40	3.33
Link1637	11CD005	11CD026	Circular	92.96	0.23	2.25	13.67	349.65	350.04	344.87	344.66	3.23	4.67	345.82	346.07	345.76	346.01	3.83	3.58	4.28	4.03
Link1639	15AA027	10DD063	Circular	244.46	0.23	1.50	4.71	347.59	348.47	344.20	343.63	7.04	6.88	347.43	347.57	346.55	346.80	0.16	0.02	1.92	1.67
Link1640	14BB002	14BB001	Circular	62.00	0.77	1.00	2.91	354.06	354.10	347.53	347.05	2.74	2.76	354.06	354.06	353.97	354.02	0.00	0.00	0.13	0.08
Link1641	14BB001	14BB018	Circular	276.39	0.28	1.00	1.75	354.10	353.96	347.05	346.28	3.03	3.04	353.97	354.02	352.67	352.80	0.13	0.08	1.29	1.17
Link1642	14BD007	14BD005	Circular	12.93	0.85	0.67	1.04	354.84	354.91	352.70	352.59	-0.43	-0.43	352.11	352.17	353.18	353.18	2.73	2.67	1.73	1.73
Link1644	14BD002	14BD046	Natural	86.89	0.16	4.07	36.32	357.44	359.45	354.44	354.30	4.25	5.70	354.99	355.05	354.43	354.51	2.46	2.39	5.02	4.93
Link1645	14BD004	14BD047	Natural	166.60	0.06	4.58	70.43	358.62	359.45	354.50	354.40	0.95	1.47	355.00	355.08	354.43	354.52	3.63	3.54	5.02	4.93
Link1646	14BD018	14BD002	Natural	402.94	0.01	3.44	18.89	358.39	357.44	354.50	354.44	4.28	5.73	355.54	355.64	354.99	355.05	2.84	2.75	2.46	2.39
Link1647	14BD020	14BD004	Natural	303.13	0.10	3.45	30.18	357.59	358.62	354.80	354.50	0.95	1.47	355.26	355.35	355.00	355.08	2.32	2.24	3.63	3.54
Link1765	03AB011	03AB012	Circular	33.05	0.30	1.50	5.37	331.85	330.97	328.50	328.40	1.64	2.23	329.16	329.29	328.83	328.94	2.69	2.57	2.14	2.03
Link1766	03AB013	03AB014	Circular	21.50	0.61	1.50	7.64	330.59	331.83	328.13	328.00	1.63	2.22	328.77	328.89	328.27	328.30	1.83	1.70	3.56	3.53
Link1767	03AB014	03BA017	Natural	33.51	17.91	5.78	3329.64	331.83	329.73	328.00	322.00	1.63	2.22	328.27	328.30	322.63	322.83	3.56	3.53	7.10	6.91
Link1778	03AB019	03AB021	Circular	93.93	0.06	3.00	15.65	329.46	330.89	324.42	324.36	27.00	32.23	326.46	326.67	324.45	324.71	2.99	2.79	6.44	6.18
Link1779	03AC003	03AC002	Natural	14.04	1.28	2.33	1817.21	334.68	334.47	332.33	332.15	2.45	2.92	332.77	332.81	332.76	332.80	1.91	1.87	1.71	1.67
Link1780	03AC002	03AC001.1	Natural	483.70	0.07	3.25	431.72	334.47	335.99	332.15	331.80	2.41	2.87	332.76	332.80	332.27	332.30	1.71	1.67	3.72	3.69
Link1781	03AC001.1	03AC001	Natural	266.62	0.70	6.25	2454.38	335.99	338.37	331.87	330.00	2.37	2.81	332.27	332.30	330.17	330.18	3.72	3.69	8.20	8.19
Link1782	03AC001	03AC004	Natural	183.43	3.91	8.51	5208.64	338.37	331.47	330.00	322.84	2.37	2.81	330.17	330.18	324.71	324.97	8.20	8.19	6.77	6.50
Link1784	03DA015	03DB020	Natural	393.69	0.05	2.86	151.25	337.03	337.29	334.40	334.20	0.85	0.93	335.10	335.24	335.09	335.24	1.93	1.79	2.19	2.04

Hydraulic Model Results - Full Buildout Conditions																					
Albany-Santiam Canal Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
Link1786	03DA016	03DB011	Natural	374.27	0.02	3.50	160.57	338.27	338.20	334.77	334.70	1.31	1.55	335.20	335.28	335.15	335.27	3.07	2.99	3.05	2.93
Link1790	03DA030	03DA007	Circular	52.72	0.28	1.00	1.76	337.99	339.78	334.50	334.35	3.23	3.24	335.62	335.62	334.48	334.48	2.37	2.37	5.30	5.30
Link1791	03DA008	03AC005	Natural	1277.21	0.31	4.30	2637.17	339.36	333.23	334.00	330.00	2.75	3.11	334.34	334.35	325.89	325.98	5.02	5.01	7.34	7.25
Link1792	14BA012	14BA011	Circular	65.46	0.23	0.50	0.25	355.20	355.20	351.60	351.45	0.38	0.34	355.20	355.20	355.19	355.19	0.00	0.00	0.01	0.01
Link1793	14BA011	14BA006	Circular	95.62	0.22	0.50	0.24	355.20	355.17	351.45	351.24	0.34	0.33	355.19	355.19	355.17	355.17	0.01	0.01	0.00	0.00
Link1794	14BA006	14BA044	Circular	465.31	0.09	0.50	0.16	355.17	355.87	351.24	350.80	0.33	0.34	355.17	355.17	355.22	355.28	0.00	0.00	0.65	0.59
Link1795	11CA011	11CA010	Circular	28.29	0.35	0.50	0.31	350.95	350.95	348.95	348.85	0.67	0.73	350.68	350.95	350.22	350.43	0.28	0.00	0.73	0.52
Link1796	11CA010	11CB048	Circular	81.88	0.43	0.50	0.34	350.95	350.88	348.85	348.50	0.67	0.72	350.22	350.43	343.05	343.17	0.73	0.52	7.83	7.71
Link1806	11CD027.2	11CD027.1	Circular	143.67	0.36	1.00	1.99	351.12	352.82	348.09	347.57	1.44	2.10	348.74	348.93	347.70	347.73	2.38	2.20	5.12	5.10
Link1807	11CD027.1	11CD027	Natural	254.35	0.97	4.64	718.66	352.82	349.14	347.57	345.11	1.43	2.08	347.70	347.73	345.83	346.08	5.12	5.10	3.31	3.06
Link1808	11CD002	11CC040	Natural	452.34	0.39	1.48	239.94	355.16	353.39	353.67	351.90	2.35	3.14	353.84	353.86	353.31	353.39	1.32	1.30	0.08	0.00
Link1810	11BD027.1	Canal-023	Circular	53.25	0.94	0.50	0.50	347.45	348.91	346.00	345.50	0.76	0.76	347.45	347.45	342.78	342.86	0.00	0.00	6.13	6.05
Link1811	11CA047.2	11CA047.1	Circular	31.69	1.58	1.00	4.16	349.75	349.81	348.00	347.50	2.25	3.28	348.54	348.67	347.84	347.91	1.21	1.08	1.97	1.90
Link1812	11CA047.1	Canal-028	Circular	44.92	7.88	1.00	9.29	349.81	349.81	347.50	343.96	2.25	3.28	347.84	347.91	342.83	342.93	1.97	1.90	6.98	6.88
Link1819	11CC055	11CC057	Circular	3.09	3.24	2.50	68.52	347.48	347.03	342.20	342.10	8.20	8.07	345.87	346.13	345.87	346.13	1.60	1.34	1.15	0.89
Link1820	14BD007.4	14BD007.3	Circular	180.80	0.18	1.00	1.41	355.04	355.61	352.40	352.07	1.06	1.38	353.04	353.17	352.68	352.79	2.00	1.87	2.93	2.82
Link1821	14BD007.3	14BD007.2	Circular	13.60	0.22	1.00	1.55	355.61	355.96	352.07	352.04	1.06	1.38	352.68	352.79	352.65	352.76	2.93	2.82	3.31	3.20
Link1822	14BD007.2	14BD007.1	Circular	119.90	0.21	1.00	1.51	355.96	354.64	352.04	351.79	1.06	1.38	352.65	352.76	352.35	352.43	3.31	3.20	2.29	2.21
Link1823	14BD007.1	14BD007	Circular	47.20	0.17	1.00	1.36	354.64	354.84	351.79	351.71	1.06	1.38	352.35	352.43	352.11	352.17	2.29	2.21	2.73	2.67
Link1824	14BD007.5	14BD007.4	Circular	96.70	0.20	1.00	1.47	354.25	355.04	352.59	352.40	1.06	1.39	353.23	353.36	353.04	353.17	1.02	0.89	2.00	1.87

Hydraulic Model Results - Full Buildout Conditions - Capital Improvement Plan Projects																				
Albany-Santiam Canal Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
143	03DB011	03DB004	Circular	79.14	0.28	2.00	11.08	338.20	338.41	334.54	334.32	4.31	5.12	335.15	335.28	335.08	335.26	3.06	2.92	3.33	3.16
144	03DA016	03DA014	Circular	63.13	0.40	2.00	13.22	338.27	337.93	334.75	334.50	1.08	1.26	335.20	335.29	335.10	335.26	3.07	2.98	2.83	2.67
145	03DA014	03DA015	Circular	17.76	0.56	2.00	15.76	337.93	337.03	334.50	334.40	1.06	1.23	335.10	335.26	335.10	335.26	2.83	2.67	1.93	1.77
146	03DB004	03DB022	Circular	17.98	1.78	2.00	28.02	338.41	337.29	334.32	334.00	4.23	5.03	335.08	335.26	335.10	335.26	3.33	3.16	2.19	2.02
420	14BB019	14BB021	Circular	183.16	0.26	3.00	31.37	352.87	351.75	345.97	345.50	19.96	26.19	347.77	348.21	347.37	347.86	5.10	4.66	4.38	3.89
421	14BB020	14BB021	Circular	268.93	0.35	0.67	0.66	352.74	351.75	347.81	346.88	1.06	1.30	349.77	351.02	347.37	347.86	2.97	1.72	4.38	3.89
424	14BB021	11CC001	Circular	561.26	0.26	3.00	31.59	351.75	351.15	345.50	344.04	22.00	28.75	347.37	347.86	345.34	346.78	4.38	3.89	5.81	4.37
505	03DB016	03AC003	Natural	352.38	-0.97	3.69	928.90	333.93	334.68	328.90	332.33	-3.45	-4.30	332.19	332.65	332.77	332.81	1.74	1.28	1.91	1.87
521	03AB010	03AB011	Natural	123.06	0.08	3.55	106.08	332.35	331.85	328.60	328.50	1.65	2.25	329.23	329.34	329.16	329.29	3.12	3.01	2.69	2.57
522	03AB012	03AB013	Natural	76.55	0.35	2.52	180.74	330.97	330.59	328.40	328.13	1.64	2.22	328.83	328.93	328.76	328.88	2.15	2.04	1.83	1.71
528	03DA007	03DA008	Natural	113.12	0.31	5.40	824.08	339.78	339.36	334.35	334.00	4.94	7.04	334.51	334.55	334.36	334.40	5.27	5.24	5.00	4.97
622	14BC025	15AD058	Circular	500.38	0.22	1.50	4.57	352.00	351.43	348.80	347.70	3.26	4.18	349.86	351.51	349.26	350.90	2.13	0.48	2.16	0.53
629	14BC002	14BC001	Circular	276.14	0.50	1.50	6.92	352.98	351.71	351.25	349.86	3.31	4.40	351.99	352.32	350.53	351.71	0.98	0.65	1.18	0.00
630	14BC001	14BC025	Circular	171.62	0.51	1.50	6.98	351.71	352.00	349.79	348.91	3.31	4.15	350.53	351.71	349.86	351.51	1.18	0.00	2.13	0.48
637	15AD062	15AA042	Circular	467.40	0.16	2.50	15.36	351.02	348.66	346.06	345.30	2.10	4.61	348.38	348.94	348.37	348.66	2.63	2.08	0.29	0.00
639	15AA042	15AA011.1	Circular	230.03	0.09	2.50	11.23	348.66	348.50	345.30	345.10	4.59	7.68	348.37	348.66	348.34	348.65	0.29	0.00	0.16	-0.15
642	15AA011.1	15AA011	Circular	204.38	0.10	2.50	11.91	348.50	348.85	345.10	344.90	5.37	6.00	348.34	348.65	348.31	348.60	0.16	-0.15	0.54	0.25
651	14BA008	14BA004	Circular	246.66	0.08	2.00	5.98	355.31	354.16	349.89	349.69	3.62	4.97	350.93	351.17	350.63	350.89	4.38	4.14	3.53	3.27
655	14BA004	14BA045	Circular	258.00	0.24	2.00	10.21	354.16	354.91	349.57	348.96	5.26	7.16	350.63	350.89	350.15	350.44	3.53	3.27	4.76	4.47
660	14BA045	14BA001	Circular	311.59	0.27	3.00	32.35	354.91	355.24	348.98	348.13	7.32	9.88	350.15	350.44	349.91	350.23	4.76	4.47	5.33	5.01
672	14BB018	14BB019	Circular	166.53	0.19	3.00	26.72	353.96	352.87	346.28	345.97	18.63	24.54	348.10	348.52	347.77	348.21	5.86	5.45	5.10	4.66
679	11CC040	11CC001.1	Circular	360.55	0.28	2.00	11.06	353.39	353.15	348.13	347.13	2.63	3.59	348.82	348.94	345.11	346.56	4.56	4.44	8.03	6.59
681	11CC062	11CC001.1	Circular	34.86	6.02	2.00	51.56	353.25	353.15	347.04	344.94	1.41	1.82	347.27	347.30	345.11	346.56	5.98	5.95	8.03	6.59
705	14BA038	14AB006	Circular	198.86	0.25	1.50	4.89	354.13	354.02	351.00	350.50	3.54	4.73	351.94	352.12	351.18	351.31	2.19	2.01	2.83	2.70
706	14AB006	14AB005	Circular	65.05	0.77	1.50	8.55	354.02	353.91	350.50	350.00	3.54	4.73	351.18	351.31	350.74	350.87	2.83	2.70	3.18	3.04
707	14AB005	14AB002	Circular	56.52	0.53	1.50	7.11	353.91	354.40	350.00	349.70	3.54	4.73	350.74	350.87	350.33	350.47	3.18	3.04	4.06	3.93
709	14AB002	14AB003	Circular	39.50	1.01	2.00	21.14	354.40	354.20	349.70	349.30	4.47	6.22	350.33	350.47	349.96	350.12	4.06	3.93	4.24	4.07
714	14BA043	14BA003	Circular	172.69	0.16	1.00	1.33	354.59	354.10	351.34	351.06	2.16	2.83	352.52	353.07	351.59	351.72	2.07	1.52	2.51	2.38
721	14BA003	14BA002	Circular	411.79	0.26	2.00	10.76	354.10	355.95	350.86	349.78	3.04	4.03	351.59	351.72	350.60	350.81	2.51	2.38	5.35	5.14
722	14BA002	14BA044	Circular	220.43	0.22	2.00	9.80	355.95	355.87	349.78	349.30	3.04	4.03	350.60	350.81	350.29	350.58	5.35	5.14	5.58	5.29
730	14BA044	14BA001	Circular	211.48	0.55	2.00	15.62	355.87	355.24	349.30	348.13	6.12	8.05	350.29	350.58	349.91	350.23	5.58	5.29	5.33	5.01
769	15AA015	15AA027	Circular	297.46	0.20	3.00	27.82	347.79	347.59	343.80	343.20	25.92	25.26	347.74	347.79	347.23	347.59	0.05	0.00	0.36	0.00
776	15AA028	15AA027	Circular	62.10	0.97	2.00	20.65	347.93	347.59	344.80	344.20	5.32	7.65	347.27	347.67	347.23	347.59	0.66	0.26	0.36	0.00
777	15AA040	15AA028	Circular	6.63	3.02	2.00	36.48	348.06	347.93	345.00	344.80	5.36	7.65	347.27	347.68	347.27	347.67	0.79	0.38	0.66	0.26
778	15AA039	15AA040	Circular	354.66	0.27	2.00	10.87	349.70	348.06	345.95	345.00	3.18	4.57	347.35	347.83	347.27	347.68	2.35	1.87	0.79	0.38
952	11BB011	11BB016	Circular	11.51	18.16	1.00	14.10	344.65	349.35	343.65	341.56	1.46	2.06	343.99	344.08	341.01	341.09	0.66	0.57	8.34	8.26
1122	15AA049	15AA015	Circular	98.72	0.20	3.00	27.88	348.21	347.79	344.00	343.80	25.93	31.35	347.91	348.05	347.74	347.79	0.29	0.16	0.05	0.00
1124	11CC052	11CC039	Circular	273.61	0.09	2.50	11.51	349.67	349.16	342.17	341.92	4.94	6.69	345.49	346.94	345.47	346.88	4.18	2.73	3.69	2.28
1127	15AA048	15AA049	Circular	169.33	0.08	3.00	17.81	348.45	348.21	344.14	344.00	24.34	28.87	348.17	348.41	347.91	348.05	0.27	0.04	0.29	0.16
1138	11CC057	11CC037	Circular	47.94	0.15	3.00	23.67	347.03	347.78	341.77	341.70	38.47	41.76	345.61	346.93	345.46	346.85	1.42	0.10	2.32	0.93
1142	10DD063	10DD083	Circular	63.51	0.27	3.00	32.04	348.47	347.75	342.63	342.46	32.84	34.02	346.58	347.33	346.40	347.27	1.89	1.13	1.35	0.48
1146	14BB024	11CC056	Circular	213.38	0.11	1.50	3.27	350.61	347.21	342.20	341.96	4.31	5.39	345.94	347.15	345.69	347.00	4.67	3.46	1.52	0.21
1147	11CC056	11CC057	Circular	61.01	0.03	1.50	1.77	347.21	347.03	341.96	341.94	5.35	6.69	345.69	347.00	345.61	346.93	1.52	0.21	1.42	0.10
1532	11CA044	11CA034	Circular	234.85	0.39	1.00	2.06	350.80	350.14	346.14	345.23	1.62	2.23	346.83	347.04	345.79	345.93	3.97	3.76	4.35	4.21
1533	11CA034	11CA045	Circular	106.69	0.67	1.00	2.72	350.14	350.70	345.23	344.51	1.62	2.23	345.79	345.93	345.06	345.27	4.35	4.21	5.64	5.43
1538	11CA032	11CA036	Circular	254.46	1.32	1.00	3.80	351.36	350.75	348.52	345.16	0.99	1.49	348.87	348.96	345.66	345.81	2.49	2.41	5.09	4.94
1539	11CA036	11CA045	Circular	43.69	1.49	1.00	4.04	350.75	350.70	345.16	344.51	1.94	2.85	345.66	345.81	345.06	345.27	5.09	4.94	5.64	5.43
1540	11CA029	11CA032	Circular	177.40	0.12	1.00	1.17	352.68	351.36	348.74	348.52	0.99	1.49	349.39	349.57	348.87	348.96	3.30	3.11	2.49	2.41
1543	11CA045	11CA043	Circular	42.94	-0.07	2.25	7.60	350.70	350.79	344.02	344.05	6.49	9.46	345.06	345.27	344.46	344.76	5.64	5.43	6.33	6.03
1546	11CA017	11CA017.2	Circular	426.56	0.45	1.50	6.56	351.24	349.02	346.57	344.64	1.02	1.39	346.97	347.25	346.14	347.05	4.27	3.99	2.88	1.97
1550	11CA042	11DB026	Circular	150.60	0.14	1.00	1.24	351.76	351.00	348.62	348.41	1.10	1.58	349.29	349.47	348.95	349.06	2.47	2.29	2.06	1.94
1552	11DB026	11DB021	Circular	249.44	0.31	1.25	3.33	351.00	350.56	348.41	347.64	1.09	1.57	348.95	349.06	347.96	348.02	2.06	1.94	2.60	2.54
1553	11DB021	11DB028	Circular	150.77	1.26	1.50	10.95	350.56	351.72	347.64	345.74	1.09	1.57	347.96	348.02	345.87	345.99	2.60	2.54	5.85	5.73
1554	11DB024	11DB022	Circular	144.81	0.32	1.00	1.86	351.06	350.16	345.84	345.38	1.75	2.29	347.15	348.07	346.75	347.39	3.91	2.99	3.41	2.78
1555	11DB025	11DB024	Circular	113.47	1.02	1.00	3.34	352.16	351.06	347.00	345.84	0.59	0.70	347.31	348.12	347.15	348.07	4.85	4.04	3.91	2.99
1556	11DA009	11DB025	Circular	254.96	3.05	1.00	5.78	357.66	352.16	354.78	347.00	0.59	0.72	355.00	355.02	347.31	348.12	2.66	2.64	4.85	4.04
1611.1	03DB015	03DB016	Natural	512.73	0.01	5.03	216.06	333.98	333.93	328.95	328.90	-4.47	-5.17	332.19	332.65	332.19	332.65	1.79	1.33	1.74	1.28
1665	15AD047	15AD022	Circular	228.10	0.18	2.00	8.80	353.08	351.28	348.30	347.90	3.49	4.65	349.36	351.01	349.26	350.91	3.72	2.07	2.02	0.37
1666	15AD022	15AD058	Circular	27.91	0.72	2.00	17.78	351.28	351.43	347.90	347.70	3.44	4.57	349.26	350.91	349.26	350.90	2.02	0.37	2.16	0.53
1667	15AD058	15AD021	Circular	26.14	1.15	2.00	22.50	351.43	351.36	347.70	347.40	8.56	10.47	349.26	350.90	349.26	350.83	2.16	0.53	2.10	0.52
1668	15AD021	15AD041	Circular	202.87	0.20	2.00	9.33	351.36	350.78	347.40	347.00	8.53	10.47	349.26	350.83	349.04	350.33	2.10	0.52	1.74	0.44
1669	15AD041	15AA014	Circular	255.70	0.08	2.00	5.87	350.78	350.37	347.00	346.80	10.53	13.03	349.04	350.33	348.59	349.35	1.74	0.44	1.78	1.02
1671	15AA013	15AA001	Circular	276.66	0.18	3.00	26.33	349.97	348.97	346.00	345.50	15.01	20.23	348.48	349.04	348.37	348.75	1.48	0.92	0.60	0.21
1675	14BD007	14BD006	Circular	160.52	0.14	2.00	7.95	354.84	355.42	351.53	351.30	1.06	1.38	352.02	352.09	351.78	351.84	2.81	2.74	3.65	3.58
1676	14BD006	14BC003	Circular	230.58	0.20	2.00	9.28	355.42	354.32	351.30	350.85	1.06	1.38	351.78	351.84	351.20	351.26	3.65	3.58	3.12	3.07
1976	11CC028	11CC027	Circular	387.65	0.45	1.50	6.57	350.05	348.05	346.11	344.35	1.20	1.54	346.54	347.16	345.54	347.09	3.51	2.89	2.51	0.96
2124	11BD022	11BD027	Circular	80.21	0.44	1.50	6.44	347.35	349.35	345.35	345.00	1.08	1.54	345.83	345.94	341.05	341.14	1.52	1.41	8.31	8.21
2325	14BD040	14BD041	Circular	21.22	9.47	0.50	1.60	353.74	353.69	349.54	347.53	-1.22	-1.29	348.38	348.41	351.18	351.36	5.37	5.34	2.51	2.33
2326	14BC037	14BC032	Circular	89.09	0.11	2.00	7.04	355.87	356.43	346.90	346.80	1.22	1.28	347.41	347.43	347.18	347.19	8.46	8.45	9.25	9.24

Hydraulic Model Results - Full Buildout Conditions - Capital Improvement Plan Projects																				
Albany-Santiam Canal Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
2328	14BD040	14BD038	Circular	5.87	1.87	1.00	4.53	353.74	353.73	347.80	347.69	1.22	1.29	348.38	348.41	348.39	348.42	5.37	5.34	5.34	5.31
2331	14BD044	14BD041	Circular	49.73	0.12	0.67	0.39	353.60	353.69	350.71	350.65	-0.09	-0.13	351.18	351.36	351.18	351.36	2.42	2.24	2.51	2.33
2332	14BD038	14BC037	Circular	345.21	0.18	1.00	1.40	353.73	355.87	347.65	347.03	1.22	1.28	348.39	348.42	347.41	347.43	5.34	5.31	8.46	8.45
2337	14BD041	14BA008	Circular	295.97	0.26	2.00	10.64	353.69	355.31	350.65	349.89	1.30	1.93	351.18	351.36	350.93	351.17	2.51	2.33	4.38	4.14
2338	14BD005	14BD043	Circular	113.76	0.04	0.67	0.24	354.91	354.32	350.95	350.90	-0.02	-0.04	351.18	351.36	351.18	351.36	3.73	3.55	3.13	2.96
2339	14BD043	14BD044	Circular	168.14	0.13	0.67	0.41	354.32	353.60	350.90	350.68	-0.05	-0.09	351.18	351.36	351.18	351.36	3.13	2.96	2.42	2.24
2347	11DB028	11DB028.1	Circular	51.86	0.00	4.00	4.22	351.72	349.30	345.00	345.00	3.69	5.02	345.87	345.99	345.82	345.94	5.85	5.73	3.47	3.36
2347.1	11DB028.1	11DB029	Circular	27.93	0.00	4.00	4.22	349.30	353.48	345.00	345.00	5.98	7.96	345.82	345.94	342.66	342.87	3.47	3.36	10.82	10.61
2355	15AA001	15AA047	Circular	173.60	0.52	3.00	44.59	348.97	348.57	345.50	344.60	14.60	20.29	348.37	348.75	348.30	348.57	0.60	0.21	0.27	0.00
2356	15AA011	15AA047	Circular	124.85	0.12	3.00	21.47	348.85	348.57	344.90	344.75	7.53	9.26	348.31	348.60	348.30	348.57	0.54	0.25	0.27	0.00
2357	15AA047	15AA048	Circular	88.75	0.52	3.00	44.59	348.57	348.45	344.60	344.14	22.72	27.12	348.30	348.57	348.17	348.41	0.27	0.00	0.27	0.04
2374	11CC051	11CC052	Circular	37.88	1.58	1.00	4.16	349.34	349.67	344.50	343.90	-0.05	-0.08	345.49	346.94	345.49	346.94	3.85	2.40	4.18	2.73
2420	15AA014	15AA051	Circular	23.31	1.46	2.00	25.37	350.37	350.24	346.80	346.46	10.35	13.03	348.59	349.35	348.57	349.26	1.78	1.02	1.67	0.98
2421	15AA051	15AA013	Circular	24.80	1.65	2.00	27.01	350.24	349.97	346.41	346.00	15.49	20.17	348.57	349.26	348.48	349.04	1.67	0.98	1.48	0.92
2425	14BB003	14BB028	Circular	286.13	0.36	1.50	5.88	353.38	352.29	349.66	348.62	3.00	3.99	350.43	352.54	349.81	352.07	2.95	0.84	2.47	0.22
2426	14BB027	15AA051	Circular	472.76	0.29	1.50	5.29	351.74	350.24	347.85	346.46	5.34	7.18	349.68	351.74	348.57	349.26	2.07	0.00	1.67	0.98
2427	14BB028	14BB027	Circular	197.16	0.34	1.50	5.69	352.29	351.74	348.59	347.92	2.87	3.99	349.81	352.07	349.68	351.74	2.47	0.22	2.07	0.00
2453	14BB002.1	14BB002	Circular	176.59	0.21	3.00	28.35	354.45	354.06	347.90	347.53	16.34	21.67	349.45	349.74	348.88	349.21	5.00	4.71	5.18	4.85
2454	14BA001	14BB002.1	Circular	224.04	0.10	3.00	19.84	355.24	354.45	348.13	347.90	16.34	21.67	349.91	350.23	349.45	349.74	5.33	5.01	5.00	4.71
2602	03DA028	03DA030	Circular	57.94	0.43	1.50	6.41	337.80	337.99	334.75	334.50	4.96	7.07	335.69	335.92	335.34	335.51	2.11	1.88	2.65	2.48
2605	03DA031	03DA028	Circular	205.90	0.19	1.50	4.30	338.10	337.80	335.15	334.75	4.96	7.07	336.39	336.97	335.69	335.92	1.71	1.13	2.11	1.88
2644	11DB019	11DB028.1	Circular	333.82	0.00	1.25	0.19	349.76	349.30	345.00	345.00	2.30	2.96	346.36	346.75	345.82	345.94	3.40	3.01	3.47	3.36
2645	11DB022	11DB019	Circular	80.31	0.47	1.00	2.28	350.16	349.76	345.38	345.00	2.31	2.97	346.75	347.39	346.36	346.75	3.41	2.78	3.40	3.01
2657	11CC018	11CC047	Circular	165.27	0.30	2.00	11.55	347.99	349.71	344.00	343.50	3.94	5.24	345.54	347.07	345.51	346.99	2.45	0.92	4.20	2.72
2659	11CD026	11CA045	Circular	527.16	0.03	2.25	4.85	350.04	350.70	344.66	344.51	3.19	4.76	345.71	345.93	345.06	345.27	4.33	4.11	5.64	5.43
2663	11CD027	11CD005	Circular	35.70	0.67	2.25	23.58	349.14	349.65	345.11	344.87	3.25	4.76	345.80	346.02	345.78	346.01	3.33	3.12	3.87	3.64
3445	03DB023	03DB015	Circular	39.50	0.13	1.00	1.18	333.48	333.98	329.00	328.95	-3.02	-3.37	331.87	332.25	332.19	332.65	1.61	1.23	1.79	1.33
3447	03DB020	03DB022	Circular	7.50	1.07	2.00	21.70	337.29	337.29	334.20	334.12	3.15	3.16	335.10	335.26	335.10	335.26	2.19	2.02	2.19	2.02
3448	03DB022	03DB019	Circular	143.99	0.42	1.25	3.87	337.29	335.00	334.00	333.40	3.34	3.50	335.10	335.26	334.68	334.79	2.19	2.02	0.32	0.21
3449	03DB019	03DB018	Circular	45.06	0.42	1.25	3.90	335.00	335.39	333.36	333.17	3.34	3.50	334.68	334.79	334.56	334.65	0.32	0.21	0.83	0.74
3450	03DB018	03DB017	Circular	264.81	0.11	1.25	2.02	335.39	334.22	333.14	332.84	3.34	3.50	334.56	334.65	333.50	333.62	0.83	0.74	0.72	0.60
3451	03DB017	03DB016	Circular	152.65	2.50	1.50	15.43	334.22	333.93	332.72	328.90	6.85	8.01	333.50	333.62	332.19	332.65	0.72	0.60	1.74	1.28
3692	03DB027	03AC009	Circular	348.61	0.16	2.00	8.49	335.31	334.33	328.65	328.08	3.02	3.37	329.47	329.53	328.88	329.18	5.83	5.78	5.46	5.15
3694	03AC009	03AC010	Circular	54.47	0.15	2.00	8.05	334.33	334.48	328.08	328.00	3.02	3.37	328.88	329.18	328.77	329.16	5.46	5.15	5.71	5.32
3697	03AC014	03AC015	Circular	179.06	0.17	2.00	8.60	333.53	333.93	327.78	327.48	3.02	3.37	328.63	329.13	328.53	329.09	4.90	4.40	5.40	4.84
3698	03AC015	03AC019	Circular	34.92	-0.14	2.50	14.41	333.93	333.82	327.43	327.48	4.33	5.88	328.53	329.09	328.50	329.08	5.40	4.84	5.32	4.74
3699	03AC010	03AC014	Circular	100.56	0.17	2.00	8.64	334.48	333.53	327.95	327.78	3.02	3.37	328.77	329.16	328.63	329.13	5.71	5.32	4.90	4.40
3704	03AC031	03AC015	Circular	86.45	0.02	1.25	0.91	333.99	333.93	327.50	327.48	2.49	3.32	328.64	329.27	328.53	329.09	5.35	4.72	5.40	4.84
3712	03AC019	03AC021	Circular	255.99	0.19	2.50	16.49	333.82	332.92	327.43	326.95	4.36	6.24	328.50	329.08	328.33	329.02	5.32	4.74	4.59	3.90
3714	03AC021	03AC024	Circular	167.58	0.18	2.50	16.11	332.92	332.77	326.90	326.60	4.64	6.74	328.33	329.02	328.29	328.99	4.59	3.90	4.48	3.78
3718	03AC024	03AC026	Circular	81.37	0.49	2.50	26.70	332.77	332.76	326.60	326.20	4.83	7.04	328.29	328.99	328.28	328.98	4.48	3.78	4.48	3.78
3719	03AC026	03AC027	Circular	216.40	0.05	2.50	8.19	332.76	332.21	326.20	326.10	5.02	7.24	328.28	328.98	328.25	328.94	4.48	3.78	3.95	3.27
3721	03AC027	03AC006	Circular	184.00	0.15	2.50	14.86	332.21	331.60	326.05	325.77	5.27	7.47	328.25	328.94	328.23	328.91	3.95	3.27	3.36	2.68
3722	03AC006	03AB020	Circular	173.49	0.15	3.00	23.98	331.60	331.80	325.72	325.46	27.06	32.39	328.23	328.91	327.90	328.45	3.36	2.68	3.90	3.35
3723	03AB020	03AB018	Circular	521.02	0.15	3.00	23.96	331.80	329.44	325.41	324.63	27.03	32.24	327.90	328.45	326.76	327.00	3.90	3.35	2.68	2.44
3724	03AB018	03AB019	Circular	102.88	0.16	3.00	24.42	329.44	329.46	324.58	324.42	27.00	32.21	326.76	327.00	326.46	326.66	2.68	2.44	3.00	2.80
3728	03DB023	03DB027	Circular	175.64	0.08	1.00	0.93	333.48	335.31	329.80	329.66	3.02	3.37	331.87	332.25	329.47	329.53	1.61	1.23	5.83	5.78
3775	10DD083	11CC055	Circular	286.64	0.22	3.00	29.04	347.75	347.48	342.46	341.83	33.60	35.52	346.40	347.27	345.62	346.93	1.35	0.48	1.86	0.55
Link1634	11CC027	11CC018	Circular	29.51	1.19	1.50	10.62	348.05	347.99	344.35	344.00	2.26	2.93	345.54	347.09	345.54	347.07	2.51	0.96	2.45	0.92
Link1635	11CB065	Node2332	Circular	340.53	0.01	1.00	0.00	349.68	350.00	346.33	346.30	0.00	1.25	0.00	347.02	0.00	0.00	0.00	2.66	0.00	0.00
Link1636	11CB063	11CB062	Circular	43.58	1.84	0.67	1.52	349.87	349.95	346.95	346.15	1.12	1.44	347.41	347.57	346.80	346.93	2.47	2.31	3.15	3.02
Link1637	11CD005	11CD026	Circular	92.96	0.23	2.25	13.67	349.65	350.04	344.87	344.66	3.24	4.76	345.78	346.01	345.71	345.93	3.87	3.64	4.33	4.11
Link1639	15AA027	10DD063	Circular	244.46	0.23	3.00	29.91	347.59	348.47	343.20	342.63	32.39	33.13	347.23	347.59	346.58	347.33	0.36	0.00	1.89	1.13
Link1640	14BB002	14BB001	Circular	62.00	0.77	3.00	54.49	354.06	354.10	347.53	347.05	17.59	23.25	348.88	349.21	348.73	349.11	5.18	4.85	5.37	4.99
Link1641	14BB001	14BB018	Circular	276.39	0.28	3.00	32.69	354.10	353.96	347.05	346.28	18.63	24.64	348.73	349.11	348.10	348.52	5.37	4.99	5.86	5.45
Link1642	14BD007	14BD005	Circular	12.93	2.47	0.67	1.77	354.84	354.91	353.20	352.88	0.00	0.00	352.02	352.09	351.18	351.36	2.81	2.74	3.73	3.55
Link1765	03AB011	03AB012	Circular	33.05	0.30	1.50	5.37	331.85	330.97	328.50	328.40	1.64	2.23	329.16	329.29	328.83	328.93	2.69	2.57	2.15	2.04
Link1766	03AB013	03AB014	Circular	21.50	0.61	1.50	7.64	330.59	331.83	328.13	328.00	1.63	2.22	328.76	328.88	328.31	328.35	1.83	1.71	3.52	3.49
Link1767	03AB014	03BA017	Natural	69.56	8.63	5.78	2311.03	331.83	329.73	328.00	322.00	1.63	2.22	328.31	328.35	322.67	322.87	3.52	3.49	7.06	6.87
Link1778	03AB019	03AB021	Circular	91.40	0.07	3.00	15.87	329.46	330.89	324.42	324.36	27.00	32.21	326.46	326.66	323.66	323.83	3.00	2.80	7.23	7.05
Link1779	03AC003	03AC002	Natural	14.04	1.28	2.33	1817.21	334.68	334.47	332.33	332.15	2.45	2.92	332.77	332.81	332.76	332.80	1.91	1.87	1.71	1.67
Link1780	03AC002	03AC001.1	Natural	483.70	0.07	3.25	431.72	334.47	335.99	332.15	331.80	2.41	2.87	332.76	332.80	332.27	332.30	1.71	1.67	3.72	3.69
Link1781	03AC001.1	03AC001	Natural	266.62	0.70	6.25	2454.38	335.99	338.37	331.87	330.00	2.37	2.82	332.27	332.30	330.17	330.18	3.72	3.69	8.20	8.19
Link1782	03AC001	03AC004	Natural	183.43	3.91	8.51	5208.64	338.37	331.47	330.00	322.84	2.37	2.81	330.17	330.18	323.82	324.00	8.20	8.19	7.66	7.48
Link1784	03DA015	03DB020	Natural	393.69	0.05	2.86	151.25	337.03	337.29	334.40	334.20	0.85	0.91	335.10	335.26	335.10	335.26	1.93	1.77	2.19	2.02
Link1786	03DA016	03DB011	Natural	374.27	0.02	3.50	160.57	338.27	338.20	334.77	334.70	1.31	1.55	335.20	335.29	335.15	335.28	3.07	2.98	3.06	2.92
Link1790	03DA030	03DA007	Circular	52.72	0.28	1.50	5.20	337.99	339.78	334.50	334.35	4.96	7.07	335.34	335.51	334.51	334.55	2.65	2.48	5.27	5.24
Link1791	03DA008	03AC005	Natural	1277.21	0.31	4.30	2637.17	339.36	333.23	334.00	330.00	3.50	5.21	334.36	334.40	325.52	325.58	5.00	4.97	7.71	7.65
Link1792	14BA012	14BA011	Circular	65.46	0.23	1.50	4.67	355.20	355.20	351.60	351.45	1.64	2.17	352.25	352.37	352.14	352.27	2.95	2.83	3.06	2.93
Link1793	14BA011	14BA006	Circular	95.62	0.22	1.50	4.57	355.20	355.17	351.45	351.24	1.63	2.16	352.14	352.27	352.02	352.15	3.06	2.93	3.15	3.02

Hydraulic Model Results - Full Buildout Conditions - Capital Improvement Plan Projects																				
Albany-Santiam Canal Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
Link1794	14BA006	14BA044	Circular	465.31	0.09	1.50	3.00	355.17	355.87	351.24	350.80	1.61	2.14	352.02	352.15	350.29	350.58	3.15	3.02	5.58	5.29
Link1795	11CA011	11CA010	Circular	28.29	0.35	0.50	0.31	350.95	350.95	348.95	348.85	0.67	1.03	349.75	350.41	349.11	349.17	1.20	0.54	1.84	1.78
Link1806	11CD027.2	11CD027.1	Circular	143.67	0.36	1.00	1.99	351.12	352.82	348.09	347.57	1.44	2.10	348.74	348.93	347.70	347.73	2.38	2.20	5.12	5.10
Link1807	11CD027.1	11CD027	Natural	254.35	0.97	4.64	718.66	352.82	349.14	347.57	345.11	1.43	2.08	347.70	347.73	345.80	346.02	5.12	5.10	3.33	3.12
Link1808	11CD002	11CC040	Natural	452.34	0.39	1.48	239.94	355.16	353.39	353.67	351.90	2.24	3.02	353.85	353.88	348.82	348.94	1.30	1.28	4.56	4.44
Link1819	11CC055	11CC057	Circular	3.09	1.94	3.00	86.30	347.48	347.03	341.83	341.77	33.58	35.16	345.62	346.93	345.61	346.93	1.86	0.55	1.42	0.10
Link1820	14BD007.4	14BD007.3	Circular	180.80	0.18	1.00	1.41	355.04	355.61	352.40	352.07	1.06	1.38	353.04	353.17	352.68	352.79	2.00	1.87	2.93	2.82
Link1820.1	11CA017.2	11CA047.1	Circular	215.46	0.09	1.25	1.83	349.02	348.30	344.80	344.60	3.21	4.56	346.14	347.05	345.52	345.83	2.88	1.97	2.78	2.47
Link1821	11CA047.1	11CA028.1	Circular	46.33	0.43	1.50	6.41	348.30	348.20	344.60	344.40	3.20	4.55	345.52	345.83	345.45	345.75	2.78	2.47	2.75	2.45
Link1821.1	14BD007.3	14BD007.2	Circular	13.60	0.22	1.00	1.55	355.61	355.96	352.07	352.04	1.06	1.38	352.68	352.79	352.65	352.76	2.93	2.82	3.31	3.20
Link1822	11CA028.1	11CA043	Circular	328.03	0.12	1.50	3.41	348.20	350.79	344.40	344.00	3.18	4.53	345.45	345.75	344.46	344.76	2.75	2.45	6.33	6.03
Link1822.1	14BD007.2	14BD007.1	Circular	119.90	0.21	1.00	1.51	355.96	354.64	352.04	351.79	1.06	1.38	352.65	352.76	352.35	352.43	3.31	3.20	2.29	2.21
Link1823	11CA043	11CA043.1	Circular	386.70	0.12	4.00	46.50	350.79	352.25	343.04	342.57	12.62	17.92	344.46	344.76	343.99	344.29	6.33	6.03	8.26	7.96
Link1823.1	14BD007.1	14BD007	Circular	47.20	0.17	1.00	1.36	354.64	354.84	351.79	351.71	1.06	1.38	352.35	352.43	352.02	352.09	2.29	2.21	2.81	2.74
Link1824	11CA043.1	11CA043.2	Circular	312.12	0.12	4.00	45.92	352.25	352.69	342.57	342.20	12.57	17.87	343.99	344.29	343.61	343.90	8.26	7.96	9.08	8.79
Link1824.1	14BD007.5	14BD007.4	Circular	96.70	0.20	1.00	1.47	354.25	355.04	352.59	352.40	1.06	1.39	353.23	353.36	353.04	353.17	1.02	0.89	2.00	1.87
Link1825	11CA043.2	11CA043.3	Circular	457.73	0.12	4.00	46.24	352.69	351.10	342.20	341.65	12.55	17.86	343.61	343.90	342.99	343.24	9.08	8.79	8.11	7.86
Link1826	11CA043.3	11DB029	Circular	180.95	0.12	4.00	46.51	351.10	353.48	341.65	341.43	12.58	17.91	342.99	343.24	342.66	342.87	8.11	7.86	10.82	10.61
Link1827	11CA010	11CC032.2	Circular	152.80	2.00	1.00	4.67	350.95	350.50	348.85	345.80	0.67	1.03	349.11	349.17	346.45	346.56	1.84	1.78	4.05	3.94
Link1828	11CC032.2	11CA043	Circular	374.61	0.48	2.00	14.56	350.50	350.79	345.80	344.00	3.24	4.42	346.45	346.56	344.46	344.76	4.05	3.94	6.33	6.03
Link1829	11CB062	11CC032.2	Circular	175.01	0.20	1.00	1.48	349.95	350.50	346.15	345.80	1.11	1.43	346.80	346.93	346.45	346.56	3.15	3.02	4.05	3.94
Link1830	11CC032	11CC032.1	Circular	365.18	0.10	1.00	1.04	349.23	351.40	346.52	346.16	1.55	2.03	347.84	348.88	347.06	347.52	1.40	0.35	4.34	3.88
Link1831	11CC032.1	11CC032.2	Circular	253.17	0.14	1.00	1.25	351.40	350.50	346.16	345.80	1.54	2.03	347.06	347.52	346.45	346.56	4.34	3.88	4.05	3.94
Link1832	11CC047.1	11CC052	Circular	250.24	0.13	2.50	13.83	350.33	349.67	342.50	342.17	3.80	5.15	345.51	346.98	345.49	346.94	4.82	3.35	4.18	2.73
Link1836	11CC047	11CC047.1	Circular	31.22	1.60	2.00	26.58	349.71	350.33	343.50	343.00	3.85	5.17	345.51	346.99	345.51	346.98	4.20	2.72	4.82	3.35
Link1837	11CA017.4	11CA017.3	Circular	46.21	1.08	1.00	3.44	349.75	349.50	347.00	346.50	2.25	3.26	347.60	348.29	347.14	347.85	2.15	1.46	2.36	1.65
Link1838	11CA017.3	11CA017.2	Circular	282.01	0.96	1.25	4.66	349.50	349.02	346.50	344.80	2.24	3.25	347.14	347.85	346.14	347.05	2.36	1.65	2.88	1.97
Link1843	11DB029	11DB029.1	Natural	525.00	0.27	12.05	6387.86	353.48	352.05	341.43	340.00	19.73	27.84	342.66	342.87	340.79	340.98	10.82	10.61	11.26	11.07
Link1848	Node2332	11CB042	Circular	374.10	0.29	1.00	0.00	350.00	350.65	346.30	345.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Link1852	11CC039	11CC037	Circular	230.84	0.12	3.00	21.18	349.16	347.78	341.92	341.65	6.26	8.58	345.47	346.88	345.46	346.85	3.69	2.28	2.32	0.93
Link1853	11CC037	11CC001	Circular	433.80	0.10	5.00	75.25	347.78	351.15	341.65	341.23	43.77	47.73	345.46	346.85	345.34	346.78	2.32	0.93	5.81	4.37
Link1854	11CC001	11CC001.1	Circular	396.12	0.10	5.00	75.88	351.15	353.15	341.23	340.84	65.04	72.39	345.34	346.78	345.11	346.56	5.81	4.37	8.03	6.59
Link1855	11CC001.1	11CC001.2	Circular	373.19	0.10	5.00	78.18	353.15	354.03	340.84	340.45	67.44	74.53	345.11	346.56	344.89	346.31	8.03	6.59	9.14	7.72
Link1856	11CC001.2	11CC001.3	Circular	428.43	0.10	5.00	76.62	354.03	354.47	340.45	340.02	65.86	71.27	344.89	346.31	344.64	346.02	9.14	7.72	9.84	8.45
Link1857	11CC001.3	11CC001.4	Circular	706.28	0.10	5.00	76.14	354.47	353.81	340.02	339.32	65.01	68.22	344.64	346.02	344.19	345.50	9.84	8.45	9.62	8.31
Link1858	11CC001.4	11CC001.5	Circular	623.18	0.10	5.00	76.89	353.81	356.77	339.32	338.69	67.57	72.28	344.19	345.50	343.73	344.96	9.62	8.31	13.04	11.81
Link1859	11CC001.6	11CC001.7	Circular	699.87	0.10	5.00	76.48	358.00	355.35	338.50	337.80	84.08	95.49	342.91	344.04	342.13	343.01	15.09	13.97	13.21	12.34
Link1860	11CC001.7	11CC001.8	Circular	699.84	0.11	5.00	81.77	355.35	352.20	337.80	337.00	100.30	118.87	342.13	343.01	340.91	341.34	13.21	12.34	11.28	10.86
Link1861	11CC001.8	11CC001.9	Circular	357.37	0.06	5.00	57.21	352.20	344.20	337.00	336.80	100.28	118.87	340.91	341.34	339.97	340.28	11.28	10.86	4.23	3.93
Link1862	11CC001.9	11CC001.10	Circular	117.39	0.17	5.00	99.82	344.20	341.60	336.80	336.60	100.28	118.87	339.97	340.28	339.45	339.71	4.23	3.93	2.15	1.89
Link1863	11DB029.0	11DB029	Circular	419.33	0.85	1.33	6.53	349.00	353.48	345.00	341.43	2.30	3.19	345.55	345.66	342.66	342.87	3.46	3.34	10.82	10.61
Link1863.1	14AB008	14AB011	Circular	277.00	0.36	2.00	12.62	355.00	355.17	349.50	348.50	1.57	1.98	350.20	350.71	350.14	350.69	4.80	4.29	5.03	4.48
Link1865	11CD019	11CC001.4	Circular	186.75	0.80	1.50	8.74	350.50	353.81	347.50	346.00	2.04	2.97	347.99	348.10	344.19	345.50	2.51	2.40	9.62	8.31
Link1866.1	14AB003.1	11CC001.6	Circular	130.54	0.38	2.00	13.00	356.13	358.00	348.00	347.50	12.25	16.01	349.46	349.77	342.91	344.04	6.67	6.36	15.09	13.97
Link1870	14AC026	14AB011.1	Circular	267.77	0.37	2.00	12.84	355.49	355.46	350.00	349.00	1.66	2.08	350.52	350.85	350.21	350.78	4.97	4.65	5.25	4.68
Link1873	14AC030	14AB011.2	Circular	106.76	0.47	1.00	2.26	356.81	357.22	350.50	350.00	1.44	1.92	351.20	351.59	350.98	351.28	5.61	5.22	6.24	5.94
Link1877	14BD035	14AB011.2	Circular	744.07	0.20	2.00	9.43	356.78	357.22	351.50	350.00	2.94	3.85	352.27	352.41	350.98	351.28	4.51	4.37	6.24	5.94
Link1878	11CC001.5	11CC001.6	Circular	892.99	0.02	5.00	35.28	356.77	358.00	338.69	338.50	73.42	80.00	343.73	344.96	342.91	344.04	13.04	11.81	15.09	13.97
Link1879	14AB003	14AB003.1	Circular	130.54	1.00	2.00	20.96	354.20	356.13	349.30	348.00	4.47	6.21	349.96	350.12	349.46	349.77	4.24	4.07	6.67	6.36
Link1880	14AB011	14AB003.1	Circular	432.68	0.12	2.00	7.14	355.17	356.13	348.50	348.00	7.86	10.02	350.14	350.69	349.46	349.77	5.03	4.48	6.67	6.36
Link1881	14AB011.1	14AB011	Circular	94.90	0.53	2.00	15.25	355.46	355.17	349.00	348.50	5.93	7.59	350.21	350.78	350.14	350.69	5.25	4.68	5.03	4.48
Link1882	14AB011.2	14AB011.1	Circular	478.75	0.21	2.00	9.60	357.22	355.46	350.00	349.00	4.33	5.55	350.98	351.28	350.21	350.78	6.24	5.94	5.25	4.68
Link1883	14BD025	14BD035	Circular	167.21	0.30	2.00	11.49	355.68	356.78	352.00	351.50	1.44	1.88	352.51	352.61	352.27	352.41	3.17	3.07	4.51	4.37

Hydraulic Model Results - Existing Conditions																					
Santiam River Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
120	23DD053	23DD054	Natural	196.36	0.12	1.00	9.55	381.59	381.36	380.59	380.36	1.08	1.54	381.00	381.09	380.83	380.95	0.59	0.50	0.53	0.41
121	23DD055	23DD056	Natural	65.73	0.15	3.00	142.26	383.00	382.90	380.00	379.90	1.05	1.50	380.52	380.65	380.49	380.63	2.48	2.35	2.41	2.27
124	23DD061	23DD060	Natural	5.79	3.80	2.44	363.15	381.60	381.67	379.30	379.08	0.52	0.68	379.47	379.49	379.28	379.30	2.13	2.11	2.39	2.37
125	23DD063	23DD062	Natural	28.95	0.35	1.00	9.31	380.77	380.67	379.77	379.67	0.52	0.68	379.98	380.01	379.93	379.96	0.79	0.76	0.74	0.71
128	23DD066	23DD067	Natural	154.98	1.30	1.00	69.05	385.86	384.86	384.86	382.85	0.43	0.59	385.03	385.05	383.13	383.17	0.83	0.81	1.73	1.69
205	11BB027	11BB017	Circular	333.35	0.38	4.00	82.33	345.10	345.39	334.83	333.56	56.73	67.11	337.31	337.66	336.16	336.55	7.79	7.44	9.23	8.84
247	10AA073	10AA074	Circular	277.69	0.20	0.83	0.90	342.69	343.05	338.22	337.67	1.46	1.41	341.62	341.79	340.93	341.29	1.07	0.90	2.12	1.77
253	14DD010	14DD012	Circular	153.86	0.46	1.50	6.63	355.86	355.29	350.63	349.92	1.48	2.30	351.49	354.69	351.45	354.61	4.37	1.17	3.83	0.68
255	14DD006	14DD008	Circular	198.11	0.08	1.25	1.65	356.93	355.86	351.69	351.54	0.56	0.89	352.16	354.75	351.50	354.70	4.77	2.18	4.36	1.16
257	14DD012	14DD016	Circular	19.35	1.14	0.83	2.17	355.29	355.45	349.92	349.70	1.53	2.34	351.45	354.61	351.36	354.38	3.83	0.68	4.09	1.07
259	14DD007	14DD008	Circular	57.49	0.02	1.25	0.79	356.98	355.86	350.72	350.71	0.96	1.39	351.53	354.73	351.50	354.70	5.45	2.25	4.36	1.16
262	14DD016	14DD019	Circular	87.66	0.14	1.75	5.44	355.45	355.23	349.70	349.58	5.43	8.03	351.36	354.38	351.26	354.13	4.09	1.07	3.97	1.10
264	14DD015	14DD016	Circular	74.06	0.19	1.25	2.61	355.28	355.45	349.88	349.74	3.36	4.61	351.58	354.80	351.36	354.38	3.70	0.48	4.09	1.07
265	14DD015.1	14DD015	Circular	70.64	0.41	1.25	3.84	356.48	355.28	350.40	350.11	3.38	4.62	351.78	355.21	351.58	354.80	4.70	1.27	3.70	0.48
268	14DD018	14DD017	Circular	106.40	0.02	1.75	2.02	355.65	356.00	349.30	349.28	5.43	8.06	351.16	353.90	351.02	353.59	4.48	1.75	4.98	2.41
270	14DD019	14DD018	Circular	77.15	0.10	1.75	4.74	355.23	355.65	349.58	349.50	5.42	8.04	351.26	354.13	351.16	353.90	3.97	1.10	4.48	1.75
271	14DD017	14DA014	Circular	192.72	0.21	1.75	6.70	356.00	356.16	349.23	348.83	5.47	8.07	351.02	353.59	350.77	353.02	4.98	2.41	5.38	3.13
272	14DA014	14DA025	Circular	84.72	-0.06	1.75	3.57	356.16	355.85	348.78	348.83	5.55	8.09	350.77	353.02	350.67	352.77	5.38	3.13	5.18	3.07
273	14DD001	14DD002	Circular	76.55	0.33	1.25	3.43	357.86	358.90	356.61	356.36	0.34	0.43	356.89	356.92	356.59	356.61	0.98	0.95	2.31	2.29
329	14DA029	14DA011	Circular	31.16	0.26	1.25	3.04	355.40	355.42	351.99	351.91	0.91	1.28	352.43	352.51	349.80	350.36	2.97	2.89	5.62	5.06
377	10DA065	10DA066	Circular	20.50	-0.39	2.00	13.12	349.04	349.34	342.30	342.38	2.08	2.51	344.35	344.45	344.35	344.45	4.69	4.59	4.99	4.89
378	10DA066	10DA067	Circular	187.51	-0.85	2.00	19.40	349.34	349.91	341.80	343.40	2.08	2.51	344.35	344.45	342.86	343.09	4.99	4.89	7.05	6.82
379	10DA014	10DA065	Circular	73.56	0.98	1.00	3.27	349.14	349.04	344.33	343.61	2.09	2.51	344.93	345.02	344.35	344.45	4.21	4.13	4.69	4.59
413	14DB025	14DB045	Circular	35.47	2.48	1.25	9.45	356.15	356.34	350.82	349.94	1.77	2.46	351.45	352.66	351.56	352.62	4.70	3.48	4.78	3.73
414	14DB045	14DB046	Circular	308.12	0.06	2.00	4.93	356.34	355.03	349.94	349.77	6.66	8.41	351.56	352.62	351.21	352.13	4.78	3.73	3.82	2.90
415	14DB046	14DB047	Circular	149.01	0.19	2.00	9.11	355.03	353.35	349.25	348.97	11.12	12.43	351.21	352.13	350.82	351.61	3.82	2.90	2.54	1.74
432	10AA040	10AA075	Circular	65.48	0.15	1.50	3.81	343.41	343.38	336.10	336.00	3.38	2.66	340.35	340.69	340.34	340.68	3.06	2.72	3.04	2.70
433	10AA078.1	10AA078	Circular	65.53	0.43	2.00	13.73	343.13	342.72	335.80	335.52	3.37	2.68	340.32	340.68	340.33	340.68	2.81	2.45	2.39	2.04
434	10AA075	10AA078.1	Circular	124.26	0.16	1.50	3.91	343.38	343.13	336.00	335.80	3.44	2.67	340.34	340.68	340.32	340.68	3.04	2.70	2.81	2.45
435	10AA071	10AA049	Circular	203.86	0.17	1.50	4.04	341.78	341.03	336.35	336.00	2.66	2.64	340.57	340.83	340.47	340.78	1.21	0.95	0.56	0.25
438	10AA049	10AA041	Circular	47.53	0.27	2.00	10.99	341.03	341.60	336.00	335.87	4.21	4.12	340.47	340.78	340.46	340.77	0.56	0.25	1.14	0.83
439	10AA056	10AA053	Circular	275.70	0.03	1.00	0.60	343.84	343.63	339.42	339.33	1.52	1.88	342.48	343.43	341.91	342.58	1.36	0.41	1.72	1.05
440	10AA057	10AA070	Circular	38.69	0.39	1.00	2.06	343.45	343.62	338.70	338.55	1.52	1.88	341.69	342.25	341.62	342.13	1.76	1.20	2.01	1.49
441	10AA053	10AA057	Circular	103.89	0.15	1.00	1.30	343.63	343.45	338.86	338.70	1.52	1.88	341.91	342.58	341.69	342.25	1.72	1.05	1.76	1.20
442	10AA084	10AA070	Circular	36.19	0.30	1.50	5.38	343.24	343.62	338.66	338.55	3.33	3.79	341.66	342.19	341.62	342.13	1.58	1.06	2.01	1.49
445	10AA060	10AA082	Circular	54.27	-0.35	1.00	1.96	343.85	343.65	340.21	340.40	3.33	3.80	342.93	343.83	342.40	343.14	0.92	0.02	1.25	0.51
447	10AA081	10AA071	Circular	320.88	0.22	1.00	1.53	341.40	341.78	337.04	336.35	1.45	1.60	340.55	340.63	340.57	340.83	0.85	0.77	1.21	0.95
448	02CC012	02CC020	Circular	306.95	0.10	2.00	6.57	342.75	342.80	338.70	338.40	6.25	7.79	340.02	340.20	339.32	339.45	2.73	2.55	3.48	3.36
449	02CC020	02CC017	Circular	86.40	0.46	2.00	14.29	342.80	343.17	338.40	338.00	6.25	7.78	339.32	339.45	338.78	339.00	3.48	3.36	4.39	4.17
450	02CC017	02CD004	Circular	290.60	0.21	2.00	9.55	343.17	344.05	337.60	337.00	6.33	8.35	338.78	339.00	338.06	338.23	4.39	4.17	5.99	5.82
451	02CD004	02CD005	Circular	89.50	0.22	2.00	9.93	344.05	344.07	337.00	336.80	6.33	8.35	338.06	338.23	337.69	337.83	5.99	5.82	6.38	6.24
452	11BB001	02CC018	Circular	85.94	0.35	1.00	1.95	344.47	345.39	339.37	339.07	0.31	0.78	339.65	339.82	338.78	339.02	4.82	4.65	6.61	6.37
453	02CC018	02CC017	Circular	218.69	0.13	1.50	3.55	345.39	343.17	337.89	337.60	0.50	1.02	338.78	339.02	338.78	339.00	6.61	6.37	4.39	4.17
494	11BC035	11BC030	Circular	392.13	0.46	0.67	0.76	346.88	346.26	342.58	340.77	0.74	0.74	346.88	346.88	346.26	346.26	0.00	0.00	0.00	0.00
498	11BD025	11BC035	Circular	365.65	0.29	0.67	0.60	348.31	346.88	343.85	342.79	0.74	0.74	348.31	348.31	346.88	346.88	0.00	0.00	0.00	0.00
507	11CA020	11CA019	Circular	372.62	0.23	0.67	0.53	349.47	349.04	346.37	345.53	0.43	0.43	349.47	349.47	349.04	349.04	0.00	0.00	0.00	0.00
512	11BD024	11BD023	Circular	388.65	0.38	0.67	0.69	347.42	347.30	343.93	342.46	0.56	0.57	347.42	347.42	347.30	347.30	0.00	0.00	0.00	0.00
513	11BD023	11BC034	Circular	389.14	0.23	0.67	0.53	347.30	346.36	342.45	341.57	0.77	0.78	347.30	347.30	346.36	346.36	0.00	0.00	0.00	0.00
514	11BC034	11BC039	Circular	391.23	0.31	0.67	0.62	346.36	345.58	340.86	339.65	1.00	1.00	346.36	346.36	344.10	344.46	0.00	0.00	1.48	1.12
518	10AA072	10AA060	Circular	197.67	0.36	1.00	1.98	345.04	343.85	341.03	340.32	1.75	1.84	343.48	344.42	342.93	343.83	1.56	0.62	0.92	0.02
565	14CC003	14CC004	Natural	79.52	0.49	1.05	55.54	364.11	363.72	363.06	362.67	2.17	3.16	363.67	363.73	363.67	363.72	0.44	0.38	0.05	0.00
566	14CC044	14CC045	Natural	53.32	0.20	1.11	15.00	362.82	362.51	361.61	361.51	2.90	3.00	362.51	362.51	362.51	362.51	0.31	0.31	0.00	0.00
594	25BB030	25BB015	Natural	157.71	0.84	1.00	20.13	388.68	388.00	387.68	386.36	9.90	15.29	388.39	388.59	387.96	388.00	0.29	0.09	0.04	0.00
601	25BB018	25BB017	Natural	130.75	0.27	3.21	309.52	390.71	390.36	387.50	387.15	1.66	2.30	388.00	388.06	387.61	387.70	2.71	2.64	2.75	2.65
602	25BB020	25BB019	Natural	150.37	0.01	3.25	71.19	391.35	390.50	387.68	387.66	1.67	2.32	388.30	388.40	388.24	388.35	3.05	2.95	2.25	2.14
610	14CC026	14CC011	Circular	78.80	0.09	2.00	6.26	363.05	362.98	361.05	360.98	2.59	3.19	362.55	362.66	362.54	362.64	0.50	0.39	0.44	0.34
611	14CC011	14CC018	Circular	265.93	0.03	2.00	3.41	362.98	362.91	360.98	360.91	2.59	3.18	362.54	362.64	362.49	362.58	0.44	0.34	0.42	0.33
612	14CC018	14CC008	Circular	297.51	0.02	2.00	2.98	362.91	362.85	360.91	360.85	2.58	3.18	362.49	362.58	362.45	362.51	0.42	0.33	0.41	0.34
614	25BB033	25BB013	Natural	319.30	0.07	2.83	44.72	391.18	392.64	389.18	388.97	1.75	2.41	389.61	389.69	389.36	389.42	1.57	1.49	3.27	3.21
617	14CC008	14CC042	Circular	211.98	0.02	1.50	1.50	362.85	362.30	360.85	360.80	2.59	3.18	362.45	362.51	362.30	362.30	0.41	0.34	0.00	0.00
618	14CC042	23BA018	Circular	300.46	0.02	1.50	1.26	362.30	362.45	360.80	360.75	-2.21	-2.21	362.30	362.30	362.45	362.45	0.00	0.00	0.00	0.00
691.1	14AC006.1	14AC014.1	Circular	206.09	1.69	1.00	4.31	357.05	357.41	353.50	350.01	2.10	2.96	354.08	355.54	352.40	353.91	2.97	1.52	5.00	3.49
770	23AC066	23AC065	Natural	118.37	0.26	5.44	789.51	367.29	366.98	361.85	361.54	3.61	4.63	362.51	362.61	362.41	362.53	4.79	4.68	4.58	4.45
786	23AC063	23AC062	Natural	36.30	0.28	6.33	695.93	367.57	367.47	361.24	361.14	3.60	4.62	362.00	362.07	360.89	361.02	5.57	5.50	6.58	6.45
845	02CC023	02CC024	Circular	140.46	0.65	3.00	49.85	343.01	340.92	332.55	331.64	33.76	38.59	334.31	334.45	333.07	333.14	8.70	8.57	7.85	7.78
847	02CC025	02CC023	Circular	50.01	0.20	2.00	9.39	343.05	343.01	332.65	332.55	10.12	10.59	334.41	334.56	334.31	334.45	8.64	8.49	8.70	8.57

Hydraulic Model Results - Existing Conditions																					
Santiam River Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
848	03DD017	03DD018	Circular	241.99	0.07	3.00	16.42	339.79	342.26	333.78	333.61	12.66	15.80	335.95	336.33	335.83	336.20	3.84	3.46	6.43	6.06
849	03DD018	02CC026	Circular	289.51	0.05	3.00	14.10	342.26	342.88	333.41	333.26	14.84	18.40	335.83	336.20	335.66	335.98	6.43	6.06	7.22	6.90
850	02CC026	02CC021	Circular	78.11	0.10	3.00	19.82	342.88	343.40	333.26	333.18	23.67	28.02	335.66	335.98	335.53	335.83	7.22	6.90	7.87	7.57
851	02CC026	02CC025	Circular	579.33	0.11	2.00	6.82	342.88	343.05	333.26	332.65	10.12	10.60	335.66	335.98	334.41	334.56	7.22	6.90	8.64	8.49
852	03DD011	02CC027	Circular	530.33	-0.05	2.00	4.74	340.60	343.35	333.68	333.95	16.81	17.40	338.87	339.38	335.61	336.04	1.73	1.22	7.74	7.31
853	02CC027	02CC026	Circular	12.78	5.40	2.00	48.81	343.35	342.88	333.95	333.26	16.71	17.31	335.61	336.04	335.66	335.98	7.74	7.31	7.22	6.90
921	14DA012	14DA018	Circular	273.28	0.19	3.00	26.76	354.56	349.84	347.35	346.84	26.75	35.09	349.49	349.90	348.51	348.77	5.07	4.66	1.33	1.08
922	14DA011	14DA012	Circular	131.63	0.37	2.25	17.55	355.42	354.56	347.84	347.35	15.20	17.95	349.80	350.36	349.49	349.90	5.62	5.06	5.07	4.66
923	14DA010	14DA011	Circular	186.00	0.25	2.25	14.46	356.07	355.42	348.31	347.84	13.65	15.79	350.19	350.87	349.80	350.36	5.88	5.19	5.62	5.06
926	11BC029	11BC036	Circular	363.89	0.18	1.50	4.12	344.11	342.42	338.82	338.17	8.75	8.87	342.50	342.94	339.70	340.19	1.61	1.17	2.71	2.23
931	10AD037	10AD036	Circular	351.13	0.10	4.00	42.71	344.02	344.87	337.78	337.42	32.58	39.35	340.55	341.04	340.25	340.75	3.47	2.98	4.62	4.12
938	11BB017	11BA006	Circular	88.50	0.36	4.00	80.21	345.39	345.73	333.56	333.24	58.06	68.85	336.16	336.55	335.88	336.27	9.23	8.84	9.85	9.46
939	11BA006	11BA009	Circular	416.68	0.38	4.00	82.39	345.73	346.77	333.24	331.65	59.76	71.13	335.88	336.27	334.63	334.99	9.85	9.46	12.15	11.78
940	11BA009	11BA005	Circular	139.09	0.19	4.00	57.67	346.77	345.63	331.65	331.39	59.74	71.13	334.63	334.99	334.24	334.56	12.15	11.78	11.39	11.07
941	11BA005	11BA008	Circular	274.01	0.19	4.00	57.54	345.63	334.88	331.39	330.88	59.76	71.12	334.24	334.56	333.21	333.43	11.39	11.07	1.67	1.45
946	11BC037	11BB022	Circular	406.06	0.68	1.00	2.72	344.84	342.41	338.94	336.19	3.09	3.18	342.65	343.13	339.22	339.64	2.19	1.71	3.19	2.76
956	11BD029	11BD030	Circular	380.59	0.38	0.67	0.69	345.22	344.45	341.18	339.75	0.78	0.71	345.22	345.22	344.45	344.45	0.00	0.00	0.00	0.00
957	10AA065	10AA073	Circular	251.75	0.37	0.83	1.24	342.26	342.69	339.44	338.50	1.60	1.56	342.26	342.26	341.62	341.79	0.00	0.00	1.07	0.90
1024	10AA082	10AA054	Circular	197.02	0.36	1.25	3.58	343.65	343.42	339.84	339.14	3.33	3.80	342.40	343.14	341.80	342.37	1.25	0.51	1.62	1.05
1030	03DD008	03DD011	Circular	276.76	0.31	0.67	0.62	341.25	340.60	334.80	333.95	1.49	1.46	341.25	341.25	338.87	339.38	0.00	0.00	1.73	1.22
1037	10AD001	10AD050	Circular	44.82	0.04	1.50	2.06	343.05	343.30	337.74	337.72	0.94	1.12	340.67	340.78	340.66	340.77	2.38	2.27	2.64	2.53
1064	02CC015	02CC016	Natural	66.83	1.50	5.21	46.08	343.86	344.45	339.45	338.45	0.07	0.13	339.53	339.55	338.79	339.02	4.34	4.31	5.67	5.43
1113	10DA090	10DA071.1	Circular	143.07	0.16	1.50	3.91	350.23	351.07	344.43	344.20	3.92	4.64	345.53	345.66	345.18	345.27	4.70	4.57	5.89	5.80
1133	10AD053	10AA072	Circular	474.99	0.16	0.67	0.45	345.02	345.04	341.90	341.14	0.96	0.96	345.02	345.02	343.48	344.42	0.00	0.00	1.56	0.62
1314	23BA018	23BA019	Circular	349.85	0.01	1.25	0.72	362.45	363.96	360.75	360.70	-1.78	-2.13	362.45	362.45	362.75	362.89	0.00	0.00	1.21	1.08
1318	23BA019	23BA012	Circular	325.91	0.01	1.25	0.47	363.96	365.50	360.70	360.68	0.92	0.91	362.75	362.89	362.79	362.94	1.21	1.08	2.71	2.56
1321	23BA012	23BA014	Circular	99.87	0.04	1.25	1.20	365.50	366.30	360.68	360.64	0.89	0.89	362.79	362.94	362.80	362.96	2.71	2.56	3.50	3.34
1322	23BA014	23BA003	Circular	400.29	0.01	1.25	0.60	366.30	366.75	360.64	360.60	0.86	0.86	362.80	362.96	362.84	363.03	3.50	3.34	3.90	3.71
1323	23BA003	23BA005	Circular	199.27	0.05	1.00	0.74	366.75	366.50	360.60	360.50	0.84	-0.85	362.84	363.03	362.92	363.15	3.90	3.71	3.58	3.35
1324	23AC010	23AC011	Circular	142.53	0.04	1.50	1.83	366.93	366.94	360.35	360.30	3.00	3.01	363.03	363.32	362.96	363.27	3.90	3.61	3.98	3.67
1325	23AC011	23AC027	Circular	78.01	0.38	1.50	6.05	366.94	367.00	360.30	360.00	2.98	2.98	362.96	363.27	362.93	363.24	3.98	3.67	4.07	3.76
1326	23AC027	23AC052	Circular	104.48	0.19	1.50	4.27	367.00	367.39	360.00	359.80	3.37	3.56	362.93	363.24	362.82	363.13	4.07	3.76	4.58	4.26
1327	23AC052	23AC054	Circular	95.44	0.31	1.50	5.47	367.39	367.34	359.80	359.50	3.37	3.56	362.82	363.13	362.71	363.03	4.58	4.26	4.63	4.31
1328	23AC054	23AC047	Circular	199.44	0.05	1.50	2.18	367.34	367.50	359.50	359.40	8.53	8.68	362.71	363.03	361.27	361.47	4.63	4.31	6.23	6.03
1329	23AC048	23AC044	Circular	259.48	0.08	2.00	5.83	368.42	368.15	363.00	362.80	5.23	6.08	364.18	364.28	363.50	363.56	4.24	4.14	4.66	4.60
1330	23AC050	23AC048	Circular	240.89	0.17	1.50	3.97	368.84	368.42	363.40	363.00	5.23	6.09	364.84	365.15	364.18	364.28	4.00	3.68	4.24	4.14
1331	23AC053	23AC054	Circular	69.25	0.14	1.17	1.90	366.98	367.34	359.60	359.50	5.34	5.64	363.44	363.85	362.71	363.03	3.54	3.13	4.63	4.31
1334	23AC026	23AC010	Circular	77.44	0.26	0.83	1.03	366.23	366.93	362.70	362.50	2.72	2.72	364.58	364.63	363.03	363.32	1.64	1.60	3.90	3.61
1336	23BD036	23AC026	Circular	120.99	0.17	1.25	2.50	366.18	366.23	362.91	362.70	2.72	2.72	364.83	364.86	364.58	364.63	1.35	1.32	1.64	1.60
1339	23BA005	23BA006	Circular	199.85	0.05	1.00	0.74	366.50	366.27	360.50	360.40	0.84	-0.84	362.92	363.15	363.00	363.27	3.58	3.35	3.28	3.00
1342	23BA006	23AC010	Circular	250.18	0.02	1.25	0.85	366.27	366.93	360.40	360.35	0.82	-0.84	363.00	363.27	363.03	363.32	3.28	3.00	3.90	3.61
1346	23DA033	23DA028	Circular	254.46	0.24	1.25	2.96	370.26	370.36	366.58	365.96	3.28	3.28	368.09	368.62	367.47	368.10	2.17	1.64	2.89	2.25
1347	23DA028	23DA026	Circular	285.03	0.25	1.25	2.99	370.36	369.99	365.96	365.25	3.29	3.29	367.47	368.10	366.78	367.53	2.89	2.25	3.21	2.46
1348	23DA026	23AD003	Circular	259.64	0.25	1.25	3.00	369.99	369.41	365.25	364.60	3.31	3.29	366.78	367.53	366.14	367.00	3.21	2.46	3.27	2.41
1349	23AD003	23AC051	Circular	250.96	0.25	1.50	4.89	369.41	369.07	364.60	363.97	5.28	6.09	366.14	367.00	365.45	366.03	3.27	2.41	3.62	3.03
1350	23AC051	23AC050	Circular	228.83	0.25	1.50	4.87	369.07	368.84	363.97	363.40	5.23	6.09	365.45	366.03	364.84	365.15	3.62	3.03	4.00	3.68
1351	23DA030	23DA033	Circular	219.22	0.23	1.25	2.89	371.04	370.26	367.09	366.58	3.27	3.26	368.64	369.06	368.09	368.62	2.40	1.98	2.17	1.64
1360	24CC003	24CC002	Circular	249.03	0.40	1.25	3.80	377.17	376.63	372.00	371.00	3.67	4.36	375.91	377.17	375.01	376.02	1.26	0.00	1.61	0.61
1361	24CC002	24CC004	Circular	248.28	0.40	1.25	3.81	376.63	374.86	371.00	370.00	3.68	4.36	375.01	376.02	374.13	374.86	1.61	0.61	0.74	0.00
1362	24CC004	24CB011	Circular	245.64	0.22	1.25	2.84	374.86	371.61	370.00	369.45	6.13	6.99	374.13	374.86	371.61	371.61	0.74	0.00	0.00	0.00
1363	24CB011	24CB010	Circular	140.56	0.26	1.25	3.08	371.61	370.57	369.45	369.08	5.20	5.20	371.61	371.61	370.57	370.57	0.00	0.00	0.00	0.00
1365	24CB010	24CB009	Circular	116.90	0.55	1.25	4.44	370.57	370.96	369.08	368.44	3.60	3.63	370.57	370.57	370.28	370.34	0.00	0.00	0.68	0.62
1366	24CB009	24CB008	Circular	28.73	0.24	1.25	2.96	370.96	371.59	368.44	368.37	3.59	3.62	370.28	370.34	370.20	370.28	0.68	0.62	1.38	1.30
1367	24CB008	23DA036	Circular	149.73	0.25	1.25	2.98	371.59	371.55	368.37	368.00	3.58	3.61	370.20	370.28	369.82	369.98	1.38	1.30	1.74	1.57
1368	23DA036	23DA031	Circular	190.49	0.16	1.25	2.38	371.55	371.40	368.00	367.70	3.47	3.50	369.82	369.98	369.32	369.59	1.74	1.57	2.07	1.80
1369	23DA031	23DA030	Circular	262.16	0.23	1.25	2.89	371.40	371.04	367.70	367.09	3.37	3.37	369.32	369.59	368.64	369.06	2.07	1.80	2.40	1.98
1370	23BD034	23BD033	Circular	76.76	0.20	1.00	1.46	365.45	365.52	363.75	363.60	-0.93	-0.94	365.45	365.45	365.51	365.51	0.00	0.00	0.01	0.01
1371	23BD035	23BD036	Circular	414.43	0.01	1.25	0.66	366.17	366.18	362.96	362.91	2.73	2.73	365.67	365.67	364.83	364.86	0.50	0.50	1.35	1.32
1412	14CC045	14CC030	Circular	124.75	0.16	0.67	0.45	362.51	363.55	361.39	361.19	0.76	0.76	362.51	362.51	361.95	361.95	0.00	0.00	1.60	1.60
1413	14CC030	14CC007	Circular	40.05	0.12	0.67	0.40	363.55	361.78	361.16	361.11	0.76	0.76	361.95	361.95	361.78	361.78	1.60	1.60	0.00	0.00
1414	14CC007	14CC041	Circular	51.64	0.06	0.50	0.13	361.78	361.58	361.11	361.08	0.33	0.33	361.78	361.78	361.58	361.58	0.00	0.00	0.00	0.00
1415	14CC041	14CC026	Circular	186.87	0.02	0.50	0.07	361.58	363.05	361.08	361.05	-0.38	-0.40	361.58	361.58	362.55	362.66	0.00	0.00	0.50	0.39
1485	14DA021.1	14DA021	Circular	171.56	0.23	1.25	2.86	360.33	356.39	350.00	349.61	1.87	2.71	350.99	353.49	350.83	353.15	9.34	6.83	5.56	3.24
1486	14DA021	14DA023	Circular	167.08	0.19	1.50	4.20	356.39	355.57	349.52	349.21	2.77	4.04	350.83	353.15	350.71	352.87	5.56	3.24	4.86	2.70
1487	14DA023	14DA025	Circular	57.01	0.39	1.50	6.06	355.57	355.85	349.05	348.83	2.75	4.04	350.71	352.87	350.67	352.77	4.86	2.70	5.18	3.07
1492	14DA025	14DA013	Circular	251.67	0.20	1.75	6.62	355.85	354.83	348.63	348.12	8.91	13.18	350.67	352.77	349.84	350.79	5.18	3.07	4.99	4.04

Hydraulic Model Results - Existing Conditions																					
Santiam River Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1495	14DA013	14DA012	Circular	135.84	0.57	2.00	15.82	354.83	354.56	348.12	347.35	11.62	17.13	349.84	350.79	349.49	349.90	4.99	4.04	5.07	4.66
1504.1	10AA041	10AA050	Circular	164.76	-0.07	2.00	5.43	341.60	341.93	335.38	335.49	4.94	5.14	340.46	340.77	340.34	340.69	1.14	0.83	1.59	1.24
1505.1	10AA050	10AA078	Circular	21.01	-0.38	2.00	12.96	341.93	342.72	335.44	335.52	4.94	5.19	340.34	340.69	340.33	340.68	1.59	1.24	2.39	2.04
1506.1	10AA078	10AA066	Circular	116.67	0.18	2.00	8.91	342.72	343.45	335.41	335.20	7.11	6.82	340.33	340.68	340.21	340.60	2.39	2.04	3.25	2.85
1507.1	10AA066	10AA069	Circular	252.25	0.13	2.00	7.60	343.45	342.01	334.83	334.50	9.58	9.48	340.21	340.60	339.72	340.20	3.25	2.85	2.29	1.81
1509.1	10AA042	10AA066	Circular	220.64	0.24	1.00	1.62	343.18	343.45	335.73	335.20	2.77	2.79	340.96	341.57	340.21	340.60	2.22	1.61	3.25	2.85
1514	23DA041	23DA042	Natural	23.44	1.27	6.26	2276.48	372.08	371.78	365.82	365.52	8.15	8.15	369.03	369.03	369.03	369.03	3.05	3.05	2.75	2.75
1514.1	10AA043	10AA036	Circular	96.02	0.20	1.00	1.47	341.34	341.15	335.19	335.00	2.62	2.68	341.10	341.34	340.54	340.84	0.24	0.00	0.61	0.31
1515	10AA036	10AA034	Circular	51.44	0.39	1.00	2.06	341.15	341.05	335.00	334.80	2.62	2.68	340.54	340.84	340.23	340.57	0.61	0.31	0.82	0.48
1517	10AA069	10AA068	Circular	88.99	0.45	2.00	14.08	342.01	343.55	334.50	334.10	11.35	11.64	339.72	340.20	339.47	339.96	2.29	1.81	4.08	3.59
1518	23DA043	23DA044	Natural	321.27	0.75	5.29	235.43	372.46	371.00	367.00	365.87	33.47	49.78	371.02	371.04	371.00	371.00	1.44	1.42	0.00	0.00
1518.1	10AA068	10AA067	Circular	67.87	0.06	2.00	5.10	343.55	344.51	334.10	334.06	11.38	11.63	339.47	339.96	339.28	339.78	4.08	3.59	5.23	4.73
1519	10AA067	03DD012	Circular	89.85	0.28	2.00	11.08	344.51	342.92	334.06	333.81	11.41	11.61	339.28	339.78	339.03	339.54	5.23	4.73	3.89	3.38
1520	23DD025	23DA015	Natural	170.78	0.03	4.50	357.98	372.56	372.49	368.55	367.50	32.08	47.26	371.09	371.17	371.06	371.12	1.47	1.38	1.43	1.37
1520.1	03DD012	03DD011	Circular	59.60	-0.52	2.00	15.15	342.92	340.60	333.81	334.12	11.44	11.58	339.03	339.54	338.87	339.38	3.89	3.38	1.73	1.22
1523	23DD003	23DD024	Natural	15.59	11.79	4.56	1456.93	374.86	373.32	370.45	368.61	-20.57	-31.88	371.48	371.76	371.31	371.52	3.38	3.09	2.02	1.80
1524	23DD007	23DD024	Natural	41.59	1.41	4.13	420.03	372.75	373.32	369.20	368.61	33.36	52.50	371.25	371.46	371.31	371.52	1.50	1.28	2.02	1.80
1524.1	10AA079	10AA040	Circular	322.12	0.17	1.50	4.07	342.12	343.41	336.66	336.10	-2.20	-2.36	340.34	340.63	340.35	340.69	1.78	1.49	3.06	2.72
1526	02CC009	02CC010	Circular	38.24	0.52	1.00	2.39	341.35	343.34	339.00	338.80	0.13	0.20	339.17	339.21	338.88	339.03	2.18	2.14	4.46	4.31
1527	23DD022	23DD023	Natural	48.08	0.10	2.41	112.57	373.16	373.11	370.75	370.70	3.08	4.11	371.38	371.50	371.36	371.49	1.78	1.65	1.75	1.62
1528	02CC011	02CC017	Circular	408.98	0.19	1.50	4.20	342.65	343.17	338.36	337.60	-0.19	-0.22	338.79	339.01	338.78	339.00	3.87	3.64	4.39	4.17
1529	23DD021	23DD090	Natural	367.13	0.05	2.55	46.26	373.75	373.12	370.97	370.80	3.16	4.34	371.78	371.96	371.61	371.83	1.97	1.79	1.51	1.29
1550	11CA042	11DB026	Circular	150.60	0.14	1.00	1.24	351.76	351.00	348.62	348.41	1.10	1.58	349.29	349.47	348.94	349.06	2.47	2.29	2.06	1.94
1552	11DB026	11DB021	Circular	249.44	0.31	1.25	3.33	351.00	350.56	348.41	347.64	1.09	1.57	348.94	349.06	347.96	348.02	2.06	1.94	2.60	2.54
1553	11DB021	11DB028	Circular	150.77	1.26	1.50	10.95	350.56	351.72	347.64	345.74	1.09	1.57	347.96	348.02	345.44	345.52	2.60	2.54	6.27	6.20
1554	11DB024	11DB022	Circular	144.81	0.32	1.00	1.86	351.06	350.16	345.84	345.38	1.71	2.24	350.49	350.79	350.12	350.16	0.57	0.27	0.04	0.00
1555	11DB025	11DB024	Circular	113.47	1.77	1.00	4.40	352.16	351.06	349.18	347.17	0.58	0.71	350.52	350.84	350.49	350.79	1.64	1.32	0.57	0.27
1556	11DA009	11DB025	Circular	254.96	0.13	1.00	1.17	357.66	352.16	349.50	349.18	0.58	0.71	350.59	350.96	350.52	350.84	7.07	6.70	1.64	1.32
1577	14DA028	14DA029	Circular	103.19	0.33	1.00	1.90	355.91	355.40	352.53	352.19	0.91	1.28	353.02	353.13	352.43	352.51	2.89	2.78	2.97	2.89
1584	14DB048	14DA010	Circular	324.23	0.17	2.25	11.95	353.60	356.07	348.87	348.31	11.70	13.19	350.72	351.50	350.19	350.87	2.89	2.11	5.88	5.19
1585	14DB047	14DB048	Circular	66.78	0.15	2.25	11.13	353.35	353.60	348.97	348.87	11.11	12.43	350.82	351.61	350.72	351.50	2.54	1.74	2.89	2.11
1596	14DB036	14DB050	Circular	351.07	0.23	1.00	1.58	356.89	360.60	352.72	351.92	0.51	0.86	353.13	353.30	352.26	352.83	3.76	3.59	8.34	7.76
1599	14DB050	14DB049	Circular	239.72	0.29	1.25	3.22	360.60	360.58	351.92	351.23	0.51	1.10	352.26	352.83	351.77	352.78	8.34	7.76	8.81	7.80
1601	14DB049	14DB025	Circular	201.26	0.20	1.25	2.71	360.58	356.15	351.23	350.82	1.01	1.78	351.77	352.78	351.45	352.66	8.81	7.80	4.70	3.48
1603	14DA010.1	14DA010	Circular	29.59	5.54	1.25	14.12	356.12	356.07	354.00	352.36	2.01	2.64	354.32	354.37	350.19	350.87	1.80	1.75	5.88	5.19
1608	14DB052	14DB053	Circular	294.30	0.48	1.25	4.17	356.63	354.62	352.47	351.05	1.56	1.97	353.00	353.21	351.92	352.71	3.63	3.41	2.70	1.90
1609	14DB053	14DB045.1	Circular	135.52	0.18	2.00	9.02	354.62	355.91	351.05	350.80	3.75	4.65	351.92	352.71	351.57	352.66	2.70	1.90	4.35	3.26
1611	14DB045.1	14DB045	Circular	91.50	0.94	2.00	20.37	355.91	356.34	350.80	349.94	4.17	5.19	351.57	352.66	351.56	352.62	4.35	3.26	4.78	3.73
1617	14BD013	14BD029	Circular	123.93	0.17	1.00	1.36	353.72	352.82	350.91	350.70	2.85	2.85	353.72	353.72	352.82	352.82	0.00	0.00	0.00	0.00
1618	14BD029	14BD014	Circular	14.46	0.21	1.00	1.51	352.82	352.97	350.70	350.67	2.16	2.11	352.82	352.82	352.82	352.83	0.00	0.00	0.15	0.14
1619	14BD014	14BD015	Circular	166.03	0.32	1.00	1.87	352.97	354.17	350.57	350.04	2.17	2.11	352.82	352.83	352.81	352.92	0.15	0.14	1.36	1.25
1620	14BD015	14AC029	Circular	217.60	0.30	1.50	5.37	354.17	352.90	350.04	349.38	2.87	2.82	352.81	352.92	352.75	352.90	1.36	1.25	0.15	0.00
1621	14AC029	14AC012	Circular	189.56	0.39	1.50	6.09	352.90	353.70	349.38	348.64	3.46	3.39	352.75	352.90	352.58	352.88	0.15	0.00	1.12	0.82
1622	14AC012	14AC013	Circular	309.11	0.38	1.50	6.03	353.70	355.22	348.64	347.46	4.27	4.26	352.58	352.88	352.13	352.75	1.12	0.82	3.09	2.47
1623	14AC013	14AC007	Circular	198.67	0.04	1.50	1.96	355.22	356.46	347.46	347.38	4.89	4.94	352.13	352.75	351.72	352.57	3.09	2.47	4.74	3.89
1624	14AC014.1	14AC007	Circular	173.49	0.87	1.00	3.09	357.41	356.46	349.98	348.47	2.10	2.97	352.40	353.91	351.72	352.57	5.00	3.49	4.74	3.89
1625	14AC007	14DB001	Circular	156.30	0.74	2.00	18.10	356.46	356.91	347.38	346.22	7.18	7.45	351.72	352.57	351.54	352.42	4.74	3.89	5.37	4.50
1626	14DB001	14DB003	Circular	157.54	0.23	2.00	10.04	356.91	359.35	346.22	345.86	7.70	8.12	351.54	352.42	351.34	352.22	5.37	4.50	8.01	7.12
1639	14DB003	14DB011	Circular	19.59	0.00	2.00	0.66	359.35	357.96	345.86	345.86	7.70	8.11	351.34	352.22	351.31	352.20	8.01	7.12	6.65	5.76
1640	14DB011	14DB046	Circular	294.36	-1.33	2.00	24.21	357.96	355.03	345.86	349.77	4.00	4.22	351.31	352.20	351.21	352.13	6.65	5.76	3.82	2.90
1843	10DD072	10DD073	Circular	204.02	0.46	1.25	4.07	351.35	351.69	347.18	346.24	1.48	1.87	347.70	347.78	346.89	347.05	3.65	3.57	4.80	4.64
1849	10DD068	10DD069	Circular	208.15	0.25	1.75	7.35	350.72	351.01	345.42	344.90	1.86	2.25	346.04	346.13	345.66	345.82	4.67	4.58	5.34	5.19
1852	10DD069	10DA071	Circular	339.54	0.01	3.00	4.75	351.01	350.74	344.15	344.13	9.51	11.72	345.66	345.82	344.47	344.61	5.34	5.19	6.28	6.13
1856	10DD059	10DD073	Circular	17.12	0.64	1.75	11.79	351.63	351.69	345.84	345.73	2.33	2.86	346.89	347.05	346.89	347.05	4.75	4.58	4.80	4.64
1858	11CC010	11CC026	Circular	78.39	0.18	1.00	1.40	351.09	350.97	346.49	346.35	2.34	2.87	347.58	347.92	347.21	347.35	3.50	3.17	3.76	3.62
1861	11CC026	10DD059	Circular	346.34	0.15	1.75	5.65	350.97	351.63	346.35	345.84	2.33	2.86	347.21	347.35	346.89	347.05	3.76	3.62	4.75	4.58
1865	11BC042	11BC029	Circular	381.68	0.39	1.00	2.07	345.19	344.11	340.46	338.97	1.69	1.78	343.47	344.01	342.50	342.94	1.72	1.18	1.61	1.17
1867	11BC039	11BC029	Circular	320.72	0.17	1.50	4.04	345.58	344.11	339.52	338.97	7.11	7.14	344.10	344.46	342.50	342.94	1.48	1.12	1.61	1.17
1870	11BC030	11BC039	Circular	325.72	0.30	1.25	3.27	346.26	345.58	340.62	339.65	5.39	5.36	346.26	346.26	344.10	344.46	0.00	0.00	1.48	1.12
1871	11CB039	11BC030	Circular	326.74	0.29	1.25	3.22	347.92	346.26	341.71	340.77	4.37	4.37	347.92	347.92	346.26	346.26	0.00	0.00	0.00	0.00
1872	11CB055	11CB039	Circular	331.64	0.06	1.00	0.83	349.08	347.92	342.19	341.98	2.46	2.51	349.08	349.08	347.92	347.92	0.00	0.00	0.00	0.00
1873	11CB040	11CB055	Circular	323.59	0.61	0.67	0.88	350.02	349.08	345.27	343.28	0.64	0.64	350.02	350.02	349.08	349.08	0.00	0.00	0.00	0.00
1874	11CB041	11CB040	Circular	368.41	0.31	0.67	0.62	349.02	350.02	346.70	345.57	-0.60	-0.60	349.02	349.02	350.02	350.02	0.00	0.00	0.00	0.00
1894	10DD073	10DD069	Circular	269.45	0.31	1.75	8.17	351.69	351.01	345.73	344.90	6.23	7.60	346.89	347.05	345.66	345.82	4.80	4.64	5.34	5.19
1903	10DA071	10DA070	Circular	90.59	0.35	3.00	36.81	350.74	350.49	343.13	342.81	15.59	18.95	344.47	344.61	343.86	344.06	6.28	6.13	6.63	6.43
1904	11CB042	10DA070	Circular	196.05	0.42	1.75	9.52	350.38	350.49	344.38	343.56	3.06	3.68	345.08	345.15	343.86	344.06	5.30	5.23	6.63	6.43

Hydraulic Model Results - Existing Conditions																					
Santiam River Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1905	11CB067	11CB042	Circular	201.65	0.41	1.50	6.22	350.58	350.38	345.20	344.38	2.18	2.64	345.82	345.89	345.08	345.15	4.77	4.70	5.30	5.23
1911	10DA070	10DA067	Circular	266.60	0.34	3.00	36.18	350.49	349.91	342.31	341.40	19.15	23.30	343.86	344.06	342.86	343.09	6.63	6.43	7.05	6.82
1917	10DA067	10DA062	Circular	298.54	0.59	3.00	47.55	349.91	349.22	341.40	339.64	21.21	25.75	342.86	343.09	341.70	342.12	7.05	6.82	7.52	7.10
1924	10DA062	10DA088	Circular	302.54	0.23	3.50	44.94	349.22	348.49	339.64	338.94	24.34	29.37	341.70	342.12	341.29	341.78	7.52	7.10	7.19	6.71
1928	10DA088	10AD025	Circular	376.53	0.23	3.50	44.91	348.49	346.89	338.94	338.07	29.89	36.15	341.29	341.78	340.78	341.27	7.19	6.71	6.12	5.63
1931	10AD030	10AD025	Circular	207.34	0.24	1.25	2.95	347.61	346.89	340.49	339.99	1.87	2.21	341.22	341.50	340.78	341.27	6.39	6.12	6.12	5.63
1933	11CB010	11CB005	Circular	121.96	-0.03	1.00	0.60	349.99	349.40	346.51	346.55	2.29	2.72	347.88	348.54	347.20	347.73	2.11	1.46	2.21	1.67
1934	11CB005	10DA063	Circular	118.82	0.99	1.00	3.30	349.40	348.93	345.55	344.37	2.29	2.72	347.20	347.73	346.63	346.95	2.21	1.67	2.29	1.98
1941	10DA071.1	10DA071	Circular	67.53	0.10	1.50	3.14	351.07	350.74	344.20	344.13	3.92	4.64	345.18	345.27	344.47	344.61	5.89	5.80	6.28	6.13
1945	10DA082	10DA090	Circular	86.79	0.92	0.83	1.95	350.26	350.23	346.32	345.52	2.06	2.44	347.04	347.44	345.53	345.66	3.21	2.81	4.70	4.57
1947	10DA080	10DA090	Circular	152.58	0.15	1.00	1.28	349.52	350.23	345.75	345.52	1.88	2.22	346.71	346.92	345.53	345.66	2.81	2.59	4.70	4.57
1964	10DA077	10DA063	Circular	212.73	0.63	1.00	2.64	348.26	348.93	345.72	344.37	0.97	1.17	346.81	347.21	346.63	346.95	1.45	1.05	2.29	1.98
1966	10DA063	10DA089	Circular	83.02	-2.91	1.00	5.65	348.93	349.12	342.53	344.95	3.26	3.88	346.63	346.95	343.86	344.32	2.29	1.98	5.26	4.80
1967	10DA089	10DA062	Circular	99.46	0.28	1.00	1.76	349.12	349.22	342.42	342.14	3.26	3.88	343.86	344.32	341.70	342.12	5.26	4.80	7.52	7.10
1969	10DA060	10DA088	Circular	212.77	0.05	1.50	2.11	348.64	348.49	341.29	341.19	4.61	5.79	342.65	342.99	341.29	341.78	5.99	5.65	7.19	6.71
1973	10AD029	10AD030	Circular	215.20	0.48	1.00	2.30	347.93	347.61	342.89	341.85	1.12	1.33	343.40	343.45	341.22	341.50	4.53	4.48	6.39	6.12
1975	10AD026	10AD030	Circular	69.45	-1.66	1.25	7.72	347.01	347.61	340.70	341.85	0.74	0.91	342.40	342.46	341.22	341.50	4.61	4.55	6.39	6.12
2087	11CB057	11CB055	Circular	362.58	0.65	0.67	0.90	348.89	349.08	345.63	343.28	0.36	0.36	348.89	348.89	349.08	349.08	0.00	0.00	0.00	0.00
2094	11CA021	11CB056	Circular	395.56	0.51	0.67	0.80	348.78	347.38	346.62	344.60	0.68	0.68	348.78	348.78	347.38	347.38	0.00	0.00	0.00	0.00
2097	11CB056	11CB055	Circular	374.96	0.31	0.67	0.63	347.38	349.08	344.45	343.28	-0.79	-0.79	347.38	347.38	349.08	349.08	0.00	0.00	0.00	0.00
2103	11CB054	11CB039	Circular	395.21	0.53	0.67	0.82	347.71	347.92	344.09	341.98	0.88	0.89	347.71	347.71	347.92	347.92	0.00	0.00	0.00	0.00
2105	11CA019	11CB054	Circular	383.59	0.26	0.67	0.57	349.04	347.71	345.53	344.53	0.68	0.68	349.04	349.04	347.71	347.71	0.00	0.00	0.00	0.00
2117	11BD030	11BD028	Circular	18.59	-0.59	0.67	0.86	344.45	344.51	339.73	339.84	1.01	0.96	344.45	344.45	344.51	344.51	0.00	0.00	0.00	0.00
2118	11BD028	11BC038	Circular	339.11	0.17	0.83	0.85	344.51	344.46	339.78	339.19	1.82	1.75	344.51	344.51	343.96	344.46	0.00	0.00	0.50	0.00
2119	11BC038	11BC037	Circular	59.63	0.18	0.83	0.87	344.46	344.84	339.19	339.08	3.10	3.22	343.96	344.46	342.65	343.13	0.50	0.00	2.19	1.71
2168	11BC012	11BC010	Circular	147.82	0.39	0.67	0.70	344.70	344.82	342.21	341.63	1.19	1.18	344.70	344.70	343.70	344.14	0.00	0.00	1.11	0.68
2169	11BC010	11BC042	Circular	301.12	0.39	1.00	2.06	344.82	345.19	341.63	340.46	1.18	1.18	343.70	344.14	343.47	344.01	1.11	0.68	1.72	1.18
2170	11BC040	11BC012	Circular	207.42	0.40	0.67	0.71	345.80	344.70	343.03	342.21	0.84	0.84	345.80	345.80	344.70	344.70	0.00	0.00	0.00	0.00
2175	11BC036	11BB022	Circular	38.51	5.14	1.50	22.12	342.42	342.41	338.17	336.19	11.05	11.74	339.70	340.19	339.22	339.64	2.71	2.23	3.19	2.76
2177.1	10AA051	11BB021	Circular	365.75	0.11	4.00	44.11	343.62	342.83	336.99	336.59	35.97	43.59	339.91	340.41	339.58	340.05	3.71	3.21	3.26	2.78
2178	11BB021	11BB022	Circular	384.15	0.10	4.00	43.04	342.83	342.41	336.59	336.19	37.16	45.22	339.58	340.05	339.22	339.64	3.26	2.78	3.19	2.76
2185.1	10AD036	10AD035	Circular	259.46	0.25	4.00	66.76	344.87	344.26	337.78	337.13	32.46	39.16	340.25	340.75	340.02	340.53	4.62	4.12	4.24	3.73
2186.1	10AD035	10AA051	Circular	137.32	0.10	4.00	42.59	344.26	343.62	337.13	336.99	34.18	41.30	340.02	340.53	339.91	340.41	4.24	3.73	3.71	3.21
2188	10AD025	10AD037	Circular	279.75	0.10	4.00	42.95	346.89	344.02	338.07	337.78	31.46	37.98	340.78	341.27	340.55	341.04	6.12	5.63	3.47	2.98
2189	10AA054	10AA084	Circular	123.66	0.02	1.50	1.24	343.42	343.24	338.83	338.81	3.33	3.80	341.80	342.37	341.66	342.19	1.62	1.05	1.58	1.06
2254	10AA048	10AA074	Circular	252.78	-0.27	1.00	1.70	343.32	343.05	338.58	339.25	-1.32	-1.71	340.53	340.62	340.93	341.29	2.79	2.70	2.12	1.77
2259	10AA070	10AA098	Circular	68.28	4.57	1.00	7.07	343.62	340.20	338.47	335.35	4.85	5.67	341.62	342.13	340.20	340.20	2.01	1.49	0.00	0.00
2268	10AA074	10AA042	Circular	471.26	0.03	1.00	0.59	343.05	343.18	337.67	337.52	1.64	1.65	340.93	341.29	340.96	341.57	2.12	1.77	2.22	1.61
2289	03DD029	03DD017	Circular	109.51	0.11	3.00	20.50	339.70	339.79	333.90	333.78	11.52	14.39	336.00	336.38	335.95	336.33	3.70	3.32	3.84	3.46
2290	03DD031	03DD029	Circular	33.85	0.15	2.50	14.64	339.67	339.70	333.95	333.90	11.45	14.33	336.02	336.43	336.00	336.38	3.65	3.24	3.70	3.32
2298	10AA034	03DD011	Circular	229.04	0.30	1.00	1.80	341.05	340.60	334.80	334.12	2.62	2.69	340.23	340.57	338.87	339.38	0.82	0.48	1.73	1.22
2347	11DB028	11DB029	Circular	79.79	0.00	4.00	4.22	351.72	349.00	345.00	345.00	1.09	1.57	345.44	345.52	345.29	345.35	6.27	6.20	3.71	3.65
2380	23AC047	23AC060	Circular	152.73	0.07	2.00	5.38	367.50	367.86	359.40	359.30	8.49	8.67	361.27	361.47	361.06	361.22	6.23	6.03	6.80	6.64
2381	23AC044	23AC060	Circular	77.68	0.90	2.00	19.94	368.15	367.86	362.80	362.10	5.22	6.08	363.50	363.56	361.06	361.22	4.66	4.60	6.80	6.64
2384	23AC064	23AC063	Circular	135.56	0.11	2.00	6.99	367.51	367.57	361.39	361.24	3.60	4.62	362.30	362.42	362.00	362.07	5.21	5.09	5.57	5.50
2385	23AC065	23AC064	Circular	52.10	0.17	2.00	8.73	366.98	367.51	361.54	361.45	3.60	4.62	362.41	362.53	362.30	362.42	4.58	4.45	5.21	5.09
2386	23AC067	23AC066	Circular	39.48	0.53	2.00	15.32	367.09	367.29	361.88	361.67	3.63	4.65	362.61	362.71	362.51	362.61	4.48	4.37	4.79	4.68
2387	23AC068	23AC067	Circular	167.68	0.07	2.00	5.62	366.14	367.09	362.00	361.88	3.63	4.66	362.96	363.09	362.61	362.71	3.18	3.05	4.48	4.37
2388	23AB009	23AC068	Circular	282.93	0.01	2.00	1.77	366.57	366.14	362.47	362.45	2.85	3.58	363.45	363.56	362.96	363.09	3.12	3.01	3.18	3.05
2389	23AB004	23AB003	Circular	88.08	-0.18	2.00	8.95	365.85	366.12	362.57	362.73	1.90	2.35	363.55	363.66	363.51	363.62	2.30	2.19	2.61	2.50
2392	23AB007	23AB004	Circular	193.49	0.07	2.00	5.65	365.53	365.85	362.74	362.60	1.91	2.35	363.64	363.75	363.55	363.66	1.89	1.78	2.30	2.19
2401	02CC021	02CC022	Circular	171.24	0.12	3.00	21.69	343.40	341.65	333.18	332.97	23.65	28.01	335.53	335.83	335.24	335.50	7.87	7.57	6.41	6.16
2402	02CC022	02CC023	Circular	395.77	0.11	3.00	20.18	341.65	343.01	332.97	332.55	23.65	28.01	335.24	335.50	334.31	334.45	6.41	6.16	8.70	8.57
2463	24CB013	24CB003	Circular	39.64	0.91	1.00	3.16	363.86	372.33	362.86	362.50	0.07	0.14	363.80	363.79	363.80	363.79	0.07	0.07	8.53	8.54
2538	23BD030	23BD040	Circular	52.52	0.50	0.67	0.79	365.09	365.11	363.73	363.47	0.30	0.30	365.09	365.09	365.11	365.11	0.00	0.00	0.00	0.00
2540	23BD040	23BD041	Circular	195.02	0.03	1.00	0.53	365.11	366.24	363.37	363.32	-1.88	-1.88	365.11	365.11	365.73	365.73	0.00	0.00	0.51	0.51
2545	23BD033	23BD035	Circular	205.65	0.24	1.00	1.63	365.52	366.17	363.50	363.00	-0.93	-0.94	365.51	365.51	365.67	365.67	0.01	0.01	0.50	0.50
2546	23BD046	23BD035	Circular	13.29	1.13	1.25	6.37	365.72	366.17	363.11	362.96	3.66	3.66	365.72	365.72	365.67	365.67	0.00	0.00	0.50	0.50
2616	11BB028	11BB027	Circular	394.96	0.16	4.00	52.85	344.57	345.10	335.45	334.83	53.17	62.55	338.35	338.71	337.31	337.66	6.22	5.86	7.79	7.44
2617	11BB022	11BB028	Circular	465.76	0.16	4.00	53.17	342.41	344.57	336.19	335.45	51.53	60.40	339.22	339.64	338.35	338.71	3.19	2.76	6.22	5.86
2621	11BB029	11BB001	Circular	36.86	1.17	1.00	3.57	344.55	344.47	339.80	339.37	0.31	0.78	340.00	340.13	339.65	339.82	4.55	4.42	4.82	4.65
2623	02CC002	02CC003	Circular	53.63	0.56	1.00	2.47	342.83	343.44	340.70	340.40	0.00	0.01	340.73	340.75	340.46	340.48	2.10	2.08	2.98	2.96
2644	11DB019	11DB029.1	Circular	343.01	0.00	1.25	0.19	349.86	350.00	345.00	345.00	0.05	0.05	349.76	349.76	349.77	349.77	0.00	0.00	0.23	0.23
2645	11DB022	11DB019	Circular	80.31	0.47	1.00	2.28	350.16	349.86	345.38	345.00	2.27	2.39	350.12	350.16	349.76	349.76	0.04	0.00	0.00	0.00
2936	14CC048	14CC003	Circular	47.63	1.07	1.00	3.43	364.57	364.11	363.57	363.06	2.34	2.99	364.18	364.29	363.67	363.73	0.39	0.29	0.44	0.38
3162	23AC071	23AC053	Circular	61.44	0.16	1.17	2.01	365.00	366.98	359.70	359.60	3.33	3.33	363.41	363.68	363.44	363.85	1.60	1.32	3.54	3.13
3164	23AC088	23AC099	Circular	104.11	0.19	2.00	9.21	364.21	363.34	360.00	359.80	9.98	12.45	363.58	363.71	363.34	363.34	0.63	0.50	0.00	0.00

Hydraulic Model Results - Existing Conditions																					
Santiam River Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
3206	23DA044	23DA041	Circular	110.89	0.05	1.25	1.32	371.00	372.08	365.87	365.82	8.22	8.29	371.00	371.00	369.03	369.03	0.00	0.00	3.05	3.05
3207	24CB004	24CB006	Circular	141.61	-0.58	1.00	2.53	370.22	371.30	369.22	370.05	0.20	0.20	370.22	370.22	370.21	370.21	0.00	0.00	1.09	1.09
3209	23DA015	23DA043	Circular	86.90	0.25	4.00	101.18	372.49	372.46	367.50	367.00	32.26	47.37	371.06	371.12	371.02	371.04	1.43	1.37	1.44	1.42
3212	23DD006	23DD007	Rectangular	34.05	0.47	2.00	72.07	372.00	372.75	369.36	369.20	33.05	48.58	371.21	371.43	371.25	371.46	0.79	0.57	1.50	1.28
3213	23DD024	23DD025	Circular	39.57	0.16	2.00	8.38	373.32	372.56	368.61	368.55	34.98	50.34	371.31	371.52	371.09	371.17	2.02	1.80	1.47	1.38
3286	03DD032	03DD031	Circular	28.45	0.21	1.50	4.48	340.63	339.67	334.18	334.12	11.44	14.32	336.40	337.01	336.02	336.43	4.23	3.62	3.65	3.24
3287	03DD033	03DD032	Circular	6.51	0.00	2.00	0.66	340.48	340.63	334.15	334.15	12.13	15.11	336.42	337.04	336.40	337.01	4.06	3.44	4.23	3.62
3290	03DD036	03DD033	Circular	121.24	0.42	2.50	24.70	340.58	340.48	334.66	334.15	13.11	16.53	336.50	337.19	336.42	337.04	4.08	3.39	4.06	3.44
3291	03DD037	03DD036	Circular	225.65	-0.09	2.00	6.41	340.59	340.58	335.09	335.30	13.20	16.68	337.60	338.46	336.50	337.19	2.99	2.13	4.08	3.39
3292	03DD038	03DD037	Circular	29.03	-1.21	1.50	10.71	340.49	340.59	335.27	335.62	1.63	1.94	337.61	338.47	337.60	338.46	2.88	2.02	2.99	2.13
3295	03DD041	03DD038	Circular	243.16	-0.51	1.50	6.99	342.22	340.49	335.73	336.98	1.68	2.10	337.84	338.55	337.61	338.47	4.38	3.68	2.88	2.02
3297	03DD041.1	03DD041	Circular	84.67	0.33	1.50	5.61	340.08	342.22	337.90	337.62	0.00	0.11	337.90	338.55	337.84	338.55	2.18	1.53	4.38	3.68
3298	03DD043	03DD037	Circular	80.21	0.17	1.25	2.51	340.60	340.59	335.76	335.62	3.72	4.75	337.91	338.93	337.60	338.46	2.69	1.67	2.99	2.13
3300	03DD045	03DD043	Circular	278.97	-0.13	1.25	2.12	341.88	340.60	336.46	336.81	3.74	4.76	338.96	340.60	337.91	338.93	2.92	1.28	2.69	1.67
3475	25BB014	25BB015	Circular	45.26	-4.22	1.00	6.80	385.45	388.00	384.45	386.36	-7.81	-7.88	380.28	380.33	387.96	388.00	5.17	5.13	0.04	0.00
3505	23DB009	23AC087	Circular	1138.72	0.20	1.00	1.49	366.82	363.76	362.82	360.52	1.75	1.75	366.82	366.82	363.76	363.76	0.00	0.00	0.00	0.00
3513	23DB007	23DB013	Circular	474.90	0.08	2.00	6.02	368.43	365.68	361.32	360.93	4.28	5.32	364.27	364.75	364.07	364.45	4.17	3.68	1.61	1.23
3517	23DB001	23DB009	Circular	528.64	0.98	1.00	3.28	369.13	366.82	368.13	362.92	2.24	2.24	369.13	369.13	366.82	366.82	0.00	0.00	0.00	0.00
3523	23DB013	23AC081	Circular	395.86	0.08	2.00	5.97	365.68	367.65	360.93	360.61	4.28	5.32	364.07	364.45	363.91	364.20	1.61	1.23	3.74	3.44
3526	23AC084.1	23AC082	Circular	447.55	0.04	2.00	4.44	366.70	364.61	360.40	360.20	4.73	5.77	363.88	364.16	363.66	363.83	2.82	2.54	0.95	0.78
3527	23AC081	23AC084.1	Circular	64.56	0.33	2.00	11.98	367.65	366.70	360.61	360.40	4.28	5.32	363.91	364.20	363.88	364.16	3.74	3.44	2.82	2.54
3534	23AC087	23AC073	Circular	122.55	0.10	1.00	1.04	363.76	365.82	360.52	360.40	1.25	1.26	363.76	363.76	363.59	363.59	0.00	0.00	2.23	2.23
3535	23AC082	23AC088	Circular	169.09	0.12	2.00	7.22	364.61	364.21	360.20	360.00	4.73	5.77	363.66	363.83	363.58	363.71	0.95	0.78	0.63	0.50
3544	23AC093	23AC084	Circular	40.52	1.23	0.50	0.58	368.02	365.62	362.50	362.00	0.51	0.50	364.19	364.46	363.89	364.16	3.84	3.56	1.73	1.46
3565	14DC012	14DD007	Circular	92.21	1.20	1.25	6.58	365.04	356.98	351.83	350.72	1.00	1.38	352.16	354.78	351.53	354.73	12.88	10.26	5.45	2.25
3567	14DA037	14DA035	Circular	34.95	0.20	1.25	2.68	357.66	357.34	349.25	349.18	2.05	2.61	350.19	351.42	350.14	351.36	7.47	6.23	7.20	5.98
3569	14DA038	14DA037	Circular	372.00	0.51	1.00	2.37	359.26	357.66	351.16	349.25	2.06	2.62	351.89	353.69	350.19	351.42	7.37	5.57	7.47	6.23
3572	14DD024	14DD015.1	Circular	134.51	0.42	1.00	2.13	359.82	356.48	350.96	350.40	0.43	0.71	351.80	355.27	351.78	355.21	8.02	4.55	4.70	1.27
3574	14DA035	14DA032	Circular	174.31	0.26	1.25	3.05	357.34	354.34	349.18	348.73	2.37	3.15	350.14	351.36	349.87	350.89	7.20	5.98	4.47	3.45
3785	10AA098	10AA048	Circular	133.66	-3.49	1.00	6.18	340.20	343.32	335.20	339.87	-1.32	-1.71	340.20	340.20	340.53	340.62	0.00	0.00	2.79	2.70
Link1650	14DD008	14DD010	Circular	21.79	0.37	1.50	5.91	355.86	355.86	350.71	350.63	1.47	2.28	351.50	354.70	351.49	354.69	4.36	1.16	4.37	1.17
Link1651	14DA032	14DA013	Circular	35.59	1.71	1.25	7.85	354.34	354.83	348.73	348.12	2.34	3.14	349.87	350.89	349.84	350.79	4.47	3.45	4.99	4.04
Link1654	14CC005	14CC006	Natural	65.52	0.22	1.10	28.68	363.79	363.64	362.69	362.54	1.89	1.94	363.60	363.64	363.60	363.64	0.19	0.14	0.04	0.00
Link1655	14CC004	14CC005	Circular	27.50	-0.05	1.00	0.75	363.72	363.79	362.67	362.69	1.84	1.93	363.67	363.72	363.60	363.64	0.05	0.00	0.19	0.14
Link1656	14CC006	14CC044	Circular	147.62	0.63	1.00	2.63	363.64	362.82	362.54	361.61	2.90	3.00	363.60	363.64	362.51	362.51	0.04	0.00	0.31	0.31
Link1657	23AB003	23AB009	Circular	112.53	0.23	2.00	10.10	366.12	366.57	362.73	362.47	1.90	2.35	363.51	363.62	363.45	363.56	2.61	2.50	3.12	3.01
Link1658	23AC060	23AC062	Circular	43.14	0.23	2.00	10.11	367.86	367.47	359.30	359.20	13.37	14.70	361.06	361.22	360.89	361.02	6.80	6.64	6.58	6.45
Link1659	23AC062	23AC061	Circular	91.03	0.22	2.33	14.85	367.47	365.13	359.20	359.00	16.97	19.28	360.89	361.02	360.42	360.52	6.58	6.45	4.71	4.61
Link1660	23BD041	23BD046.1	Natural	115.93	0.02	2.94	85.53	366.24	366.26	363.32	363.30	12.40	14.83	365.73	365.73	365.73	365.72	0.51	0.51	0.54	0.54
Link1661	23BD046.1	23BD046	Natural	66.38	0.14	2.84	538.46	366.26	365.72	363.20	363.11	18.13	18.92	365.73	365.72	365.72	365.72	0.54	0.54	0.00	0.00
Link1662	23BD044	23BD046.1	Natural	105.18	0.12	3.06	314.59	366.39	366.26	363.33	363.20	4.04	4.13	365.73	365.73	365.73	365.72	0.66	0.66	0.54	0.54
Link1665	23AC073	23AC099	Circular	180.73	0.33	1.00	1.91	365.82	363.34	360.40	359.80	1.25	1.26	363.59	363.59	363.34	363.34	2.23	2.23	0.00	0.00
Link1666	23AC099	23AC071	Circular	52.53	0.19	1.00	1.44	363.34	365.00	359.80	359.70	3.33	3.33	363.34	363.34	363.41	363.68	0.00	0.00	1.60	1.32
Link1667	23AC076	23AC075	Circular	31.32	0.32	0.50	0.29	367.70	369.12	367.20	367.10	0.47	0.47	367.70	367.70	367.26	367.26	0.00	0.00	1.87	1.87
Link1668	23AC075	23AC093	Natural	43.00	2.56	2.02	339.80	369.12	368.02	367.10	366.00	0.47	0.47	367.26	367.26	364.19	364.46	1.87	1.87	3.84	3.56
Link1669	23AC084	23AC084.1	Circular	15.31	3.27	1.00	5.98	365.62	366.70	362.00	361.50	1.12	1.15	363.89	364.16	363.88	364.16	1.73	1.46	2.82	2.54
Link1672	23DD002	23DD025	Natural	67.50	4.97	3.08	423.35	374.08	372.56	371.91	368.56	0.80	1.03	372.11	372.13	371.09	371.17	1.97	1.95	1.47	1.38
Link1673	23DD010	23DD025	Natural	69.72	3.65	3.31	418.37	373.71	372.56	371.10	368.55	0.56	0.73	371.25	371.26	371.09	371.17	2.46	2.44	1.47	1.38
Link1674	23DD023	23DD003	Circular	23.04	1.08	1.00	3.44	373.11	374.86	370.70	370.45	3.07	4.10	371.36	371.49	371.48	371.76	1.75	1.62	3.38	3.09
Link1675	23DD090	23DD022	Circular	21.53	0.24	1.00	1.63	373.12	373.16	370.80	370.75	3.08	4.11	371.61	371.83	371.38	371.50	1.51	1.29	1.78	1.65
Link1676	23DA042	23DA017	Circular	32.52	1.60	1.00	4.18	371.78	370.19	365.52	365.00	8.30	8.30	369.03	369.03	365.30	365.30	2.75	2.75	4.89	4.89
Link1680	24CB003	23DA017.1	Natural	340.64	0.44	9.83	5071.33	372.33	370.83	362.50	361.00	-1.98	-0.93	363.80	363.79	363.79	363.79	8.53	8.54	7.04	7.05
Link1681	24CB006	23DA042	Circular	337.80	0.75	1.25	5.19	371.30	371.78	370.05	367.52	0.19	0.19	370.21	370.21	369.03	369.03	1.09	1.09	2.75	2.75
Link1682	25BA026	25BA035	Natural	540.34	0.35	2.42	46.87	395.34	393.43	392.91	391.01	8.90	13.91	393.79	393.99	391.81	391.98	1.55	1.34	1.63	1.46
Link1683	25BA035	25BB002	Natural	440.25	0.25	2.91	83.39	393.43	393.31	391.01	389.91	8.87	13.86	391.81	391.98	390.80	390.97	1.63	1.46	2.52	2.34
Link1684	25BB002	25BB026	Natural	671.49	0.28	3.40	412.56	393.31	391.40	389.91	388.00	8.78	13.71	390.80	390.97	388.99	389.15	2.52	2.34	2.41	2.25
Link1685	25BB026	25BB030	Natural	414.85	0.08	1.00	9.44	391.40	388.68	388.00	387.68	9.93	15.32	388.99	389.15	388.39	388.59	2.41	2.25	0.29	0.09
Link1686	25BB015.1	25BB015	Natural	458.61	0.14	1.61	57.71	388.58	388.00	387.00	386.36	1.25	2.26	387.96	388.02	387.96	388.00	0.61	0.55	0.04	0.00
Link2186	10AD050	10AA080	Circular	172.77	0.19	1.00	1.42	343.30	340.53	337.72	337.40	0.98	1.12	340.66	340.77	340.53	340.53	2.64	2.53	0.00	0.00
Link2187	10AA080	10AA081	Circular	170.03	0.21	1.00	1.52	340.53	341.40	337.40	337.04	1.58	1.66	340.53	340.53	340.55	340.63	0.00	0.00	0.85	0.77
Link2189	11BB002	10AA079.1	Circular	319.62	0.19	1.00	1.43	344.89	342.66	337.50	336.90	1.30	1.37	340.85	341.00	340.32	340.52	4.04	3.89	2.34	2.14
Link2190	10AA079.1	10AA079	Circular	153.57	0.16	1.50	3.86	342.66	342.12	336.90	336.66	-2.53	-2.93	340.32	340.52	340.34	340.63	2.34	2.14	1.78	1.49
Link2191	02CC016	02CC018	Circular	254.52	0.22	1.50	4.58	344.45	345.39	338.45	337.89	-0.10	-0.17	338.79	339.02	338.78	339.02	5.67	5.43	6.61	6.37
Link2192	02CC003	02CC015.1	Natural	119.31	0.34	3.42	60.07	343.44	343.80	340.40	340.00	0.07	0.13	340.46	340.48	340.12	340.16	2.98	2.96	3.68	3.64
Link2193	02CC002.1	02CC002	Circular	15.16	1.32	1.00	3.80	342.81	342.83	340.90	340.70	0.00	0.01	340.92	340.94	340.73	340.75	1.89	1.87	2.10	2.08
Link2196	02CC015.1	02CC015	Circular	64.26	0.86	1.00	3.06	343.80	343.86	340.00	339.45	0.07	0.13	340.12	340.16	339.53	339.55	3.68	3.64	4.34	4.31
Link2198	25BB019	25BB018	Circular	30.65	0.52	1.00	2.39	390.50	390.71	387.66	387.50	1.66	2.30	388.24	388.35	388.00	388.06	2.25	2.14	2.71	2.64
Link2199	25BB013	25BB020	Natural	218.88	0.59	3.67	296.55	392.64	391.35	388.97	387.68	1.72	2.38	389.36	389.42	388.30	388.40	3.27	3.21	3.05	2.95
Link2200	23DD062	23DD061	Circular	25.03	1.48	1.00	4.02	380.67	381.60	379.67	379.30	0.52	0.68	379.93	379.96	379.47	379.49	0.74	0.71	2.13	2.11
Link2201	23DD056	23DD057	Circular	177.55	0.28	1.00	1.74	382.90	382.69	379.90	379.41	1.05	1.49	380.49	380.63	379.75	379.81	2.41	2.27	2.93	2.88

Hydraulic Model Results - Existing Conditions																					
Santiam River Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
Link2202	23DD054	23DD055	Circular	67.96	0.53	1.00	2.41	381.36	383.00	380.36	380.00	1.06	1.51	380.83	380.95	380.52	380.65	0.53	0.41	2.48	2.35
Link2204	02CC024	02CC024.1	Natural	102.89	0.85	8.85	4665.95	340.92	340.05	332.07	331.20	33.76	38.59	333.07	333.14	332.11	332.19	7.85	7.78	7.94	7.86
Link2205	02CC010	02CC011	Circular	4.58	9.61	1.00	10.25	343.34	342.65	338.80	338.36	0.13	-0.56	338.88	339.03	338.79	339.01	4.46	4.31	3.87	3.64
Link2208	23DD067	25BB014	Circular	295.53	0.96	1.00	3.25	384.86	385.45	382.85	380.00	0.43	0.59	383.13	383.17	380.28	380.33	1.73	1.69	5.17	5.13
Link2209	25BB014	23DD006	Natural	1950.87	0.55	4.04	58.16	385.45	372.00	380.00	369.36	28.77	39.91	380.28	380.33	371.21	371.43	5.17	5.13	0.79	0.57
Link2210	25BB017	25BB014	Circular	297.55	2.40	1.00	5.13	390.36	385.45	387.15	380.00	1.66	2.31	387.61	387.70	380.28	380.33	2.75	2.65	5.17	5.13
Link2211	23DD057	23DD057.1	Natural	56.28	0.73	3.28	155.37	382.69	382.28	379.41	379.00	1.05	1.49	379.75	379.81	379.34	379.41	2.93	2.88	2.94	2.87
Link2212	23DD057.1	23DD057.2	Circular	64.83	2.78	1.00	5.51	382.28	380.00	379.00	377.20	1.05	1.49	379.34	379.41	377.36	377.38	2.94	2.87	2.64	2.62
Link2213	23DD057.2	23DD021	Natural	510.19	1.04	2.33	879.45	380.00	373.75	377.20	371.90	3.29	4.65	377.36	377.38	371.78	371.96	2.64	2.62	1.97	1.79
Link2214	23DD060	23DD057.2	Natural	314.51	0.60	2.69	202.68	381.67	380.00	379.08	377.20	0.53	0.68	379.28	379.30	377.36	377.38	2.39	2.37	2.64	2.62
Link2215	23DA017.1	23DA017.2	Natural	248.84	0.25	6.62	309.44	370.83	363.78	361.00	360.37	9.37	8.73	363.79	363.79	363.78	363.78	7.04	7.05	0.00	0.00
Link2216	23DA017	23DA017.1	Natural	32.89	12.16	7.51	4471.71	370.19	370.83	365.00	361.00	8.30	8.30	365.30	365.30	363.79	363.79	4.89	4.89	7.04	7.05

Hydraulic Model Results - Existing Conditions																					
Santiam River Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
120	23DD053	23DD054	Natural	196.36	0.12	1.00	9.55	381.59	381.36	380.59	380.36	1.49	1.99	381.08	381.17	380.94	381.07	0.51	0.42	0.42	0.29
121	23DD055	23DD056	Natural	65.73	0.15	3.00	142.26	383.00	382.90	380.00	379.90	1.44	1.90	380.63	380.78	380.61	380.77	2.36	2.21	2.29	2.13
124	23DD061	23DD060	Natural	5.79	3.80	2.44	363.15	381.60	381.67	379.30	379.08	0.52	0.68	379.47	379.49	379.27	379.29	2.13	2.11	2.40	2.37
125	23DD063	23DD062	Natural	28.95	0.35	1.00	9.31	380.77	380.67	379.77	379.67	0.52	0.68	379.98	380.01	379.93	379.96	0.79	0.76	0.74	0.71
128	23DD066	23DD067	Natural	154.98	1.30	1.00	69.05	385.86	384.86	384.86	382.85	0.43	0.59	385.03	385.05	383.12	383.16	0.83	0.81	1.74	1.70
205	11BB027	11BB017	Circular	333.35	0.38	4.00	82.33	345.10	345.39	334.83	333.56	57.56	67.87	337.34	337.69	336.19	336.58	7.76	7.41	9.20	8.81
247	10AA073	10AA074	Circular	277.69	0.20	0.83	0.90	342.69	343.05	338.22	337.67	1.44	1.39	341.64	341.82	340.97	341.35	1.05	0.87	2.08	1.70
253	14DD010	14DD012	Circular	153.86	0.46	1.50	6.63	355.86	355.29	350.63	349.92	2.18	2.53	354.26	355.35	354.21	355.25	1.60	0.51	1.08	0.04
255	14DD006	14DD008	Circular	198.11	0.08	1.25	1.65	356.93	355.86	351.69	351.54	0.70	0.91	354.28	355.41	354.27	355.36	2.64	1.52	1.60	0.50
257	14DD012	14DD016	Circular	19.35	1.14	0.83	2.17	355.29	355.45	349.92	349.70	2.21	2.53	354.21	355.25	354.08	354.97	1.08	0.04	1.37	0.48
259	14DD007	14DD008	Circular	57.49	0.02	1.25	0.79	356.98	355.86	350.72	350.71	1.20	1.61	354.29	355.40	354.27	355.36	2.69	1.58	1.60	0.50
262	14DD016	14DD019	Circular	87.66	0.14	1.75	5.44	355.45	355.23	349.70	349.58	8.24	8.58	354.08	354.97	353.81	354.72	1.37	0.48	1.42	0.50
264	14DD015	14DD016	Circular	74.06	0.19	1.25	2.61	355.28	355.45	349.88	349.74	5.70	6.15	354.70	355.28	354.08	354.97	0.58	0.00	1.37	0.48
265	14DD015.1	14DD015	Circular	70.64	0.41	1.25	3.84	356.48	355.28	350.40	350.11	5.12	6.47	355.19	356.07	354.70	355.28	1.28	0.41	0.58	0.00
268	14DD018	14DD017	Circular	106.40	0.02	1.75	2.02	355.65	356.00	349.30	349.28	8.24	8.65	353.57	354.51	353.24	354.22	2.08	1.13	2.76	1.78
270	14DD019	14DD018	Circular	77.15	0.10	1.75	4.74	355.23	355.65	349.58	349.50	8.24	8.61	353.81	354.72	353.57	354.51	1.42	0.50	2.08	1.13
271	14DD017	14DA014	Circular	192.72	0.21	1.75	6.70	356.00	356.16	349.23	348.83	8.25	8.68	353.24	354.22	352.64	353.68	2.76	1.78	3.51	2.47
272	14DA014	14DA025	Circular	84.72	0.06	1.75	3.57	356.16	355.85	348.78	348.83	8.27	8.72	352.64	353.68	352.38	353.45	3.51	2.47	3.47	2.40
273	14DD001	14DD002	Circular	76.55	0.33	1.25	3.43	357.86	358.90	356.61	356.36	0.34	0.43	356.89	356.92	356.59	356.61	0.98	0.95	2.31	2.29
329	14DA029	14DA011	Circular	31.16	0.26	1.25	3.04	355.40	355.42	351.99	351.91	0.91	1.28	352.43	352.51	349.75	350.20	2.97	2.89	5.68	5.23
377	10DA065	10DA066	Circular	20.50	0.39	2.00	13.12	349.04	349.34	342.30	342.38	2.08	2.51	344.35	344.45	344.35	344.45	4.69	4.59	4.99	4.89
378	10DA066	10DA067	Circular	187.51	0.85	2.00	19.40	349.34	349.91	341.80	343.40	2.08	2.51	344.35	344.45	342.88	343.12	4.99	4.89	7.03	6.79
379	10DA014	10DA065	Circular	73.56	0.98	1.00	3.27	349.14	349.04	344.33	343.61	2.09	2.51	344.93	345.02	344.35	344.45	4.21	4.13	4.69	4.59
413	14DB025	14DB045	Circular	35.47	2.48	1.25	9.45	356.15	356.34	350.82	349.94	2.07	2.81	351.36	351.92	351.43	351.88	4.79	4.23	4.92	4.47
414	14DB045	14DB046	Circular	308.12	0.06	2.00	4.93	356.34	355.03	349.94	349.77	7.10	8.98	351.43	351.88	350.70	351.33	4.92	4.47	4.33	3.70
415	14DB046	14DB047	Circular	149.01	0.19	2.00	9.11	355.03	353.35	349.25	348.97	7.66	9.67	350.70	351.33	350.45	351.03	4.33	3.70	2.90	2.33
432	10AA040	10AA075	Circular	65.48	0.15	1.50	3.81	343.41	343.38	336.10	336.00	3.57	3.11	340.57	340.89	340.55	340.88	2.84	2.52	2.83	2.50
433	10AA078.1	10AA078	Circular	65.53	0.43	2.00	13.73	343.13	342.72	335.80	335.52	3.13	2.70	340.48	340.88	340.48	340.88	2.64	2.25	2.24	1.84
434	10AA075	10AA078.1	Circular	124.26	0.16	1.50	3.91	343.38	343.13	336.00	335.80	3.35	2.89	340.55	340.88	340.48	340.88	2.83	2.50	2.64	2.25
435	10AA071	10AA049	Circular	203.86	0.17	1.50	4.04	341.78	341.03	336.35	336.00	2.51	2.52	340.62	341.01	340.55	340.98	1.16	0.77	0.48	0.06
438	10AA049	10AA041	Circular	47.53	0.27	2.00	10.99	341.03	341.60	336.00	335.87	3.81	4.19	340.55	340.98	340.54	340.96	0.48	0.06	1.06	0.64
439	10AA056	10AA053	Circular	275.70	0.03	1.00	0.60	343.84	343.63	339.42	339.33	1.52	1.88	342.48	343.43	341.91	342.58	1.36	0.41	1.72	1.05
440	10AA057	10AA070	Circular	38.69	0.39	1.00	2.06	343.45	343.62	338.70	338.55	1.52	1.88	341.69	342.25	341.62	342.13	1.76	1.20	2.01	1.49
441	10AA053	10AA057	Circular	103.89	0.15	1.00	1.30	343.63	343.45	338.86	338.70	1.52	1.88	341.91	342.58	341.69	342.25	1.72	1.05	1.76	1.20
442	10AA084	10AA070	Circular	36.19	0.30	1.50	5.38	343.24	343.62	338.66	338.55	3.33	3.79	341.66	342.19	341.62	342.13	1.58	1.06	2.01	1.49
445	10AA060	10AA082	Circular	54.27	0.35	1.00	1.96	343.85	343.65	340.21	340.40	3.33	3.80	342.93	343.83	342.40	343.14	0.92	0.02	1.25	0.51
447	10AA081	10AA071	Circular	320.88	0.22	1.00	1.53	341.40	341.78	337.04	336.35	1.38	1.46	340.56	340.70	340.62	341.01	0.84	0.70	1.16	0.77
448	02CC012	02CC020	Circular	306.95	0.10	2.00	6.57	342.75	342.80	338.70	338.40	6.64	8.16	340.16	340.84	339.74	340.41	2.59	1.91	3.06	2.40
449	02CC020	02CC017	Circular	86.40	0.46	2.00	14.29	342.80	343.17	338.40	338.00	6.60	8.11	339.74	340.41	339.67	340.30	3.06	2.40	3.50	2.87
450	02CC017	02CD004	Circular	290.60	0.21	2.00	9.55	343.17	344.05	337.60	337.00	12.75	15.49	339.67	340.30	338.57	338.78	3.50	2.87	5.48	5.27
451	02CD004	02CD005	Circular	89.50	0.22	2.00	9.93	344.05	344.07	337.00	336.80	12.74	15.49	338.57	338.78	338.08	338.22	5.48	5.27	5.99	5.85
452	11BB001	02CC018	Circular	85.94	0.35	1.00	1.95	344.47	345.39	339.37	339.07	3.09	4.18	340.64	341.92	340.00	340.71	3.83	2.56	5.39	4.68
453	02CC018	02CC017	Circular	218.69	0.13	1.50	3.55	345.39	343.17	337.89	337.60	4.40	5.45	340.00	340.71	339.67	340.30	5.39	4.68	3.50	2.87
494	11BC035	11BC030	Circular	392.13	0.46	0.67	0.76	346.88	346.26	342.58	340.77	0.74	0.74	346.88	346.88	346.26	346.26	0.00	0.00	0.00	0.00
498	11BD025	11BC035	Circular	365.65	0.29	0.67	0.60	348.31	346.88	343.85	342.79	0.73	0.74	348.31	348.31	346.88	346.88	0.00	0.00	0.00	0.00
507	11CA020	11CA019	Circular	372.62	0.23	0.67	0.53	349.47	349.04	346.37	345.53	0.43	0.43	349.47	349.47	349.04	349.04	0.00	0.00	0.00	0.00
512	11BD024	11BD023	Circular	388.65	0.38	0.67	0.69	347.42	347.30	343.93	342.46	0.57	0.57	347.42	347.42	347.30	347.30	0.00	0.00	0.00	0.00
513	11BD023	11BC034	Circular	389.14	0.23	0.67	0.53	347.30	346.36	342.45	341.57	0.78	0.78	347.30	347.30	346.36	346.36	0.00	0.00	0.00	0.00
514	11BC034	11BC039	Circular	391.23	0.31	0.67	0.62	346.36	345.58	340.86	339.65	1.00	1.00	346.36	346.36	344.18	344.54	0.00	0.00	1.40	1.04
518	10AA072	10AA060	Circular	197.67	0.36	1.00	1.98	345.04	343.85	341.03	340.32	1.75	1.84	343.48	344.42	342.93	343.83	1.56	0.62	0.92	0.02
565	14CC003	14CC004	Natural	79.52	0.49	1.05	55.54	364.11	363.72	363.06	362.67	2.25	3.22	363.72	363.73	363.72	363.72	0.38	0.38	0.00	0.00
566	14CC044	14CC045	Natural	53.32	0.20	1.11	15.00	362.82	362.51	361.61	361.51	3.00	3.00	362.51	362.51	362.51	362.51	0.31	0.31	0.00	0.00
594	25BB030	25BB015	Natural	157.71	0.84	1.00	20.13	388.68	388.00	387.68	386.36	9.98	15.40	388.40	388.59	387.98	388.00	0.29	0.09	0.02	0.00
601	25BB018	25BB017	Natural	130.75	0.27	3.21	309.52	390.71	390.36	387.50	387.15	2.55	3.28	388.09	388.17	387.75	387.86	2.62	2.54	2.61	2.50
602	25BB020	25BB019	Natural	150.37	0.01	3.25	71.19	391.35	390.50	387.68	387.66	2.58	3.32	388.44	388.54	388.39	388.50	2.91	2.81	2.10	1.99
610	14CC026	14CC011	Circular	78.80	0.09	2.00	6.26	363.05	362.98	361.05	360.98	2.70	3.29	362.57	362.68	362.55	362.66	0.48	0.37	0.43	0.32
611	14CC011	14CC018	Circular	265.93	0.03	2.00	3.41	362.98	362.91	360.98	360.91	2.69	3.28	362.55	362.66	362.51	362.60	0.43	0.32	0.40	0.31
612	14CC018	14CC008	Circular	297.51	0.02	2.00	2.98	362.91	362.85	360.91	360.85	2.69	3.28	362.51	362.60	362.46	362.53	0.40	0.31	0.39	0.32
614	25BB033	25BB013	Natural	319.30	0.07	2.83	44.72	391.18	392.64	389.18	388.97	2.68	3.46	389.72	389.79	389.44	389.49	1.46	1.39	3.20	3.14
617	14CC008	14CC042	Circular	211.98	0.02	1.50	1.50	362.85	362.30	360.85	360.80	2.69	3.28	362.46	362.53	362.30	362.30	0.39	0.32	0.00	0.00
618	14CC042	23BA018	Circular	300.46	0.02	1.50	1.26	362.30	362.45	360.80	360.75	2.21	2.21	362.30	362.30	362.45	362.45	0.00	0.00	0.00	0.00
691.1	14AC006.1	14AC014.1	Circular	206.09	1.69	1.00	4.31	357.05	357.41	353.50	350.01	2.10	2.97	354.38	356.20	353.62	354.59	2.67	0.85	3.79	2.82
715	02CC006	02CC005	Natural	175.06	0.05	2.08	30.73	344.92	345.01	342.84	342.93	0.00	0.00	342.84	342.84	342.84	342.84	2.08	2.08	2.17	2.17
770	23AC066	23AC065	Natural	118.37	0.26	5.44	789.51	367.29	366.98	361.85	361.54	4.14	5.22	362.56	362.67	362.47	362.59	4.73	4.63	4.51	4.39
786	23AC063	23AC062	Natural	36.30	0.28	6.33	695.93	367.57	367.47	361.24	361.14	4.13	5.20	362.04	362.11	360.94	361.07	5.53	5.46	6.53	6.40
845	02CC023	02CC024	Circular	140.46	0.65	3.00	49.85	343.01	340.92	332.55	331.64	38.10	41.58	334.43	334.53	333.13	333.18	8.58	8.48	7.79	7.74

Hydraulic Model Results - Existing Conditions																				
Santiam River Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
846	02CC019	02CC025	Circular	73.17	1.69	2.00	27.28	335.88	343.05	333.88	332.65	0.08	0.08	334.54	334.67	334.54	334.67	1.34	1.22	8.51	8.38
847	02CC025	02CC023	Circular	50.01	0.20	2.00	9.39	343.05	343.01	332.65	332.55	10.53	10.95	334.54	334.67	334.43	334.53	8.51	8.38	8.58	8.48
848	03DD017	03DD018	Circular	241.99	0.07	3.00	16.42	339.79	342.26	333.78	333.61	17.22	19.03	336.36	336.75	336.19	336.55	3.43	3.04	6.07	5.71
849	03DD018	02CC026	Circular	289.51	0.05	3.00	14.10	342.26	342.88	333.41	333.26	19.44	21.55	336.19	336.55	335.94	336.23	6.07	5.71	6.94	6.65
850	02CC026	02CC021	Circular	78.11	0.10	3.00	19.82	342.88	343.40	333.26	333.18	27.58	30.63	335.94	336.23	335.80	336.04	6.94	6.65	7.60	7.36
851	02CC026	02CC025	Circular	579.33	0.11	2.00	6.82	342.88	343.05	333.26	332.65	10.54	10.96	335.94	336.23	334.54	334.67	6.94	6.65	8.51	8.38
852	03DD011	02CC027	Circular	530.33	0.05	2.00	4.74	340.60	343.35	333.68	333.95	16.95	17.55	339.08	339.59	335.98	336.34	1.52	1.01	7.37	7.01
853	02CC027	02CC026	Circular	12.78	5.40	2.00	48.81	343.35	342.88	333.95	333.26	16.77	17.25	335.98	336.34	335.94	336.23	7.37	7.01	6.94	6.65
921	14DA012	14DA018	Circular	273.28	0.19	3.00	26.76	354.56	349.84	347.35	346.84	28.27	34.28	349.56	349.85	348.56	348.74	5.00	4.70	1.28	1.10
922	14DA011	14DA012	Circular	131.63	0.37	2.25	17.55	355.42	354.56	347.84	347.35	11.71	15.19	349.75	350.20	349.56	349.85	5.68	5.23	5.00	4.70
923	14DA010	14DA011	Circular	186.00	0.25	2.25	14.46	356.07	355.42	348.31	347.84	10.16	13.06	349.99	350.57	349.75	350.20	6.08	5.50	5.68	5.23
926	11BC029	11BC036	Circular	363.89	0.18	1.50	4.12	344.11	342.42	338.82	338.17	8.92	9.06	342.63	343.07	339.76	340.24	1.48	1.05	2.66	2.17
931	10AD037	10AD036	Circular	351.13	0.10	4.00	42.71	344.02	344.87	337.78	337.42	33.14	39.90	340.58	341.09	340.29	340.79	3.44	2.93	4.58	4.07
938	11BB017	11BA006	Circular	88.50	0.36	4.00	80.21	345.39	345.73	333.56	333.24	58.90	69.62	336.19	336.58	335.91	336.30	9.20	8.81	9.82	9.43
939	11BA006	11BA009	Circular	416.68	0.38	4.00	82.39	345.73	346.77	333.24	331.65	60.65	71.93	335.91	336.30	334.65	335.02	9.82	9.43	12.12	11.76
940	11BA009	11BA005	Circular	139.09	0.19	4.00	57.67	346.77	345.63	331.65	331.39	60.63	71.94	334.65	335.02	334.27	334.58	12.12	11.76	11.36	11.05
941	11BA005	11BA008	Circular	274.01	0.19	4.00	57.54	345.63	334.88	331.39	330.88	60.65	71.94	334.27	334.58	333.23	333.45	11.36	11.05	1.65	1.44
946	11BC037	11BB022	Circular	406.06	0.68	1.00	2.72	344.84	342.41	338.94	336.19	3.13	3.21	342.76	343.14	339.25	339.68	2.07	1.70	3.15	2.72
956	11BD029	11BD030	Circular	380.59	0.38	0.67	0.69	345.22	344.45	341.18	339.75	0.71	0.67	345.22	345.22	344.45	344.45	0.00	0.00	0.00	0.00
957	10AA065	10AA073	Circular	251.75	0.37	0.83	1.24	342.26	342.69	339.44	338.50	1.55	1.49	342.26	342.26	341.64	341.82	0.00	0.00	1.05	0.87
1024	10AA082	10AA054	Circular	197.02	0.36	1.25	3.58	343.65	343.42	339.84	339.14	3.33	3.80	342.40	343.14	341.80	342.37	1.25	0.51	1.62	1.05
1030	03DD008	03DD011	Circular	276.76	0.31	0.67	0.62	341.25	340.60	334.80	333.95	1.47	1.44	341.25	341.25	339.08	339.59	0.00	0.00	1.52	1.01
1037	10AD001	10AD050	Circular	44.82	0.04	1.50	2.06	343.05	343.30	337.74	337.72	0.91	1.12	340.71	340.73	340.70	340.72	2.34	2.32	2.60	2.58
1061	02CC001	02CC010	Natural	80.50	1.74	1.99	118.97	344.74	343.34	342.75	341.35	0.00	0.00	342.75	342.75	340.02	340.89	1.99	1.99	3.32	2.46
1064	02CC015	02CC016	Natural	66.83	1.50	5.21	46.08	343.86	344.45	339.45	338.45	13.72	9.32	340.11	340.76	340.09	340.76	3.75	3.10	4.36	3.69
1113	10DA090	10DA071.1	Circular	143.07	0.16	1.50	3.91	350.23	351.07	344.43	344.20	3.92	4.64	345.53	345.66	345.18	345.27	4.70	4.57	5.89	5.80
1133	10AD053	10AA072	Circular	474.99	0.16	0.67	0.45	345.02	345.04	341.90	341.14	0.96	0.96	345.02	345.02	343.48	344.42	0.00	0.00	1.56	0.62
1314	23BA018	23BA019	Circular	349.85	0.01	1.25	0.72	362.45	363.96	360.75	360.70	1.89	2.26	362.45	362.45	362.79	362.94	0.00	0.00	1.17	1.02
1318	23BA019	23BA012	Circular	325.91	0.01	1.25	0.47	363.96	365.50	360.70	360.68	0.78	0.96	362.79	362.94	362.84	363.01	1.17	1.02	2.66	2.49
1321	23BA012	23BA014	Circular	99.87	0.04	1.25	1.20	365.50	366.30	360.68	360.64	0.77	0.95	362.84	363.01	362.85	363.03	2.66	2.49	3.45	3.27
1322	23BA014	23BA003	Circular	400.29	0.01	1.25	0.60	366.30	366.75	360.64	360.60	0.76	0.94	362.85	363.03	362.91	363.12	3.45	3.27	3.84	3.63
1323	23BA003	23BA005	Circular	199.27	0.05	1.00	0.74	366.75	366.50	360.60	360.50	0.75	0.93	362.91	363.12	363.01	363.27	3.84	3.63	3.49	3.23
1324	23AC010	23AC011	Circular	142.53	0.04	1.50	1.83	366.93	366.94	360.35	360.30	3.11	3.12	363.14	363.48	363.09	363.43	3.78	3.45	3.85	3.50
1325	23AC011	23AC027	Circular	78.01	0.38	1.50	6.05	366.94	367.00	360.30	360.00	3.09	3.11	363.09	363.43	363.05	363.41	3.85	3.50	3.94	3.58
1326	23AC027	23AC052	Circular	104.48	0.19	1.50	4.27	367.00	367.39	360.00	359.80	3.36	3.46	363.05	363.41	362.95	363.31	3.94	3.58	4.45	4.08
1327	23AC052	23AC054	Circular	95.44	0.31	1.50	5.47	367.39	367.34	359.80	359.50	3.36	3.46	362.95	363.31	362.85	363.22	4.45	4.08	4.49	4.12
1328	23AC054	23AC047	Circular	199.44	0.05	1.50	2.18	367.34	367.50	359.50	359.40	8.54	8.99	362.85	363.22	361.35	361.56	4.49	4.12	6.16	5.94
1329	23AC048	23AC044	Circular	259.48	0.08	2.00	5.83	368.42	368.15	363.00	362.80	5.35	6.09	364.20	364.28	363.51	363.56	4.22	4.14	4.65	4.60
1330	23AC050	23AC048	Circular	240.89	0.17	1.50	3.97	368.84	368.42	363.40	363.00	5.35	6.09	364.93	365.16	364.20	364.28	3.90	3.68	4.22	4.14
1331	23AC053	23AC054	Circular	69.25	0.14	1.17	1.90	366.98	367.34	359.60	359.50	5.43	5.94	363.63	364.17	362.85	363.22	3.35	2.81	4.49	4.12
1334	23AC026	23AC010	Circular	77.44	0.26	0.83	1.03	366.23	366.93	362.70	362.50	2.72	2.72	364.58	364.70	363.14	363.48	1.65	1.53	3.78	3.45
1336	23BD036	23AC026	Circular	120.99	0.17	1.25	2.50	366.18	366.23	362.91	362.70	2.72	2.72	364.83	364.92	364.58	364.70	1.35	1.26	1.65	1.53
1339	23BA005	23BA006	Circular	199.85	0.05	1.00	0.74	366.50	366.27	360.50	360.40	0.74	0.92	363.01	363.27	363.11	363.42	3.49	3.23	3.17	2.85
1342	23BA006	23AC010	Circular	250.18	0.02	1.25	0.85	366.27	366.93	360.40	360.35	0.74	0.91	363.11	363.42	363.14	363.48	3.17	2.85	3.78	3.45
1346	23DA033	23DA028	Circular	254.46	0.24	1.25	2.96	370.26	370.36	366.58	365.96	3.29	3.29	368.23	368.62	367.61	368.11	2.03	1.63	2.75	2.25
1347	23DA028	23DA026	Circular	285.03	0.25	1.25	2.99	370.36	369.99	365.96	365.25	3.29	3.29	367.61	368.11	366.92	367.53	2.75	2.25	3.07	2.45
1348	23DA026	23AD003	Circular	259.64	0.25	1.25	3.00	369.99	369.41	365.25	364.60	3.31	3.29	366.92	367.53	366.29	367.01	3.07	2.45	3.12	2.40
1349	23AD003	23AC051	Circular	250.96	0.25	1.50	4.89	369.41	369.07	364.60	363.97	5.41	6.10	366.29	367.01	365.59	366.04	3.12	2.40	3.48	3.03
1350	23AC051	23AC050	Circular	228.83	0.25	1.50	4.87	369.07	368.84	363.97	363.40	5.36	6.09	365.59	366.04	364.93	365.16	3.48	3.03	3.90	3.68
1351	23DA030	23DA033	Circular	219.22	0.23	1.25	2.89	371.04	370.26	367.09	366.58	3.29	3.29	368.76	369.07	368.23	368.62	2.28	1.97	2.03	1.63
1360	24CC003	24CC002	Circular	249.03	0.40	1.25	3.80	377.17	376.63	372.00	371.00	4.19	4.19	377.17	377.17	376.02	376.04	0.00	0.00	0.61	0.59
1361	24CC002	24CC004	Circular	248.28	0.40	1.25	3.81	376.63	374.86	371.00	370.00	4.19	4.19	376.02	376.04	374.86	374.86	0.61	0.59	0.00	0.00
1362	24CC004	24CB011	Circular	245.64	0.22	1.25	2.84	374.86	371.61	370.00	369.45	6.99	6.99	374.86	374.86	371.61	371.61	0.00	0.00	0.00	0.00
1363	24CB011	24CB010	Circular	140.56	0.26	1.25	3.08	371.61	370.57	369.45	369.08	5.20	5.20	371.61	371.61	370.57	370.57	0.00	0.00	0.00	0.00
1365	24CB010	24CB009	Circular	116.90	0.55	1.25	4.44	370.57	370.96	369.08	368.44	3.65	3.45	370.57	370.57	370.29	370.34	0.00	0.00	0.67	0.62
1366	24CB009	24CB008	Circular	28.73	0.24	1.25	2.96	370.96	371.59	368.44	368.37	3.63	3.43	370.29	370.34	370.23	370.28	0.67	0.62	1.36	1.30
1367	24CB008	23DA036	Circular	149.73	0.25	1.25	2.98	371.59	371.55	368.37	368.00	3.61	3.41	370.23	370.28	369.86	369.98	1.36	1.30	1.69	1.57
1368	23DA036	23DA031	Circular	190.49	0.16	1.25	2.38	371.55	371.40	368.00	367.70	3.45	3.39	369.86	369.98	369.40	369.60	1.69	1.57	2.00	1.80
1369	23DA031	23DA030	Circular	262.16	0.23	1.25	2.89	371.40	371.04	367.70	367.09	3.37	3.35	369.40	369.60	368.76	369.07	2.00	1.80	2.28	1.97
1370	23BD034	23BD033	Circular	76.76	0.20	1.00	1.46	365.45	365.52	363.75	363.60	0.93	0.94	365.45	365.45	365.51	365.51	0.00	0.00	0.01	0.00
1371	23BD035	23BD036	Circular	414.43	0.01	1.25	0.66	366.17	366.18	362.96	362.91	2.72	2.73	365.67	365.68	364.83	364.92	0.50	0.50	1.35	1.26
1412	14CC045	14CC030	Circular	124.75	0.16	0.67	0.45	362.51	363.55	361.39	361.19	0.76	0.76	362.51	362.51	361.95	361.95	0.00	0.00	1.60	1.60
1413	14CC030	14CC007	Circular	40.05	0.12	0.67	0.40	363.55	361.78	361.16	361.11	0.76	0.76	361.95	361.95	361.78	361.78	1.60	1.60	0.00	0.00
1414	14CC007	14CC041	Circular	51.64	0.06	0.50	0.13	361.78	361.58	361.11	361.08	0.33	0.33	361.78	361.78	361.58	361.58	0.00	0.00	0.00	0.00
1415	14CC041	14CC026	Circular	186.87	0.02	0.50	0.07	361.58	363.05	361.08	361.05	0.38	0.40	361.58	361.58	362.57	362.68	0.00	0.00	0.48	0.37
1485	14DA021.1	14DA021	Circular	171.56	0.23	1.25	2.86	360.33	356.39	350.00	349.61	3.35	4.36	353.33	355.07	352.81	354.20	7.00	5.25	3.58	2.19

Hydraulic Model Results - Existing Conditions																					
Santiam River Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1486	14DA021	14DA023	Circular	167.08	0.19	1.50	4.20	356.39	355.57	349.52	349.21	4.34	5.73	352.81	354.20	352.49	353.64	3.58	2.19	3.08	1.93
1487	14DA023	14DA025	Circular	57.01	0.39	1.50	6.06	355.57	355.85	349.05	348.83	4.33	5.73	352.49	353.64	352.38	353.45	3.08	1.93	3.47	2.40
1492	14DA025	14DA013	Circular	251.67	0.20	1.75	6.62	355.85	354.83	348.63	348.12	13.32	14.71	352.38	353.45	350.34	350.98	3.47	2.40	4.50	3.85
1495	14DA013	14DA012	Circular	135.84	0.57	2.00	15.82	354.83	354.56	348.12	347.35	16.56	19.16	350.34	350.98	349.56	349.85	4.50	3.85	5.00	4.70
1504.1	10AA041	10AA050	Circular	164.76	0.07	2.00	5.43	341.60	341.93	335.38	335.49	4.89	4.86	340.54	340.96	340.48	340.89	1.06	0.64	1.45	1.04
1505.1	10AA050	10AA078	Circular	21.01	0.38	2.00	12.96	341.93	342.72	335.44	335.52	4.93	4.90	340.48	340.89	340.48	340.88	1.45	1.04	2.24	1.84
1506.1	10AA078	10AA066	Circular	116.67	0.18	2.00	8.91	342.72	343.45	335.41	335.20	7.29	6.87	340.48	340.88	340.35	340.80	2.24	1.84	3.10	2.65
1507.1	10AA066	10AA069	Circular	252.25	0.13	2.00	7.60	343.45	342.01	334.83	334.50	9.88	9.57	340.35	340.80	339.85	340.40	3.10	2.65	2.16	1.61
1509.1	10AA042	10AA066	Circular	220.64	0.24	1.00	1.62	343.18	343.45	335.73	335.20	2.70	2.71	341.02	341.69	340.35	340.80	2.16	1.49	3.10	2.65
1514	23DA041	23DA042	Natural	23.44	1.27	6.26	2276.48	372.08	371.78	365.82	365.52	8.16	8.17	369.03	369.03	369.03	369.03	3.05	3.05	2.75	2.75
1514.1	10AA043	10AA036	Circular	96.02	0.20	1.00	1.47	341.34	341.15	335.19	335.00	2.77	2.73	341.34	341.34	340.77	340.90	0.00	0.00	0.38	0.26
1515	10AA036	10AA034	Circular	51.44	0.39	1.00	2.06	341.15	341.05	335.00	334.80	2.76	2.68	340.77	340.90	340.46	340.66	0.38	0.26	0.59	0.39
1517	10AA069	10AA068	Circular	88.99	0.45	2.00	14.08	342.01	343.55	334.50	334.10	11.64	11.57	339.85	340.40	339.62	340.17	2.16	1.61	3.93	3.38
1518	23DA043	23DA044	Natural	321.27	0.75	4.66	343.91	372.46	371.00	368.28	365.87	52.03	64.20	371.03	371.03	371.00	371.00	1.43	1.43	0.00	0.00
1518.1	10AA068	10AA067	Circular	67.87	0.06	2.00	5.10	343.55	344.51	334.10	334.06	11.60	11.61	339.62	340.17	339.45	339.99	3.93	3.38	5.06	4.52
1519	10AA067	03DD012	Circular	89.85	0.28	2.00	11.08	344.51	342.92	334.06	333.81	11.55	11.64	339.45	339.99	339.23	339.75	5.06	4.52	3.69	3.17
1520	23DD025	23DA015	Natural	170.78	0.03	4.00	78.12	372.56	372.50	368.55	368.50	49.65	62.80	371.35	371.50	371.19	371.32	1.21	1.06	1.31	1.18
1520.1	03DD012	03DD011	Circular	59.60	0.52	2.00	15.15	342.92	340.60	333.81	334.12	11.49	11.67	339.23	339.75	339.08	339.59	3.69	3.17	1.52	1.01
1523	23DD003	23DD024	Natural	15.59	11.79	4.56	1456.93	374.86	373.32	370.45	368.61	30.87	49.12	371.96	372.32	371.64	371.96	2.90	2.53	1.68	1.36
1524	23DD007	23DD024	Natural	41.59	1.41	4.13	420.03	372.75	373.32	369.20	368.61	54.96	71.53	371.67	371.89	371.64	371.96	1.08	0.85	1.68	1.36
1524.1	10AA079	10AA040	Circular	322.12	0.17	1.50	4.07	342.12	343.41	336.66	336.10	2.20	2.19	340.45	340.78	340.57	340.89	1.67	1.34	2.84	2.52
1526	02CC009	02CC010	Circular	38.24	0.52	1.00	2.39	341.35	343.34	339.00	338.80	2.87	3.67	340.30	341.34	340.02	340.89	1.05	0.01	3.32	2.46
1527	23DD022	23DD023	Natural	48.08	0.10	2.41	112.57	373.16	373.11	370.75	370.70	4.11	4.90	371.54	371.94	371.55	371.94	1.61	1.22	1.56	1.17
1528	02CC011	02CC017	Circular	408.98	0.19	1.50	4.20	342.65	343.17	338.36	337.60	2.82	3.65	339.98	340.83	339.67	340.30	2.68	1.82	3.50	2.87
1529	23DD021	23DD090	Natural	367.13	0.05	2.55	46.26	373.75	373.12	370.97	370.80	4.34	5.73	371.96	372.20	371.83	372.16	1.79	1.56	1.29	0.96
1550	11CA042	11DB026	Circular	150.60	0.14	1.00	1.24	351.76	351.00	348.62	348.41	1.10	1.58	349.29	349.47	348.94	349.06	2.47	2.29	2.06	1.94
1552	11DB026	11DB021	Circular	249.44	0.31	1.25	3.33	351.00	350.56	348.41	347.64	1.09	1.57	348.94	349.06	347.96	348.02	2.06	1.94	2.60	2.54
1553	11DB021	11DB028	Circular	150.77	1.26	1.50	10.95	350.56	351.72	347.64	345.74	1.09	1.57	347.96	348.02	345.44	345.52	2.60	2.54	6.27	6.20
1554	11DB024	11DB022	Circular	144.81	0.32	1.00	1.86	351.06	350.16	345.84	345.38	1.75	2.29	350.52	350.82	350.13	350.16	0.54	0.24	0.03	0.00
1555	11DB025	11DB024	Circular	113.47	1.77	1.00	4.40	352.16	351.06	349.18	347.17	0.58	0.71	350.55	350.87	350.52	350.82	1.61	1.29	0.54	0.24
1556	11DA009	11DB025	Circular	254.96	0.13	1.00	1.17	357.66	352.16	349.50	349.18	0.58	0.71	350.63	350.98	350.55	350.87	7.03	6.68	1.61	1.29
1577	14DA028	14DA029	Circular	103.19	0.33	1.00	1.90	355.91	355.40	352.53	352.19	0.91	1.28	353.02	353.13	352.43	352.51	2.89	2.78	2.97	2.89
1584	14DB048	14DA010	Circular	324.23	0.17	2.25	11.95	353.60	356.07	348.87	348.31	8.21	10.46	350.38	350.96	349.99	350.57	3.23	2.64	6.08	5.50
1585	14DB047	14DB048	Circular	66.78	0.15	2.25	11.13	353.35	353.60	348.97	348.87	7.63	9.69	350.45	351.03	350.38	350.96	2.90	2.33	3.23	2.64
1596	14DB036	14DB050	Circular	351.07	0.23	1.00	1.58	356.89	360.60	352.72	351.92	0.82	1.24	353.25	353.40	352.36	352.51	3.64	3.49	8.24	8.09
1599	14DB050	14DB049	Circular	239.72	0.29	1.25	3.22	360.60	360.58	351.92	351.23	0.82	1.24	352.36	352.51	351.85	352.14	8.24	8.09	8.73	8.44
1601	14DB049	14DB025	Circular	201.26	0.20	1.25	2.71	360.58	356.15	351.23	350.82	1.31	1.97	351.85	352.14	351.36	351.92	8.73	8.44	4.79	4.23
1603	14DA010.1	14DA010	Circular	29.59	5.54	1.25	14.12	356.12	356.07	354.00	352.36	2.01	2.64	354.32	354.37	349.99	350.57	1.80	1.75	6.08	5.50
1608	14DB052	14DB053	Circular	294.30	0.48	1.25	4.17	356.63	354.62	352.47	351.05	1.56	2.01	353.00	353.09	351.91	352.10	3.63	3.54	2.70	2.52
1609	14DB053	14DB045.1	Circular	135.52	0.18	2.00	9.02	354.62	355.91	351.05	350.80	3.76	4.79	351.91	352.10	351.51	351.87	2.70	2.52	4.40	4.04
1611	14DB045.1	14DB045	Circular	91.50	0.94	2.00	20.37	355.91	356.34	350.80	349.94	4.19	5.27	351.51	351.87	351.43	351.88	4.40	4.04	4.92	4.47
1617	14BD013	14BD029	Circular	123.93	0.17	1.00	1.36	353.72	352.82	350.91	350.70	2.85	2.85	353.72	353.72	352.82	352.82	0.00	0.00	0.00	0.00
1618	14BD029	14BD014	Circular	14.46	0.21	1.00	1.51	352.82	352.97	350.70	350.67	1.79	1.35	352.82	352.82	352.83	352.83	0.00	0.00	0.14	0.14
1619	14BD014	14BD015	Circular	166.03	0.32	1.00	1.87	352.97	354.17	350.57	350.04	1.68	1.28	352.83	352.83	352.91	352.93	0.14	0.14	1.26	1.24
1620	14BD015	14AC029	Circular	217.60	0.30	1.50	5.37	354.17	352.90	350.04	349.38	2.28	1.83	352.91	352.93	352.90	352.90	1.26	1.24	0.00	0.00
1621	14AC029	14AC012	Circular	189.56	0.39	1.50	6.09	352.90	353.70	349.38	348.64	2.44	3.20	352.90	352.90	353.00	353.10	0.00	0.00	0.70	0.60
1622	14AC012	14AC013	Circular	309.11	0.38	1.50	6.03	353.70	355.22	348.64	347.46	2.77	2.49	353.00	353.10	353.05	353.24	0.70	0.60	2.17	1.98
1623	14AC013	14AC007	Circular	198.67	0.04	1.50	1.96	355.22	356.46	347.46	347.38	3.04	2.68	353.05	353.24	353.02	353.26	2.17	1.98	3.44	3.20
1624	14AC014.1	14AC007	Circular	173.49	0.87	1.00	3.09	357.41	356.46	349.98	348.47	2.11	2.98	353.62	354.59	353.02	353.26	3.79	2.82	3.44	3.20
1625	14AC007	14DB001	Circular	156.30	0.74	2.00	18.10	356.46	356.91	347.38	346.22	3.81	3.44	353.02	353.26	353.00	353.24	3.44	3.20	3.92	3.67
1626	14DB001	14DB003	Circular	157.54	0.23	2.00	10.04	356.91	359.35	346.22	345.86	3.90	3.54	353.00	353.24	352.96	353.20	3.92	3.67	6.38	6.15
1639	14DB003	14DB011	Circular	19.59	0.00	2.00	0.66	359.35	357.96	345.86	345.86	3.74	3.44	352.96	353.20	352.96	353.19	6.38	6.15	5.01	4.77
1843	10DD072	10DD073	Circular	204.02	0.46	1.25	4.07	351.35	351.69	347.18	346.24	1.55	1.94	347.72	347.80	346.89	347.06	3.63	3.55	4.79	4.63
1849	10DD068	10DD069	Circular	208.15	0.25	1.75	7.35	350.72	351.01	345.42	344.90	1.94	2.33	346.06	346.15	345.67	345.83	4.66	4.57	5.33	5.18
1852	10DD069	10DA071	Circular	339.54	0.01	3.00	4.75	351.01	350.74	344.15	344.13	9.66	11.87	345.67	345.83	344.47	344.62	5.33	5.18	6.27	6.12
1856	10DD059	10DD073	Circular	17.12	0.64	1.75	11.79	351.63	351.69	345.84	345.73	2.34	2.86	346.90	347.06	346.89	347.06	4.74	4.57	4.79	4.63
1858	11CC010	11CC026	Circular	78.39	0.18	1.00	1.40	351.09	350.97	346.49	346.35	2.34	2.87	347.59	347.92	347.21	347.35	3.50	3.16	3.76	3.62
1861	11CC026	10DD059	Circular	346.34	0.15	1.75	5.65	350.97	351.63	346.35	345.84	2.33	2.86	347.21	347.35	346.90	347.06	3.76	3.62	4.74	4.57
1865	11BC042	11BC029	Circular	381.68	0.39	1.00	2.07	345.19	344.11	340.46	338.97	1.95	2.08	343.89	344.41	342.63	343.07	1.30	0.78	1.48	1.05
1867	11BC039	11BC029	Circular	320.72	0.17	1.50	4.04	345.58	344.11	339.52	338.97	7.00	7.02	344.18	344.54	342.63	343.07	1.40	1.04	1.48	1.05
1870	11BC030	11BC039	Circular	325.72	0.30	1.25	3.27	346.26	345.58	340.62	339.65	5.36	5.34	346.26	346.26	344.18	344.54	0.00	0.00	1.40	1.04
1871	11CB039	11BC030	Circular	326.74	0.29	1.25	3.22	347.92	346.26	341.71	340.77	4.37	4.37	347.92	347.92	346.26	346.26	0.00	0.00	0.00	0.00
1872	11CB055	11CB039	Circular	331.64	0.06	1.00	0.83	349.08	347.92	342.19	341.98	2.45	2.50	349.08	349.08	347.92	347.92	0.00	0.00	0.00	0.00
1873	11CB040	11CB055	Circular	323.59	0.61	0.67	0.88	350.02	349.08	345.27	343.28	0.64	0.64	350.02	350.02	349.08	349.08	0.00	0.00	0.00	0.00
1874	11CB041	11CB040	Circular	368.41	0.31	0.67	0.62	349.02	350.02	346.70	345.57	0.60	0.60	349.02	349.02	350.02	350.02	0.00	0.00	0.00	0.00
1894	10DD073	10DD069	Circular	269.45	0.31	1.75	8.17	351.69	351.01	345.73	344.90	6.30	7.68	346.89	347.06	345.67	345.83	4.79	4.63	5.33	5.18

Hydraulic Model Results - Existing Conditions																				
Santiam River Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1903	10DA071	10DA070	Circular	90.59	0.35	3.00	36.81	350.74	350.49	343.13	342.81	15.74	19.11	344.47	344.62	343.89	344.09	6.27	6.12	6.60	6.41
1904	11CB042	10DA070	Circular	196.05	0.42	1.75	9.52	350.38	350.49	344.38	343.56	3.18	3.80	345.09	345.16	343.89	344.09	5.29	5.22	6.60	6.41
1905	11CB067	11CB042	Circular	201.65	0.41	1.50	6.22	350.58	350.38	345.20	344.38	2.30	2.75	345.84	345.90	345.09	345.16	4.75	4.68	5.29	5.22
1911	10DA070	10DA067	Circular	266.60	0.34	3.00	36.18	350.49	349.91	342.31	341.40	19.67	23.85	343.89	344.09	342.88	343.12	6.60	6.41	7.03	6.79
1917	10DA067	10DA062	Circular	298.54	0.59	3.00	47.55	349.91	349.22	341.40	339.64	21.74	26.29	342.88	343.12	341.73	342.17	7.03	6.79	7.49	7.05
1924	10DA062	10DA088	Circular	302.54	0.23	3.50	44.94	349.22	348.49	339.64	338.94	24.87	29.89	341.73	342.17	341.33	341.83	7.49	7.05	7.16	6.66
1928	10DA088	10AD025	Circular	376.53	0.23	3.50	44.91	348.49	346.89	338.94	338.07	30.45	36.71	341.33	341.83	340.81	341.32	7.16	6.66	6.08	5.58
1931	10AD030	10AD025	Circular	207.34	0.24	1.25	2.95	347.61	346.89	340.49	339.99	1.87	2.21	341.22	341.53	340.81	341.32	6.39	6.08	6.08	5.58
1933	11CB010	11CB005	Circular	121.96	0.03	1.00	0.60	349.99	349.40	346.51	346.55	2.29	2.72	347.88	348.54	347.20	347.73	2.11	1.46	2.21	1.67
1934	11CB005	10DA063	Circular	118.82	0.99	1.00	3.30	349.40	348.93	345.55	344.37	2.29	2.72	347.20	347.73	346.63	346.95	2.21	1.67	2.29	1.98
1941	10DA071.1	10DA071	Circular	67.53	0.10	1.50	3.14	351.07	350.74	344.20	344.13	3.92	4.64	345.18	345.27	344.47	344.62	5.89	5.80	6.27	6.12
1945	10DA082	10DA090	Circular	86.79	0.92	0.83	1.95	350.26	350.23	346.32	345.52	2.06	2.44	347.04	347.44	345.53	345.66	3.21	2.81	4.70	4.57
1947	10DA080	10DA090	Circular	152.58	0.15	1.00	1.28	349.52	350.23	345.75	345.52	1.88	2.22	346.71	346.92	345.53	345.66	2.81	2.59	4.70	4.57
1964	10DA077	10DA063	Circular	212.73	0.63	1.00	2.64	348.26	348.93	345.72	344.37	0.97	1.17	346.81	347.21	346.63	346.95	1.45	1.05	2.29	1.98
1966	10DA063	10DA089	Circular	83.02	2.91	1.00	5.65	348.93	349.12	342.53	344.95	3.26	3.88	346.63	346.95	343.86	344.32	2.29	1.98	5.26	4.80
1967	10DA089	10DA062	Circular	99.46	0.28	1.00	1.76	349.12	349.22	342.42	342.14	3.26	3.88	343.86	344.32	341.73	342.17	5.26	4.80	7.49	7.05
1969	10DA060	10DA088	Circular	212.77	0.05	1.50	2.11	348.64	348.49	341.29	341.19	4.67	5.85	342.67	343.01	341.33	341.83	5.97	5.64	7.16	6.66
1973	10AD029	10AD030	Circular	215.20	0.48	1.00	2.30	347.93	347.61	342.89	341.85	1.12	1.33	343.40	343.45	341.22	341.53	4.53	4.48	6.39	6.08
1975	10AD026	10AD030	Circular	69.45	1.66	1.25	7.72	347.01	347.61	340.70	341.85	0.74	0.91	342.40	342.46	341.22	341.53	4.61	4.55	6.39	6.08
2087	11CB057	11CB055	Circular	362.58	0.65	0.67	0.90	348.89	349.08	345.63	343.28	0.36	0.35	348.89	348.89	349.08	349.08	0.00	0.00	0.00	0.00
2094	11CA021	11CB056	Circular	395.56	0.51	0.67	0.80	348.78	347.38	346.62	344.60	0.68	0.68	348.78	348.78	347.38	347.38	0.00	0.00	0.00	0.00
2097	11CB056	11CB055	Circular	374.96	0.31	0.67	0.63	347.38	349.08	344.45	343.28	0.79	0.79	347.38	347.38	349.08	349.08	0.00	0.00	0.00	0.00
2103	11CB054	11CB039	Circular	395.21	0.53	0.67	0.82	347.71	347.92	344.09	341.98	0.88	0.89	347.71	347.71	347.92	347.92	0.00	0.00	0.00	0.00
2105	11CA019	11CB054	Circular	383.59	0.26	0.67	0.57	349.04	347.71	345.53	344.53	0.68	0.68	349.04	349.04	347.71	347.71	0.00	0.00	0.00	0.00
2117	11BD030	11BD028	Circular	18.59	0.59	0.67	0.86	344.45	344.51	339.73	339.84	1.10	1.01	344.45	344.45	344.51	344.51	0.00	0.00	0.00	0.00
2118	11BD028	11BC038	Circular	339.11	0.17	0.83	0.85	344.51	344.46	339.78	339.19	1.83	1.73	344.51	344.51	344.11	344.46	0.00	0.00	0.35	0.00
2119	11BC038	11BC037	Circular	59.63	0.18	0.83	0.87	344.46	344.84	339.19	339.08	3.14	3.25	344.11	344.46	342.76	343.14	0.35	0.00	2.07	1.70
2168	11BC012	11BC010	Circular	147.82	0.39	0.67	0.70	344.70	344.82	342.21	341.63	1.15	1.15	344.70	344.70	344.04	344.47	0.00	0.00	0.78	0.35
2169	11BC010	11BC042	Circular	301.12	0.39	1.00	2.06	344.82	345.19	341.63	340.46	1.14	1.14	344.04	344.47	343.89	344.41	0.78	0.35	1.30	0.78
2170	11BC040	11BC012	Circular	207.42	0.40	0.67	0.71	345.80	344.70	343.03	342.21	0.84	0.84	345.80	345.80	344.70	344.70	0.00	0.00	0.00	0.00
2175	11BC036	11BB022	Circular	38.51	5.14	1.50	22.12	342.42	342.41	338.17	336.19	11.26	11.96	339.76	340.24	339.25	339.68	2.66	2.17	3.15	2.72
2177.1	10AA051	11BB021	Circular	365.75	0.11	4.00	44.11	343.62	342.83	336.99	336.59	36.55	44.16	339.94	340.46	339.61	340.10	3.67	3.16	3.22	2.74
2178	11BB021	11BB022	Circular	384.15	0.10	4.00	43.04	342.83	342.41	336.59	336.19	37.74	45.79	339.61	340.10	339.25	339.68	3.22	2.74	3.15	2.72
2185.1	10AD036	10AD035	Circular	259.46	0.25	4.00	66.76	344.87	344.26	337.78	337.13	33.02	39.70	340.29	340.79	340.06	340.58	4.58	4.07	4.20	3.68
2186.1	10AD035	10AA051	Circular	137.32	0.10	4.00	42.59	344.26	343.62	337.13	336.99	34.74	41.87	340.06	340.58	339.94	340.46	4.20	3.68	3.67	3.16
2188	10AD025	10AD037	Circular	279.75	0.10	4.00	42.95	346.89	344.02	338.07	337.78	32.03	38.53	340.81	341.32	340.58	341.09	6.08	5.58	3.44	2.93
2189	10AA054	10AA084	Circular	123.66	0.02	1.50	1.24	343.42	343.24	338.83	338.81	3.33	3.80	341.80	342.37	341.66	342.19	1.62	1.05	1.58	1.06
2254	10AA048	10AA074	Circular	252.78	0.27	1.00	1.70	343.32	343.05	338.58	339.25	1.37	1.77	340.54	340.64	340.97	341.35	2.78	2.68	2.08	1.70
2259	10AA070	10AA098	Circular	68.28	4.57	1.00	7.07	343.62	340.20	338.47	335.35	4.85	5.67	341.62	342.13	340.20	340.20	2.01	1.49	0.00	0.00
2268	10AA074	10AA042	Circular	471.26	0.03	1.00	0.59	343.05	343.18	337.67	337.52	1.64	1.64	340.97	341.35	341.02	341.69	2.08	1.70	2.16	1.49
2289	03DD029	03DD017	Circular	109.51	0.11	3.00	20.50	339.70	339.79	333.90	333.78	16.05	17.69	336.43	336.82	336.36	336.75	3.27	2.88	3.43	3.04
2290	03DD031	03DD029	Circular	33.85	0.15	2.50	14.64	339.67	339.70	333.95	333.90	16.00	17.64	336.48	336.88	336.43	336.82	3.19	2.79	3.27	2.88
2298	10AA034	03DD011	Circular	229.04	0.30	1.00	1.80	341.05	340.60	334.80	334.12	2.75	2.68	340.46	340.66	339.08	339.59	0.59	0.39	1.52	1.01
2347	11DB028	11DB029	Circular	79.79	0.00	4.00	4.22	351.72	349.00	345.00	345.00	1.09	1.57	345.44	345.52	345.29	345.35	6.27	6.20	3.71	3.65
2380	23AC047	23AC060	Circular	152.73	0.07	2.00	5.38	367.50	367.86	359.40	359.30	8.53	8.98	361.35	361.56	361.11	361.29	6.16	5.94	6.75	6.57
2381	23AC044	23AC060	Circular	77.68	0.90	2.00	19.94	368.15	367.86	362.80	362.10	5.35	6.09	363.51	363.56	361.11	361.29	4.65	4.60	6.75	6.57
2384	23AC064	23AC063	Circular	135.56	0.11	2.00	6.99	367.51	367.57	361.39	361.24	4.13	5.20	362.36	362.48	362.04	362.11	5.14	5.03	5.53	5.46
2385	23AC065	23AC064	Circular	52.10	0.17	2.00	8.73	366.98	367.51	361.54	361.45	4.13	5.20	362.47	362.59	362.36	362.48	4.51	4.39	5.14	5.03
2386	23AC067	23AC066	Circular	39.48	0.53	2.00	15.32	367.09	367.29	361.88	361.67	4.16	5.23	362.66	362.77	362.56	362.67	4.42	4.32	4.73	4.63
2387	23AC068	23AC067	Circular	167.68	0.07	2.00	5.62	366.14	367.09	362.00	361.88	4.16	5.24	363.03	363.16	362.66	362.77	3.11	2.98	4.42	4.32
2388	23AB009	23AC068	Circular	282.93	0.01	2.00	1.77	366.57	366.14	362.47	362.45	2.91	3.64	363.46	363.58	363.03	363.16	3.11	2.99	3.11	2.98
2389	23AB004	23AB003	Circular	88.08	0.18	2.00	8.95	365.85	366.12	362.57	362.73	1.95	2.40	363.56	363.68	363.52	363.63	2.29	2.18	2.60	2.48
2392	23AB007	23AB004	Circular	193.49	0.07	2.00	5.65	365.53	365.85	362.74	362.60	1.96	2.40	363.65	363.76	363.56	363.68	1.88	1.76	2.29	2.18
2401	02CC021	02CC022	Circular	171.24	0.12	3.00	21.69	343.40	341.65	333.18	332.97	27.57	30.63	335.80	336.04	335.47	335.66	7.60	7.36	6.18	5.99
2402	02CC022	02CC023	Circular	395.77	0.11	3.00	20.18	341.65	343.01	332.97	332.55	27.57	30.62	335.47	335.66	334.43	334.53	6.18	5.99	8.58	8.48
2463	24CB013	24CB003	Circular	39.64	0.91	1.00	3.16	363.86	372.33	362.86	362.50	1.55	1.63	363.86	363.86	363.79	363.79	0.01	0.00	8.54	8.54
2538	23BD030	23BD040	Circular	52.52	0.50	0.67	0.79	365.09	365.11	363.73	363.47	0.20	0.21	365.09	365.09	365.11	365.11	0.00	0.00	0.00	0.00
2540	23BD040	23BD041	Circular	195.02	0.03	1.00	0.53	365.11	366.24	363.37	363.32	1.87	1.87	365.11	365.11	365.72	365.72	0.00	0.00	0.52	0.52
2545	23BD033	23BD035	Circular	205.65	0.24	1.00	1.63	365.52	366.17	363.50	363.00	0.93	0.94	365.51	365.51	365.67	365.68	0.01	0.00	0.50	0.50
2546	23BD046	23BD035	Circular	13.29	1.13	1.25	6.37	365.72	366.17	363.11	362.96	3.66	3.66	365.72	365.72	365.67	365.68	0.00	0.00	0.50	0.50
2616	11BB028	11BB027	Circular	394.96	0.16	4.00	52.85	344.57	345.10	335.45	334.83	53.99	63.31	338.38	338.74	337.34	337.69	6.19	5.83	7.76	7.41
2617	11BB022	11BB028	Circular	465.76	0.16	4.00	53.17	342.41	344.57	336.19	335.45	52.35	61.14	339.25	339.68	338.38	338.74	3.15	2.72	6.19	5.83
2619	02CC005	02CC001	Circular	51.37	0.18	1.25	2.51	345.01	344.74	342.84	342.75	0.00	0.00	342.84	342.84	342.75	342.75	2.17	2.17	1.99	1.99
2620	02CC007	02CC006	Circular	52.97	0.13	1.25	2.18	344.25	344.92	343.00	342.93	0.00	0.00	343.00	343.00	342.84	342.84	1.25	1.25	2.08	2.08
2621	11BB029	11BB001	Circular	36.86	1.17	1.00	3.57	344.55	344.47	339.80	339.37	3.08	4.16	340.93	342.48	340.64	341.92	3.62	2.07	3.83	2.56
2623	02CC002	02CC003	Circular	53.63	0.56	1.00	2.47	342.83	343.44	340.70	340.40	0.30	0.44	340.94	340.99	340.68	340.89	1.89	1.84	2.76	2.55
2644	11DB019	11DB019.1	Circular	343.01	0.00	1.25	0.19	349.76	350.00	345.00	345.00	0.05	0.06	349.76	349.76	349.77	349.77	0.00	0.00	0.23	0.23

Hydraulic Model Results - Existing Conditions																					
Santiam River Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
2645	11DB022	11DB019	Circular	80.31	0.47	1.00	2.28	350.16	349.76	345.38	345.00	2.31	2.39	350.13	350.16	349.76	349.76	0.03	0.00	0.00	0.00
2936	14CC048	14CC003	Circular	47.63	1.07	1.00	3.43	364.57	364.11	363.57	363.06	2.49	3.15	364.20	364.31	363.72	363.73	0.37	0.26	0.38	0.38
3162	23AC071	23AC053	Circular	61.44	0.16	1.17	2.01	365.00	366.98	359.70	359.60	3.31	3.43	363.54	363.89	363.63	364.17	1.47	1.11	3.35	2.81
3164	23AC088	23AC099	Circular	104.11	0.19	2.00	9.21	364.21	363.34	360.00	359.80	10.01	12.48	363.58	363.71	363.34	363.34	0.63	0.50	0.00	0.00
3206	23DA044	23DA041	Circular	110.89	0.05	1.25	1.32	371.00	372.08	365.87	365.82	8.32	8.34	371.00	371.00	369.03	369.03	0.00	0.00	3.05	3.05
3207	24CB004	24CB006	Circular	141.61	0.58	1.00	2.53	370.22	371.30	369.22	370.05	0.20	0.20	370.22	370.22	370.21	370.21	0.00	0.00	1.09	1.09
3209	23DA015	23DA043	Circular	86.90	0.25	4.00	67.26	372.50	372.46	368.50	368.28	49.89	63.02	371.19	371.32	371.03	371.03	1.31	1.18	1.43	1.43
3212	23DD006	23DD007	Rectangular	34.05	0.47	2.00	72.07	372.00	372.75	369.36	369.20	46.50	64.12	371.62	371.94	371.67	371.89	0.38	0.06	1.08	0.85
3213	23DD024	23DD025	Circular	39.57	0.16	2.00	8.38	373.32	372.56	368.61	368.55	50.52	64.20	371.64	371.96	371.35	371.50	1.68	1.36	1.21	1.06
3286	03DD032	03DD031	Circular	28.45	0.21	1.50	4.48	340.63	339.67	334.18	334.12	15.99	17.63	337.22	337.72	336.48	336.88	3.41	2.91	3.19	2.79
3287	03DD033	03DD032	Circular	6.51	0.00	2.00	0.66	340.48	340.63	334.15	334.15	17.22	18.20	337.26	337.77	337.22	337.72	3.22	2.71	3.41	2.91
3290	03DD036	03DD033	Circular	121.24	0.42	2.50	24.70	340.58	340.48	334.66	334.15	19.06	20.38	337.47	338.02	337.26	337.77	3.11	2.56	3.22	2.71
3291	03DD037	03DD036	Circular	225.65	0.09	2.00	6.41	340.59	340.58	335.09	335.30	19.22	20.56	339.09	339.72	337.47	338.02	1.50	0.87	3.11	2.56
3292	03DD038	03DD037	Circular	29.03	1.21	1.50	10.71	340.49	340.59	335.27	335.62	6.57	6.70	339.18	339.76	339.09	339.72	1.31	0.73	1.50	0.87
3295	03DD041	03DD038	Circular	243.16	0.51	1.50	6.99	342.22	340.49	335.73	336.98	6.57	6.72	340.01	340.08	339.18	339.76	2.21	2.14	1.31	0.73
3297	03DD041.1	03DD041	Circular	84.67	0.33	1.50	5.61	340.08	342.22	337.90	337.62	3.64	3.52	340.08	340.08	340.01	340.08	0.00	0.00	2.21	2.14
3298	03DD043	03DD037	Circular	80.21	0.17	1.25	2.51	340.60	340.59	335.76	335.62	4.23	5.10	339.46	340.21	339.09	339.72	1.14	0.39	1.50	0.87
3300	03DD045	03DD043	Circular	278.97	0.13	1.25	2.12	341.88	340.60	336.46	336.81	4.24	5.11	340.79	341.88	339.46	340.21	1.09	0.00	1.14	0.39
3475	25BB014	25BB015	Circular	45.26	4.22	1.00	6.80	385.45	388.00	384.45	386.36	7.85	7.88	380.32	380.37	387.98	388.00	5.13	5.09	0.02	0.00
3505	23DB009	23AC087	Circular	1138.72	0.20	1.00	1.49	366.82	363.76	362.82	360.52	1.75	1.75	366.82	366.82	363.76	363.76	0.00	0.00	0.00	0.00
3513	23DB007	23DB013	Circular	474.90	0.08	2.00	6.02	368.43	365.68	361.32	360.93	4.28	5.32	364.27	364.75	364.07	364.45	4.17	3.68	1.61	1.23
3517	23DB001	23DB009	Circular	528.64	0.98	1.00	3.28	369.13	366.82	368.13	362.92	2.25	2.25	369.13	369.13	366.82	366.82	0.00	0.00	0.00	0.00
3523	23DB013	23AC081	Circular	395.86	0.08	2.00	5.97	365.68	367.65	360.93	360.61	4.28	5.32	364.07	364.45	363.91	364.20	1.61	1.23	3.73	3.44
3526	23AC084.1	23AC082	Circular	447.55	0.04	2.00	4.44	366.70	364.61	360.40	360.20	4.73	5.77	363.89	364.16	363.66	363.83	2.82	2.54	0.95	0.78
3527	23AC081	23AC084.1	Circular	64.56	0.33	2.00	11.98	367.65	366.70	360.61	360.40	4.28	5.32	363.91	364.20	363.89	364.16	3.73	3.44	2.82	2.54
3534	23AC087	23AC073	Circular	122.55	0.10	1.00	1.04	363.76	365.82	360.52	360.40	1.72	1.71	363.76	363.76	363.59	363.59	0.00	0.00	2.23	2.23
3535	23AC082	23AC088	Circular	169.09	0.12	2.00	7.22	364.61	364.21	360.20	360.00	4.73	5.77	363.66	363.83	363.58	363.71	0.95	0.78	0.63	0.50
3544	23AC093	23AC084	Circular	40.52	1.23	0.50	0.58	368.02	365.62	362.50	362.00	0.47	0.47	364.19	364.46	363.89	364.17	3.84	3.56	1.73	1.45
3565	14DC012	14DD007	Circular	92.21	1.20	1.25	6.58	365.04	356.98	351.83	350.72	1.18	1.61	354.32	355.47	354.29	355.40	10.72	9.58	2.69	1.58
3567	14DA037	14DA035	Circular	34.95	0.20	1.25	2.68	357.66	357.34	349.25	349.18	2.04	2.64	350.74	351.71	350.70	351.64	6.92	5.95	6.63	5.70
3569	14DA038	14DA037	Circular	372.00	0.51	1.00	2.37	359.26	357.66	351.16	349.25	2.04	2.64	352.06	354.01	350.74	351.71	7.21	5.25	6.92	5.95
3572	14DD024	14DD015.1	Circular	134.51	0.42	1.00	2.13	359.82	356.48	350.96	350.40	0.57	0.84	355.23	356.15	355.19	356.07	4.59	3.67	1.28	0.41
3574	14DA035	14DA032	Circular	174.31	0.26	1.25	3.05	357.34	354.34	349.18	348.73	2.54	3.40	350.70	351.64	350.40	351.09	6.63	5.70	3.94	3.25
3785	10AA098	10AA048	Circular	133.66	3.49	1.00	6.18	340.20	343.32	335.20	339.87	1.37	1.77	340.20	340.20	340.54	340.64	0.00	0.00	2.78	2.68
Link1650	14DD008	14DD010	Circular	21.79	0.37	1.50	5.91	355.86	355.86	350.71	350.63	2.11	2.52	354.27	355.36	354.26	355.35	1.60	0.50	1.60	0.51
Link1651	14DA032	14DA013	Circular	35.59	1.71	1.25	7.85	354.34	354.83	348.73	348.12	2.54	3.39	350.40	351.09	350.34	350.98	3.94	3.25	4.50	3.85
Link1654	14CC005	14CC006	Natural	65.52	0.22	1.10	28.68	363.79	363.64	362.69	362.54	1.90	2.07	363.64	363.64	363.64	363.64	0.14	0.14	0.00	0.00
Link1655	14CC004	14CC005	Circular	27.50	0.05	1.00	0.75	363.72	363.79	362.67	362.69	1.85	1.94	363.72	363.72	363.64	363.64	0.00	0.00	0.14	0.14
Link1656	14CC006	14CC044	Circular	147.62	0.63	1.00	2.63	363.64	362.82	362.54	361.61	3.00	3.00	363.64	363.64	362.51	362.51	0.00	0.00	0.31	0.31
Link1657	23AB003	23AB009	Circular	112.53	0.23	2.00	10.10	366.12	366.57	362.73	362.47	1.96	2.41	363.52	363.63	363.46	363.58	2.60	2.48	3.11	2.99
Link1658	23AC060	23AC062	Circular	43.14	0.23	2.00	10.11	367.86	367.47	359.30	359.20	13.73	14.98	361.11	361.29	360.94	361.07	6.75	6.57	6.53	6.40
Link1659	23AC062	23AC061	Circular	91.03	0.22	2.33	14.85	367.47	365.13	359.20	359.00	17.81	20.15	360.94	361.07	360.46	360.55	6.53	6.40	4.67	4.58
Link1660	23BD041	23BD046.1	Natural	115.93	0.02	2.94	85.53	366.24	366.26	363.32	363.30	12.11	14.86	365.72	365.72	365.72	365.72	0.52	0.52	0.54	0.54
Link1661	23BD046.1	23BD046	Natural	66.38	0.14	2.84	538.46	366.26	365.72	363.20	363.11	27.58	33.74	365.72	365.72	365.72	365.72	0.54	0.54	0.00	0.00
Link1662	23BD044	23BD046.1	Natural	105.18	0.12	3.06	314.59	366.39	366.26	363.33	363.20	3.01	3.71	365.72	365.72	365.72	365.72	0.67	0.67	0.54	0.54
Link1665	23AC073	23AC099	Circular	180.73	0.33	1.00	1.91	365.82	363.34	360.40	359.80	1.71	1.70	363.59	363.59	363.34	363.34	2.23	2.23	0.00	0.00
Link1666	23AC099	23AC071	Circular	52.53	0.19	1.00	1.44	363.34	365.00	359.80	359.70	3.31	3.43	363.34	363.34	363.54	363.89	0.00	0.00	1.47	1.11
Link1667	23AC076	23AC075	Circular	31.32	0.32	0.50	0.29	367.70	369.12	367.20	367.10	0.47	0.47	367.70	367.70	367.26	367.26	0.00	0.00	1.87	1.87
Link1668	23AC075	23AC093	Natural	43.00	2.56	2.02	339.80	369.12	368.02	367.10	366.00	0.47	0.47	367.26	367.26	364.19	364.46	1.87	1.87	3.84	3.56
Link1669	23AC084	23AC084.1	Circular	15.31	3.27	1.00	5.98	365.62	366.70	362.00	361.50	1.07	0.92	363.89	364.17	363.89	364.16	1.73	1.45	2.82	2.54
Link1672	23DD002	23DD025	Natural	67.50	4.97	3.08	423.35	374.08	372.56	371.91	368.56	0.80	1.03	372.11	372.13	371.35	371.50	1.97	1.95	1.21	1.06
Link1673	23DD010	23DD025	Natural	69.72	3.65	3.31	418.37	373.71	372.56	371.10	368.55	5.90	14.27	371.39	371.61	371.35	371.50	2.32	2.10	1.21	1.06
Link1674	23DD023	23DD003	Circular	23.04	1.08	1.00	3.44	373.11	374.86	370.70	370.45	4.11	5.13	371.55	371.94	371.96	372.32	1.56	1.17	2.90	2.53
Link1675	23DD090	23DD022	Circular	21.53	0.24	1.00	1.63	373.12	373.16	370.80	370.75	4.12	4.94	371.83	372.16	371.54	371.94	1.29	0.96	1.61	1.22
Link1676	23DA042	23DA017	Circular	32.52	1.60	1.00	4.18	371.78	370.19	365.52	365.00	8.30	8.30	369.03	369.03	365.30	365.30	2.75	2.75	4.89	4.89
Link1680	24CB003	23DA017.1	Natural	340.64	0.44	9.83	5071.33	372.33	370.83	362.50	361.00	1.69	1.68	363.79	363.79	363.78	363.79	8.54	8.54	7.05	7.05
Link1681	24CB006	23DA042	Circular	337.80	0.75	1.25	5.19	371.30	371.78	370.05	367.52	0.19	0.19	370.21	370.21	369.03	369.03	1.09	1.09	2.75	2.75
Link1682	25BA026	25BA035	Natural	540.34	0.35	2.42	46.87	395.34	393.43	392.91	391.01	8.90	13.91	393.79	393.99	391.81	391.98	1.55	1.34	1.63	1.46
Link1683	25BA035	25BB002	Natural	440.25	0.25	2.91	83.39	393.43	393.31	391.01	389.91	8.87	13.86	391.81	391.98	390.80	390.97	1.63	1.46	2.52	2.34
Link1684	25BB002	25BB026	Natural	671.49	0.28	3.40	412.56	393.31	391.40	389.91	388.00	8.78	13.71	390.80	390.97	388.99	389.16	2.52	2.34	2.41	2.25
Link1685	25BB026	25BB030	Natural	414.85	0.08	1.00	9.44	391.40	388.68	388.00	387.68	10.02	15.43	388.99	389.16	388.40	388.59	2.41	2.25	0.29	0.09
Link1686	25BB015.1	25BB015	Natural	458.61	0.14	1.61	57.71	388.58	388.00	387.00	386.36	1.30	2.35	387.98	388.02	387.98	388.00	0.59	0.55	0.02	0.00
Link2186	10AD050	10AA080	Circular	172.77	0.19	1.00	1.42	343.30	340.53	337.72	337.40	0.91	1.12	340.70	340.72	340.53	340.53	2.60	2.58	0.00	0.00
Link2187	10AA080	10AA081	Circular	170.03	0.21	1.00	1.52	340.53	341.40	337.40	337.04	1.48	1.54	340.53	340.53	340.56	340.70	0.00	0.00	0.84	0.70
Link2189	11BB002	10AA079.1	Circular	319.62	0.19	1.00	1.43	344.89	342.66	337.50	336.90	1.19	1.33	340.80	341.18	340.40	340.62	4.09	3.71	2.26	2.04
Link2190	10AA079.1	10AA079	Circular	153.57	0.16	1.50	3.86	342.66	342.12	336.90	336.66	2.71	3.31	340.40	340.62	340.45	340.78	2.26	2.04	1.67	1.34
Link2191	02CC016	02CC018	Circular	254.52	0.22	1.50	4.58	344.45	345.39	338.45	337.89	2.43	3.26	340.09	340.76	340.00	340.71	4.36	3.69	5.39	4.68
Link2192	02CC003	02CC015.1	Natural	119.31	0.34	3.42	60.07	343.44	343.80	340.40	340.00	1.25	1.87	340.68	340.89	340.45	340.86	2.76	2.55	3.35	2.94
Link2193	02CC002.1	02CC002	Circular	15.16	1.32	1.00	3.80	342.81	342.83	340.90	340.70	0.30	0.44	341.10	341.14	340.94	340.99	1.71	1.67	1.89	1.84
Link2196	02CC015.1	02CC015	Circular	64.26	0.86	1.00	3.06	343.80	343.86	340.00	339.45	1.28	1.71	340.45	340.86	340.11	340.76	3.35	2.94	3.75	3.10

Hydraulic Model Results - Existing Conditions																					
Santiam River Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
Link2198	25BB019	25BB018	Circular	30.65	0.52	1.00	2.39	390.50	390.71	387.66	387.50	2.55	3.28	388.39	388.50	388.09	388.17	2.10	1.99	2.62	2.54
Link2199	25BB013	25BB020	Natural	218.88	0.59	3.67	296.55	392.64	391.35	388.97	387.68	2.64	3.42	389.44	389.49	388.44	388.54	3.20	3.14	2.91	2.81
Link2200	23DD062	23DD061	Circular	25.03	1.48	1.00	4.02	380.67	381.60	379.67	379.30	0.52	0.68	379.93	379.96	379.47	379.49	0.74	0.71	2.13	2.11
Link2201	23DD056	23DD057	Circular	177.55	0.28	1.00	1.74	382.90	382.69	379.90	379.41	1.44	1.89	380.61	380.77	379.80	379.84	2.29	2.13	2.89	2.85
Link2202	23DD054	23DD055	Circular	67.96	0.53	1.00	2.41	381.36	383.00	380.36	380.00	1.45	1.93	380.94	381.07	380.63	380.78	0.42	0.29	2.36	2.21
Link2204	02CC024	02CC024.1	Natural	102.89	0.85	8.85	4665.95	340.92	340.05	332.07	331.20	38.10	41.58	333.13	333.18	332.18	332.23	7.79	7.74	7.87	7.82
Link2205	02CC010	02CC011	Circular	4.58	9.61	1.00	10.25	343.34	342.65	338.80	338.36	2.86	3.66	340.02	340.89	339.98	340.83	3.32	2.46	2.68	1.82
Link2208	23DD067	25BB014	Circular	295.53	0.96	1.00	3.25	384.86	385.45	382.85	380.00	0.44	0.59	383.12	383.16	380.32	380.37	1.74	1.70	5.13	5.09
Link2209	25BB014	23DD006	Natural	1950.87	0.55	4.04	58.16	385.45	372.00	380.00	369.36	38.23	51.18	380.32	380.37	371.62	371.94	5.13	5.09	0.38	0.06
Link2210	25BB017	25BB014	Circular	297.55	2.40	1.00	5.13	390.36	385.45	387.15	380.00	2.56	3.28	387.75	387.86	380.32	380.37	2.61	2.50	5.13	5.09
Link2211	23DD057	23DD057.1	Natural	56.28	0.73	3.28	155.37	382.69	382.28	379.41	379.00	1.44	1.89	379.80	379.84	379.40	379.47	2.89	2.85	2.88	2.81
Link2212	23DD057.1	23DD057.2	Circular	64.83	2.78	1.00	5.51	382.28	380.00	379.00	377.20	1.43	1.89	379.40	379.47	377.38	377.41	2.88	2.81	2.62	2.60
Link2213	23DD057.2	23DD021	Natural	510.19	1.04	2.33	879.45	380.00	373.75	377.20	371.90	4.66	6.72	377.38	377.41	371.96	372.20	2.62	2.60	1.79	1.56
Link2214	23DD060	23DD057.2	Natural	314.51	0.60	2.69	202.68	381.67	380.00	379.08	377.20	0.53	0.68	379.27	379.29	377.38	377.41	2.40	2.37	2.62	2.60
Link2215	23DA017.1	23DA017.2	Natural	248.84	0.25	6.62	309.44	370.83	363.78	361.00	360.37	9.32	9.92	363.78	363.79	363.78	363.78	7.05	7.05	0.00	0.00
Link2216	23DA017	23DA017.1	Natural	32.89	12.16	7.51	4471.71	370.19	370.83	365.00	361.00	8.30	8.30	365.30	365.30	363.78	363.79	4.89	4.89	7.05	7.05
Link2220	14DB011	14DB011.1	Circular	270.03	0.32	1.00	1.87	357.96	352.00	345.86	345.00	3.41	3.42	352.96	353.19	350.38	350.51	5.01	4.77	1.62	1.49
Link2221	14DB011.1	14DB011.2	Circular	563.74	0.18	1.00	1.39	352.00	351.00	345.00	344.00	3.37	3.41	350.38	350.51	344.79	344.79	1.62	1.49	6.21	6.21

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																					
Santiam River Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
120	23DD053	23DD054	Natural	196.36	0.12	1.00	9.55	381.59	381.36	380.36	380.59	1.08	1.54	381.00	381.09	380.83	380.95	0.59	0.50	0.53	0.41
121	23DD055	23DD056	Natural	65.73	0.15	3.00	142.26	383.00	382.90	379.90	380.00	1.05	1.50	380.52	380.65	380.49	380.63	2.48	2.35	2.41	2.27
124	23DD061	23DD060	Natural	5.79	3.80	2.44	363.15	381.60	381.67	379.08	379.30	0.52	0.68	379.47	379.49	379.28	379.30	2.13	2.11	2.39	2.37
125	23DD063	23DD062	Natural	28.95	0.35	1.00	9.31	380.77	380.67	379.67	379.77	0.52	0.68	379.98	380.01	379.93	379.96	0.79	0.76	0.74	0.71
128	23DD066	23DD067	Natural	154.98	1.30	1.00	69.05	385.86	384.86	382.85	384.86	0.43	0.59	385.03	385.05	383.13	383.17	0.83	0.81	1.73	1.69
205	11BB027	11BB017	Circular	333.35	0.38	4.00	82.33	345.10	345.39	333.56	334.83	78.52	87.46	338.11	339.31	336.99	338.02	6.99	5.79	8.39	7.37
247	10AA073	10AA074	Circular	277.69	0.20	1.50	4.34	342.69	343.05	337.67	338.22	2.58	3.58	339.88	341.92	339.71	341.55	2.81	0.77	3.34	1.50
253	14DD010	14DD012	Circular	153.86	0.46	1.50	6.63	355.86	355.29	349.92	350.63	1.48	2.41	351.35	354.22	351.28	354.14	4.51	1.64	4.00	1.14
255	14DD006	14DD008	Circular	198.11	0.08	1.25	1.65	356.93	355.86	351.54	351.69	0.56	0.92	352.16	354.28	351.37	354.24	4.77	2.65	4.50	1.63
257	14DD012	14DD016	Circular	19.35	1.14	0.83	2.17	355.29	355.45	349.70	349.92	1.50	2.44	351.28	354.14	351.18	353.92	4.00	1.14	4.27	1.53
259	14DD007	14DD008	Circular	57.49	0.02	1.25	0.79	356.98	355.86	350.71	350.72	0.99	1.38	351.41	354.27	351.37	354.24	5.57	2.72	4.50	1.63
262	14DD016	14DD019	Circular	87.66	0.14	1.75	5.44	355.45	355.23	349.58	349.70	5.59	7.99	351.18	353.92	351.07	353.67	4.27	1.53	4.16	1.56
264	14DD015	14DD016	Circular	74.06	0.19	1.25	2.61	355.28	355.45	349.74	349.88	3.38	4.59	351.39	354.34	351.18	353.92	3.90	0.94	4.27	1.53
265	14DD015.1	14DD015	Circular	70.64	0.41	1.25	3.84	356.48	355.28	350.11	350.40	3.40	4.60	351.58	354.74	351.39	354.34	4.89	1.73	3.90	0.94
268	14DD018	14DD017	Circular	106.40	0.02	1.75	2.02	355.65	356.00	349.28	349.30	5.49	8.01	350.96	353.44	350.83	353.13	4.68	2.21	5.17	2.87
270	14DD019	14DD018	Circular	77.15	0.10	1.75	4.74	355.23	355.65	349.50	349.58	5.52	8.00	351.07	353.67	350.96	353.44	4.16	1.56	4.68	2.21
271	14DD017	14DA014	Circular	192.72	0.21	1.75	6.70	356.00	356.16	348.83	349.23	5.52	8.02	350.83	353.13	350.58	352.57	5.17	2.87	5.58	3.58
272	14DA014	14DA025	Circular	84.72	-0.06	1.75	3.57	356.16	355.85	348.83	348.78	5.56	8.05	350.58	352.57	350.47	352.32	5.58	3.58	5.38	3.52
273	14DD001	14DD002	Circular	76.55	0.33	1.25	3.43	357.86	358.90	356.36	356.61	0.34	0.43	356.89	356.92	356.59	356.61	0.98	0.95	2.31	2.29
329	14DA029	14DA011	Circular	31.16	0.26	1.25	3.04	355.40	355.42	351.91	351.99	0.91	1.28	352.43	352.51	349.21	349.67	2.97	2.89	6.21	5.75
377	10DA065	10DA066	Circular	20.50	-0.39	2.00	13.12	349.04	349.34	342.38	342.30	2.08	2.86	344.35	345.08	344.35	345.08	4.69	3.96	4.99	4.26
378	10DA066	10DA067	Circular	187.51	-0.85	2.00	19.40	349.34	349.91	343.40	341.80	2.08	3.88	344.35	345.08	342.91	345.06	4.99	4.26	7.00	4.85
379	10DA014	10DA065	Circular	73.56	0.98	1.00	3.27	349.14	349.04	343.61	344.33	2.09	2.51	344.93	345.40	344.35	345.08	4.21	3.74	4.69	3.96
413	14DB025	14DB045	Circular	35.47	2.48	1.25	9.45	356.15	356.34	349.94	350.82	1.75	2.47	351.30	351.58	351.39	351.65	4.85	4.57	4.96	4.70
414	14DB045	14DB046	Circular	308.12	0.06	2.00	4.93	356.34	355.03	349.77	349.94	6.78	8.91	351.39	351.65	350.12	350.43	4.96	4.70	4.91	4.60
415	14DB046	14DB047	Circular	149.01	0.23	2.00	10.03	355.03	353.35	348.97	349.31	3.19	5.24	350.12	350.43	349.87	350.21	4.91	4.60	3.48	3.14
432	10AA040	10AA075	Circular	65.48	0.15	1.50	3.81	343.41	343.38	336.00	336.10	3.05	4.37	338.28	340.27	338.23	340.20	5.13	3.14	5.15	3.18
433	10AA078.1	10AA078	Circular	65.53	0.43	2.00	13.73	343.13	342.72	335.52	335.80	2.97	4.23	338.13	340.09	338.12	340.07	4.99	3.04	4.60	2.65
434	10AA075	10AA078.1	Circular	124.26	0.16	1.50	3.91	343.38	343.13	335.80	336.00	2.94	4.31	338.23	340.20	338.13	340.09	5.15	3.18	4.99	3.04
435	10AA071	10AA049	Circular	203.86	0.17	1.50	4.04	341.78	341.03	336.00	336.35	3.78	4.39	338.53	340.52	338.27	340.28	3.25	1.26	2.76	0.75
438	10AA049	10AA041	Circular	47.53	0.27	2.00	10.99	341.03	341.60	335.87	336.00	5.54	6.44	338.27	340.28	338.25	340.25	2.76	0.75	3.35	1.35
439	10AA056	10AA053	Circular	275.70	0.03	1.00	0.60	343.84	343.63	339.33	339.42	1.51	1.85	340.91	343.15	340.37	342.33	2.93	0.69	3.26	1.30
440	10AA057	10AA070	Circular	38.69	0.39	1.00	2.06	343.45	343.62	338.55	338.70	1.49	1.84	340.20	342.02	340.15	341.91	3.25	1.43	3.47	1.71
441	10AA053	10AA057	Circular	103.89	0.15	1.00	1.30	343.63	343.45	338.70	338.86	1.50	1.84	340.37	342.33	340.20	342.02	3.26	1.30	3.25	1.43
442	10AA084	10AA070	Circular	36.19	0.30	1.50	5.38	343.24	343.62	338.55	338.66	5.15	5.41	340.24	341.97	340.15	341.91	3.00	1.27	3.47	1.71
445	10AA060	10AA082	Circular	54.27	0.68	1.00	2.73	343.85	343.65	339.84	340.21	5.16	5.49	343.28	343.85	341.99	343.06	0.57	0.00	1.66	0.59
447	10AA081	10AA071	Circular	320.88	0.22	1.00	1.53	341.40	341.78	336.35	337.04	2.06	2.40	339.65	340.84	338.53	340.52	1.75	0.56	3.25	1.26
448	02CC012	02CC020	Circular	306.95	0.10	2.00	6.57	342.75	342.80	338.40	338.70	6.25	7.79	340.02	340.20	339.32	339.45	2.73	2.55	3.48	3.36
449	02CC020	02CC017	Circular	86.40	0.46	2.00	14.29	342.80	343.17	338.00	338.40	6.25	7.78	339.32	339.45	338.78	339.00	3.48	3.36	4.39	4.17
450	02CC017	02CD004	Circular	290.60	0.21	2.00	9.55	343.17	344.05	337.00	337.60	6.33	8.35	338.78	339.00	338.06	338.23	4.39	4.17	5.99	5.82
451	02CD004	02CD005	Circular	89.50	0.22	2.00	9.93	344.05	344.07	336.80	337.00	6.33	8.35	338.06	338.23	337.69	337.83	5.99	5.82	6.38	6.24
452	11BB001	02CC018	Circular	85.94	0.35	1.00	1.95	344.47	345.39	339.07	339.37	0.31	0.78	339.65	339.82	338.78	339.02	4.82	4.65	6.61	6.37
453	02CC018	02CC017	Circular	218.69	0.13	1.50	3.55	345.39	343.17	337.60	337.89	0.50	1.02	338.78	339.02	338.78	339.00	6.61	6.37	4.39	4.17
494	11BC035	11BC030	Circular	392.13	0.46	1.50	6.63	346.88	346.26	340.77	342.58	2.72	3.54	344.24	346.78	343.98	346.26	2.64	0.09	2.28	0.00
498	11BD025	11BC035	Circular	365.65	0.29	1.50	5.25	348.31	346.88	342.79	343.85	2.68	3.55	344.71	347.27	344.24	346.78	3.60	1.04	2.64	0.09
507	11CA020	11CA019	Circular	372.52	0.23	1.50	4.63	349.47	349.04	345.53	346.37	2.04	2.89	347.07	348.15	346.30	347.83	2.40	1.32	2.74	1.22
512	11BD024	11BD023	Circular	388.65	0.38	2.00	12.92	347.42	347.30	342.46	343.93	3.18	4.37	344.61	346.09	343.42	345.91	2.82	1.33	3.88	1.39
513	11BD023	11BC034	Circular	389.14	0.41	2.00	13.43	347.30	346.36	340.86	342.45	4.32	6.01	343.42	345.91	343.04	345.57	3.88	1.39	3.33	0.80
514	11BC034	11BC039	Circular	391.23	0.31	2.00	11.68	346.36	345.58	339.65	340.86	5.49	7.63	343.04	345.57	342.78	345.04	3.33	0.80	2.80	0.54
518	10AA072	10AA060	Circular	197.67	0.36	2.00	12.59	345.04	343.85	340.32	341.03	4.03	6.92	343.35	344.13	343.28	343.85	1.69	0.91	0.57	0.00
565	14CC003	14CC004	Natural	79.52	0.49	2.17	55.76	362.07	361.00	359.17	359.56	1.85	2.14	360.65	361.00	360.65	361.00	1.42	1.07	0.35	0.00
566	14CC044	14CC045	Natural	53.32	0.19	2.35	14.64	361.00	361.00	358.60	358.70	2.21	2.43	360.35	360.54	360.35	360.54	0.65	0.46	0.65	0.46
594	25BB030	25BB015	Natural	157.71	0.84	1.00	20.13	388.68	388.00	386.36	387.68	9.90	15.29	388.39	388.59	387.96	388.00	0.29	0.09	0.04	0.00
601	25BB018	25BB017	Natural	130.75	0.27	3.21	309.52	390.71	390.36	387.15	387.50	1.66	2.30	388.00	388.06	387.61	387.70	2.71	2.64	2.75	2.65
602	25BB020	25BB019	Natural	150.37	0.01	3.25	71.19	391.35	390.50	387.66	387.68	1.67	2.32	388.30	388.40	388.24	388.35	3.05	2.95	2.25	2.14
610	14CC026	14CC011	Circular	78.80	0.04	2.00	4.10	360.50	360.50	357.97	358.00	4.35	4.30	360.32	360.50	360.30	360.50	0.18	0.00	0.20	0.00
611	14CC011	14CC018	Circular	265.93	0.02	2.00	3.16	360.50	360.50	357.91	357.97	4.23	4.32	360.30	360.50	360.23	360.50	0.20	0.00	0.27	0.00
612	14CC018	14CC008	Circular	297.51	0.04	2.00	4.04	360.50	361.10	357.80	357.91	4.18	4.35	360.23	360.50	360.15	360.50	0.27	0.00	0.95	0.60
614	25BB033	25BB013	Natural	319.30	0.07	2.83	44.72	391.18	392.64	388.97	389.18	1.75	2.41	389.61	389.69	389.36	389.42	1.57	1.49	3.27	3.21
617	14CC008	14CC042	Circular	211.98	0.02	2.00	4.56	361.10	361.80	357.70	357.80	4.21	4.39	360.15	360.50	360.10	360.50	0.95	0.60	1.70	1.30
618	14CC042	23BA018	Circular	300.46	0.02	3.00	11.30	361.80	362.90	357.60	357.70	4.29	4.50	360.10	360.50	360.09	360.50	1.70	1.30	2.81	2.40
691.1	14AC006.1	14AC014.1	Circular	206.09	1.69	1.00	4.31	357.05	357.41	350.01	353.50	2.10	2.97	353.99	354.24	350.79	352.28	3.06	2.82	6.62	5.12
770	23AC066	23AC065	Natural	118.37	0.26	5.44	789.51	367.29	366.98	361.54	361.85	3.61	4.63	362.51	362.61	362.41	362.53	4.79	4.68	4.58	4.45
786	23AC063	23AC062	Natural	36.30	0.28	6.33	695.93	367.57	367.47	361.14	361.24	3.60	4.62	362.00	362.07	358.55	358.80	5.57	5.50	8.91	8.67
845	02CC023	02CC024	Circular	140.46	0.65	3.00	49.85	343.01	340.92	331.64	332.55	41.85	51.56	334.54	334.81	333.18	333.30	8.47	8.20	7.74	7.63
846	02CC019	02CC025	Circular	73.17	1.69	2.00	27.28	335.88	343.05	332.65	333.88	-0.07	-0.08	334.67	334.98	334.67	334.98	1.21	0.90	8.38	8.07

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																					
Santiam River Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
847	02CC025	02CC023	Circular	50.01	0.20	2.00	9.39	343.05	343.01	332.55	332.65	11.02	13.16	334.67	334.98	334.54	334.81	8.38	8.07	8.47	8.20
848	03DD017	03DD018	Circular	241.99	0.07	3.00	16.42	339.79	342.26	333.61	333.78	12.05	15.79	336.45	337.54	336.38	337.41	3.34	2.25	5.88	4.85
849	03DD018	02CC026	Circular	289.51	0.05	3.00	14.10	342.26	342.88	333.26	333.41	13.96	18.04	336.38	337.41	336.26	337.21	5.88	4.85	6.62	5.67
850	02CC026	02CC021	Circular	78.11	0.10	3.00	19.82	342.88	343.40	333.18	333.26	30.84	38.39	336.26	337.21	336.06	336.91	6.62	5.67	7.34	6.49
851	02CC026	02CC025	Circular	579.33	0.11	2.00	6.82	342.88	343.05	332.65	333.26	11.02	13.16	336.26	337.21	334.67	334.98	6.62	5.67	8.38	8.07
852	03DD011	02CC027	Circular	530.33	0.12	3.00	21.18	340.60	343.35	333.50	334.12	26.91	34.31	337.38	339.02	336.46	337.51	3.22	1.58	6.89	5.84
853	02CC027	02CC026	Circular	12.78	1.88	2.00	28.79	343.35	342.88	333.26	333.50	26.75	34.28	336.46	337.51	336.26	337.21	6.89	5.84	6.62	5.67
921	14DA012	14DA018	Circular	273.28	0.19	3.00	26.76	354.56	349.84	346.84	347.35	18.96	27.60	349.11	349.53	348.23	348.54	5.45	5.03	1.61	1.30
922	14DA011	14DA012	Circular	131.63	0.37	2.25	17.55	355.42	354.56	347.35	347.84	7.32	10.59	349.21	349.67	349.11	349.53	6.21	5.75	5.45	5.03
923	14DA010	14DA011	Circular	186.00	0.25	2.25	14.46	356.07	355.42	347.84	348.31	5.77	8.47	349.44	349.87	349.21	349.67	6.63	6.20	6.21	5.75
926	11BC029	11BC036	Circular	363.89	0.19	4.00	58.50	344.11	342.42	336.50	337.20	33.63	38.24	340.86	342.72	340.67	342.42	3.25	1.39	1.75	0.00
931	10AD037	10AD036	Circular	351.13	0.10	4.00	42.71	344.02	344.87	337.42	337.78	30.93	36.28	341.36	343.70	341.23	343.44	2.66	0.32	3.64	1.42
938	11BB017	11BA006	Circular	88.50	0.36	4.00	80.21	345.39	345.73	333.24	333.56	79.70	88.89	336.99	338.02	336.71	337.66	8.39	7.37	9.02	8.07
939	11BA006	11BA009	Circular	416.68	0.38	4.00	82.39	345.73	346.77	331.65	333.24	81.23	91.23	336.71	337.66	335.34	335.83	9.02	8.07	11.43	10.94
940	11BA009	11BA005	Circular	139.09	0.19	4.00	57.67	346.77	345.63	331.39	331.65	81.21	91.26	335.34	335.83	334.85	335.17	11.43	10.94	10.78	10.46
941	11BA005	11BA008	Circular	274.01	0.19	4.00	57.54	345.63	334.88	330.88	331.39	81.23	91.30	334.85	335.17	333.61	333.78	10.78	10.46	1.27	1.10
946	11BC037	11BB022	Circular	406.06	0.68	4.00	109.77	344.84	342.41	336.19	338.94	5.77	9.68	340.64	342.58	340.65	342.41	4.20	2.26	1.76	0.00
956	11BD029	11BD030	Circular	380.59	0.38	1.50	5.98	345.22	344.45	339.75	341.18	1.71	2.31	341.75	344.22	341.24	344.01	3.47	1.00	3.21	0.44
957	10AA065	10AA073	Circular	251.75	0.37	1.50	5.96	342.26	342.69	338.50	339.44	2.67	3.57	340.23	342.25	339.88	341.92	2.03	0.01	2.81	0.77
1024	10AA082	10AA054	Circular	197.02	0.36	1.25	3.58	343.65	343.42	339.14	339.84	5.15	5.49	341.99	343.06	340.56	342.18	1.66	0.59	2.86	1.24
1030	03DD008	03DD011	Circular	276.76	0.31	2.00	11.64	341.25	340.60	333.95	334.80	2.04	2.67	337.40	339.06	337.38	339.02	3.85	2.19	3.22	1.58
1037	10AD001	10AD050	Circular	44.82	0.04	1.50	2.06	343.05	343.30	337.72	337.74	0.87	1.14	340.34	341.21	340.33	341.21	2.71	1.84	2.97	2.09
1064	02CC015	02CC016	Natural	66.83	1.50	5.21	46.08	343.86	344.45	338.45	339.45	0.07	0.13	339.53	339.55	338.79	339.02	4.34	4.31	5.67	5.43
1113	10DA090	10DA071.1	Circular	143.07	0.16	1.50	3.91	350.23	351.07	344.20	344.43	3.92	4.64	345.53	345.72	345.18	345.52	4.70	4.51	5.89	5.55
1133	10AD053	10AA072	Circular	474.99	0.16	2.00	8.40	345.02	345.04	341.14	341.90	3.16	4.88	343.46	344.47	343.35	344.13	1.56	0.55	1.69	0.91
1314	23BA018	23BA019	Circular	349.85	0.01	3.00	10.47	362.90	363.96	357.50	357.60	6.09	6.53	360.09	360.50	360.07	360.49	2.81	2.40	3.89	3.47
1318	23BA019	23BA012	Circular	325.91	0.01	3.00	10.85	363.96	365.50	357.40	357.50	6.63	7.23	360.07	360.49	360.04	360.48	3.89	3.47	5.45	5.01
1321	23BA012	23BA014	Circular	99.87	0.04	3.00	13.86	365.50	366.30	357.35	357.40	6.25	6.77	360.04	360.48	360.04	360.48	5.45	5.01	6.26	5.82
1322	23BA014	23BA003	Circular	400.29	0.01	3.00	8.76	366.30	366.75	357.27	357.35	6.13	6.37	360.04	360.48	360.01	360.47	6.26	5.82	6.74	6.28
1323	23BA003	23BA005	Circular	199.27	0.05	3.00	9.81	366.75	366.50	357.22	357.27	6.28	6.53	360.01	360.47	360.00	360.46	6.74	6.28	6.50	6.04
1324	23AC010	23AC011	Circular	142.53	0.04	3.00	10.38	366.93	366.94	357.08	357.12	15.81	16.97	359.97	360.44	359.89	360.37	6.96	6.48	7.05	6.57
1325	23AC011	23AC027	Circular	78.01	0.38	3.00	14.02	366.94	367.00	357.04	357.08	15.84	17.01	359.89	360.37	359.85	360.32	7.05	6.57	7.15	6.67
1326	23AC027	23AC052	Circular	104.48	0.19	3.00	12.12	367.00	367.39	357.00	357.04	16.33	17.46	359.85	360.32	359.79	360.26	7.15	6.67	7.60	7.13
1327	23AC052	23AC054	Circular	95.44	0.31	3.00	28.35	367.39	367.34	356.80	357.00	16.37	17.50	359.79	360.26	359.74	360.21	7.60	7.13	7.60	7.14
1328	23AC054	23AC047	Circular	199.44	0.05	3.00	19.61	367.34	367.50	356.60	356.80	33.41	37.57	359.74	360.21	359.17	359.52	7.60	7.14	8.33	7.99
1329	23AC048	23AC044	Circular	259.48	0.08	2.00	5.83	368.42	368.15	362.80	363.00	2.99	4.18	363.90	364.05	363.32	363.42	4.52	4.36	4.83	4.73
1330	23AC050	23AC048	Circular	240.89	0.17	1.50	3.97	368.84	368.42	363.00	363.40	3.00	4.18	364.36	364.59	363.90	364.05	4.48	4.25	4.52	4.36
1331	23AC053	23AC054	Circular	69.25	0.14	2.00	7.98	366.98	367.34	359.50	359.60	17.92	21.84	361.57	361.89	359.74	360.21	5.40	5.09	7.60	7.14
1334	23AC026	23AC010	Circular	77.44	0.26	1.50	4.96	366.23	366.93	362.50	362.70	9.82	11.18	363.74	363.83	359.97	360.44	2.48	2.40	6.96	6.48
1336	23BD036	23AC026	Circular	120.99	0.17	2.00	8.75	366.18	366.23	362.70	362.91	9.82	11.18	364.32	364.43	363.74	363.83	1.86	1.75	2.48	2.40
1339	23BA005	23BA006	Circular	199.85	0.05	3.00	9.80	366.50	366.27	357.17	357.22	6.38	6.63	360.00	360.46	359.98	360.45	6.50	6.04	6.29	5.82
1342	23BA006	23AC010	Circular	250.18	0.02	3.00	8.76	366.27	366.93	357.12	357.17	6.50	6.74	359.98	360.45	359.97	360.44	6.29	5.82	6.96	6.48
1346	23DA033	23DA028	Circular	254.46	0.24	1.25	2.96	370.26	370.36	365.96	366.58	0.87	1.06	367.05	367.10	366.42	366.48	3.21	3.16	3.93	3.88
1347	23DA028	23DA026	Circular	285.03	0.25	1.25	2.99	370.36	369.99	365.25	365.96	0.87	1.06	366.42	366.48	365.74	365.88	3.93	3.88	4.24	4.11
1348	23DA026	23AD003	Circular	259.64	0.25	1.25	3.00	369.99	369.41	364.60	365.25	0.87	1.10	365.74	365.88	365.46	365.69	4.24	4.11	3.95	3.72
1349	23AD003	23AC051	Circular	250.96	0.25	1.50	4.89	369.41	369.07	363.97	364.60	3.01	4.21	365.46	365.69	364.85	365.09	3.95	3.72	4.22	3.98
1350	23AC051	23AC050	Circular	228.83	0.25	1.50	4.87	369.07	368.84	363.40	363.97	3.00	4.19	364.85	365.09	364.36	364.59	4.22	3.98	4.48	4.25
1351	23DA030	23DA033	Circular	219.22	0.23	1.25	2.89	371.04	370.26	366.58	367.09	0.87	1.06	367.56	367.62	367.05	367.10	3.48	3.42	3.21	3.16
1360	24CC003	24CC002	Circular	249.03	0.40	1.25	3.80	377.17	376.63	371.00	372.00	3.67	4.64	374.76	377.17	373.85	376.02	2.41	0.00	2.77	0.61
1361	24CC002	24CC004	Circular	248.28	0.40	1.25	3.81	376.63	374.86	370.00	371.00	3.68	4.65	373.85	376.02	372.96	374.86	2.77	0.61	1.91	0.00
1362	24CC004	24CB011	Circular	245.64	0.22	1.25	2.84	374.86	371.61	369.45	370.00	6.13	7.82	372.96	374.86	370.41	371.07	1.91	0.00	1.21	0.54
1363	24CB011	24CB010	Circular	140.56	0.26	1.25	3.08	371.61	371.00	369.08	369.45	6.13	7.67	370.41	371.07	369.91	370.53	1.21	0.54	1.09	0.47
1365	24CB010	24CB009	Circular	116.90	0.55	1.25	4.44	371.00	370.96	368.44	369.08	6.12	7.55	369.91	370.53	369.50	370.08	1.09	0.47	1.46	0.88
1366	24CB009	24CB008	Circular	28.73	0.24	1.25	2.96	370.96	371.59	368.37	368.44	6.11	7.55	369.50	370.08	369.43	369.97	1.46	0.88	2.16	1.61
1367	24CB008	23DA036	Circular	149.73	0.25	1.25	2.98	371.59	371.55	368.00	368.37	6.11	7.55	369.43	369.97	369.06	369.40	2.16	1.61	2.49	2.15
1368	23DA036	23DA031	Circular	190.49	0.16	1.25	2.38	371.55	371.40	367.70	368.00	6.10	7.55	369.06	369.40	368.17	368.22	2.49	2.15	3.22	3.17
1369	23DA031	23DA030	Circular	262.16	0.23	1.25	2.89	371.40	371.04	367.09	367.70	0.87	1.06	368.17	368.22	367.56	367.62	3.22	3.17	3.48	3.42
1370	23BD034	23BD033	Circular	76.76	0.20	1.00	1.46	366.40	366.50	363.60	363.75	0.96	1.18	365.29	365.67	365.28	365.65	1.11	0.73	1.22	0.85
1371	23BD035	23BD036	Circular	414.43	0.01	2.00	3.10	366.17	366.18	362.91	363.00	9.82	11.18	365.25	365.60	364.32	364.43	0.92	0.57	1.86	1.75
1412	14CC045	14CC030	Circular	124.75	0.35	2.00	12.48	361.00	360.50	358.16	358.60	2.50	2.69	360.35	360.54	360.35	360.50	0.65	0.46	0.15	0.00
1413	14CC030	14CC007	Circular	40.05	0.15	2.00	8.13	360.50	360.50	358.10	358.16	2.53	2.71	360.35	360.50	360.34	360.50	0.15	0.00	0.16	0.00
1414	14CC007	14CC041	Circular	51.64	0.10	2.00	6.54	360.50	360.50	358.05	358.10	3.27	3.44	360.34	360.50	360.34	360.50	0.16	0.00	0.16	0.00
1415	14CC041	14CC026	Circular	186.87	0.03	2.00	3.44	360.50	360.50	358.00	358.05	3.29	3.46	360.34	360.50	360.32	360.50	0.16	0.00	0.18	0.00
1485	14DA021.1	14DA021	Circular	171.56	0.23	1.25	2.86	360.33	356.39	349.61	350.00	1.88	2.71	350.86	353.04	350.65	352.70	9.46	7.28	5.74	3.69
1486	14DA021	14DA023	Circular	167.08	0.19	1.50	4.20	356.39	355.57	349.21	349.52	2.79	4.04	350.65	352.70	350.51	352.42	5.74	3.69	5.06	3.15
1487	14DA023	14DA025	Circular	57.01	0.39	1.50	6.06	355.57	355.85	348.83	349.05	2.76	4.03	350.51	352.42	350.47	352.32	5.06	3.15	5.38	3.52

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																				
Santiam River Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1492	14DA025	14DA013	Circular	251.67	0.20	1.75	6.62	355.85	354.83	348.12	348.63	8.94	13.11	350.47	352.32	349.56	350.35	5.38	3.52	5.27	4.48
1495	14DA013	14DA012	Circular	135.84	0.57	2.00	15.82	354.83	354.56	347.35	348.12	11.73	17.02	349.56	350.35	349.11	349.53	5.27	4.48	5.45	5.03
1504.1	10AA041	10AA050	Circular	164.76	0.23	2.00	10.09	341.60	341.93	335.49	335.87	6.06	7.29	338.25	340.25	338.14	340.09	3.35	1.35	3.79	1.84
1505.1	10AA050	10AA078	Circular	21.01	0.14	2.00	7.94	341.93	342.72	335.41	335.44	5.96	7.23	338.14	340.09	338.12	340.07	3.79	1.84	4.60	2.65
1506.1	10AA078	10AA066	Circular	116.67	0.18	2.00	8.91	342.72	343.45	335.20	335.41	8.27	10.99	338.12	340.07	337.95	339.84	4.60	2.65	5.50	3.61
1507.1	10AA066	10AA069	Circular	252.25	0.13	3.00	22.40	343.45	342.01	334.50	334.83	19.27	23.22	337.95	339.84	337.71	339.51	5.50	3.61	4.30	2.50
1509.1	10AA042	10AA066	Circular	220.64	0.24	2.00	10.30	343.18	343.45	335.20	335.73	10.75	12.51	338.51	340.61	337.95	339.84	4.67	2.57	5.50	3.61
1514	23DA041	23DA042	Natural	23.44	1.27	7.26	2276.48	372.08	373.78	365.52	365.82	30.40	36.62	367.16	367.70	367.16	367.70	4.91	4.38	6.62	6.08
1514.1	10AA043	10AA036	Circular	96.02	0.20	2.00	9.34	341.34	341.15	335.00	335.19	2.57	3.44	337.43	339.11	337.42	339.09	3.91	2.23	3.73	2.06
1515	10AA036	10AA034	Circular	51.44	0.39	2.00	13.10	341.15	341.05	334.80	335.00	2.51	3.43	337.42	339.09	337.41	339.07	3.73	2.06	3.64	1.98
1517	10AA069	10AA068	Circular	88.99	0.45	3.00	41.52	342.01	343.55	334.10	334.50	20.91	25.72	337.71	339.51	337.62	339.37	4.30	2.50	5.93	4.18
1518	23DA043	23DA044	Natural	321.27	0.75	4.66	343.91	372.46	371.00	365.87	368.28	31.59	41.35	369.89	370.96	369.69	370.96	2.58	1.50	1.31	0.04
1518.1	10AA068	10AA067	Circular	67.87	0.06	3.00	15.04	343.55	344.51	334.06	334.10	20.91	25.71	337.62	339.37	337.55	339.26	5.93	4.18	6.96	5.25
1519	10AA067	03DD012	Circular	89.85	0.28	3.00	32.67	344.51	342.92	333.81	334.06	20.93	25.70	337.55	339.26	337.46	339.11	6.96	5.25	5.46	3.81
1520	23DD025	23DA015	Natural	170.78	0.03	4.00	78.12	372.56	372.50	368.50	368.55	31.44	41.61	370.69	371.16	370.26	371.05	1.87	1.39	2.24	1.45
1520.1	03DD012	03DD011	Circular	59.60	0.35	3.00	36.76	342.92	340.60	333.60	333.81	20.94	25.68	337.46	339.11	337.38	339.02	5.46	3.81	3.22	1.58
1523	23DD003	23DD024	Natural	15.59	11.79	4.56	1456.93	374.86	373.32	368.61	370.45	-18.31	-44.66	371.40	372.24	371.23	371.89	3.46	2.62	2.09	1.43
1524	23DD007	23DD024	Natural	41.59	1.41	4.13	420.03	372.75	373.32	368.61	369.20	35.41	43.12	371.17	371.88	371.23	371.89	1.58	0.87	2.09	1.43
1524.1	10AA079	10AA040	Circular	322.12	0.17	1.50	4.07	342.12	343.41	336.10	336.66	1.99	2.58	338.35	340.30	338.28	340.27	3.77	1.82	5.13	3.14
1526	02CC009	02CC010	Circular	38.24	0.52	1.00	2.39	341.35	343.34	338.80	339.00	0.13	0.20	339.17	339.21	338.88	339.04	2.18	2.14	4.46	4.30
1527	23DD022	23DD023	Natural	48.08	0.10	2.41	112.57	373.16	373.11	370.70	370.75	3.08	4.11	371.38	371.88	371.36	371.88	1.78	1.28	1.75	1.23
1528	02CC011	02CC017	Circular	408.98	0.19	1.50	4.20	342.65	343.17	337.60	338.36	-0.19	-0.22	338.79	339.01	338.78	339.00	3.87	3.64	4.39	4.17
1529	23DD021	23DD090	Natural	367.13	0.05	2.55	46.26	373.75	373.12	370.80	370.97	3.16	4.34	371.78	371.96	371.61	371.93	1.97	1.79	1.51	1.19
1550	11CA042	11DB026	Circular	150.60	0.14	1.00	1.24	351.76	351.00	348.41	348.62	1.10	1.58	349.29	349.47	348.94	349.06	2.47	2.29	2.06	1.94
1552	11DB026	11DB021	Circular	249.44	0.31	1.25	3.33	351.00	350.56	347.64	348.41	1.09	1.57	348.94	349.06	347.96	348.02	2.06	1.94	2.60	2.54
1553	11DB021	11DB028	Circular	150.77	1.26	1.50	10.95	350.56	351.72	345.74	347.64	1.09	1.57	347.96	348.02	345.44	345.52	2.60	2.54	6.27	6.20
1554	11DB024	11DB022	Circular	144.81	0.32	3.00	34.91	351.06	350.16	345.38	345.84	1.73	2.25	349.78	349.77	349.77	349.77	1.28	1.29	0.39	0.39
1555	11DB025	11DB024	Circular	113.47	1.77	1.00	4.40	352.16	351.06	347.17	349.18	0.81	0.72	349.94	349.84	349.78	349.77	2.22	2.32	1.28	1.29
1556	11DA009	11DB025	Circular	254.96	0.13	1.00	1.17	357.66	352.16	349.18	349.50	0.64	0.72	350.07	350.09	349.94	349.84	7.59	7.57	2.22	2.32
1577	14DA028	14DA029	Circular	103.19	0.33	1.00	1.90	355.91	355.40	352.19	352.53	0.91	1.28	353.02	353.13	352.43	352.51	2.89	2.78	2.97	2.89
1584	14DB048	14DA010	Circular	324.23	0.17	2.25	11.95	353.60	356.07	348.31	348.87	3.78	5.94	349.81	350.16	349.44	349.87	3.80	3.44	6.63	6.20
1585	14DB047	14DB048	Circular	66.78	0.15	2.25	11.13	353.35	353.60	348.87	348.97	3.19	5.21	349.87	350.21	349.81	350.16	3.48	3.14	3.80	3.44
1596	14DB036	14DB050	Circular	351.07	0.23	1.00	1.58	356.89	360.60	351.92	352.72	0.51	0.87	353.13	353.27	352.26	352.38	3.76	3.63	8.34	8.22
1599	14DB050	14DB049	Circular	239.72	0.29	1.25	3.22	360.60	360.58	351.23	351.92	0.51	0.87	352.26	352.38	351.76	351.92	8.34	8.22	8.82	8.66
1601	14DB049	14DB025	Circular	201.26	0.20	1.25	2.71	360.58	356.15	350.82	351.23	0.99	1.55	351.76	351.92	351.30	351.58	8.82	8.66	4.85	4.57
1603	14DA010.1	14DA010	Circular	29.59	5.54	1.25	14.12	356.12	356.07	352.36	354.00	2.01	2.64	354.32	354.37	349.44	349.87	1.80	1.75	6.63	6.20
1608	14DB052	14DB053	Circular	294.30	0.48	1.25	4.17	356.63	354.62	351.05	352.47	1.56	2.01	353.00	353.09	351.91	352.04	3.63	3.54	2.70	2.57
1609	14DB053	14DB045.1	Circular	135.52	0.18	2.00	9.02	354.62	355.91	350.80	351.05	3.76	4.82	351.91	352.04	351.50	351.68	2.70	2.57	4.42	4.23
1611	14DB045.1	14DB045	Circular	91.50	0.94	2.00	20.37	355.91	356.34	349.94	350.80	4.20	5.38	351.50	351.68	351.39	351.65	4.42	4.23	4.96	4.70
1617	14BD013	14BD029	Circular	123.93	0.17	1.50	4.02	353.72	353.30	350.70	350.91	4.06	5.31	353.51	353.66	353.30	353.30	0.21	0.06	0.00	0.00
1618	14BD029	14BD014	Circular	14.46	0.21	1.50	4.44	353.30	353.30	350.67	350.70	3.64	3.62	353.30	353.30	353.29	353.30	0.00	0.00	0.01	0.00
1619	14BD014	14BD015	Circular	166.03	0.32	1.50	5.51	353.30	354.17	350.04	350.57	3.67	3.64	353.29	353.30	353.18	353.29	0.01	0.00	0.99	0.88
1620	14BD015	14AC029	Circular	217.60	0.30	1.50	5.37	354.17	353.20	349.38	350.04	4.81	4.74	353.18	353.29	352.81	353.10	0.99	0.88	0.39	0.10
1621	14AC029	14AC012	Circular	189.56	0.39	1.50	6.09	353.20	353.70	348.64	349.38	5.72	5.62	352.81	353.10	352.27	352.73	0.39	0.10	1.43	0.97
1622	14AC012	14AC013	Circular	309.11	0.38	1.50	6.03	353.70	355.22	347.46	348.64	6.33	6.20	352.27	352.73	351.08	351.77	1.43	0.97	4.14	3.45
1623	14AC013	14AC007	Circular	198.67	0.04	1.50	1.96	355.22	356.46	347.38	347.46	7.13	6.93	351.08	351.77	350.11	350.92	4.14	3.45	6.35	5.54
1624	14AC014.1	14AC007	Circular	173.49	0.87	1.00	3.09	357.41	356.46	348.47	349.98	2.13	2.98	350.79	352.28	350.11	350.92	6.62	5.12	6.35	5.54
1625	14AC007	14DB001	Circular	156.30	0.74	2.00	18.10	356.46	356.91	346.22	347.38	9.50	10.24	350.11	350.92	349.80	350.55	6.35	5.54	7.12	6.36
1626	14DB001	14DB003	Circular	157.54	0.23	2.00	10.04	356.91	359.35	345.86	346.22	10.03	11.00	349.80	350.55	349.44	350.12	7.12	6.36	9.90	9.22
1843	10DD072	10DD073	Circular	204.02	0.46	1.25	4.07	351.35	351.69	346.24	347.18	1.48	1.87	347.70	347.78	346.89	347.05	3.65	3.57	4.80	4.64
1849	10DD068	10DD069	Circular	208.15	0.25	1.75	7.35	350.72	351.01	344.90	345.42	1.86	2.25	346.04	346.13	345.66	345.85	4.67	4.58	5.34	5.16
1852	10DD069	10DA071	Circular	339.54	0.01	3.00	4.75	351.01	350.74	344.13	344.15	9.51	11.72	345.66	345.85	344.47	345.43	5.34	5.16	6.28	5.31
1856	10DD059	10DD073	Circular	17.12	0.64	1.75	11.79	351.63	351.69	345.73	345.84	2.33	2.86	346.89	347.05	346.89	347.05	4.75	4.58	4.80	4.64
1858	11CC010	11CC026	Circular	78.39	0.18	1.00	1.40	351.09	350.97	346.35	346.49	2.34	2.87	347.58	347.92	347.21	347.35	3.50	3.17	3.76	3.62
1861	11CC026	10DD059	Circular	346.34	0.15	1.75	5.65	350.97	351.63	345.84	346.35	2.33	2.86	347.21	347.35	346.89	347.05	3.76	3.62	4.75	4.58
1865	11BC042	11BC029	Circular	381.68	0.39	2.00	13.12	345.19	344.11	338.97	340.46	4.53	5.78	341.34	343.04	340.86	342.72	3.85	2.15	3.25	1.39
1867	11BC039	11BC029	Circular	320.72	0.17	2.50	15.77	345.58	344.11	338.97	339.52	29.65	33.29	342.78	345.04	340.86	342.72	2.80	0.54	3.25	1.39
1870	11BC030	11BC039	Circular	325.72	0.30	2.50	20.78	346.26	345.58	339.65	340.62	23.15	26.71	343.98	346.26	342.78	345.04	2.28	0.00	2.80	0.54
1871	11CB039	11BC030	Circular	326.74	0.29	2.50	20.43	347.92	346.26	340.77	341.71	19.22	21.44	344.80	347.26	343.98	346.26	3.11	0.66	2.28	0.00
1872	11CB055	11CB039	Circular	331.64	0.06	2.50	9.58	349.08	347.92	341.98	342.19	11.97	13.95	345.09	347.48	344.80	347.26	4.00	1.60	3.11	0.66
1873	11CB040	11CB055	Circular	323.59	0.61	1.50	7.65	350.02	349.08	343.28	345.27	2.44	3.09	345.85	347.82	345.09	347.48	4.16	2.20	4.00	1.60
1874	11CB041	11CB040	Circular	368.41	0.31	1.50	5.40	349.02	350.02	345.57	346.70	0.94	1.38	347.15	347.90	345.85	347.82	1.88	1.12	4.16	2.20
1894	10DD073	10DD069	Circular	269.45	0.31	1.75	8.17	351.69	351.01	344.90	345.73	6.23	7.60	346.89	347.05	345.66	345.85	4.80	4.64	5.34	5.16
1903	10DA071	10DA070	Circular	90.59	0.35	3.00	36.81	350.74	350.49	342.81	343.13	15.59	18.95	344.47	345.43	343.91	345.38	6.28	5.31	6.58	5.12
1904	11CB042	10DA070	Circular	196.05	0.42	1.75	9.52	350.38	350.49	343.56	344.38	4.02	4.88	345.19	345.54	343.91	345.38	5.19	4.84	6.58	5.12
1905	11CB067	11CB042	Circular	201.65	0.41	1.50	6.22	350.58	350.38	344.38	345.20	3.16	3.85	345.96	346.06	345.19	345.54	4.62	4.52	5.19	4.84

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																				
Santiam River Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1911	10DA070	10DA067	Circular	266.60	0.34	3.00	36.18	350.49	349.91	341.40	342.31	20.12	24.35	343.91	345.38	342.91	345.06	6.58	5.12	7.00	4.85
1917	10DA067	10DA062	Circular	298.54	0.59	3.00	47.55	349.91	349.22	339.64	341.40	22.15	26.15	342.91	345.06	341.95	344.62	7.00	4.85	7.27	4.60
1924	10DA062	10DA088	Circular	302.54	0.23	3.50	44.94	349.22	348.49	338.94	339.64	24.99	28.69	341.95	344.62	341.73	344.37	7.27	4.60	6.76	4.12
1928	10DA088	10AD025	Circular	376.53	0.23	3.50	44.91	348.49	346.89	338.07	338.94	29.95	34.15	341.73	344.37	341.46	343.90	6.76	4.12	5.43	3.00
1931	10AD030	10AD025	Circular	207.34	0.24	1.25	2.95	347.61	346.89	339.99	340.49	1.87	2.59	341.53	344.06	341.46	343.90	6.08	3.55	5.43	3.00
1933	11CB010	11CB005	Circular	121.96	-0.03	1.00	0.60	349.99	349.40	346.55	346.51	2.29	2.72	347.88	348.54	347.20	347.73	2.11	1.46	2.21	1.67
1934	11CB005	10DA063	Circular	118.82	0.99	1.00	3.30	349.40	348.93	344.37	345.55	2.29	2.72	347.20	347.73	346.63	346.95	2.21	1.67	2.29	1.98
1941	10DA071.1	10DA071	Circular	67.53	0.10	1.50	3.14	351.07	350.74	344.13	344.20	3.92	4.64	345.18	345.52	344.47	345.43	5.89	5.55	6.28	5.31
1945	10DA082	10DA090	Circular	86.79	0.92	0.83	1.95	350.26	350.23	345.52	346.32	2.06	2.44	347.04	347.44	345.53	345.72	3.21	2.81	4.70	4.51
1947	10DA080	10DA090	Circular	152.58	0.15	1.00	1.28	349.52	350.23	345.52	345.75	1.88	2.22	346.71	346.92	345.53	345.72	2.81	2.59	4.70	4.51
1964	10DA077	10DA063	Circular	212.73	0.63	1.00	2.64	348.26	348.93	344.37	345.72	0.97	1.17	346.81	347.21	346.63	346.95	1.45	1.05	2.29	1.98
1966	10DA063	10DA089	Circular	83.02	-2.91	1.00	5.65	348.93	349.12	344.95	342.53	3.26	3.88	346.63	346.95	343.86	345.76	2.29	1.98	5.26	3.37
1967	10DA089	10DA062	Circular	99.46	0.28	1.00	1.76	349.12	349.22	342.14	342.42	3.26	3.89	343.86	345.76	341.95	344.62	5.26	3.37	7.27	4.60
1969	10DA060	10DA088	Circular	212.77	0.05	1.50	2.11	348.64	348.49	341.19	341.29	4.61	5.88	342.65	345.00	341.73	344.37	5.99	3.64	6.76	4.12
1973	10AD029	10AD030	Circular	215.20	0.48	1.00	2.30	347.93	347.61	341.85	342.89	1.12	1.33	343.40	344.30	341.53	344.06	4.53	3.63	6.08	3.55
1975	10AD026	10AD030	Circular	69.45	-1.66	1.25	7.72	347.01	347.61	341.85	340.70	0.74	1.04	342.40	344.07	341.53	344.06	4.61	2.94	6.08	3.55
2087	11CB057	11CB055	Circular	362.58	0.65	2.00	16.91	348.89	349.08	343.28	345.63	1.04	1.43	345.97	347.50	345.09	347.48	2.93	1.39	4.00	1.60
2094	11CA021	11CB056	Circular	395.56	0.55	1.50	7.22	348.78	347.38	344.45	346.62	1.79	2.38	347.13	347.68	345.31	347.38	1.65	1.10	2.07	0.00
2097	11CB056	11CB055	Circular	374.96	0.31	2.00	11.73	347.38	349.08	343.28	344.45	2.86	3.50	345.31	347.38	345.09	347.48	2.07	0.00	4.00	1.60
2103	11CB054	11CB039	Circular	395.59	0.53	2.00	15.34	347.71	347.92	341.98	344.09	4.33	6.25	345.10	347.62	344.80	347.26	2.61	0.09	3.11	0.66
2105	11CA019	11CB054	Circular	383.59	0.26	2.00	10.73	349.04	347.71	344.53	345.53	3.15	4.59	346.30	347.83	345.10	347.62	2.74	1.22	2.61	0.09
2117	11BD030	11BD028	Circular	18.59	-0.59	1.50	7.50	344.45	344.51	339.84	339.73	2.32	3.29	341.24	344.01	341.23	343.99	3.21	0.44	3.27	0.52
2118	11BD028	11BC038	Circular	339.11	0.17	1.50	4.07	344.51	344.46	339.19	339.78	4.07	5.74	341.23	343.99	340.82	342.99	3.27	0.52	3.64	1.47
2119	11BC038	11BC037	Circular	59.63	0.18	1.50	4.19	344.46	344.84	339.08	339.19	6.20	8.80	340.82	342.99	340.64	342.58	3.64	1.47	4.20	2.26
2168	11BC012	11BC010	Circular	147.82	0.39	2.00	13.16	344.70	344.82	341.63	342.21	3.89	4.94	342.96	343.29	342.38	343.15	1.74	1.41	2.44	1.67
2169	11BC010	11BC042	Circular	301.12	0.39	2.00	13.09	344.82	345.19	340.46	341.63	3.89	4.87	342.38	343.15	341.34	343.04	2.44	1.67	3.85	2.15
2170	11BC040	11BC012	Circular	207.42	0.40	1.50	6.13	345.80	344.70	342.21	343.03	2.19	2.81	343.66	343.76	342.96	343.29	2.15	2.04	1.74	1.41
2175	11BC036	11BB022	Circular	38.51	0.80	4.00	119.67	342.42	342.41	336.19	336.50	35.73	39.03	340.67	342.42	340.65	342.41	1.75	0.00	1.76	0.00
2177.1	10AA051	11BB021	Circular	365.75	0.11	4.00	44.11	343.62	342.83	336.59	336.99	31.99	40.73	341.06	343.13	340.86	342.79	2.56	0.48	1.97	0.04
2178	11BB021	11BB022	Circular	384.15	0.10	4.00	43.04	342.83	342.41	336.19	336.59	32.93	42.43	340.86	342.79	340.65	342.41	1.97	0.04	1.76	0.00
2185.1	10AD036	10AD035	Circular	259.46	0.25	4.00	66.76	344.87	344.26	337.13	337.78	29.75	36.28	341.23	343.44	341.13	343.25	3.64	1.42	3.13	1.01
2186.1	10AD035	10AA051	Circular	137.32	0.10	4.00	42.59	344.26	343.62	336.99	337.13	30.74	38.43	341.13	343.25	341.06	343.13	3.13	1.01	2.56	0.48
2188	10AD025	10AD037	Circular	279.75	0.10	4.00	42.95	346.89	344.02	337.78	338.07	30.73	34.83	341.46	343.90	341.36	343.70	5.43	3.00	2.66	0.32
2189	10AA054	10AA084	Circular	123.66	0.14	1.50	3.62	343.42	343.24	338.66	338.83	5.15	5.46	340.56	342.18	340.24	341.97	2.86	1.24	3.00	1.27
2254	10AA048	10AA074	Circular	252.78	0.32	2.00	11.82	343.32	343.05	337.67	338.47	6.29	6.73	339.94	341.75	339.71	341.55	3.38	1.57	3.34	1.50
2259	10AA070	10AA048	Circular	201.88	0.04	2.00	4.18	343.62	343.32	338.47	338.55	6.40	7.05	340.15	341.91	339.94	341.75	3.47	1.71	3.38	1.57
2268	10AA074	10AA042	Circular	471.26	0.03	2.00	3.75	343.05	343.18	337.52	337.67	8.70	9.59	339.71	341.55	338.51	340.61	3.34	1.50	4.67	2.57
2289	03DD029	03DD017	Circular	109.51	0.11	3.00	20.50	339.70	339.79	333.78	333.90	10.99	14.49	336.48	337.58	336.45	337.54	3.23	2.12	3.34	2.25
2290	03DD031	03DD029	Circular	33.85	0.15	2.50	14.64	339.67	339.70	333.90	333.95	10.92	14.43	336.50	337.62	336.48	337.58	3.17	2.05	3.23	2.12
2298	10AA034	03DD011	Circular	229.04	0.30	2.00	11.45	341.05	340.60	334.12	334.80	2.49	3.42	337.41	339.07	337.38	339.02	3.64	1.98	3.22	1.58
2347	11DB028	11DB029	Circular	79.79	0.00	4.00	4.22	351.72	349.00	345.00	345.00	1.09	1.57	345.44	345.52	345.29	345.35	6.27	6.20	3.71	3.65
2380	23AC047	23AC060	Circular	152.73	0.07	3.00	27.45	367.50	367.86	356.30	356.60	33.43	37.61	359.17	359.52	358.72	358.99	8.33	7.99	9.14	8.87
2381	23AC044	23AC060	Circular	77.68	0.90	2.00	19.94	368.15	367.86	362.10	362.80	2.99	4.18	363.32	363.42	358.72	358.99	4.83	4.73	9.14	8.87
2384	23AC064	23AC063	Circular	135.56	0.11	2.00	6.99	367.51	367.57	361.24	361.39	3.60	4.62	362.30	362.42	362.00	362.07	5.21	5.09	5.57	5.50
2385	23AC065	23AC064	Circular	52.10	0.17	2.00	8.73	366.98	367.51	361.45	361.54	3.60	4.62	362.41	362.53	362.30	362.42	4.58	4.45	5.21	5.09
2386	23AC067	23AC066	Circular	39.48	0.53	2.00	15.32	367.09	367.29	361.67	361.88	3.63	4.65	362.61	362.71	362.51	362.61	4.48	4.37	4.79	4.68
2387	23AC068	23AC067	Circular	167.68	0.07	2.00	5.62	366.14	367.09	361.88	362.00	3.63	4.65	362.96	363.09	362.61	362.71	3.18	3.05	4.48	4.37
2388	23AB009	23AC068	Circular	282.93	0.01	2.00	1.77	366.57	366.14	362.45	362.47	2.85	3.58	363.45	363.56	362.96	363.09	3.12	3.01	3.18	3.05
2389	23AB004	23AB003	Circular	88.08	-0.18	2.00	8.95	365.85	366.12	362.73	362.57	1.90	2.34	363.55	363.66	363.51	363.62	2.30	2.19	2.61	2.50
2392	23AB007	23AB004	Circular	193.49	0.07	2.00	5.65	365.53	365.85	362.60	362.74	1.91	2.35	363.64	363.75	363.55	363.66	1.89	1.78	2.30	2.19
2401	02CC021	02CC022	Circular	171.24	0.12	3.00	21.69	343.40	341.65	332.97	333.18	30.83	38.39	336.06	336.91	335.68	336.32	7.34	6.49	5.97	5.33
2402	02CC022	02CC023	Circular	395.77	0.11	3.00	20.18	341.65	343.01	332.55	332.97	30.83	38.40	335.68	336.32	334.54	334.81	5.97	5.33	8.47	8.20
2463	24CB013	24CB003	Circular	39.64	0.91	1.00	3.16	363.86	372.33	362.50	362.86	0.07	0.14	362.98	363.02	362.54	362.56	0.89	0.84	9.79	9.77
2538	23BD030	23BD040	Circular	52.52	0.50	0.67	0.79	366.30	366.30	363.47	363.73	1.06	1.26	365.56	366.09	365.31	365.69	0.74	0.21	0.99	0.61
2540	23BD040	23BD041	Circular	195.02	0.03	1.00	0.53	366.30	366.24	363.32	363.37	1.05	1.25	365.31	365.69	365.27	365.64	0.99	0.61	0.97	0.61
2545	23BD033	23BD035	Circular	205.65	0.24	1.00	1.63	366.50	366.17	363.00	363.50	0.95	1.17	365.28	365.65	365.25	365.60	1.22	0.85	0.92	0.57
2546	23BD046	23BD035	Circular	13.29	1.13	2.00	19.11	366.30	366.17	363.00	363.11	9.41	10.71	365.27	365.64	365.25	365.60	1.03	0.66	0.92	0.57
2616	11BB028	11BB027	Circular	394.96	0.16	4.00	52.85	344.57	345.10	334.83	335.45	75.37	83.83	339.31	340.75	338.11	339.31	5.26	3.82	6.99	5.79
2617	11BB022	11BB028	Circular	465.76	0.16	4.00	53.17	342.41	344.57	335.45	336.19	73.94	81.70	340.65	342.41	339.31	340.75	1.76	0.00	5.26	3.82
2621	11BB029	11BB001	Circular	36.86	1.17	1.00	3.57	344.55	344.47	339.37	339.80	0.31	0.78	340.00	340.13	339.65	339.82	4.55	4.42	4.82	4.65
2623	02CC002	02CC003	Circular	53.63	0.56	1.00	2.47	342.83	343.44	340.40	340.70	0.00	0.01	340.73	340.75	340.46	340.48	2.10	2.08	2.98	2.96
2644	11DB019	11DB019.1	Circular	343.01	0.00	3.00	1.96	349.76	350.00	345.00	345.00	-0.48	0.22	349.76	349.76	349.85	349.77	0.00	0.00	0.16	0.23
2645	11DB022	11DB019	Circular	80.31	0.47	3.00	42.60	350.16	349.76	345.00	345.38	2.30	2.94	349.77	349.77	349.76	349.76	0.39	0.39	0.00	0.00
2936	14CC048	14CC003	Circular	47.63	1.07	1.00	3.42	361.57	362.07	359.56	360.07	2.34	2.98	360.71	361.08	360.65	361.00	0.86	0.49	1.42	1.07
3162	23AC071	23AC053	Circular	61.44	0.16	2.00	8.47	365.00	366.98	359.60	359.70	13.37	16.17	361.80	362.19	361.57	361.89	3.20	2.82	5.40	5.09
3164	23AC088	23AC099	Circular	104.11	0.19	2.00	9.21	364.21	363.34	359.80	360.00	10.01	12.42	362.16	362.72	362.00	362.48	2.05	1.49	1.35	0.86
3206	23DA044	23DA041	Circular	110.89	0.05	2.00	4.64	371.00	372.08	365.82	365.87	30.40	36.62	369.69	370.96	367.16	367.70	1.31	0.04	4.91	4.38

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																					
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xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
3207	24CB004	24CB006	Circular	141.61	0.16	1.50	3.85	371.30	375.26	369.00	369.22	2.78	3.85	370.07	370.23	369.50	369.57	1.23	1.07	5.76	5.69
3209	23DA015	23DA043	Circular	86.90	0.25	4.00	67.26	372.50	372.46	368.28	368.50	31.80	42.09	370.26	371.05	369.89	370.96	2.24	1.45	2.58	1.50
3212	23DD006	23DD007	Rectangular	34.05	0.47	2.00	72.07	372.00	372.75	369.20	369.36	34.26	49.96	371.12	371.85	371.17	371.88	0.88	0.15	1.58	0.87
3213	23DD024	23DD025	Circular	39.57	0.16	2.25	11.47	373.32	372.56	368.55	368.61	33.05	43.24	371.23	371.89	370.69	371.16	2.09	1.43	1.87	1.39
3286	03DD032	03DD031	Circular	28.45	0.21	1.50	4.48	340.63	339.67	334.12	334.18	10.91	14.42	336.80	338.12	336.50	337.62	3.84	2.51	3.17	2.05
3287	03DD033	03DD032	Circular	6.51	0.00	2.00	0.66	340.48	340.63	334.15	334.15	11.31	14.28	336.81	338.15	336.80	338.12	3.67	2.33	3.84	2.51
3290	03DD036	03DD033	Circular	121.24	0.42	2.50	24.70	340.58	340.48	334.15	334.66	13.04	16.52	336.88	338.30	336.81	338.15	3.70	2.28	3.67	2.33
3291	03DD037	03DD036	Circular	225.65	-0.09	2.00	6.41	340.59	340.58	335.30	335.09	13.18	16.54	337.61	339.39	336.88	338.30	2.98	1.20	3.70	2.28
3292	03DD038	03DD037	Circular	29.03	-1.21	1.50	10.71	340.49	340.59	335.62	335.27	1.63	1.94	337.61	339.40	337.61	339.39	2.88	1.09	2.98	1.20
3295	03DD041	03DD038	Circular	243.16	-0.51	1.50	6.99	342.22	340.49	336.98	335.73	1.68	2.10	337.81	339.47	337.61	339.40	4.42	2.75	2.88	1.09
3297	03DD041.1	03DD041	Circular	84.67	0.33	1.50	5.61	340.08	342.22	337.62	337.90	0.00	-0.20	337.90	339.47	337.81	339.47	2.18	0.62	4.42	2.75
3298	03DD043	03DD037	Circular	80.21	0.17	1.25	2.51	340.60	340.59	335.62	335.76	3.72	4.70	337.91	339.81	337.61	339.39	2.69	0.79	2.98	1.20
3300	03DD045	03DD043	Circular	278.97	-0.13	1.25	2.12	341.88	340.60	336.81	336.46	3.74	4.74	338.96	341.37	337.91	339.81	2.92	0.51	2.69	0.79
3475	25BB015	25BB014	Circular	45.26	4.22	1.00	6.80	388.00	385.45	384.45	386.36	7.81	7.88	387.96	388.00	380.28	380.33	0.04	0.00	5.17	5.13
3505	23DB009	23AC087	Circular	1138.72	0.20	1.00	1.49	367.50	363.76	360.52	362.82	0.70	0.77	363.35	363.46	362.01	362.49	4.15	4.04	1.75	1.27
3505	23DB009	23AC087	Trapezoidal	1138.72	0.00	1.50	27.68	367.50	363.76	360.52	362.82	3.99	5.62	363.35	363.46	362.01	362.49	4.15	4.04	1.75	1.27
3513	23DB007	23DB013	Circular	474.90	0.08	2.00	6.02	368.43	365.68	360.93	361.32	4.03	4.77	362.67	363.48	362.54	363.32	5.76	4.95	3.14	2.36
3517	23DB001	23DB009	Circular	528.64	0.98	1.00	2.53	369.50	367.50	362.92	366.00	0.82	1.12	366.39	366.47	363.35	363.46	3.11	3.03	4.15	4.04
3517	23DB001	23DB009	Trapezoidal	528.64	0.00	1.50	47.02	369.50	367.50	362.92	366.00	4.02	5.48	366.39	366.47	363.35	363.46	3.11	3.03	4.15	4.04
3523	23DB013	23AC081	Circular	395.86	0.08	2.00	5.97	365.68	367.65	360.61	360.93	3.67	4.14	362.54	363.32	362.47	363.19	3.14	2.36	5.18	4.46
3526	23AC084.1	23AC082	Circular	447.55	0.04	2.00	4.44	366.70	364.61	360.20	360.40	5.05	5.87	362.46	363.16	362.24	362.84	4.24	3.54	2.37	1.78
3527	23AC081	23AC084.1	Circular	64.56	0.33	2.00	11.98	367.65	366.70	360.40	360.61	3.45	4.06	362.47	363.19	362.46	363.16	5.18	4.46	4.24	3.54
3534	23AC087	23AC073	Circular	122.55	0.10	1.00	1.04	363.76	365.82	360.40	360.52	0.43	0.43	362.01	362.49	362.00	362.49	1.75	1.27	3.82	3.34
3534	23AC087	23AC073	Trapezoidal	122.55	0.00	1.50	19.28	363.76	365.82	360.40	360.52	4.93	6.96	362.01	362.49	362.00	362.49	1.75	1.27	3.82	3.34
3535	23AC082	23AC088	Circular	169.09	0.12	2.00	7.22	364.61	364.21	360.00	360.20	4.80	5.86	362.24	362.84	362.16	362.72	2.37	1.78	2.05	1.49
3544	23AC093	23AC084	Circular	40.52	1.23	0.50	0.58	368.02	365.62	362.00	362.50	1.88	1.95	367.31	367.89	362.53	363.21	0.71	0.14	3.09	2.41
3565	14DC012	14DD007	Circular	92.21	1.20	1.25	6.58	365.04	356.98	350.72	351.83	1.00	1.38	352.16	354.31	351.41	354.27	12.88	10.73	5.57	2.72
3567	14DA037	14DA035	Circular	34.95	0.20	1.25	2.68	357.66	357.34	349.18	349.25	2.06	2.61	350.08	350.97	350.01	350.91	7.58	6.69	7.32	6.43
3569	14DA038	14DA037	Circular	372.00	0.51	1.00	2.37	359.26	357.66	349.25	351.16	2.06	2.62	351.89	353.25	350.08	350.97	7.38	6.02	7.58	6.69
3572	14DD024	14DD015.1	Circular	134.51	0.42	1.00	2.13	359.82	356.48	350.40	350.96	0.44	0.70	351.61	354.80	351.58	354.74	8.21	5.02	4.89	1.73
3574	14DA035	14DA032	Circular	174.31	0.26	1.25	3.05	357.34	354.34	348.73	349.18	2.41	3.14	350.01	350.91	349.54	350.44	7.32	6.43	4.80	3.90
Link1635	11CB065	11CB058	Circular	340.53	0.01	1.00	0.31	349.68	350.00	346.30	346.33	1.00	1.24	347.24	347.46	346.84	346.93	2.44	2.22	3.16	3.07
Link1650	14DD008	14DD010	Circular	21.79	0.37	1.50	5.91	355.86	355.86	350.63	350.71	1.52	2.37	351.37	354.24	351.35	354.22	4.50	1.63	4.51	1.64
Link1651	14DA032	14DA013	Circular	35.59	1.71	1.25	7.85	354.34	354.83	348.12	348.73	2.42	3.14	349.54	350.44	349.56	350.35	4.80	3.90	5.27	4.48
Link1654	14CC005	14CC006	Natural	65.52	0.15	1.95	23.74	361.00	361.00	359.00	359.10	1.39	1.51	360.62	360.98	360.62	360.98	0.38	0.02	0.38	0.02
Link1655	14CC004	14CC005	Circular	27.50	0.25	1.00	1.67	361.00	361.00	359.10	359.17	1.31	1.33	360.65	361.00	360.62	360.98	0.35	0.00	0.38	0.02
Link1656	14CC006	14CC044	Circular	147.62	0.20	1.00	1.49	361.00	361.00	358.70	359.00	2.00	2.20	360.62	360.98	360.35	360.54	0.38	0.02	0.65	0.46
Link1657	23AB003	23AB009	Circular	112.53	0.23	2.00	10.10	366.12	366.57	362.47	362.73	1.90	2.35	363.51	363.62	363.45	363.56	2.61	2.50	3.12	3.01
Link1658	23AC060	23AC062	Circular	43.14	0.23	3.00	29.82	367.86	367.47	356.20	356.30	36.08	41.67	358.72	358.99	358.55	358.80	9.14	8.87	8.91	8.67
Link1659	23AC062	23AC061	Circular	91.03	0.22	3.00	29.03	367.47	365.13	356.00	356.20	39.00	46.00	358.55	358.80	358.03	358.21	8.91	8.67	7.10	6.92
Link1660	23BD041	23BD046.1	Natural	115.93	0.02	3.36	209.50	366.24	367.00	363.20	363.32	13.94	16.62	365.27	365.64	365.27	365.64	0.97	0.61	1.73	1.36
Link1661	23BD046.1	23BD046	Natural	66.38	0.14	3.50	538.46	367.00	366.30	363.11	363.20	9.65	11.08	365.27	365.64	365.27	365.64	1.73	1.36	1.03	0.66
Link1662	23BD044	23BD046.1	Natural	105.18	0.12	3.43	314.59	366.39	367.00	363.20	363.33	2.11	2.56	365.27	365.64	365.27	365.64	1.12	0.75	1.73	1.36
Link1665	23AC073	23AC099	Circular	180.73	0.33	1.00	1.91	365.82	363.34	359.80	360.40	0.34	0.33	362.00	362.49	362.00	362.48	3.82	3.34	1.35	0.86
Link1665	23AC073	23AC099	Trapezoidal	180.73	0.00	1.50	35.49	365.82	363.34	359.80	360.40	5.34	7.50	362.00	362.49	362.00	362.48	3.82	3.34	1.35	0.86
Link1666	23AC099	23AC071	Circular	52.53	0.19	2.00	9.17	363.34	365.00	359.70	359.80	13.36	16.16	362.00	362.48	361.80	362.19	1.35	0.86	3.20	2.82
Link1667	23AC076	23AC075	Circular	31.32	3.19	1.00	5.91	368.40	369.12	366.00	367.00	2.70	3.52	367.57	368.00	367.33	367.89	0.83	0.40	1.80	1.24
Link1668	23AC075	23AC093	Natural	43.00	2.56	3.07	323.98	369.12	368.02	365.00	366.00	-31.31	-28.78	367.33	367.89	367.31	367.89	1.80	1.24	0.71	0.14
Link1669	23AC084	23AC084.1	Circular	15.31	3.27	1.00	5.98	365.62	366.70	361.50	362.00	1.87	1.95	362.53	363.21	362.46	363.16	3.09	2.41	4.24	3.54
Link1672	23DD002	23DD025	Natural	67.50	4.97	3.08	423.35	374.08	372.56	368.56	371.91	0.80	1.03	372.11	372.13	370.69	371.16	1.97	1.95	1.87	1.39
Link1673	23DD010	23DD025	Natural	69.72	3.65	3.31	418.37	373.71	372.56	368.55	371.10	0.56	0.73	371.25	371.26	370.69	371.16	2.46	2.44	1.87	1.39
Link1674	23DD023	23DD003	Circular	23.04	1.08	1.00	3.44	373.11	374.86	370.45	370.70	3.07	4.10	371.36	371.88	371.40	372.24	1.75	1.23	3.46	2.62
Link1675	23DD090	23DD022	Circular	21.53	0.24	1.00	1.63	373.12	373.16	370.75	370.80	3.08	4.11	371.61	371.93	371.38	371.88	1.51	1.19	1.78	1.28
Link1676	23DA042	23DA017	Circular	32.52	1.60	2.00	26.56	373.78	370.19	365.00	365.52	33.39	40.34	367.16	367.70	365.54	365.57	6.62	6.08	4.65	4.62
Link1680	24CB003	23DA017.1	Natural	340.64	0.44	9.83	5071.33	372.33	370.83	361.00	362.50	0.07	0.14	362.54	362.56	362.35	362.45	9.79	9.77	8.49	8.38
Link1681	24CB006	23DA042	Natural	337.80	0.44	6.26	1336.40	375.26	373.78	367.52	369.00	2.73	3.81	369.50	369.57	367.16	367.70	5.76	5.69	6.62	6.08
Link1682	25BA026	25BA035	Natural	540.34	0.35	2.42	46.87	395.34	393.43	391.01	392.91	8.90	13.91	393.79	393.99	391.81	391.98	1.55	1.34	1.63	1.46
Link1683	25BA035	25BB002	Natural	440.25	0.25	2.91	83.39	393.43	393.31	389.91	391.01	8.87	13.86	391.81	391.98	390.80	390.97	1.63	1.46	2.52	2.34
Link1684	25BB002	25BB026	Natural	671.49	0.28	3.40	412.56	393.31	391.40	388.00	389.91	8.78	13.71	390.80	390.97	388.99	389.15	2.52	2.34	2.41	2.25
Link1685	25BB026	25BB030	Natural	414.85	0.08	1.00	9.44	391.40	388.68	387.68	388.00	9.93	15.32	388.99	389.15	388.39	388.59	2.41	2.25	0.29	0.09
Link1686	25BB015.1	25BB015	Natural	458.61	0.14	1.61	57.71	388.58	388.00	386.36	387.00	1.25	2.25	387.96	388.02	387.96	388.00	0.61	0.55	0.04	0.00
Link1848	11CB058	11CB067	Circular	374.10	0.29	1.00	1.79	350.00	350.58	345.20	346.30	0.99	1.23	346.84	346.93	345.96	346.06	3.16	3.07	4.62	4.52
Link2186	10AD050	10AA080	Circular	172.77	0.19	1.00	1.42	343.30	341.01	337.40	337.72	0.84	1.15	340.33	341.21	340.25	341.01	2.97	2.09	0.76	0.00
Link2187	10AA080	10AA081	Circular	170.03	0.21	1.00	1.52	341.01	341.40	337.04	337.40	2.09	2.46	340.25	341.01	339.65	340.84	0.76	0.00	1.75	0.56
Link2189	11BB002	10AA079.1	Circular	319.62	0.19	1.00	1.43	344.89	342.66	336.90	337.50	1.13	1.33	338.49	340.75	338.36	340.29	6.40	4.14	4.30	2.37
Link2190	10AA079.1	10AA079	Circular	153.57	0.16	1.50	3.86	342.66	342.12	336.66	336.90	1.09	1.33	338.36	340.29	338.35	340.30	4.30	2.37	3.77	1.82
Link2191	02CC016	02CC018	Circular	254.52	0.22	1.50	4.58	344.45	345.39	337.89	338.45	-0.10	-0.17	338.79	339.02	338.78	339.02	5.67	5.43	6.61	6.37
Link2192	02CC003	02CC015.1	Natural	119.31	0.34	3.42	60.07	343.44	343.80	340.00	340.40	0.07	0.13	340.46	340.48	340.12	340.16	2.98	2.96	3.68	3.64
Link2193	02CC002.1	02CC002	Circular	15.16	1.32	1.00	3.80	342.81	342.83	340.70	340.90	0.00	0.01	340.92	340.94	340.73	340.75	1.89	1.87	2.10	2.08
Link2196	02CC015.1	02CC015	Circular	64.26	0.86	1.00	3.06	343.80	343.86	339.45	340.00	0.07	0.13	340.12	340.16	339.53	339.55	3.68	3.64	4.34	4.31

Hydraulic Model Results - Existing Conditions - Capital Improvement Plan Projects																					
Santiam River Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
Link2198	25BB019	25BB018	Circular	30.65	0.52	1.00	2.39	390.50	390.71	387.50	387.66	1.66	2.30	388.24	388.35	388.00	388.06	2.25	2.14	2.71	2.64
Link2199	25BB013	25BB020	Natural	218.88	0.59	3.67	296.55	392.64	391.35	387.68	388.97	1.72	2.38	389.36	389.42	388.30	388.40	3.27	3.21	3.05	2.95
Link2200	23DD062	23DD061	Circular	25.03	1.48	1.00	4.02	380.67	381.60	379.30	379.67	0.52	0.68	379.93	379.96	379.47	379.49	0.74	0.71	2.13	2.11
Link2201	23DD056	23DD057	Circular	177.55	0.28	1.00	1.74	382.90	382.69	379.41	379.90	1.05	1.49	380.49	380.63	379.75	379.81	2.41	2.27	2.93	2.88
Link2202	23DD054	23DD055	Circular	67.96	0.53	1.00	2.41	381.36	383.00	380.00	380.36	1.06	1.51	380.83	380.95	380.52	380.65	0.53	0.41	2.48	2.35
Link2204	02CC024	02CC024.1	Natural	102.89	0.85	8.85	4665.95	340.92	340.05	331.20	332.07	41.85	51.56	333.18	333.30	332.24	332.35	7.74	7.63	7.81	7.70
Link2205	02CC010	02CC011	Circular	4.58	9.61	1.00	10.25	343.34	342.65	338.36	338.80	0.13	0.26	338.88	339.04	338.79	339.01	4.46	4.30	3.87	3.64
Link2208	23DD067	25BB014	Circular	295.53	0.96	1.00	3.25	384.86	385.45	380.00	382.85	0.43	0.59	383.13	383.17	380.28	380.33	1.73	1.69	5.17	5.13
Link2209	25BB014	23DD006	Natural	1950.87	0.55	4.04	58.16	385.45	372.00	369.36	380.00	28.77	39.91	380.28	380.33	371.12	371.85	5.17	5.13	0.88	0.15
Link2210	25BB017	25BB014	Circular	297.55	2.40	1.00	5.13	390.36	385.45	380.00	387.15	1.66	2.31	387.61	387.70	380.28	380.33	2.75	2.65	5.17	5.13
Link2211	23DD057	23DD057.1	Natural	56.28	0.73	3.28	155.37	382.69	382.28	379.00	379.41	1.05	1.49	379.75	379.81	379.34	379.41	2.93	2.88	2.94	2.87
Link2212	23DD057.1	23DD057.2	Circular	64.83	2.78	1.00	5.51	382.28	380.00	377.20	379.00	1.05	1.49	379.34	379.41	377.36	377.38	2.94	2.87	2.64	2.62
Link2213	23DD057.2	23DD021	Natural	510.19	1.04	2.33	879.45	380.00	373.75	371.90	377.20	3.29	4.65	377.36	377.38	371.78	371.96	2.64	2.62	1.97	1.79
Link2214	23DD060	23DD057.2	Natural	314.51	0.60	2.69	202.68	381.67	380.00	377.20	379.08	0.53	0.68	379.28	379.30	377.36	377.38	2.39	2.37	2.64	2.62
Link2215	23DA017.1	23DA017.2	Natural	248.84	0.25	6.73	309.44	370.83	364.00	360.37	361.00	33.39	40.34	362.35	362.45	361.34	361.43	8.49	8.38	2.66	2.57
Link2216	23DA017	23DA017.1	Natural	32.89	12.16	7.51	4471.71	370.19	370.83	361.00	365.00	33.39	40.34	365.54	365.57	362.35	362.45	4.65	4.62	8.49	8.38
Link2226	23DA031	23DA042	Circular	51.73	4.21	2.00	43.12	371.40	373.78	365.52	367.70	5.23	6.49	368.17	368.22	367.16	367.70	3.22	3.17	6.62	6.08
Link2227	14DB003	14DB046	Circular	292.70	-1.19	2.00	22.87	359.35	355.03	349.31	345.84	-4.62	-5.13	349.44	350.12	350.12	350.43	9.90	9.22	4.91	4.60

Hydraulic Model Results - Full Buildout Conditions - Capital Improvement Plan Projects																					
Santiam River Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
120	23DD053	23DD054	Natural	196.36	0.12	1.00	9.55	381.59	381.36	380.59	380.36	1.49	1.99	381.08	381.17	380.94	381.07	0.51	0.42	0.42	0.29
121	23DD055	23DD056	Natural	65.73	0.15	3.00	142.26	383.00	382.90	380.00	379.90	1.44	1.90	380.63	380.78	380.61	380.77	2.36	2.21	2.29	2.13
124	23DD061	23DD060	Natural	5.79	3.80	2.44	363.15	381.60	381.67	379.30	379.08	0.52	0.68	379.47	379.49	379.27	379.29	2.13	2.11	2.40	2.37
125	23DD063	23DD062	Natural	28.95	0.35	1.00	9.31	380.77	380.67	379.77	379.67	0.52	0.68	379.98	380.01	379.93	379.96	0.79	0.76	0.74	0.71
128	23DD066	23DD067	Natural	154.98	1.30	1.00	69.05	385.86	384.86	384.86	382.85	0.43	0.59	385.03	385.05	383.12	383.16	0.83	0.81	1.74	1.70
205	11BB027	11BB017	Circular	333.35	0.38	4.00	82.33	345.10	345.39	334.83	333.56	78.84	87.69	338.13	339.32	337.02	338.02	6.97	5.78	8.37	7.36
247	10AA073	10AA074	Circular	277.69	0.20	1.50	4.34	342.69	343.05	338.22	337.67	2.76	1.39	341.07	341.82	340.86	341.35	1.62	0.87	2.19	1.70
253	14DD010	14DD012	Circular	153.86	0.46	1.50	6.63	355.86	355.29	350.63	349.92	2.18	2.53	354.26	355.35	354.21	355.25	1.60	0.51	1.08	0.04
255	14DD006	14DD008	Circular	198.11	0.08	1.25	1.65	356.93	355.86	351.69	351.54	0.70	0.91	354.28	355.41	354.27	355.36	2.64	1.52	1.60	0.50
257	14DD012	14DD016	Circular	19.35	1.14	0.83	2.17	355.29	355.45	349.92	349.70	2.21	2.53	354.21	355.25	354.08	354.97	1.08	0.04	1.37	0.48
259	14DD007	14DD008	Circular	57.49	0.02	1.25	0.79	356.98	355.86	350.72	350.71	1.20	1.61	354.29	355.40	354.27	355.36	2.69	1.58	1.60	0.50
262	14DD016	14DD019	Circular	87.66	0.14	1.75	5.44	355.45	355.23	349.70	349.58	8.24	8.58	354.08	354.97	353.81	354.73	1.37	0.48	1.42	0.50
264	14DD015	14DD016	Circular	74.06	0.19	1.25	2.61	355.28	355.45	349.88	349.74	5.69	6.15	354.70	355.28	354.08	354.97	0.58	0.00	1.37	0.48
265	14DD015.1	14DD015	Circular	70.64	0.41	1.25	3.84	356.48	355.28	350.40	350.11	5.12	6.47	355.19	356.07	354.70	355.28	1.28	0.41	0.58	0.00
268	14DD018	14DD017	Circular	106.40	0.02	1.75	2.02	355.65	356.00	349.30	349.28	8.24	8.65	353.57	354.51	353.24	354.22	2.08	1.13	2.76	1.78
270	14DD019	14DD018	Circular	77.15	0.10	1.75	4.74	355.23	355.65	349.58	349.50	8.24	8.61	353.81	354.73	353.57	354.51	1.42	0.50	2.08	1.13
271	14DD017	14DA014	Circular	192.72	0.21	1.75	6.70	356.00	356.16	349.23	348.83	8.25	8.68	353.24	354.22	352.64	353.68	2.76	1.78	3.51	2.47
272	14DA014	14DA025	Circular	84.72	-0.06	1.75	3.57	356.16	355.85	348.78	348.83	8.27	8.72	352.64	353.68	352.38	353.45	3.51	2.47	3.47	2.40
273	14DD001	14DD002	Circular	76.55	0.33	1.25	3.43	357.86	358.90	356.61	356.36	0.34	0.43	356.89	356.92	356.59	356.61	0.98	0.95	2.31	2.29
329	14DA029	14DA011	Circular	31.16	0.26	1.25	3.04	355.40	355.42	351.99	351.91	0.91	1.28	352.43	352.51	349.75	350.19	2.97	2.89	5.68	5.23
377	10DA065	10DA066	Circular	20.50	-0.39	2.00	13.12	349.04	349.34	342.30	342.38	2.08	2.58	344.35	345.03	344.35	345.03	4.69	4.01	4.99	4.31
378	10DA066	10DA067	Circular	187.51	-0.85	2.00	19.40	349.34	349.91	341.80	343.40	2.08	3.30	344.35	345.03	342.94	345.02	4.99	4.31	6.97	4.89
379	10DA014	10DA065	Circular	73.56	0.98	1.00	3.27	349.14	349.04	344.33	343.61	2.09	2.51	344.93	345.38	344.35	345.03	4.21	3.76	4.69	4.01
413	14DB025	14DB045	Circular	35.47	2.48	1.25	9.45	356.15	356.34	350.82	349.94	2.07	2.82	351.36	351.92	351.43	351.88	4.79	4.23	4.92	4.47
414	14DB045	14DB046	Circular	308.12	0.06	2.00	4.93	356.34	355.03	349.94	349.77	7.10	8.97	351.43	351.88	350.71	351.33	4.92	4.47	4.32	3.70
415	14DB046	14DB047	Circular	149.01	0.23	2.00	10.03	355.03	353.35	349.31	348.97	7.66	9.66	350.71	351.33	350.45	351.02	4.32	3.70	2.90	2.33
432	10AA040	10AA075	Circular	65.48	0.15	1.50	3.81	343.41	343.38	336.10	336.00	3.98	3.11	339.49	340.89	339.41	340.88	3.92	2.52	3.97	2.50
433	10AA078.1	10AA078	Circular	65.53	0.43	2.00	13.73	343.13	342.72	335.80	335.52	3.91	2.70	339.27	340.88	339.25	340.88	3.86	2.25	3.47	1.84
434	10AA075	10AA078.1	Circular	124.26	0.16	1.50	3.91	343.38	343.13	336.00	335.80	3.95	2.89	339.41	340.88	339.27	340.88	3.97	2.50	3.86	2.25
435	10AA071	10AA049	Circular	203.86	0.17	1.50	4.04	341.78	341.03	336.35	336.00	3.64	2.52	339.70	341.01	339.42	340.98	2.09	0.77	1.61	0.06
438	10AA049	10AA041	Circular	47.53	0.27	2.00	10.99	341.03	341.60	336.00	335.87	5.37	4.19	339.42	340.98	339.40	340.96	1.61	0.06	2.20	0.64
439	10AA056	10AA053	Circular	275.70	0.03	1.00	0.60	343.84	343.63	339.42	339.33	1.51	1.88	342.05	343.43	341.62	342.58	1.79	0.41	2.01	1.05
440	10AA057	10AA070	Circular	38.69	0.39	1.00	2.06	343.45	343.62	338.70	338.55	1.47	1.88	341.45	342.25	341.39	342.13	2.00	1.20	2.23	1.49
441	10AA053	10AA057	Circular	103.89	0.15	1.00	1.30	343.63	343.45	338.86	338.70	1.48	1.88	341.62	342.58	341.45	342.25	2.01	1.05	2.00	1.20
442	10AA084	10AA070	Circular	36.19	0.30	1.50	5.38	343.24	343.62	338.66	338.55	5.31	3.79	341.46	342.19	341.39	342.13	1.78	1.06	2.23	1.49
445	10AA060	10AA082	Circular	54.27	0.68	1.25	4.95	343.85	343.65	340.21	339.84	5.19	3.80	343.13	343.83	342.79	343.14	0.72	0.02	0.86	0.51
447	10AA081	10AA071	Circular	320.88	0.22	1.00	1.53	341.40	341.78	337.04	336.35	1.99	1.46	340.77	340.70	339.70	341.01	0.63	0.70	2.09	0.77
448	02CC012	02CC020	Circular	306.95	0.10	2.00	6.57	342.75	342.80	338.70	338.40	6.64	8.16	340.16	340.84	339.74	340.41	2.59	1.91	3.06	2.40
449	02CC020	02CC017	Circular	86.40	0.46	2.00	14.29	342.80	343.17	338.40	338.00	6.60	8.11	339.74	340.41	339.67	340.30	3.06	2.40	3.50	2.87
450	02CC017	02CD004	Circular	290.60	0.21	2.00	9.55	343.17	344.05	337.60	337.00	12.75	15.49	339.67	340.30	338.57	338.78	3.50	2.87	5.48	5.27
451	02CD004	02CD005	Circular	89.50	0.22	2.00	9.93	344.05	344.07	337.00	336.80	12.74	15.49	338.57	338.78	338.08	338.22	5.48	5.27	5.99	5.85
452	11BB001	02CC018	Circular	85.94	0.35	1.00	1.95	344.47	345.39	339.37	339.07	3.09	4.18	340.64	341.92	340.00	340.71	3.83	2.56	5.39	4.68
453	02CC018	02CC017	Circular	218.69	0.13	1.50	3.55	345.39	343.17	337.89	337.60	4.40	5.45	340.00	340.71	339.67	340.30	5.39	4.68	3.50	2.87
494	11BC035	11BC030	Circular	392.13	0.46	1.50	6.63	346.88	346.26	342.58	340.77	2.67	3.58	344.27	346.77	344.02	346.26	2.61	0.11	2.25	0.00
498	11BD025	11BC035	Circular	365.65	0.29	1.50	5.25	348.31	346.88	343.85	342.79	2.67	3.56	344.72	347.24	344.27	346.77	3.59	1.07	2.61	0.11
507	11CA020	11CA019	Circular	372.52	0.23	1.50	4.63	349.47	349.04	346.37	345.53	2.04	2.94	347.07	348.11	346.30	347.88	2.40	1.36	2.74	1.16
512	11BD024	11BD023	Circular	388.65	0.38	2.00	12.92	347.42	347.30	343.93	342.46	3.28	4.51	344.62	346.11	343.44	345.93	2.81	1.31	3.85	1.36
513	11BD023	11BC034	Circular	389.14	0.41	2.00	13.43	347.30	346.36	342.45	340.86	4.39	6.16	343.44	345.93	343.08	345.59	3.85	1.36	3.28	0.77
514	11BC034	11BC039	Circular	391.23	0.31	2.00	11.68	346.36	345.58	340.86	339.65	5.49	7.79	343.08	345.59	342.83	345.05	3.28	0.77	2.75	0.52
518	10AA072	10AA060	Circular	197.67	0.36	2.00	12.59	345.04	343.85	341.03	340.32	4.24	1.84	343.19	344.42	343.13	343.83	1.85	0.62	0.72	0.02
565.1	14CC003	14CC004	Natural	79.52	0.49	2.19	55.76	362.11	361.00	359.56	359.17	1.92	3.16	360.73	363.73	360.73	363.72	1.38	0.38	0.27	0.00
566.1	14CC044	14CC045	Natural	53.32	0.19	2.35	14.64	361.00	361.00	358.70	358.60	2.33	3.00	360.41	362.51	360.41	362.51	0.59	0.31	0.59	0.00
594	25BB030	25BB015	Natural	157.71	0.84	1.00	20.13	388.68	388.00	387.68	386.36	9.98	15.40	388.40	388.59	387.98	388.00	0.29	0.09	0.02	0.00
601	25BB018	25BB017	Natural	130.75	0.27	3.21	309.52	390.71	390.36	387.50	387.15	2.55	3.28	388.09	388.17	387.75	387.86	2.62	2.54	2.61	2.50
602	25BB020	25BB019	Natural	150.37	0.01	3.25	71.19	391.35	390.50	387.68	387.66	2.58	3.32	388.44	388.54	388.39	388.50	2.91	2.81	2.10	1.99
610.1	14CC026	14CC011	Circular	78.80	0.04	2.00	4.10	360.50	360.50	358.00	357.97	4.30	3.19	360.37	362.68	360.34	362.66	0.13	0.37	0.16	0.32
611.1	14CC011	14CC018	Circular	265.93	0.02	2.00	3.16	360.50	360.50	357.97	357.91	4.32	3.18	360.34	362.66	360.26	362.60	0.16	0.32	0.24	0.31
612.1	14CC018	14CC008	Circular	297.51	0.04	2.00	4.04	360.50	361.10	357.91	357.80	4.35	3.18	360.26	362.60	360.16	362.53	0.24	0.31	0.94	0.32
614	25BB033	25BB013	Natural	319.30	0.07	2.83	44.72	391.18	392.64	389.18	388.97	2.68	3.46	389.72	389.79	389.44	389.49	1.46	1.39	3.20	3.14
617.1	14CC008	14CC042	Circular	211.98	0.05	2.00	4.56	361.10	361.80	357.80	357.70	4.38	3.18	360.16	362.53	360.09	362.30	0.94	0.32	1.71	0.00
618.1	14CC042	23BA018	Circular	300.46	0.03	3.00	11.30	361.80	362.45	357.70	357.60	4.47	-2.21	360.09	362.30	360.08	362.45	1.71	0.00	2.37	0.00
691.1	14AC006.1	14AC014.1	Circular	206.09	1.69	1.00	4.31	357.05	357.41	353.50	350.01	2.10	2.97	353.99	354.11	350.59	350.78	3.06	2.94	6.82	6.63
770	23AC066	23AC065	Natural	118.37	0.26	5.44	789.51	367.29	366.98	361.85	361.54	4.14	5.22	362.56	362.67	362.47	362.59	4.73	4.63	4.51	4.39
786	23AC063	23AC062	Natural	36.30	0.28	6.33	695.93	367.57	367.47	361.24	361.14	4.13	5.20	362.04	362.11	358.71	361.09	5.53	5.46	8.76	6.38
845	02CC023	02CC024	Circular	140.46	0.65	3.00	49.85	343.01	340.92	332.55	331.64	49.30	41.58	334.74	334.53	333.27	333.18	8.27	8.48	7.65	7.74
846	02CC019	02CC025	Circular	73.17	1.69	2.00	27.28	335.88	343.05	333.88	332.65	-0.07	-0.08	334.91	334.67	334.91	334.67	0.97	1.22	8.14	8.38

Hydraulic Model Results - Full Buildout Conditions - Capital Improvement Plan Projects																				
Santiam River Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
847	02CC025	02CC023	Circular	50.01	0.20	2.00	9.39	343.05	343.01	332.65	332.55	12.66	10.95	334.91	334.67	334.74	334.53	8.14	8.38	8.27	8.48
848	03DD017	03DD018	Circular	241.99	0.07	3.00	16.42	339.79	342.26	333.78	333.61	16.59	19.03	337.33	336.75	337.20	336.55	2.46	3.04	5.06	5.71
849	03DD018	02CC026	Circular	289.51	0.05	3.00	14.10	342.26	342.88	333.41	333.26	18.57	21.55	337.20	336.55	336.98	336.23	5.06	5.71	5.90	6.65
850	02CC026	02CC021	Circular	78.11	0.10	3.00	19.82	342.88	343.40	333.26	333.18	36.64	30.63	336.98	336.23	336.73	336.04	5.90	6.65	6.67	7.36
851	02CC026	02CC025	Circular	579.33	0.11	2.00	6.82	342.88	343.05	333.26	332.65	12.67	10.96	336.98	336.23	334.91	334.67	5.90	6.65	8.14	8.38
852	03DD011	02CC027	Circular	530.33	0.05	3.00	14.23	340.60	343.35	333.68	333.40	30.51	17.55	338.25	339.59	337.01	336.34	2.35	1.01	6.34	7.01
853	02CC027	02CC026	Circular	12.78	1.10	3.00	64.82	343.35	342.88	333.40	333.26	30.45	17.25	337.01	336.34	336.98	336.23	6.34	7.01	5.90	6.65
921	14DA012	14DA018	Circular	273.28	0.19	3.00	26.76	354.56	349.84	347.35	346.84	28.27	34.27	349.56	349.85	348.56	348.74	5.00	4.70	1.28	1.10
922	14DA011	14DA012	Circular	131.63	0.37	2.25	17.55	355.42	354.56	347.84	347.35	11.71	15.18	349.75	350.19	349.56	349.85	5.68	5.23	5.00	4.70
923	14DA010	14DA011	Circular	186.00	0.25	2.25	14.46	356.07	355.42	348.31	347.84	10.16	13.05	349.99	350.57	349.75	350.19	6.08	5.50	5.68	5.23
926	11BC029	11BC036	Circular	363.89	0.19	4.00	58.50	344.11	342.42	337.20	336.50	33.95	38.73	340.99	342.74	340.80	342.42	3.12	1.37	1.61	0.00
931	10AD037	10AD036	Circular	351.13	0.10	4.00	42.71	344.02	344.87	337.78	337.42	31.18	36.09	341.49	343.71	341.35	343.45	2.53	0.31	3.52	1.42
938	11BB017	11BA006	Circular	88.50	0.36	4.00	80.21	345.39	345.73	333.56	333.24	80.09	88.91	337.02	338.02	336.74	337.66	8.37	7.36	9.00	8.07
939	11BA006	11BA009	Circular	416.68	0.38	4.00	82.39	345.73	346.77	333.24	331.65	81.76	91.28	336.74	337.66	335.36	335.83	9.00	8.07	11.41	10.94
940	11BA009	11BA005	Circular	139.09	0.19	4.00	57.67	346.77	345.63	331.65	331.39	81.75	91.32	335.36	335.83	334.86	335.17	11.41	10.94	10.77	10.46
941	11BA005	11BA008	Circular	274.01	0.19	4.00	57.54	345.63	334.88	331.39	330.88	81.77	91.35	334.86	335.17	333.62	333.78	10.77	10.46	1.26	1.10
946	11BC037	11BB022	Circular	406.06	0.68	4.00	109.77	344.84	342.41	338.94	336.19	6.12	11.53	340.78	342.49	340.78	342.41	4.05	2.35	1.62	0.00
956	11BD029	11BD030	Circular	380.59	0.38	1.50	5.98	345.22	344.45	341.18	339.75	1.70	2.28	341.79	344.53	341.43	344.28	3.42	0.69	3.02	0.17
957	10AA065	10AA073	Circular	251.75	0.37	1.50	5.96	342.26	342.69	339.44	338.50	2.74	1.49	341.25	342.26	341.07	341.82	1.01	0.00	1.62	0.87
1024	10AA082	10AA054	Circular	197.02	0.36	1.25	3.58	343.65	343.42	339.84	339.14	5.21	3.80	342.79	343.14	341.70	342.37	0.86	0.51	1.72	1.05
1030	03DD008	03DD011	Circular	276.76	0.31	2.00	11.64	341.25	340.60	334.80	333.95	2.07	1.44	338.27	341.25	338.25	339.59	2.98	0.00	2.35	1.01
1037	10AD001	10AD050	Circular	44.82	0.04	1.50	2.06	343.05	343.30	337.74	337.72	0.85	1.12	341.42	340.73	341.42	340.72	1.63	2.32	1.88	2.58
1064	02CC015	02CC016	Natural	66.83	1.50	5.21	46.08	343.86	344.45	339.45	338.45	-13.72	9.32	340.11	340.76	340.09	340.76	3.75	3.10	4.36	3.69
1113	10DA090	10DA071.1	Circular	143.07	0.16	1.50	3.91	350.23	351.07	344.43	344.20	3.92	4.64	345.53	345.69	345.18	345.48	4.70	4.54	5.89	5.59
1133	10AD053	10AA072	Circular	474.99	0.16	2.00	8.40	345.02	345.04	341.90	341.14	3.27	0.96	343.31	345.02	343.19	344.42	1.71	0.00	1.85	0.62
1314.1	23BA018	23BA019	Circular	349.85	0.03	3.00	10.47	362.45	363.96	357.60	357.50	6.03	1.18	360.08	362.45	360.05	362.52	2.37	0.00	3.92	1.44
1318.1	23BA019	23BA012	Circular	325.91	0.03	3.00	10.85	363.96	365.50	357.50	357.40	6.53	1.53	360.05	362.52	360.01	362.51	3.92	1.44	5.49	2.99
1321.1	23BA012	23BA014	Circular	99.87	0.05	3.00	13.86	365.50	366.30	357.40	357.35	6.55	1.52	360.01	362.51	360.00	362.50	5.49	2.99	6.30	3.80
1322.1	23BA014	23BA003	Circular	400.29	0.02	3.00	8.76	366.30	366.75	357.35	357.27	6.67	1.49	360.00	362.50	359.96	362.49	6.30	3.80	6.79	4.26
1323.1	23BA003	23BA005	Circular	199.27	0.03	3.00	9.81	366.75	366.50	357.27	357.22	6.81	1.44	359.96	362.49	359.94	362.49	6.79	4.26	6.56	4.01
1324.1	23AC010	23AC011	Circular	142.53	0.03	4.00	22.34	366.93	366.94	357.12	357.08	25.85	4.05	359.90	362.49	359.82	362.46	7.03	4.44	7.12	4.48
1325.1	23AC011	23AC027	Circular	78.01	0.05	4.00	30.20	366.94	367.00	357.08	357.04	25.94	4.06	359.82	362.46	359.78	362.44	7.12	4.48	7.21	4.56
1326.1	23AC027	23AC052	Circular	104.48	0.04	4.00	26.10	367.00	367.39	357.04	357.00	26.53	4.85	359.78	362.44	359.72	362.39	7.21	4.56	7.67	5.00
1327.1	23AC052	23AC054	Circular	95.44	0.21	4.00	61.06	367.39	367.34	357.00	356.80	26.63	4.81	359.72	362.39	359.69	362.35	7.67	5.00	7.66	4.99
1328.1	23AC054	23AC047	Circular	199.44	0.10	4.00	42.24	367.34	367.50	356.80	356.60	49.55	11.47	359.69	362.35	359.24	361.76	7.66	4.99	8.26	5.75
1329	23AC048	23AC044	Circular	259.48	0.08	2.00	5.83	368.42	368.15	363.00	362.80	3.82	3.89	364.01	364.02	363.39	363.40	4.41	4.40	4.76	4.76
1330	23AC050	23AC048	Circular	240.89	0.17	1.50	3.97	368.84	368.42	363.40	363.00	3.82	3.90	364.52	364.53	364.01	364.02	4.32	4.30	4.41	4.40
1331	23AC053	23AC054	Circular	69.25	0.14	2.00	7.98	366.98	367.34	359.60	359.50	26.19	7.08	362.34	363.71	359.69	362.35	4.64	3.27	7.66	4.99
1334	23AC026	23AC010	Circular	77.44	0.26	2.50	19.36	366.23	366.93	362.70	362.50	18.88	2.72	364.38	364.58	359.90	362.49	1.85	1.65	7.03	4.44
1336	23BD036	23AC026	Circular	120.99	0.17	2.50	15.87	366.18	366.23	362.91	362.70	18.88	2.72	364.81	364.83	364.38	364.58	1.37	1.35	1.85	1.65
1339.1	23BA005	23BA006	Circular	199.85	0.03	3.00	9.80	366.50	366.27	357.22	357.17	6.90	1.40	359.94	362.49	359.92	362.49	6.56	4.01	6.35	3.78
1342.1	23BA006	23AC010	Circular	250.18	0.02	3.00	8.76	366.27	366.93	357.17	357.12	7.01	1.36	359.92	362.49	359.90	362.49	6.35	3.78	7.03	4.44
1346	23DA033	23DA028	Circular	254.46	0.24	1.25	2.96	370.26	370.36	366.58	365.96	1.61	0.55	367.24	366.95	366.62	366.32	3.02	3.31	3.74	4.03
1347	23DA028	23DA026	Circular	285.03	0.25	1.25	2.99	370.36	369.99	365.96	365.25	1.60	0.55	366.62	366.32	365.97	365.74	3.74	4.03	4.02	4.25
1348	23DA026	23AD003	Circular	259.64	0.25	1.25	3.00	369.99	369.41	365.25	364.60	1.62	0.59	365.97	365.74	365.61	365.63	4.02	4.25	3.80	3.78
1349	23AD003	23AC051	Circular	250.96	0.25	1.50	4.89	369.41	369.07	364.60	363.97	3.84	3.92	365.61	365.63	365.01	365.03	3.80	3.78	4.06	4.04
1350	23AC051	23AC050	Circular	228.83	0.25	1.50	4.87	369.07	368.84	363.97	363.40	3.83	3.90	365.01	365.03	364.52	364.53	4.06	4.04	4.32	4.30
1351	23DA030	23DA033	Circular	219.22	0.23	1.25	2.89	371.04	370.26	367.09	366.58	1.61	0.55	367.76	367.46	367.24	366.95	3.28	3.58	3.02	3.31
1360	24CC003	24CC002	Circular	249.03	0.40	2.00	13.31	377.17	376.63	372.00	371.00	6.51	4.19	373.00	377.17	372.10	376.04	4.17	0.00	4.53	0.59
1361	24CC002	24CC004	Circular	248.28	0.40	2.00	13.33	376.63	374.86	371.00	370.00	6.50	4.19	372.10	376.04	371.61	374.86	4.53	0.59	3.25	0.00
1362	24CC004	24CB011	Circular	245.64	0.22	2.00	9.94	374.86	372.60	370.00	369.45	11.01	6.99	371.61	374.86	370.69	371.61	3.25	0.00	1.91	0.00
1363	24CB011	24CB010	Circular	140.56	0.26	2.00	10.78	372.60	372.00	369.45	369.08	10.93	5.20	370.69	371.61	370.54	370.57	1.91	0.00	1.46	0.00
1365	24CB010	24CB009	Circular	116.90	0.55	1.25	4.44	372.00	372.00	369.08	368.44	10.88	3.82	370.54	370.57	369.65	370.12	1.46	0.00	2.35	0.84
1366	24CB009	24CB008	Circular	28.73	0.24	1.25	2.96	372.00	371.59	368.44	368.37	10.88	3.82	369.65	370.12	369.41	370.01	2.35	0.84	2.17	1.58
1367	24CB008	23DA036	Circular	149.73	0.25	2.00	10.44	371.59	371.55	368.37	368.00	10.88	3.81	369.41	370.01	369.08	369.43	2.17	1.58	2.47	2.12
1368	23DA036	23DA031	Circular	190.49	0.16	2.00	8.34	371.55	371.40	368.00	367.70	10.87	3.78	369.08	369.43	368.37	368.07	2.47	2.12	3.03	3.33
1369	23DA031	23DA030	Circular	262.16	0.23	1.25	2.89	371.40	371.04	367.70	367.09	1.61	0.55	368.37	368.07	367.76	367.46	3.03	3.33	3.28	3.58
1370	23BD034	23BD033	Circular	76.76	0.20	1.00	1.46	366.50	366.52	363.75	363.60	0.95	-0.93	365.86	365.45	365.85	365.51	0.64	0.00	0.67	0.01
1371	23BD035	23BD036	Circular	414.43	0.01	2.50	7.00	366.50	366.18	363.05	362.91	18.88	2.73	365.81	365.67	364.81	364.83	0.69	0.50	1.37	1.35
1412.1	14CC045	14CC030	Circular	124.75	0.35	2.00	12.48	361.00	360.55	358.60	358.16	2.57	0.76	360.41	362.51	360.40	361.95	0.59	0.00	0.15	0.60
1413.1	14CC030	14CC007	Circular	40.05	0.15	2.00	8.13	360.55	360.78	358.16	358.10	2.59	0.76	360.40	361.95	360.40	361.78	0.15	0.60	0.38	0.00
1414.1	14CC007	14CC041	Circular	51.64	0.10	2.00	6.54	360.78	360.58	358.10	358.05	3.34	0.33	360.40	361.78	360.39	361.58	0.38	0.00	0.19	0.00
1415.1	14CC041	14CC026	Circular	186.87	0.03	2.00	3.44	360.58	360.50	358.05	358.00	3.36	-0.40	360.39	361.58	360.37	362.68	0.19	0.00	0.13	0.37
1485	14DA021.1	14DA021	Circular	171.56	0.23	1.25	2.86	360.33	356.39	350.00	349.61	3.35	4.36	353.33	355.07	352.81	354.20	7.00	5.25	3.58	2.19
1486	14DA021	14DA023	Circular	167.08	0.19	1.50	4.20	356.39	355.57	349.52	349.21	4.34	5.73	352.81	354.20	352.49	353.64	3.58	2.19	3.08	1.93
1487	14DA023	14DA025	Circular	57.01	0.39	1.50	6.06	355.57	355.85	349.05	348.83	4.33	5.73	352.49	353.64	352.38	353.45	3.08	1.93	3.47	2.40

Hydraulic Model Results - Full Buildout Conditions - Capital Improvement Plan Projects																					
Santiam River Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1492	14DA025	14DA013	Circular	251.67	0.20	1.75	6.62	355.85	354.83	348.63	348.12	13.32	14.71	352.38	353.45	350.34	350.98	3.47	2.40	4.50	3.85
1495	14DA013	14DA012	Circular	135.84	0.57	2.00	15.82	354.83	354.56	348.12	347.35	16.56	19.16	350.34	350.98	349.56	349.85	4.50	3.85	5.00	4.70
1504.1	10AA041	10AA050	Circular	164.76	-0.07	2.00	5.43	341.60	341.93	335.38	335.49	6.10	4.86	339.40	340.96	339.27	340.89	2.20	0.64	2.66	1.04
1505.1	10AA050	10AA078	Circular	21.01	-0.38	2.00	12.96	341.93	342.72	335.44	335.52	6.07	4.90	339.27	340.89	339.25	340.88	2.66	1.04	3.47	1.84
1506.1	10AA078	10AA066	Circular	116.67	0.18	2.00	8.91	342.72	343.45	335.41	335.20	9.85	6.87	339.25	340.88	339.03	340.80	3.47	1.84	4.42	2.65
1507.1	10AA066	10AA069	Circular	252.25	0.13	3.00	22.40	343.45	342.01	334.83	334.50	22.16	9.57	339.03	340.80	338.71	340.40	4.42	2.65	3.30	1.61
1509.1	10AA042	10AA066	Circular	220.64	0.24	2.00	10.30	343.18	343.45	335.73	335.20	12.31	2.71	339.78	341.69	339.03	340.80	3.40	1.49	4.42	2.65
1514	23DA041	23DA042	Natural	23.44	1.27	7.26	2276.48	372.08	373.78	365.82	365.52	36.87	27.99	367.76	367.15	367.76	367.15	4.32	4.93	6.01	6.63
1514.1	10AA043	10AA036	Circular	96.02	0.20	2.00	9.34	341.34	341.15	335.19	335.00	2.98	2.73	338.32	341.34	338.30	340.90	3.02	0.00	2.85	0.26
1515	10AA036	10AA034	Circular	51.44	0.39	2.00	13.10	341.15	341.05	335.00	334.80	2.95	2.68	338.30	340.90	338.30	340.66	2.85	0.26	2.75	0.39
1517	10AA069	10AA068	Circular	88.99	0.45	3.00	41.52	342.01	343.55	334.50	334.10	23.93	11.57	338.71	340.40	338.58	340.17	3.30	1.61	4.97	3.38
1518	23DA043	23DA044	Natural	321.27	0.75	4.86	295.66	372.50	372.00	368.28	366.50	41.81	27.01	371.08	369.65	371.05	369.31	1.42	2.81	0.95	1.69
1518.1	10AA068	10AA067	Circular	67.87	0.06	3.00	15.04	343.55	344.51	334.10	334.06	23.93	11.61	338.58	340.17	338.48	339.99	4.97	3.38	6.03	4.52
1519	10AA067	03DD012	Circular	89.85	0.28	3.00	32.67	344.51	342.92	334.06	333.81	23.92	11.64	338.48	339.99	338.34	339.75	6.03	4.52	4.58	3.17
1520	23DD025	23DA015	Natural	170.78	0.03	4.00	78.12	372.56	372.50	368.55	368.50	42.48	26.28	371.28	371.15	371.18	371.10	1.28	1.41	1.32	1.39
1520.1	03DD012	03DD011	Circular	59.60	0.22	3.00	28.93	342.92	340.60	333.81	333.68	23.92	11.67	338.34	339.75	338.25	339.59	4.58	3.17	2.35	1.01
1523	23DD003	23DD024	Natural	15.59	11.79	4.56	1456.93	374.86	373.32	370.45	368.61	-31.79	-50.35	371.76	372.20	371.61	371.83	3.09	2.66	1.71	1.49
1524	23DD007	23DD024	Natural	41.59	1.41	4.13	420.03	372.75	373.32	369.20	368.61	45.23	36.20	371.54	371.76	371.61	371.83	1.21	0.99	1.71	1.49
1524.1	10AA079	10AA040	Circular	322.12	0.17	1.50	4.07	342.12	343.41	336.66	336.10	2.02	-2.19	339.56	340.78	339.49	340.89	2.56	1.34	3.92	2.52
1526	02CC009	02CC010	Circular	38.24	0.52	1.00	2.39	341.35	343.34	339.00	338.80	2.87	3.67	340.30	341.34	340.02	340.89	1.05	0.01	3.32	2.46
1527	23DD022	23DD023	Natural	48.08	0.10	2.41	112.57	373.16	373.11	370.75	370.70	4.11	4.75	371.51	371.93	371.49	371.93	1.65	1.23	1.62	1.18
1528	02CC011	02CC017	Circular	408.98	0.19	1.50	4.20	342.65	343.17	338.36	337.60	2.82	3.65	339.98	340.83	339.67	340.30	2.68	1.82	3.50	2.87
1529	23DD021	23DD090	Natural	367.13	0.05	2.55	46.26	373.75	373.12	370.97	370.80	4.34	5.73	371.96	372.25	371.83	372.21	1.79	1.51	1.29	0.91
1550	11CA042	11DB026	Circular	150.60	0.14	1.00	1.24	351.76	351.00	348.62	348.41	1.10	1.58	349.29	349.47	348.94	349.06	2.47	2.29	2.06	1.94
1552	11DB026	11DB021	Circular	249.44	0.31	1.25	3.33	351.00	350.56	348.41	347.64	1.09	1.57	348.94	349.06	347.96	348.02	2.06	1.94	2.60	2.54
1553	11DB021	11DB028	Circular	150.77	1.26	1.50	10.95	350.56	351.72	347.64	345.74	1.09	1.57	347.96	348.02	345.44	345.52	2.60	2.54	6.27	6.20
1554	11DB024	11DB022	Circular	144.81	0.32	3.00	34.91	351.06	350.16	345.84	345.38	1.77	2.30	349.80	349.76	349.77	349.76	1.26	1.30	0.39	0.40
1555	11DB025	11DB024	Circular	113.47	1.77	1.00	4.40	352.16	351.06	349.18	347.17	0.84	0.72	349.95	349.84	349.80	349.76	2.22	2.32	1.26	1.30
1556	11DA009	11DB025	Circular	254.96	0.13	1.00	1.17	357.66	352.16	349.50	349.18	0.64	0.72	350.06	350.09	349.95	349.84	7.60	7.57	2.22	2.32
1577	14DA028	14DA029	Circular	103.19	0.33	1.00	1.90	355.91	355.40	352.53	352.19	0.91	1.28	353.02	353.13	352.43	352.51	2.89	2.78	2.97	2.89
1584	14DB048	14DA010	Circular	324.23	0.17	2.25	11.95	353.60	356.07	348.87	348.31	8.21	10.48	350.38	350.96	349.99	350.57	3.23	2.64	6.08	5.50
1585	14DB047	14DB048	Circular	66.78	0.15	2.25	11.13	353.35	353.60	348.97	348.87	7.63	9.69	350.45	351.02	350.38	350.96	2.90	2.33	3.23	2.64
1596	14DB036	14DB050	Circular	351.07	0.23	1.00	1.58	356.89	360.60	352.72	351.92	0.82	1.24	353.25	353.40	352.36	352.51	3.64	3.49	8.24	8.09
1599	14DB050	14DB049	Circular	239.72	0.29	1.25	3.22	360.60	360.58	351.92	351.23	0.82	1.24	352.36	352.51	351.85	352.14	8.24	8.09	8.73	8.44
1601	14DB049	14DB025	Circular	201.26	0.20	1.25	2.71	360.58	356.15	351.23	350.82	1.31	1.97	351.85	352.14	351.36	351.92	8.73	8.44	4.79	4.23
1603	14DA010.1	14DA010	Circular	29.59	5.54	1.25	14.12	356.12	356.07	354.00	352.36	2.01	2.64	354.32	354.37	349.99	350.57	1.80	1.75	6.08	5.50
1608	14DB052	14DB053	Circular	294.30	0.48	1.25	4.17	356.63	354.62	352.47	351.05	1.56	2.01	353.00	353.09	351.91	352.09	3.63	3.54	2.70	2.52
1609	14DB053	14DB045.1	Circular	135.52	0.18	2.00	9.02	354.62	355.91	351.05	350.80	3.76	4.79	351.91	352.09	351.51	351.87	2.70	2.52	4.40	4.04
1611	14DB045.1	14DB045	Circular	91.50	0.94	2.00	20.37	355.91	356.34	350.80	349.94	4.19	5.28	351.51	351.87	351.43	351.88	4.40	4.04	4.92	4.47
1617	14BD013	14BD029	Circular	123.93	0.17	1.50	4.02	353.72	353.20	350.91	350.70	4.07	3.12	353.42	353.72	353.20	352.82	0.31	0.00	0.00	0.00
1618	14BD029	14BD014	Circular	14.46	0.21	1.50	4.44	353.20	353.20	350.70	350.67	3.98	3.08	353.20	352.82	353.18	352.78	0.00	0.00	0.02	0.19
1619	14BD014	14BD015	Circular	166.03	0.32	1.50	5.51	353.20	354.17	350.57	350.04	3.99	3.08	353.18	352.78	352.96	352.29	0.02	0.19	1.21	1.89
1620	14BD015	14AC029	Circular	217.60	0.30	1.50	5.37	354.17	352.90	350.04	349.38	5.39	4.46	352.96	352.29	352.36	351.95	1.21	1.89	0.53	0.94
1621	14AC029	14AC012	Circular	189.56	0.39	1.50	6.09	352.90	353.70	349.38	348.64	6.45	5.47	352.36	351.95	351.57	351.39	0.53	0.94	2.12	2.31
1622	14AC012	14AC013	Circular	309.11	0.38	1.50	6.03	353.70	355.22	348.64	347.46	7.23	6.58	351.57	351.39	349.91	350.05	2.12	2.31	5.31	5.17
1623	14AC013	14AC007	Circular	198.67	0.04	1.50	1.96	355.22	356.46	347.46	347.38	8.00	7.56	349.91	350.05	348.62	348.91	5.31	5.17	7.84	7.55
1624	14AC014.1	14AC007	Circular	173.49	0.87	1.00	3.09	357.41	356.46	349.98	348.47	2.10	2.96	350.59	350.78	348.62	348.91	6.82	6.63	7.84	7.55
1625	14AC007	14DB001	Circular	156.30	0.74	2.00	18.10	356.46	356.91	347.38	346.22	10.57	11.17	348.62	348.91	348.11	348.55	7.84	7.55	8.80	8.36
1626	14DB001	14DB003	Circular	157.54	0.23	2.00	10.04	356.91	359.35	346.22	345.86	11.03	11.90	348.11	348.55	347.74	348.10	8.80	8.36	11.61	11.25
1843	10DD072	10DD073	Circular	204.02	0.46	1.25	4.07	351.35	351.69	347.18	346.24	1.55	1.94	347.72	347.80	346.89	347.06	3.63	3.55	4.79	4.63
1849	10DD068	10DD069	Circular	208.15	0.25	1.75	7.35	350.72	351.01	345.42	344.90	1.94	2.33	346.06	346.15	345.67	345.84	4.66	4.57	5.33	5.16
1852	10DD069	10DA071	Circular	339.54	0.01	3.00	4.75	351.01	350.74	344.15	344.13	9.66	11.87	345.67	345.84	344.47	345.38	5.33	5.16	6.27	5.36
1856	10DD059	10DD073	Circular	17.12	0.64	1.75	11.79	351.63	351.69	345.84	345.73	2.34	2.86	346.90	347.06	346.89	347.06	4.74	4.57	4.79	4.63
1858	11CC010	11CC026	Circular	78.39	0.18	1.00	1.40	351.09	350.97	346.49	346.35	2.34	2.87	347.59	347.92	347.21	347.35	3.50	3.16	3.76	3.62
1861	11CC026	10DD059	Circular	346.34	0.15	1.75	5.65	350.97	351.63	346.35	345.84	2.33	2.86	347.21	347.35	346.90	347.06	3.76	3.62	4.74	4.57
1865	11BC042	11BC029	Circular	381.68	0.39	2.00	13.12	345.19	344.11	340.46	338.97	4.97	6.27	341.41	343.06	340.99	342.74	3.78	2.13	3.12	1.37
1867	11BC039	11BC029	Circular	320.72	0.17	2.50	15.77	345.58	344.11	339.52	338.97	29.69	33.19	342.83	345.05	340.99	342.74	2.75	0.52	3.12	1.37
1870	11BC030	11BC039	Circular	325.72	0.30	2.50	20.78	346.26	345.58	340.62	339.65	23.19	26.55	344.02	346.26	342.83	345.05	2.25	0.00	2.75	0.52
1871	11CB039	11BC030	Circular	326.74	0.29	2.50	20.43	347.92	346.26	341.71	340.77	19.27	21.31	344.84	347.26	344.02	346.26	3.07	0.65	2.25	0.00
1872	11CB055	11CB039	Circular	331.64	0.06	2.50	9.58	349.08	347.92	342.19	341.98	12.00	13.86	345.13	347.49	344.84	347.26	3.95	1.59	3.07	0.65
1873	11CB040	11CB055	Circular	323.59	0.61	1.50	7.65	350.02	349.08	345.27	343.28	2.47	3.16	345.86	347.81	345.13	347.49	4.16	2.20	3.95	1.59
1874	11CB041	11CB040	Circular	368.41	0.31	1.50	5.40	349.02	350.02	346.70	345.57	0.96	1.41	347.15	347.92	345.86	347.81	1.87	1.10	4.16	2.20
1894	10DD073	10DD069	Circular	269.45	0.31	1.75	8.17	351.69	351.01	345.73	344.90	6.30	7.68	346.89	347.06	345.67	345.84	4.79	4.63	5.33	5.16
1903	10DA071	10DA070	Circular	90.59	0.35	3.00	36.81	350.74	350.49	343.13	342.81	15.74	19.11	344.47	345.38	343.93	345.32	6.27	5.36	6.56	5.17
1904	11CB042	10DA070	Circular	196.05	0.42	1.75	9.52	350.38	350.49	344.38	343.56	4.15	3.80	345.20	345.44	343.93	345.32	5.18	4.94	6.56	5.17
1905	11CB067	11CB042	Circular	201.65	0.41	1.50	6.22	350.58	350.38	345.20	344.38	3.28	2.75	345.98	345.90	345.20	345.44	4.60	4.68	5.18	4.94

Hydraulic Model Results - Full Buildout Conditions - Capital Improvement Plan Projects																				
Santiam River Watershed																				
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
1911	10DA070	10DA067	Circular	266.60	0.34	3.00	36.18	350.49	349.91	342.31	341.40	20.65	23.71	343.93	345.32	342.94	345.02	6.56	5.17	6.97	4.89
1917	10DA067	10DA062	Circular	298.54	0.59	3.00	47.55	349.91	349.22	341.40	339.64	22.67	25.57	342.94	345.02	342.07	344.60	6.97	4.89	7.15	4.62
1924	10DA062	10DA088	Circular	302.54	0.23	3.50	44.94	349.22	348.49	339.64	338.94	25.45	28.10	342.07	344.60	341.87	344.35	7.15	4.62	6.62	4.14
1928	10DA088	10AD025	Circular	376.53	0.23	3.50	44.91	348.49	346.89	338.94	338.07	30.38	33.57	341.87	344.35	341.59	343.90	6.62	4.14	5.30	3.00
1931	10AD030	10AD025	Circular	207.34	0.24	1.25	2.95	347.61	346.89	340.49	339.99	1.87	2.32	341.66	344.06	341.59	343.90	5.96	3.56	5.30	3.00
1933	11CB010	11CB005	Circular	121.96	-0.03	1.00	0.60	349.99	349.40	346.51	346.55	2.29	2.72	347.88	348.54	347.20	347.73	2.11	1.46	2.21	1.67
1934	11CB005	10DA063	Circular	118.82	0.99	1.00	3.30	349.40	348.93	345.55	344.37	2.29	2.72	347.20	347.73	346.63	346.95	2.21	1.67	2.29	1.98
1941	10DA071.1	10DA071	Circular	67.53	0.10	1.50	3.14	351.07	350.74	344.20	344.13	3.92	4.64	345.18	345.48	344.47	345.38	5.89	5.59	6.27	5.36
1945	10DA082	10DA090	Circular	86.79	0.92	0.83	1.95	350.26	350.23	346.32	345.52	2.06	2.44	347.04	347.44	345.53	345.69	3.21	2.81	4.70	4.54
1947	10DA080	10DA090	Circular	152.58	0.15	1.00	1.28	349.52	350.23	345.75	345.52	1.88	2.22	346.71	346.92	345.53	345.69	2.81	2.59	4.70	4.54
1964	10DA077	10DA063	Circular	212.73	0.63	1.00	2.64	348.26	348.93	345.72	344.37	0.97	1.17	346.81	347.21	346.63	346.95	1.45	1.05	2.29	1.98
1966	10DA063	10DA089	Circular	83.02	-2.91	1.00	5.65	348.93	349.12	342.53	344.95	3.26	3.88	346.63	346.95	343.86	345.75	2.29	1.98	5.26	3.37
1967	10DA089	10DA062	Circular	99.46	0.28	1.00	1.76	349.12	349.22	342.42	342.14	3.26	3.88	343.86	345.75	342.07	344.60	5.26	3.37	7.15	4.62
1969	10DA060	10DA088	Circular	212.77	0.05	1.50	2.11	348.64	348.49	341.29	341.19	4.67	5.80	342.67	345.02	341.87	344.35	5.97	3.62	6.62	4.14
1973	10AD029	10AD030	Circular	215.20	0.48	1.00	2.30	347.93	347.61	342.89	341.85	1.12	1.33	343.40	344.26	341.66	344.06	4.53	3.67	5.96	3.56
1975	10AD026	10AD030	Circular	69.45	-1.66	1.25	7.72	347.01	347.61	340.70	341.85	0.74	0.96	342.40	344.06	341.66	344.06	4.61	2.94	5.96	3.56
2087	11CB057	11CB055	Circular	362.58	0.65	2.00	16.91	348.89	349.08	345.63	343.28	1.04	1.37	345.97	347.52	345.13	347.49	2.93	1.37	3.95	1.59
2094	11CA021	11CB056	Circular	395.56	0.55	1.50	7.22	348.78	347.38	346.62	344.45	1.79	2.39	347.13	347.67	345.33	347.38	1.65	1.11	2.04	0.00
2097	11CB056	11CB055	Circular	374.96	0.31	2.00	11.73	347.38	349.08	344.45	343.28	2.86	3.51	345.33	347.38	345.13	347.49	2.04	0.00	3.95	1.59
2103	11CB054	11CB039	Circular	395.59	0.53	2.00	15.34	347.71	347.92	344.09	341.98	4.33	6.19	345.12	347.67	344.84	347.26	2.59	0.04	3.07	0.65
2105	11CA019	11CB054	Circular	383.59	0.26	2.00	10.73	349.04	347.71	345.53	344.53	3.15	4.52	346.30	347.88	345.12	347.67	2.74	1.16	2.59	0.04
2117	11BD030	11BD028	Circular	18.59	-0.59	1.50	7.50	344.45	344.51	339.73	339.84	2.58	3.53	341.43	344.28	341.42	344.26	3.02	0.17	3.08	0.25
2118	11BD028	11BC038	Circular	339.11	0.17	1.50	4.07	344.51	344.46	339.78	339.19	4.32	5.95	341.42	344.26	340.97	343.01	3.08	0.25	3.49	1.45
2119	11BC038	11BC037	Circular	59.63	0.18	1.50	4.19	344.46	344.84	339.19	339.08	6.57	9.14	340.97	343.01	340.78	342.49	3.49	1.45	4.05	2.35
2168	11BC012	11BC010	Circular	147.82	0.39	2.00	13.16	344.70	344.82	342.21	341.63	3.91	4.96	342.96	343.32	342.38	343.21	1.74	1.37	2.44	1.61
2169	11BC010	11BC042	Circular	301.12	0.39	2.00	13.09	344.82	345.19	341.63	340.46	3.91	4.88	342.38	343.21	341.41	343.06	2.44	1.61	3.78	2.13
2170	11BC040	11BC012	Circular	207.42	0.40	1.50	6.13	345.80	344.70	343.03	342.21	2.19	2.81	343.66	343.77	342.96	343.32	2.15	2.03	1.74	1.37
2175	11BC036	11BB022	Circular	38.51	0.80	4.00	119.67	342.42	342.41	336.50	336.19	36.09	39.77	340.80	342.42	340.78	342.41	1.61	0.00	1.62	0.00
2177.1	10AA051	11BB021	Circular	365.75	0.11	4.00	44.11	343.62	342.83	336.99	336.59	32.56	40.65	341.18	343.14	340.99	342.80	2.43	0.47	1.84	0.03
2178	11BB021	11BB022	Circular	384.15	0.10	4.00	43.04	342.83	342.41	336.59	336.19	33.36	42.39	340.99	342.80	340.78	342.41	1.84	0.03	1.62	0.00
2185.1	10AD036	10AD035	Circular	259.46	0.25	4.00	66.76	344.87	344.26	337.78	337.13	29.84	36.10	341.35	343.45	341.25	343.26	3.52	1.42	3.01	1.00
2186.1	10AD035	10AA051	Circular	137.32	0.10	4.00	42.59	344.26	343.62	337.13	336.99	31.06	38.25	341.25	343.26	341.18	343.14	3.01	1.00	2.43	0.47
2188	10AD025	10AD037	Circular	279.75	0.10	4.00	42.95	346.89	344.02	338.07	337.78	31.09	34.57	341.59	343.90	341.49	343.71	5.30	3.00	2.53	0.31
2189	10AA054	10AA084	Circular	123.66	0.02	1.50	1.24	343.42	343.24	338.83	338.81	5.24	3.80	341.70	342.37	341.46	342.19	1.72	1.05	1.78	1.06
2254	10AA048	10AA074	Circular	252.78	0.21	2.00	9.62	343.32	343.05	338.20	337.67	8.06	-1.77	341.17	340.64	340.86	341.35	2.15	2.68	2.19	1.70
2259	10AA070	10AA098	Circular	68.28	0.18	2.00	8.81	343.62	342.35	338.47	338.35	6.35	5.67	341.39	342.13	341.34	340.20	2.23	1.49	1.01	0.00
2268	10AA074	10AA042	Circular	471.26	0.03	2.00	13.48	343.05	343.18	337.67	335.73	10.44	1.64	340.86	341.35	339.78	341.69	2.19	1.70	3.40	1.49
2289	03DD029	03DD017	Circular	109.51	0.11	3.00	20.50	339.70	339.79	333.90	333.78	15.51	17.69	337.38	336.82	337.33	336.75	2.32	2.88	2.46	3.04
2290	03DD031	03DD029	Circular	33.85	0.15	2.50	14.64	339.67	339.70	333.95	333.90	15.44	17.64	337.43	336.88	337.38	336.82	2.24	2.79	2.32	2.88
2298	10AA034	03DD011	Circular	229.04	0.30	2.00	11.45	341.05	340.60	334.80	334.12	2.92	2.68	338.30	340.66	338.25	339.59	2.75	0.39	2.35	1.01
2347	11DB028	11DB029	Circular	79.79	0.00	4.00	4.22	351.72	349.00	345.00	345.00	1.09	1.57	345.44	345.52	345.29	345.35	6.27	6.20	3.71	3.65
2380.1	23AC047	23AC060	Circular	152.73	0.20	4.00	59.12	367.50	367.86	356.60	356.30	49.55	11.44	359.24	361.76	358.85	361.32	8.26	5.75	9.01	6.54
2381	23AC044	23AC060	Circular	77.68	0.90	2.00	19.94	368.15	367.86	362.80	362.10	3.82	3.89	363.39	363.40	358.85	361.32	4.76	4.76	9.01	6.54
2384	23AC064	23AC063	Circular	135.56	0.11	2.00	6.99	367.51	367.57	361.39	361.24	4.13	5.20	362.36	362.48	362.04	362.11	5.14	5.03	5.53	5.46
2385	23AC065	23AC064	Circular	52.10	0.17	2.00	8.73	366.98	367.51	361.54	361.45	4.13	5.20	362.47	362.59	362.36	362.48	4.51	4.39	5.14	5.03
2386	23AC067	23AC066	Circular	39.48	0.53	2.00	15.32	367.09	367.29	361.88	361.67	4.16	5.23	362.66	362.77	362.56	362.67	4.42	4.32	4.73	4.63
2387	23AC068	23AC067	Circular	167.68	0.07	2.00	5.62	366.14	367.09	362.00	361.88	4.16	5.24	363.03	363.16	362.66	362.77	3.11	2.98	4.42	4.32
2388	23AB009	23AC068	Circular	282.93	0.01	2.00	1.77	366.57	366.14	362.47	362.45	2.91	3.64	363.46	363.58	363.03	363.16	3.11	2.99	3.11	2.98
2389	23AB004	23AB003	Circular	88.08	-0.18	2.00	8.95	365.85	366.12	362.57	362.73	1.95	2.40	363.56	363.68	363.52	363.63	2.29	2.18	2.60	2.48
2392	23AB007	23AB004	Circular	193.49	0.07	2.00	5.65	365.53	365.85	362.74	362.60	1.96	2.40	363.65	363.76	363.56	363.68	1.88	1.76	2.29	2.18
2401	02CC021	02CC022	Circular	171.24	0.12	3.00	21.69	343.40	341.65	333.18	332.97	36.63	30.63	336.73	336.04	336.18	335.66	6.67	7.36	5.47	5.99
2402	02CC022	02CC023	Circular	395.77	0.11	3.00	20.18	341.65	343.01	332.97	332.55	36.64	30.62	336.18	335.66	334.74	334.53	5.47	5.99	8.27	8.48
2463	24CB013	24CB003	Circular	39.64	0.91	1.00	3.16	363.86	372.33	362.86	362.50	1.55	1.58	363.36	363.86	362.77	363.79	0.50	0.00	9.57	8.54
2538	23BD030	23BD040	Circular	52.52	0.50	0.67	0.79	366.30	366.30	363.73	363.47	1.05	0.21	366.07	365.09	365.88	365.11	0.23	0.00	0.42	0.00
2540	23BD040	23BD041	Circular	195.02	0.08	1.00	0.92	366.30	366.24	363.47	363.32	1.04	-1.87	365.88	365.11	365.84	365.72	0.42	0.00	0.41	0.52
2545	23BD033	23BD035	Circular	205.65	0.24	1.00	1.63	366.52	366.50	363.50	363.00	0.94	-0.93	365.85	365.51	365.81	365.67	0.67	0.01	0.69	0.50
2546	23BD046	23BD035	Circular	13.29	1.13	2.50	25.59	366.40	366.50	363.11	363.05	18.44	3.66	365.84	365.72	365.81	365.67	0.56	0.00	0.69	0.50
2616	11BB028	11BB027	Circular	394.96	0.16	4.00	52.85	344.57	345.10	335.45	334.83	75.75	83.66	339.43	340.75	338.13	339.32	5.14	3.82	6.97	5.78
2617	11BB022	11BB028	Circular	465.76	0.16	4.00	53.17	342.41	344.57	336.19	335.45	74.47	81.39	340.78	342.41	339.43	340.75	1.62	0.00	5.14	3.82
2621	11BB029	11BB001	Circular	36.86	1.17	1.00	3.57	344.55	344.47	339.80	339.37	3.08	4.16	340.93	342.48	340.64	341.92	3.62	2.07	3.83	2.56
2623	02CC002	02CC003	Circular	53.63	0.56	1.00	2.47	342.83	343.44	340.70	340.40	0.30	0.44	340.94	340.99	340.68	340.89	1.89	1.84	2.76	2.55
2644	11DB019	11DB019.1	Circular	343.01	0.00	3.00	1.96	349.76	350.00	345.00	345.00	0.43	0.23	349.76	349.76	349.90	349.77	0.00	0.00	0.10	0.23
2645	11DB022	11DB019	Circular	80.31	0.47	3.00	42.60	350.16	349.76	345.38	345.00	2.33	2.98	349.77	349.76	349.76	349.76	0.39	0.40	0.00	0.00
2936.1	14CC048	14CC003	Circular	47.63	1.07	1.00	3.42	361.57	362.11	360.07	359.56	2.48	2.99	360.75	364.31	360.73	363.73	0.82	0.26	1.38	0.38
3162	23AC071	23AC053	Circular	61.44	0.16	2.00	8.47	365.00	366.98	359.70	359.60	19.18	3.82	362.84	363.58	362.34	363.71	2.16	1.42	4.64	3.27
3164	23AC088	23AC099	Circular	104.11	0.19	2.00	9.21	364.21	364.34	360.00	359.80	10.86	12.48	363.53	363.71	363.27	363.34	0.68	0.50	1.07	0.00
3206	23DA044	23DA041	Circular	110.89	0.05	2.00	4.64	372.00	372.08	365.87	365.82	36.87	27.99	371.05	369.31	367.76	367.15	0.95	1.69	4.32	4.93

Hydraulic Model Results - Full Buildout Conditions - Capital Improvement Plan Projects																				
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xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
3207	24CB004	24CB006	Circular	141.61	0.37	2.00	12.74	372.00	375.26	369.22	368.70	5.62	1.93	370.16	370.22	369.39	369.42	1.84	0.00	5.87	5.84
3209	23DA015	23DA043	Circular	86.90	0.25	4.00	67.26	372.50	372.50	368.50	368.28	42.49	26.17	371.18	371.10	371.08	369.65	1.32	1.39	1.42	2.81
3212	23DD006	23DD007	Rectangular	34.05	0.47	2.00	72.07	372.00	372.75	369.36	369.20	43.18	25.23	371.49	372.00	371.54	371.76	0.51	0.00	1.21	0.99
3213	23DD024	23DD025	Circular	39.57	0.16	2.00	8.38	373.32	372.56	368.61	368.55	46.13	27.34	371.61	371.83	371.28	371.15	1.71	1.49	1.28	1.41
3286	03DD032	03DD031	Circular	28.45	0.21	1.50	4.48	340.63	339.67	334.18	334.12	15.44	17.63	338.06	337.72	337.43	336.88	2.57	2.91	2.24	2.79
3287	03DD033	03DD032	Circular	6.51	0.00	2.00	0.66	340.48	340.63	334.15	334.15	16.63	18.20	338.09	337.77	338.06	337.72	2.39	2.71	2.57	2.91
3290	03DD036	03DD033	Circular	121.24	0.42	2.50	24.70	340.58	340.48	334.66	334.15	19.37	20.38	338.27	338.02	338.09	337.77	2.31	2.56	2.39	2.71
3291	03DD037	03DD036	Circular	225.65	-0.09	2.00	9.17	340.59	340.58	335.09	334.66	19.47	20.56	339.78	339.72	338.27	338.02	0.81	0.87	2.31	2.56
3292	03DD038	03DD037	Circular	29.03	2.34	1.50	14.93	340.49	340.59	336.30	335.62	6.61	6.70	339.89	339.76	339.78	339.72	0.60	0.73	0.81	0.87
3295	03DD041	03DD038	Circular	243.16	0.26	1.50	5.00	342.22	340.49	337.62	336.98	6.63	6.72	340.91	340.08	339.89	339.76	1.31	2.14	0.60	0.73
3297	03DD041.1	03DD041	Circular	84.67	0.33	1.50	5.61	341.30	342.22	337.90	337.62	3.70	3.52	341.02	340.08	340.91	340.08	0.28	0.00	1.31	2.14
3298	03DD043	03DD037	Circular	80.21	0.17	1.25	2.51	340.60	340.59	335.76	335.62	4.19	5.10	340.13	340.21	339.78	339.72	0.47	0.39	0.81	0.87
3300	03DD045	03DD043	Circular	278.97	-0.13	1.25	2.12	341.88	340.60	336.46	336.81	4.22	5.11	341.40	341.88	340.13	340.21	0.48	0.00	0.47	0.39
3475	25BB015	25BB014	Circular	45.26	4.22	1.00	6.80	388.00	385.45	386.36	384.45	7.85	7.88	387.98	388.00	380.32	380.37	0.02	0.00	5.13	5.09
3505	23DB009	23AC087	Circular	1138.72	0.20	2.00	9.44	368.00	365.00	362.82	360.52	8.67	1.85	365.72	366.82	363.78	363.76	2.28	0.00	1.22	0.00
3513	23DB007	23DB013	Circular	474.90	0.08	2.00	6.02	368.43	365.68	361.32	360.93	4.19	5.32	364.30	364.75	364.11	364.45	4.13	3.68	1.57	1.23
3517	23DB001	23DB009	Circular	528.64	0.61	2.00	16.36	369.70	368.00	366.13	362.92	9.01	2.25	367.29	369.13	365.72	366.82	2.41	0.00	2.28	0.00
3523	23DB013	23AC081	Circular	395.86	0.08	2.00	5.97	365.68	367.65	360.93	360.61	4.13	5.32	364.11	364.45	363.99	364.20	1.57	1.23	3.65	3.44
3526	23AC084.1	23AC082	Circular	447.55	0.04	2.00	4.44	366.70	364.61	360.40	360.20	5.48	5.77	363.97	364.16	363.63	363.83	2.73	2.54	0.98	0.78
3527	23AC081	23AC084.1	Circular	64.56	0.33	2.00	11.98	367.65	366.70	360.61	360.40	4.12	5.32	363.99	364.20	363.97	364.16	3.65	3.44	2.73	2.54
3534	23AC087	23AC073	Circular	122.55	0.10	2.00	6.57	365.00	365.82	360.52	360.40	8.68	1.84	363.78	363.76	363.58	363.59	1.22	0.00	2.25	2.23
3535	23AC082	23AC088	Circular	169.09	0.12	2.00	7.22	364.61	364.21	360.20	360.00	5.49	5.77	363.63	363.83	363.53	363.71	0.98	0.78	0.68	0.50
3544	23AC093	23AC084	Circular	40.52	1.23	0.50	0.58	368.02	365.62	362.50	362.00	1.75	0.47	366.79	364.46	364.00	364.17	1.23	3.56	1.62	1.45
3565	14DC012	14DD007	Circular	92.21	1.20	1.25	6.58	365.04	356.98	351.83	350.72	1.18	1.61	354.32	355.47	354.29	355.40	10.72	9.58	2.69	1.58
3567	14DA037	14DA035	Circular	34.95	0.20	1.25	2.68	357.66	357.34	349.25	349.18	2.04	2.64	350.74	351.71	350.70	351.64	6.92	5.95	6.63	5.69
3569	14DA038	14DA037	Circular	372.00	0.51	1.00	2.37	359.26	357.66	351.16	349.25	2.04	2.64	352.06	354.01	350.74	351.71	7.21	5.25	6.92	5.95
3572	14DD024	14DD015.1	Circular	134.51	0.42	1.00	2.13	359.82	356.48	350.96	350.40	0.57	0.84	355.23	356.15	355.19	356.07	4.59	3.67	1.28	0.41
3574	14DA035	14DA032	Circular	174.31	0.26	1.25	3.05	357.34	354.34	349.18	348.73	2.54	3.40	350.70	351.64	350.40	351.09	6.63	5.69	3.94	3.25
3785	10AA098	10AA048	Circular	133.66	0.11	2.00	7.04	342.35	343.32	338.35	338.20	8.32	-1.77	341.34	340.20	341.17	340.64	1.01	0.00	2.15	2.68
Link1635	11CB065	11CB058	Circular	340.53	0.01	1.00	0.31	349.68	350.00	346.33	346.30	1.00	1.25	347.24	347.02	346.84	0.00	2.44	2.66	3.16	0.00
Link1650	14DD008	14DD010	Circular	21.79	0.37	1.50	5.91	355.86	355.86	350.71	350.63	2.11	2.52	354.27	355.36	354.26	355.35	1.60	0.50	1.60	0.51
Link1651	14DA032	14DA013	Circular	35.59	1.71	1.25	7.85	354.34	354.83	348.73	348.12	2.54	3.39	350.40	351.09	350.34	350.98	3.94	3.25	4.50	3.85
Link1654.1	14CC005	14CC006	Natural	65.52	0.15	1.95	23.74	361.00	361.00	359.10	359.00	1.45	1.95	360.71	363.64	360.71	363.64	0.29	0.14	0.29	0.00
Link1655.1	14CC004	14CC005	Circular	27.50	0.25	1.00	1.67	361.00	361.00	359.17	359.10	1.33	1.93	360.73	363.72	360.71	363.64	0.27	0.00	0.29	0.14
Link1656.1	14CC006	14CC044	Circular	147.62	0.20	1.00	1.49	361.00	361.00	359.00	358.70	2.11	3.00	360.71	363.64	360.41	362.51	0.29	0.00	0.59	0.31
Link1657	23AB003	23AB009	Circular	112.53	0.23	2.00	10.10	366.12	366.57	362.73	362.47	1.96	2.41	363.52	363.63	363.46	363.58	2.60	2.48	3.11	2.99
Link1658.1	23AC060	23AC062	Circular	43.14	0.23	4.00	64.22	367.86	367.47	356.30	356.20	53.39	15.09	358.85	361.32	358.71	361.09	9.01	6.54	8.76	6.38
Link1659.1	23AC062	23AC061	Circular	91.03	0.22	4.00	62.52	367.47	365.13	356.20	356.00	57.27	19.71	358.71	361.09	358.28	360.57	8.76	6.38	6.85	4.56
Link1660	23BD041	23BD046.1	Natural	115.93	0.02	3.31	85.53	366.24	367.00	363.32	363.30	13.60	14.86	365.84	365.72	365.84	365.72	0.41	0.52	1.16	0.54
Link1661	23BD046.1	23BD046	Natural	66.38	0.14	2.50	493.19	367.00	366.40	363.20	363.11	18.72	33.74	365.84	365.72	365.84	365.72	1.16	0.54	0.56	0.00
Link1662	23BD044	23BD046.1	Natural	105.18	0.12	3.43	314.59	366.39	367.00	363.33	363.20	1.71	3.71	365.84	365.72	365.84	365.72	0.55	0.67	1.16	0.54
Link1665	23AC073	23AC099	Circular	180.73	0.33	2.00	12.10	365.82	364.34	360.40	359.80	8.69	1.84	363.58	363.59	363.27	363.34	2.25	2.23	1.07	0.00
Link1666	23AC099	23AC071	Circular	52.53	0.19	2.00	9.17	364.34	365.00	359.80	359.70	19.18	3.82	363.27	363.34	362.84	363.58	1.07	0.00	2.16	1.42
Link1667	23AC076	23AC075	Circular	31.32	0.64	1.00	2.64	367.70	369.12	365.60	365.40	2.67	0.47	366.87	367.70	366.79	367.26	0.83	0.00	2.33	1.87
Link1668	23AC075	23AC093	Natural	43.00	2.09	3.62	307.36	369.12	368.02	365.40	364.50	-9.32	0.47	366.79	367.26	366.79	364.46	2.33	1.87	1.23	3.56
Link1669	23AC084	23AC084.1	Circular	15.31	3.27	1.00	5.98	365.62	366.70	362.00	361.50	1.76	1.17	364.00	364.17	363.97	364.16	1.62	1.45	2.73	2.54
Link1672	23DD002	23DD025	Natural	67.50	4.97	3.08	423.35	374.08	372.56	371.91	368.56	0.80	1.03	372.11	372.13	371.28	371.15	1.97	1.95	1.28	1.41
Link1673	23DD010	23DD025	Natural	69.72	3.65	3.31	418.37	373.71	372.56	371.10	368.55	-1.52	0.76	371.28	371.27	371.28	371.15	2.43	2.44	1.28	1.41
Link1674	23DD023	23DD003	Circular	23.04	1.08	1.00	3.44	373.11	374.86	370.70	370.45	4.11	5.41	371.49	371.93	371.76	372.20	1.62	1.18	3.09	2.66
Link1675	23DD090	23DD022	Circular	21.53	0.24	1.00	1.63	373.12	373.16	370.80	370.75	4.12	4.80	371.83	372.21	371.51	371.93	1.29	0.91	1.65	1.23
Link1676	23DA042	23DA017	Circular	32.52	1.60	2.00	26.56	373.78	370.19	365.52	365.00	41.19	33.12	367.76	367.15	365.57	365.54	6.01	6.63	4.62	4.65
Link1680	24CB003	23DA017.1	Natural	340.64	0.44	9.83	5071.33	372.33	370.83	362.50	361.00	1.53	1.65	362.77	363.79	362.48	363.79	9.57	8.54	8.35	7.04
Link1681	24CB006	23DA042	Natural	337.80	0.35	6.41	1193.29	375.26	373.78	368.70	367.52	5.59	1.91	369.39	369.42	367.76	367.15	5.87	5.84	6.01	6.63
Link1682	25BA026	25BA035	Natural	540.34	0.35	2.42	46.87	395.34	393.43	392.91	391.01	8.90	13.91	393.79	393.99	391.81	391.98	1.55	1.34	1.63	1.46
Link1683	25BA035	25BB002	Natural	440.25	0.25	2.91	83.39	393.43	393.31	391.01	389.91	8.87	13.86	391.81	391.98	390.80	390.97	1.63	1.46	2.52	2.34
Link1684	25BB002	25BB026	Natural	671.49	0.28	3.40	412.56	393.31	391.40	389.91	388.00	8.78	13.71	390.80	390.97	388.99	389.16	2.52	2.34	2.41	2.25
Link1685	25BB026	25BB030	Natural	414.85	0.08	1.00	9.44	391.40	388.68	388.00	387.68	10.02	15.43	388.99	389.16	388.40	388.59	2.41	2.25	0.29	0.09
Link1686	25BB015.1	25BB015	Natural	458.61	0.14	1.61	57.71	388.58	388.00	387.00	386.36	1.30	2.35	387.98	388.02	387.98	388.00	0.59	0.55	0.02	0.00
Link1848	11CB058	11CB067	Circular	374.10	0.29	1.00	1.79	350.00	350.58	346.30	345.20	0.99	0.00	346.84	0.00	345.98	345.90	3.16	0.00	4.60	4.68
Link2186	10AD050	10AA080	Circular	172.77	0.19	1.00	1.42	343.30	341.50	337.72	337.40	0.80	1.12	341.42	340.72	341.35	340.53	1.88	2.58	0.15	0.00
Link2187	10AA080	10AA081	Circular	170.03	0.21	1.00	1.52	341.50	341.40	337.40	337.04	2.03	1.54	341.35	340.53	340.77	340.70	0.15	0.00	0.63	0.70
Link2189	11BB002	10AA079.1	Circular	319.62	0.19	1.00	1.43	344.89	342.66	337.50	336.90	1.12	1.33	339.76	341.18	339.57	340.62	5.13	3.71	3.09	2.04
Link2190	10AA079.1	10AA079	Circular	153.57	0.16	1.50	3.86	342.66	342.12	336.90	336.66	1.02	-3.31	339.57	340.62	339.56	340.78	3.09	2.04	2.56	1.34
Link2191	02CC016	02CC018	Circular	254.52	0.22	1.50	4.58	344.45	345.39	338.45	337.89	2.43	3.26	340.09	340.76	340.00	340.71	4.36	3.69	5.39	4.68
Link2192	02CC003	02CC015.1	Natural	119.31	0.34	3.42	60.07	343.44	343.80	340.40	340.00	1.25	1.87	340.68	340.89	340.45	340.86	2.76	2.55	3.35	2.94
Link2193	02CC002.1	02CC002	Circular	15.16	1.32	1.00	3.80	342.81	342.83	340.90	340.70	0.30	0.44	341.10	341.14	340.94	340.99	1.71	1.67	1.89	1.84
Link2196	02CC015.1	02CC015	Circular	64.26	0.86	1.00	3.06	343.80	343.86	340.00	339.45	1.28	1.71	340.45	340.86	340.11	340.76	3.35	2.94	3.75	3.10
Link2198	25BB019	25BB018	Circular	30.65	0.52	1.00	2.39	390.50	390.71	387.66	387.50	2.55	3.28	388.39	388.50	388.09	388.17	2.10	1.99	2.62	2.54
Link2199	25BB013	25BB020	Natural	218.88	0.59	3.67	296.55	392.64	391.35	388.97	387.68	2.64	3.42	389.44	389.49	388.44	388.54	3.20	3.14	2.91	2.81
Link2200	23DD062	23DD061	Circular	25.03	1.48	1.00	4.02	380.67	381.60	379.67	379.30	0.52	0.68	379.93	379.96	379.47	379.49	0.74	0.71	2.13	2.11

Hydraulic Model Results - Full Buildout Conditions - Capital Improvement Plan Projects																					
Santiam River Watershed																					
xpswmm Conduit Name	Upstream Node Name	Downstream Node Name	Shape	Conduit Properties				Node Properties				Modeled Flows		HGL Upstream Node		HGL Downstream Node		Freeboard Upstream Node		Freeboard Downstream Node	
				Length, ft.	Slope %	Diameter, ft.	Design Capacity Flow, cfs	US Ground Elevation, ft.	DS Ground Elevation, ft.	US Invert Elevation, ft.	DS Invert Elevation, ft.	10-Yr Flow, cfs	25-Yr Flow, cfs	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.	10-Yr Flow, ft.	25-Yr Flow, ft.
Link2201	23DD056	23DD057	Circular	177.55	0.28	1.00	1.74	382.90	382.69	379.90	379.41	1.44	1.89	380.61	380.77	379.80	379.84	2.29	2.13	2.89	2.85
Link2202	23DD054	23DD055	Circular	67.96	0.53	1.00	2.41	381.36	383.00	380.36	380.00	1.45	1.93	380.94	381.07	380.63	380.78	0.42	0.29	2.36	2.21
Link2204	02CC024	02CC024.1	Natural	102.89	0.85	8.85	4665.95	340.92	340.05	332.07	331.20	49.31	41.58	333.27	333.18	332.33	332.23	7.65	7.74	7.72	7.82
Link2205	02CC010	02CC011	Circular	4.58	9.61	1.00	10.25	343.34	342.65	338.80	338.36	2.86	3.66	340.02	340.89	339.98	340.83	3.32	2.46	2.68	1.82
Link2208	23DD067	25BB014	Circular	295.53	0.96	1.00	3.25	384.86	385.45	382.85	380.00	0.44	0.59	383.12	383.16	380.32	380.37	1.74	1.70	5.13	5.09
Link2209	25BB014	23DD006	Natural	1950.87	0.55	4.04	58.16	385.45	372.00	380.00	369.36	38.23	51.18	380.32	380.37	371.49	372.00	5.13	5.09	0.51	0.00
Link2210	25BB017	25BB014	Circular	297.55	2.40	1.00	5.13	390.36	385.45	387.15	380.00	2.56	3.28	387.75	387.86	380.32	380.37	2.61	2.50	5.13	5.09
Link2211	23DD057	23DD057.1	Natural	56.28	0.73	3.28	155.37	382.69	382.28	379.41	379.00	1.44	1.89	379.80	379.84	379.40	379.47	2.89	2.85	2.88	2.81
Link2212	23DD057.1	23DD057.2	Circular	64.83	2.78	1.00	5.51	382.28	380.00	379.00	377.20	1.43	1.89	379.40	379.47	377.38	377.41	2.88	2.81	2.62	2.60
Link2213	23DD057.2	23DD021	Natural	510.19	1.04	2.33	879.45	380.00	373.75	377.20	371.90	4.66	6.72	377.38	377.41	371.96	372.25	2.62	2.60	1.79	1.51
Link2214	23DD060	23DD057.2	Natural	314.51	0.60	2.69	202.68	381.67	380.00	379.08	377.20	0.53	0.68	379.27	379.29	377.38	377.41	2.40	2.37	2.62	2.60
Link2215	23DA017.1	23DA017.2	Natural	248.84	0.25	6.62	309.44	370.83	363.78	361.00	360.37	41.94	34.27	362.48	363.79	361.45	363.78	8.35	7.04	2.33	0.00
Link2216	23DA017	23DA017.1	Natural	32.89	12.16	7.51	4471.71	370.19	370.83	365.00	361.00	41.19	33.12	365.57	365.54	362.48	363.79	4.62	4.65	8.35	7.04
Link2223	14DB003	14DB011.1	Circular	418.65	0.20	2.00	9.41	359.35	352.00	345.84	345.00	10.98	11.87	347.74	348.10	346.72	346.87	11.61	11.25	5.28	5.13
Link2224	14DB011.1	14DB011.2	Circular	444.06	0.23	2.00	9.97	352.00	351.00	345.00	344.00	10.95	11.84	346.72	346.87	345.19	345.24	5.28	5.13	5.81	5.77
Link2226	23DA031	23DA042	Circular	51.73	4.21	2.00	43.12	371.40	373.78	367.70	365.52	9.25	3.23	368.37	368.07	367.76	367.15	3.03	3.33	6.01	6.63

Appendix D

Data Gap Analysis

DAVID EVANS AND ASSOCIATES INC.

MEMORANDUM

DATE: January 30, 2020

TO: Kolson Shanks
Engineering Associate, City of Lebanon
925 Main Street
Lebanon, OR 97355

FROM: Atalia Raskin, PE

SUBJECT: Stormwater System Background Data and Gap Analysis

PROJECT: LEBX0000-0015
Lebanon Storm Drainage Master Plan

CC: Ron Whitlatch, PE

Purpose

As part of David Evans and Associates' (DEA) work to update the City of Lebanon's (City) Storm Drainage Master Plan (SDMP), DEA is developing an understanding of the City stormwater system by reviewing City provided information. The information DEA requested from the City included the following:

- Existing 1989 Storm Drainage Master Plan
- Relevant as-builts
- Previous studies
- Geotechnical information, including soil characteristics and water table depths
- Available GIS data (including stormwater pipe diameter and invert information)
- Maintenance records
- Future development plans (comprehensive plan, zoning information, etc.)

This memorandum was prepared in support of the project *Task 2: Stormwater System Background and Data Gap Analysis* and includes a summary review of the information provided and identification of missing data (gap analysis) and recommendations on approaches and alternatives on how to collect and/or provide the additional data.

This task follows the project kick-off meeting between City of Lebanon staff and DEA staff in which the type of information needed was discussed, to support the following project goals:

- Analyzing the stormwater sewer system to identify potential capacity deficiencies and identify improvements that would improve the capacity of the existing system.
- Analyzing the City's future stormwater system needs to identify potential future capacity deficiencies.
- Developing a Capital Improvement Plan (CIP) with a prioritized list of projects that address stormwater system deficiencies (existing and future), including timeline to complete projects, planning level project costs and an analysis of funding mechanisms and utility rates for recommended stormwater projects.

DATE:	January 30, 2020	FROM:	Atalia Raskin, PE
TO:	Kolson Shanks	SUBJECT:	Background Data and Gap Analysis

The City has provided several documents in support of this effort and a summary of the information provided is included in the attached Document and GIS Data List. The provided data includes policy documents and public improvement standards, including the Willamette River TMDL Implementation Plan and the Santiam-Albany Canal General Agreement. The City also provided a list of known stormwater issues within the City prepared by the City's maintenance staff.

Additionally, the City provided a set of geographic information system (GIS) mapping information files. The GIS data is critical and will provide the foundation for the hydraulic model development and is an important part of this data gap analysis.

To supplement data provided by the City, DEA staff completed desktop research to identify publically available information (see attached Researched Document List). Researched information includes Natural Resources Conservation Service (NRCS) soil information, Oregon Water Resource Department stream stage and flow information and Oregon Department of Geology & Mineral Industries (DOGAMI) Lidar data.

The collected information was reviewed for relevance and completeness. Through this process we have identified gaps in the data needed to perform assessments, as part of this project, and have provided a summary of the type of missing information and approaches and alternatives to consider for acquiring information to complete *Task 3: Stormwater Drainage Model and Analysis*. A list of additional information is requested to help fill gaps in the City provided data. The City may decide to move forward with DEA's assessment without the additional information. In this case, DEA will continue by using available information and limit the study where information is unavailable. We anticipate that the information currently collected and the additional information requested will be satisfactory to create a hydrologic and hydraulic model in support of the City's goals.

Methods

The selected approach is intended to be thorough and supportive of future project efforts. The data gap analysis approach includes the steps below:

Step 1 Review collect information for relevance then identify and remove extra information.

Step 2 Review relevant information for completeness and identify data gaps.

Step 3 Provide approaches and alternatives to addressing data gaps for City consideration and direction on next steps.

The City provided GIS data will be the foundation for hydraulic model development. The GIS source file data that was provided included a number of extraneous elements (e.g. curb inlets, catch basins and their lateral connections to the main sewer, etc.) that is not required for the modelling effort and was not included in the data gap review of this information. As such, a subset of modified GIS data was created (with extraneous elements removed from the source file) and will be used to build the hydraulic model, including storm sewers, structures (manholes, drywells, flow through inlets) and drainage ditches. Table 1 – GIS Storm Sewer Shapefiles lists the number of elements within each shapefile originally provided by the City and the reduced

number of elements in the modified shapefile created by DEA. A Modified GIS Storm Sewer System Map is included as an attachment. Additionally, the DEA modified shapefiles will be provided to the City as an electronic file along with this memorandum. The intent of the modified shapefiles is to help focus the City's data collection efforts to the corresponding areas and information in these files.

Table 1 – GIS Storm Sewer Shapefiles

SHAPEFILE NAME	NUMBER OF ELEMENTS	
	SOURCE FILE	MODIFIED FILE
SDLines	3,637	2,141
SDNode	5,053	3,051
SDOpenChannel	1,504	990
StormDrain_Net_Junctions	887	323
SD Fittings	331	57

The key components of the hydrologic and hydraulic model, to be developed as part of this project, are summarized in Table 2 – Hydrologic/Hydraulic Parameters. More information on the importance and rationale for selection of hydrologic and hydraulic parameters will be provided in the Storm Drainage Master Plan as part of *Task 6 Storm Drainage Master Plan*. Underground pipes include storm sewers and structures include, but are not limited to, manholes, flow through inlets and catch basins, and drywells.

Table 2 - Hydrologic/Hydraulic Parameters

PARAMETER	SOURCE
Underground Pipes: diameter, material, length	SDLines, as-builts
Culverts: diameter, material, length, entrance, inverts	SDLines, SDNodes, as-builts
Storm Structures: Diameter, invert, sump and rim elevations	SDNodes, Lidar
Open Channels: Shape, cover type	SDOpenChannel, aerial photos, Lidar
Stormwater Management Facilities: volume, control structure, overflow	SDOpenChannel, aerial photos, Lidar
Flow Generation: basin area, CN, Tc, Infiltration parameters	Lidar, Storm network, USGS soil classification

Results

The data review and gap analysis is summarized below and is separated into three sections including 1) Key Findings, 2) GIS Data Review, and 3) Additional and Helpful Information Request (if Available). Through this analysis, a couple of omissions in the City provided data were identified and are listed at the end of this section. It is our understanding, the City will update the modified GIS shapefiles, referenced in Table 1, with collected data in the method selected by the City.

DATE: January 30, 2020 FROM: Atalia Raskin, PE

TO: Kolson Shanks SUBJECT: Background Data and Gap Analysis

Key Findings

- Overall, a significant amount of information is missing from the provided and modified GIS data, including invert elevations, pipe diameters and rim elevations. As an example, there are approximately 800 manholes within the analysis area, of these 328 are missing all invert elevations (details are provided in the GIS Data Review section, below). A system wide survey is the most reliable method of obtaining missing information. However, surveys can be time intensive and expensive, and the City may elect to move forward with an approximate method of analysis described later in this memorandum.
- Within the City are several roadways with open channel and small diameter culverts as the primary conveyance systems (about 40% of modified SDLine elements). Almost no information other than the location and length of the culverts was provided. A map identifying the Open Drainageway and Culvert Location of these roadways is attached.

  For the City's consideration, approaches and alternatives to collecting data for these areas include:
  1. Do not include these culverts in the model
  2. DEA uses existing Lidar data to approximate invert elevations and collect or estimate pipe diameter from as-builts or site visit by City staff
  3. The City completes field surveys (shooting inverts, measuring diameters, determine materials and assess the conditions) and then updates the GIS information

  DEA recommends including the culverts in the hydraulic model if the City sees the open channel/culverts conveyance as a long term stormwater management approach. If the City is concerned with the existing culverts performance, this is another justification for having them modelled. Otherwise, DEA does not recommend including the culverts within the hydraulic model.

GIS Data Review

- Missing hydraulic parameters:
  - Structure Rim Elevations: Increase accuracy of model and better capture out of system flooding. Approximately 75% of structures are missing rim elevations.
    - Approaches and alternatives to collecting data:
      1. Survey elevations are the most accurate method, but DEA can estimate the elevations using existing Lidar data.
  - Storm Sewer Pipe Invert Elevations: Invert elevations are included with the adjoining structure of node. Approximately 68% of structures are all missing invert elevations.
    - Approaches and alternatives to collecting data:
      1. The City can approximate from as-built drawings and update the GIS files accordingly
      2. The City or DEA can approximate invert elevations with assuming slopes parallel to ground slopes
      3. The City can survey and measure from nearby known structure elevations and/or measure inverts from manhole rims (dip manhole).

- Storm Sewer Pipe Diameter: Approximately 30% of culvert pipes are missing diameters and only 4% of non-culvert pipes are missing a diameter.
  - Approaches and alternatives to collecting data:
    1. The City can research as-built drawings for storm sewer diameters and update the GIS files accordingly
    2. DEA can conservatively assume 12-inch diameter culvert pipes throughout, although, this will result in inaccurate results that might result in missing a potential issue.
    3. The City can measure and field verify culvert pipe diameters and update the GIS files accordingly.
- Storm Sewer Pipe Material: select Manning's roughness values. Approximately 48% pipes are missing a material type.
  - Approaches and alternatives to collecting data:
    1. DEA can assume a value for unclassified pipe, This is a common and reasonable practice in stormwater modeling. The values vary slightly between pipe materials and tend to increase as pipe age. A reasonable assumption would be to assume a value of concrete regardless of material type.
    2. The City can field verify pipe material and update the GIS files accordingly.
- Open Channel: the SDOpenChannel shapefile provides information on the location of drainage ditches within the City. It does not provide information on the channels themselves other than a length. Needed information to model the channels includes a typical cross section, channel lining (earth, grass etc.), channel slope, upstream and downstream invert elevations, and depth.

  For the City's consideration, approaches and alternatives to collecting this data include:
  1. DEA can use existing Lidar data to approximate the channel shape, invert elevations, slope and depth
  2. DEA can use existing aerial and site photos to select a channel lining. The channel lining is then used to select a channel roughness coefficient.
  3. City can survey elevations and make field observations regarding channel cross sections shape and lining and provide that data to DEA.

Additional and Helpful Information Request (if Available)

- High quality aerial photo(s) in electronic format: help with land and channel cover and exhibit preparation
- Impervious areas GIS shapefile: Increase accuracy of existing runoff flow rates and capacity analysis
  - Approaches and alternatives to provided data:
    1. DEA assigns impervious percentage based on land-use averaged from a sampling of locations within City limits.
- Ground cover GIS shapefile: Increase accuracy of existing runoff flow rates and capacity analysis
  - Approaches and alternatives to provided data:
    1. DEA reviews aerial photos to assign ground cover (e.g wooded areas vs lawn, etc.) based on area and land-use.

- Detention system design information (reports and as-builts): increases the accuracy of modeling
    - Approaches and alternatives to provided data:
        1. DEA assumes no detention systems (representing a "worst case" failure condition)
        2. DEA reviews as-built information and facility photos and uses available data provided by the City to approximate facility
        3. The City surveys the facilities and measures the control structures.
- Culvert entrance conditions (projecting, mitered to slope, headwall etc.): increase accuracy of modeling
    - Approaches and alternatives to provided data:
        1. City photographs and documents large culvert conditions and provides data to DEA
        2. DEA conservatively assumes projecting end conditions for all small diameter culverts
        3. The City surveys culverts
- Culvert and pipe condition (percent clogged, deteriorating, broken etc.): increase accuracy of modeling
    - Approaches and alternatives to provided data:
        1. The City photographs and documents culvert and pipes condition
- Missing drywell infiltration rates: increase accuracy of modeling
    - Approaches and alternatives to provided data:
        1. The City completes drywell infiltration testing and provides data to DEA
        2. The City locates existing geotech reports that provide approximate infiltration capacity
- Missing photos for historic flooding events: increase accuracy of modeling
    - Approaches and alternatives to provided data:
        1. The City provides photographs and/or video of flooding observed within the City

Omissions of data

A detailed review of missing data (storm pipes and structures not included within the SDLine and SDNode shapefiles) was not completed as part of this data gap analysis. A few locations were identified by review of the GIS data and aerial background information. These locations are listed in the attached Omissions in GIS Data List.

Conclusion and Recommendations

It is DEA's recommendation that the City and DEA have a conference call to discuss the findings in this Data Review and Gap Analsyis memo to gain clarity and agreement on preferred approaches and alternatives for collecting and/or providing the additional data before moving on to *Task 3: Stormwater Drainage Model and Analysis*.

DATE:	January 30, 2020	FROM:	Atalia Raskin, PE
TO:	Kolson Shanks	SUBJECT:	Background Data and Gap Analysis

Attachments

- Document and GIS Data List
- Researched Document List
- Modified GIS Storm Sewer System Map
- Open Drainageway and Culvert Location Map
- Omissions in GIS Data List

Attachments – DEA Modified Shapefiles (electronic only)

- SDNodes_DEA
- SDOpenChannels_DEA
- SDLinks_DEA
- StormDrain_Net_Junctions_DEA
- SDFittings_DEA

Document and GIS Data List

Lebanon Storm Drainage Master Plan

Project No.:	LEBX00000015	By:	Atalia Raskin, PE
Project Location:	Lebanon, Oregon	Data:	January 30, 2020

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Provided Information

Documents

1989 City of Lebanon Storm Drainage Master Plan

The current Stormwater management strategies used by the City

Willamette TMDL Implementation Plan, dated February 2009 and Revised 2011

The plan describes the strategies the City will use to reduce temperature, bacteria, and mercury pollution flowing to the Willamette River

TMDL Implementation Plan DEQ Approval Letter

Letter stating approval of TMDL plan

City of Lebanon Standards for Public Improvement

City development standards including storm drainage

Santiam-Albany Canal General Agreement

Provides a description of the Canal transfer agreement, including actions for Lebanon to reduce storm flows to the canal

2019 Storm Master Plan Problem Identification

Provides a list of storm drainage issues within the City

GIS Database

StormDrain_Net_ Junctions	provides a node at the ends of open channels, no elevation information
SDFittings	Provides a description of type of fitting, tee, wye, plug, tap, cap, other, no elevation information
SDNodes	Provides facility ID, inlets (curb & gutter), manholes, culvert ends, cleanouts, area drains,
SDLines	Provides facility ID, Type including culvert, gravity main, lateral, under drain, SO (stub out), Diameter, pipe material, pipe length
SDOpenChannel	Provides facility ID, Type including Irregular channels , drainage ditches, bioswales (some width provided), ponds (depth provided), pipe length
List of as-built data	Provides a list of as-builts related to storm drain lines and open channel lines
Tax lot	Provides land use, improved or unimproved designation, year built
Zoning	Provides zoning classification for lots within City limits
comp plan zoning	Provides comprehensive plan zoning classifications, adopted Dec. 2004

Researched Document List

Lebanon Storm Drainage Master Plan

Project No.:	LEBX00000015	By:	Atalia Raskin, PE
Project Location:	Lebanon, Oregon	Data:	January 30, 2020

DAVID EVANS AND ASSOCIATES INC.

Researched Information

Documents

NRCS Soil Survey

Provides soil type, extents, hydrologic soil group, infiltration rate, and more soil related information

DOGAMI Lidar

Oregon Department of Geology & Mineral Industries Lidar data from Oct. 2008 through Jun. 2009. Quad name Lebanon 44122-E8, NAVD88

Estimation of Green-Ampt Infiltration Parameters

Infiltration variable based on soil type

Lebanon Santiam Stream Gage

Oregon Water Resource Department flow data for backwater elevations

Estimation of Peak Discharges

Oregon Water Resource Department flow data estimates for un gaged sites for backwater elevations

Manning's "n" Channel Roughness

HEC-RAS River Analysis System Hydraulic Reference Manual Version 5.0 February 2016

SDNodes_DEA
SDFittings_DEA
StormDrain_Net_Junctions_DEA
SDLines_DEA
SDOpenChannel_DEA
Pond
City_Limits_Lebanon

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Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

Modified GIS Storm System Map

Lebanon Storm Drainage Master Plan

0 0.13 0.25 0.5 0.75 1 Miles

N

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Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

SDNodes_DEA
SDFittings_DEA
StormDrain_Net_Junctions_DEA
SDLines_DEA
SDOpenChannel_DEA
Pond
City_Limits_Lebanon
Open Drainageway Locations

Gore Dr
Private Dwy 1
Private Dwy 2
Hwy 20
Reeves Pkwy
Railroad Ave
Williams
Harrison St
Sunset Rd
S 13th St
S 10th St
S 5th St
W Rose St
340 ft
W Ash St
W Oak St
Gilbert Dr
S 9th St
E Elmore St
728 ft
Berlin Rd
E St
12th St
Strawberry Ln
S 7th St
Binshadler St
Airport Dr
Oxford St
8th St
Elmwood St
Franklin St
Wassom St
S 6th St
Walker Rd
Dewey St
Russell St
Off-road Trail
Oak Creek
South Santiam River
Lebanon Santiam Canal
Cul-de-sack
Market St
Stoltz Hill Rd
Vaughan Ln
Oak Ln
Wagon Wheel Dr
Cheadle Lake
Hwy 20
View Ln
Crowfoot Rd
Linden Ave
Minnesota St
Central Ave
Cascade Dr
388 ft
S Main Rd
Baker St
Hillview Dr
Oak Creek Rd
Rockhill Dr

Sources: Esri, Airbus DS, USGS, NGA, NASA, CGIAR, N Robinson, NCEAS, NLS, OS, NMA, Geodatastyrelsen, Rijkswaterstaat, GSA, Geoland, FEMA, Intermap and the GIS user community

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Open Drainageway and Culvert Location Map

Lebanon Storm Drainage Master Plan

0 0.13 0.25 0.5 0.75 1 Miles

N

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Lebanon OREGON THE CITY THAT FRIENDLINESS BUILT

Omissions in GIS Data List

Lebanon Storm Drainage Master Plan

Project No.:	LEBX00000015	By:	Atalia Raskin, PE
Project Location:	Lebanon, Oregon	Data:	January 30, 2020

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Omissions in Data			
Missing Item	Location	Lat.	Long.
Inlet and outlet pipe	E Carolina St & S Santiam St	44 32'35.02"	122 53'40.20"
Inlet and outlet pipe	Walnut St & E Ash St	44 32'23.68"	122 53'33.22"
Inlet and outlet pipe	E Ash St & Crescent St	44 32'24.33"	122 53'46.86"
Inlet and outlet pipe	Harmony St & Eddie St	44 32'01.57"	122 53'40.69"
Connection Point	Foxfield Manufactured Home Community at Vaughan Ln	44 30'46.26"	122 54'34.64"
Connection Point	New Developed at Sand Ridge Ct	44 31'02.34"	122 54'27.90"
Detention Facility	Oak Creek Rd	44 29'56.28"	122 54'12.83"
Detention Facility	Market St & S Main Rd	44 31'05.21"	122 54'05.46"

Appendix E

CIP Projects Prioritization Ranking

Santiam-Albany Canal CIP Projects Prioritization

Projects with top scores

Total Score	26	21	55	74	62	22	47	42	42	68	53
CIP ID	SA-001	SA-002	SA-003	SA-004	SA-005	SA-006	SA-007	SA-008	SA-009	SA-010	SA-011
Cost	$73,000	$133,760	$1,064,800	$2,146,950	$176,750	$129,510	$589,630	$210,000	$221,000	$407,000	$358,530
Relative Cost	10	10	1	1	10	10	5	5	5	5	5
Less than $200,000 (10pts)	10	10	0	0	10	10	0	0	0	0	0
Between $200,000 - $700,000 (5pts)	0	0	0	0	0	0	5	5	5	5	5
Over $700,000 (1pt)	0	0	1	1	0	0	0	0	0	0	0
Relative Complexity (1pt/each)	6	6	4	2	6	6	6	6	6	6	6
No Utility Conflicts	1	1	0	0	1	1	1	1	1	1	1
No Environmental Permitting	1	1	1	1	1	1	1	1	1	1	1
No Railroad Interaction	1	1	1	0	1	1	1	1	1	1	1
No ODOT/County Roadway crossing	1	1	1	1	1	1	1	1	1	1	1
No Private Property Impact	1	1	1	0	1	1	1	1	1	1	1
No other Complexity	1	1	0	0	1	1	1	1	1	1	1
Flood Mitigation (5pts/each)	0	0	10	10	0	0	5	5	5	10	10
Alleviates Existing flooding	0	0	5	5	0	0	5	5	5	5	5
Alleviates Full Buildout flooding	0	0	5	5	0	0	0	0	0	5	5
Capacity Limitations (5pts/each)	0	0	10	10	0	0	10	10	15	15	15
Capacity issues at 2-yr and under	0	0	0	0	0	0	0	0	5	5	5
Capacity issues between 2 - 10yr	0	0	5	5	0	0	5	5	5	5	5
Capacity issues 10yr - 25yr	0	0	5	5	0	0	5	5	5	5	5
Canal Diversion (5pts/each)	5	5	10	15	15	5	0	0	0	0	0
less than 10 acres	5	5	5	5	5	5	0	0	0	0	0
between 10 & 40 acres	0	0	5	5	5	0	0	0	0	0	0
more than 40 acres	0	0	0	5	5	0	0	0	0	0	0
Drainage Basin Area Alleviated From Flooding (5pts/each)	0	0	15	20	0	0	15	10	10	20	15
Greater than 5 acres	0	0	5	5	0	0	5	5	5	5	5
Greater than 10 acres	0	0	5	5	0	0	5	5	5	5	5
Greater than 20 acres	0	0	5	5	0	0	5	0	0	5	5
Greater than 50 acres	0	0	0	5	0	0	0	0	0	5	0
Water Quality	0	0	0	10	30	0	0	0	0	0	0
Supports TMDLs plan (educational opportunity, enhances habitat, improves water quality) (15pts)	0	0	0	0	15	0	0	0	0	0	0
Eliminates O&M problems (drywells, debris etc.) (15pts)	0	0	0	0	15	0	0	0	0	0	0
Quantity potential area (10pts)	0	0	0	10	0	0	0	0	0	0	0
Retrofit extg ponds (10pts)	0	0	0	0	0	0	0	0	0	0	0
Additional Objects	5	0	5	6	1	1	6	6	1	12	2
Upstream projects (5pts)	0	0	0	5	0	0	5	5	0	5	0
Downstream projects (1pt)	0	0	0	0	1	1	1	1	1	1	1
Partnering potential (With County/ODOT) (1pt)	0	0	0	0	0	0	0	0	0	1	1
Supports future development area (1pt)	0	0	0	1	0	0	0	0	0	0	0
City identified issue area? (5pts)	0	0	5	0	0	0	0	0	0	5	0
Low hanging fruit (all that are <$100,000?) (5pts)	5	0	0	0	0	0	0	0	0	0	0

Santiam-Albany Canal CIP Projects Prioritization

Projects with top scores

Total Score	47	57	67	37	37	56	57
CIP ID	SA-012	SA-013	SA-014	SA-015	SA-016	SA-017	SA-018
Cost	$301,290	$110,750	$68,400	$249,000	$135,200	$199,600	$776,840
Relative Cost	5	10	10	5	10	10	1
Less than $200,000 (10pts)	0	10	10	0	10	10	0
Between $200,000 - $700,000 (5pts)	5	0	0	5	0	0	0
Over $700,000 (1pt)	0	0	0	0	0	0	1
Relative Complexity (1pt/each)	**6**	**6**	**6**	**6**	**6**	**5**	**5**
No Utility Conflicts	1	1	1	1	1	1	0
No Environmental Permitting	1	1	1	1	1	1	1
No Railroad Interaction	1	1	1	1	1	1	1
No ODOT/County Roadway crossing	1	1	1	1	1	1	1
No Private Property Impact	1	1	1	1	1	0	1
No other Complexity	1	1	1	1	1	1	1
Flood Mitigation (5pts/each)	**10**	**10**	**10**	**5**	**5**	**10**	**0**
Alleviates Existing flooding	5	5	5	5	5	5	0
Alleviates Full Buildout flooding	5	5	5	0	0	5	0
Capacity Limitations (5pts/each)	**15**	**15**	**10**	**15**	**15**	**15**	**0**
Capacity issues at 2-yr and under	5	5	0	5	5	5	0
Capacity issues between 2 - 10yr	5	5	5	5	5	5	0
Capacity issues 10yr - 25yr	5	5	5	5	5	5	0
Canal Diversion (5pts/each)	**0**	**0**	**0**	**0**	**0**	**0**	**0**
less than 10 acres	0	0	0	0	0	0	0
between 10 & 40 acres	0	0	0	0	0	0	0
more than 40 acres	0	0	0	0	0	0	0
Drainage Basin Area Alleviated From Flooding (5pts/each)	**10**	**10**	**15**	**5**	**0**	**5**	**20**
Greater than 5 acres	5	5	5	5	0	5	5
Greater than 10 acres	5	5	5	0	0	0	5
Greater than 20 acres	0	0	5	0	0	0	5
Greater than 50 acres	0	0	0	0	0	0	5
Water Quality	**0**	**0**	**10**	**0**	**0**	**10**	**30**
Supports TMDLs plan (educational opportunity, enhances habitat, improves water quality) (15pts)	0	0	0	0	0	0	15
Eliminates O&M problems (drywells, debris etc.) (15pts)	0	0	0	0	0	0	15
Quantity potential area (10pts)	0	0	10	0	0	10	0
Retrofit extg ponds (10pts)	0	0	0	0	0	0	0
Additional Objects	**1**	**6**	**6**	**1**	**1**	**1**	**1**
Upstream projects (5pts)	0	0	0	0	0	0	0
Downstream projects (1pt)	1	1	0	1	1	1	1
Partnering potential (With County/ODOT) (1pt)	0	0	0	0	0	0	0
Supports future development area (1pt)	0	0	1	0	0	0	0
City identified issue area? (5pts)	0	5	0	0	0	0	0
Low hanging fruit (all that are <$100,000?) (5pts)	0	0	5	0	0	0	0

Oak CIP Projects Prioritization

Projects with top scores

Total Score	62	46	36	36	46	41	51	46	63	41	52	41
CIP ID	OC-001	OC-002	OC-003	OC-004	OC-005	OC-006	OC-007	OC-008	OC-009	OC-010	OC-011	OC-012
Cost	$29,380	$84,525	$123,113	$43,138	$19,338	$109,013	$83,468	$134,925	$13,388	$142,800	$19,688	$25,500
Relative Cost	10	10	10	10	10	10	10	10	10	10	10	10
Less than $200,000 (10pts)	10	10	10	10	10	10	10	10	10	10	10	10
Between $200,000 - $700,000 (5pts)	0	0	0	0	0	0	0	0	0	0	0	0
Over $700,000 (1pt)	0	0	0	0	0	0	0	0	0	0	0	0
Relative Complexity (1pt/each)	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**
No Utility Conflicts	1	1	1	1	1	1	1	1	1	1	1	1
No Environmental Permitting	1	1	1	1	1	1	1	1	1	1	1	1
No Railroad Interaction	1	1	1	1	1	1	1	1	1	1	1	1
No ODOT/County Roadway crossing	1	1	1	1	1	1	1	1	1	1	1	1
No Private Property Impact	1	1	1	1	1	1	1	1	1	1	1	1
No other Complexity	1	1	1	1	1	1	1	1	1	1	1	1
Flood Mitigation (5pts/each)	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**10**	**5**	**5**	**5**
Alleviates Existing flooding	5	5	5	5	5	5	5	5	5	5	5	5
Alleviates Full Buildout flooding	0	0	0	0	0	0	0	0	5	0	0	0
Capacity Limitations (5pts/each)	**10**	**10**	**10**	**10**	**15**	**15**	**10**	**15**	**10**	**10**	**15**	**10**
Capacity issues at 2-yr and under	0	0	0	0	5	5	0	5	0	0	5	0
Capacity issues between 2 - 10yr	5	5	5	5	5	5	5	5	5	5	5	5
Capacity issues above 10yr	5	5	5	5	5	5	5	5	5	5	5	5
Drainage Basin Area Alleviated From Flooding (5pts/each)	**20**	**10**	**5**	**0**	**5**	**5**	**10**	**10**	**20**	**10**	**10**	**5**
Greater than 5 acres	5	5	5	0	5	5	5	5	5	5	5	5
Greater than 10 acres	5	5	0	0	0	0	5	5	5	5	5	0
Greater than 20 acres	5	0	0	0	0	0	0	0	5	0	0	0
Greater than 50 acres	5	0	0	0	0	0	0	0	5	0	0	0
Water Quality	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Supports TMDLs plan (educational opportunity, enhances habitat, improves water quality) (15pts)	0	0	0	0	0	0	0	0	0	0	0	0
Eliminates O&M problems (drywells, debris etc.) (15pts)	0	0	0	0	0	0	0	0	0	0	0	0
Quantity potential area (10pts)	0	0	0	0	0	0	0	0	0	0	0	0
Retrofit extg ponds (10pts)	0	0	0	0	0	0	0	0	0	0	0	0
Additional Objects	**11**	**5**	**0**	**5**	**5**	**0**	**10**	**0**	**7**	**0**	**6**	**5**
Upstream projects (5pts)	0	0	0	0	0	0	0	0	0	0	0	0
Downstream projects (1pt)	0	0	0	0	0	0	0	0	0	0	0	0
Partnering potential (With County/ODOT) (1pt)	1	0	0	0	0	0	0	0	1	0	1	0
Supports future development area (1pt)	0	0	0	0	0	0	0	0	1	0	0	0
City identified issue area? (5pts)	5	0	0	0	0	0	5	0	0	0	0	0
Low hanging fruit (all that are <$100,000?) (5pts)	5	5	0	5	5	0	5	0	5	0	5	5

Oak CIP Projects Prioritization

Projects with top scores

Total Score	46	63	61
CIP ID	OC-013	OC-014	OC-015
Cost	$24,225	$24,860	$100,000
Relative Cost	10	10	10
Less than $200,000 (10pts)	10	10	10
Between $200,000 - $700,000 (5pts)	0	0	0
Over $700,000 (1pt)	0	0	0
Relative Complexity (1pt/each)	**6**	**6**	**5**
No Utility Conflicts	1	1	1
No Environmental Permitting	1	1	1
No Railroad Interaction	1	1	1
No ODOT/County Roadway crossing	1	1	1
No Private Property Impact	1	1	1
No other Complexity	1	1	0
Flood Mitigation (5pts/each)	**5**	**10**	**5**
Alleviates Existing flooding	5	5	0
Alleviates Full Buildout flooding	0	5	5
Capacity Limitations (5pts/each)	**10**	**5**	**0**
Capacity issues at 2-yr and under	0	0	0
Capacity issues between 2 - 10yr	5	0	0
Capacity issues above 10yr	5	5	0
Drainage Basin Area Alleviated From Flooding (5pts/each)	**10**	**20**	**20**
Greater than 5 acres	5	5	5
Greater than 10 acres	5	5	5
Greater than 20 acres	0	5	5
Greater than 50 acres	0	5	5
Water Quality	**0**	**0**	**20**
Supports TMDLs plan (educational opportunity, enhances habitat, improves water quality) (15pts)	0	0	10
Eliminates O&M problems (drywells, debris etc.) (15pts)	0	0	0
Quantity potential area (10pts)	0	0	10
Retrofit extg ponds (10pts)	0	0	0
Additional Objects	**5**	**12**	**1**
Upstream projects (5pts)	0	0	0
Downstream projects (1pt)	0	0	0
Partnering potential (With County/ODOT) (1pt)	0	1	0
Supports future development area (1pt)	0	1	1
City identified issue area? (5pts)	0	5	0
Low hanging fruit (all that are <$100,000?) (5pts)	5	5	0

Santiam CIP Projects Prioritization

Projects with top scores

Total Score	56	42	47	42	47	42	42	42	36	40	37	36
CIP ID	SR-001	SR-002	SR-003	SR-004	SR-005	SR-006	SR-007	SR-008	SR-009	SR-010	SR-011	SR-012
Cost	$493,430	$274,500	$169,800	$307,250	$161,600	$303,250	$164,200	$174,720	$169,720	$225,750	$74,250	$99,000
Relative Cost	5	5	10	5	10	5	10	10	10	5	10	10
Less than $200,000 (10pts)	0	0	10	0	10	0	10	10	10	0	10	10
Between $200,000 - $700,000 (5pts)	5	5	0	5	0	5	0	0	0	5	0	0
Over $700,000 (1pt)	0	0	0	0	0	0	0	0	0	0	0	0
Relative Complexity (1pt/each)	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**5**	**6**	**5**
No Utility Conflicts	1	1	1	1	1	1	1	1	1	1	1	1
No Environmental Permitting	1	1	1	1	1	1	1	1	1	1	1	1
No Railroad Interaction	1	1	1	1	1	1	1	1	1	1	1	1
No ODOT/County Roadway crossing	1	1	1	1	1	1	1	1	1	1	1	0
No Private Property Impact	1	1	1	1	1	1	1	1	1	0	1	1
No other Complexity	1	1	1	1	1	1	1	1	1	1	1	1
Flood Mitigation (5pts/each)	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**	**5**
Alleviates Existing flooding	5	5	5	5	5	5	5	5	5	5	5	5
Alleviates Full Buildout flooding	0	0	0	0	0	0	0	0	0	0	0	0
Capacity Limitations (5pts/each)	**15**	**15**	**15**	**15**	**15**	**15**	**15**	**15**	**10**	**10**	**10**	**5**
Capacity issues at 2-yr and under	5	5	5	5	5	5	5	5	0	0	0	0
Capacity issues between 2 - 10yr	5	5	5	5	5	5	5	5	5	5	5	0
Capacity issues above 10yr	5	5	5	5	5	5	5	5	5	5	5	5
Drainage Basin Area Alleviated From Flooding (5pts/each)	**20**	**10**	**10**	**10**	**5**	**10**	**5**	**5**	**5**	**15**	**0**	**5**
Greater than 5 acres	5	5	5	5	5	5	5	5	5	5	0	5
Greater than 10 acres	5	5	5	5	0	5	0	0	0	5	0	0
Greater than 20 acres	5	0	0	0	0	0	0	0	0	5	0	0
Greater than 50 acres	5	0	0	0	0	0	0	0	0	0	0	0
Water Quality	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Supports TMDLs plan (educational opportunity, enhances habitat, improves water quality) (15pts)	0	0	0	0	0	0	0	0	0	0	0	0
Eliminates O&M problems (drywells, debris etc.) (15pts)	0	0	0	0	0	0	0	0	0	0	0	0
Quantity potential area (10pts)	0	0	0	0	0	0	0	0	0	0	0	0
Retrofit extg ponds (10pts)	0	0	0	0	0	0	0	0	0	0	0	0
Additional Objects	**5**	**1**	**1**	**1**	**6**	**1**	**1**	**1**	**0**	**0**	**6**	**6**
Upstream projects (5pts)	5	0	0	0	0	0	0	0	0	0	0	0
Downstream projects (1pt)	0	1	1	1	1	1	1	1	0	0	1	1
Partnering potential (With County/ODOT) (1pt)	0	0	0	0	0	0	0	0	0	0	0	0
Supports future development area (1pt)	0	0	0	0	0	0	0	0	0	0	0	0
City identified issue area? (5pts)	0	0	0	0	5	0	0	0	0	0	0	0
Low hanging fruit (all that are <$100,000?) (5pts)	0	0	0	0	0	0	0	0	0	0	5	5

Santiam CIP Projects Prioritization

Projects with top scores

Total Score	62	47	46	42	71	53	47	66
CIP ID	SR-013	SR-014	SR-015	SR-016	SR-017	SR-018	SR-019	SR-020
Cost	$301,750	$178,250	$345,810	$111,000	$45,750	$122,860	$106,000	$958,990
Relative Cost	5	10	5	10	10	10	10	1
Less than $200,000 (10pts)	0	10	0	10	10	10	10	0
Between $200,000 - $700,000 (5pts)	5	0	5	0	0	0	0	0
Over $700,000 (1pt)	0	0	0	0	0	0	0	1
Relative Complexity (1pt/each)	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**4**
No Utility Conflicts	1	1	1	1	1	1	1	0
No Environmental Permitting	1	1	1	1	1	1	1	1
No Railroad Interaction	1	1	1	1	1	1	1	1
No ODOT/County Roadway crossing	1	1	1	1	1	1	1	0
No Private Property Impact	1	1	1	1	1	1	1	1
No other Complexity	1	1	1	1	1	1	1	1
Flood Mitigation (5pts/each)	**5**	**5**	**5**	**5**	**10**	**10**	**5**	**10**
Alleviates Existing flooding	5	5	5	5	5	5	5	5
Alleviates Full Buildout flooding	0	0	0	0	5	5	0	5
Capacity Limitations (5pts/each)	**15**	**15**	**5**	**15**	**15**	**10**	**15**	**15**
Capacity issues at 2-yr and under	5	5	0	5	5	0	5	5
Capacity issues between 2 - 10yr	5	5	0	5	5	5	5	5
Capacity issues above 10yr	5	5	5	5	5	5	5	5
Drainage Basin Area Alleviated From Flooding (5pts/each)	**20**	**10**	**20**	**5**	**20**	**15**	**10**	**20**
Greater than 5 acres	5	5	5	5	5	5	5	5
Greater than 10 acres	5	5	5	0	5	5	5	5
Greater than 20 acres	5	0	5	0	5	5	0	5
Greater than 50 acres	5	0	5	0	5	0	0	5
Water Quality	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**10**
Supports TMDLs plan (educational opportunity, enhances habitat, improves water quality) (15pts)	0	0	0	0	0	0	0	0
Eliminates O&M problems (drywells, debris etc.) (15pts)	0	0	0	0	0	0	0	0
Quantity potential area (10pts)	0	0	0	0	0	0	0	10
Retrofit extg ponds (10pts)	0	0	0	0	0	0	0	0
Additional Objects	**11**	**1**	**5**	**1**	**10**	**2**	**1**	**6**
Upstream projects (5pts)	5	0	5	0	5	0	0	5
Downstream projects (1pt)	1	1	0	1	0	0	1	0
Partnering potential (With County/ODOT) (1pt)	0	0	0	0	0	1	0	1
Supports future development area (1pt)	0	0	0	0	0	1	0	0
City identified issue area? (5pts)	5	0	0	0	0	0	0	0
Low hanging fruit (all that are <$100,000?) (5pts)	0	0	0	0	5	0	0	0

Burkhart CIP Projects Prioritization

Projects with top scores

Total Score	47	51	57	48	48	57	37	37	37	42	42
CIP ID	BC-001	BC-002	BC-003	BC-004	BC-005	BC-006	BC-007	BC-008	BC-009	BC-010	BC-011
Cost	$277,810	$518,790	$365,820	$219,500	$564,000	$642,810	$251,200	$250,800	$246,800	$246,600	$413,000
Relative Cost	5	5	5	5	5	5	5	5	5	5	5
Less than $200,000 (10pts)	0	0	0	0	0	0	0	0	0	0	0
Between $200,000 - $700,000 (5pts)	5	5	5	5	5	5	5	5	5	5	5
Over $700,000 (1pt)	0	0	0	0	0	0	0	0	0	0	0
Relative Complexity (1pt/each)	6	6	6	6	6	6	6	6	6	6	6
No Utility Conflicts	1	1	1	1	1	1	1	1	1	1	1
No Environmental Permitting	1	1	1	1	1	1	1	1	1	1	1
No Railroad Interaction	1	1	1	1	1	1	1	1	1	1	1
No ODOT/County Roadway crossing	1	1	1	1	1	1	1	1	1	1	1
No Private Property Impact	1	1	1	1	1	1	1	1	1	1	1
No other Complexity	1	1	1	1	1	1	1	1	1	1	1
Flood Mitigation (5pts/each)	10	5	10	5	5	5	5	5	5	5	5
Alleviates Existing flooding	5	5	5	5	5	5	5	5	5	5	5
Alleviates Full Buildout flooding	5	0	5	0	0	0	0	0	0	0	0
Capacity Limitations (5pts/each)	10	15	15	15	15	15	15	15	15	15	15
Capacity issues at 2-yr and under	0	5	5	5	5	5	5	5	5	5	5
Capacity issues between 2 - 10yr	5	5	5	5	5	5	5	5	5	5	5
Capacity issues above 10yr	5	5	5	5	5	5	5	5	5	5	5
Drainage Basin Area Alleviated From Flooding (5pts/each)	15	15	15	15	15	20	5	5	5	10	10
Greater than 5 acres	5	5	5	5	5	5	5	5	5	5	5
Greater than 10 acres	5	5	5	5	5	5	0	0	0	5	5
Greater than 20 acres	5	5	5	5	5	5	0	0	0	0	0
Greater than 50 acres	0	0	0	0	0	5	0	0	0	0	0
Water Quality	0	0	0	0	0	0	0	0	0	0	0
Supports TMDLs plan (educational opportunity, enhances habitat, improves water quality) (15pts)	0	0	0	0	0	0	0	0	0	0	0
Eliminates O&M problems (drywells, debris etc.) (15pts)	0	0	0	0	0	0	0	0	0	0	0
Quantity potential area (10pts)	0	0	0	0	0	0	0	0	0	0	0
Retrofit extg ponds (10pts)	0	0	0	0	0	0	0	0	0	0	0
Additional Objects	1	5	6	2	2	6	1	1	1	1	1
Upstream projects (5pts)	0	5	5	0	0	5	0	0	0	0	0
Downstream projects (1pt)	0	0	0	1	1	1	1	1	1	1	1
Partnering potential (With County/ODOT) (1pt)	0	0	1	1	1	0	0	0	0	0	0
Supports future development area (1pt)	1	0	0	0	0	0	0	0	0	0	0
City identified issue area? (5pts)	0	0	0	0	0	0	0	0	0	0	0
Low hanging fruit (all that are <$100,000?) (5pts)	0	0	0	0	0	0	0	0	0	0	0

Burkhart CIP Projects Prioritization

Projects with top scores

Total Score	36	47	27	57	48	37	41	51	41	37	91
CIP ID	BC-012	BC-013	BC-014	BC-015	BC-016	BC-017	BC-018	BC-019	BC-020	BC-021	BC-022
Cost	$148,000	$721,380	$181,200	$267,400	$1,134,550	$258,750	$76,400	$49,800	$186,750	$15,660	$39,300
Relative Cost	10	1	10	5	1	5	10	10	10	10	10
Less than $200,000 (10pts)	10	0	10	0	0	0	10	10	10	10	10
Between $200,000 - $700,000 (5pts)	0	0	0	5	0	5	0	0	0	0	0
Over $700,000 (1pt)	0	1	0	0	1	0	0	0	0	0	0
Relative Complexity (1pt/each)	**6**	**5**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**
No Utility Conflicts	1	1	1	1	1	1	1	1	1	1	1
No Environmental Permitting	1	1	1	1	1	1	1	1	1	1	1
No Railroad Interaction	1	0	1	1	1	1	1	1	1	1	1
No ODOT/County Roadway crossing	1	1	1	1	1	1	1	1	1	1	1
No Private Property Impact	1	1	1	1	1	1	1	1	1	1	1
No other Complexity	1	1	1	1	1	1	1	1	1	1	1
Flood Mitigation (5pts/each)	**5**	**5**	**10**	**10**	**5**	**5**	**5**	**5**	**5**	**5**	**0**
Alleviates Existing flooding	5	5	5	5	5	5	5	5	5	5	0
Alleviates Full Buildout flooding	0	0	5	5	0	0	0	0	0	0	0
Capacity Limitations (5pts/each)	**10**	**15**	**0**	**15**	**15**	**15**	**10**	**10**	**10**	**10**	**15**
Capacity issues at 2-yr and under	0	5	0	5	5	5	0	0	0	0	5
Capacity issues between 2 - 10yr	5	5	0	5	5	5	5	5	5	5	5
Capacity issues above 10yr	5	5	0	5	5	5	5	5	5	5	5
Drainage Basin Area Alleviated From Flooding (5pts/each)	**5**	**15**	**0**	**5**	**15**	**5**	**5**	**15**	**10**	**0**	**20**
Greater than 5 acres	5	5	0	5	5	5	5	5	5	0	5
Greater than 10 acres	0	5	0	0	5	0	0	5	5	0	5
Greater than 20 acres	0	5	0	0	5	0	0	5	0	0	5
Greater than 50 acres	0	0	0	0	0	0	0	0	0	0	5
Water Quality	**0**	**0**	**0**	**15**	**0**	**0**	**0**	**0**	**0**	**0**	**30**
Supports TMDLs plan (educational opportunity, enhances habitat, improves water quality) (15pts)	0	0	0	0	0	0	0	0	0	0	15
Eliminates O&M problems (drywells, debris etc.) (15pts)	0	0	0	15	0	0	0	0	0	0	15
Quantity potential area (10pts)	0	0	0	0	0	0	0	0	0	0	0
Retrofit extg ponds (10pts)	0	0	0	0	0	0	0	0	0	0	0
Additional Objects	**0**	**6**	**1**	**1**	**6**	**1**	**5**	**5**	**0**	**6**	**10**
Upstream projects (5pts)	0	5	0	0	5	0	0	0	0	0	5
Downstream projects (1pt)	0	1	1	1	1	1	0	0	0	1	0
Partnering potential (With County/ODOT) (1pt)	0	0	0	0	0	0	0	0	0	0	0
Supports future development area (1pt)	0	0	0	0	0	0	0	0	0	0	0
City identified issue area? (5pts)	0	0	0	0	0	0	0	0	0	0	0
Low hanging fruit (all that are <$100,000?) (5pts)	0	0	0	0	0	0	5	5	0	5	5

Burkhart CIP Projects Prioritization

Projects with top scores

Total Score	92	51	41	46	46	46	37	42	42	41	52	41
CIP ID	BC-023	BC-024	BC-025	BC-026	BC-027	BC-028	BC-029	BC-030	BC-031	BC-032	BC-033	BC-034
Cost	$186,150	$12,800	$32,000	$193,000	$60,250	$38,600	$189,280	$135,600	$219,000	$218,000	$178,500	$30,500
Relative Cost	10	10	10	10	10	10	10	10	5	5	10	10
Less than $200,000 (10pts)	10	10	10	10	10	10	10	10	0	0	10	10
Between $200,000 - $700,000 (5pts)	0	0	0	0	0	0	0	0	5	5	0	0
Over $700,000 (1pt)	0	0	0	0	0	0	0	0	0	0	0	0
Relative Complexity (1pt/each)	6	6	6	6	6	6	6	6	6	6	6	6
No Utility Conflicts	1	1	1	1	1	1	1	1	1	1	1	1
No Environmental Permitting	1	1	1	1	1	1	1	1	1	1	1	1
No Railroad Interaction	1	1	1	1	1	1	1	1	1	1	1	1
No ODOT/County Roadway crossing	1	1	1	1	1	1	1	1	1	1	1	1
No Private Property Impact	1	1	1	1	1	1	1	1	1	1	1	1
No other Complexity	1	1	1	1	1	1	1	1	1	1	1	1
Flood Mitigation (5pts/each)	5	5	5	5	5	5	5	5	5	5	5	5
Alleviates Existing flooding	5	5	5	5	5	5	5	5	5	5	5	5
Alleviates Full Buildout flooding	0	0	0	0	0	0	0	0	0	0	0	0
Capacity Limitations (5pts/each)	15	15	10	15	10	15	10	15	15	15	10	10
Capacity issues at 2-yr and under	5	5	0	5	0	5	0	5	5	5	0	0
Capacity issues between 2 - 10yr	5	5	5	5	5	5	5	5	5	5	5	5
Capacity issues above 10yr	5	5	5	5	5	5	5	5	5	5	5	5
Drainage Basin Area Alleviated From Flooding (5pts/each)	20	10	5	10	10	5	5	5	10	10	15	5
Greater than 5 acres	5	5	5	5	5	5	5	5	5	5	5	5
Greater than 10 acres	5	5	0	5	5	0	0	0	5	5	5	0
Greater than 20 acres	5	0	0	0	0	0	0	0	0	0	5	0
Greater than 50 acres	5	0	0	0	0	0	0	0	0	0	0	0
Water Quality	30	0	0	0	0	0	0	0	0	0	0	0
Supports TMDLs plan (educational opportunity, enhances habitat, improves water quality) (15pts)	15	0	0	0	0	0	0	0	0	0	0	0
Eliminates O&M problems (drywells, debris etc.) (15pts)	15	0	0	0	0	0	0	0	0	0	0	0
Quantity potential area (10pts)	0	0	0	0	0	0	0	0	0	0	0	0
Retrofit extg ponds (10pts)	0	0	0	0	0	0	0	0	0	0	0	0
Additional Objects	6	5	5	0	5	5	1	1	1	0	6	5
Upstream projects (5pts)	5	0	0	0	0	0	0	0	0	0	5	0
Downstream projects (1pt)	1	0	0	0	0	0	1	1	1	0	1	0
Partnering potential (With County/ODOT) (1pt)	0	0	0	0	0	0	0	0	0	0	0	0
Supports future development area (1pt)	0	0	0	0	0	0	0	0	0	0	0	0
City identified issue area? (5pts)	0	0	0	0	0	0	0	0	0	0	0	0
Low hanging fruit (all that are <$100,000?) (5pts)	0	5	5	0	5	5	0	0	0	0	0	5

Burkhart CIP Projects Prioritization

Projects with top scores

Total Score	36	46	52	41	51	46	47	51	36	42	42	52
CIP ID	BC-035	BC-036	BC-037	BC-038	BC-039	BC-040	BC-041	BC-042	BC-043	BC-044	BC-045	BC-046
Cost	$146,000	$144,750	$182,000	$131,400	$60,500	$304,250	$61,500	$57,750	$94,000	$98,250	$105,500	$85,000
Relative Cost	10	10	10	10	10	5	10	10	10	10	10	10
Less than $200,000 (10pts)	10	10	10	10	10	0	10	10	10	10	10	10
Between $200,000 - $700,000 (5pts)	0	0	0	0	0	5	0	0	0	0	0	0
Over $700,000 (1pt)	0	0	0	0	0	0	0	0	0	0	0	0
Relative Complexity (1pt/each)	6	6	6	6	6	6	6	6	5	6	6	6
No Utility Conflicts	1	1	1	1	1	1	1	1	1	1	1	1
No Environmental Permitting	1	1	1	1	1	1	1	1	1	1	1	1
No Railroad Interaction	1	1	1	1	1	1	1	1	0	1	1	1
No ODOT/County Roadway crossing	1	1	1	1	1	1	1	1	1	1	1	1
No Private Property Impact	1	1	1	1	1	1	1	1	1	1	1	1
No other Complexity	1	1	1	1	1	1	1	1	1	1	1	1
Flood Mitigation (5pts/each)	5	5	10	5	5	5	5	5	0	5	5	5
Alleviates Existing flooding	5	5	5	5	5	5	5	5	0	5	5	5
Alleviates Full Buildout flooding	0	0	5	0	0	0	0	0	0	0	0	0
Capacity Limitations (5pts/each)	10	15	15	10	10	10	15	15	15	15	15	15
Capacity issues at 2-yr and under	0	5	5	0	0	0	5	5	5	5	5	5
Capacity issues between 2 - 10yr	5	5	5	5	5	5	5	5	5	5	5	5
Capacity issues above 10yr	5	5	5	5	5	5	5	5	5	5	5	5
Drainage Basin Area Alleviated From Flooding (5pts/each)	5	10	10	10	15	15	5	10	0	0	5	10
Greater than 5 acres	5	5	5	5	5	5	5	5	0	0	5	5
Greater than 10 acres	0	5	5	5	5	5	0	5	0	0	0	5
Greater than 20 acres	0	0	0	0	5	5	0	0	0	0	0	0
Greater than 50 acres	0	0	0	0	0	0	0	0	0	0	0	0
Water Quality	0	0	0	0	0	0	0	0	0	0	0	0
Supports TMDLs plan (educational opportunity, enhances habitat, improves water quality) (15pts)	0	0	0	0	0	0	0	0	0	0	0	0
Eliminates O&M problems (drywells, debris etc.) (15pts)	0	0	0	0	0	0	0	0	0	0	0	0
Quantity potential area (10pts)	0	0	0	0	0	0	0	0	0	0	0	0
Retrofit extg ponds (10pts)	0	0	0	0	0	0	0	0	0	0	0	0
Additional Objects	0	0	1	0	5	5	6	5	6	6	1	6
Upstream projects (5pts)	0	0	0	0	0	5	0	0	0	0	0	0
Downstream projects (1pt)	0	0	1	0	0	0	1	0	1	1	1	1
Partnering potential (With County/ODOT) (1pt)	0	0	0	0	0	0	0	0	0	0	0	0
Supports future development area (1pt)	0	0	0	0	0	0	0	0	0	0	0	0
City identified issue area? (5pts)	0	0	0	0	0	0	0	0	0	0	0	0
Low hanging fruit (all that are <$100,000?) (5pts)	0	0	0	0	5	0	5	5	5	5	0	5

Burkhart CIP Projects Prioritization

Projects with top scores

Total Score	47	47	56	61	61	66	47	51	41	41
CIP ID	BC-047	BC-048	BC-049	BC-050	BC-051	BC-052	BC-053	BC-054	BC-055	BC-056
Cost	$250,800	$172,250	$317,500	$640,250	$218,330	$150,620	$55,500	$182,750	$79,000	$351,250
Relative Cost	5	10	5	5	5	10	10	10	10	5
Less than $200,000 (10pts)	0	10	0	0	0	10	10	10	10	0
Between $200,000 - $700,000 (5pts)	5	0	5	5	5	0	0	0	0	5
Over $700,000 (1pt)	0	0	0	0	0	0	0	0	0	0
Relative Complexity (1pt/each)	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**	**6**
No Utility Conflicts	1	1	1	1	1	1	1	1	1	1
No Environmental Permitting	1	1	1	1	1	1	1	1	1	1
No Railroad Interaction	1	1	1	1	1	1	1	1	1	1
No ODOT/County Roadway crossing	1	1	1	1	1	1	1	1	1	1
No Private Property Impact	1	1	1	1	1	1	1	1	1	1
No other Complexity	1	1	1	1	1	1	1	1	1	1
Flood Mitigation (5pts/each)	**5**	**5**	**10**	**10**	**5**	**5**	**5**	**5**	**5**	**5**
Alleviates Existing flooding	5	5	5	5	5	5	5	5	5	5
Alleviates Full Buildout flooding	0	0	5	5	0	0	0	0	0	0
Capacity Limitations (5pts/each)	**15**	**15**	**10**	**15**	**15**	**15**	**15**	**15**	**15**	**15**
Capacity issues at 2-yr and under	5	5	0	5	5	5	5	5	5	5
Capacity issues between 2 - 10yr	5	5	5	5	5	5	5	5	5	5
Capacity issues above 10yr	5	5	5	5	5	5	5	5	5	5
Drainage Basin Area Alleviated From Flooding (5pts/each)	**15**	**10**	**20**	**20**	**20**	**20**	**5**	**15**	**0**	**5**
Greater than 5 acres	5	5	5	5	5	5	5	5	0	5
Greater than 10 acres	5	5	5	5	5	5	0	5	0	0
Greater than 20 acres	5	0	5	5	5	5	0	5	0	0
Greater than 50 acres	0	0	5	5	5	5	0	0	0	0
Water Quality	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**
Supports TMDLs plan (educational opportunity, enhances habitat, improves water quality) (15pts)	0	0	0	0	0	0	0	0	0	0
Eliminates O&M problems (drywells, debris etc.) (15pts)	0	0	0	0	0	0	0	0	0	0
Quantity potential area (10pts)	0	0	0	0	0	0	0	0	0	0
Retrofit extg ponds (10pts)	0	0	0	0	0	0	0	0	0	0
Additional Objects	**1**	**1**	**5**	**5**	**10**	**10**	**6**	**0**	**5**	**5**
Upstream projects (5pts)	0	0	5	5	5	5	0	0	0	0
Downstream projects (1pt)	1	1	0	0	0	0	1	0	0	0
Partnering potential (With County/ODOT) (1pt)	0	0	0	0	0	0	0	0	0	0
Supports future development area (1pt)	0	0	0	0	0	0	0	0	0	0
City identified issue area? (5pts)	0	0	0	0	5	5	0	0	0	5
Low hanging fruit (all that are <$100,000?) (5pts)	0	0	0	0	0	0	5	0	5	0

Appendix F

Cost Estimate Calculations

Santiam-Albany Canal CIP Construction Cost Estimate

US Node	DS Node	iameter (inche	Length (feet)	Unit Cost ($/lf	Manhole	Construction Cost	Total Cost	Basin Name	Name	CIP ID
11BB011	11BB028	12	400	$ 170	1	$ 73,000	$ 105,850	S-A Canal	Grove St. Outfall Diversion	SA-001
11BD027.1	11BD024	12	728	$ 170	2	$ 133,760	$ 193,952	S-A Canal	Carolina St. Outfall Diversion	SA-002
11CA047.0	11CA043	15	946	$ 180	2	$ 180,280	$ 261,406	S-A Canal	Grant St. Diversion- Ash to Cleveland St. Connection	SA-003
11CA017	11CA017.2	18	427	$ 200	1	$ 90,400	$ 131,080	S-A Canal	Grant St. Diversion- Sherman St.	SA-003
11CA010	11CC032.2	12	153	$ 170	0	$ 26,010	$ 37,715	S-A Canal	Grant St. Diversion- Hiatt St. Connection	SA-003
11CC032.2	11CA043	24	352	$ 250	1	$ 93,000	$ 134,850	S-A Canal	Grant St. Diversion- Grant St.	SA-003
11CC032	11CC032.2	12	618	$ 170	2	$ 115,060	$ 166,837	S-A Canal	Grant St. Diversion- Williams St. Connection	SA-003
11CA043	11DB029	48	1340	$ 370	3	$ 530,300	$ 768,935	S-A Canal	Grant St. Diversion- Grant St. Main Diversion	SA-003
11CB062	11CC032.2	12	175	$ 170	0	$ 29,750	$ 43,138	S-A Canal	Grant St. Diversion- Grant St.	SA-003
11CC047	11CC037	24	840	$ 250	2	$ 220,000	$ 319,000	S-A Canal	Elmore St. Canal Diversion- RR to Elmore St.	SA-004
11CC037	11CC001.9	48	4835	$ 370	12	$ 1,926,950	$ 2,794,078	S-A Canal	Elmore St. Canal Diversion- Milton St.	SA-004
11CB068	11CB058	12	450	$ 170	1	$ 81,500	$ 118,175	S-A Canal	Williams St. Outfall Diversion	SA-005
11CC050	11CB067	12	703	$ 170	2	$ 129,510	$ 187,790	S-A Canal	Grove and Maple	SA-005
11CC040	11CC001.1	24	361	$ 250	1	$ 95,250	$ 138,113	S-A Canal	Hiatt St. Combined Sewer Diversion	SA-006
14BA045	11CC001	36	1947	$ 290	5	$ 614,630	$ 891,214	S-A Canal	South Grove St.	SA-007
14BD044	14BA045	24	800	$ 250	2	$ 210,000	$ 304,500	S-A Canal	Franklin St.	SA-008
14BA003	14BA001	24	844	$ 250	2	$ 221,000	$ 320,450	S-A Canal	Milton St.	SA-009
15AA047	11CC037	36	1300	$ 290	3	$ 407,000	$ 590,150	S-A Canal	S. Main St. 36" Canal Diversion	SA-010
15AD047	15AA047	30	1239	$ 270	3	$ 358,530	$ 519,869	S-A Canal	S. Main St. 24"	SA-011
15AD062	15AA047	30	1027	$ 270	3	$ 301,290	$ 436,871	S-A Canal	Cooper St.	SA-012
15AA039	15AA027	24	423	$ 250	1	$ 110,750	$ 160,588	S-A Canal	2nd St. Canal Diversion	SA-013
03DA031	03DA007	18	317	$ 200	1	$ 68,400	$ 99,180	S-A Canal	Santiam Hwy	SA-014
14BB003	15AA051	24	956	$ 250	2	$ 249,000	$ 361,050	S-A Canal	Jennings St.	SA-015
14BC002	15AD058	18	948	$ 200	2	$ 199,600	$ 289,420	S-A Canal	E Pine St.	SA-017
14AB003	11CC001.6	24	262	$ 250	1	$ 70,500	$ 102,225	Santiam River	Dry Well Connection - Milton St.	SA-018
14AB011.2	14AB003.1	24	1007	$ 250	3	$ 266,750	$ 386,788	Santiam River	Dry Well Connection - Post St.	SA-018
14AC026	14AB011.1	24	268	$ 250	1	$ 72,000	$ 104,400	Santiam River	Dry Well Connection - Ralston Dr.	SA-018
14BD025	14AB011.2	24	911	$ 250	2	$ 237,750	$ 344,738	Santiam River	Dry Well Connection - Binshadler St.	SA-018
11CD019	11CC001.4	18	187	$ 200	0	$ 37,400	$ 54,230	Santiam River	Dry Well Connection - Harmony St.	SA-018
14AC030	14AB011.1	12	107	$ 170	0	$ 18,190	$ 26,376	Santiam River	Dry Well Connection - Binshadler St. 12"	SA-018
14AB008	14AB011	24	277	$ 250	1	$ 74,250	$ 107,663	Santiam River	Dry Well Connection - Randall Dr.	SA-018

Oak Creek Watershed CIP Construction Cost Estimate

US Node	DS Node	Diameter	Length	Unit Cost	Manhole	Construction Cost	Total Cost	Basin Name	Name	CIP ID
09DC015	09DC019	30	104	$ 270	0	$ 29,380	$ 42,601	Oak Creek	Oak St. at Lebanon Pkwy	OC-001
22BD063	22BD057	24	322	$ 250	1	$ 84,525	$ 122,561	Oak Creek	Fuji Ln.	OC-002
22BA036	22BA052	24	469	$ 250	1	$ 123,113	$ 178,513	Oak Creek	Cherry Blossom Ln.	OC-003
15CB049	15CB050	18	203	$ 200	1	$ 43,138	$ 62,549	Oak Creek	Kees St.	OC-004
22AC012	22AC018	18	91	$ 200	0	$ 19,338	$ 28,039	Oak Creek	Trillium Pl.	OC-005
22AC009	22AC017	18	513	$ 200	1	$ 109,013	$ 158,068	Oak Creek	Lupine St.	OC-006
22AD056	22AA001	21	359	$ 220	1	$ 83,468	$ 121,028	Oak Creek	Columbine St.	OC-007
23CC071	23CC077	24	514	$ 250	1	$ 134,925	$ 195,641	Oak Creek	Jadon St.	OC-008
23CC063	23CC066	24	51	$ 250	0	$ 13,388	$ 19,412	Oak Creek	Baker and Crowfoot Rd.	OC-009
22AC021	22BA054	24	544	$ 250	1	$ 142,800	$ 207,060	Oak Creek	Mazama Ave.	OC-010
09DC014	09DC017	24	75	$ 250	0	$ 19,688	$ 28,547	Oak Creek	Lebanon Pkwy	OC-011
22AC011	22DB050	18	120	$ 200	0	$ 25,500	$ 36,975	Oak Creek	Honeysuckle St.	OC-012
22DB004	22DB003	18	114	$ 200	0	$ 24,225	$ 35,126	Oak Creek	Vaughan Ln.	OC-013
16DB014	16DB001	30	88	$ 270	0	$ 24,860	$ 36,047	Oak Creek	Airport Dr.	OC-014

Oak Creek Watershed CIP Construction Cost Estimate - Future Conditions

US Node	DS Node	Diameter	Length	Unit Cost	Manhole	Construction Cost	Total Cost	Basin Name	Name	CIP ID
26AD025	26AC006	36	1197	$ 290	3	$ 377,130	$ 546,839	Oak Creek	Stoltz Hill Rd. South Development	OC-F-001
27AB007	27AB003	24	1041	$ 250	3	$ 275,250	$ 399,113	Oak Creek	S 5th St.	OC-F-002
23CC008	23CC012	24	1427	$ 250	4	$ 376,750	$ 546,288	Oak Creek	Hillview Dr. to Baker St.	OC-F-003
16DA007	16AC010	36	1005	$ 290	3	$ 321,450	$ 466,103	Oak Creek	Airport Dr.	OC-F-004
22DB058	22CA010.2	24	555	$ 250	2	$ 148,750	$ 215,688	Oak Creek	South of Vaughan Ln.	OC-F-005
23CA026	23CA023	24	304	$ 250	1	$ 81,000	$ 117,450	Oak Creek	View Ln. and Joy St.	OC-F-006
23DD076	23DD029	24	664	$ 250	2	$ 176,000	$ 255,200	Oak Creek	Central Ave.	OC-F-007
					0	$ 100,000	$ 145,000	Oak Creek	Vaughan and 5th WQ Ditch	OC-015

Burkhart Creek Watershed CIP Construction Cost Estimate

US Node	DS Node	Diameter	Length	Unit Cost	Manhole	Construction Cost	Total Cost	Basin Name	Name	CIP ID
22AD049	22AA037	36	889	$ 290	2	$ 277,810	$ 402,825	Burkhart Creek	S. Main St. - Vaughan to Weldwood	BC-001
15DA058	15DB041	36	1651	$ 290	4	$ 518,790	$ 752,246	Burkhart Creek	Kees St.	BC-002
15DA057	15AD057	36	1158	$ 290	3	$ 365,820	$ 530,439	Burkhart Creek	Airport Rd. -Santiam Hwy 36"	BC-003
14CC016	15DA057	24	838	$ 250	2	$ 219,500	$ 318,275	Burkhart Creek	Airport Rd. -Santiam Hwy 24"	BC-004
10DD066	10DC048	24	2156	$ 250	5	$ 564,000	$ 817,800	Burkhart Creek	Oak St. - 24"	BC-005
15AB065	10DC048	48	1613	$ 370	4	$ 642,810	$ 932,075	Burkhart Creek	Oak St. - 7th St.	BC-006
10DD064	10DC041	18	1181	$ 200	3	$ 251,200	$ 364,240	Burkhart Creek	Oak St. - A St.	BC-007
10DD077	10DC038	18	1179	$ 200	3	$ 250,800	$ 363,660	Burkhart Creek	Oak St. - B St.	BC-008
15AA037	15AB043	18	1159	$ 200	3	$ 246,800	$ 357,860	Burkhart Creek	Oak St. - C St.	BC-009
15AA043	15AB046	18	1158	$ 200	3	$ 246,600	$ 357,570	Burkhart Creek	Oak St. - D St.	BC-010
15AA003	15AB065	24	1572	$ 250	4	$ 413,000	$ 598,850	Burkhart Creek	Oak St. - E St.	BC-011
15DB043	15AC021	24	572	$ 250	1	$ 148,000	$ 214,600	Burkhart Creek	S. 7th St.	BC-012
10DA064	10AC019	30	2494	$ 270	6	$ 721,380	$ 1,046,001	Burkhart Creek	Rose St. and 3rd -30"	BC-013
10DD071	10DA064	18	856	$ 200	2	$ 181,200	$ 262,740	Burkhart Creek	Rose St. and 3rd -2nd connection	BC-014
10DA099	10DA064	18	189	$ 200	0	$ 37,800	$ 54,810	Burkhart Creek	Sherman Combined Sewer Diversion	BC-015
10AD031	10AD024	18	187	$ 200	0	$ 37,400	$ 54,230	Burkhart Creek	Rose Combined Sewer Diversion	BC-015
10DA098	10DA064	18	911	$ 200	2	$ 192,200	$ 278,690	Burkhart Creek	Combined Sewer Diversion	BC-015
10DB025	10AB056	42	3013	$ 350	8	$ 1,134,550	$ 1,645,098	Burkhart Creek	W. Ash St.and 5th - 36"	BC-016
10DD080	10DB025	24	995	$ 250	2	$ 258,750	$ 375,188	Burkhart Creek	W. Ash St.and 5th - 24"	BC-017
15BA035	15BA039	18	357	$ 200	1	$ 76,400	$ 110,780	Burkhart Creek	E St.	BC-018
15AC036	15AC045	18	224	$ 200	1	$ 49,800	$ 72,210	Burkhart Creek	High School	BC-019
23BC020	23BC023	24	707	$ 250	2	$ 186,750	$ 270,788	Burkhart Creek	Oak Terrace Dr.	BC-020
22AA051	22AA053	30	58	$ 270	0	$ 15,660	$ 22,707	Burkhart Creek	Sand Ridge Ct.	BC-021
22AB006	22AB054		262	$ 26,200	0	$ 39,300	$ 56,985	Burkhart Creek	Ditch improvements Birch	BC-022
22AA039	22AB039		1241	$ 124,100	0	$ 186,150	$ 269,918	Burkhart Creek	Ditch Improvements Redwood	BC-023
14CD007	14CD006	18	64	$ 200	0	$ 12,800	$ 18,560	Burkhart Creek	Center St.	BC-024
14DC018	14DC015	18	160	$ 200	0	$ 32,000	$ 46,400	Burkhart Creek	River Dr.	BC-025
10CB005	10CC059	24	732	$ 250	2	$ 193,000	$ 279,850	Burkhart Creek	12th and Maple	BC-026
10CC043	10CC058	24	221	$ 250	1	$ 60,250	$ 87,363	Burkhart Creek	Maple Pl.	BC-027
10CB006	10CB004	18	193	$ 200	0	$ 38,600	$ 55,970	Burkhart Creek	15th St.	BC-028
10BD010	10CA009	30	664	$ 270	2	$ 189,280	$ 274,456	Burkhart Creek	10th and Vine	BC-029
10BC031	10BC032	18	628	$ 200	2	$ 135,600	$ 196,620	Burkhart Creek	11th and Vine	BC-030
10BD015	10CA009	24	836	$ 250	2	$ 219,000	$ 317,550	Burkhart Creek	9th and Vine	BC-031
10CA028	10CA011	24	832	$ 250	2	$ 218,000	$ 316,100	Burkhart Creek	10th and Grant	BC-032
10CA017	10CA009	24	674	$ 250	2	$ 178,500	$ 258,825	Burkhart Creek	10th and Sherman	BC-033
15DB040	15AC039	24	122	$ 250	0	$ 30,500	$ 44,225	Burkhart Creek	5th and Airport	BC-034
10BC052	10BB024	24	564	$ 250	1	$ 146,000	$ 211,700	Burkhart Creek	11th and Tangent	BC-035
10BD035	10BA034	24	559	$ 250	1	$ 144,750	$ 209,888	Burkhart Creek	10th and Tangent	BC-036
03CD006	03CD018	18	860	$ 200	2	$ 182,000	$ 263,900	Burkhart Creek	Hansard Ave dual pipes	BC-037
03CD026	03CA010	18	607	$ 200	2	$ 131,400	$ 190,530	Burkhart Creek	Hansard Ave	BC-038
09AA012	09AB019	24	222	$ 250	1	$ 60,500	$ 87,725	Burkhart Creek	Corvallis Lebanon Hwy	BC-039
10BA040	10BB032	24	1157	$ 250	3	$ 304,250	$ 441,163	Burkhart Creek	Harrison St.	BC-040
10BB051	10B032	24	226	$ 250	1	$ 61,500	$ 89,175	Burkhart Creek	12th St.	BC-041
15DB014	15DB041	24	211	$ 250	1	$ 57,750	$ 83,738	Burkhart Creek	7th and Kees	BC-042
10DD061	10DD060	24	356	$ 250	1	$ 94,000	$ 136,300	Burkhart Creek	2nd and Oak	BC-043
10DA068	10DB025	24	373	$ 250	1	$ 98,250	$ 142,463	Burkhart Creek	5th and Sherman	BC-044
10DB021	10DB020	24	402	$ 250	1	$ 105,500	$ 152,975	Burkhart Creek	Vine St.	BC-045
10AB017	10AB001	24	320	$ 250	1	$ 85,000	$ 123,250	Burkhart Creek	7th and Morton	BC-046
10AA004	10AB059	18	1179	$ 200	3	$ 250,800	$ 363,660	Burkhart Creek	Tangent St.	BC-047
10AB016	10AB064	24	649	$ 250	2	$ 172,250	$ 249,763	Burkhart Creek	6th and Harrison	BC-048

Burkhart Creek Watershed CIP Construction Cost Estimate

US Node	DS Node	Diameter	Length	Unit Cost	Manhole	Construction Cost	Total Cost	Basin Name	Name	CIP ID
10BA059	10BA031	42	850	$ 350	2	$ 317,500	$ 460,375	Burkhart Creek	Hansard Ave.	BC-049
10CA009	09DA017	42	1715	$ 350	4	$ 640,250	$ 928,363	Burkhart Creek	Vine St. Outfall	BC-050
10BB049	10BB013	48	559	$ 370	1	$ 218,330	$ 316,579	Burkhart Creek	Tangent St. Outfall North	BC-051
10BB008	19AA022	48	376	$ 370	1	$ 150,620	$ 218,399	Burkhart Creek	Tangent St. Outfall South	BC-052
10CA010	10CA051	24	202	$ 250	1	$ 55,500	$ 80,475	Burkhart Creek	Ash St.	BC-053
15DA056	15DA058	24	691	$ 250	2	$ 182,750	$ 264,988	Burkhart Creek	2nd and Kees	BC-054
15DA060	15DA059	18	370	$ 200	1	$ 79,000	$ 114,550	Burkhart Creek	3rd and Kees	BC-055
22AB022.3	22AB002.2	24	785	$ 250	2	$ 206,250	$ 299,063	Burkhart Creek	Cedar Dr. West	BC-056
22AA036.1	22AA036	24	560	$ 250	1	$ 145,000	$ 210,250	Burkhart Creek	Cedar Dr. East	BC-056

Burkhart Creek Watershed CIP Construction Cost Estimate - Future Conditions

US Node	DS Node	Diameter	Length	Unit Cost	Manhole	Construction Cost	Total Cost	Basin Name	Name	CIP ID
09AA017	09AA021	24	466	$ 250	1	$ 121,500	$ 176,175	Burkhart Creek	Corvallis-Lebanon Hwy	BC-F-001
14CD006	14CD009.2	24	343	$ 250	1	$ 90,750	$ 131,588	Burkhart Creek	Railroad St. - Center St.	BC-F-002
14CD009.4	14CD009.3	18	1198	$ 200	3	$ 254,600	$ 369,170	Burkhart Creek	Railroad St. - Gilbert St. Dual Pipes	BC-F-002
03DC008	03DC006	24	242	$ 250	1	$ 65,500	$ 94,975	Burkhart Creek	5th St.	BC-F-003
09DD004	10CC050	30	538	$ 270	1	$ 153,260	$ 222,227	Burkhart Creek	Airway and Oak	BC-F-004
09DA020	09DA019	21	455	$ 220	1	$ 105,100	$ 152,395	Burkhart Creek	Airway Rd.	BC-F-005
10BC028	10CB021	24	215	$ 250	1	$ 58,750	$ 85,188	Burkhart Creek	12th and Vine South	BC-F-006
10BC063	10CB025	30	580	$ 270	1	$ 164,600	$ 238,670	Burkhart Creek	12th and Vine North	BC-F-007

Santiam River Watershed CIP Construction Cost Estimate

US Node	DS Node	Diameter	Length	Unit Cost	Manhole	Construction Cost	Total Cost	Basin Name	Name	CIP ID
11CB040	11BB022	30	1709	$ 270	4	$ 493,430	$ 715,474	Santiam River	Grove St. - 30"	SR-001
11BC040	11BC029	24	1038	$ 250	3	$ 274,500	$ 398,025	Santiam River	Grove St. - Carolina	SR-002
11BD029	11BB022	18	799	$ 200	2	$ 169,800	$ 246,210	Santiam River	Grove St. - Dodge St.	SR-003
11BD024	11BC039	24	1169	$ 250	3	$ 307,250	$ 445,513	Santiam River	Grove St. - Isabella St.	SR-004
11BD025	11BC030	18	758	$ 200	2	$ 161,600	$ 234,320	Santiam River	Grove St. - Rose St.	SR-005
11CA020	11CB039	24	1153	$ 250	3	$ 303,250	$ 439,713	Santiam River	Grove St. - Vine St.	SR-006
11CA021	11CB055	18	771	$ 200	2	$ 164,200	$ 238,090	Santiam River	Grove St. - Ash St.	SR-007
11CB041	11CB055	18	692	$ 200	2	$ 148,400	$ 215,180	Santiam River	Grove St. - Sherman St.	SR-008
11DB024	11DB029	36	568	$ 290	1	$ 174,720	$ 253,344	Santiam River	Grant St.	SR-009
14DB003	14DB011.2	24	863	$ 250	2	$ 225,750	$ 327,338	Santiam River	Riverview School	SR-010
03DD008	03DD011	24	277	$ 250	1	$ 74,250	$ 107,663	Santiam River	Hwy 20 and Industrial Way	SR-011
10AA043	03DD011	24	376	$ 250	1	$ 99,000	$ 143,550	Santiam River	N Main St.	SR-012
10AA070	10AA042	24	1147	$ 250	3	$ 301,750	$ 437,538	Santiam River	2nd St.	SR-013
10AD053	10AA060	24	673	$ 250	2	$ 178,250	$ 258,463	Santiam River	3rd St.	SR-014
10AA066	02CC027	39	1089	#N/A	3	#N/A	#N/A	Santiam River	Industrial Way	SR-015
10AA065	10AA074	18	530	$ 200	1	$ 111,000	$ 160,950	Santiam River	3rd and Olive St.	SR-016
23AC099	23AC054	24	183	$ 250	0	$ 45,750	$ 66,338	Santiam River	Cascade Dr. - dual pipes	SR-017
24CB011	23DA031	15	627	$ 180	2	$ 122,860	$ 178,147	Santiam River	Cascade Dr. - Dual Pipes	SR-018
14CC045	14CC026	24	404	$ 250	1	$ 106,000	$ 153,700	Santiam River	Russell St.	SR-019
14CC042	23AC061	36	3031	$ 290	8	$ 958,990	$ 1,390,536	Santiam River	SW Santiam Hwy	SR-020

Santiam River Watershed CIP Construction Cost Estimate - Future Conditions

US Node	DS Node	Diameter	Length	Unit Cost	Manhole	Construction Cost	Total Cost	Basin Name	Name	CIP ID
23DB001	23AC099	24	1972	$ 250	5	$ 518,000	$ 751,100	Santiam River	Cascade Dr.	SR-F-001
23SC052	23AC010	48	906	$ 370	2	$ 358,220	$ 519,419	Santiam River	Santiam Hwy 36" to 48"	SR-F-002
24CB008	23DA031	24	340	$ 250	1	$ 90,000	$ 130,500	Santiam River	Santiam Hwy	SR-F-003
24CB004	24CB006	24	142	$ 250	0	$ 35,500	$ 51,475	Santiam River	Weirich Dr.	SR-F-004
23BD046	23AC010	30	625	$ 270	2	$ 184,750	$ 267,888	Santiam River	Upsized to 30" for future	SR-F-005