City of Grants Pass

SYSTEM DEVELOPMENT CHARGE UPDATE

DRAFT REPORT
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Section I. INTRODUCTION

This section describes the policy context and project scope on which this report is based.

I.A. SYSTEM DEVELOPMENT CHARGES

Oregon Revised Statutes (ORS) 223.297 to 223.314 authorize local governments to establish system development charges (SDCs), one-time fees on new development paid at the time of development. SDCs are intended to recover a fair share of the cost of existing and planned facilities that provide capacity to serve future growth.

ORS 223.299 defines two types of SDCs:

- A reimbursement fee designed to recover "costs associated with capital improvements already constructed, or under construction when the fee is established, for which the local government determines that capacity exists"; and
- An improvement fee designed to recover "costs associated with capital improvements to be constructed."

ORS 223.304(1) states, in part, that a reimbursement fee must be based on "the value of unused capacity available to future system users or the cost of existing facilities" and must account for prior contributions by existing users and any gifted or grant-funded facilities. The calculation must "promote the objective of future system users contributing no more than an equitable share to the cost of existing facilities." A reimbursement fee may be spent on any capital improvement related to the system for which it is being charged (whether cash-financed or debt-financed) and on the costs of compliance with Oregon's SDC law.

ORS 223.304(2) states, in part, that an improvement fee must be calculated to include only the cost of projected capital improvements needed to increase system capacity for future users. In other words, the cost of planned projects that correct existing deficiencies or do not otherwise increase capacity for future users may not be included in the improvement fee calculation. An improvement fee may be spent only on capital improvements (or portions thereof) that increase the capacity of the system for which it is being charged (whether cash-financed or debt-financed) and on the costs of compliance with Oregon's SDC law.

I.B. UPDATING THE SDCS

The City contracted with FCS GROUP to provide a utility financial plan for water, sewer, and stormwater. For each utility, we conducted a revenue requirement, cost of service analysis (COSA), rate design, and SDC update. This report discusses only the water, sewer, and stormwater SDC findings. Subsequent reports will discuss other aspects of the project.

I.C. CALCULATION OVERVIEW

In general, SDCs are calculated by adding a reimbursement fee component and an improvement fee component—both with potential adjustments. Each component is calculated by dividing the eligible cost by growth in units of demand. The unit of demand becomes the basis of the charge. **Table 1** shows this calculation in equation format.

Table 1. SDC Equation

Eligible costs of available capacity in existing facilities / **Units of growth in demand**	+	**Eligible costs of capacity-increasing capital improvements** / **Units of growth in demand**	+	**Pro-rata share of costs of complying with Oregon SDC law**	=	**SDC per unit of growth in demand**

I.C.1. Reimbursement Fee

The reimbursement fee is the cost of available capacity per unit of growth that such available capacity will serve. In order for a reimbursement fee to be calculated, unused capacity must be available to serve future growth. For facility types that do not have available capacity, no reimbursement fee may be calculated.

I.C.2. Improvement Fee

The improvement fee is the cost of planned capacity-increasing capital projects per unit of growth that those projects will serve. In reality, the capacity added by many projects serves a dual purpose of both meeting existing demand and serving future growth. To compute a compliant improvement fee, growth-related costs must be isolated, and costs related to current demand must be excluded.

We have used the capacity approach to allocate costs to the improvement fee basis.[1] Under this approach, the cost of a given project is allocated to growth by the portion of total project capacity that represents capacity for future users. That portion, referred to as the improvement fee eligibility percentage, is multiplied by the total project cost for inclusion in the improvement fee cost basis.

I.C.3. Adjustments

Two cost-basis adjustments are applied to the SDC calculation: fund balance and compliance costs.

I.C.3.a Fund Balance

All accumulated SDC revenue currently available in fund balance is also deducted from its corresponding cost basis. This practice prevents a jurisdiction from double-charging for projects that were in the previous methodology's improvement fee cost basis but have not yet been constructed.

[1] Two alternatives to the capacity approach are the incremental approach and the causation approach. The incremental requires the computation of hypothetical project costs to serve existing users. Only the incremental cost of the actual project is included in the improvement fee cost basis. The causation approach, which allocates 100 percent of all growth-related projects to growth, is vulnerable to legal challenge.

I.C.3.b Compliance Costs

ORS 223.307(5) authorizes the expenditure of SDCs for "the costs of complying with the provisions of ORS 223.297 to 223.314, including the costs of developing system development charge methodologies and providing an annual accounting of system development charge expenditures." To avoid spending monies for compliance that might otherwise have been spent on growth-related projects, this report includes an estimate of compliance costs in the SDC calculation. For all SDC methodologies, a compliance cost basis of 1.5 percent of the reimbursement and improvement fees has been established.

I.C.4. Growth Calculation

The growth calculation is the basis by which an SDC is charged. Growth for each system is measured in units that most directly reflect the source of demand. For example, in a water SDC the most applicable and administratively feasible unit of growth is meter capacity equivalents (MCEs) because meter capacity determines the maximum demand a customer can place on the system.

Section II. WATER

This section provides detailed calculations of the recommended SDC for water facilities.

II.A. GROWTH

For water SDCs, the most applicable and administratively feasible unit of growth is the meter capacity equivalent (MCE). For the City, one MCE equals the flow capacity of a 5/8" x 3/4" water meter. According to City staff, the water utility had 10,620 customer accounts in 2016 with a combined flow capacity of 13,216 MCEs, as shown in **Table 2.** This count excludes fire standby meters.

Table 2. Water Customer Data

	Accounts	Flow Factor	Meter Equivalent
5/8" x 3/4" Meter	9,826	1.0	9,826
1" Meter	517	2.5	1,293
1.5" Meter	149	5.0	745
2" Meter	100	8.0	800
3" Meter	22	16.0	352
4" Meter	4	25.0	100
6" Meter	2	50.0	100
8" Meter	0	80.0	0
10" Meter	0	115.0	0
Total	**10,620**		**13,216**

According to a memo from Stantec, *Water Treatment Plant Replacement Project Cost Analysis* (dated August 27, 2018), the City's new water treatment plant has an expected capacity of 22.5 mgd (MDD). The estimated max day demand in 2016 was 15.81, based on Table 6-1 in the WTP Facility Plan Update document. This number was interpolated, based on 2015 and 2020 values. If MCEs increase in proportion to max day demand, MCEs will grow by 5,595, resulting in 18,811 MCEs. The increase in MCEs from 2016 to capacity is the denominator in the SDC equation (**Table 3**).

Table 3. Water Customer Growth

Customer Data	2015	2016	Capacity of New Water Treatment Plant	Growth 2016 to Capacity	% Increase
Maximum Daily Demand (mgd)	15.50	15.81	22.50	6.69	42%
MCE's		13,216	18,811	5,595	42%

Source: Water Treatment Plant Facilities Plan Update; 2015 is actual, 2016 is estimated based on demand table. pg. 6-3 - MDD by year

II.B. ELIGIBLE COSTS

Below we calculate the eligible cost bases for the SDC including any applicable adjustments.

II.B.1. Reimbursement Fee Cost Basis

The reimbursement fee cost basis is the cost of capacity available in the existing system. Calculation of the reimbursement fee begins with the historical cost of assets or recently completed projects that have unused capacity to serve future users. For each asset or project, the historical cost is adjusted by that portion of the asset or project that is available to serve future users. To avoid charging future development for facilities provided at no cost to the City or its ratepayers, the reimbursement fee cost basis must be reduced by any grants or contributions used to fund the assets or projects included in the cost basis. Furthermore, unless a reimbursement fee will be specifically used to pay debt service, the reimbursement fee cost basis should be reduced by any outstanding debt related to the assets or projects included in the cost basis to avoid double charging for assets paid for by other means.

The reimbursement fee capacity is based on data from the Water Treatment Plant Facilities Plan Update and Water Distribution System Master Plan. The original costs of City assets were compiled and categorized into five categories: treatment, storage, pumping, transmission & distribution, and general plant assets. Transmission and distribution assets do not have any available capacity and general plant assets (i.e. SCADA systems, land) are allocated proportionally as all other assets in the water system. **Table 4** shows the reimbursement fee cost basis by facility type. See **Appendix A** for a complete explanation of unused capacity by asset type.

Treatment assets have been excluded from the Reimbursement Fee Cost Basis so as not to include treatment costs in both the Reimbursement Fee and the Improvement Fee, since it is assumed that the new treatment plant will be replacing and expanding upon the existing treatment process.

Table 4. Water Reimbursement Fee Cost Basis Calculation

Asset Type	Current Cost (Less Contributed Assets)	Eligible Capacity	Reimbursement Fee Cost Basis
Treatment	$5,286,760	0.00%	$0
Storage	$13,543,218	12.26%	$1,660,899
Pumping	$3,860,243	22.21%	$857,533
Transmission & Distribution	$51,528,204	0.00%	$0
General Plant	$5,088,515	3.39%	$172,667
Total	$79,306,940	3.39%	**$2,691,099**

Source: Water Treatment Plant Facilities Plan Update and Water Distribution System Master Plan.
T&D Note: WDSMP pg. 4-21 "In order to provide for the continued reliable operation of the distribution system, renewal and replacement of distribution system piping must be planned for."

After identifying the reimbursement fee cost basis, we must consider any debt for the utility. Debt must be deducted from the reimbursement fee to ensure users are not double charged for assets constructed with that debt because debt is paid for through rates. **Table 5** shows the total outstanding debt principal. Debt is allocated to the reimbursement fee cost basis proportional to the reimbursement fee cost basis as a percent of total asset costs.

Table 5. Water Debt Deduction

Asset Type	Total Principal	Proportional Share of Debt	Reimbursement Fee Cost Deduction
Full Faith and Credit Obligation Bonds Water Fund	$3,490,000	3.39%	$118,425
Total	$3,490,000		$118,425

Source: City of Grants Pass

II.B.2. Improvement Fee Cost Basis

The improvement fee cost basis is based on a specific list of planned capacity-increasing capital improvements. The portion of each project that can be included in the improvement fee cost basis is determined by the extent to which each new project creates capacity for future users. The project list is drawn from the Water Distribution Master Plan, Fiscal Year (FY) 16-17 budget, and recent Water Treatment Plant Replacement Project Cost Analysis memo. **Table 6** shows how a total project cost of $162 million is reduced to an eligible cost of $77 million.

The total eligible portion of project cost by source is a weighted average and varies by project. See **Appendix B** for a complete list of projects and eligibilities. The Water Treatment Plant Facility Update cost of $80.1 million is allocated 30% to growth based on an assumed capacity of 22.5 mgd, compared to an actual, existing MDD of 15.8 mgd at the current plant.

Table 6. Water Improvement Fee Cost Basis

Improvement Fee Cost Basis	Total Cost	Total Eligible Portion	Improvement Fee Costs
Capital Outlay Projects	$2,822,733	0.00%	$0
Water Distribution System Master Plan	$78,990,000	67.23%	$53,105,880
Water Treatment Plant Facility Plan Update	$80,100,000	29.74%	$23,825,120
Total	$161,912,733	47.51%	$76,931,000

Source: Water Treatment Plant Facility Plan Update, Water Distribution System Plan, and City staff.

The improvement fee cost basis must be reduced by any improvement fee fund balance (for the same facility type) currently held by the City. In 2016, the City had a balance of $865,722 in water improvement fees.

Additionally, the City has decided to deduct the portion of funds collected from the Urban Renewal Area (URA) dedicated to projects on the project list. **Table 7** shows funding by project in the Urban Renewal Plan and the estimated portion of the SDC that will be reduced, $7.4 million.

Table 7. Water Potential URA Funding

Potential URA Funding	Cost	SDC-Eligible Portion of Project	SDC-Eligible Buy-Down
18% of Water Treatment Plant	$14,418,000	30%	4,288,522
Water improvements in the NW Industrial Area (water, sewer, and transportation total $16M, URA will pay 25% of total costs). Assume 33% of costs are water-related.	$1,333,333	67%*	896,415
Water improvements in the SE Industrial Area [Spalding Industrial Park] ($8.3M, URA will pay 25% of total costs)	2,075,000	67%*	1,395,046
Water improvements in the Southern Section of NW Industrial Area ($13M, URA will pay 25% of total costs). Assume 33% of costs are water-related.	1,083,333	67%*	728,337
Water improvements Vine Street ($2.3M, URA will pay 25% of total costs). Assume 33% of costs are water-related.	191,667	67%*	128,860
Total	19,101,333		7,437,180

Source: Report Accompanying the Grants Pass Urban Renewal Plan - 2016
*SDC eligibility based on overall SDC eligibility of Water Distribution System Plan.

II.B.3. Compliance Costs

As noted in **Section I**, compliance costs are the sum of SDC methodology updates and annual administrative costs. In consultation with City staff, compliance costs are estimated at 1.5 percent of the combined reimbursement and improvement cost bases.

II.C. CALCULATED SDC

Dividing the sum of the net cost bases by the projected growth results in the calculated SDC per MCE, as shown in **Table 8**.

Table 8. Water SDC per MCE

Water SDC		Total	SDC-Eligible	
Reimbursement Fee				
Cost of Net Unused Capacity		$ 79,306,940	$ 2,691,099	
Less: Pro-Rata Share of Debt Principal		$ (3,490,000)	$ (118,425)	
Reimbursement Fee Cost Basis		$ 75,816,940	$ 2,572,673	
Growth to End of Planning Period			5,595	MCE
Reimbursement Fee			$ 459.81	per MCE
Improvement Fee				
Capacity Expanding CIP		$ 161,912,733	$ 76,931,000	
Less: Improvement Fee SDC Fund Balance		$ (865,722)	$ (865,722)	
Less: Potential URA Funding		$ (19,101,333)	$ (7,437,180)	
Improvement Fee Cost Basis		$ 141,945,678	$ 68,628,098	
Growth to End of Planning Period			5,595	MCE
Improvement Fee			$ 12,265.86	per MCE
Total System Development Charge				
Reimbursement Fee			$ 459.81	per MCE
Improvement Fee			$ 12,265.86	per MCE
Compliance Fee	1.5%		$ 190.89	per MCE
Total SDC per MCE			**$ 12,917**	per MCE

II.D. SCHEDULE OF SDCS

In order to impose water SDCs on an individual developing property, the number of MCEs is determined by the size of the property's water meter. As stated previously, the MCE calculation used is based on AWWA flow factors as shown in **Table 9** where one MCE is a 5/8" x 3/4" meter.

Table 9. Water SDC Schedule

	Flow Factor	Proposed Fee	Existing Fee - Zones 1, 2, & 3	Existing Fee - Zones 4, 5, and up
5/8" x 3/4" Meter	1.00	$12,917	$3,005	$3,497
1" Meter	2.50	$32,291	$7,519	$8,748
1.5" Meter	5.00	$64,583	$15,042	$17,499
2" Meter	8.00	$103,332	$24,070	$28,000
3" Meter	16.00	$206,665	$48,141	$56,002
4" Meter	25.00	$322,914	$75,223	$87,503
6" Meter	50.00	$645,828	$150,447	$175,009

II.E. VARIABLE RESIDENTIAL SDC FEE SCHEDULE

If the City would like to vary the residential SDC by dwelling size, it can do so by charging residential customers based on square footage tied to assumed fixture unit counts, where the standard SDC is the same as a 5/8"x3/4" meter.

Table 10 shows home size categories and assumed fixture unit counts by home size, based on input from City staff. The resulting SDC adjustment factor is the factor used to vary the SDC.

Table 10. Home Size Categories and Assumed Fixture Units

Home Size Category	Dwelling Unit Size	Avg. Home Size in Category	Assumed Fixture Unit Counts	SDC Adjustment Factor[1]
Small	Under 1,700 SF	1,250	13	0.68
Standard	1,701 SF to 2,900 SF	2,500	19	1.00
Large	Over 2,900 SF	4,200	26	1.37

Source: FCS GROUP and City staff.

1 Adjustment factor is based on the quantity of primary fixtures relative to the number of fixtures in a standard home size.

A small sized home is assumed to have 1 bathtub, 1 clothes washer, 1 dishwasher, 1 hose bibb, 1 kitchen sink, 1 bathroom sink, and 1 water closet.

A standard sized home is assumed to have 2 bathtubs, 1 clothes washer, 1 dishwasher, 1 hose bibb, 1 kitchen sink, 2 bathroom sinks, and 2 water closets.

A large sized home is assumed to have 2 bathtubs, 1 clothes washer, 1 dishwasher, 2 hose bibbs, 1 kitchen sink, 3 bathroom sinks, and 3 water closets.

Table 11 shows the residential SDC by home size.

Table 11. Residential Water SDC by Home Size

Home Size Category	Dwelling Unit Size	Assumed Fixture Unit Counts[1]	SDC Adjustment Factor[2]	Residential SDC
Small	Under 1,700 SF	13.0	0.68	$8,838
Standard	1,701 SF to 2,900 SF	19.0	1.00	$12,917
Large	Over 2,900 SF	26.0	1.37	$17,675

Source: FCS GROUP and City staff.

1 A small sized home is assumed to have 1 bathtub, 1 clothes washer, 1 dishwasher, 1 hose bibb, 1 kitchen sink, 1 bathroom sink, and 1 water closet.
A standard sized home is assumed to have 2 bathtubs, 1 clothes washer, 1 dishwasher, 1 hose bibb, 1 kitchen sink, 2 bathroom sinks, and 2 water closets.
A large sized home is assumed to have 2 bathtubs, 1 clothes washer, 1 dishwasher, 2 hose bibbs, 1 kitchen sink, 3 bathroom sinks, and 3 water closets.

2 Adjustment factor is based on the quantity of primary fixtures relative to the number of fixtures in a standard home size.

Section III. SEWER

This section provides detailed calculations of the recommended SDC for sewer facilities.

III.A. GROWTH

For sewer SDCs, a common unit of growth is the equivalent residential unit (ERU). For the City, one ERU equals the flow and loading of an average single-family residence. As part of this study, the City wanted to update the definition of an ERU based on customer statistics. As shown in **Table 12**, actual statistics show that the average residential volume is 5.85 CCF per month.

Table 12. Sewer ERU Calculation

	2016
Total Annual Volume (2016)	1,311,786
Average Volume per Residential Account (based on 2018 projected data)	*5.85*
Annual Volume per ERU	70.22
Estimated Equivalent Residential Units (ERUs)	**18,682**

Source: City of Grants Pass

The Collection System Master Plan Update provided an initial demand growth forecast for a 20-year period from 2015 to 2035. Because of the addition of new projects in 2016, the 20-year horizon was moved to 2036. If ERUs increase in proportion to average dry weather flow (ADWF), ERUs are expected to grow by 13,109, resulting in 31,792 ERUs in 2036. The growth in ERUs from 2016 to 2036 is the denominator in the SDC equation (**Table 13**).

The 2014 Water Restoration Plant Facilities Plan estimated that the average dry weather flow at buildout would be 8.1 mgd (Table 11 in Plan). Buildout was estimated to be in 2038. The more recent Collection System Master Plan (2016) estimated ADWF to be 9.1 in 2035. While not exactly aligned with 2038 (estimated year of buildout), to produce a conservative customer base, 9.1 is assumed to be the ADWF at upon buildout, since this newer number exceeds 8.1.

Table 13. Sewer Customer Growth (2036 assumed to equal buildout)

	2016	2036	Growth
Average Dry Weather Flow (mgd)	5.35	9.10	3.75
ERUs	18,682	31,792	**13,109**

Source: Collection System Master Plan Update.

III.B. ELIGIBLE COSTS

Below we calculate the eligible cost bases for the SDC including any applicable adjustments.

III.B.1. Reimbursement Fee Cost Basis

The reimbursement fee capacity is based on data from the Water Restoration Plant Facilities Plan Update and Collection System Master Plan Update. The original costs of City assets were compiled and categorized into four categories: mains, pumping, treatment, and general plant assets. Pumping assets do not have any available capacity and general plant assets (i.e. SCADA systems, land) are allocated proportionally as all other assets in the system. **Table 14** shows the reimbursement fee cost basis by facility type. See **Appendix C** for a complete explanation of unused capacity by asset type.

Table 14. Sewer Reimbursement Fee Cost Basis

Asset Type	Current Cost (Less Contributed Assets)	Eligible Capacity	Reimbursement Fee Cost Basis
Mains	$28,230,316	33.37%	$9,420,811
Pumping	$5,535,617	0.00%	$0
Treatment	$17,479,041	9.26%	$1,618,049
General Plant	$14,036,119	21.54%	$3,023,570
Total	$65,281,093	21.54%	**$14,062,430**

Source: Water Restoration Plant Facilities Plan Update and Collection System Master Plan

After identifying the reimbursement fee cost basis, we must consider any debt for the utility. Debt must be deducted from the reimbursement fee to ensure users are not double charged for assets constructed with that debt because debt is paid for through rates.

Table 15 shows the total outstanding debt principal. Debt is allocation to the reimbursement fee cost basis proportional to the reimbursement fee cost basis as a percent of total asset costs.

Table 15. Sewer Debt Deduction

Asset Type	Total Outstanding Principal	Current Unused Capacity	Reimbursement Fee Cost Deduction
FY 2017-18 Wastewater Revenue Bond Issuance Series 2017 & 2018	$17,020,000	21.54%	$3,666,338
Full Faith and Credit Obligation Bonds - Wastewater Fund	$2,910,000	21.54%	$626,853
Total	$19,930,000		$4,293,191

III.B.2. Improvement Fee Cost Basis

The improvement fee cost basis is based on a specific list of planned capacity-increasing capital improvements. The portion of each project that can be included in the improvement fee cost basis is determined by the extent to which each new project creates capacity for future users. The project list is drawn from the Wastewater Collection System Master Plan, Fiscal Year (FY) 16-17 budget, and Water Restoration Plant Facilities Plan Update.

Table 16 shows how a total project cost of $149,280,492 is reduced to an eligible cost of $59,609,479. The total eligible portion of project cost by source is a weighted average and varies by project. See **Appendix D** for a complete list of projects and eligibilities.

Table 16. Sewer Improvement Fee Cost Basis

Improvement Fee Cost Basis	Total Cost	Total Eligible Portion	Improvement Fee Costs
Capital Outlay Projects	$8,556,492	6.86%	$587,149
Wastewater Collection System Master Plan	$105,064,000	27.67%	$29,074,187
Water Restoration Plant Facilities Plan Update	$35,660,000	83.98%	$29,948,143
Total	$149,280,492	39.93%	$59,609,479

Source: Collection System Master Plan Update and Water Restoration Plant Update

The improvement fee cost basis must be reduced by any improvement fee fund balance (for the same facility type) currently held by the City. In 2016, the City had a balance of $884,142 in sewer improvement fees.

Additionally, the City has decided to deduct the portion of funds collected from the Urban Renewal Area (URA) dedicated to projects on the project list. **Table 17** shows funding by project in the Urban Renewal Plan and the estimated portion of the SDC that will be reduced, $4,271,706.

Table 17. Sewer Potential URA Funding

Potential URA Funding	Cost	SDC-Eligible Portion of Project	SDC-Eligible Buy-Down
Water Restoration Plant Expansion (Report says 18% of $20M, estimates here are based on project costs covered by recent bond issuance).	$3,690,000	81%	2,982,613
Sewer improvements in the NW Industrial Area (water, sewer, and transportation total $16M, URA will pay 25% of total costs). Assume 33% of costs are sewer-related.	$1,333,333	28%*	368,971
Sewer improvements in the SE Industrial Area [Spalding Industrial Park] ($8.2M, URA will pay 25% of total costs)	$2,050,000	28%*	567,293
Sewer improvements in the Southern Section of NW Industrial Area ($13M, URA will pay 25% of total costs). Assume 33% of costs are sewer-related.	$1,083,333	28%*	299,789
Sewer improvements Vine Street ($2.3M, URA will pay 25% of total costs). Assume 33% of costs are sewer-related.	$191,667	28%*	53,040
Total	8,348,333		4,271,706

Source: Report Accompanying the Grants Pass Urban Renewal Plan - 2016
*Projects are not granularly defined, SDC eligibility based on overall SDC eligibility of Wastewater Collection System Master Plan.

III.B.3. Compliance Costs

As noted in **Section I**, compliance costs are the sum of SDC methodology updates and annual administrative costs. In consultation with City staff, compliance costs are estimated at 1.5 percent of the combined reimbursement and improvement cost bases.

III.C. CALCULATED SDC

Dividing the sum of the net cost bases by the projected growth results in the calculated SDC per ERU, as shown in **Table 18**.

Table 18. Sewer SDC per ERU

Sewer SDC	Total	SDC - Eligible	
Reimbursement Fee			
Cost of Net Unused Capacity	$ 65,281,093	$ 14,062,430	
Less: Pro-Rata Share of Debt Principal	$ (19,930,000)	$ (4,293,191)	
Reimbursement Fee Cost Basis	$ 45,351,093	$ 9,769,239	
Growth to End of Planning Period		13,109	ERU
Reimbursement Fee		$ 745.20	per ERU
Improvement Fee			
Capacity Expanding CIP	$ 149,280,492	$ 59,609,479	
Less: Improvement Fee SDC Fund Balance	$ (884,142)	$ (884,142)	
Less: Potential URA Funding	$ (7,721,933)	$ (3,765,389)	
Improvement Fee Cost Basis	$ 140,674,417	$ 54,959,948	
Growth to End of Planning Period		13,109	ERU
Improvement Fee		$ 4,192.38	per ERU
Total System Development Charge			
Reimbursement Fee		$ 745.20	per ERU
Improvement Fee		$ 4,192.38	per ERU
Compliance Fee 1.5%		$ 74.06	per ERU
Total SDC per ERU		**$ 5,012**	per ERU

III.D. SCHEDULE OF SDCS

To impose sewer SDCs on an individual property, the number of ERUs must be determined, based on the number of fixture units on that property. Residential properties are assumed to equal 1 ERU. Based on recent data provided by the City, the ERU calculation used is based on 19 fixture units per ERU, as shown in **Table 19**. The existing citywide and Redwood Sewer District charges assume 20 fixture units is equivalent to an ERU.

Table 19. Sewer SDC Schedule

	Proposed Fee	Citywide ERU Charge	Redwood Sewer District Charge
Per ERU	$5,012	$3,179	$4,542
Per Fixture Unit (19 per ERU)	$264	$159	$227

Note: The Redwood Sewer District Charge assumes two toilets.

III.E. VARIABLE RESIDENTIAL SDC FEE SCHEDULE

If the City would like to vary the residential SDC by dwelling size, it can do so by charging residential customers based on square footage tied to assumed fixture unit counts, where the standard SDC is the same as one ERU.

Using the same fixture counts from **Table 10**, **Table 20** shows the residential SDC by home size.

Table 20. Residential Sewer SDC by Home Size

Home Size Category	Dwelling Unit Size	Assumed Fixture Unit Counts[1]	SDC Adjustment Factor[2]	Residential SDC
Small	Under 1,700 SF	13.0	0.68	$3,429
Standard	1,701 SF to 2,900 SF	19.0	1.00	$5,012
Large	Over 2,900 SF	26.0	1.37	$6,858

Source: FCS Group and City staff.

1 A small sized home is assumed to have 1 bathtub, 1 clothes washer, 1 dishwasher, 1 hose bibb, 1 kitchen sink, 1 bathroom sink, and 1 water closet.
A standard sized home is assumed to have 2 bathtubs, 1 clothes washer, 1 dishwasher, 1 hose bibb, 1 kitchen sink, 2 bathroom sinks, and 2 water closets.
A large sized home is assumed to have 2 bathtubs, 1 clothes washer, 1 dishwasher, 2 hose bibbs, 1 kitchen sink, 3 bathroom sinks, and 3 water closets.

2 Adjustment factor is based on the quantity of primary fixtures relative to the number of fixtures in a standard home size.

Section IV. STORMWATER

This section provides detailed calculations of the recommended SDC for stormwater facilities.

IV.A. GROWTH

For stormwater SDCs, projected growth is measured in impervious surface area. The Stormwater Master Plan addresses the period from 2016 to buildout. The initial year for the SDC analysis is 2019. Growth in impervious surface area is based on current developed acreage within the Urban Growth Boundary (UGB), 8,278 acres, and total developable acreage within the UGB, 9,382 acres. Total impervious surface area increases commensurate with development of developable acreage in the UGB. **Table 21** shows projected impervious growth in the City.

Table 21. Stormwater Customer Growth

Customer Forecast	Current	Buildout	Growth	Growth as a % of Future Customers
Developed UGB Acreage	8,278	9,382	1,104	
Total Impervious S.F.	102,902,703	116,625,549	**13,722,846**	11.77%

Source: FCS GROUP and City staff.

IV.B. ELIGIBLE COSTS

Below we calculate the eligible cost bases for the SDC including any applicable adjustments.

IV.B.1. Reimbursement Fee Cost Basis

After discussions with City staff and review of the Stormwater Master Plan, there is no capacity in the system available to serve future users. Therefore, no reimbursement fee cost basis is calculated.

IV.B.2. Improvement Fee Cost Basis

The improvement fee cost basis is based on a specific list of planned capacity-increasing capital improvements. The portion of each project that can be included in the improvement fee cost basis is determined by the extent to which each new project creates capacity for future users. The project list is drawn from the Stormwater Master Plan, and FY 16-17 budget. **Table 22** shows how a total project cost of $97,185,000 is reduced to an eligible cost of $5,505,580. The total eligible portion of project cost by source is a weighted average and varies by project. See **Appendix E** for a complete list of projects and eligibilities.

Table 22. Stormwater Improvement Fee Cost Basis

Improvement Fee Cost Basis	Total Cost	Total Eligible Portion	Improvement Fee Costs
Capital Outlay Projects	$735,000	5.44%	$40,000
Stormwater Master Plan Projects	$46,450,000	11.77%	$5,465,580
Ongoing Replacement Program	$50,000,000	0.00%	$0
Total	$97,185,000	5.67%	$5,505,580

Source: Stormwater Master Plan and City staff.

The improvement fee cost basis must be reduced by any improvement fee fund balance (for the same facility type) currently held by the City. As of July 1, 2018, the City had a balance of $354,948 in stormwater improvement fees.

Additionally, the City has decided to deduct the portion of funds collected from the Urban Renewal Area (URA) dedicated to projects on the project list. There are no stormwater projects in the URA plan.

IV.B.3. Compliance Costs

As noted in **Section I**, compliance costs are the sum of SDC methodology updates and annual administrative costs. In consultation with City staff, compliance costs are estimated at 1.5 percent of the combined reimbursement and improvement cost bases.

IV.C. CALCULATED SDC

For residential and commercial development, the current SDC is $515.88 per development permit.

Dividing the sum of the net improvement fee cost basis by the projected growth results in the calculated SDC of $0.381 per impervious square foot (ISF), as shown in **Table 23**. For both residential and commercial development, the proposed SDC would be administered per impervious square foot.

Table 23. Stormwater SDC

Stormwater SDC		Total	SDC - Eligible	
Improvement Fee				
Capacity Expanding CIP		$ 97,185,000	$ 5,505,580	
Less: Improvement Fee SDC Fund Balance		$ (354,948)	$ (354,948)	
Improvement Fee Cost Basis		$ 96,830,052	$ 5,150,632	
Growth to End of Planning Period			13,722,846	ISF
Improvement Fee			$ 0.38	per ISF
Total System Development Charge				
Reimbursement Fee			$ -	per ISF
Improvement Fee			$ 0.38	per ISF
Compliance Fee	1.5%		$ 0.01	per ISF
Total SDC per ISF			**$ 0.381**	per ISF

Section V. Conclusion

This section summarizes the results of the water, sewer, and stormwater SDC calculations and provides a brief explanation of credits, exemptions, and waivers.

V.A. RECOMMENDED SDCS

Table 24 summarizes the recommended SDCs for a single-family residence and compares them to existing SDCs. The current water SDC assumes a parcel in water pressure zones 1, 2, or 3. The current sewer SDC assumes a parcel outside of the Redwood Sewer District boundary.

Regarding the stormwater SDC, the **Table 24** assumes 3,700 impervious square feet. The actual SDC would be dependent on measured impervious area.

Table 24. SDC Summary and Comparison

	Water	Sewer	Stormwater	Total
Calculated Maximum	$12,917	$5,012	$1,410	$19,338
Current	$3,005	$3,179	$516	$6,700
Increase	$9,912	$1,833	$894	$12,638

V.B. CREDITS, EXEMPTIONS, AND WAIVERS

The City will continue to establish local policies for issuing credits, exemptions, and other administrative procedures.

V.B.1. Credit Language from ORS 223.304

ORS 223.304 specifies that credits must be provided for developers who construct "qualified public improvements", as provided below:

(4) The ordinance or resolution that establishes or modifies an improvement fee shall also provide for a credit against such fee for the construction of a qualified public improvement. A "qualified public improvement" means a capital improvement that is required as a condition of development approval, identified in the plan and list adopted pursuant to ORS 223.309 and either:

(a) Not located on or contiguous to property that is the subject of development approval; or

(b) Located in whole or in part on or contiguous to property that is the subject of development approval and required to be built larger or with greater capacity than is necessary for the particular development project to which the improvement fee is related.

(5)(a) The credit provided for in subsection (4) of this section is only for the improvement fee charged for the type of improvement being constructed, and credit for qualified public improvements under subsection (4)(b) of this section may be granted only for the cost of that portion of such

improvement that exceeds the local government's minimum standard facility size or capacity needed to serve the particular development project or property. The applicant shall have the burden of demonstrating that a particular improvement qualifies for credit under subsection (4)(b) of this section.

(b) A local government may deny the credit provided for in subsection (4) of this section if the local government demonstrates:

(A) That the application does not meet the requirements of subsection (4) of this section; or

(B) By reference to the list adopted pursuant to ORS 223.309, that the improvement for which credit is sought was not included in the plan and list adopted pursuant to ORS 223.309.

(c) When the construction of a qualified public improvement gives rise to a credit amount greater than the improvement fee that would otherwise be levied against the project receiving development approval, the excess credit may be applied against improvement fees that accrue in subsequent phases of the original development project. This subsection does not prohibit a local government from providing a greater credit, or from establishing a system providing for the transferability of credits, or from providing a credit for a capital improvement not identified in the plan and list adopted pursuant to ORS 223.309, or from providing a share of the cost of such improvement by other means, if a local government so chooses.

(d) Credits must be used in the time specified in the ordinance but not later than 10 years from the date the credit is given.

The definition of qualified public facility is focused on developer oversizing and extension of facilities with capacity beyond their own needs. While it can be strictly limited to projects included in the capital improvement plan, there may be instances where the City finds value on offering credits for functionally similar projects, or for new projects not anticipated in the capital improvement plan but which provide capacity and value to the system.

With respect to applicability, it is clear that credits are limited to the improvement fee portion of the corresponding SDC, and to the specific development including subsequent phases. While the statute allows for transferability of credits at City discretion, we recommend against such a provision due to the administrative burden and complexity this introduces. Finally, credits must sunset after no more than 10 years.

City policy further specifies that credit requests must be made within 90 days of the acceptance of the qualified improvement and defines the terms of improvement acceptance. The policy also addresses apportionment of SDC credits, limitations on transferability of credits, and timing – limiting use of credits to ten years after receipt.

V.B.2. Exemptions and Waivers

The City may exempt or waive specific classifications of development from the requirement to pay SDCs. However, to do so it must have a cost or demand-based justification. The City may not arbitrarily exempt customers or customer types from SDCs.

V.C. INDEXING

Oregon law (ORS 223.304) also allows for the periodic indexing of SDCs for inflation, as long as the index used is:

> (A) A relevant measurement of the average change in prices or costs over an identified time period for materials, labor, real property or a combination of the three;
> (B) Published by a recognized organization or agency that produces the index or data source for reasons that are independent of the system development charge methodology; and
> (C) Incorporated as part of the established methodology or identified and adopted in a separate ordinance, resolution or order.

We recommend that the City index its maximum charges to the *Engineering News Record* Construction Cost Index for the City of Seattle. There is no comparable Oregon-specific index.

APPENDIX A – WATER REIMBURSEMENT FEE CALCULATION

Asset ID	Description	Asset Category	Acquisition Year	Original Cost	CIAC	Function
10715	SOFTWARE, WORKDIRECTOR, VERSAVIEW, CALL	COMPUTER EQUIPMENT OR SERVER	2002	$ 6,869	$ -	General Plant
10026	LAND, WATER FILTRATION PLANT, 821 SE M S	LAND	1930	$ 2,700	$ -	General Plant
10027	WATER PLANT CONTROL HOUSE BUILDING, TWO	WATER PLANT	1931	$ -	$ -	Treatment
10028	WATER PLANT CONTROL HOUSE BUILDING, ORIG	WATER PLANT	1931	$ 98,123	$ -	Treatment
10029	OLD WATER INTAKE STRUCTURE, REINFORCED C	WATER PLANT	1931	$ 8,063	$ -	Treatment
10069	WATER PLANT ADDITION, 1952 * *	WATER PLANT	1952	$ 72,590	$ -	Treatment
10111	WATER PLANT ADDITION, 1964 * *	WATER PLANT	1964	$ 119,133	$ -	Treatment
10297	EQUIPMENT, PUMPS, VALVES, MOTOR, INTAKE	MISC VEHCILE/EQUIPMENT	1982	$ 81,340	$ -	Pumping
10298	WATER TREATMENT PLANT UPGRADES, TO INCLU	WATER PLANT	1982	$ 1,913,589	$ -	Treatment
10299	WATER PLANT ADDITION, 1982 * *	WATER PLANT	1982	$ 1,383,882	$ -	Treatment
10300	NEW WATER INTAKE STRUCTURE, REINFORCED C	WATER PLANT	1982	$ 188,081	$ -	Treatment
10302	WATER PLANT LAND IMPROVEMENTS TO INCLUDE	LAND IMPROVEMENTS	1982	$ 79,631	$ -	Treatment
10572	SCADA PROGRAMMABLE LOGIC CONTROL SYSTEM	COMPUTER EQUIPMENT OR SERVER	1999	$ 205,000	$ -	General Plant
10634	HYPOCHLORITE SYSTEM, 3-TANK, VENT SYS	MISC VEHCILE/EQUIPMENT	2000	$ 270,000	$ -	General Plant
10716	SCADA PROGRAMMABLE LOGIC CONTROL SYSTEM	COMPUTER EQUIPMENT OR SERVER	2002	$ 257,534	$ -	General Plant
10765	EFFLUENT PUMP VFD * *	MISC VEHCILE/EQUIPMENT	2003	$ 35,490	$ -	Pumping
10799	DREDGE, LWT RUNT, PWR CORD, HOSE, FLOATS	MISC VEHCILE/EQUIPMENT	2004	$ 144,387	$ -	General Plant
10870	CAMERA SYSTEM, SECURITY * DVR *	CAMERA	2005	$ 5,080	$ -	General Plant
10905	EQUIPMENT, PUMP, 200HP, INCLUDES INSTALL	PUMP/LIFT STATION EQUIPMENT	2006	$ 162,928	$ -	Pumping
10906	ELECTRICAL UPGRADE FOR 200HP PUMP * *	PUMP/LIFT STATION EQUIPMENT	2006	$ 35,453	$ -	Pumping
10907	EQUIPMENT, PUMP, 200HP, INCLUDES INSTALL	PUMP/LIFT STATION EQUIPMENT	2006	$ 162,928	$ -	Pumping
10908	ELECTRICAL UPGRADE FOR 200HP PUMP * *	PUMP/LIFT STATION EQUIPMENT	2006	$ 35,453	$ -	Pumping
11127	INFLUENT PUMP - 4 VARIABLE FREQUENCY DRV	MISC VEHCILE/EQUIPMENT	2011	$ 197,458	$ -	General Plant
11130	WATER TREATMENT PLANT ROOF REPLACEMENT *	ROOF	2011	$ 80,151	$ -	General Plant
11135	WATER PLANT LANDSCAPING * *	LAND IMPROVEMENTS	2011	$ 113,110	$ -	General Plant
11204	RELINE 12' COAGULANT STORAGE TANK (WA509	MISC VEHCILE/EQUIPMENT	2012	$ 32,361	$ -	General Plant
11220	HACH DUAL INPUT GRB SAMPLE* CLF10SC	COMPUTER EQUIPMENT OR SERVER	2012	$ 6,121	$ -	General Plant
11227	WATER TREATMENT PLANT SOLIDS HANDLING (W	WATER PLANT	2013	$ 473,564	$ -	Treatment
11228	REDUNDANT BACKWASH PUMP (WA6057) INCLUDE	WATER PLANT	2013	$ 521,102	$ -	Treatment
11230	WATER TREATMENT PLANT SOLIDS HANDLING (W	LAND IMPROVEMENTS	2013	$ 41,814	$ -	Treatment
11258	RELINE 3 BLEACH STORAGE TANKS (WA5096)**	MISC VEHCILE/EQUIPMENT	2013	$ 28,281	$ -	General Plant
11259	WTR PLANT 12HP, 8"" SUBMERSIBLE DRN PUMP	SUBMERSIBLE PUMP	2013	$ 11,346	$ -	Pumping
11262	WATER TREATMENT PLANT ACCESS ROAD MODIFI	LAND IMPROVEMENTS	2013	$ 52,703	$ -	General Plant
11268	WTR PLANT SERVER: POWER EDGE R720*	COMPUTER EQUIPMENT OR SERVER	2013	$ 5,800	$ -	General Plant
11394	HYDROACT6000 STREAMING CURRENT DETECTOR	MISC VEHCILE/EQUIPMENT	2014	$ 9,855	$ -	General Plant
11415	SEDIMENT BASIN #3 VALVE REPLACEMENT	WATER PLANT	2015	$ 11,829	$ -	Treatment
11420	WTP ELECTRICAL UPGRADES FOR EMERGENCY	ELECTRICAL/PLUMBING	2015	$ 148,805	$ -	General Plant
11421	SOOKW-CUMMINS MOBILE GENERATOR WITH	GENERATOR	2015	$ 120,000	$ -	General Plant
11509	SPECTROPHOTOMETER DR 6000 UV VIS	MISC VEHCILE/EQUIPMENT	2015	$ 6,459	$ -	General Plant
11518	GENERATOR, XQ0100 SOUND ATTENUATED	GENERATOR	2015	$ 24,600	$ -	General Plant
11519	TRAILER, GENERATOR	MISC VEHCILE/EQUIPMENT	2015	$ 6,184	$ -	General Plant
11521	ELECTRICAL CONNECTION-PORTABLE GENERATOR	ELECTRICAL/PLUMBING	2016	$ 11,684	$ -	General Plant
11566	WERT EQUIPMENT WA6248	MISC VEHCILE/EQUIPMENT	2016	$ 153,986	$ -	General Plant
11567	UTILITY TRAILER, 28FT CARGO MATE, WERT	MISC VEHCILE/EQUIPMENT	2016	$ 5,754	$ -	General Plant
10390	LAND, ""M"" ST LOG POND, 820 SE M ST * *	LAND	1990	$ 89,121	$ -	General Plant
11520	ELECTRICAL CONNECTION-PORTABLE GENERATOR	ELECTRICAL/PLUMBING	2016	$ 11,618	$ -	General Plant
11178	RESERVOIR #8 SOLARBEE MODEL GS-12 MIXER	MISC VEHCILE/EQUIPMENT	2012	$ 15,596	$ -	General Plant
11180	RESERVOIR #6 SOLARBEE MODEL GS-12 MIXER	MISC VEHCILE/EQUIPMENT	2012	$ 15,596	$ -	General Plant
11179	RESERVOIR #15 SOLARBEE MODEL GS-12 MIXER	MISC VEHCILE/EQUIPMENT	2012	$ 15,596	$ -	General Plant
11131	HILLTOP PUMP STATION UPGRADE- INCLUDES T	PUMP STATIONS	2011	$ 659,528	$ -	Pumping
10665	LOG POND DREDGING * *	LAND	2001	$ 104,510	$ -	General Plant
10717	LOG POND DREDGING * *	LAND	2002	$ 12,295	$ -	General Plant
11266	GRUNDOMAT100PK HORIZONTAL BORING TOOL	MISC VEHCILE/EQUIPMENT	2013	$ 6,198	$ -	General Plant
10718	WATER PLANT LAND IMPROVEMENTS, RIVERBANK	LAND IMPROVEMENTS	2002	$ 784,283	$ -	General Plant
10952	WATER PLANT INTAKE STRUCTURE WA4740 * *	MISC VEHCILE/EQUIPMENT	2007	$ 1,813,758	$ -	General Plant
10313	LAWNRIDGE PUMP STATION EQUIPMENT	PUMP/LIFT STATION EQUIPMENT	1983	$ 124,500	$ -	Pumping
10131	LAND, ""A"" & FOOTHILL, NE FOOTHILL BLVD	LAND	1967	$ 300	$ -	General Plant
10519	BEACON & HEFLEY PUMP STATION BUILDING	STRUCTURE	1997	$ 63,881	$ -	Pumping
10522	BEACON & HEFLEY PUMP STATION EQUIPMENT	PUMP/LIFT STATION EQUIPMENT	1997	$ 221,119	$ -	Pumping
10966	PRESSURE REDUCING VALVE ASSEMBLY	MISC VEHCILE/EQUIPMENT	2008	$ 139,200	$ -	General Plant
10072	BEACON & MADRONE PUMP STATION BUILDING	STRUCTURE	1953	$ -	$ -	Pumping
10073	BEACON & MADRONE PUMP STATION BUILDING	STRUCTURE	1953	$ 4,802	$ -	Pumping
10075	LAND, BEACON & MADRONE, RESERVOIR #5, NE	LAND	1954	$ 500	$ -	Storage
10232	BEACON & MADRONE PUMP STATION RENOVATION	STRUCTURE	1976	$ 12,354	$ -	Pumping
10233	BEACON & MADRONE PUMP STATION EQUIP	PUMP/LIFT STATION EQUIPMENT	1976	$ 25,036	$ -	Pumping
10070	LAND, BEACON & SAVAGE, 1190 NE RIDGE RD	LAND	1952	$ 3,750	$ -	General Plant
10071	LAND, BEACON & SAVAGE, NE BEACON DR * *	LAND	1952	$ 2,350	$ -	General Plant
10320	LAND, MORGAN & 6TH, 1995 NW VINE ST * *	LAND	1983	$ 153,500	$ -	General Plant
10309	STARLITE PLACE PUMP STATION BUILDING	STRUCTURE	1983	$ 52,290	$ -	Pumping
10311	STARLITE PLACE PUMP STATION EQUIPMENT	PUMP/LIFT STATION EQUIPMENT	1983	$ 111,883	$ -	Pumping
10317	STARLITE PLACE PUMP STATION LAND IMPROVE	LAND IMPROVEMENTS	1983	$ 27,700	$ -	Pumping
10702	STARLITE PLACE PUMP STATION EQUIPMENT	PUMP/LIFT STATION EQUIPMENT	2002	$ 18,606	$ -	Pumping
11414	PRESSURE REDUCING VALVE VAULT TO INCLUDE	PUMP STATIONS	2015	$ 230,580	$ -	Pumping
10053	LAND, RESERVOIRS 1, 2 & 3, 502 NW WOODSO	LAND	1948	$ 2,000	$ -	Storage
10061	WOODSON DRIVE RESERVOIR #3, BELOW GROUND	RESERVOIRS	1949	$ 141,050	$ -	Storage
11062	WOODSON DRIVE RESEVOIR#3 VALVE HOUSE OVE	RESERVOIRS	2010	$ 101,675	$ -	Storage
11416	REERVOIR #3 (WOODSEN DRIVE) ELECTRICAL	ELECTRICAL/PLUMBING	2015	$ 83,276	$ -	Storage
11417	RESERVOIR #3 (WOODSON DRIVE) LAND	LAND IMPROVEMENTS	2015	$ 129,003	$ -	Storage
11418	RESERVOIR #3 (WOODSON DRIVE) BELOW GROUN	RESERVOIRS	2015	$ 5,412,233	$ -	Storage
10296	LAND, SERMAN RESERVOIR #5, NE PIEDMONT A	LAND	1982	$ 50,000	$ -	Storage
10314	SHERMAN LANE RESERVOIR #5, ABOVE GROUND	RESERVOIRS	1983	$ 1,226,412	$ -	Storage
10270	LAND, AUSLAND RESERVOIR, NE AUSLAND DR *	LAND	1980	$ 37,750	$ -	Storage
10285	LAND, RESERVOIR #8, 351 HIEGLEN LOOP *	LAND	1980	$ 24,670	$ -	Storage
10301	HEIGLAND LOOP RESERVOIR #6, ABOVE GROUND	RESERVOIRS	1982	$ 1,139,400	$ -	Storage
10315	HEIGLAND LOOP RESERVOIR #8, ABOVE GROUND	RESERVOIRS	1983	$ 847,600	$ -	Storage
11419	HEIGLAND LOOP RESERVOIR #8 POWER UPGRADE	MISC INFRASTRUCTURE	2015	$ 8,988	$ -	Storage
10074	RIDGE ROAD RESERVOIR #4, ABOVE GROUND, P	RESERVOIRS	1953	$ 56,324	$ -	Storage
10272	SUNSET RESERVOIR #13, ABOVE GROUND, PRE-	RESERVOIRS	1980	$ 260,850	$ -	Storage
10333	HIGHLAND AVENUE RESERVOIR #15, ABOVE GRO	RESERVOIRS	1985	$ 1,018,500	$ -	Storage
10360	LAND, HILLTOP PUMP STATION, HILL TOP DR	LAND	1988	$ 3,915	$ -	Pumping
10362	HILLTOP PUMP STATION, HYDRONIX PACKAGE	PUMP STATIONS	1988	$ 57,280	$ -	Pumping
11033	PANORAMIC LOOP PUMP STATION UPGRADES	PUMP/LIFT STATION EQUIPMENT	2009	$ 42,128	$ -	Pumping
10867	WILLIAMS CROSSING PUMP STATION	STRUCTURE	2005	$ 42,304	$ -	Pumping
10869	WILLIAMS CROSSING PUMP STATION EQUIP	PUMP/LIFT STATION EQUIPMENT	2005	$ 5,324	$ -	Pumping

(1 of 2 for Water asset inventory)

Asset ID	Description	Asset Category	Acquisition Year	Original Cost	CIAC	Function
10513	LAND, RESERVOIR #11, PARCEL A (KOLKOW)	LAND	1997	$ 45,000	$ -	Storage
10578	LAND, WILLIAMS HWY PUMP STATION PARCEL B	LAND	1999	$ 116,500	$ -	Storage
10664	DENTON TRAIL RESERVOIR #11, ABOVE GROUND	RESERVOIRS	2001	$ 2,824,832	$ -	Storage
10424	STARVIEW PUMP STATION BUILDING	STRUCTURE	1993	$ 27,925	$ -	Pumping
10425	STARVIEW PUMP STATION EQUIPMENT	PUMP/LIFT STATION EQUIPMENT	1993	$ 66,956	$ -	Pumping
10642	LAND, MEADOW WOOD PUMP STATION, 2202 SE	LAND	2000	$ 3,600	$ -	Pumping
10646	MEADOW WOOD PUMP STATION PHASE 1 BLDG	STRUCTURE	2001	$ 103,500	$ -	Pumping
10652	MEADOW WOOD PUMP STATION PHASE 1 EQUIP	PUMP/LIFT STATION EQUIPMENT	2001	$ 350,000	$ -	Pumping
10868	MEADOW WOOD PUMP STATION EQUIP	PUMP/LIFT STATION EQUIPMENT	2005	$ 51,262	$ -	Pumping
10310	CHAMPION PUMP STATION BUILDING	STRUCTURE	1983	$ 94,148	$ -	Pumping
10312	CHAMPION PUMP STATION ERQUIPMENT	PUMP/LIFT STATION EQUIPMENT	1983	$ 132,350	$ -	Pumping
10318	CHAMPION PUMP STATION LAND IMPROVEMENTS	LAND IMPROVEMENTS	1983	$ 5,854	$ -	Pumping
10703	CHAMPION PLACE PUMP STATION EQUIPMENT	PUMP/LIFT STATION EQUIPMENT	2002	$ 18,606	$ -	Pumping
10581	NEW HOPE PUMP STATION BUILDING	STRUCTURE	1999	$ 288,540	$ -	Pumping
10583	NEW HOPE PUMP STATION EQUIP	PUMP/LIFT STATION EQUIPMENT	1999	$ 215,610	$ -	Pumping
10590	NEW HOPE PUMP STATION LAND IMPROVEMENTS	LAND IMPROVEMENTS	1999	$ 7,250	$ -	Pumping
10760	NEW HOPE BULK WATER STATION TO INCLUDE P	LAND IMPROVEMENTS	2003	$ 10,061	$ -	Pumping
10598	HARBECK PUMP STATION, HYDRONIX PACKAGE	PUMP STATIONS	2000	$ 96,300	$ -	Pumping
10672	LAUREL RIDGE PUMP STATION, HYDRONIX PACK	PUMP STATIONS	2001	$ 98,600	$ -	Pumping
10334	NORTH VALLEY PUMP STATION, HYDRONIX PACK	PUMP STATIONS	1985	$ 54,320	$ -	Pumping
10957	NORTH VALLEY PUMP STN MODIFICATIONS - UP	PUMP/LIFT STATION EQUIPMENT	2007	$ 7,194	$ -	Pumping
10020	UNDERGROUND WATER LINES, C/O 186 LF 4""	CAST IRON WATER PIPE	1925	$ 16,825	$ -	Transmission & Distribution
10031	UNDERGROUND WATER LINES, C/O 6,257 LF 2"	CAST IRON WATER PIPE	1935	$ 408,555	$ -	Transmission & Distribution
10048	UNDERGROUND WATER LINES, C/O 1,443 LF 2"	CAST IRON WATER PIPE	1945	$ 142,655	$ -	Transmission & Distribution
10078	UNDERGROUND WATER LINES, C/O 11,955 LF 2	CAST IRON WATER PIPE	1955	$ 1,381,725	$ -	Transmission & Distribution
10113	UNDERGROUND WATER LINE, C/O 5,810 LF 2""	CAST IRON WATER PIPE	1965	$ 971,313	$ -	Transmission & Distribution
10208	UNDERGROUND WATER LINES, C/O 986 LF 2""	DUCTILE WATER PIPE	1975	$ 1,815,885	$ -	Transmission & Distribution
10330	UNDERGROUND WATER LINES, C/O 2,547 LF 2"	DUCTILE WATER PIPE	1985	$ 8,992,170	$ -	Transmission & Distribution
10469	UNDERGROUND WATER LINES, C/O 2,569 LF 2"	DUCTILE WATER PIPE	1995	$ 11,046,035	$ -	Transmission & Distribution
10601	UNDERGROUND WATER LINES, C/O 178 LF 2""	DUCTILE WATER PIPE	2000	$ 2,017,400	$ -	Transmission & Distribution
10659	UNDERGROUND WATER LINES, C/O 179 LF 2""	DUCTILE WATER PIPE	2001	$ 2,058,500	$ -	Transmission & Distribution
10699	UNDERGROUND WATER LINES, C/O 179 LF 2""	DUCTILE WATER PIPE	2002	$ 2,094,800	$ -	Transmission & Distribution
10741	UNDERGROUND WATER LINES, C/O 2,095 LF 6"	DUCTILE WATER PIPE	2003	$ 3,631,599	$ -	Transmission & Distribution
10788	UNDERGROUND WATER LINES, C/O 519 LF6"",	DUCTILE WATER PIPE	2004	$ 2,401,926	$ -	Transmission & Distribution
10843	UNDERGROUND WATER LINES, C/O 1,417 LF 4"	DUCTILE WATER PIPE	2005	$ 4,728,277	$ -	Transmission & Distribution
10890	UNDERGROUND WATER LINES, C/O 401 LF6""	DUCTILE WATER PIPE	2006	$ 1,527,866	$ -	Transmission & Distribution
10938	UNDERGROUND WATER LINES, DI 4 LF 6"", 16	DUCTILE WATER PIPE	2007	$ 2,040,668	$ -	Transmission & Distribution
10964	UNDERGROUND WATER LINES, DI 7135 LF6""	DUCTILE WATER PIPE	2008	$ 1,665,024	$ -	Transmission & Distribution
11010	UNDERGROUND WATER LINES, DI 7055 LF8"",	DUCTILE WATER PIPE	2009	$ 1,603,439	$ -	Transmission & Distribution
11076	UNDERGROUND WATER LINES, DI: 475 LF-6""	DUCTILE WATER PIPE	2010	$ 294,997	$ -	Transmission & Distribution
11110	UNDERGROUND WATER LINES, DI: 6094 LF-8""	DUCTILE WATER PIPE	2011	$ 614,590	$ -	Transmission & Distribution
11176	UNDERGROUND WATER LINES, CI: 695 LF-8""	DUCTILE WATER PIPE	2012	$ 321,774	$ -	Transmission & Distribution
11253	UNDERGROUND WATER LINES INCLUDING 56 LF	DUCTILE WATER PIPE	2013	$ 11,005	$ -	Transmission & Distribution
11254	UNDERGROUND WATER LINES TO INCLUDE 185 L	DUCTILE WATER PIPE	2013	$ 21,815	$ -	Transmission & Distribution
11255	UNDERGROUND WATER LINES TO INCLUDE 160 L	DUCTILE WATER PIPE	2013	$ 67,545	$ -	Transmission & Distribution
11348	UNDERGROUND WATER LINES (CI) 650 LF-8""	DUCTILE WATER PIPE	2014	$ 100,518	$ -	Transmission & Distribution
11349	UNDERGROUND WATER LINES (CI) 410 LF-8""	DUCTILE WATER PIPE	2014	$ 43,028	$ -	Transmission & Distribution
11350	UNDERGROUND WATER LINES DIA: 132 LF 8""	DUCTILE WATER PIPE	2014	$ 9,306	$ 9,306	Transmission & Distribution
11351	UNDERGROUND WATER LINES DIA: 180 LF 12""	DUCTILE WATER PIPE	2014	$ 17,550	$ 17,550	Transmission & Distribution
11352	UNDERGROUND WATER LINES DIA: 293 LF 8""	DUCTILE WATER PIPE	2014	$ 20,657	$ 20,657	Transmission & Distribution
11353	UNDERGROUND WATER LINES DIA: 4,364 LF 8"	DUCTILE WATER PIPE	2014	$ 327,575	$ 327,575	Transmission & Distribution
11377	UNDERGROUND WATER LINES (CI) DUNKIN FIRE	DUCTILE WATER PIPE	2014	$ 60,560	$ -	Transmission & Distribution
11423	UNDERGROUND WATER LINES TO INCLUDE 650LF	DUCTILE WATER PIPE	2015	$ 104,969	$ -	Transmission & Distribution
11436	UNDERGROUND WATERLINES DIA 95 LF 8""	DUCTILE WATER PIPE	2015	$ 6,698	$ 6,698	Transmission & Distribution
11451	UNDERGROUND WATER LINES, DIA, 11LF-4"" &	DUCTILE WATER PIPE	2016	$ 8,120	$ 8,120	Transmission & Distribution
11453	UNDERGROUND WATER LINES, DIA, 70LF-4"",	DUCTILE WATER PIPE	2016	$ 15,246	$ 15,246	Transmission & Distribution
11455	UNDERGROUNG WATER LINES DIA, 530LF-8""	DUCTILE WATER PIPE	2016	$ 37,365	$ 37,365	Transmission & Distribution
11461	UNDERGROUND WATER LINES DIA, 314LF-8""	DUCTILE WATER PIPE	2016	$ 25,463	$ 25,463	Transmission & Distribution
11467	UNDERGROUND WATER LINES DIA, 150 LF 6""	DUCTILE WATER PIPE	2016	$ 10,013	$ 10,013	Transmission & Distribution
11468	UNDERGROUND WATER LINES DIA, 129LF-6"",	DUCTILE WATER PIPE	2016	$ 202,794	$ 202,794	Transmission & Distribution
11471	UNDERGROUND WATER LINES DIA, 1,552LF-8""	DUCTILE WATER PIPE	2016	$ 145,922	$ 145,922	Transmission & Distribution
11477	UNDERGROUND WATER LINES DIA, 1015LF-8""	DUCTILE WATER PIPE	2016	$ 74,876	$ 74,876	Transmission & Distribution
11485	UNDERGROUND WATER LINES, DIA 25LF-6"",	DUCTILE WATER PIPE	2016	$ 23,318	$ 23,318	Transmission & Distribution
11501	PIPE CUTTING SAW DIAMOND WIRE GUILLOTINE	MISC VEHCILE/EQUIPMENT	2016	$ 10,865	$ -	General Plant
11522	UNDERGROUND WATER LINES 813LF 12"" & 4	DUCTILE WATER PIPE	2016	$ 186,860	$ -	Transmission & Distribution
11523	UNDERGROUND WATER LINES 154LF-8"", & 4	DUCTILE WATER PIPE	2016	$ 41,565	$ -	Transmission & Distribution
11524	UNDERGROUND WATER LINES 1930LF-8"", 3	DUCTILE WATER PIPE	2016	$ 422,573	$ -	Transmission & Distribution
11546	UNDERGROUND WATER LINES 165 LF-8"", 60 L	DUCTILE WATER PIPE	2016	$ 193,707	$ -	Transmission & Distribution
11568	UNDERGROUND WATER LINES 60LF-6"", 219LF-	DUCTILE WATER PIPE	2016	$ 369,573	$ -	Transmission & Distribution
11569	UNDERGROUND WATER LINES 212LF-125"" & 1	DUCTILE WATER PIPE	2016	$ 38,417	$ -	Transmission & Distribution
11570	UINDERGROUND WATER LINES 418LF-12"" & 1	DUCTILE WATER PIPE	2016	$ 41,479	$ -	Transmission & Distribution
10915	MDE60-10 RELAY * *	COMPUTER EQUIPMENT OR SERVER	2006	$ 5,170	$ -	General Plant
10916	CURRENT DETECTOR * *	COMPUTER EQUIPMENT OR SERVER	2006	$ 9,928	$ -	General Plant
11378	WATER TREATMENT PLANT UPGRADE WA6207	MISC CIP	2014	$ 246,809	$ -	Treatment
11526	WATER TREATMENT PLANT UPGRADE WA6207	MISC CIP	2016	$ 128,551	$ -	Treatment
10981	MEADOW WOOD RES. 16 - WA4742 * *	WATER RESERVIORS	2008	$ 10,187	$ -	Storage
11120	MEADOW WOOOD RES.16 LAND - WA4742 * *	WATER RESERVIORS	2011	$ 1,040	$ -	Storage
11277	MEADOWWOOD RES 16 WA4742** * *	WATER RESERVIORS	2013	$ 5,429	$ -	Storage
11525	WATER LINES - C STREET WA6249	DUCTILE WATER PIPE	2016	$ 20,082	$ -	Transmission & Distribution
11564	BELLEVUE/LYNWOOD/PROSPECT WA6253	DUCTILE WATER PIPE	2016	$ 28,487	$ -	Transmission & Distribution
Totals				**$ 80,231,841**	**$ 924,901**	

Function	Original Cost	CIAC	Net Original Cost
Treatment	5,286,760	-	5,286,760
Storage	13,543,218	-	13,543,218
Pumping	3,860,243	-	3,860,243
Transmission & Distribution	52,453,105	924,901	51,528,204
General Plant	5,088,515	-	5,088,515
Total	80,231,841	924,901	79,306,940

(2 of 2 for Water asset inventory)

Reimbursement Cost Basis Calculation

Asset Type	Current Cost (Less Contributed Assets)	Current Unused Capacity	Reimbursement Fee Cost Basis
Treatment	$5,286,760	0.00%	$0
Storage	$13,543,218	12.26%	$1,660,899
Pumping	$3,860,243	22.21%	$857,533
Transmission & Distribution	$51,528,204	0.00%	$0
General Plant	$5,088,515	3.39%	$172,667
Total	$79,306,940		$2,691,099

Source: Water Treatment Plant Facilities Plan Update and Water Distribution System Master Plan.
T&D Note: WDSMP pg. 4-21 "In order to provide for the continued reliable operation of the distribution system, renewal and replacement of distribution system piping must be planned for."

Debt Principal Reduction

Asset Type	Total Principal	Proportional Share of Debt	Reimbursement Fee Cost Deduction
Full Faith and Credit Obligation Bonds Water Fund	$3,490,000	3.39%	$118,425
Total	$3,490,000		$118,425

Source: City of Grants Pass

Storage Excess Capacity

Zone	Current Required Capacity (mgd)	Existing Capacity (mgd)	Capacity available for Future Users
Zone 1	11.92	13.00	
Zone 2	2.74	4.25	
Zone 3	2.13	2.00	
Zone 4	0.30	0.08	
Zone NV	1.01	1.30	
Total	18.10	20.63	12.26%

Source: Water Distribution System Master Plan
pg. 4-7

Pumping Capacity

Zone	Current Required Capacity (gpm)	Existing Capacity (gpm)	Capacity available for Future Users
1	6,535	16,600	
2	2,014	3,790	
2HK	1,524	168	
2HT	1,524	1,676	
2MW	1,667	150	
2NH	3,177	700	
3	778	2,400	
3MW	1,501	500	
3P	1,512	1,220	
3S	1,512	618	
3WX	8	70	
4	83	958	
4LR	1,559	700	
NV	35	570	
Total	23,429	30,120	22.21%

Source: Water Distribution System Master Plan
pg. 4-13

APPENDIX B – WATER IMPROVEMENT FEE PROJECT LIST

ID	Description	Project Cost	% Capacity Expanding	$ Capacity Expanding
	Capital Outlay Projects			
WA0000	Misc Water Projects - General (758)	$ -	0%	$ -
WA4742	Meadow Woods Reservoir No.16 - Site Purchase	**251,544**	0%	-
WA4971	Meadow Woods Reservoir No.16	**-**	0%	-
WA5094	Water Distribution System Master Plan Update	**-**	0%	-
WA5096	WTP Structural Repairs	**525,000**	0%	-
WA6000	MSA Task Order #1	**400,000**	0%	-
WA6058	Water System Security Projects	**200,000**	0%	-
WA6059	Pump Station Repairs	**500,000**	0%	-
WA6207	WTP Upgrade	**-**	0%	-
WA6248	Purchase of Emergency Water Pump Stations	**-**	0%	-
WA6249	Water Main Relocations	**325,023**	0%	-
WA6250	Water Rate and SDC Study	**65,000**	0%	-
WA6251	Purchase Portable Generator for Pump Station	**50,000**	0%	-
WA6252	Arc Flash Study WA and SE	**60,000**	0%	-
WA6253	Small Main Replacement	**446,166**	0%	-
	Master Plan - Storage Reservoirs	**-**	-	-
R-13	0.7 MG Ausland Reservoir - Zone 4 Reservoir No. 1	**2,100,000**	40%	840,000
R-14	0.5 MG Laurel Ridge Reservoir	**1,500,000**	40%	600,000
R-16	1.3 MG Meadow Wood Reservoir	**3,900,000**	69%	2,691,000
R-17	1.2 MG New Hope (Cathedral Hills) Reservoir	**3,600,000**	42%	1,512,000
R-19	1.2 MG Pearce Park Reservoir - Zone 2 Spalding In	**3,600,000**	100%	3,600,000
	Capital Maintenance	**75,000**	52%	39,000
	Master Plan - Pump Stations	**-**	-	-
P-1	Meadow Wood P.S. High (Zone 3MW) - Fire Flow C	**250,000**	52%	130,000
P-2	Panoramic P.S. - Fire Flow Capacity Upgrade	**400,000**	52%	208,000
P-3	Ausland P.S. Supplying Proposed Ausland Reservoi	**500,000**	52%	260,000
P-4	Zone 4N P.S. - Constant Pressure	**1,200,000**	100%	1,200,000
P-5	North Valley P.S. Replacement	**1,000,000**	79%	790,000
	Capital Maintenance	**-**	52%	-
	Master Plan - PRV	**-**	-	-
V-1	Spalding Industrial Area - Ament Rd PRV	**150,000**	100%	150,000
V-2	Zone 4N Highland Ave PRV	**150,000**	100%	150,000
V-3	Blue Gulch PRV	**150,000**	100%	150,000
V-4	Overland PRV	**150,000**	100%	150,000
V-5	10th Street PRV	**150,000**	52%	78,000
V-6	NW B Street PRV	**150,000**	100%	150,000
V-7	Zone 2A PRV Replacements (Capital Maintenance)	**250,000**	52%	130,000
	Master Plan - Distribution Mains	**-**	-	-
M-1,2,3,9,10	Piping Improvements for Fire Flow	**683,000**	52%	355,160
M-4 to 8	Zone 2A - Hwy 99, Savage, Manzanita Loop	**758,000**	52%	394,160
M-11,12	Proposed Zone 2H - Connect Harbeck and Hilltop	**532,000**	100%	532,000
M-13 to 22	Spalding Industrial Area - Zone 2 Expansion	**3,181,000**	100%	3,181,000
M-24,25,26	Zone 3 Granite Hill to Scoville Loop	**1,415,000**	100%	1,415,000
M-27 to 30	Zone 3 Scoville to Spring Mountain Loop	**1,107,000**	100%	1,107,000
M-31 to 33,42	Zone 3 I-5 Crossing at Cedar Loop, Spring Mountain	**1,396,000**	100%	1,396,000
M-34 to 41,52	Proposed Ausland P.S. (P-3) and Reservoir (R-13) I	**2,897,000**	52%	1,506,440
M-43,44	Zone 3 I-5 Crossing at Humane Society	**570,000**	100%	570,000
M-45,46	Zone 3 Vine Street Loop - Highland to Hawthorne	**996,000**	52%	517,920
M-47 to 51	Zone 4N Mains	**1,996,000**	100%	1,996,000
M-53 to 57	Zone 1 Spalding Industrial Area Loop	**1,362,000**	100%	1,362,000
M-58 to 62	Meadow Wood Future Mains	**1,173,000**	100%	1,173,000
M-63 to 68	New Hope Future Mains	**2,532,000**	100%	2,532,000
M-69 to 75	Laurel Ridge and Blue Gulch Future Mains	**1,870,000**	100%	1,870,000
M-76,77,81,82,83	Zone 1 Fruitdale Future Mains	**2,087,000**	100%	2,087,000
M-78 to 80	Zone 1 Looping - Cloverlawn & Grandview	**639,000**	52%	332,280
M-84 to 87	Existing System Looping	**955,000**	52%	496,600
M-88 to M-102	2-Inch Main Replacement for Fire Flow	**1,886,000**	52%	980,720
	Routine Main Replacement Program (Capital Maint.)	**31,200,000**	52%	16,224,000
	Master Plan - Planning	**-**	-	-
	Seismic Resiliency	**100,000**	52%	52,000
	Water Management and Conservation Plan Update	**50,000**	52%	26,000
	Water Distribution System Master Plan Update	**150,000**	52%	78,000
	Unidirectional Flushing (UDF) Program Developmen	**80,000**	52%	41,600
	Distribution Piping Corrosion Study	**100,000**	52%	52,000
	Water Treatment Plant Facility Plan Update	**-**	-	-
	New Water Treatment Plant Implementation	**80,100,000**	30%	23,825,120
	TOTAL CAPITAL PROJECTS	**$ 161,912,733**		**$ 76,931,000**

Improvement Fee Cost Basis	Total Cost	Total Eligible Portion	Improvement Fee Costs
Capital Outlay Projects	$2,822,733	0.00%	$0
Water Distribution System Master Plan	$78,990,000	67.23%	$53,105,880
Water Treatment Plant Facility Plan Update	$80,100,000	29.74%	$23,825,120
Total	$161,912,733	47.51%	$76,931,000

Source: Water Treatment Plant Facility Plan Update, Water Distribution System Plan, and City staff.

APPENDIX C – SEWER REIMBURSEMENT FEE CALCULATION

Asset ID	Description	Asset Category	Acquisition Year	Original Cost	CIAC	Function
10019	UNDERGROUND SEWER LINES, C/O 228 LF 4""	CLAY SEWER PIPE	1925	$ 138,110	$ -	Mains
10030	UNDERGROUND SEWER LINES, C/O 165 LF 4""	CLAY SEWER PIPE	1935	$ 33,575	$ -	Mains
10047	UNDERGROUND SEWER LINES, C/O 114 LF 4""	CLAY SEWER PIPE	1945	$ 247,255	$ -	Mains
10077	UNDERGROUND SEWER LINES, C/O 280 LF 4""	CLAY SEWER PIPE	1955	$ 215,435	$ -	Mains
10112	UNDERGROUND SEWER LINES, C/O 407 LF 4""	MISC INFRASTRUCTURE	1965	$ 1,327,320	$ -	General Plant
10126	WEBSTER SEWER LIFT STATION #1, HYDRONIX	LIFT STATIONS	1967	$ 15,150	$ -	Pumping
10199	WEBSTER SEWER LIFT STATION #2, HYDRONIX	LIFT STATIONS	1974	$ 25,050	$ -	Pumping
10206	UNDERGROUND SEWER LINES, C/O 1,286 LF 6"	MISC INFRASTRUCTURE	1975	$ 3,139,940	$ -	General Plant
10268	UNDERGROUND SEWER LINES, C/O 184 LF 4""	PLASTIC SEWER PIPE	1980	$ 53,170	$ -	Mains
10286	LAND, STORM DRAIN, NW HAWTHORNE AVE * *	LAND	1980	$ 600	$ -	General Plant
10287	UNDERGROUND SEWER LINES, C/O 5,980 LF 8"	PLASTIC SEWER PIPE	1981	$ 147,110	$ -	Mains
10295	UNDERGROUND SEWER LINES, C/O 8,393 LF 8"	PLASTIC SEWER PIPE	1982	$ 228,965	$ -	Mains
10308	UNDERGROUND SEWER LINES, C/O 1,393 LF 8"	PLASTIC SEWER PIPE	1983	$ 36,330	$ -	Mains
10321	UNDERGROUND SEWER LINES, C/O 46 LF 6"",	PLASTIC SEWER PIPE	1984	$ 32,995	$ -	Mains
10328	UNDERGROUND SEWER LINES, C/O 213 LF 6""	PLASTIC SEWER PIPE	1985	$ 37,330	$ -	Mains
10341	UNDERGROUND SEWER LINES, C/O 3,069 LF 8"	PLASTIC SEWER PIPE	1986	$ 84,340	$ -	Mains
10347	UNDERGROUND SEWER LINES, C/O 307 LF 6""	PLASTIC SEWER PIPE	1987	$ 97,825	$ -	Mains
10358	UNDERGROUND SEWER LINES, C/O 61 LF 6"",	PLASTIC SEWER PIPE	1988	$ 171,325	$ -	Mains
10367	UNDERGROUND SEWER LINES, C/O 3,664 LF 8"	PLASTIC SEWER PIPE	1989	$ 106,405	$ -	Mains
10376	UNDERGROUND SEWER LINES, C/O 14,635 LF 8	PLASTIC SEWER PIPE	1990	$ 434,370	$ -	Mains
10389	LAND, SKUNK CREEK DRAINAGE CANAL, SE M S	LAND	1990	$ 2,500	$ -	General Plant
10391	UNDERGROUND SEWER LINES, C/O 3,646 LF 8"	PLASTIC SEWER PIPE	1991	$ 110,255	$ -	Mains
10404	UNDERGROUND SEWER LINES, C/O 5,398 LF 8"	PLASTIC SEWER PIPE	1992	$ 239,995	$ -	Mains
10416	UNDERGROUND SEWER LINES, C/O 1,910 LF 4"	PLASTIC SEWER PIPE	1993	$ 255,860	$ -	Mains
10451	UNDERGROUND SEWER LINES, C/O 11,243 LF 8	PLASTIC SEWER PIPE	1994	$ 366,525	$ -	Mains
10467	UNDERGROUND SEWER LINES, C/O 2,196 LF 8"	PLASTIC SEWER PIPE	1995	$ 95,550	$ -	Mains
10482	UNDERGROUND SEWER LINES, C/O 10,215 LF 8	PLASTIC SEWER PIPE	1996	$ 348,540	$ -	Mains
10507	UNDERGROUND SEWER LINES, C/O 397 LF 6""	PLASTIC SEWER PIPE	1997	$ 345,535	$ -	Mains
10516	R.S.T. OMNIEYE II CAMERA, HI-TRACTION	CAMERA	1997	$ 26,682	$ -	General Plant
10536	UNDERGROUND SEWER LINES, C/O 82 LF 4"",	PLASTIC SEWER PIPE	1998	$ 351,520	$ -	Mains
10573	UNDERGROUND SEWER LINES, C/O 146 LF 6""	PLASTIC SEWER PIPE	1999	$ 665,095	$ -	Mains
10575	MAINLINE REEL W/LEVELWIND, CABLE TOP 31"	MISC VEHCILE/EQUIPMENT	1999	$ 6,434	$ -	General Plant
10599	UNDERGROUND SEWER LINES, C/O 19 LF 4"",	PLASTIC SEWER PIPE	2000	$ 442,365	$ -	Mains
10603	DATA DISPLAY PLUS, PRINTER, ASSEMBLY	MISC VEHCILE/EQUIPMENT	2000	$ 5,032	$ -	General Plant
10656	UNDERGROUND SEWER LINES, C/O 343 LF 4""	PLASTIC SEWER PIPE	2001	$ 573,635	$ -	Mains
10696	UNDERGROUND SEWER LINES, C/O 2,099 LF 8"	PLASTIC SEWER PIPE	2002	$ 83,960	$ -	Mains
10740	UNDERGROUND SEWER LINES, C/O 11,360 LF 8	PLASTIC SEWER PIPE	2003	$ 1,146,297	$ -	Mains
10747	ZOOM UPGRADE W/CONTROLLER * MUNI SUPPLY	MISC VEHCILE/EQUIPMENT	2003	$ 5,933	$ -	General Plant
10787	UNDERGROUND SEWER LINE, C/O 7,980 LF8""	PLASTIC SEWER PIPE	2004	$ 760,860	$ -	Mains
10841	UNDERGROUND SEWER LINES, C/O 12,327 LF 8	PLASTIC SEWER PIPE	2005	$ 1,332,121	$ -	Mains
10888	UNDERGROUND SEWER LINES, C/O 5,439 LF8""	PLASTIC SEWER PIPE	2006	$ 615,854	$ -	Mains
10937	UNDERGROUND SEWER LINES, C/O 82 LF 8"" P	PLASTIC SEWER PIPE	2007	$ 801,332	$ -	Mains
10963	UNDERGROUND SEWER LINES, CI 1086 LF8"" P	PLASTIC SEWER PIPE	2008	$ 1,184,091	$ -	Mains
10972	MECH BAR SCREEN & INFLUENT PUMPS	MISC VEHCILE/EQUIPMENT	2008	$ 2,489,469	$ -	General Plant
10978	7,000 LF OF 21 AND 24-INCH, 3034 PLASTIC	PLASTIC SEWER PIPE	2008	$ 3,374,305	$ -	Mains
11007	ADDITIONAL EXPENDITURES FOR PROJECT SE43	PLASTIC SEWER PIPE	2009	$ 10,972	$ -	Mains
11009	UNDERGROUND SEWER LINES, CI 295 LF 18""	PLASTIC SEWER PIPE	2009	$ 530,814	$ -	Mains
11025	NOVASTAR P&T SOOM SEWER CAMERA W/TRACTOR	CAMERA	2009	$ 24,541	$ -	General Plant
11072	JUDSON SANITARY SEWER-SE5066	PLASTIC SEWER PIPE	2010	$ 22,679	$ -	Mains
11073	2ND ST SEWER REPLACEMENT-SE5079	PLASTIC SEWER PIPE	2010	$ 415,587	$ -	Mains
11074	I TO J ALLEY SEWER RELOCATION-SE4835	PLASTIC SEWER PIPE	2010	$ 292,024	$ -	Mains
11075	UNDERGROUND SEWER LINES, CI: 823 LF-8""	PLASTIC SEWER PIPE	2010	$ 199,355	$ -	Mains
11109	UNDERGORUND SEWER LINES, CI: 992 LF-8""	PLASTIC SEWER PIPE	2011	$ 548,711	$ -	Mains
11128	BRIDGE ST PUMP STATION IMPROVEMENTS	PUMP/LIFT STATION EQUIPMEN	2011	$ 421,828	$ -	Pumping
11147	GILBERT CREEK SEWER CROSSING * *	PLASTIC SEWER PIPE	2011	$ 19,565	$ -	Mains
11175	UNDERGROUND SEWER LINES, CI: 815 LF-8""	PLASTIC SEWER PIPE	2012	$ 214,724	$ -	Mains
11246	UNDERGROUND SEWER LINES INCLUDING 50 LF	PLASTIC SEWER PIPE	2013	$ 5,656	$ -	Mains
11247	UNDERGROUND SEWER LINES INCLUDING 52 LF	PLASTIC SEWER PIPE	2013	$ 7,204	$ -	Mains
11248	UNDERGROUND SEWER LINES INCLUDING 385 LF	PLASTIC SEWER PIPE	2013	$ 50,820	$ -	Mains
11249	UNDERGROUND SEWER LINES INCLUDING 252 LF	PLASTIC SEWER PIPE	2013	$ 38,746	$ -	Mains
11250	UNDERGOUND SEWER LINES INCLUDING 273 LF	PLASTIC SEWER PIPE	2013	$ 36,036	$ -	Mains
11251	UNDERGROUND SEWER LINES INCULDING 70 LF	PLASTIC SEWER PIPE	2013	$ 14,722	$ -	Mains
11252	UNDERGROUND SEWER LINES INCLUDING 470 LF	PLASTIC SEWER PIPE	2013	$ 75,745	$ -	Mains
11342	UNDERGROUND SEWER LINES INCLUDING 710 LF	PLASTIC SEWER PIPE	2014	$ 128,161	$ -	Mains
11343	UNDERGROUND SEWER LINES INCLUDING 725 LF	PLASTIC SEWER PIPE	2014	$ 147,581	$ -	Mains
11344	UNDERGROUND SEWER LINES INCLUDING 440 LF	PLASTIC SEWER PIPE	2014	$ 64,098	$ -	Mains
11345	UNDERGROUND SEWER LINES INCLUDING 610 LF	PLASTIC SEWER PIPE	2014	$ 84,774	$ -	Mains
11346	UNDERGOURND SEWER LINES DIA INCLUDING 4	PLASTIC SEWER PIPE	2014	$ 471,533	$ 471,533	Mains
11347	UNDERGROUND SEWER LINES INCLUDING 52 LF	PLASTIC SEWER PIPE	2014	$ 41,746	$ -	Mains
11374	SEWER MAIN REPLACEMENT ALLEY: 5TH & 6TH	PLASTIC SEWER PIPE	2014	$ 76,926	$ -	Mains
11375	SEWER MAIN REPLACEALLEY 5TH & 6TH /E&F	PLASTIC SEWER PIPE	2014	$ 108,380	$ -	Mains
11376	SEWER MAIN REPLACE 5TH ST/CENTRAL -480'S	PLASTIC SEWER PIPE	2014	$ 128,335	$ -	Mains
11397	UNDERGROUND SEWER LINE C/O 398 LF 8""	PLASTIC SEWER PIPE	2015	$ 69,488	$ -	Mains
11398	UNDERGROUND SEWER LINE 680 LF 8"" PIPE	PLASTIC SEWER PIPE	2015	$ 125,556	$ -	Mains
11399	UNDERGROUND SEWER LINE 440 LF 8"" PIPE,	PLASTIC SEWER PIPE	2015	$ 89,482	$ -	Mains
11439	UNDERGROUND SEWER LINES DIA INCLUDING	PLASTIC SEWER PIPE	2015	$ 14,751	$ 14,751	Mains
11441	UNDERGROUND SEWER LINES DIA INCLUDING	PLASTIC SEWER PIPE	2015	$ 40,332	$ 40,332	Mains
11454	UNDERGROUND SEWER LINES DIA, 122LF 8"",	PLASTIC SEWER PIPE	2016	$ 16,190	$ 16,190	Mains
11456	UNDERGROUND SEWER LINES DIA, 638LF-8""	PLASTIC SEWER PIPE	2016	$ 71,385	$ 71,385	Mains
11462	UNDERGROUND SEWER LINES DIA, 107LF - 8""	PLASTIC SEWER PIPE	2016	$ 14,655	$ 14,655	Mains
11469	UNDERGROUND SEWER LINES DIA, 372LF -8"",	PLASTIC SEWER PIPE	2016	$ 42,995	$ 42,995	Mains
11472	UNDERGROUND SEWER LINES DIA, 1,659LF -8"	PLASTIC SEWER PIPE	2016	$ 182,743	$ 182,743	Mains
11478	UNDERGROUND SEWER LINES DIA, 660LF-8"",	PLASTIC SEWER PIPE	2016	$ 73,563	$ 73,563	Mains
11510	KOHLER 80 REZG GENERATOR GM66590-GAI	GENERATOR	2016	$ 16,288	$ -	General Plant
11511	UNDERGROUND SEWER LINES 1,065LF 8"" & 2	PLASTIC SEWER PIPE	2016	$ 150,100	$ -	Mains
11512	UNDERGROUND SEWER LINES, 1248LF 8"", 27	PLASTIC SEWER PIPE	2016	$ 233,714	$ -	Mains
10010	LAND, WATER RESTORATION, SW SPRUCE ST *	LAND	1907	$ 1,100	$ -	General Plant
10098	EQUIPMENT, PUMP HOUSE, 2-VERTICAL PUMPS	PUMP/LIFT STATION EQUIPMEN	1962	$ 11,928	$ -	Pumping
10099	CHLORINE CONTACT CHAMBER, REINFORCED CON	WASTEWATER PLANT	1962	$ 89,908	$ -	Treatment
10100	DIGESTER #2, REINFORCED CONCRETE, WITH B	WASTEWATER PLANT	1962	$ 61,855	$ -	Treatment
10101	OLD PUMPHOUSE, ONE STORY, CONCRETE BLOCK	WASTEWATER PLANT	1962	$ 10,091	$ -	Treatment
10184	SEWER TREATMENT LAB BLDG, MULTI STORY	STRUCTURE	1974	$ -	$ -	Treatment
10185	SEWER TREATMENT LAB BUILDING, ROOF COVER	ROOF	1974	$ 20,268	$ -	Treatment
10186	SEWER TREATMENT LAB BUILDING, STRUCTURE	STRUCTURE	1974	$ 580,643	$ -	Treatment

(Page 1 of 3 for Sewer asset inventory)

Asset ID	Description	Asset Category	Acquisition Year	Original Cost	CIAC	Function
10187	SEWER TREATMENT LAB BUILDING, INTERIOR	INTERIOR	1974	$ 160,028	$ -	Treatment
10188	SEWER TREATMENT LAB BLDG, ELEC/PLUMB	ELECTRICAL/PLUMBING	1974	$ 210,847	$ -	Treatment
10189	TURBINE GENERATOR #1, CONTROLS, TURBO	GENERATOR	1974	$ 100,000	$ -	General Plant
10190	COMPRESSOR, SPENCER TURBO, CONTROLS	COMPRESSOR	1974	$ 67,500	$ -	General Plant
10191	UNDERGROUND PIPING AND TUNNELS THROUGHOU	WASTEWATER PLANT	1974	$ 720,759	$ -	Treatment
10192	AERATION BASIN, REINFORCED CONCRETE, 2 B	WASTEWATER PLANT	1974	$ 336,284	$ -	Treatment
10193	DIGESTER #1, REINFORCED CONCRETE, WITH B	WASTEWATER PLANT	1974	$ 333,833	$ -	Treatment
10194	DIGESTER #1 PIPING * *	WASTEWATER PLANT	1974	$ 7,092	$ -	Treatment
10195	SECONDARY CLARIFIER, TWO TANKS, 75FT IDA	WASTEWATER PLANT	1974	$ 275,379	$ -	Treatment
10196	PRIMARY CLARIFIER, ONE TANK, 70 FT DIAME	WASTEWATER PLANT	1974	$ 142,050	$ -	Treatment
10197	EQUIPMENT, PRIMARY CLARIFIER #1, TO INCL	WASTEWATER PLANT	1974	$ 12,016	$ -	Treatment
10198	SLUDGE THICKENER TANK, REINFORCED CONCRE	WASTEWATER PLANT	1974	$ 33,814	$ -	Treatment
10201	WASTEWATER PLANT LAND IMPROVEMENTS TO IN	LAND IMPROVEMENTS	1974	$ 72,478	$ -	General Plant
10458	COMPRESSOR, SPENCER TURBO, CONTROLS	COMPRESSOR	1994	$ 67,500	$ -	General Plant
10459	POLYMER BLENDING, FOR GRAVITY BELT THICK	WASTEWATER PLANT	1994	$ 20,000	$ -	Treatment
10460	BELT THICKENER, REINFORCED CONCRETE, WIT	WASTEWATER PLANT	1994	$ 650,000	$ -	Treatment
10491	PUMP #1104 * *	MISC VEHCILE/EQUIPMENT	1996	$ 250,000	$ -	Pumping
10492	VALVE, SPLIT-FLOW, TO UV DISINFECTION *	MISC VEHCILE/EQUIPMENT	1996	$ 10,000	$ -	Pumping
10493	PUMP, PRIMARY SLUDGE, #2241 * *	MISC VEHCILE/EQUIPMENT	1996	$ 30,000	$ -	Pumping
10494	PUMP - PRIMARY SLUDGE, #2242 * *	MISC VEHCILE/EQUIPMENT	1996	$ 30,000	$ -	Pumping
10495	PUMP - PRIMARY SLUDGE - #2243 * *	MISC VEHCILE/EQUIPMENT	1996	$ 30,000	$ -	Pumping
10496	HEADWORKS * *	WASTEWATER PLANT	1996	$ 1,150,000	$ -	Treatment
10497	SETTLING TANK, PRIMARY 2 * *	WASTEWATER PLANT	1996	$ 1,275,000	$ -	Treatment
10498	SETTLING TANK, PRIMARY 3 * *	WASTEWATER PLANT	1996	$ 1,275,000	$ -	Treatment
10518	BRIDGE STREET LIFT STATION BUILDING	STRUCTURE	1997	$ 30,708	$ -	Pumping
10521	BRIDGE ST LIFT STATION EQUIPMENT, PUMPS	PUMP/LIFT STATION EQUIPMEN	1997	$ 123,685	$ -	Pumping
10548	LAND, LOWER RIVER MEADOWS SUBDIVISION, 2	LAND	1998	$ 5,600	$ -	General Plant
10584	UV DISINFECTION SYSTEM TO INCLUDE 2-UV T	WASTEWATER PLANT	1999	$ 980,000	$ -	Treatment
10643	JO GRO OFFICE CONTROL BUILDING	STRUCTURE	2001	$ 175,680	$ -	General Plant
10644	JO GRO COMPOST BUILDING #1, ONE STORY	STRUCTURE	2001	$ 683,200	$ -	General Plant
10645	JO GRO COMPOST BUILDING #2, ONE STORY	STRUCTURE	2001	$ 732,000	$ -	General Plant
10648	JO GRO CONTROL EQUIP-RAMP, PUMPS, MOTORS	PUMP/LIFT STATION EQUIPMEN	2001	$ 361,120	$ -	General Plant
10649	GRINDER, 200 HP * *	GRINDER	2001	$ 40,000	$ -	General Plant
10655	JO GRO OPERATIONS SITE DEVELOPMENT TO IN	LAND IMPROVEMENTS	2001	$ 798,000	$ -	General Plant
10670	WASTE GAS BURNER * *	MISC VEHCILE/EQUIPMENT	2001	$ 98,000	$ -	General Plant
10671	DIGESTER #2, RENOVATION * *	WASTEWATER PLANT	2001	$ 1,000,000	$ -	Treatment
10673	BIOFILTER * *	WASTEWATER PLANT	2001	$ 500,000	$ -	Treatment
10714	SOFTWARE, WORKDIRECTOR, VERSAVIEW, CALL	COMPUTER EQUIPMENT OR SEI	2002	$ 6,869	$ -	General Plant
10744	TELEMETRY EQUIPMENT - NARROW BAND, EST	COMPUTER EQUIPMENT OR SEI	2003	$ 2,329	$ -	General Plant
10745	TELEMETRY EQUIPMENT - ANTENNAS * EST	COMPUTER EQUIPMENT OR SEI	2003	$ 249	$ -	General Plant
10746	TELEMETRY EQUIPMENT - NARROW BAND, CABLE	COMPUTER EQUIPMENT OR SEI	2003	$ 4,114	$ -	General Plant
10766	WOODWASTE PAD, INCLUDES PAVING * *	LAND IMPROVEMENTS	2003	$ 45,861	$ -	General Plant
10768	2004 NOMAD TRAVEL TRAILER, PARK MODEL 39	MISC VEHCILE/EQUIPMENT	2003	$ 28,452	$ -	General Plant
10793	JO GRO COMPOST BUILDING #1, MODIFICATION	STRUCTURE	2004	$ 12,579	$ -	General Plant
10800	SEWER TREATMENT LAB BLDG, HVAC	HVAC	2004	$ 405,093	$ -	Treatment
10801	SEWER TREATMENT LAB BLDG, INTERIOR	INTERIOR	2004	$ 127,102	$ -	Treatment
10802	SEWER TREATMENT LAB BLDG, ELEC/PLUMB	ELECTRICAL/PLUMBING	2004	$ 127,103	$ -	Treatment
10803	SEWER TREATMENT LAB BUILDING, STRUCTURE	STRUCTURE	2004	$ 127,102	$ -	Treatment
10804	PUMP STATION, RAS/WAS * *	STRUCTURE	2004	$ 512,750	$ -	Pumping
10805	GAS BLENDER BUILDING * *	STRUCTURE	2004	$ 71,166	$ -	General Plant
10806	SPLIT-FLOW VALVE; FOR AERATION BASIN *	MISC VEHCILE/EQUIPMENT	2004	$ 14,422	$ -	General Plant
10807	SECONDARY CLARIFIER 3; MECHANISM CONTROL	MISC VEHCILE/EQUIPMENT	2004	$ 732,403	$ -	General Plant
10808	PUMP/PIPING; RAS/WAS - P4001 * *	MISC VEHCILE/EQUIPMENT	2004	$ 116,479	$ -	Pumping
10809	PUMP/PIPING - RAS/WAS - P4002 * *	MISC VEHCILE/EQUIPMENT	2004	$ 116,479	$ -	Pumping
10810	PUMP/PIPING - RAS/WAS - P4003 * *	MISC VEHCILE/EQUIPMENT	2004	$ 116,480	$ -	Pumping
10811	SCUM PUMP/PIPING - P4801 * *	MISC VEHCILE/EQUIPMENT	2004	$ 43,947	$ -	Pumping
10812	PUMP/PIPING - WAS - P4701 * *	MISC VEHCILE/EQUIPMENT	2004	$ 43,947	$ -	Pumping
10813	COMPRESSOR, HIBON TURBO * *	COMPRESSOR	2004	$ 418,709	$ -	General Plant
10814	COMPRESSOR, HIBON TURBO * *	COMPRESSOR	2004	$ 418,709	$ -	General Plant
10815	BELT FILTER PRESS * *	MISC VEHCILE/EQUIPMENT	2004	$ 517,157	$ -	General Plant
10816	BELT PRESS FILTRATE; INCLUDES PUMP, TANK	MISC VEHCILE/EQUIPMENT	2004	$ 13,901	$ -	General Plant
10817	POLYMER BLENDING UNIT; FOR BELT FILTER P	MISC VEHCILE/EQUIPMENT	2004	$ 32,205	$ -	General Plant
10818	TURBINE GENERATOR #2 * *	GENERATOR	2004	$ 824,728	$ -	General Plant
10819	DIFFUSERS; SLUICE GATES * *	WASTEWATER PLANT	2004	$ 474,536	$ -	Treatment
10820	INFLUENT PIPING * *	WASTEWATER PLANT	2004	$ 730,665	$ -	Treatment
10821	SECONDARY CLARIFIER 3, ONE TANK, 100 FT	WASTEWATER PLANT	2004	$ 2,713,062	$ -	Treatment
10822	BELT FILTER PRESS, INCLUDING CONCRETE AN	WASTEWATER PLANT	2004	$ 324,215	$ -	Treatment
10823	EFFLUENT CONTROL STRUCTURE * *	WASTEWATER PLANT	2004	$ 88,809	$ -	Treatment
10824	OUTFALL DIFFUSER * *	WASTEWATER PLANT	2004	$ 953,902	$ -	Treatment
10825	MIXED LIQUOR SPLITTER BOX * *	WASTEWATER PLANT	2004	$ 110,378	$ -	Treatment
10872	SPECTROPHOTOMETER, UV/VIS 115V * * DR 5	COMPUTER EQUIPMENT OR SEI	2005	$ 5,600	$ -	General Plant
10873	DROP BOX, 18' LENGTH, 20 CU. YARDS * *	MISC VEHCILE/EQUIPMENT	2005	$ 5,326	$ -	General Plant
10878	ASPHALT REPLACEMENT AND GATES AT JO-GRO	LAND IMPROVEMENTS	2005	$ 12,825	$ -	General Plant
10909	INFLUENT PIPING - ADDITIONAL PROJECT ADM	WASTEWATER PLANT	2006	$ 32,565	$ -	Treatment
10910	SECONDARY CLARIFIER 3 - ADDITIONAL PROJE	WASTEWATER PLANT	2006	$ 120,854	$ -	Treatment
10911	BELT FILTER PRESS - ADDITIONAL PROJECT A	WASTEWATER PLANT	2006	$ 14,452	$ -	Treatment
10912	EFFLUENT CONTROL STRUCTURE - ADDITIONAL	WASTEWATER PLANT	2006	$ 3,969	$ -	Treatment
10913	OUTFALL DIFFUSER - ADDITIONAL PROJECT AD	WASTEWATER PLANT	2006	$ 42,521	$ -	Treatment
10914	MIXED LIQUOR SPLITTER BOX - ADDITIONAL P	WASTEWATER PLANT	2006	$ 4,934	$ -	Treatment
10947	PIPE THREADING MACHINE, GRAINGER	MISC VEHCILE/EQUIPMENT	2007	$ 6,015	$ -	General Plant
11051	GRIT DISPOSAL PAD-SE5071 * *	MISC BUILDING ASSET	2010	$ 25,030	$ -	General Plant
11065	JO-GRO STORM WATER IMP-SE4913 * *	LAND IMPROVEMENTS	2010	$ 35,704	$ -	General Plant
11112	CATERPILLAR WHEEL LOADER SERIAL # 4YS024	LOADER, NEW	2011	$ 90,000	$ -	General Plant
11116	WATER RESTORATION PLANT ROOF REPLACEMENT	ROOF	2011	$ 250,050	$ -	General Plant
11203	JO-GRO PERM FUEL STORAGE TANK SE4960	STORAGE TANKS	2012	$ 16,761	$ -	General Plant
11205	JO-GRO SEPTIC HOLDING TANK (SE4960)*** *	LAND IMPROVEMENTS	2012	$ 15,029	$ -	General Plant
11206	JO-GRO DRAINAGE MODIFICATIONS UNDER SE49	LAND IMPROVEMENTS	2012	$ 109,042	$ -	General Plant
11514	WEIR REBUILD/REPAIR- WATER RESTORATION	MISC INFRASTRUCTURE	2016	$ 20,305	$ -	General Plant
11517	AERATION BLOWER, BALDOR 200HP 3600RMP	MISC VEHCILE/EQUIPMENT	2015	$ 13,664	$ -	General Plant
10179	LAND, RSSSD TREATMENT PLANT PROPERTY, 49	LAND	1973	$ 40,000	$ -	General Plant
10207	UNDERGROUND SEWER LINES, C/O 41,616 LF 8	MISC INFRASTRUCTURE	1975	$ 1,831,740	$ -	Mains
10269	UNDERGROUND SEWER LINES, C/O 827 LF 8""	PLASTIC SEWER PIPE	1980	$ 18,360	$ -	Mains
10322	UNDERGROUND SEWER LINES, C/O 1,837 LF 8"	PLASTIC SEWER PIPE	1984	$ 49,305	$ -	Mains
10329	UNDERGROUND SEWER LINES, C/O 1,014 LF 8"	PLASTIC SEWER PIPE	1985	$ 27,540	$ -	Mains
10348	UNDERGROUND SEWER LINES, C/O 115 LF 8""	PLASTIC SEWER PIPE	1987	$ 3,210	$ -	Mains
10359	UNDERGROUND SEWER LINES, C/O 1,760 LF 8"	PLASTIC SEWER PIPE	1988	$ 50,335	$ -	Mains
10377	UNDERGROUND SEWER LINES, C/O 5,060 LF 8"	PLASTIC SEWER PIPE	1990	$ 150,180	$ -	Mains
10392	UNDERGROUND SEWER LINES, C/O 7,274 LF 8"	PLASTIC SEWER PIPE	1991	$ 219,965	$ -	Mains
10405	UNDERGROUND SEWER LINES, C/O 2,937 LF 8"	PLASTIC SEWER PIPE	1992	$ 90,225	$ -	Mains
10417	UNDERGROUND SEWER LINES, C/O 2,146 LF 8"	PLASTIC SEWER PIPE	1993	$ 66,440	$ -	Mains

(Page 2 of 3 for Sewer asset inventory)

Asset ID	Description	Asset Category	Acquisition Year	Original Cost	CIAC	Function
10452	UNDERGROUND SEWER LINES, C/O 3,469 LF 8"	PLASTIC SEWER PIPE	1994	$ 113,090	$ -	Mains
10468	UNDERGROUND SEWER LINES, C/O 4,155 LF 8"	PLASTIC SEWER PIPE	1995	$ 140,270	$ -	Mains
10483	UNDERGROUND SEWER LINES, C/O 2,323 LF 8"	PLASTIC SEWER PIPE	1996	$ 79,260	$ -	Mains
10508	UNDERGROUND SEWER LINES, C/O 715 LF 8""	PLASTIC SEWER PIPE	1997	$ 25,140	$ -	Mains
10537	UNDERGROUND SEWER LINES, C/O 922 LF 8""	PLASTIC SEWER PIPE	1998	$ 33,045	$ -	Mains
10574	UNDERGROUND SEWER LINES, C/O 4,192 LF 8"	PLASTIC SEWER PIPE	1999	$ 153,595	$ -	Mains
10597	LAND, DARNEILLE LIFT STATION, 3.15 ACRES	LAND	1999	$ 151,552	$ -	Pumping
10600	UNDERGROUND SEWER LINES, C/O 2,201 LF 8"	PLASTIC SEWER PIPE	2000	$ 84,780	$ -	Mains
10647	DARNEILLE LIFT STATION BUILDING, 3 LEVEL	STRUCTURE	2001	$ 1,820,818	$ -	Pumping
10653	DARNEILLE LIFT STATION EQUIPMENT	PUMP/LIFT STATION EQUIPMEN	2001	$ 766,139	$ -	Pumping
10654	REDWOOD SEWER LIFT STATION, TO INCLUDE 2	LIFT STATIONS	2001	$ 456,521	$ -	Pumping
10657	UNDERGROUND SEWER LINES, C/O 2,001 LF 8"	PLASTIC SEWER PIPE	2001	$ 77,720	$ -	Mains
10658	RSSSD UNDERGROUND AND BRIDGE SEWER LINES	PLASTIC SEWER PIPE	2001	$ 4,264,763	$ -	Mains
10697	RSSSD FORCE MAIN ADDITIONAL COSTS * *	PLASTIC SEWER PIPE	2002	$ 43,901	$ -	Mains
10698	UNDERGROUND SEWER LINES, C/O 1,301 LF 8"	PLASTIC SEWER PIPE	2002	$ 52,040	$ -	Mains
10739	RSSSD FORCE MAIN ADDITIONAL COSTS * *	PLASTIC SEWER PIPE	2003	$ 8,631	$ -	Mains
10842	UNDERGROUND SEWER LINE, C/O 7,029 LF 8""	PLASTIC SEWER PIPE	2005	$ 590,436	$ -	Mains
10889	UNDERGROUND SEWER LINES, C/O 691 LF8"" P	PLASTIC SEWER PIPE	2006	$ 164,943	$ -	Mains
10936	UNDERGROUND SEWER LINES, DI 4606 LF 8""	PLASTIC SEWER PIPE	2007	$ 488,321	$ -	Mains
11008	UNDERGROUND SEWER INFRASTRUCTURE, ALL DI	PLASTIC SEWER PIPE	2009	$ 54,820	$ -	Mains
11108	UNDERGOUND SEWER INFRASTRUCTURE, ALL DI	PLASTIC SEWER PIPE	2011	$ 238,728	$ -	Mains
11123	WTR RESTORATION PLANT PHASE 2 EXPANSION	BUILDING STRUCTURES	2011	$ 12,655	$ -	Treatment
11195	WRP PHASE 2 EXPANSION - SE4964 * * * *	BUILDING STRUCTURES	2012	$ 17,518	$ -	Treatment
11285	WRP PHASE 2 EXPANSION - SE4964 * * * *	BUILDING STRUCTURES	2013	$ 14,311	$ -	Treatment
11286	WRP PHASE 2 EXPANSION - SE4964 * * * *	BUILDING STRUCTURES	2013	$ 1,600	$ -	Treatment
11287	WATER RESTORATON PLANT PHASE 2 EXPANSION	BUILDING STRUCTURES	2013	$ 485,705	$ -	Treatment
11401	WEBSTER PUMP STATION #1 REHAB SE6240	WATER PUMP STATION	2015	$ 36,213	$ -	Pumping
11513	SEWER MAIN REPLACE BRIDGE & BURGESS	PLASTIC SEWER PIPE	2016	$ 19,600	$ -	Mains
11515	WEBSTER PUMP STATION SE6240	WATER PUMP STATION	2016	$ 375,944	$ -	Pumping
11516	WRP PHASE 2 EXPANSION - SE4964	BUILDING STRUCTURES	2016	$ 701,120	$ -	Treatment
Totals				**$ 66,209,239**	**$ 928,146**	

Function	Original Cost	Accumulated Depreciation	CIAC	Net Original Cost
Mains	$ 29,158,463	$ 6,742,087	$ 928,146	28,230,316
Pumping	5,535,617	2,462,031	-	5,535,617
Treatment	17,479,041	8,324,810	-	17,479,041
General Plant	14,036,119	8,743,381	-	14,036,119
Total	***$ 66,209,239***	***$ 26,272,309***	***$ 928,146***	***$ 65,281,093***

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Mains Information

Basin Areas	Pipe Size (in)	Maximum d/D Ratio	Actual d/D Ratio	Pipe Length (inch-diameter-mile)	Ability to Serve Future Customers	Pipe Length Without Capacity Deficiency	Total Capacity for Future Users
D60	20.5	0.75	0.32	359.43	57%	206.07	
H5	12	0.50	1.64	68.34	0%	0.00	
I5	15	0.50	0.57	53.20	0%	0.00	
J2	18	0.75	0.58	134.45	23%	30.48	
K1	18	0.75	0.34	137.14	55%	74.97	
N2	18	0.75	0.42	133.34	44%	58.67	
R42	15	0.50	0.31	46.80	38%	17.78	
W62	12	0.50	0.32	38.93	36%	14.01	
X115	12	0.50	0.73	77.87	0%	0.00	
Z41	24	0.75	1.28	155.09	0%	0.00	
Total				1,204.59		401.99	33.4%

Source: Collection System Master Plan

Internal Source: Flow Monitoring and pg. 5-5 Flow Monitoring anc Flow Monitoring ai

Table 5.1 Flow Depth Criteria Used in Modeling Wastewater Collection System Master Plan City of Grants Pass	
Existing Sewers	
Flow Condition	**Maximum Surcharge Depth**
Peak Wet Weather Flow (Design Flow)	Two feet above pipe crown in manhole
New Sewers	
Diameter	**Design Flow Maximum d/D Ratio**
Less than or equal to 15-inches	0.50
Greater than or equal to 18-inches	0.75

Table 1.
Capacity Analysis Summary[2]

Site	ADWF (mgd)	Peak Measured Flow (mgd)	Peaking Factor	Diameter (in)	Peak Level (in)	*d/D* Ratio	Level Surcharged above Crown (ft)
D60	0.611	2.534	4.2	20.5	6.6	0.32	-
H5	0.265	1.296	4.9	12	19.6	1.64	0.64
I5	0.305	1.191	3.9	15	8.5	0.57	-
J2	0.331	1.566	4.7	18	10.5	0.58	-
K1	0.261	0.790	3.0	18	6.1	0.34	-
N2	0.200	1.143	5.7	18	7.6	0.42	-
R42	0.180	1.233	6.9	15	4.6	0.31	-
W62	0.090	0.322	3.6	12	3.8	0.32	-
X115	0.143	0.722	5.1	12	8.7	0.73	-
Z41	0.016	1.180	75.7	24	30.7	1.28	0.56

APPENDIX D – SEWER IMPROVEMENT FEE PROJECT LIST

ID	Description	Unescalated Total	% Capacity Expanding	$ Capacity Expanding
	Capital Outlay Projects		-	$ -
SE0000	Miscellaneous Projects - General Fund 728	$ -	0%	-
SE4963	Update WRP Facility Plan	-	0%	-
SE4964	WRP Phase 2 Expansion	-	0%	-
SE5080	WRP Structural Repairs	1,500,000	0%	-
SE5081	Collection System Master Plan Update	4,568	0%	-
SE6012	Western Avenue Sewer Replacement	1,914,879	27%	512,149
SE6064	Sewer Main Structural Repairs	99,354	0%	-
SE6111	Mill Street Sewer Reconstruction	-	0%	-
SE6112	Sewer Rate Study SE & RS	65,000	0%	-
SE6156	Sewer Mains Related to Overlays	260,000	0%	-
SE6198	Collection System Maintenance-Repair	1,500,000	0%	-
SE6199	Pump-Lift Station Equipment Improvement	200,000	0%	-
SE6200	Spaulding Indust. Park WW Infrastructure	75,000	100%	75,000
SE6237	General Engineering Services	400,000	0%	-
SE6238	Effluent Mixing Zone Dye Tracer Study	25,000	0%	-
SE6239	WRP Equipment Improvement	1,000,000	0%	-
SE6240	Webster PS No. 1 Rehab	312,691	0%	-
SE6241	WRP SCADA System Evaluation	-	0%	-
SE 6323	5th Street Sewer Main Structural Repairs	1,200,000	0%	-
	Collection System Master Plan	-	-	-
P1	SW Western Street/SW Spruce St	-	-	-
P1-A	Gravity	-	40%	-
P1-B	Gravity	-	40%	-
P1-C	Gravity	-	40%	-
P1-D	Gravity	-	40%	-
P1-E	Plug	-	40%	-
P1-F	Gravity	-	0%	-
P2	NW Highland Street	-	-	-
P2-A	Gravity	296,000	40%	117,122
P2-B	Gravity	196,000	40%	77,554
P2-C	Gravity	298,000	40%	117,913
P3	NW Midland Avenue	224,000	40%	88,633
P4	NE A Street	334,000	40%	132,158
P5	NE Savage St/NE 9th Street	1,084,000	40%	428,919
P6	SE Mill Street/SE Rogue View Lane	-	-	-
P6-A	Gravity	1,486,000	40%	587,983
P6-B	Gravity	395,000	40%	156,294
P6-C	Gravity	946,000	40%	374,315
P7	Annabelle Lane	848,000	40%	335,538
P8	Dowell Road	-	-	-
P8-A	Gravity	281,000	40%	111,187
P8-B	Gravity	138,000	40%	54,604
P9	Gilbert Creek Park	143,000	40%	56,582
P10	Rogue Drive/SE Blue Bird Drive	-	-	-
P10-A	Gravity	725,000	40%	286,869
P10-B	Gravity	675,000	40%	267,085
P10-C	Gravity	1,051,000	40%	415,861
P11	Park Street	-	-	-
P11-A	Gravity	108,000	40%	42,734
P11-B	Gravity	426,000	40%	168,560
P12	Darneille Lane	614,000	40%	242,949
P13	Mesman Drive to Coutant Lane	-	-	-
P13-A	Gravity	890,000	40%	352,157
P13-B	Gravity	610,000	40%	241,366
P14	NE 7th Street	606,000	39.57%	239,783
P15	NE Dean Drive/NE D Street	795,000	40%	314,567
P16	NW Evelyn Avenue	190,000	40%	75,180
P17	NW Morgan Lane	66,000	40%	26,115
P18	NW Washington Boulevard	-	-	-
P18-A	Gravity	708,000	40%	280,143
P18-B	Gravity	230,000	40%	91,007
P19	Darneille Pump Station	-	-	-
P19-A	Pump Station	75,000	40%	29,676
P19-B	Pump Station	5,038,000	40%	1,993,444
P20	Webster No. 1 Lift Station	-	40%	-
P21	Webster No. 2 Lift Station	998,000	40%	394,890
P22	Spalding Area Development Expansion	-	-	-
P22-A	Pump Station	986,000	100%	986,000
P22-B	Force Main	351,000	100%	351,000
P22-C	Gravity	1,431,000	100%	1,431,000
P22-D	Gravity	1,569,000	100%	1,569,000
P22-E	Casing	385,000	100%	385,000

(Page 1 of 2 for Sewer future capital projects)

ID	Description	Unescalated Total	% Capacity Expanding	$ Capacity Expanding
P23	North I-5 Area Development Expansion	-	-	-
P23-A	Pump Station	**813,000**	100%	813,000
P23-B	Force Main	**1,611,000**	100%	1,611,000
P23-C	Gravity	**6,755,000**	100%	6,755,000
P23-D	Casing	**1,445,000**	100%	1,445,000
P24	South Highway Development Expansion	**2,973,000**	100%	2,973,000
P25	South Rogue River Area Development Expansion	**643,000**	100%	643,000
P26	West NW Starlite Pl Area Development Expansion	**1,411,000**	100%	1,411,000
R&R-7A	Bridge Street Pump Station	-	0%	-
R&R-1	**Condition Only Projects - Phase 1 North of Rogue River**	-	-	-
R&R-1A	Gravity	**10,809,000**	0%	-
R&R-1B	Gravity	**1,509,000**	0%	-
R&R-1C	Gravity	**651,000**	0%	-
R&R-1D	Gravity	**38,000**	0%	-
R&R-1E	Gravity	**365,000**	0%	-
R&R-1F	Gravity	**838,000**	0%	-
R&R-1G	Gravity	**234,000**	0%	-
R&R-2	**Condition Only Projects - Phase 1 South of Rogue River**	-	-	-
R&R-2A	Gravity	**116,000**	0%	-
R&R-2B	Gravity	**264,000**	0%	-
R&R-2C	Gravity	**199,000**	0%	-
R&R-2D	Gravity	**135,000**	0%	-
R&R-3	**Condition Only Projects - Phase 2 North of Rogue River**	-	-	-
R&R-3A	Gravity	**10,051,000**	0%	-
R&R-3B	Gravity	**2,460,000**	0%	-
R&R-3C	Gravity	**2,090,000**	0%	-
R&R-3D	Gravity	**506,000**	0%	-
R&R-3E	Gravity	**168,000**	0%	-
R&R-4	**Condition Only Projects - Phase 2 South of Rogue River**	-	-	-
R&R-4A	Gravity	**366,000**	0%	-
R&R-4B	Gravity	**21,000**	0%	-
R&R-4C	Gravity	**149,000**	0%	-
R&R-4D	Gravity	**319,000**	0%	-
R&R-5	**Condition Only Projects - Phase 3 North of Rogue River**	-	-	-
R&R-5A	Gravity	**15,653,000**	0%	-
R&R-5B	Gravity	**1,773,000**	0%	-
R&R-5C	Gravity	**871,000**	0%	-
R&R-5D	Gravity	**155,000**	0%	-
R&R-5E	Gravity	**86,000**	0%	-
R&R-5F	Gravity	**106,000**	0%	-
R&R-5G	Gravity	**435,000**	0%	-
R&R-5H	Gravity	**16,000**	0%	-
R&R-6	**Condition Only Projects - Phase 3 South of Rogue River**	-	-	-
R&R-6A	Gravity	**4,978,000**	0%	-
R&R-6B	Gravity	**1,010,000**	0%	-
R&R-6C	Gravity	**1,421,000**	0%	-
R&R-6D	Gravity	**913,000**	0%	-
R&R-6E	Gravity	**486,000**	0%	-
R&R-6F	Gravity	**554,000**	0%	-
R&R-6G	Gravity	**2,824,000**	0%	-
R&R-6G	Gravity	**898,000**	0%	-
P27	**General Projects**	-	-	-
G-1	Asset Management Program	**150,000**	0%	-
G-2A	Master Plan Updates (2021)	**300,000**	100%	300,000
G-2B	Master Plan Updates (20231)	**300,000**	100%	300,000
	Water Restoration Plant Facilities Plan Update	-	-	-
Phase 2 - 1	*Primary Clarifier No. 3*	-	30%	-
Phase 2 - 2	*Aeration Basins No. 3 and 4*	-	30%	-
Phase 2 - 3	*Rehabilitate FT and One New GT*	-	0%	-
Phase 2 - 4	*Screening Hydraulic Improvements*	-	0%	-
Phase 2 - 5	*Seismic Upgrades*	-	0%	-
Phase 2 - 6	*Vacuum Truck/Solids Improvements*	-	0%	-
Phase 2 - 7	*SCADA Upgrades*	-	30%	-
Phase 2 - 8	*Electrical Systems Upgrades*	-	0%	-
Phase 2 - 9	*Blower Improvements/Building Modifications*	-	0%	-
Phase 3 - 1	Primary Clarifier No. 4	**2,703,000**	100%	2,703,000
Phase 3 - 2	Secondary Clarifier No. 4	**5,017,000**	100%	5,017,000
Phase 3 - 3	WAS Diversion Pipeline and Mixing Upgrades	**440,000**	0%	-
Phase 3 - 4	*Degritting Improvements*	-	0%	-
	Initial Phase of Construction (Phases 2 and 3-4)	**27,500,000**	81%	22,228,143
				-
	TOTAL CAPITAL PROJECTS	**149,280,492**		**$ 59,609,479**

Improvement Fee Cost Basis	Total Cost	Total Eligible Portion	Improvement Fee Costs
Capital Outlay Projects	$8,556,492	6.86%	$587,149
Wastewater Collection System Master Plan	$105,064,000	27.67%	$29,074,187
Water Restoration Plant Facilities Plan Update	$35,660,000	83.98%	$29,948,143
Total	$149,280,492	39.93%	$59,609,479

Source: Collection System Master Plan Update and Water Restoration Plant Update

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APPENDIX E – STORM IMPROVEMENT FEE PROJECT LIST

ID	Description	Unescalated Total	% Capacity Expanding	$ Capacity Expanding
	Capital Outlay Projects			
DO0000	Miscellaneous Projects - 648	$ -	0%	$ -
DO6071	TMDL Plan Implementation	**600,000**	0%	-
DO6169	Stormwater Plan Update	**40,000**	100%	40,000
DO6319	Stormwater Utility & SDC Study	**35,000**	0%	-
DO6320	Stormwater Management Manual	**50,000**	0%	-
DO6321	General Engineering Services	**10,000**	0%	-
	Stormwater Master Plan Projects	**-**	0%	-
AF-1	Golf Course	**371,000**	12%	43,654
AF-2	South Highline Canal Near Allen Creek	**1,211,000**	12%	142,493
AF-3	Harbeck Road, Nebraska Avenue	**200,000**	12%	23,533
AF-4	Pond Near Calvary Chapel off Harbeck Road	**629,000**	12%	74,012
AF-5	Grandview Avenue and the Hospital	**611,000**	12%	71,894
AF-7	Lower Parkdale Drive/Highway 199 Trunkline	**1,590,000**	12%	187,089
AF-11	Sugar Beet Line, East Park Street	**1,330,000**	12%	156,496
AF-12	Sunset Way and Tributary Pipes	**2,226,000**	12%	261,924
AF-13	Harbeck Road and Southridge Way	**1,082,000**	12%	127,314
AF-14	Highway 238	**661,000**	12%	77,777
AF-15	Main Gravity Canal Spills and Central Parkdale D	**889,000**	12%	104,605
AF-16	Upper Parkdale Drive Trunkline and South Highla	**601,000**	12%	70,717
AF-17	Highways 238/199/99 Intersection Detention	**959,000**	12%	112,842
AF-18	Union Avenue	**646,000**	12%	76,012
AF-19	Meadow Glen	**236,000**	12%	27,769
AF-20	Liberty Drive	**473,000**	12%	55,656
G-1	5th Street, 6th Street	**1,656,000**	12%	194,855
G-3	G Street, I Street, Alder Street, L Street	**795,000**	12%	93,544
G-4	Demoray Canal Spills - Southwest	**127,000**	12%	14,944
G-5	Demoray Canal Spills - Central West	**29,000**	12%	3,412
G-6	Hilcrest Drive, 6th Street, 7th Street	**1,664,000**	12%	195,796
G-7	Demoray Canal Spills - South East	**106,000**	12%	12,473
G-8	Demoray Canal Spills - North Central	**810,000**	12%	95,309
G-9	Demoray Canal Spills - Northwest	**460,000**	12%	54,126
G-10	Demoray Canal Spills - Northeast	**438,000**	12%	51,538
S-1	Trunkline from South Main Canal to River Along	**3,412,000**	12%	401,476
S-2	Flow-Split Kellenback Avenue to Dowell Road	**691,000**	12%	81,307
S-3	Expansion of South Main Canal	**583,000**	12%	68,599
S-6	Leonard Road to Ditch	**926,000**	12%	108,959
S-7	Willow Lane to Ditch	**975,000**	12%	114,724
S-8	Willow Court, Estates Lane	**696,000**	12%	81,895
S-10	Kokanee Lane, Leonard Road	**1,613,000**	12%	189,795
S-12	Rainwod Lane to Leonard Road	**141,000**	12%	16,591
S-13	ODOT Pond South of Redwood Highway	**1,353,000**	12%	159,202
S-14	New Flow Diversion to Sand Creek at I-5	**168,000**	12%	19,768
S-15	Yellowtail Lane to Mary Lynn Lane	**392,000**	12%	46,125
S-16	Darnelle Lane	**1,138,000**	12%	133,904
SJ-10	Channel Northwest of Dewey Drive and 10th Stre	**3,000**	12%	353
AF-6	West Park Street, Josephine County Yard, Tussi	**407,000**	12%	47,890
S-4	Redwood Circle to River	**650,000**	12%	76,483
SJ-1	F Street	**1,829,000**	12%	215,211
SJ-8	Spill Northwest of I-5 and Hilcrest Drive to 7th St	**386,000**	12%	45,419
SJ-11	Rogue Drive Trunkline	**2,938,000**	12%	345,702
SJ-12	M Street	**759,000**	12%	89,308
SJ-13	A Street-West	**1,126,000**	12%	132,492
G-2	9th Street	**457,000**	12%	53,773
SJ-7	Demoray Canal	**61,000**	12%	7,178
SJ-2	D Street	**2,181,000**	12%	256,629
AF-8	Haviland Drive and Grandview Avenue	**3,000**	12%	353
AF-10	Canal Spill East of UGB	**306,000**	12%	36,006
S-5	Mesman Drive to River	**240,000**	12%	28,240
S-9	George Tweed Boulevard and Spurs	**464,000**	12%	54,597
S-11	Pond South of Redwood Highway	**72,000**	12%	8,472
SJ-5	Tokay canal from Savage Street to Dewey Drive	**236,000**	12%	27,769
SJ-9	Rose Lane to River	**212,000**	12%	24,945
SJ-3	A Street - East	**526,000**	12%	61,892
SJ-4	Madrone Street	**631,000**	12%	74,247
SJ-6	Dewey Drive to 6th Street	**795,000**	12%	93,544
AF-9	Spill North of Harpazo Lane	**280,000**	12%	32,946
	Ongoing Replacement Program	**50,000,000**	0%	-
	TOTAL CAPITAL PROJECTS	**97,185,000**		**$ 5,505,580**

Improvement Fee Cost Basis	Total Cost	Total Eligible Portion	Improvement Fee Costs
Capital Outlay Projects	$735,000	5.44%	$40,000
Stormwater Master Plan Projects	$46,450,000	11.77%	$5,465,580
Ongoing Replacement Program	$50,000,000	0.00%	$0
Total	$97,185,000	5.67%	$5,505,580

Source: Stormwater Master Plan and City staff.

Customer Forecast	Current	Buildout	Growth	Growth as a % of Future Customers
Developed UGB Acreage	8,278	9,382	1,104	
Total Impervious S.F.	102,902,703	116,625,549	**13,722,846**	11.77%

Source: FCS GROUP and City staff.

Notes	Value	Source
Population at buildout of UGB	60,564	SMP - 18/275, page 2-2
2016 Population	36,815	PSU Population Research Center
Notes	Value	Source
Total Acres in UGB	9,382.16	E-mail from Joey Wright, 7-19-2017
Currently vacant properties	1,103.96	E-mail from Joey Wright, 7-19-2017