

## RESOLUTION NO. 3642

### A RESOLUTION ADOPTING WASTEWATER SYSTEM DEVELOPMENT CHARGES, METHODOLOGY REPORT, AND PROJECT LIST, AND REPEALING RESOLUTION NO. 3598

#### The City of Gresham Finds:

- A. Chapter 11, Infrastructure, of the Gresham Revised Code, provides that the Council shall establish certain fees and charges by resolution.
- B. On April 2, 2024, Council passed Resolution Number 3598 adopting Wastewater System Development Charges, methodology report and project lists.
- C. An annual adjustment to system development charge rates and project costs is necessary to cover construction costs that increase with inflation and to provide adequate system development charge credit to developers constructing eligible projects as a condition of their development permit.
- D. In December 2023, the Engineering News-Record released their annual 20-city average cost index for construction for 2023. The construction cost index was 0.9%.

#### THE CITY OF GRESHAM RESOLVES:

**Section 1.** The fees and charges for Gresham Revised Code Chapter 11, Infrastructure relating to Wastewater System Development Charges (SDC) are as shown in Exhibit A and are attached hereto and incorporated herein by reference and reflect a 0.9% index rounded up to the nearest whole dollar.

**Section 2.** The City hereby re-adopts the Wastewater SDC Methodology report, dated June 2016, attached as Exhibit B, and the methodology, assumptions, conclusions, and findings in the report which refer to the determination of the Wastewater SDC.

**Section 3.** A list of the capital improvement projects used to calculate the Wastewater Improvement Fee SDC, replacing Exhibit B of the Methodology Report, is attached as Exhibit C. The project costs reflect a 0.9% index rounded up to the nearest whole dollar.

#### **Section 4.** Methodology

1. For the purposes of SDC calculations, the minimum water meter size shall be based upon the demand of all of the fixtures served by the water meter as determined by the Water Supply Fixture Unit (WSFU) table and the associated Demand Load charts of the Oregon Plumbing Specialty Code, as adopted by OAR Chapter 918. For demands which exceed the values of the chart, the demand, in gallons per minute (GPM), will be calculated to be proportional to the chart's maximum WSFU to GPM ratio.

2. Wastewater SDCs shall not be charged for water meters solely serving fire protection or irrigation systems.

3. If a property is not connected to the City's wastewater system, irrespective of the provision of domestic water, no Wastewater SDC shall be due.

**Section 5.** Resolution 3598 is hereby repealed.

**Section 6.** This resolution shall be effective July 1, 2025.

Yes: \_\_\_\_\_

No: \_\_\_\_\_

Absent: \_\_\_\_\_

Abstain: \_\_\_\_\_

Passed by the Gresham City Council on \_\_\_\_\_.

\_\_\_\_\_  
Eric Schmidt  
City Manager

\_\_\_\_\_  
Travis Stovall  
Mayor

Approved as to Form:

\_\_\_\_\_  
Ellen Van Riper  
City Attorney

To comply with accessibility standards, scanned documents are not permitted on the City Website. For a signed copy of the resolution, email [DevelopmentEngineering@GreshamOregon.gov](mailto:DevelopmentEngineering@GreshamOregon.gov)

# Exhibit A

## Wastewater System Development Charges

*Gresham Revised Code (GRC) sections are for reference and are subject to change.*

*Establishing Resolution No. 3642 was passed on April 15, 2025 and effective July 1, 2025.*

Wastewater System Development Charges (GRC 11.05)	Improvement	Reimbursement	Total
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Charged based on Water Meter Size.

3/4"	\$ 5,149.59	\$ 2,564.41	\$ 7,714.00
1"	\$ 8,578.14	\$ 4,272.86	\$ 12,851.00
1.5"	\$ 20,585.27	\$ 10,253.73	\$ 30,839.00
2"	\$ 32,592.64	\$ 16,235.36	\$ 48,828.00
3"	\$ 74,614.47	\$ 37,166.53	\$ 111,781.00
4"	\$ 128,643.20	\$ 64,077.80	\$ 192,721.00
6"	\$ 274,434.92	\$ 136,698.08	\$ 411,133.00
8"	\$ 480,256.04	\$ 239,218.96	\$ 719,475.00

NOTE: IN 2024, WATER  
ADOPTED AN UPDATED  
METHODOLOGY  
REPORT. THE  
FOLLOWING REPORT  
ONLY APPLIES TO  
WASTEWATER SDCS.



City of Gresham  
Department of Environmental Services

~~Water &~~ Wastewater SDC Methodology  
Update

*Prepared by*  
Shaun Pigott Associates, LLC



June 2016

# City of Gresham

## 2016 ~~Water and~~ Wastewater SDC Methodology Update

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Pages  
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specific to  
Water  
SDCs and  
therefore  
removed.

## Introduction and Summary

The city of Gresham conducts periodic updates of its master plans for the water and wastewater utilities. The purpose of these plans is to evaluate the capital requirements for both systems, typically over a 20 year planning period. Growth/demand projections determine the current and future facility needs of these utilities in order to anticipate and plan for repairs, replacements and improvements to these systems. Capital costs are invariably significant, so an important consideration in this process is funding and specifically how these planned improvements will be a shared expense of both current and future utility customers. A key component to funding these public facilities is the City's system development charge (SDC) program. SDCs are one-time charges applied to new connections and are designed to recover the costs of infrastructure capacity needed to serve new development. The legal framework for SDCs is established in ORS 223.297 - .314. This legal context served as the basis for updating the City's water and wastewater SDCs.

Gresham's current SDCs for water and wastewater were last reviewed and updated in September of 2006. Aside from annual inflationary adjustments (curtailed in 2008), these SDC methodologies have remained unchanged. Shaun Pigott Associates was hired to review and update the water and wastewater SDCs with City staff who stated a number of objectives for this update:

- Review the basis for water and wastewater charges to ensure a consistent methodology;
- Address specific policy, administrative, and technical issues which have arisen from application of the existing water and wastewater SDCs;
- Determine the most appropriate and defensible fees, ensuring that development is paying its proportional share of capital costs;
- Consider possible revisions to the structure or basis of the charges which might improve equity, while improving consistency in the application of the SDCs;
- Provide clear, orderly documentation of the assumptions, methodology, and results, so that City staff could, by reference, respond to questions or concerns from the public.

This report summarizes the recommended SDC methodologies for the water and wastewater utilities. The report also reflects the combined effort of the "SDC Review Committee" which included both the consultant and City staff in evaluating options and establishing direction over six meetings. The result is a logical, proportionate, consistent and legally defensible SDC methodology for both utilities which reflects the City's historic investment in providing capacity to new connections and the future facility requirements necessary to accommodate growth. The SDC updates comply with ORS as well as Gresham Revised Code Sections 4.25 (wastewater SDCs) and 5.35 (water SDCs).

Table 1 summarizes the City’s current and proposed SDCs for water and wastewater for a single family residence.

Note: Rates have been indexed or adjusted. See Exhibit A of this resolution.

**Table 1**

*Water SDC*

<b>Element</b>	<b>Current SDC</b>	<b>Updated SDC (2016)</b>
Reimbursement Charge	\$ 732	\$ 2,038
Improvement Charge	\$ 3,421	\$ 2,432
<b>Total SDC</b>	<b>\$ 4,153</b>	<b>\$ 4,470</b> (7.6% increase)

*Wastewater SDC*

<b>Element</b>	<b>Current SDC</b>	<b>Updated SDC (2016)</b>
Reimbursement Charge	\$1,072	\$ 1,976
Improvement Charge	\$3,984	\$ 3,968
<b>Total SDC</b>	<b>\$5,056</b>	<b>\$ 5,944</b> (17.6% increase)

The SDC models (Excel format) developed as part of this project will be provided to the City for future updates of these calculations.

**Process for Updating the SDC Methodologies**

The foundation for all SDCs combines fixed asset schedules and adopted master plans. As stated in ORS 223.309:

*“Prior to the establishment of a system development charge by ordinance or resolution, a local government shall prepare a capital improvement plan, public facilities plan, master plan or comparable plan that includes a list of the capital improvements that the local government intends to fund, in whole or in part, with revenues from an improvement fee and the estimated cost, timing and percentage of costs eligible to be funded with revenues from the improvement fee for each improvement.”*

For this project, the consultant team has relied on a number of data sources. The primary sources have been the adopted water and wastewater system master plans and plan updates. This data has been supplemented with City utility billing records, certified census data, and other documents which support this update. Table 2 contains a bibliography of the documents/sources that were relied upon to develop this analysis and the resulting SDCs.

**Table 2**

Data Sources for the Calculation of Water and Wastewater SDCs

Utility	Data Sources
<b>Water</b>	<ul style="list-style-type: none"> <li>• City of Gresham Water System Master Plan; July, 2012; Murray, Smith &amp; Associates, Inc. Engineers/Planners &amp; GSI Water Solutions, Inc.</li> <li>• City of Gresham Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2015</li> <li>• City of Gresham Water System Fixed Asset Schedule; June 30, 2015; City records</li> <li>• City of Gresham Water System Construction Work in Progress Balances Work Papers; June 30, 2015; City records</li> <li>• City of Gresham Utility Billing records for fiscal 2011-12 through 2014-15</li> <li>• City of Gresham Annual SDC Report</li> <li>• Water meters in service flow rates analysis per City Staff; February 17, 2016</li> </ul>
<b>Wastewater</b>	<ul style="list-style-type: none"> <li>• Wastewater Treatment Master Plan for the City of Gresham; 2012; Carollo Engineers; Supplemental capital improvement plan updates per City Staff</li> <li>• Wastewater Pump Stations Master Plan; 2008; Carollo Engineers</li> <li>• Wastewater Collection System Master Plan; 2011; Murray, Smith &amp; Associates</li> <li>• City of Gresham Comprehensive Annual Financial Report for the Fiscal Year Ended June 30, 2015</li> <li>• 2015 Gresham Wastewater Facilities Plan Amendment and Capital Improvement Plan Update; July, 2015; Project Delivery Group</li> <li>• Gresham wastewater system fixed asset schedule; June 30, 2015; City records</li> <li>• City of Gresham Utility Billing System – wastewater system active accounts and Equivalent Dwelling Units in service report; June, 2015</li> <li>• Portland State University, College of Urban Affairs, Population Research Center; Certified census for Gresham, Oregon; June, 2015</li> </ul>

## **SDC Legal Authorization**

Oregon Revised Statute (ORS) 223.297-314 provides the definition of system development charges, their application, and their accounting. In general, an SDC is a one-time fee imposed on new development (or expansion of an existing development), and assessed at the time of development approval or increased usage of the system. Overall, the statute is intended to promote equity between new and existing customers by recovering a proportionate share of the cost of existing and planned/future capital facilities that serve the developing property. Statute further provides the framework for the development and imposition of SDCs and establishes that SDC receipts may only be used for capital improvements and/or related debt service.

## **SDC Cost Eligibility**

### **Reimbursement Fee**

The reimbursement fee represents a buy-in to the cost of infrastructure capacity within the existing system. Generally, if a system were adequately sized for future growth, the reimbursement fee might be the only charge imposed, since the new customer would be buying existing capacity. However, staged system expansion is needed, and an improvement fee is imposed to allocate those growth related costs. Even in those cases, the new customer also relies on capacity within the existing system, and a reimbursement component is warranted.

In order to determine an equitable reimbursement fee to be used in conjunction with an improvement fee, two points should be highlighted. First, the cost of the system to the City's customers may be far less than the total plant-in-service value. This is due to the fact that elements of the existing system may have been contributed at no cost to the City, whether from developers, governmental grants, and other sources. Therefore, the net investment by the customer/owners is less. Second, the value of the existing system to a new customer is less than the value to an existing customer, since the new customer must also pay, through an improvement fee, for expansion of some portions of the system.

The method used for determining the reimbursement fee accounts for both of these points. First, the charge is based on the net investment in the system, rather than the gross cost. Therefore, donated facilities, typically including local facilities, and grant-funded facilities, would be excluded from the cost basis. Also, the charge should be based on investments clearly made by the current users of the system, and not already supported by new customers. Tax supported activities fail this test since funding sources have historically been from general revenues, or from revenues which emanate, at least in part, from the properties now developing. Second, the cost basis is allocated between used and unused capacity, and, capacity available to serve growth. In the absence of a detailed asset by asset analysis, it is appropriate to allocate the cost of existing facilities between used and available capacity proportionally based on the forecasted population as converted to equivalent dwelling units over the planning period. This approach reflects the philosophy, consistent with the City's Updated Master Plans, that facilities have been sized to meet the demands of the whole customer base within the established planning period.

## **Improvement Fee**

For this SDC update, the improvement fee represents a proportionate share of the cost to expand the systems to accommodate growth. This charge is derived from the capital improvements contained in the master plans for water and wastewater services. The costs that can be applied to the improvement fees are those that can be reasonably allocated to growth. Statute requires that the capital improvements used as a basis for the charge be part of an adopted capital improvement schedule, whether as part of a system plan or independently developed, and that the improvements included for SDC eligibility be capacity or level of service expanding. The improvement fee is intended to protect existing customers from the cost burden and impact of expanding a system that is already adequate for their own needs in the absence of growth.

The key step in determining the improvement fee is identifying capital improvement projects that expand the system and the share of those projects attributable to growth. Some projects may be entirely attributable to growth, such as a wastewater collection line that exclusively serves a newly developing area. Other projects, however, are of mixed purpose, in that they may expand capacity, but they also improve service or correct a deficiency for existing customers.

The improvement portion of the SDC is based on the proportional approach toward capacity and cost allocation in that only those facilities (or portions of facilities) that either expand the respective system's capacity to accommodate growth or increase its respective level of performance have been included in the cost basis of the improvement fee. As part of this SDC update, City Staff and their engineering consultants were asked to review the planned capital improvement lists in order to assess SDC eligibility. The criteria in Figure 1 were developed to guide the City's evaluation:

**Figure 1**  
SDC Eligibility Criteria

<p><b>City of Gresham</b></p> <p><b>Steps Toward Evaluating</b></p> <p><b><u>Capital Improvement Lists for SDC Eligibility</u></b></p>
<p><u>ORS 223</u></p> <ol style="list-style-type: none"><li>1. Capital improvements mean the facilities or assets used for :<ol style="list-style-type: none"><li>a. Water supply, transmission, storage and distribution</li><li>b. Wastewater collection, transmission, treatment, and disposal</li></ol><p>This definition DOES NOT ALLOW costs for operation or routine maintenance of the improvements;</p></li><li>2. The SDC improvement base shall consider the cost of projected capital improvements needed to increase the capacity of the systems for future growth;</li><li>3. An increase in system capacity is also established if a capital improvement increases the “level of performance or service” provided by existing facilities or provides new facilities.</li></ol>
<p><b><u>Under the City’ approach, the following rules will be followed</u></b></p>
<ol style="list-style-type: none"><li>1. Repair costs are not to be included;</li><li>2. Replacement costs will not be included unless the replacement includes an upsizing of system capacity and/or the level of performance of the facility is increased;</li><li>3. New regulatory compliance facility requirements fall under the level of performance definition and should be proportionately included;</li><li>4. Costs will not be included which bring deficient systems up to established design levels.</li></ol>

In developing the improvement fee, the SDC Review Committee evaluated each of its CIP projects to exclude costs related to correcting existing system deficiencies or upgrading for historical lack of capacity. Only capacity increasing/level of performance costs were used as the basis for the SDC calculation, as reflected in the capital improvement schedules developed by the City. The improvement fee is calculated as a function of the estimated number of projected additional equivalent dwelling units for water and wastewater served by the City’s facilities over the planning horizon.

Once the future costs to serve growth have been segregated (i.e., the numerator), they can be divided into the total number of new EDUs that will use the capacity derived from those investments (i.e., the denominator).

## SDC Credits

ORS 223.304 requires that a credit be allowed for the construction of a "qualified public improvement" which is required as a condition of development approval and in the capital improvement plan. The credit for a qualified public improvement may only be applied against an SDC for the same type of improvement, and may be granted only for the cost of that portion of an improvement which exceeds the minimum standard facility size or capacity needed to serve the particular project. For multi-phase projects, any excess credit may be applied against SDCs that accrue in subsequent phases of the original development project. In addition to these required credits, the City may, if it so chooses, provide a greater credit, establish a system providing for the transferability of credits, provide a credit for a capital improvement not identified in the capital improvement plan, or provide a share of the cost of an improvement by other means.

The City has adopted a policy for granting SDC credits, and has codified this policy in the Gresham Revised Code (GRC) §4.25.027 for wastewater, and in §5.35.027 for water.

### *GRC §4.25.027 for wastewater*

- A. A credit shall be given for the cost of a qualified public improvement that is funded in the Capital Improvement Plan in effect when the notice to proceed for the improvement is issued. The credit provided for by this subsection shall be only for the improvement fee charged for the type of improvement being constructed and only in the amount the improvement is funded with SDC funds in the Capital Improvement Plan. Credit for qualified public improvements may be granted only for the cost of that portion of such improvement that exceeds the governmental unit'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.
- B. 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. Credits shall be used not later than 10 years from the date the credit is given. (Ord. No. 1602, Enacted, 04/01/2005)

### *GRC §5.25.027 for water*

- A. A credit shall be given for the cost of a qualified public improvement that is funded in the Capital Improvement plan in effect when the notice to proceed for the improvements is issued. The credit provided for by this subsection shall be only for the improvement fee charged for the type of improvements being constructed and only in the amount the improvement is funded with SDC funds in the Capital Improvement Plan. Credit for qualified public improvements may be granted only for the cost of that portion of such improvement that exceeds the governmental unit'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.
- B. 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. Credits shall be used not later than 10 years from the date the credit is given.

- C. Credits shall not apply to any local water system development charge or facility charge under GRC Article 5.40 established for properties that benefit from a specific reservoir project. (Ord. No. 1602, Enacted, 04/01/2005)

### **Other Considerations**

The City has chosen to incentivize select new developments by the City paying some or all of the SDCs on behalf of the development. This practice has been used as an incentive for businesses to locate in Gresham. In Gresham's case, the SDC revenues that are not collected from new development are funded through allocations from the budgets of the programs/utilities that would have received the SDC revenues.

## **Wastewater SDC**

### **Wastewater Capital Improvement Plan**

As in the case of the water SDCs, the primary sources of data for the wastewater system CIP are the master plans for wastewater treatment, pumping stations, and collection systems (see Table 2 for bibliography). Each of these projects was reviewed by the SDC Review Committee to determine whether or to what extent the projects provided capacity for future growth. The results of this analysis are shown in the collection system CIP (Table 10) and the treatment & pump stations CIP (Table 11).

**Table 10 - 2016 Wastewater Collection System CIP**

	Funding Source						Beyond Planning Period
	Total Project	Contributed			SDCs	LIDs	
	Costs	Rates	Capital				
<i>Collection System Projects:</i>							
Gresham							
313500 Upper Kelly Creek Trunk Upgrade	\$ 1,857,596	\$ 928,798	\$ -	\$ 928,798	\$ -	\$ -	
313600 Lower Kelly Creek Trunk Upgrade	2,020,050	1,353,433	-	666,617	-	-	
314100 Johnson Creek - Springwater Trunk	992,589	-	-	992,589	-	-	
314200 Johnson Creek - Heiney Trunk A	1,339,292	-	-	1,339,292	-	-	
314300 Johnson Creek - Heiney Trunk B	106,800	-	-	106,800	-	-	
314700 Upsize Johnson Creek Interceptor	203,505	203,505	-	-	-	-	
319200 East Basin Trunk Upgrade Phase III	1,702,526	1,225,753	-	476,773	-	-	
3UF001 1960s Pipe Replacement Program	41,073,140	41,073,140	-	-	-	-	
3UF002 Collection System Trunk Assessment	2,000,000	2,000,000	-	-	-	-	
3UF002 Collection System Trunk Replacement	95,393,615	95,393,615	-	-	-	-	
Pleasant Valley Plan Area							
CIP X McKinley Road Trunk Upgrade	1,092,187	1,092,187	-	-	-	-	
CIP X Crystal Springs Trunk	1,348,975	-	-	1,348,975	-	-	
CIP X Lower Giese Road Trunk	1,078,449	-	-	1,078,449	-	-	
CIP X Lower Kelley Creek Trunk	4,803,191	-	-	4,803,191	-	-	
CIP X Upper Giese Road Trunk	710,842	-	-	710,842	-	-	
CIP X Upper Kelly Creek Trunk	1,987,030	-	-	1,987,030	-	-	
CIP X Foster Road Trunk	1,365,832	-	-	1,365,832	-	-	
CIP X Cheldelin Trunk	1,326,025	-	-	1,326,025	-	-	
Kelly Creek Headwaters Trunk							
CIP Y Roudlin Road Trunk	1,016,817	-	-	1,016,817	-	-	
Springwater Plan Area							
CIP Z Telford Road Trunk	3,926,083	-	-	3,926,083	-	-	
CIP Z Jeanette Road Trunk	2,206,667	-	-	2,206,667	-	-	
CIP Z Orient Trunk	3,733,952	-	-	3,733,952	-	-	
CIP Z Village Center Trunk	6,406,718	-	-	6,406,718	-	-	
CIP Z Hogan Road Trunk	2,722,394	-	-	2,722,394	-	-	
CIP Z Rugg Road Trunk	4,970,005	-	-	4,970,005	-	-	
Subtotal collection system projects	\$ 185,384,280	\$ 143,270,431	\$ -	\$ 42,113,849	\$ -	\$ -	

**Table 11 - 2016 Wastewater Treatment & Pump Station CIP**

	Funding Source					Beyond Planning Period
	Total Project Costs	Rates	Contributed Capital	SDCs	LIDs	
<i>Wastewater Treatment Plant &amp; Pump Station Projects:</i>						
315400 Upper Plant Secondary Clarifier No. 5	13,411,845	-	-	13,411,845	-	-
316400 WWTP Solids Process Improvements	4,127,188	4,127,188	-	-	-	-
319300 Vactor Decant Station	1,000,000	1,000,000	-	-	-	-
319400 WWTP Lower Blower Building Refurbishment	1,204,221	1,204,221	-	-	-	-
319700 WWTP Lower Barscreens Replacement	1,552,500	1,552,500	-	-	-	-
- Linneman Parallel FM Phase 2	2,894,500	-	-	2,894,500	-	-
- Linneman PS Capacity Upgrade	1,000,000	-	-	1,000,000	-	-
- WASAC Pilot Testing	320,000	320,000	-	-	-	-
- WASAC Full Implementation	300,000	300,000	-	-	-	-
- Secondary Scum Improvements	400,000	400,000	-	-	-	-
- Flow Split Automation	80,000	80,000	-	-	-	-
- Preliminary Treatment Upgrades	900,000	-	-	900,000	-	-
- WWTP UV Disinfection	3,008,661	2,406,929	-	601,732	-	-
- Anaerobic Digester No. 3	12,967,500	-	-	12,967,500	-	-
- Class A Solids Upgrades	7,800,000	7,800,000	-	-	-	-
- Biosolids Storage Bay Expansion Phase 1	2,100,000	-	-	-	-	2,100,000
- Upper Primary Clarifier Expansion Phase 1	4,200,000	-	-	-	-	4,200,000
- Biosolids Storage Bay Expansion Phase 2	2,800,000	-	-	-	-	2,800,000
- Upper Primary Clarifier Expansion Phase 2	4,200,000	-	-	-	-	4,200,000
- Columbia River pH Study	60,000	60,000	-	-	-	-
- Lower PC Odor Control	800,000	800,000	-	-	-	-
- Lower AB Mixed Liquor Recycle Pumps	400,000	400,000	-	-	-	-
- Upper AB Expansion	7,500,000	-	-	-	-	7,500,000
- Biological Biogas Treatment	634,000	634,000	-	-	-	-
Subtotal wastewater treatment plant projects	\$ 73,660,415	\$ 21,084,838	\$ -	\$ 31,775,577	\$ -	\$ 20,800,000
Wastewater totals	<u>\$ 259,044,695</u>	<u>\$ 164,355,269</u>	<u>\$ -</u>	<u>\$ 73,889,426</u>	<u>\$ -</u>	<u>\$ 20,800,000</u>

## Wastewater Customers Current and Future Demand

### Existing Wastewater Demand and Population Growth

Current Gresham demand is documented in the 2012 Wastewater Treatment System Master Plan and based on average annual dry weather flows (AADWF) to the headworks of the treatment plant. These flows are expressed in million gallons per day (mgd). For the purpose of this wastewater SDC methodology update, the Review Committee translated these mgd figures into standard billing units used for charging SDCs. In this case, those standard billing figures are expressed in dwelling units (DUs). In the wastewater industry, a DU is typically defined as the amount of wastewater a single family residential customer contributes to the wastewater system during an average month in the winter, where winter is defined as November through April. Fortunately, in 2015, the City undertook a study to determine the winter average water consumption for the single family residential customer class. The results of that study indicated the average single family residential customer contributes 5.8 hundred cubic feet (CCF) of water to the wastewater system in the average winter month. This hundred cubic feet figure translates to 143 gallons per day. The data from that analysis is shown in Table 12.

**Table 12**

Winter Average Water Consumption by Gresham Single Family Residential Customers

City of Gresham 2015 Consumption Based Sewer Rates Feasibility Study Analysis of Gresham SFR Customers' Winter Water Consumption Patterns				
	Fiscal Year			Three Year
	2011-12	2012-13	2013-14	Flow Weighted Average
<b>Ccf per month:</b>				
Average monthly water sales per account (Nov-Apr)	5.83	5.82	5.76	5.80
Population standard deviation	3.37	3.44	3.34	3.38
Population median	5.28	5.24	5.19	5.24
<b>Accounts:</b>				
Total number of accounts in billing register	14,838	14,838	14,838	
Total number of accounts with water consumption (Nov-Apr)	<u>14,431</u>	<u>14,508</u>	<u>14,496</u>	
Number of accounts without metered consumption (Nov-Apr)	407	330	342	
<b>Water sales in Ccf:</b>				
Total SF water sold November through April	504,882	506,679	501,285	
Total annual billable SF water for SF sewer commodity charge	1,009,763	1,013,358	1,002,570	
<b>Equivalent sewer dwelling units:</b>				
Gresham only	14,430	14,509	14,500	

## Forecast of DUs

Based on this historical consumption data, the SDC Review Committee was able to calculate the number of DUs relative to the AADWF data from the Wastewater Treatment Master Plan. The DU calculation methodology is shown in Table 13.

**Table 13**  
Forecast of Current and Future Wastewater DUs

Gresham WWTP Master Plan Update Planing Criteria and Discharge Considerations Table 3.3 & Table 3.4				
	2015	2030	Growth	CAGR
<b>Low Growth Flow Projections: Table 3.3</b>				
Population	124,831	153,097	28,266	1.37%
Average Dry Weather Flow (ADWF) MGD	11.90	14.20	2.30	1.18%
<b>High Growth Flow Projections: Table 3.4</b>				
Population	127,704	164,444	36,740	1.70%
Average Dry Weather Flow (ADWF) MGD	12.10	15.10	3.00	1.49%
<b>Average of Low and High Flow Projections</b>				
Population	126,268	158,771	32,503	1.54%
Average Dry Weather Flow (ADWF) MGD	<b>12.00</b>	<b>14.65</b>	2.65	1.34%
less: Fairview actual ADW used	1.01	1.01	-	
less: Wood Village actual ADW used	0.39	0.39	-	
<b>Estimated Gresham ADWF MGD</b>	<u>10.60</u>	<u>13.25</u>	<u>2.65</u>	1.50%
<b>Observed Gresham EDU (FY12, FY13, &amp; FY14 ave)</b>				
Ccf per month - Single Family Residential	5.80	5.80		
Gallons per month - SFR	4,342	4,342		
<b>Gallons per day - SFR</b>	<b>143</b>	<b>143</b>		
Estimated EDUs based on ADWF and observed Gresham SFR winter ave. metered water consumption	<u>74,331</u>	<u>92,906</u>	<u>18,575</u>	1.50%

A key modifying element in Table 13 is elimination of actual wastewater flows from the cities of Fairview and Wood Village. These wholesale wastewater treatment cities have purchased capacity in the Gresham plant and do not pay an SDC to Gresham for their new connections. Therefore, their actual flows have been eliminated from the SDC calculation.

## Reimbursement Fee Calculation

The wastewater reimbursement fee methodology mirrors that used for the water reimbursement fee. The methodological steps in its construction are restated here.

- Step 1: Calculate the original cost of wastewater fixed assets in service. From this starting point, eliminate any assets that do not conform to the ORS 223.299 definition of a capital improvement. This results in the adjusted original cost of wastewater fixed assets.
- Step 2: Subtract from the original cost any grant funding or contributed capital.

- Step 3: Subtract any principal outstanding on long term debt used to finance those assets. This is basis for the gross wastewater reimbursement fee.
- Step 4: Subtract from the gross wastewater reimbursement fee basis the fund balance held in the Water Reimbursement SDC fund. This arrives at the net wastewater reimbursement fee basis.
- Step 5: Divide the net wastewater reimbursement fee basis by the sum of existing and future DUs to arrive at the unit net reimbursement fee before future interest expense.
- Step 6: Divide the total future interest expense on wastewater system long term debt for SDC funded projects by the total number of projected growth EDUs over the planning period (20 years). This is the future interest expense fee.
- Step 7: Add the future interest expense fee to the unit net reimbursement fee before future interest expense to arrive at the total wastewater reimbursement fee.

The data used to calculate the total wastewater reimbursement fee is shown in Table 14.

Table 14 - Calculation of the Water Reimbursement Fee

City of Gresham 2016 Wastewater SDC Update Reimbursement Fee SDC Calculations - Wastewater		Original Cost
Utility plant in service- original cost <sup>1</sup>		
Buildings and improvements		\$ 3,921,118
Computer equipment		\$ 30,563
Easements		442,369
Land and improvements		3,708,699
Public improvement projects		799,476
Wastewater treatment plant		294,661
Sewer lines and systems		157,952,588
Utility equipment		998,761
Vehicles		<i>eliminated</i>
Wastewater pump stations		13,805,005
Construction work-in-progress		<u>7,056,834</u>
Subtotal utility plant in service		\$ 189,010,074
Less: grants and contributed capital: <sup>2</sup>		
Grants and developer contributions		5,964,208
Contributed capital - Portland		-
Contributed capital - Multnomah County		-
Subtotal grants and contributed capital		<u>5,964,208</u>
Less: principal outstanding on long term debt: <sup>1</sup>		
Loans:		
Secondary clarifier loan - DEQ SRF		323,917
2009 wastewater financing agreement - DEQ SRS		10,661,000
Revenue obligations:		
2015 full faith and credit obligations		<u>5,670,000</u>
Subtotal principal outstanding on long term debt		16,654,917
Less: Reimbursement fee fund balance at June 30, 2015		52,026
Utility plant in service net of grants, contributed capital, principal outstanding on long term debt, and wastewater reimbursement fee fund balance		\$ 166,338,923
Projected existing capacity available to serve all customers (expressed in EDUs):		92,906
Reimbursement fee before inclusion of future interest expense on debt outstanding		\$ 1,790
add: future interest expense on long term debt outstanding	\$ 3,455,856	
divided by growth EDUs	18,575	
Future interest expense fee		\$ 186
Total reimbursement fee		<u>\$ 1,976</u>

<sup>1</sup> Source: City of Gresham Comprehensive Annual Financial Report for the year ended June 30, 2015

<sup>2</sup> Source: City of Gresham records

## **Improvement Fee Calculation**

The calculation of the wastewater improvement fee also follows the logic that was used to calculate the water improvement fee. As in the case of water, the wastewater SDC uses the proportionate approach and has relied on the capital improvement plans that are incorporated in the wastewater master plans for treatment, pump stations, and collection system. Under this methodology, only three steps are required to arrive at the improvement fee. These steps are:

- Step 1: Accumulate the future cost of planned improvements needed to serve growth. This arrives at the gross improvement fee basis.
- Step 2: Subtract from the gross improvement fee basis the fund balance held in the Wastewater Improvement SDC Fund. This arrives at the net wastewater improvement fee basis.
- Step 3: Divide the net wastewater improvement fee basis by the forecasted number of growth DUs over the planning period. This arrives at the total wastewater improvement fee.

The specific data that was used to calculate the total wastewater improvement fee is shown in Table 15.

Table 15 - Calculation of the Wastewater Improvement Fee

		Funding Source					
		Wastewater CIP Total	Rates	Contributed Capital	SDCs	UIDs	Beyond Planning Period
<b>City of Gresham 2016 Wastewater SDC Update</b>							
<b>Improvement Fee SDC Calculations - Wastewater</b>							
<b>Collection System Projects:</b>							
Gresham	\$ 146,689,113	\$ 142,178,244	\$	-	\$ 4,510,869	\$	-
Pleasant Valley Plan Area	13,712,531	1,092,187		-	12,620,344		-
Kelly Creek Headwaters Trunk	1,016,817	-		-	1,016,817		-
Springwater Plan Area	23,965,819	-		-	23,965,819		-
<b>Wastewater Treatment Plant &amp; Pump Station Projects:</b>	<b>73,660,415</b>	<b>21,084,838</b>		<b>-</b>	<b>31,775,577</b>		<b>20,800,000</b>
Wastewater system total	\$ 259,044,695	\$ 164,355,269	\$	-	\$ 73,889,426	\$	\$ 20,800,000
<b>Improvement fee basis:</b>							
less: improvement fee SDC fund balance					73,889,426		
Adjusted improvement fee basis					<u>185,161</u>		
					\$ 73,704,265		
<b>Growth EDUs</b>							
					18,575		
<b>Unit Improvement Fee SDCs - \$/EDU</b>							
					\$		3,968

## Wastewater SDC Model Summary

The 2016 wastewater SDC methodology update was done in accordance with ORS and Gresham Revised Code Chapter 4.25 along with the benefit of adopted master plans and plan updates for wastewater services. The analysis indicates the City can charge a maximum of \$5,944 for the standard ¾” residential water meter. A comparison of the proposed and current water SDCs for the average single family residential customer is shown below in Table 16.

**Table 16**  
**Proposed and Current Wastewater SDCs for a ¾" Meter**  
 City of Gresham 2016 Wastewater SDC Update  
 Comparison of Current and Proposed SDCs by Fee Type  
 For a Standard Residential ¾" Meter

Line Item Description	Proposed	Current	Difference
Proposed SDC components:			
Reimbursement fee	\$ 1,976	\$ 1,072	\$ 904
Improvement fee:	<u>3,968</u>	<u>3,984</u>	<u>(16)</u>
Total	\$ 5,944	\$ 5,056	\$ 888

For meters larger than ¾”, the schedule of wastewater SDC uses the same flow factors that were developed for the water SDCs (City staff provided capacity values for the Sensus iPerl and C2 meters). The complete proposed schedule of wastewater SDCs by potential meter size are shown in Table 17

**Table 17 - Proposed Schedule of Wastewater SDCs by Water Meter Size**

City of Gresham 2016 Wastewater SDC Update  
 Schedule of Proposed System Development Charges

Meter Size	City Calculated Flow (GPM)*	Flow Factor Equivalence	Proposed SDCs		
			Reimbursement	Improvement	Total
0.75"x 0.75" - Displacement or Multi-jet	30	1.00	\$ 1,976	\$ 3,968	\$ 5,944
1.00 inch - Displacement or Multi-jet	50	1.67	3,294	6,613	9,907
1.50 inch - Displacement Class I Turbine	120	4.00	7,906	15,872	23,778
2.00 inch - Displacement or Class I & II Turbine	190	6.33	12,518	25,130	37,648
3.00 inch - Compound	435	14.50	28,659	57,535	86,193
4.00 inch - Displacement or Compound	750	25.00	49,411	99,198	148,609
6.00 inch - Displacement or Compound	1,600	53.33	105,411	211,623	317,033
8.00 inch - Compound	2,800	93.33	184,469	370,340	554,809

\* Source: City of Gresham Staff August 26, 2014

**NOTE: These rates have been subsequently indexed, see Exhibits A of this resolution.**

Replaced by Exhibit C of this resolution.

**Exhibit B**  
**City of Gresham 2016 SDC Update**  
**Improvement Fee SDC Calculations - Wastewater**

	Total Project Costs	Funding Source					Beyond Planning Period
		Rates	Contributed Capital	SDCs	LIDs		
<i>Collection System Projects:</i>							
<i>Gresham</i>							
Upper Kelly Creek Trunk Upgrade	\$ 1,857,596	\$ 928,798	\$ -	\$ 928,798	\$ -	\$ -	
Lower Kelly Creek Trunk Upgrade	2,020,050	1,353,433	-	666,617	-	-	
Johnson Creek - Springwater Trunk	992,589	-	-	992,589	-	-	
Johnson Creek - Heiney Trunk A	1,339,292	-	-	1,339,292	-	-	
Johnson Creek - Heiney Trunk B	106,800	-	-	106,800	-	-	
Upsize Johnson Creek Interceptor	203,505	203,505	-	-	-	-	
East Basin Trunk Upgrade Phase III	1,702,526	1,225,753	-	476,773	-	-	
1960s Pipe Replacement Program	41,073,140	41,073,140	-	-	-	-	
Collection System Trunk Assessment	2,000,000	2,000,000	-	-	-	-	
Collection System Trunk Replacement	95,393,615	95,393,615	-	-	-	-	
<i>Pleasant Valley Plan Area</i>							
McKinley Road Trunk Upgrade	1,092,187	1,092,187	-	-	-	-	
Crystal Springs Trunk	1,348,975	-	-	1,348,975	-	-	
Lower Giese Road Trunk	1,078,449	-	-	1,078,449	-	-	
Lower Kelley Creek Trunk	4,803,191	-	-	4,803,191	-	-	
Upper Giese Road Trunk	710,842	-	-	710,842	-	-	
Upper Kelly Creek Trunk	1,987,030	-	-	1,987,030	-	-	
Foster Road Trunk	1,365,832	-	-	1,365,832	-	-	
Cheldelin Trunk	1,326,025	-	-	1,326,025	-	-	
<i>Kelly Creek Headwaters Trunk</i>							
Roudlin Road Trunk	1,016,817	-	-	1,016,817	-	-	
<i>Springwater Plan Area</i>							
Telford Road Trunk	3,926,083	-	-	3,926,083	-	-	
Jeanette Road Trunk	2,206,667	-	-	2,206,667	-	-	
Orient Trunk	3,733,952	-	-	3,733,952	-	-	
Village Center Trunk	6,406,718	-	-	6,406,718	-	-	
Hogan Road Trunk	2,722,394	-	-	2,722,394	-	-	
Rugg Road Trunk	4,970,005	-	-	4,970,005	-	-	
Subtotal collection system projects	\$ 185,384,280	\$ 143,270,431	\$ -	\$ 42,113,849	\$ -	\$ -	
<i>Wastewater Treatment Plant &amp; Pump Station Projects:</i>							
Upper Plant Secondary Clarifier No. 5	13,411,845	-	-	13,411,845	-	-	
WWTP Solids Process Improvements	4,127,188	4,127,188	-	-	-	-	
Vactor Decant Station	1,000,000	1,000,000	-	-	-	-	
WWTP Lower Blower Building Refurbishment	1,204,221	1,204,221	-	-	-	-	
WWTP Lower Barscreens Replacement	1,552,500	1,552,500	-	-	-	-	
Linneman Parallel FM Phase 2	2,894,500	-	-	2,894,500	-	-	
Linneman PS Capacity Upgrade	1,000,000	-	-	1,000,000	-	-	
WASAC Pilot Testing	320,000	320,000	-	-	-	-	
WASAC Full Implementation	300,000	300,000	-	-	-	-	
Secondary Scum Improvements	400,000	400,000	-	-	-	-	
Flow Split Automation	80,000	80,000	-	-	-	-	
Preliminary Treatment Upgrades	900,000	-	-	900,000	-	-	
WWTP UV Disinfection	3,008,661	2,406,929	-	601,732	-	-	
Anaerobic Digester No. 3	12,967,500	-	-	12,967,500	-	-	
Class A Solids Upgrades	7,800,000	7,800,000	-	-	-	-	
Biosolids Storage Bay Expansion Phase 1	2,100,000	-	-	-	-	2,100,000	
Upper Primary Clarifier Expansion Phase 1	4,200,000	-	-	-	-	4,200,000	
Biosolids Storage Bay Expansion Phase 2	2,800,000	-	-	-	-	2,800,000	
Upper Primary Clarifier Expansion Phase 2	4,200,000	-	-	-	-	4,200,000	
Columbia River pH Study	60,000	60,000	-	-	-	-	
Lower PC Odor Control	800,000	800,000	-	-	-	-	
Lower AB Mixed Liquor Recycle Pumps	400,000	400,000	-	-	-	-	
Upper AB Expansion	7,500,000	-	-	-	-	7,500,000	
Biological Biogas Treatment	634,000	634,000	-	-	-	-	
Subtotal wastewater treatment plant projects	\$ 73,660,415	\$ 21,084,838	\$ -	\$ 31,775,577	\$ -	\$ 20,800,000	
Wastewater totals	\$ 259,044,695	\$ 164,355,269	\$ -	\$ 73,889,426	\$ -	\$ 20,800,000	

Original report included an Exhibit C which was the 2013 Water Master Plan CIP Funding Allocation Worksheet. It was removed as inapplicable to Wastewater SDC Methodology.

## Exhibit C

**Table 1: Wastewater SDC Eligible Collection System Projects**

SDC ID	Project Name	Total Project Cost Indexed	SDC Eligible Cost Indexed
<b>Gresham</b>			
1.1	Upper Kelly Creek Basin Trunk Improvement, Ph 1	\$ 253,829	\$ 88,841
1.2	Upper Kelly Creek Basin Trunk Improvement, Ph 2	\$ 169,128	\$ 45,665
2.1	Lower Kelly Creek Basin Trunk Improvement, Ph 1	\$ 4,897,125	\$ 1,567,080
2.2	Lower Kelly Creek Basin Trunk Improvement, Ph 2	\$ 104,352	\$ 31,306
3	Lower Johnson Creek Improvement	\$ 1,412,560	\$ 494,396
22	Upper Johnson Creek Trunk Improvements	\$ 3,317,228	\$ 597,102
6.3	East Basin Trunk Improvement, Ph 3	\$ 811,126	\$ 811,126
6.4	East Basin Trunk Improvement, Ph 4	\$ 1,868,706	\$ 1,868,706
<b>Pleasant Valley</b>			
21	McKinley Road Trunk	\$ 846,675	\$ 846,675
8	Lower Giese Road Trunk	\$ 771,446	\$ 771,446
9	PV Lower Kelley Creek Trunk	\$ 8,662,143	\$ 8,662,143
11	PV Upper Kelley Creek Trunk	\$ 2,615,406	\$ 2,615,406
12	Foster Road Trunk	\$ 915,121	\$ 915,121
13	Cheldelin Trunk	\$ 156,416	\$ 156,416
<b>Kelley Creek Headwaters</b>			
24	Rodlun Road Trunk	\$ 288,565	\$ 288,565
<b>Stark Basin</b>			
25	Stark Basin Improvement	\$ 844,657	\$ 844,657
<b>Springwater Area</b>			
15-A	Telford Road Trunk	\$ 2,370,309	\$ 2,370,309
15-B	Telford Road Trunk Bores	\$ 379,025	\$ 379,025
16-A	Jeanette Road Trunk	\$ 672,244	\$ 672,244
16-B	Jeanette Rd Trunk Bores	\$ 1,405,858	\$ 1,405,858
17-A	Orient Trunk	\$ 2,027,101	\$ 2,027,101
17-B	Orient Trunk Bore	\$ 1,387,279	\$ 1,387,279
18-A	Village Center Trunk	\$ 439,704	\$ 439,704
18-B	Village Center Trunk North Creek Crossing	\$ 309,662	\$ 309,662
18-C	Village Center Trunk South Creek Crossing	\$ 839,799	\$ 839,799
20	Rugg Road Trunk	\$ 1,866,908	\$ 1,866,908
<b>Seismic</b>			
26	Johnson Creek Flyovers	\$ 1,830,509	\$ 271,282
27	Johnson Creek Large Diameter Mains	\$ 15,368,943	\$ 2,277,678
28	185th Bridge Crossing	\$ 236,745	\$ 35,086
29	Tier 2 Upgrades	\$ 72,220,761	\$ 10,703,117
30	Tier 1 Upgrades	\$ 30,133,815	\$ 4,465,832
<b>Environmental</b>			
31	Adv. Wetland, Stream & Floodplain Mitigation	\$ 239,753	\$ 239,753

**SUBTOTAL= \$ 159,662,898 \$ 50,295,288**

<b>Table 2: Wastewater Treatment Plant &amp; Pump Station Projects</b>			
<b>SDC ID</b>	<b>Project Name</b>	<b>Total Project Cost Indexed</b>	<b>SDC Eligible Cost Indexed</b>
WWTP 1	Upper Plan Secondary Clarifier No. 5	\$ 8,976,441	\$ 8,976,441
WWTP 2	Linneman Parallel FM Phase 2	\$ 3,209,226	\$ 3,209,226
WWTP 3	Linneman Pump Station Capacity Upgrade	\$ 2,070,468	\$ 2,070,468
WWTP 7	Fourth Upper Plant Blower	\$ 697,697	\$ 697,697
WWTP 8	Influent Diversion Automation	\$ 188,467	\$ 94,234
WWTP 9	Disinfection Automation	\$ 188,467	\$ 94,234
WWTP 11	Septage Receiving Facility	\$ 2,071,871	\$ 2,071,871
WWTP 12	Additional Cake Storage	\$ 3,613,293	\$ 3,613,293
WWTP 13	Anaerobic Digestion & Cogeneration Expansion (AD3)	\$ 36,876,734	\$ 23,969,878
WWTP 14	North Access Bridge	\$ 726,404	\$ 726,404
<b>SUBTOTAL=</b>		<b>\$ 58,619,068</b>	<b>\$ 45,523,746</b>
<b>TOTAL=</b>		<b>\$ 218,281,966</b>	<b>\$ 95,819,034</b>