



Water Quality Protection  
Surface Water Management  
Wastewater Collection & Treatment

Gregory Geist  
Director

June 25, 2015

Board of County Commissioners  
Clackamas County

Members of the Board:

**BOARD ORDER ADOPTING A REVISED CAPITAL PLAN AND  
INCREASING THE SYSTEM DEVELOPMENT CHARGE FOR  
CLACKAMAS COUNTY SERVICE DISTRICT NO. 1**

<b>Purpose/Outcomes</b>	Increasing the revenues received from new development within the District.
<b>Dollar Amount and Fiscal Impact</b>	\$340,000 in additional Sanitary Sewer Systems Development Charges (SDC) revenues annually.
<b>Funding Source</b>	No County funds are involved.
<b>Safety Impact</b>	None
<b>Duration</b>	Permanent
<b>Previous Board Action/Review</b>	The Sanitary Sewer SDC was previously adjusted in three annual increments in conjunction with the District's \$120 million liquids expansion effort. In 2008, the adjustment was from \$2,200 to \$3,700. In 2009, the adjustment was from \$3,700 to \$5,200. In 2010, the adjustment was from \$5,200 to the current \$6,600.
<b>Contact Person</b>	Doug Waugh, Finance Manager – Water Environment Services 503-742-4564

**BACKGROUND:**

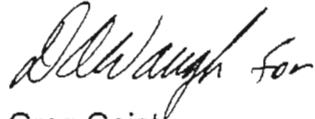
Water Environment Services ("WES") staff worked with two consultants to update the District Capital Improvement Plan ("CIP"), which generated a potential increase in the Sanitary Sewer Systems Development Charge ("SDC"). The justification for this potential increase comes from a report produced by Donovan Enterprises, Inc. titled "Wastewater System Development Charge Update" dated December, 2013 (the "Report") and is attached. The Report is based upon the updated "Tri-City WPCP Site Master Plan" of June, 2013 developed by Richwine Environmental.

On April 8, 2015, staff presented a series of options for increasing the District's SDC to the RiverHealth Advisory Board, with a possible increase up to \$10,588. After consideration of the options, the Board recommended an increase equal to the past two years of inflation as calculated in the Engineering News Report Construction Cost Index. Two years was selected due to the lack of an increase in the SDC during the previous fiscal year. This will result in an increase of the SDC from \$6,600 to \$6,950.

**RECOMMENDATION:**

Staff respectfully recommends that the Board of County Commissioners approve the Order adopting the Report and approving the increase in the Sanitary Sewer Systems Development Charge to \$6,950 as recommended by the RiverHealth Advisory Board.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Greg Geist for". The signature is written in a cursive, flowing style.

Greg Geist  
Director

**BEFORE THE BOARD OF COUNTY COMMISSIONERS  
OF CLACKAMAS COUNTY, STATE OF OREGON**

In the Matter of an Order Adopting a Revised Capital Improvement Plan and Establishing New System Development Charges for Clackamas County Service District No. 1, Clackamas County, Oregon



**ORDER NO.**

This matter came before the Board of County Commissioners of Clackamas County, Oregon ("Board"), acting as the governing body of Clackamas County Service District No. 1 ("District") in public hearing on June 25th, 2015.

WHEREAS, the District has updated the Capital Improvement Plan ("CIP") based on the Portland State University growth study, updated facility study regarding capacity, and the impact of Sanitary Sewer System Development Charges ("SDC") on District finances.

WHEREAS, the RiverHealth Advisory Board has recommended the Board adopt an increase in the SDC to \$6,950 for fiscal year 2015-2016.

**FINDINGS:**

The Board finds that the District's Rules and Regulations allow for an update of the Sanitary Sewer Systems Development Charge ("SDC") by order, pursuant to Section 4.1.2.

An increase in demand for investment based upon growth within the District has resulted in a revised CIP, which is set forth in the report "Wastewater System Development Charge Update" (the "Report") produced by Donovan Enterprises, Inc., attached hereto as Exhibit A.

In order to meet the continuing obligations and ensure effective performance of the District, the Board further finds that it is necessary to adopt an increased SDC of \$6,950.

The Board, having held a hearing, considered testimony, factual supporting materials and the above findings, and being fully advised, it is:

**ORDERED:**

1. The Report, including the revised CIP, in Exhibit A is hereby adopted;
2. Effective July 1, 2015, for all services rendered after said date, the District's SDC shall be \$6,950 per equivalent dwelling unit for the North Clackamas, Hoodland, and Boring service areas.
3. District staff is directed to publish these updated charges in Table XII of the District Rules and Regulations, and elsewhere as appropriate, in accordance with this Order.
4. An executed copy hereof shall be kept on file at Water Environment Services.

**BEFORE THE BOARD OF COUNTY COMMISSIONERS  
OF CLACKAMAS COUNTY, STATE OF OREGON**

In the Matter of an Order Adopting a  
Revised Capital Improvement Plan and  
Establishing New System Development  
Charges for Clackamas County Service  
District No. 1, Clackamas County,  
Oregon



**ORDER NO.**

PASSED this \_\_\_\_ day of June, 2015, after public hearing by the Board of County  
Commissioners at its regular meeting.

BOARD OF COUNTY COMMISSIONERS  
OF CLACKAMAS COUNTY, OREGON  
Acting as Governing Body of the  
Clackamas County Service District No. 1

---

Chair

---

Recording Secretary

# EXHIBIT A

Presented by:



December

# 2013

## Wastewater System Development Charge Update

Final Report

Prepared for:



Donovan Enterprises, Inc.  
9600 SW Oak Street, Suite 335  
Tigard, Oregon 97223-6596  
☎ 503.517.0671  
[www.donovan-enterprises.com](http://www.donovan-enterprises.com)



Fiscal 2013 - 2014  
Wastewater SDC Update

## Table of Contents

Executive Summary.....	1
System Development Charges Policy Choices .....	2
Background .....	2
SDC Policy.....	2
SDC options available to the Clackamas County Board of Commissioners.....	3
Benchmarking Regional Wastewater SDCs.....	4
Clackamas County Service District No. 1 SDC Analysis .....	7
Wastewater SDC Methodology Update.....	7
SDC Legal Authorization.....	7
Existing and Future Wastewater Demand .....	8
Reimbursement Fee Methodology.....	10
Improvement Fee Methodology.....	11
CCSD1 Wastewater SDC Conclusions and Recommendations .....	13
Tri-City Service District SDC Analysis .....	15
Wastewater SDC Methodology Update.....	15
Existing and Future Wastewater Demand .....	15
Reimbursement Fee Methodology.....	17
Improvement Fee Methodology.....	18
TCSD Wastewater SDC Conclusions and Recommendations .....	20

## Executive Summary

Donovan Enterprises, Inc. (DEI) was retained by Water Environment Services (WES) to review the wastewater System Development Charges (SDC) currently applied by Clackamas County Service District No. 1 (CCSD1) and the Tri-City Service District (TCSD) to support wastewater infrastructure. This study is designed to provide the Clackamas County Board of Commissioners with a comprehensive understanding of its SDC options. This will enable the Commission to make informed policy choices about the future application of SDC. The study:

- Reviews the basis for SDC charges to ensure a consistent methodology;
- Identifies policy, administrative, and technical problems which have arisen from existing SDC assessment methodologies;
- Determines the most appropriate SDC fee to ensure that growth pays for growth;
- Considers possible revisions to the structure or basis of SDC charges which might improve equity or proportionality to demand;
- Provides clear, orderly documentation of the assumptions, methodology, and results, so that WES Staff could, by reference, respond to questions or concerns from the public.

The consultant found that the Clackamas County Board of Commissioners (BCC) has the legal authority and economic justification, if it chooses to exercise its prerogative, to increase SDCs for new development in CCSD#1 and TriCity. The power to do so, and by how much, resides solely with the BCC.

# System Development Charges Policy Choices

## Background

This study is an update of the System Development Charge (SDC) methodology analysis that was completed by WES in April, 2008. This update addresses the levels and structure of SDCs needed to support current and future infrastructure investments managed by WES. This study also takes into account the recommendations of the recently completed wastewater treatment facilities plan update. That plan calls for future investments of \$112.9 million over the next fifteen years by the two county service districts that are managed by WES.

WES was created in August, 1984, to administer several county service districts formed under ORS Chapter 451. The enabling legislation establishes county service districts as independent municipal corporations authorized to provide specific services within specified boundaries in Clackamas County. The Board of County Commissioners is designated as the governing body with the County Administrator serving as the Administrator of the Districts. The scope of this SDC update is limited to the wastewater SDCs charged by CCSD1 and the TCSD.

CCSD No. 1 is comprised of four separate, non-contiguous wastewater service areas, as well as a surface water management (SWM) service area. Both wastewater and SWM services are provided in the North Clackamas Service Area. CCSD No. 1 owns and operates the Kellogg Creek wastewater treatment plant, located along the Willamette River in Milwaukie, and has an ownership interest in co-located facilities at the Tri-City water pollution control facility located on the Clackamas River in Oregon City. These plants serve the North Clackamas Service Area in addition to the wastewater flows from the City of Milwaukie. Wastewater-only service is provided in the Hoodland, Boring, and Fischer's Forest Park Service Areas. Each service area is served by completely separate collection and treatment facilities.

TCSD provides wastewater transmission and treatment services for customers in the cities of Oregon City, West Linn, and a portion of Gladstone. Treatment services are provided at the Tri-City plant. As discussed above, since 1998, the Tri-City plant has provided growth-related wastewater treatment capacity and services for both TCSD and CCSD No. 1. These treatment services are paid for by each district according to their respective use, as delineated in the Intergovernmental Services Agreement approved by the Board of County Commissioners in December, 2008. TCSD does not deliver SWM services to customers in the TCSD area. These services are delivered by each of the three member Cities.

## SDC Policy

Oregon Revised Statutes (ORS) 223.297 to 223.314 authorize local governments to establish SDCs. These are one-time fees on new development, and they are 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 SDC:

- A reimbursement fee that is 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”
- An improvement fee that is 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).

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 that 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).

## **SDC options available to the Clackamas County Board of Commissioners**

At the request of WES Staff, this study was crafted to afford the Board of County Commissioners options with respect to wastewater SDCs. These options range from:

1. Do nothing option: Leave SDCs at their current levels (i.e., \$6,600 per household for CCSD1, and \$2,020 per household for TCSD); or,
2. Increase SDCs: Current SDCs can be raised to one of two statutory maximum levels based upon five-year increments of projected growth in population. These levels are in 5 and 10 year population growth increments; or,
3. Increase SDCs but by an amount that is less than allowed by current law: The BCC has the option of increasing SDCs by any amount so long as it does not exceed the legally allowed level based upon the five year increments of projected growth in population.
4. Lower SDCs from their current level: SDCs may be reduced by the BCC below current levels.

The resulting unit SDCs at the statutory maximums (at 5 and 10 year growth inflection points) are shown below in Table 1 for CCSD1, and in Table 2 for TCSD.

Table 1 - SDC Options for CCSD1

Clackamas County Service District No. 1 Draft Schedule of System Development Charges - Wastewater		
	EDU Growth Forecast Horizon (years)	
	Five	Ten
Reimbursement fee:	\$ 2,091	\$ 1,988
Improvement fee:	\$ 8,497	\$ 11,258
Total Unit SDC:	\$ 10,588	\$ 13,246

Table 2 - SDC Options for TCSD

Tri-City Service District Draft Schedule of System Development Charges - Wastewater		
	EDU Growth Forecast Horizon (years)	
	Five	Ten
Reimbursement fee:	\$ 227	\$ 219
Improvement fee:	\$ 3,628	\$ 10,107
Total Unit SDC:	\$ 3,855	\$ 10,325

The unit SDCs that are shown above in Tables 1 and 2 are expressed in dollars per Equivalent Dwelling Unit (EDU). An EDU is an approximation of the wastewater demand that is placed on the wastewater treatment system on an annual basis by an average single family dwelling.

### Benchmarking Regional Wastewater SDCs

In order to give context to the levels of current and potential wastewater SDCs that could be charged in the CCSD1 and TCSD service areas, the project team gathered comparable wastewater SDCs that are charged by neighboring communities in the region. The comparable SDCs were gathered from wastewater collection and treatment service providers in Clackamas, Washington, Multnomah, and Marion Counties here in Oregon, and from service providers in Clark County, Washington. The neighboring communities' comparable wastewater SDCs are shown in Table 3, and are for a single family residential equivalent customer, and are in force as of November, 2013.

Table 3 - Comparable Communities' Single Family Residential Wastewater SDCs as of November, 2013

	"Regional" Wholesale	"Local" Retail	Total
<i>Clackamas County:</i>			
Lake Oswego	-	2,463	2,463
Oregon City	2,020	1,844	3,864
Wilsonville	-	4,323	4,323
West Linn	2,020	3,108	5,128
Milwaukie	5,670	893	6,563
Happy Valley	-	6,600	6,600
CCSD No. 1 - North Clackamas Service Area	5,670	930	6,600
<i>Washington County:</i>			
Clean Water Services	4,627	173	4,800
Hillsboro	4,627	173	4,800
Beaverton	4,627	173	4,800
Tualatin	4,627	173	4,800
<i>Multnomah County:</i>			
Fairview	-	2,600	2,600
Troutdale	-	4,495	4,495
Portland	-	4,551	4,551
Gresham	-	5,056	5,056
<i>Marion County:</i>			
Woodburn	-	2,977	2,977
Salem	-	3,130	3,130
Hubbard	-	3,755	3,755
Silverton	-	4,772	4,772
<i>Clark County Washington:</i>			
Unincorporated - Hazel Dell & Lakeshore Area	1,720	-	1,720
City of Vancouver	-	2,740	2,740
Unincorporated - Salmon Creek	4,708	-	4,708
Battle Ground	-	7,487	7,487
<i>Average single family residential wastewater SDC all areas</i>			<u>\$ 4,467</u>

The SDCs shown in Table 3 are broken out between wholesale and retail components (where applicable). The wholesale component is for wastewater treatment services, and the retail component is for wastewater collection and transmission services. In cases where a city or jurisdiction provides both services the project team showed the total SDC in the retail category. This distinction between wholesale and retail is particularly important in the cases of CCSD1 because this service district provides both wholesale and retail services to its customers. This situation is also the case in Washington County where Clean Water Services operates.



# Analysis Section

# Clackamas County Service District No. 1 SDC Analysis

## Wastewater SDC Methodology Update

The framework for SDC calculation is established by ORS 223.297-314 which is the basis for this review. Under statute, SDC's are one-time fees imposed on new development and have two components: reimbursement and improvement.

The reimbursement fee considers the cost of existing facilities, prior contributions by existing users of those facilities, the value of the unused/available capacity, and generally accepted ratemaking principles. The objective is "future system users contribute no more than an equitable share to the cost of existing facilities." The reimbursement fee can be spent on capital costs or debt service related to the systems for which the SDC is applied.

The improvement fee portion of the SDC is based on the cost of planned future facilities that expand the system's capacity to accommodate growth or increase its level of performance. In developing an analysis of the improvement portion of the fee, each project in the District's capital improvement plan is evaluated to exclude costs related to correcting existing system deficiencies or upgrading for historical lack of capacity. An example is a facility which improves collection system capacity to better serve current customers. The costs for this type of project must be eliminated from the improvement fee calculation. Only capacity increasing/level of performance costs provide the basis for the SDC calculation. The improvement SDC is calculated as a function of the estimated number of additional equivalent dwelling units to be served by the District's facilities over the planning period. In this case, the planning period has been bundled into two discrete time frames of 5 and 10 years. Such a fee represents the greatest potential for future SDC changes.

For this review, WES has stated a number of objectives:

- Review the basis for the charge to ensure a consistent methodology with the benefit of the data contained in the newly completed wastewater treatment system facilities plan;
- Review the District's current rationale for the reimbursement and improvement elements of the SDC;
- Review the District's current wastewater system SDC methodology to be sure that is consistent with the District's approach to charges for other District-delivered services (SDCs);
- Consider possible revisions to the structure or basis of the charge that might improve equity or proportionality to demand; and
- Provide clear, orderly documentation of the assumptions, methodology, and results, so that District staff can, by reference, respond to questions or concerns from the public.

## SDC Legal Authorization

SDCs are authorized by ORS 223.297-314. The statute is specific in its 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 existing development, and assessed at the

time of development approval or increased usage of the system. SB 939, passed by the 2003 legislature, included many procedural adjustments and clarifications to ORS 223. 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.

The methodology used to determine the improvement fee portion of the SDC must consider the cost of projected capital improvements needed to increase system capacity or level of performance. In other words, the cost of planned projects that correct existing deficiencies or do not otherwise increase capacity would not be SDC eligible. The improvement fee must also provide a credit for construction of a qualified public improvement.

### **Existing and Future Wastewater Demand**

Existing wastewater service demand was derived from consultations with District engineering and finance staff. Based on this data, it is estimated that as of fiscal 2013-14, the District served a total of 35,558 retail EDUs. In addition to these retail EDUs, analysis indicates the District serves 10,281 wholesale EDUs in the communities of Milwaukie and Johnson City. The total EDU service base then amounted to 45,839 EDUs.

After establishing existing demand conditions, the next step was to forecast future demand based on the criteria established by the District's Capacity Management Program (CMP). To facilitate this demand forecasting effort, WES hired Portland State University's Population Research Center (PRC). The resulting demand forecast data was presented to WES (for both CCSD1 and TCSD) in a report entitled "Population Forecasts for the Tri-City Service District, Clackamas County Service District #1, Clackamas County Service District #1 with All Damascus, and the City of Milwaukie 2010-2040".

The population forecasts that were contained in the PRC final report were expressed in low, medium, and high growth scenarios. For planning purposes, WES Staff are using the medium population growth forecast for sizing future facilities. For this SDC update, the project team used the PRC medium population growth forecast as the basis for estimating the future growth in EDUs. Over the 5 and 10 year inflection points, the project team calculated the compounded annualized growth rates in population, and applied these growth rates to the know fiscal 2013-14 existing billable EDUs to arrive at future EDU totals.

The PRC medium population growth forecast data are shown below in Table 4. The resulting forecast of CCSD1 treatment EDUs is shown (in five year increments) in Table 5.

Table 4 - PRC Medium Growth Population Forecast Data; December, 2011

**Medium Growth Population Forecasts - Per PSU Population Studies; December, 2011**

Medium Growth Scenario	Census 2010	2020	2030	2040
Tri-City	70,544	76,340	82,315	86,748
CCSD#1	68,140	76,912	85,689	92,818
CCSD#1-All Damascus	76,865	86,876	97,157	106,193
Milwaukie	20,291	21,060	21,946	22,352

**Compound Annual Growth Rates**

Medium Growth Scenario	2010	2020	2030	2040
Tri-City		0.7927%	0.7746%	0.6916%
CCSD#1		1.2183%	1.1524%	1.0356%
CCSD#1-All Damascus		1.2318%	1.1783%	1.0832%
Milwaukie		0.3726%	0.3929%	0.3230%

Table 5 - Forecast of CCSD1 Treatment EDUs

Clackamas County Service District No. 1 Summary of Wastewater System Macroeconomic Assumptions			
	Budget 2014	Forecast	
		2019	2024
Equivalent Dwelling Units (EDUs) - forecast			
Wholesale Customers:			
Milwaukie	10,000	10,188	10,387
Johnson City	281	281	281
Total wholesale customers	10,281	10,469	10,668
Retail Customers:			
Total retail customers	35,558	37,803	40,104
Total treatment EDUs	45,839	48,271	50,772
Equivalent Dwelling Units (EDUs) - annual change			
Wholesale Customers:			
Milwaukie		38	41
Johnson City		-	-
Total wholesale customers		38	41
Retail Customers:			
Total retail customers		460	467
Five year forecast total growth		2,432	
Ten year forecast total growth			4,933

Based on the data contained in that report, the investments that are expected to be made over the next ten years for capacity expansion will serve an additional 4,933 EDUs.

### **Reimbursement Fee Methodology**

The reimbursement fee represents a buy-in to the cost, or value, of wastewater 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 District's customers may be far less than the total plant-in-service. This is due to the fact that elements of the existing system may have been contributed, 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 collection lines, 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, or 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 growth as converted to EDUs over the planning period. This approach reflects the philosophy, consistent with the Districts CMP, that facilities have been sized to meet the demands of the customer base within the established planning period.

Table 6 contains the data that was used to derive the recommended wastewater reimbursement fee SDC (expressed in \$/EDU). Please note, in the District's 2008 SDC study the recommended reimbursement fee was zero. This is because the CCSD1 system was at effective full capacity at that time. Since that time, the District has invested over \$130 million in capacity to serve existing and new customers.

Table 6 – CCSD No. 1 Wastewater Reimbursement Fee Methodology

	June 30, 2012	EDU Growth Forecast Horizon (years)	
		Five	Ten
Clackamas County Service District No. 1 Reimbursement Fee SDC Calculations - Wastewater			
Utility plant in service- original cost <sup>1</sup>			
Intangible plant	\$ 802,162		
Sewage treatment plant	168,652,878		
Sewage treatment line system	106,659,292		
Equipment, tools, and appurtenances	9,214,451		
Construction work-in-progress	30,330,796		
Land	<u>3,871,077</u>		
Subtotal utility plant in service original cost	319,530,656		
Less: grants and contributed capital: <sup>2</sup>			
EPA Clean Water Act grants	10,896,488		
Contributed capital - Milwaukie	1,581,052		
Contributed capital - Johnson City	<u>67,548</u>		
Subtotal grants and contributed capital	12,545,087		
Less: accumulated depreciation <sup>1</sup>			
Intangible plant	642,174		
Sewage treatment plant	48,341,017		
Sewage treatment line system	33,001,041		
Equipment, tools, and appurtenances	<u>7,613,936</u>		
Subtotal accumulated depreciation	89,598,168		
Utility plant in service net of grants and accumulated depreciation <sup>1</sup>	217,387,401		
Less: principal outstanding on long term debt: <sup>1</sup>			
DEQ Clean Water State Revolving Loan R22401	608,864		
DEQ Clean Water State Revolving Loan R06224	2,142,142		
DEQ Clean Water State Revolving Loan R22403	6,536,324		
Revenue Bonds 2002A	1,535,000		
Revenue Bonds 2002B	3,075,000		
Revenue Obligations 2009A	36,205,000		
Revenue Obligations 2009B	42,140,000		
Revenue Obligations 2010	23,475,000		
Original issue premium - 2009A, 2009B, 2010	847,812		
Deferred amount on revenue bond refunding - 2002B	<u>(123,762)</u>		
Subtotal principal outstanding on long term debt	116,441,380		
Utility plant in service net of grants, contributed capital, accumulated depreciation, and principal outstanding on long term debt	\$ 100,946,021	\$ 100,946,021	\$ 100,946,021
Projected existing capacity available to serve all customers (expressed in EDUs):		48,271	50,772
Calculated reimbursement fee per EDU .....		<u>\$ 2,091</u>	<u>\$ 1,988</u>

<sup>1</sup> Source: Clackamas County Service District No. 1 Comprehensive Annual Financial Report for the year ended June 30, 2012

<sup>2</sup> Source: Clackamas County Service District No. 1 records

## Improvement Fee Methodology

The improvement fee represents a proportionate share of the cost to expand the system to accommodate growth. This charge is based on the capital improvement plan established by the

District and specifically on costs allocable to growth. Statute requires 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 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. An example might be a pump station that both expands collection capacity and corrects a chronic capacity issue for existing users. In this case, a rational allocation basis must be defined.

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 wastewater system's capacity to accommodate growth or increase its level of performance have been included in the cost basis of the fee. As part of the Plan, District Staff and their engineering consultants were asked to review the planned capital improvement list in order to assess SDC eligibility. The criteria shown below were developed to guide the District's evaluation:

---

***ORS 223 SDC Eligibility Criteria:***

1. Capital improvements mean the facilities or assets used for wastewater collection, transmission, treatment and disposal. The definition does not allow for operation or routine maintenance of the improvements.
2. The SDC improvement base shall consider the cost of projected capital improvements needed to increase the capacity of the systems to which the fee is related.
3. An increase in system capacity is established if a capital improvement increased the "level of performance or service" provided by existing facilities or provides new facilities.

---

***Under the WES approach, the following rules will be followed for SDC construction:***

1. Repair costs are not to be included in the SDC calculations;
  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;
  3. New regulatory compliance facility requirements fall under the level of performance definition and should be proportionately included;
  4. Cost will not be included which bring deficient system(s) up to established design levels.
-

In developing the improvement fee, the project team in consultation with District Staff 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 schedule developed by the District. The improvement fee is calculated as a function of the estimated number of projected additional EDUs to be served by the facilities over the five-year increments of planning horizon. Table 7 lays out the CIP, and the allocation of the costs between existing customers and future customers (i.e., growth), and the resulting improvement fee SDC in 5 and 10 year forecast increments:

Table 7 – Project Cost Allocation Table and Improvement Fee SDC Calculations

Clackamas County Service District No. 1 Improvement Fee SDC Calculations - Wastewater						
Project ID	Project Description	Implementation Year	Cost in 2013 Dollars	CCSD No. 1 Share	Funding Source	
					Rates	SDCs
<i>Improvement fee SDCs</i>						
<b>Five year forecast period:</b>						
IIA	CCSD#1 Diversion Expansion	2016	\$ 14,250,000	\$ 14,250,000	\$ -	\$ 14,250,000
IIB	Phase II Electrical Expansion	2019	2,500,000	1,575,000	-	1,575,000
Biosolids	Biosolids Distribution Improvements	5 year CIP	350,000	350,000	-	350,000
Operations	SCADA	5 year CIP	1,500,000	1,500,000	-	1,500,000
Regulatory	Blue Heron - West Linn Facility Purchase and Restoration	5 year CIP	2,993,256	2,993,256	-	2,993,256
	Five year total		\$ 21,593,256	\$ 20,668,256	\$ -	\$ 20,668,256
	Projected five year growth in EDUs					2,432
	Calculated Improvement fee per EDU .....					<u>\$ 8,497</u>
<b>Ten year forecast period:</b>						
IIA	CCSD#1 Diversion Expansion	2016	\$ 14,250,000	\$ 14,250,000	\$ -	\$ 14,250,000
IIB	Phase II Electrical Expansion	2019	2,500,000	1,575,000	-	1,575,000
Biosolids	Biosolids Distribution Improvements	5 year CIP	350,000	350,000	-	350,000
Operations	SCADA	5 year CIP	1,500,000	1,500,000	-	1,500,000
Regulatory	Blue Heron - West Linn Facility Purchase and Restoration	5 year CIP	2,993,256	2,993,256	-	2,993,256
IIC	Anaerobic Digestion	2023	31,500,000	19,845,000	-	19,845,000
IID	Landfill	2024	4,650,000	2,929,500	-	2,929,500
IIE	Coarse Screen/Grit Removal	2021	9,200,000	5,796,000	-	5,796,000
IIJ	Outfall/Pump Station	2021	10,000,000	6,300,000	-	6,300,000
	Ten year total		\$ 76,943,256	\$ 55,538,756	\$ -	\$ 55,538,756
	Projected ten year growth in EDUs					4,933
	Calculated Improvement fee per EDU .....					<u>\$ 11,258</u>

## CCSD1 Wastewater SDC Conclusions and Recommendations

The District currently charges a wastewater SDC of \$6,600 for a new single family residence to connect to the wastewater system. The results of this study indicate that the District's governing board has the legal authority and economic justification, if it chooses, to increase

District SDCs. Charges could be increased as follows depending on the time horizon chosen by the Board of County Commissioners:

	<u>EDU Growth Forecast Horizon (years)</u>	
	<u>Five</u>	<u>Ten</u>
Reimbursement fee:	\$ 2,091	\$ 1,988
Improvement fee:	<u>\$ 8,497</u>	<u>\$ 11,258</u>
Total Unit SDC:	\$ 10,588	\$ 13,246

The Consultant team has reviewed the District's current methodology for calculating its wastewater SDC and found that it complies with statutory construction requirements for the reimbursement and improvement fees. There is no need to modify this current methodology.

Some of the most significant revisions to ORS 223 since its inception in 1991 have dealt with record keeping and notification requirements. Under ORS 223.311 the District must prepare by, January 1 of each year, an accounting of SDC receipts and expenditures. This accounting should be reported to the Board of County Commissioners on an annual basis and made available for public inspection.

# Tri-City Service District SDC Analysis

## Wastewater SDC Methodology Update

In 1997, WES updated the TCSD SDC for wastewater services. This was done in conjunction with the facilities planning underway for the Tri-City Treatment Plant and collection system at that time. The Board of County Commissioners adopted a "Capital Improvement Plan for the Tri-City Service District" as part of the FY '98 budget review process. That CIP and the update of the previous projects list for on-going facility construction were the basis for preparation of that SDC calculation. Staff's analysis of the funding sources for existing facilities and its assessment of available wastewater capacity at that time established that a reimbursement fee of \$219 per EDU was required. They also concluded that an improvement fee of \$1,801 per EDU was required; bringing the total SDC per EDU to its current level of \$2,020.

In 2008, the District reviewed its wastewater SDC methodology, and could only justify a \$24 per EDU reimbursement fee. That update also indicated the District could charge an improvement fee of \$2,026 vs. the current total SDC of \$2,020 per EDU. This difference was deemed immaterial and therefore, District Staff did not recommend any changes to the current wastewater SDC for TCSD at that time. In general, the 2008 adopted five year CIP for TCSD was modest. In a note to the Board of County Commissioners at that time, District Staff said that as the Interim Capacity Expansion Project unfolded, it would be likely the future TCSD CIP would change materially. That judgment has proven correct, and the currently completed wastewater treatment system facilities plan indicates the District will be facing some \$42.2 million in future system improvements over the next fifteen years.

## Existing and Future Wastewater Demand

Existing wastewater service demand was derived from consultations with District engineering and finance staff. Based on this data, it is estimated that as of fiscal 2003-14, the District served a total of 30,278 wholesale EDUs.

After establishing existing demand conditions, the next step was to forecast future demand based on the criteria established by the District's Capacity Management Program (CMP). As discussed in the CCSD1 section of this report, to facilitate this demand forecasting effort, WES hired Portland State University's PRC. Also as in the CCSD1 case, for this SDC update, the project team used the PRC medium population growth forecast as the basis for estimating the future growth in EDUs. Over the 5 and 10 year inflection points, the project team calculated the compounded annualized growth rates in population, and applied these growth rates to the known fiscal 2013-14 existing billable EDUs to arrive at future EDU totals.

The PRC medium population growth forecast data are shown below in Table 8. The resulting forecast of TCSD treatment EDUs is shown (in five year increments) in Table 9.

Table 8 - PRC Medium Growth Population Forecast Data; December, 2011

**Medium Growth Population Forecasts - Per PSU Population Studies; December, 2011**

Medium Growth Scenario	Census 2010	2020	2030	2040
Tri-City	70,544	76,340	82,315	86,748
CCSD#1	68,140	76,912	85,689	92,818
CCSD#1-All Damascus	76,865	86,876	97,157	106,193
Milwaukie	20,291	21,060	21,946	22,352

**Compound Annual Growth Rates**

Medium Growth Scenario	2010	2020	2030	2040
Tri-City		0.7927%	0.7746%	0.6916%
CCSD#1		1.2183%	1.1524%	1.0356%
CCSD#1-All Damascus		1.2318%	1.1783%	1.0832%
Milwaukie		0.3726%	0.3929%	0.3230%

Table 9 - Forecast of TCSD Treatment EDUs

Tri-City Service District Summary of Wastewater System Macroeconomic Assumptions			
	Budget 2014	Forecast	
		2019	2024
Equivalent Dwelling Units (EDUs) - forecast			
Wholesale Customers:			
Oregon City	14,895	15,495	16,107
West Linn	11,093	11,540	11,996
Gladstone	3,639	3,786	3,935
Unincorporated	651	677	704
Other	-	-	-
Total wholesale customers	30,278	31,497	32,742
Retail Customers:			
Total retail customers	-	-	-
Total treatment EDUs	30,278	31,497	32,742
Equivalent Dwelling Units (EDUs) - annual increases			
Wholesale Customers:			
Oregon City		122	124
West Linn		91	92
Gladstone		30	30
Unincorporated		5	5
Other		-	-
Total wholesale customers		248	252
Retail Customers:			
Total retail customers		-	-
Total treatment EDUs		248	252
Five year growth		1,219	
Ten year growth			2,464

Based on the data contained in that report, the investments that are expected to be made over the next ten years for capacity expansion will serve an additional 2,464 EDUs.

## Reimbursement Fee Methodology

The methodology contained in the 1997 SDC Report, established the value of existing capacity in the Tri-City Plant and facilities as a function of the "book value" of these assets. The updated facilities schedule (i.e., as of June 30, 2012) and their calculated book value are contained in the following asset schedule shown in Table 10.

Table 10 – TCSD Wastewater Reimbursement Fee Methodology

Tri-City Service District Reimbursement Fee SDC Calculations - Wastewater			
	June 30, 2012	EDU Growth Forecast Horizon (years)	
		Five	Ten
Utility plant in service- original cost <sup>1</sup>			
Land and easements	\$ 2,379,564		
Construction work-in-progress	966,110		
Intangibles	1,040,218		
Collection plant	20,012,334		
Pumping plant	4,538,350		
Treatment plant	56,564,634		
General plant	<u>7,336,345</u>		
Subtotal utility plant in service original cost	92,837,555		
Less: grants and contributed capital: <sup>2</sup>			
EPA Clean Water Act grants	<u>36,936,813</u>		
Subtotal grants and contributed capital	36,936,813		
Less: accumulated depreciation <sup>1</sup>			
Intangibles	1,032,644		
Collection plant	8,449,530		
Pumping plant	3,065,619		
Treatment plant	31,728,459		
General plant	<u>4,260,756</u>		
Subtotal accumulated depreciation	48,537,008		
Utility plant in service net of grants and accumulated depreciation <sup>1</sup>	7,363,734		
Less: principal outstanding on long term debt: <sup>1</sup>			
DEQ Clean Water State Revolving Loan - 3.98%	<u>205,405</u>		
Subtotal principal outstanding on long term debt	205,405		
Utility plant in service net of grants, contributed capital, accumulated depreciation, and principal outstanding on long term debt	\$ 7,158,329	\$ 7,158,329	\$ 7,158,329
Projected existing capacity available to serve new customers (expressed in EDUs):		31,497	32,742
Calculated reimbursement fee per EDU: .....		<u>\$227</u>	<u>\$219</u>

<sup>1</sup> Source: Tri-City Service District Comprehensive Annual Financial Report for the year ended June 30, 2012

<sup>2</sup> Source: Tri-City Service District records

Facilities that have either been contributed by developers, property owners (property tax based contributions) or funded through federal/state grants are defined as contributed capital and

have been removed from this reimbursement cost base. Because these reimbursement facilities have been paid for by existing ratepayers, it is consistent that their value also be a function of existing customers' relative contribution to these facilities. None of these projects are currently being financed through revenue bonds, however, the State Revolving Fund Loan is paying for the alternative disinfection and the Tri-City Master Plan (Phase 2) projects. The outstanding debt principal has been deleted from this reimbursement cost base. Therefore, the pricing of this remaining capacity in the Tri-City facilities is a function of the "book value" of these facilities divided by the projected demand on the system as measured in projected wastewater flow to the Tri-City Plant. This per EDU calculation for existing and available capacity then becomes the basis for valuing this capacity available to new customer connections. In terms of "future system users contributing no more than an equitable share to the cost of existing facilities," the book value used in this analysis is a reasonable approach toward applying current asset value as the basis for pricing increments of available capacity at the Tri-City Plant.

WES, through its ORS 451 District structure, owns and maintains the Tri-City Wastewater Treatment Plant along with the wastewater collection system located outside the incorporated areas of Gladstone, Oregon City and West Linn. The District has 30,278 EDU's connected to the system. During certain wet weather conditions this number of connections places demands that approach effective permitted treatment capacity at the Tri-City wastewater treatment plant. However, during dry weather conditions, infiltration and inflow decreases thereby reducing hydraulic loads on the plant. The District and the cities are in the process of implementing an improvement program to mitigate infiltration and inflow within the system. Although certain wet weather conditions cause upset conditions at the treatment plant, engineering analysis indicates that there is capacity at the plant to support additional connections to the system.

### **Improvement Fee Methodology**

As in the case for CCSD No. 1, the basis for the costs included under the improvement portion of the SDC is the result of a detailed analysis of individual projects necessary to expand wastewater treatment or increase the level of performance of these treatment/conveyance facilities. The resulting projects were then reviewed in terms of a two step engineering and cost analysis. The first step assessed the existing condition of the wastewater system facility. Where this assessment determined the existing system was deficient - either in terms of design or current operating condition - to accommodate existing customers and flows, the corresponding costs were deleted from the cost base. The analysis then isolated those costs necessary to expand/improve the wastewater treatment system in order to accommodate anticipated future customers. The improvement costs necessary to convey and treat future flows became the sole basis for the improvement portion of the SDC. The resulting capital improvement list and the allocation of cost is detailed in Table 11.

Table 11 – TCSD Wastewater Project Cost Allocation Table

Tri City Service District Improvement Fee SDC Calculations - Wastewater						
Project ID	Project Description	Implementation Year	Cost in 2013 Dollars	TCSD Share	Funding Source	
					Rates	SDCs
<i>Improvement fee SDCs</i>						
Five year forecast period:						
IIA	CCSD#1 Diversion Expansion	2016	\$ 14,250,000	\$ -	\$ -	\$ -
IIB	Phase II Electrical Expansion	2019	2,500,000	925,000	-	925,000
Asset Management	Willamette Pump Station Upgrades	5 year CIP	2,200,000	2,200,000	2,200,000	-
Operations	Lime Silo	5 year CIP	505,000	505,000	-	505,000
Regulatory	Blue Heron - West Linn Facility Purchase and Restoration	5 year CIP	2,993,963	2,993,963	-	2,993,963
	Five year total		\$ 22,448,963	\$ 6,623,963	\$ 2,200,000	\$ 4,423,963
	Projected five year growth in EDUs					1,219
	Calculated improvement fee per EDU .....					<u>\$ 3,628</u>
Ten year forecast period:						
IIA	CCSD#1 Diversion Expansion	2016	\$ 14,250,000	\$ -	\$ -	\$ -
IIB	Phase II Electrical Expansion	2019	2,500,000	925,000	-	925,000
Asset Management	Willamette Pump Station Upgrades	5 year CIP	2,200,000	2,200,000	2,200,000	-
Operations	Lime Silo	5 year CIP	505,000	505,000	-	505,000
Regulatory	Blue Heron - West Linn Facility Purchase and Restoration	5 year CIP	2,993,963	2,993,963	-	2,993,963
IIC	Anaerobic Digestion	2023	31,500,000	11,655,000	-	11,655,000
IID	Landfill	2024	4,650,000	1,720,500	-	1,720,500
IIE	Coarse Screen/Grit Removal	2021	9,200,000	3,404,000	-	3,404,000
IJ	Outfall/Pump Station	2021	10,000,000	3,700,000	-	3,700,000
	Ten year total		\$ 77,798,963	\$ 27,103,463	\$ 2,200,000	\$ 24,903,463
	Projected ten year growth in EDUs					2,464
	Calculated improvement fee per EDU .....					<u>\$ 10,107</u>

## TCSW Wastewater SDC Conclusions and Recommendations

The District's share of total capital cost for new investment in the wastewater treatment system is \$42.2 expressed in current dollars. Again, those are projects or portions of projects determined to be necessary in order to accommodate growth in the Tri-City Service District. The District currently charges a wastewater SDC of \$2,020 for a new single family residence to connect to the wastewater system. The results of this study indicate that the District's Governing Board has the legal authority and economic justification if it chooses, to increase District SDCs. Charges could be increased as follows depending on the time horizon chosen by the Board of County Commissioners:

	<u>EDU Growth Forecast Horizon (years)</u>	
	<u>Five</u>	<u>Ten</u>
Reimbursement fee:	\$ 227	\$ 219
Improvement fee:	<u>\$ 3,628</u>	<u>\$ 10,107</u>
Total Unit SDC:	\$ 3,855	\$ 10,325

The Consultant team has reviewed the District's current methodology for calculating its wastewater SDC and found that it complies with statutory construction requirements for the reimbursement and improvement fees. There is no need to modify this current methodology.

Under ORS 223.311 the District must prepare by, January 1 of each year, an accounting of SDC receipts and expenditures. This accounting should be reported to the Board of County Commissioners on an annual basis and made available for public inspection.