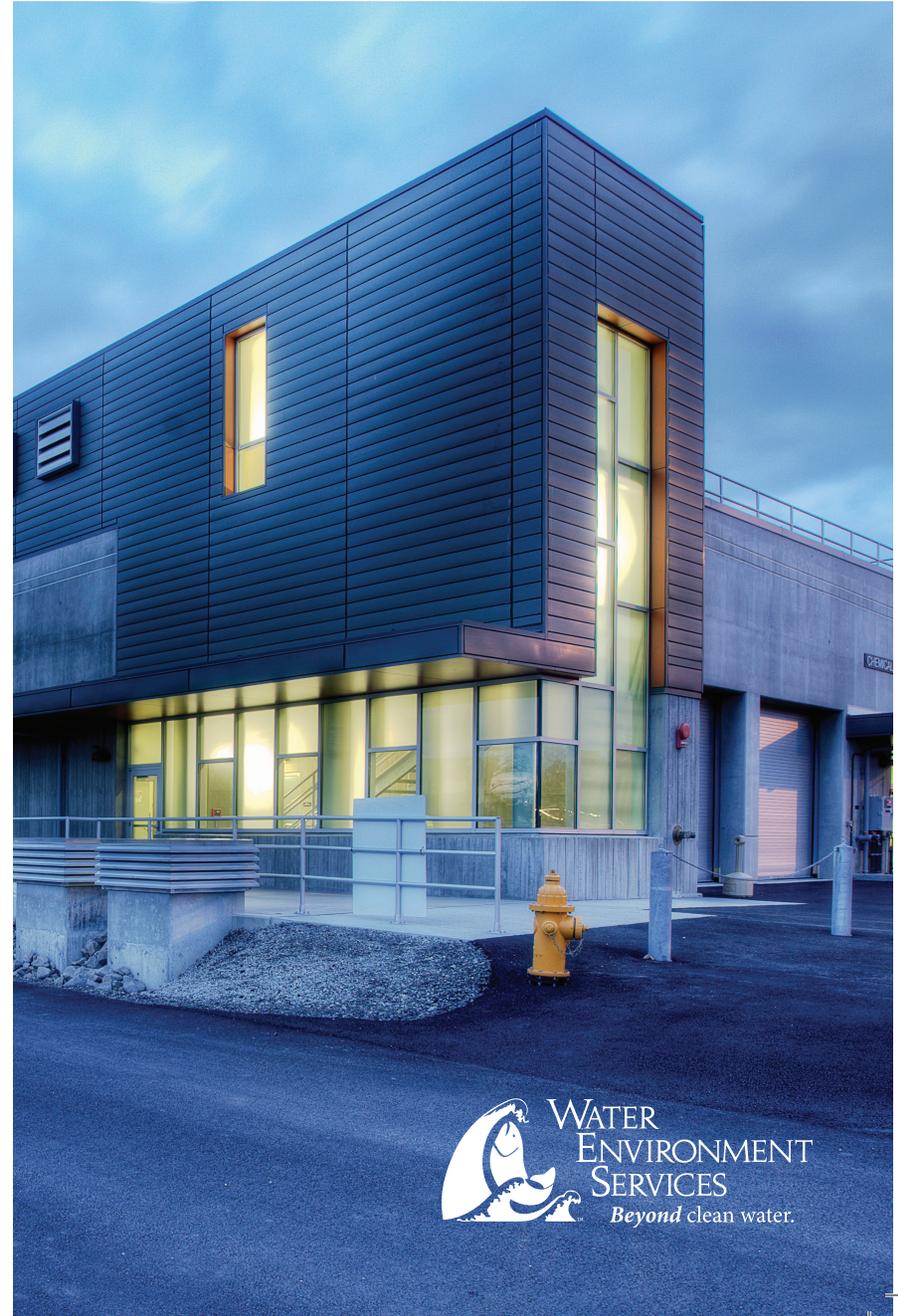
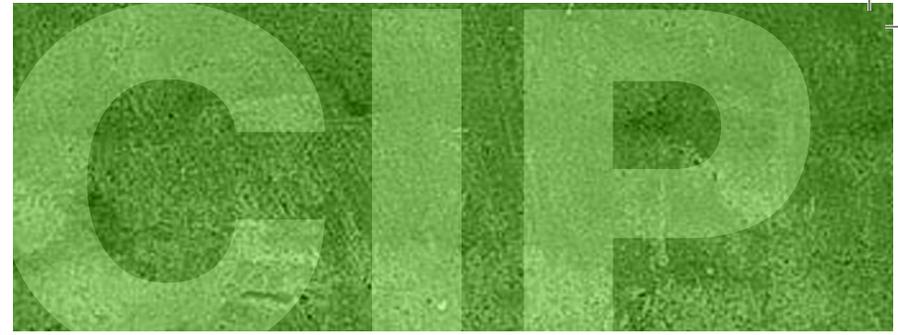


2014 - 2019
**CAPITAL IMPROVEMENT
PLAN**

Clackamas County Service District No. 1



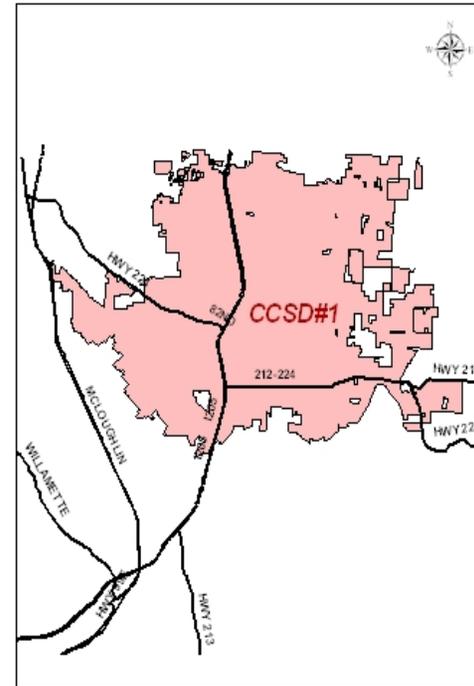
Clackamas County Service District No. 1

Clackamas County Service District No. 1 (CCSD #1) provides retail sanitary sewer and surface water management services to unincorporated portions of North Clackamas County as well as the Cities of Happy Valley, Boring, a portion of the city of Damascus, the communities of the Hoodland corridor, Fischer's Forest Park near Redland, and wholesale wastewater treatment services to the cities of Milwaukie and Johnson City. These services are funded by revenues derived from rates and fees for development.

History

The Kellogg Creek Pollution Control Plant was originally placed into operation in 1974. In recent years, it has operated beyond its capacity and violated permit limits during wet weather conditions. In response, the District spent \$132 million to expand its treatment capacity. This effort provided improvements in three areas:

(1) Kellogg Plant system maintenance, upgrades and rehabilitation; (2) necessary conveyance improvements; and (3) treatment capacity expansion at the Tri-City Service District treatment plant, from which the District had previously rented up to 2 million gallons per day of



wastewater treatment capacity.

Now that this effort is completed, the District is looking forward to the next round of capital improvements necessary to continue providing reliable and cost effective services to existing and future customers.

Introduction

The staff of Water Environment Services (WES) has developed this annual, five-year Capital Improvement Plan (CIP) for Clackamas County Service District No. 1 (CCSD #1). The CIP includes the results of master planning efforts, technical review, and annual inspection of the existing assets belonging to CCSD #1.

This CIP is a planning level document and no project is funded until approved in each year's adopted budget. In general, the plan covers forecasted capital expenditures for fiscal 2014-15 through 2018-19. This plan has been prepared for the following purposes:

- To provide recommendations for needed replacement, rehabilitation and repair projects necessary to protect the District's assets.
- To anticipate capital expenditures in advance to allow for adequate budgetary planning and anticipate required policy decisions and/or adjustments.

Background

CCSD #1 is facing several challenges over the next five years. Plant facilities are aging and require continuing capital improvement efforts to keep them working well into the future. An initial analysis

identified a need for approximately \$3.7 million annually in asset replacement. Included in this plan is funding for a gradually increasing amount for asset replacement to eventually reach this stated need.

CCSD #1 also faces a major challenge in the area of solids handling. The original Tri-City facility did not construct solids and liquids capabilities that were matched from a capacity standpoint nor provide for process redundancy. Tri-City Service District (TCSD) facility needs were discussed in 2007-08 with the TCSD Site Committee, Advisory Committee, and the Board of County Commissioners as part of the conditional use permit process for CCSD #1 prior to their Phase I construction at the Tri-City plant. In 2010, TCSD invested in temporary solids handling equipment as a back-up system to be utilized by TCSD for mitigating near term operating pressure. The objective of this temporary investment was to provide operating staff with some level of process redundancy and afford staff the time needed to reassess the future direction of the District's Biosolids Program and the plants solids handling needs to support future growth. WES staff initiated these planning efforts in 2012 and will continue with the efforts thru 2014. In 2013, a Site Master Plan Update was completed. This update identified a phased series of capital improvements in

the areas of wet weather, solids handling, and general improvements to meet growth needs for TCSD and CCSD #1 for the next 20 years. It is called Phase II of the Capacity Management Program. The only Phase II effort included in this plan is the planning for future power expansion. Phase II projects, except for Intertie #3, will be co-investments between CCSD #1 and TCSD at the Tri-City facility to reduce overall investment requirements.

This CIP also contains several other projects to be jointly funded with TCSD. These projects are focused on replacing assets shared by the Districts at the Tri-City facility and the joint funding is proportionate to the flows contributed by each District to the Tri-City facility. This approach is in recognition of the goal of joint funding the replacement of shared assets which is shared by the Districts' advisory committees and the Regional Advisory Committee.

Other projects include: Restoration of the Blue Heron site to prepare it for future uses (shared with TCSD); construction of a long-term alternative effluent discharge for the Hoodland facility; replacement of the aging fleet used for managing biosolids; replacement of the incinerators (flares) at both the Kellogg and Tri-City facilities; level annual funding for small capital projects and equipment replacement for the Operations Program; and various other projects necessary to

maintain the current operating standards of the treatment facility.

CCSD #1 is also reflecting an enhanced capital effort in the Surface Water Program. Approximately one million dollars has been set aside for construction of a regional decant facility. Wetland restoration and smaller infrastructure projects are being identified as a result of a realignment of the program.

The following table provides a summary of composite capital project cost information and projected yearly cash flow for all projects over the years covered by this Plan. Costs are presented in current year dollars and have not been adjusted for inflation for the years covered by this Plan. Total costs also are summarized by individual year.

Report Organization

The remainder of this plan presents all projects proposed for CCSD #1 on a program by program basis. Since 2007, WES has been developing a comprehensive strategic plan for the department and the Districts served by WES. From this effort, eight programs were developed. These programs are the means to achieve strategic initiatives developed during the strategic planning process. These programs include: Asset Management, Biosolids, Capacity

Management, Energy, Fleet, Operations, Regulatory, and Surface Water.

Within each program, the material is organized as follows:

Introduction: This section provides the reader with a brief summary program description followed by a discussion of sub-programs (if applicable) and their goals, objectives, program elements, and issues and concerns.

Capital cost summary: Capital projects are summarized in a table showing the project name, subprogram, and the level of expenditure during the years the project is planned for.

Capital project detail: Following this summary, each project is presented in greater detail with a fuller description of the project and its justification. Costs in this section include all hard capital and soft capital costs including outside and internal labor. Although projects have been coordinated as part of our recommendation process, modifications may be needed as other projects are identified and interdepartmental priorities change. In addition, projects may be combined in construction contracts. These decisions will usually occur as part of the project pre-design efforts. Costs are presented in

current year dollars and have not been adjusted for inflation for the five years covered. Total costs also are summarized by individual year.

Summary

This plan is the result of a Department-wide effort demonstrating our commitment to providing quality services combined with prudent fiscal restraint. Many challenges will continue to present themselves, including rising costs, new and changing regulations, and the continued growth of the region. We hope that, in this plan, you will see that WES remains committed to “Excellence in Public Service” and the prudent use of public funds.

CCSD #1 Project Total Summary by Program

Program	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	Total
CCSD							
Asset Management	\$ 2,328,679	\$ 5,065,000	\$ 4,860,000	\$ 3,550,000	\$ 5,550,000	\$ 5,225,000	\$ 26,578,679
Biosolids	\$ -	\$ -	\$ 350,000	\$ 200,000	\$ 150,000	\$ 200,000	\$ 900,000
Capacity Management	\$ -	\$ -	\$ 200,000	\$ 800,000	\$ 8,500,000	\$ 4,939,000	\$ 14,439,000
Energy	\$ -	\$ 200,000	\$ 2,300,000	\$ -	\$ -	\$ -	\$ 2,500,000
Fleet	\$ -	\$ 137,327	\$ 142,062	\$ 140,698	\$ 135,734	\$ 140,174	\$ 695,995
Operations	\$ 1,632,510	\$ 5,138,620	\$ 1,952,000	\$ 3,800,000	\$ 1,700,000	\$ 1,700,000	\$ 15,923,130
Regulatory	\$ 1,317,175	\$ 292,000	\$ 1,292,000	\$ 3,000	\$ -	\$ -	\$ 2,904,175
Surface Water	\$ 908,302	\$ 1,600,000	\$ 3,850,000	\$ 1,664,000	\$ 900,000	\$ 900,000	\$ 9,822,302
	<u>\$ 6,186,666</u>	<u>\$ 12,432,947</u>	<u>\$ 14,946,062</u>	<u>\$ 10,157,698</u>	<u>\$ 16,935,734</u>	<u>\$ 13,104,174</u>	<u>\$ 73,763,281</u>

ASSET MANAGEMENT



Asset Management Program

PROGRAM INTRODUCTION

The core function of the Asset Management Program is to effectively manage the development and implementation of the necessary tools, processes and procedures necessary to make informed decisions about our physical assets. The Asset Management program is made up of three subprograms: Treatment, Fleet, and Conveyance.

A.TREATMENT

INTRODUCTION

The Treatment Subprogram provides the integrated processes to assess treatment facility process equipment, buildings, and infrastructure that have an asset value of greater than \$100,000. The Treatment Subprogram is designed to minimize life cycle costs of infrastructure assets while continuously delivering established levels of service.

Due to the significant value of these assets and their potential replacement/rehabilitation, formalized and structured processes (e.g. condition assessment, business case evaluation, etc.) will be employed to prioritize potential capital improvement projects.

GOALS AND OBJECTIVES

The goal of Treatment is to maximize the service life of existing process equipment, facilities, and infrastructure at the five treatment facilities owned and operated by WES at the lowest life cycle cost. This goal will be achieved by: systematically assessing the condition of assets; determining the rehabilitation, replacement, and augmentation needs of equipment, facilities, and infrastructure assets; and by identifying risks (likelihood/consequence) associated with asset failure and the development of the components of life cycle costs in an environment of limited resources. This approach will require the following practices:

- Implement project prioritization decision-making practices that will maximize the benefit of the capital dollars to achieve the lowest life cycle costs
- Develop and maintain asset inventory that includes asset location, valuation, and designed service life
- Identify critical assets that require routine maintenance or reveal the need for rehabilitation or replacement
- Assign available funding or develop funding mechanisms to execute CIP projects
- Comply with Environmental Protection Agency's (EPA) Capacity, Management, Operations and

Maintenance (CMOM) Program requirements for owner/operators of wastewater collection systems

PROGRAM ELEMENTS

Liquids Handling

- Renew failed or failing electrical, mechanical, physical, and chemical systems within the liquids stream to eliminate the environmental and fiscal liability associated with non-permit complying discharges of untreated or partially treated sewage.
- Renew failed or failing facilities and infrastructure within the liquids stream to ensure facilities and infrastructure housing electrical, mechanical, physical, and chemical systems continue to retain their essential protective or process function.
- Replace electrical, mechanical, physical, and chemical systems within the liquids stream that are approaching the end of useful and/or economic service life due to conditions and/or age and where routine maintenance and renewal are no longer an effective activity.
- Replace facilities and infrastructure within the liquids stream that have reached the end of useful and/or economic service life due to conditions or age and where routine maintenance or renewal of the facility or infrastructure are no longer an effective activity.

Solids Handling

- Renew failed or failing electrical, mechanical, physical, and chemical systems within the solids stream to eliminate the environmental and fiscal liability associated with biosolids disposal.
- Renew failed or failing facilities and infrastructure within the solids stream to ensure that facilities and infrastructure housing electrical, mechanical, physical, and chemical systems continue to retain their essential protective or process function.
- Replace electrical, mechanical, physical, and chemical systems within the solids stream that are approaching the end of useful and/or economic service life due to conditions and/or age and where routine maintenance and renewal of these systems are no longer an effective activity.
- Replace facilities and infrastructure within the solids stream that have reached the end of useful and/or economic service life due to conditions and/or age and where routine maintenance or renewal of the facility or infrastructure are no longer an effective activity.

Other

- Renew failed or failing electrical, mechanical, and physical, systems associated with support buildings (e.g. treatment plant administrative

building, lab, etc.).

A. *CONVEYANCE*

INTRODUCTION

The Conveyance Subprogram provides the integrated processes to assess collection system, pump stations, buildings, and infrastructure that have an asset value of greater than \$100,000. Conveyance is designed to minimize life cycle costs of infrastructure assets while continuously delivering established levels of service.

Due to the significant value of these assets and their potential replacement/rehabilitation, formalized and structured processes (e.g. condition assessment, business case evaluation, etc.) will be employed to prioritize potential conveyance projects.

GOALS AND OBJECTIVES

The goal of Conveyance is to maximize the service life of existing pump stations, pipes, facilities, and infrastructure associated with the conveyance system owned and operated by WES at the lowest lifecycle cost. This goal will be achieved using three approaches: systematically assessing the condition of assets; determining the rehabilitation, replacement, and augmentation needs of equipment, facilities, and infrastructure assets; by identifying risks (likelihood/consequence) associated with asset failure;

and the development of the components of life cycle costs in an environment of limited resources. This approach will require the following practices:

- Implement project prioritization decision-making practices that will maximize the benefit of the capital dollars to achieve the lowest life cycle costs
- Develop and maintain asset inventory that includes asset location, valuation, and designed service life
- Identify critical assets in inventory that require routine maintenance or need rehabilitation or replacement
- Assign available funding or develop funding mechanisms to execute CIP projects
- Comply with Environmental Protection Agency's (EPA) Capacity, Management, Operations and Maintenance (CMOM) Program requirements for owner/operators of wastewater collection systems

PROGRAM ELEMENTS

Pump Stations

- Renew failed or failing electrical, mechanical, physical, and chemical systems at the conveyance system pump station to eliminate the environmental and fiscal liability associated with pump station failure.
- Renew failed or failing facilities and infrastructure at the conveyance system pump station to ensure facilities and infrastructure housing electrical,

mechanical, physical, and chemical systems continue to retain their essential protective or process function.

- Replace electrical, mechanical, physical, and chemical systems at the conveyance system pump station that are approaching the end of useful and/or economic service life due to conditions or age and where routine maintenance and renewal are no longer an effective activity.
- Replace facilities and infrastructure at the conveyance system pump station that have reached the end of useful and/or economic service life due to conditions or age and where routine maintenance or renewal is no longer an effective activity.

Collection System

- Renew failed or failing infrastructure systems (pipes, manholes, etc.) within the conveyance system to eliminate the environmental and fiscal liability associated with collection system failures.
- Replace infrastructure systems within the conveyance system that are approaching the end of useful and/or economic service life due to conditions or age and where routine maintenance and renewal are no longer effective.

B. STORM WATER

INTRODUCTION

The Storm Water Subprogram provides the integrated processes to assess Storm Water facility process-equipment, buildings, and infrastructure that have an asset value of greater than \$100,000. The Storm Water Subprogram is designed to minimize life cycle costs of infrastructure assets while continuously delivering established levels of service.

Due to the significant value of these assets and their potential replacement or rehabilitation, formalized and structured processes (e.g. condition assessment, business case evaluation, etc.) will be employed to prioritize potential storm water projects.

GOALS AND OBJECTIVES

The goal of Storm Water is to maximize the service life of existing storm water process-equipment, facilities, and infrastructure owned and operated by WES. This goal will be achieved by systematically assessing the condition of assets, determining the rehabilitation and replacement needs of equipment, facilities, and infrastructure assets. The goal will also be achieved by indentifying risks associated with asset failure and by developing life cycle costs. This approach will require the following practices:

- Implement project prioritization decision-making practices that will maximize the benefit of the capital dollars to achieve the lowest life cycle costs
- Develop and maintain asset inventory that includes asset location, valuation, and designed service life
- Identify critical assets in inventory that require routine maintenance or need for rehabilitation or replacement
- Assign available funding or develop funding mechanisms to execute storm water projects

PROGRAM ELEMENTS

Storm Water Asset Performance

The Storm Water Subprogram provides for the reconstruction of aging infrastructure and the reduction of flooding, pollution and other storm-related water issues. The subprogram builds projects that improve or construct drainage features, both structural and non-structural, including culverts, drains, ponds, and wetland restoration projects.

As part of preparing the CIP, the CCSD #1 storm water systems are evaluated for adequacy and replacement requirements. WES staff developed recommendations based on the review of citizens' requests for service, a business case evaluation, and consultation with internal Field Operations staff.

Various evaluation tools were utilized to make the recommendations outlined in the annual CIP. This includes evaluation of development, annexations, growth pattern communications with citizens, and the need to upgrade smaller size infrastructure or replace older lines due to a history of storm water problems. An Asset Management Program in conjunction with an active preventive maintenance program can identify problem areas that may require inclusion in the CIP and may include:

- Inspect storm water detention facilities
- Develop a storm water systems maintenance plan
- Investigate watershed and other large scale storm issues
- Assess risk of asset failure

Watershed Health & Habitat Protection

Watershed and habitat projects address the needs of the natural systems within CCSD #1. Project types include stream stabilization and enhancement, habitat rehabilitation, fish passage improvement, and buffer enhancement. An active preventive maintenance program is in place that can identify problem areas which may require inclusion in the CIP and may include:

- Condition assessment of district natural systems
 - Hydrology
 - Biological performance
 - Properly functioning conditions

-Measured water quality

-Discharge quality/quantity

- Risk analysis of District's natural systems
- Development of a natural systems maintenance plan

Asset Management Projects

Project	Program	SubProgram	Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Pumpstation Bases and Wetwell Lining & Assessment--Clackamas	Asset Management	Conveyance	Sewer Construction	\$ -	\$ 200,000	\$ -	\$ -	\$ -	\$ -	\$ 200,000
Pumpstation Bases and Wetwell Lining & Assessment--Sieben Lane	Asset Management	Conveyance	Sewer Construction	\$ -	\$ 100,000	\$ -	\$ -	\$ -	\$ -	\$ 100,000
Sandy River Lane Pump Station and Force Main Replacement	Asset Management	Conveyance	Sewer Construction	\$ -	\$ -	\$ -	\$ 500,000	\$ 1,000,000	\$ -	\$ 1,500,000
Slip Line Lower Phillips Sub-basin Gravity Sewer Line	Asset Management	Conveyance	Sewer Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 310,000	\$ 310,000
Slip Line Pipe Project - Sunnybrook	Asset Management	Conveyance	Sewer Construction	\$ -	\$ -	\$ 50,000	\$ 150,000	\$ -	\$ -	\$ 200,000
Sunrise Corridor Sewer Relocation	Asset Management	Conveyance	Sewer Construction	\$ 184,657	\$ 15,000	\$ 10,000	\$ -	\$ -	\$ -	\$ 209,657
Timberline Rim Force Main and Pump Station Rehabilitation	Asset Management	Conveyance	Sewer Construction	\$ -	\$ -	\$ -	\$ 505,000	\$ 1,000,000	\$ 1,000,000	\$ 2,505,000
Timberline Rim Gravity Sewer Line	Asset Management	Conveyance	Sewer Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 510,000	\$ 510,000
Asphalt Replacement - Hoodland WPCP	Asset Management	Treatment	Sewer Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 130,000	\$ 130,000
Asphalt Replacement - Kellogg WPCP	Asset Management	Treatment	Sewer Construction	\$ -	\$ -	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000
Clarifiers (Primary) Rebuild - Kellogg WPCP	Asset Management	Treatment	Sewer Construction	\$ 75,000	\$ 575,000	\$ 600,000	\$ -	\$ -	\$ -	\$ 1,250,000
Clarifiers (Secondary) Rebuild - Hoodland WPCP	Asset Management	Treatment	Sewer Construction	\$ -	\$ -	\$ -	\$ -	\$ 175,000	\$ 175,000	\$ 350,000
Clarifiers (Secondary) Rebuild - Kellogg WPCP	Asset Management	Treatment	Sewer Construction	\$ -	\$ -	\$ 50,000	\$ 175,000	\$ 225,000	\$ -	\$ 450,000
Digester Complex Roof Replacement - Kellogg WPCP	Asset Management	Treatment	Sewer Construction	\$ -	\$ -	\$ -	\$ 150,000	\$ -	\$ 150,000	\$ 300,000
Hoodland WPCP Emergency Repairs and Long Term Effluent Discharge Alternatives Plan, Design and Construction	Asset Management	Treatment	Sewer Construction	\$ 1,621,022	\$ -	\$ -	\$ -	\$ 3,000,000	\$ 2,600,000	\$ 7,221,022
Influent Pump Station Rehabilitation - Kellogg WPCP	Asset Management	Treatment	Sewer Construction	\$ 348,000	\$ 4,000,000	\$ 4,000,000	\$ -	\$ -	\$ -	\$ 8,348,000
Motor Control Centers and Automation Upgrade - Hoodland WPCP	Asset Management	Treatment	Sewer Construction	\$ -	\$ 175,000	\$ 50,000	\$ -	\$ -	\$ -	\$ 225,000
Utility Corridor Project - Kellogg WPCP	Asset Management	Treatment	Sewer Construction	\$ 100,000	\$ -	\$ 100,000	\$ 2,070,000	\$ -	\$ -	\$ 2,270,000
Waste Activated Sludge Thickening System Replace - Kellogg WPCP	Asset Management	Treatment	Sewer Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 350,000	\$ 350,000
				\$ 2,328,679	\$ 5,065,000	\$ 4,860,000	\$ 3,550,000	\$ 5,550,000	\$ 5,225,000	\$ 26,578,679

ASSET MANAGEMENT

Project Name: Pump Station Bases and Wet-well Lining & Assessment - Clackamas Pump Station

Subprogram: Conveyance

District: Clackamas County Service District No. 1

Project Description: This project is part of our pump station maintenance plan. The timing reflects when this effort will have the greatest impact. This project will replace pump bases and connection flanges, and line wet-well walls against corrosive elements. The pump bases and connection points need to be replaced to continue to provide proper system operation and maintain pump performance. The wet-well walls need to be protected from further degradation from corrosive elements that attack the concrete in the well walls. This project will return the pump station to its optimal performance level, reducing the need for future maintenance and creating operational savings.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1		\$200,000					\$200,000
Total							\$200,000



ASSET MANAGEMENT

Project Name: Pump Station Bases and Wet-well Lining & Assessment – Seiben Lane

Subprogram: Conveyance

District: Clackamas County Service District No. 1

Project Description: This project is part of our pump station maintenance plan. The timing reflects when this effort will have the greatest impact. This project will replace pump bases and connection flanges, and line wet-well walls against corrosive elements. The pump bases and connection points need to be replaced to continue to provide proper system operation and maintain pump performance. The wet-well walls need to be protected from further degradation from corrosive elements that attack the concrete in the well walls. This project will return the pump station to its optimal performance level, reducing the need for future maintenance and creating operational savings.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1		\$100,000					\$100,000
Total							\$100,000



ASSET MANAGEMENT

Project Name: Slip Line Pipe Project - Sunnybrook

Subprogram: Conveyance

District: Clackamas County Service District No. 1

Project Description: This collection system pipe located at Sunnybrook Boulevard attracts heavy use from the surrounding businesses in the area. Continual build-up of grease and large flows of other caustic materials mean this line requires a very high level of maintenance. This project provides a new lining in the existing collection system pipe that has been eroded by caustic elements in the flow coming from businesses in the area. Lining the pipe will reduce friction and increase flow through the line resulting in less maintenance and reduced operating costs, extending the life of the asset, and reduce inflow and infiltration which helps to preserve treatment capacity at the plant.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1			\$50,000	\$150,000			\$200,000
Total							\$200,000



ASSET MANAGEMENT

Project Name: Asphalt Replacement - Hoodland Water Pollution Control Plant

Subprogram: Treatment

District: Clackamas County Service District No. 1

Project Description: This project is a part of the regular capital maintenance of the Hoodland Plant. Asphalt at the Hoodland Plant is deteriorating due to the large temperature swings experienced over time in this area and the impact of being driven on by large trucks. This asset needs to be replaced and/or seal coated regularly to insure the safety of operators and contractors who drive over this area with heavy equipment regularly.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1						\$130,000	\$130,000
Total							\$130,000



ASSET MANAGEMENT

Project Name: Asphalt Replacement - Kellogg Water Pollution Control Plant

Subprogram: Treatment

District: Clackamas County Service District No. 1

Project Description: This project is a part of the regular capital maintenance of the Kellogg Plant. The asphalt at the plant is deteriorating due to the high volume and weight of use experienced over time. The most significant use is by the large trucks in the biosolids fleet making multiple trips in and out of the plant daily. This asset will have outlived its useful life and will need to be replaced.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1					\$150,000		\$150,000
Total							\$150,000



ASSET MANAGEMENT

Project Name: Clarifiers (Primary) Rebuild - Kellogg Water Pollution Control Plant

Subprogram: Treatment

District: Clackamas County Service District No. 1

Project Description: The primary clarifiers are a critical component of the wastewater treatment process. Malfunctioning primary clarifiers would create a complete disruption to the treatment process, resulting in significant river pollution and permit violations. The existing clarifiers were last rebuilt in 1994 and those repairs have outlived their useful life.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1	\$75,000	\$575,000	\$600,000				\$1,250,000
Total							\$1,250,000



ASSET MANAGEMENT

Project Name: Clarifiers (Secondary) Rebuild - Hoodland Water Pollution Control Plant

Subprogram: Treatment

District: Clackamas County Service District No. 1

Project Description: The secondary clarifier drives are a critical mechanical component of the wastewater process. Their malfunction would result in a significant disruption to the treatment process and cause permit violations. They operate continuously and were last rebuilt in 1997.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1					\$175,000	\$175,000	\$350,000
Total							\$350,000



ASSET MANAGEMENT

Project Name: Clarifiers (Secondary) Rebuild - Kellogg Water Pollution Control Plant

Subprogram: Treatment

District: Clackamas County Service District No. 1

Project Description: The secondary clarifier drives are a critical component of the wastewater process. Their malfunction would result in a significant disruption to the treatment process and cause permit violations. They operate continuously and were last rebuilt in 1977.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1			\$50,000	\$175,000	\$225,000		\$450,000
Total							\$450,000



ASSET MANAGEMENT

Project Name: Digester Complex Roof Replacement - Kellogg Water Pollution Control Plan

Subprogram: Treatment

District: Clackamas County Service District No. 1

Project Description: The protective membrane coating on the top of the digesters, installed in 1987, is at the end of its useful life and needs to be replaced to continue protecting the structure from the elements. This project will have the added benefit of helping to maintain the temperature in the digesters critical to their optimal use and will assist in avoiding additional repairs that can come from a leaking roof.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1				\$150,000		\$150,000	\$300,000
Total							\$300,000



ASSET MANAGEMENT

Project Name: Hoodland Water Pollution Control Plant Emergency Repairs and Long Term Effluent Discharge Alternatives Plan, Design, and Construction

Subprogram: Asset Management

District: Clackamas County Service District No. 1

Project Description: The Sandy River flood in January 2011 disabled the river outfall used by the Hoodland treatment facility. The District initiated an emergency repair plan in coordination with DEQ to install a temporary repair maintaining adequate mixing of the discharge to continue to meet permit requirements. At the same time, an alternatives analysis began to look at different ways the District can discharge treated wastewater efficiently and within permit requirements without discharging directly to the Sandy River, which has a long history of shifting its flow, requiring expensive repairs to the outfall as recently as 1998. The District's desire is to find an alternative that limits dependence on the traditional river outfall to emergency overflows only. The District has completed the temporary repairs and has agreed to meet DEQ's request to finalize a permanent discharge alternative by 2014. This budget includes temporary repairs as well as the alternatives analysis and estimated design and construction costs for the selected alternative.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1	\$1,621,022				\$3,000,000	\$2,600,000	\$7,221,022
Total							\$7,221,022



ASSET MANAGEMENT

Project Name: Motor Control Centers and Automation Upgrade - Hoodland Water Pollution Control Plant

Subprogram: Treatment

District: Clackamas County Service District No. 1

Project Description: The motor control centers at the Hoodland Water Pollution Control Plant are over 30 years old. The equipment is obsolete and replacement components are difficult and sometimes impossible to procure. The project includes the asset replacement of all of the motor control center hardware, new wiring and added control system automation.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1		\$175,000	\$50,000				\$225,000
Total							\$225,000



BIOSOLIDS



Biosolids Program

PROGRAM INTRODUCTION

The Biosolids Program manages Class B biosolids generated at the Tri-City Water Pollution Control Plant (WPCP), the Kellogg Creek WPCP and the Hoodland Sewage Treatment Plant (STP). Biosolids are defined as the organic **product** of municipal wastewater treatment that can be beneficially used. At present, the program's primary management strategy is hauling biosolids from the treatment plants and applying it to agricultural land as a soil conditioner and fertilizer.

The Hoodland and Kellogg Creek plants produce a liquid biosolids product. This product is hauled to and applied on agricultural land in Clackamas County by WES staff for a nominal fee. When land application of the liquid product is not possible due to weather, field availability, or other barriers, it is directed to the Tri-City WPCP for dewatering and subsequent transport to Sherman County for land application. CCSD #1 compensates Tri-City Service District for this service in accordance with the established Intergovernmental Agreement.

The Tri-City WPCP produces a dewatered biosolids (cake) product that is hauled to and applied on agricultural land in Eastern Oregon (Sherman County).

GOALS AND OBJECTIVES

The focused and immediate goals of the Biosolids Program are to:

- Commence the second phase of the strategic planning effort to determine the future direction of the program. This decision will establish the direction for the Biosolids Program and drive capital investments for the plants and the Biosolids Program.
- Continue to remove biosolids from the plants to support continued efficient and compliant plant operations.
- Continue to pursue short term cost effective and risk adverse options for biosolids management while the strategic planning effort identifies a long term solution.

SUBPROGRAMS

Distribution

- WES owns and operates a fleet of 28 trucks and other large equipment required to accomplish the hauling and land application of biosolids. This fleet includes large tractors and trailers to move dewatered and liquid product to land application sites, front end loaders and Terragators®.
- The biosolids fleet replacement program uses the best practices method as the primary tool for

establishing replacement cycles. To the extent possible, financial smoothing across a ten to twenty year planning period is the goal.

Figure 1: Truck and trailer for liquids



Figure 2: Trailer for dewatered biosolids



Biosolids Projects

Project	Program	SubProgram	Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	Total
CCSD #1 Biosolids Fleet Replacement	Biosolids	Distribution	Sewer Construction	\$ -	\$ -		\$ 200,000		\$ 200,000	\$ 400,000
TCSD Biosolids Fleet Replacement	Biosolids	Distribution	Sewer Construction	\$ -	\$ -	\$ 350,000		\$ 150,000		\$ 500,000
				\$ -	\$ -	\$ 350,000	\$ 200,000	\$ 150,000	\$ 200,000	\$ 900,000

BIOSOLIDS

Project Name: CCSD #1 Biosolids Fleet Replacement

Subprogram: Distribution

District: Clackamas County Service District No. 1

Project Description: We anticipate the need for replacement of two liquid hauling tractors; one in FY16-17 and one in FY18-19. This purchase continues to replace an aging fleet.

2016-17 Includes: One liquid hauling tractor

2018-19 Includes: One liquid hauling tractor

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1				\$200,000		\$200,000	\$400,000
Total							\$400,000



BIOSOLIDS

Project Name: Tri-City Biosolids Fleet Replacement

Subprogram: Distribution

District: Clackamas County Service District No. 1/ Tri-City Service District**

Project Description: In FY2012-13 Clackamas County Service District No. 1 and Tri-City Service District jointly purchased a new cake hauling truck and pup to increase productivity by reducing staff hours and fuel consumption when hauling cake to Eastern Oregon. We anticipate the need for a new truck and pup in FY2015-16 when another truck in the existing fleet will need replacement. WES uses a Terragator® to spread the cake biosolids after they are delivered to the site in Eastern Oregon. A new Terragator® (or similar) is needed in FY2015-16. Both the Terragator® and the truck and pup are a joint investment between Clackamas County Service District No. 1 and Tri-City Service District.

2015-16 Includes: New Double Cake Truck and Pup and a Cake Terragator® (shared investment with Tri-City Service District).

2017-18 Includes: New Double Cake Truck and Pup (shared investment with Tri-City Service District).

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1			\$350,000		\$150,000		\$500,000
TCSD			\$350,000		\$150,000		\$500,000
Total							\$1,000,000

** This is a jointly funded project between the two Districts.



CAPACITY MANAGEMENT



Capacity Management Program

INTRODUCTION

The Capacity Management Program will provide capital assets to serve growth-related needs. These assets must expand the conveyance, treatment, or inflow and infiltration (I&I) issues to each district, have a larger cost (greater than \$100,000), higher risk, require the involvement of stakeholders external to Water Environment Services (WES), and require expertise external to WES. The planning, design, and construction of these assets are the responsibility of the Capacity Management Program.

A. SANITARY SEWAGE TREATMENT CAPACITY

INTRODUCTION

The Sanitary Sewage Treatment Capacity Subprogram provides for the systematic construction of new facilities necessary to provide sanitary sewage treatment services for growth. The focus is on treatment facilities with one or more of the following characteristics: a cost greater than \$100,000; come with some amount of systemic risk; would benefit from stakeholder involvement; and require expertise external to WES. Its intent is to provide a district-wide approach for those assets not normally covered under the Asset Management Program or Operating Program, but is equally important to maintain the integrity of the treatment systems of the District. The

Treatment Capacity Program was designed to ensure that the District is addressing growth proactively and with an acceptable approach to the financing that works for the District and rate payer financial needs.

The financial impact as well as the scale of these projects require thorough planning and design efforts. Criteria and decision tools employed under this effort tends to be more quantitative in nature, relying primarily on a formal business case evaluation approach. Qualitative tools, including ratepayer surveys and customer outreach, play a role influencing both the ultimate project and its timing. The budgeting approach will be developed within the District's Capital Improvement Plan. This provides the longer time frame for developing both the financing and planning approaches for these significant projects.

GOALS AND OBJECTIVES

The goal of the Treatment Capacity Subprogram is to provide the critical and significant assets needed to serve growth in treatment needs within the District and to do so in a manner that addresses financing, risk management, and existing system needs collectively in the manner most acceptable to District customers, regulators, and stakeholders. This goal can be achieved through the annual Capital Improvement Planning Process where projects are identified, cost and timing are estimated, and

a rigorous Business Case Evaluation is performed to help determine project priority.

The approach to determining the need for a Treatment Capacity Project requires the following:

- Accurate forecasts of customer growth are developed and maintained
- Identify critical aspects of the overall treatment process affected by growth
- Preliminary planning efforts are undertaken to define the specific project need, timing, and cost
- The project is included in the next annual capital planning process
- The project is then included in the appropriate budget year where project design is initiated, and staffing and Department resources are identified to construct the project

PROGRAM ELEMENTS

Solids Handling

- Solids handling capacity for both Districts will be fully utilized within the next ten to fifteen years assuming current practices continue. In 2013, a Site Master Plan Update was completed. Called Phase II of the Capacity Management Program, it identified the timing for a series of capital improvements in the areas of wet weather, solids handling, and general improvements to meet

growth needs for TCSD and CCSD #1 for the next 20 years. Phase II efforts included in this plan are the Intertie #3 project and the planning for future power expansion. Intertie #3 will be funded by CCSD #1. All other Phase II projects will be co-investments between CCSD #1 and TCSD at the Tri-City facility. In addition, an effort is currently underway to examine alternative business plans for the Biosolids and Energy Programs that will, in turn, impact both the timing and need for additional solids handling facilities. This effort began in 2012 and will continue over the next two to three years with facilities design beginning by 2018.

Liquids Handling

- Phase I of the Capacity Management Plan for CCSD #1 was completed in FY 2012-13. This \$132 million effort provided “catch-up” capacity for CCSD #1 as well as additional capacity for future growth for CCSD #1 and TCSD. Initially, this additional capacity was estimated to provide for growth through FY 2014-15. With the completion of the Tri-City WPCP Site Master Plan in 2013, existing liquids capacity is now estimated to last until approximately 2050. Additional wet weather facilities will be needed by 2029. Though facilities are not needed for some time, WES has initiated a study of system Inflow and Infiltration (I&I) in

both TCSD (working with member cities who are responsible for collection in the district) and CCSD #1 with the ultimate goal of balancing investment in collection and conveyance systems with investments in treatment capacity to arrive at the lowest, most effective level of investment in liquids treatment facilities overall.

ISSUES AND CONCERNS

These program elements will require significant funding and thus will put considerable pressure on future rates. Coordinating these financial pressures with all other Programs will provide a challenge to future financial planning efforts for both Districts. Thorough planning and pre-design efforts are necessary to assure proper sizing and timing of future construction efforts to assure maximum rate payer benefit.

B. SANITARY SEWAGE COLLECTION SYSTEM CAPACITY

INTRODUCTION

The Sanitary Sewage Collection System Capacity Subprogram provides for the systematic construction of new facilities necessary to provide sanitary sewage collection services for growth in CCSD #1. The focus is on collection system facilities with one or more of the following characteristics: a cost of over \$100,000; come with some amount of systemic risk; would benefit from

stakeholder involvement; and require expertise external to the Department. Its intent is to provide a district wide approach for those assets not normally covered under the Asset Management Program or Operating Program but is equally important to maintain the integrity of the collection system of CCSD #1. The Collection System Capacity Subprogram was designed to ensure that CCSD #1 is addressing growth proactively and with an acceptable approach to the financing that works for the rate payers.

The financial impact, as well as the scale of these projects, require thorough planning and design efforts. Criteria and decision tools employed under this effort tends to be more quantitative in nature relaying primarily on a formal business case evaluation approach. Qualitative tools including ratepayer surveys and customer outreach play a role influencing both the ultimate project and its timing. The budgeting approach will be developed within the Capital Improvement Plan of CCSD #1. This provides a longer time frame for developing both the financing and planning approaches for these significant projects.

GOALS AND OBJECTIVES

The goal of the Collection System Capacity Subprogram is to provide the critical and significant assets needed to serve growth in collection system needs within CCSD #1 and to do so in a manner that addresses financing, risk

management, and existing system needs collectively in the manner most acceptable to District customers, regulators, and stakeholders. This goal can be achieved through the annual Capital Improvement Planning Process where projects are identified, cost and timing are estimated, and a rigorous Business Case Evaluation is performed to help determine project priority.

The approach to determining the need for a Collection System Capacity Project requires that the following practices are employed:

- Accurate forecasts of customer growth are developed and maintained
- Identify critical aspects of the overall treatment process affected by growth
- Preliminary planning efforts are used to define the specific project need, timing and cost
- The project is included in the next annual capital planning process
- The project is then included in the appropriate budget year where project design is initiated and staffing and Department resources are identified to construct the project

PROGRAM ELEMENTS

Collection piping

- Collection systems are frequently constructed by home developers and donated to CCSD #1. The

District also has an active program for installing collection piping in areas that are not currently connected to the district system. These are often small projects where new customers pay a connection charge to repay CCSD #1 for the project. Larger efforts pay the District back through the creation of an associated assessment district where customers benefiting from the project pay CCSD #1 in annual installments over a longer time frame. The latest example of this type of effort has been the North Clackamas Revitalization Area (NCRA) project which was completed in FY 2012-13.

Interceptors/Pump Stations

- The next major effort for CCSD #1 will be the design and construction of an interceptor system in the Clackamas area of the District. This project is currently delayed beyond the 5-year planning horizon of the CIP due to the slower customer growth CCSD #1 will continue to experience for the near future. This project will ultimately cost \$30 to \$40 million.

ISSUES AND CONCERNS

The interceptor/pump station element will require significant funding and thus will put significant pressure on future rates. Coordinating these financial pressures

with all other Programs will provide a challenge to future financial planning efforts for both Districts. Thorough planning and pre-design efforts are necessary to assure proper sizing and timing of future construction efforts to assure maximum rate payer benefit.

C. INFLOW AND INFILTRATION MITIGATION

INTRODUCTION

The Inflow and Infiltration Mitigation Subprogram provides evaluation and mitigation of inflow and infiltration into the collection system of CCSD #1 and supports similar efforts for the collection systems feeding into TCSD. These efforts will consider the costs and benefits of such efforts in terms of their ability to add treatment capacity by reducing the need to transmit and treat ground water making its way into the collection systems supporting the Districts.

The scale of these projects requires initial planning and design efforts as well as coordination with the cities within CCSD #1 and the cities feeding into TCSD. Criteria and decision tools employed under this effort tend to be more quantitative in nature relying primarily on a formal business case evaluation approach. Qualitative tools, including ratepayer surveys and customer outreach, play a particularly significant role influencing both the ultimate project and its timing when

working with all affected cities. The budgeting approach will be developed within the Capital Improvement Plan of the Districts and in coordination with the members of TCSD. This provides a longer time frame for developing both the financing and planning approaches for these significant projects.

GOALS AND OBJECTIVES

The goal of the Inflow and Infiltration Mitigation Subprogram is to provide the assets and resources needed to address the most effective opportunities for mitigation. Typically, the most attractive opportunities will provide additional treatment capacity by effectively and efficiently reducing Inflow and Infiltration at a cost that is significantly less than the cost of building new treatment capacity. The goal is to serve growth in collection and treatment system needs within the Districts and to do so in a manner that addresses financing, risk management, and existing system needs collectively in the manner most acceptable to District customers, regulators, and stakeholders. This goal can be achieved through the annual Capital Improvement Planning Process where projects are identified, cost and timing are estimated, and a rigorous Business Case Evaluation is performed to help determine project priority.

The approach to determining the need for an Inflow and Infiltration Mitigation Project requires the following:

- Develop and maintain accurate forecasts of customer growth
- Identify critical aspects of the overall collection process affected by growth
- Implement a robust flow management program for both Districts
- Undertake preliminary planning efforts to define the specific project need, timing, and cost
- Include the project in the next annual capital planning process
- Include the project in the appropriate budget year where project design is initiated
- Identify staffing and department resources to construct the project

have yet to be investigated and so are not yet reflected in the CIP or the budget for CCSD #1.

ISSUES AND CONCERNS

The level of funding could put significant pressure on future rates. These efforts have yet to be investigated and rely on coordination of the entities involved. As important is the development of a significant flow management system for each District that is critical to developing a successful effort.

PROGRAM ELEMENTS

Cities Support

- Provide financial support for cities in both Districts to correct identified I&I projects. This financial support has yet to be investigated and is not yet reflected in the CIP or the budget for either District.

Unincorporated Area Support

- CCSD #1 will directly pursue identified I&I projects located within the areas of the District that are served directly by the District. These efforts

Capacity Management Projects

Project	Program	SubProgram	Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Phase II - Intertie #3	Capacity Management	Treatment-Sewer	Sewer SDC/Construction	\$ -	\$ -	\$ 200,000	\$ 800,000	\$ 8,500,000	\$ 4,750,000	\$ 14,250,000
Phase II - Power/Electrical Expansion	Capacity Management	Treatment-Sewer	Sewer SDC/Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 189,000	\$ 189,000
				\$ -	\$ -	\$ 200,000	\$ 800,000	\$ 8,500,000	\$ 4,939,000	\$ 14,439,000

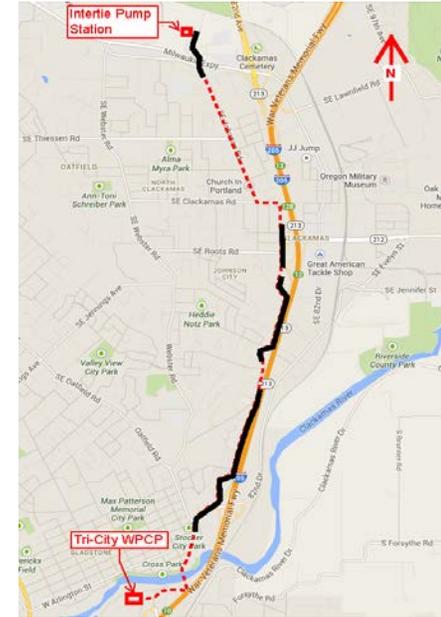
CAPACITY MANAGEMENT

Project Name: Phase II, Intertie #3

Subprogram: Treatment - Sewer

District: Clackamas County Service District No. 1

Project Description: An additional diversion pipeline from the capacity-limited Kellogg WPCP to the Tri-City WPCP is needed to divert wet weather flows and avoid sanitary sewer overflows during storm events. This is the first scheduled project for Phase II of the Tri-City WPCP Site Master Plan update that was completed in June of 2013. Intertie #1 was completed in 1998 which diverts industrial flows from CCSD #1 to the Tri-City WPCP. Intertie #2 was completed in 2013 as a part of Phase 1 of the Capacity Management Program. At the time Intertie #2 was being constructed, portions of Intertie #3 were added into the project in areas where access was difficult and/or expensive. This project includes constructing the remaining portions of this third, 30-inch intertie.



Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1			\$200,000	\$800,000	\$8,500,000	\$4,750,000	\$14,250,000
Total							\$14,250,000

CAPACITY MANAGEMENT

Project Name: Phase II - Power/Electrical Expansion

Subprogram: Treatment - Sewer

District: Clackamas County Service District No. 1/Tri-City Service District **



Project Description: Additional, long-term power capabilities will be necessary for the Tri-City WPCP to support Phase II projects to be constructed during its 20-year time frame. This project includes new switchgear and standby generators, and an expanded electrical system as well as the need to move the entire electrical system out of the 100-year flood plain. Planning and design will begin in 2018-19 and is estimated to be completed in 2019-20 for a total cost of \$2.5 million.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1						\$189,000	\$189,000
TCSD						\$111,000	\$111,000
Total							\$200,000

** This is a jointly funded project between the two Districts.

ENERGY



Energy Program

PROGRAM INTRODUCTION

The Energy Program at WES is emerging. The Energy Program is focused on reducing energy consumption and increasing the production of energy from the treatment of wastewater.

As utility bills continue to rise, energy management becomes critical to controlling rates, which is a major driver in decisions made at WES.

GOALS AND OBJECTIVES

- Engage in a strategic planning effort to determine the future direction of the program. This decision will establish the direction for the energy program and drive capital investments for the plants.
- Aggressively pursue opportunities for energy conservation.

PROGRAM ELEMENTS

1. Conservation

Initial efforts are focused on opportunities to conserve energy in the treatment plants and pump stations. This

includes equipment efficiency updates and operational changes.

2. Generation

Opportunities for energy generation exist at various locations in the plant. Examples include hydro, extracting heat from the effluent and biogas production.

3. Program Management

Program oversight, direction, policy development, regulatory compliance and strategic planning drive program management. Coordination with Operations and the overall strategic plan of the department assure program success and achievement of the programs strategic intent.

ISSUES AND CONCERNS

The issues and concerns for the Energy Program include: air permit impacts, selecting the right technologies to meet WES goals, locating end users within the designated geographic area, and funding energy recovery technologies

Energy Projects

Project	Program	SubProgram	Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Engine Co-Generator Replacement - Digester Building	Energy	Generation	Sewer Construction	\$ -	\$ 200,000	\$ 2,300,000	\$ -	\$ -	\$ -	\$ 2,500,000
				\$ -	\$ 200,000	\$ 2,300,000	\$ -	\$ -	\$ -	\$ 2,500,000

FLEET



Fleet Program

PROGRAM INTRODUCTION

The vehicle replacement program is a recent addition to the Districts CIP process. Its purpose is to holistically manage the capital needs associated with fleet purchases that are not directly tied to any one project or program. In general, this program covers transportation related expenditures that supports, either directly or indirectly, the services provided by district staff including line and administrative functions. The rolling stock, except specialized equipment, is normally maintained by Clackamas County utilizing their fleet maintenance programming. The County in turn charges the district for the vehicle maintenance work and fleet management. When a vehicle is identified for near term replacement, District staff places the replacement on the five year capital plan so it can be balanced with other budget, safety and rate considerations.

GOALS AND OBJECTIVES

The goal of this program is to systematically replace District vehicles to minimize the impact on rates without adversely impacting service levels.

ISSUES AND CONCERNS

The District currently faces a backlog of old and outdated

vehicles. Historically each operating program or functional group has purchased vehicles and other rolling stock based on their needs and available capital without regard to a more encompassing District fleet capital plan. The District is still in its infancy in developing an affordable fleet replacement program and has chosen to consolidate and re-distribute the fleet among district programs until a management strategy is fully developed.

The District intends to utilize some form of the Oregon Department of Transportation model developed with Oregon State University to make vehicle replacement decisions. The program assessed the replacement and maintenance cost of each type of equipment to determine the most cost-effective time to replace. Decisions are based on miles, hours and age of equipment weighted with economic and useful life cycle projects of the equipment.

Fleet Projects

Project	Program	SubProgram	Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Miscellaneous CCSD #1 Fleet Replacement	Fleet			\$ -	\$ 137,327	\$ 142,062	\$ 140,698	\$ 135,734	\$ 140,174	\$ 695,995
				\$ -	\$ 137,327	\$ 142,062	\$ 140,698	\$ 135,734	\$ 140,174	\$ 695,995

Vehicle Description	Loc	Prog	2014-15	2015-16	2016-17	2017-18	2018-19	Total
ASSET MANAGEMENT								
2005 Toyota Prius	CC	AM	\$ -	\$ -	\$ -	\$ -	\$ 29,568	\$ 29,568
			\$ -	\$ -	\$ -	\$ -	\$ 29,568	\$ 29,568
BIOSOLIDS								
1995 Ford F350 (terragator fuel truck)	CC	BS	\$ 29,698	\$ -	\$ -	\$ -	\$ -	\$ 29,698
			\$ 29,698	\$ -	\$ -	\$ -	\$ -	\$ 29,698
CONSTRUCTION MANAGEMENT								
2002 Ford F150 4x4 Pickup CIP	DSB	CMP	\$ -	\$ -	\$ -	\$ 29,285	\$ -	\$ 29,285
2008 Ford F150 Super Cab 4x4	DSB	CMP	\$ -	\$ -	\$ -	\$ -	\$ 26,209	\$ 26,209
			\$ -	\$ -	\$ -	\$ 29,285	\$ 26,209	\$ 55,494
LAB								
2004 Ford F-150 Supercab	CC	Lab	\$ -	\$ 22,126	\$ -	\$ -	\$ -	\$ 22,126
			\$ -	\$ 22,126	\$ -	\$ -	\$ -	\$ 22,126
SURFACE WATER								
2001 Ford Ranger Pickup	DSB	SW	\$ -	\$ -	\$ -	\$ 23,286	\$ -	\$ 23,286
1995 Chev S10	DSB	SW	\$ -	\$ -	\$ -	\$ -	\$ 26,466	\$ 26,466
			\$ -	\$ -	\$ -	\$ 23,286	\$ 26,466	\$ 49,751
POOL VEHICLES								
2001 Ford Ranger Pickup	DSB	Pool	\$ -	\$ 23,148	\$ -	\$ -	\$ -	\$ 23,148
2002 Chevy Astro Van	DSB	Pool	\$ 26,761	\$ -	\$ -	\$ -	\$ -	\$ 26,761
2004 Toyota Prius	DSB	Pool	\$ -	\$ -	\$ -	\$ 30,722	\$ -	\$ 30,722
			\$ 26,761	\$ 23,148	\$ -	\$ 30,722	\$ -	\$ 80,631
OPERATIONS								
2001 Ford Ext Cab F350	CC	OPS	\$ -	\$ -	\$ 33,938	\$ -	\$ -	\$ 33,938
2001 Ford F550 Cab Chasis (BOOM)	CC	OPS	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2005 1 Ton Chev Extend Cab 4x4	CC	OPS	\$ -	\$ -	\$ 29,302	\$ 29,302	\$ -	\$ 58,604
2005 1 Ton Ford Extend Cab 4x4	CC	OPS	\$ -	\$ 29,523	\$ -	\$ -	\$ -	\$ 29,523
2005 1 Ton Ford Extend Cab 4x4	CC	OPS	\$ -	\$ -	\$ 29,523	\$ -	\$ -	\$ 29,523
2006 Chev Colorado Pickup	CC	OPS	\$ 20,246	\$ -	\$ -	\$ -	\$ -	\$ 20,246
2006 Chev Colorado Pickup	CC	OPS	\$ -	\$ 20,246	\$ -	\$ -	\$ -	\$ 20,246
2007 Chev 4 x 4 Ext Cab Pickup	CC	OPS	\$ -	\$ -	\$ -	\$ -	\$ 30,199	\$ 30,199
2008 Ford E450 Cab Chassis	CC	OPS	\$ 32,891	\$ -	\$ -	\$ -	\$ -	\$ 32,891
1985 Dodge (PICKUP)	CC	OPS	\$ -	\$ 18,010	\$ -	\$ -	\$ -	\$ 18,010
1994 Ford F250	CC	OPS	\$ -	\$ -	\$ 22,941	\$ -	\$ -	\$ 22,941
1996 JEEP Cherokee	CC	OPS	\$ -	\$ -	\$ 24,995	\$ -	\$ -	\$ 24,995
1997 Chevy Pickup	CC	OPS	\$ -	\$ -	\$ -	\$ -	\$ 27,731	\$ 27,731
1997 Chevy Pickup	CC	OPS	\$ 27,731	\$ -	\$ -	\$ -	\$ -	\$ 27,731
			\$ 80,869	\$ 67,779	\$ 140,698	\$ 29,302	\$ 57,931	\$ 376,579
SOILS								
2003 Ford F150 4x4	CC	Soils	\$ -	\$ 29,009	\$ -	\$ -	\$ -	\$ 29,009
2003 Ford Ranger 4 x 4	CC	Soils	\$ -	\$ -	\$ -	\$ 23,139	\$ -	\$ 23,139
			\$ -	\$ 29,009	\$ -	\$ 23,139	\$ -	\$ 52,148
			\$ 137,327	\$ 142,062	\$ 140,698	\$ 135,734	\$ 140,174	\$ 695,995

OPERATIONS



Operations Program

PROGRAM INTRODUCTION

The Operations program oversees the daily operation of five wastewater treatment facilities that treat over 6 billion gallons of wastewater annually. The program is responsible for the management of the daily operations of the sanitary sewer collection system in CCSD#1 servicing the unincorporated area of North Clackamas County as well as the Cities of Happy Valley, Boring, the Hoodland corridor, Milwaukie, Johnson City and Fischer's Forest Park near Redland. In the Tri-City District, the Operations program manages the daily operation of the wastewater treatment facilities at the Tri-City Wastewater Treatment Plant that serves the cities of Gladstone, Oregon City, and West Linn. Service areas are served by separate, noncontiguous collection systems that convey sewage to five wastewater treatment facilities:

- Tri-City Water Pollution Control Plant
- Kellogg Creek Water Pollution Control Plant
- Boring Water Pollution Control Plant
- Hoodland Water Pollution Control Plant
- Fischer's Forest Park Water Pollution Control Facility

PROGRAM ELEMENTS

System Optimization

- Capital improvements to maximize the efficiency and redundancy of the District process and delivery systems. These efforts typically include process modifications that improve treatment effectiveness, modify or add process controls and instrumentation that improve management of biological, chemical or physical processes, resize equipment to better match actual operating conditions, and/or improvements that mitigate operational challenges or on-going process problems.

Rehabilitation/Replacement

- This subprogram category is for replacement of existing process or system assets that have outlived their useful life or have historically been “labor intensive” to maintain in its designed service. This category is independent of the Asset Management Program in that it includes the smaller valued assets that are easier to replace or rehabilitate and are typically replaced or rehabilitated by in-house staff.

Modernization

- This subprogram identifies efforts that incorporate changing or emerging technologies into our existing processes that improve system performance or system management. This category may also include capital associated with pilot project work as a precursor to full implementation of a new technology.

Facilities Maintenance

- Capital projects necessary to maintain or assure the integrity of the existing building and grounds. These efforts may include repair activities, including mechanical, electrical, and instrumentation repairs or replacements that maintain the building environment, protect equipment from deterioration, or support a healthy work environment for District staff.

Inter-Agency Response

- Capital projects necessary for timely response to other agency's (county, city, ODOT) capital or maintenance improvement plans. Inter agency response projects are those that typically do not provide systems improvements to the District systems but require action because of the location

of District infrastructure in public right-of-way or as a condition of recorded easements

Property and Easement Procurement:

- Capital investments necessary to purchase (or secure) legal and binding rights to property and access easements to existing District facilities or to meet future growth prior to the execution of a Capacity Management project.

GOALS AND OBJECTIVES

The core function of the Operations Program is to manage and operate sewage treatment facilities, collection and conveyance systems, pump stations and other infrastructure to meet state and federal wastewater discharge permit requirements. The program is also focused on eliminating or reducing exposure to system failures that create flow induced violations. General program emphasis areas include:

- System Wide Integration
- Resource Reclamation
- Regulatory Compliance
- Maximize Efficiencies
- Maximize Effectiveness

Operations Projects

Project	Program	SubProgram	Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	Total
DTD Lawnfield Phase 3	Operations	Conveyance	Sewer Construction	\$ 180,202	\$ 8,000	\$ -	\$ -	\$ -	\$ -	\$ 188,202
Disinfection Replacement - Kellogg WPCP	Operations	Optimization	Sewer Construction	\$ 260,000	\$ 2,280,620	\$ -	\$ -	\$ -	\$ -	\$ 2,540,620
Field Operation Crew Shop	Operations	Optimization	Sewer Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Membrane Bioreactor Cassette Upgrade	Operations	Optimization	Sewer Construction	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Odor Control	Operations	Optimization	Sewer Construction	\$ 600,000	\$ 400,000	\$ -	\$ -	\$ -	\$ -	\$ 1,000,000
Outfall Improvement Project - Kellogg WPCP	Operations	Optimization	Sewer Construction	\$ 120,000	\$ 200,000	\$ 252,000	\$ 2,100,000	\$ -	\$ -	\$ 2,672,000
Process Improvements	Operations	Optimization	Sewer Construction	\$ -	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 500,000
SCADA	Operations	Optimization	Sewer SDC	\$ 322,308	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 1,322,308
Tri-City Screenings Building Barscreens	Operations	Optimization	Sewer Construction	\$ -	\$ 20,000	\$ -	\$ -	\$ -	\$ -	\$ 20,000
Aeration Basin Diffusers	Operations	Rehabilitation	Sewer Construction	\$ 150,000	\$ 530,000	\$ -	\$ -	\$ -	\$ -	\$ 680,000
Small Projects -- Operations	Operations	Rehabilitation	Sewer Construction	\$ -	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 400,000	\$ 2,000,000
Unspecified Asset Replacement -- Collection System	Operations	Rehabilitation	Sewer Construction	\$ -	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 2,500,000
Unspecified Asset Replacement -- Treatment System	Operations	Rehabilitation	Sewer Construction	\$ -	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 2,500,000
				\$ 1,632,510	\$ 5,138,620	\$ 1,952,000	\$ 3,800,000	\$ 1,700,000	\$ 1,700,000	\$ 15,923,130

OPERATIONS

Project Name: Field Operation Crew Shop

Subprogram: Optimization

District: Clackamas County Service District No. 1

Project Description: This project is for a new WES Field Operations line crew shop space. This group works on the collection system located throughout the District. The group is currently located at the Tri-City treatment facility. A new facility more strategically located optimizes the entire operation of the group. The facilities will include an enclosed equipment area, office space, and space for rolling stock.



Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1							
Total							

OPERATIONS

Project Name: Membrane Bioreactor Cassette Upgrade

Subprogram: Optimization

District: Clackamas County Service District No. 1

Project Description: The Membrane Bioreactor (MBR) is the centerpiece of the \$132 million Capacity Management Program that has been recently completed. The MBR uses specialized cassettes to produce the high level of treatment expected of the MBR. GE Water Process Technology has developed a new aeration system for these cassettes which reduces air requirements by 25-30%. This reduction will result in lower power costs and reduced maintenance requirements for the MBR.



Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1							
Total							

OPERATIONS

Project Name: Process Improvements

Subprogram: Optimization

District: Clackamas County Service District No. 1

Project Description: This funds small projects that will support increased efficiency in treatment plant operations. These can include software or monitoring equipment and systems.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1		\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$500,000
Total							\$500,000



OPERATIONS

Project Name: Systems Control and Data Acquisition (SCADA) System

Subprogram: Optimization

District: Clackamas County Service District No. 1



Project Description: Clackamas County recently installed a fiber optics grid. This grid provides connections to the Kellogg and Tri-City treatment facilities as well as the District’s pump stations, providing an opportunity for the District to enhance and standardize its Systems Control and Data Acquisition (SCADA) system. This system links electronically the wastewater treatment plants and contributing pump stations and enables the equipment to communicate and, in some cases, operate from a human interface system from a different location. With the new grid, the District can upgrade its SCADA software and hardware to current technology, enabling it to create operational efficiencies by providing real time operating data and allowing the monitoring of equipment operating conditions as well. The magnitude of this project requires a phased approach to upgrade all pump stations and flow monitoring stations.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1	\$322,308	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$1,322,308
Total							\$1,322,308

OPERATIONS

Project Name: Tri-City Screenings Building Barscreens

Subprogram: Optimization

District: Clackamas County Service District #1/Tri-City Service District**



Project Description: New barscreens would capture more of the inorganic material coming into the Tri-City treatment plant. All processes downstream from the barscreens, including the new Membrane Bioreactor owned by CCSD #1, would operate more efficiently from this increased level of screening. Three barscreens would be replaced and rake shelves would also be replaced. This project would be done in-house by the maintenance staff.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1		\$20,000					\$20,000
TCSO		\$80,000					\$80,000
Total							\$100,000

** This is a jointly funded project between the two Districts.

OPERATIONS

Project Name: Aeration Basin Diffusers

Subprogram: Rehabilitation

District: Clackamas County Service District No. 1



Project Description: The treatment plant requires large amounts of air for the bacteria used in the process of treating wastewater. Diffusers are used to efficiently distribute this large volume of air maximizing the efficiency of the bacterial treatment process. The existing diffusers are nearing the end of their useful life and require increasing levels of maintenance. Modern, energy saving diffusers are more reliable and less labor intensive, saving power and maintenance costs.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1	\$150,000	\$530,000					\$680,000
Total							\$680,000

OPERATIONS

Project Name: Unspecified Asset Replacement - Collection System

Subprogram: Rehabilitation

District: Clackamas County Service District No. 1

Project Description: This project is for yet to be identified, specific smaller capital replacement items throughout the collection system. Parts of the collection system are aging and this project provides the ability to be proactive in the replacement of important, aging components.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1		\$500,000	\$500,000	\$500,000	\$500,000	\$500,000	\$2,500,000
Total							\$2,500,000



REGULATORY



Regulatory Program

PROGRAM INTRODUCTION

The Regulatory Program provides technical internal support to other programs and divisions within Water Environment Services (WES) in two forms: research and analysis regarding current and future regulatory requirements, and development of state and federal regulations, procurements that enhance the Districts ability to meet future regulations. The Regulatory Program also coordinates National Pollution Discharge Elimination System (NPDES) and MS4 permit renewal and assists in compliance and reporting.

GOALS AND OBJECTIVES

Under general policy direction, provides analysis and interpretation of state and federal proposals, laws, rules and regulations and their impacts. Coordinates and manages all of WES' legislative and intergovernmental relationships with Congress, the State Legislature, agencies of the federal government, State of Oregon, and other units of government. Develops service levels to meet regulatory requirements and exceed the requirements, if they benefit our customers. Collaborates with other jurisdictions to identify and address regulations.

PROGRAM ELEMENTS

- **Government Affairs**
Coordinate and provide leadership and management for all of the Department's legislative and intergovernmental relationships with the State Legislature, agencies of the federal government, State of Oregon, and other units of government. Coordinate WES' regulatory requirements in a manner that consistently meets desired service levels.
- **Analysis**
Analyzes and interprets highly complex state and federal proposals, laws, rules and regulations and their impacts. Monitor standard operating procedures and reporting protocols required to meet regulations and permits.
- **Communications**
Engage, educate and inform stakeholders, and the public on WES' regulatory requirements and related issues through communications, public relations, and community outreach and media relations..

Regulatory Projects

Project	Program	SubProgram	Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Blue Heron - West Linn Facility Purchase and Restoration	Regulatory	Capacity Management	Sewer SDC	\$ 1,317,175	\$ 292,000	\$ 1,292,000	\$ 3,000	\$ -	\$ -	\$ 2,904,175
				\$ 1,317,175	\$ 292,000	\$ 1,292,000	\$ 3,000	\$ -	\$ -	\$ 2,904,175

REGULATORY

Project Name: Blue Heron - West Linn Facility Purchase and Restoration

Subprogram: Capacity Management

District: Clackamas County Service District No. 1/ Tri-City Service District **



Project Description: Includes the purchase, remediation, and restoration of the former Blue Heron Paper Company West Linn facility. The industrial wastewater treatment lagoon and outfall to the Willamette River provides the Districts with additional capacity for growth and economic development while maintaining the ability to meet regulatory requirements. The cost of the project will be jointly shared between the Districts and includes the purchase of the 39 acre site as well as the remediation and restoration of the 14 acre industrial wastewater treatment lagoon.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1	\$1,317,175	\$292,000	\$1,292,000	\$3,000			\$2,904,175
TCSD	\$1,295,294	\$292,000	\$1,292,000	\$3,000			\$2,882,294
Total							\$5,786,469

** This is a jointly funded project between the two Districts.

SURFACE WATER



Surface Water Management Program

PROGRAM INTRODUCTION

The Surface Water Management Program (SWM) provides surface water management services to District ratepayers. The program is responsible for managing stormwater runoff volume and water quality in both the piped and open-channel portions of the Districts' stormwater network. Its intent is to protect and improve the water quality of all in-District receiving streams.

The Surface Water Management Program elements include the following subprograms: infrastructure maintenance; riparian restoration; regulatory compliance; public outreach and education; and capital improvement.

PROGRAM GOALS AND OBJECTIVES

The goal of the Surface Water Management Program is to protect or improve the water quality in all in-District streams. This goal can be achieved through proactive maintenance of the District's stormwater infrastructure; restoration and enhancement of streamside vegetation; construction of regional water quality and flow control facilities; and a commitment to public outreach and education about stormwater issues. Determining program effectiveness plays a central role in how resources are allocated across these varied activities.

In order to maximize the cost-effectiveness of program activities, the SWM program implements strategies that are focused on achieving a long-term benefit for both the ratepayer and the environment.

- Leverage the resources of community groups and environmental organizations with similar goals to complete on-the-ground restoration projects
- Work with local schools to provide students with the resources they need to become stewards of the environment
- Prioritize and retrofit aging infrastructure to meet tougher regulatory requirements.
- Prioritize CIP projects to meet defined efficiency and effectiveness goals
- Identify synergistic opportunities that meet the objectives of other District programs

PROGRAM ELEMENTS

Infrastructure Maintenance: Maintain hard assets of piped stormwater network to ensure they are providing adequate flow control and water quality treatment.

- Regularly inspect and clean high-priority water quality facilities. Inspect pipes and culverts in order to ensure proper conveyance of stormwater.

- Track all maintenance activities in order to provide asset data for asset management program.

Riparian Restoration: Partner with community groups, local schools, and environmental organizations to improve the condition of streamside riparian areas.

- Remove invasive species and re-plant with native trees and shrubs that reduce the water temperature in the stream (critical for fish habitat) and stabilize stream banks so that erosion and sedimentation of streams is minimized. Streamside plantings also protect adjacent properties from soil loss due to unstable streambanks.

Public Outreach and Education: Provide District ratepayers with news and information about stormwater and water quality related issues and on-going District activities related to stormwater management.

- Involve local school students in on-the-ground educational activities related to stormwater management and water quality enhancement.
- Maintain SWM program website that provides up-to-date information on District activities and how citizens can become involved.

Capital Improvement Projects: Design and construct regional or sub-regional water quality or flow control projects that will provide cost-effective treatment for large areas of existing or new development. This results

in overall long-term benefit to the ratepayer by decreasing long-term cost of maintaining infrastructure or retrofitting under-served areas.

- Provide stormwater treatment to larger developments or groups of developments in a more centralized location rather than building and maintaining on-site systems.
- Improve flow control or water quality treatment in built-out areas where on-site retrofits are not cost effective.

ISSUES AND CONCERNS

The Surface Water Management Program issues and concerns include: regulatory requirements for both water quality and flow control are becoming more stringent. Long-term cost of retrofitting older infrastructure will be expensive; increased regulatory compliance requirements can conflict with community's desire for economic development. Must find solutions that work for both; and failure to properly fund and implement this program will increase the operations and maintenance labor and expenses with no net increase to revenues.

Surface Water Projects

Project	Program	SubProgram	Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	Total
Sunrise Corridor Development Response	Surface Water	Growth	SW SDC	\$ -	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 1,000,000
Infrastructure/Asset Enhancement	Surface Water	Optimization	SW SDC	\$ -	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 1,000,000
Priority Reach Restoration Projects	Surface Water	Optimization	Surface Water Construction	\$ -	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 500,000
Regional Decant Facility	Surface Water	Optimization	SW SDC/Construction	\$ -	\$ -	\$ 200,000	\$ 764,000	\$ -	\$ -	\$ 964,000
Rock Creek Restoration	Surface Water	Optimization	Surface Water Construction	\$ 100,000	\$ 350,000	\$ -	\$ -	\$ -	\$ -	\$ 450,000
Small Projects	Surface Water	Optimization	Surface Water Construction	\$ -	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 1,000,000
Three Creeks Regional Facility Redesign	Surface Water	Optimization	Surface Water Construction	\$ -	\$ 100,000	\$ 750,000	\$ -	\$ -	\$ -	\$ 850,000
Carli Property Regional Water Quality Facility	Surface Water	Optimization/Growth	SW SDC/Construction	\$ 808,302	\$ 250,000	\$ 2,000,000	\$ -	\$ -	\$ -	\$ 3,058,302
Regional Water Quality Facilities	Surface Water	Optimization/Growth	SW SDC/Construction	\$ -	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 200,000	\$ 1,000,000
				\$ 908,302	\$ 1,600,000	\$ 3,850,000	\$ 1,664,000	\$ 900,000	\$ 900,000	\$ 9,822,302

SURFACE WATER

Project Name: Sunrise Corridor Development Response

Subprogram: Growth

District: Clackamas County Service District No. 1

Project Description: The Oregon Department of Transportation (ODOT) is administering the Sunrise Jobs and Transportation Act (JTA) Project which started construction in 2012. The Sunrise Corridor project is proposed to construct a significant amount of new roadway to address the existing congestion and safety problems in the Oregon 212/224 corridor by constructing a new road from I-205 to 122nd Avenue and some local roadway connections serving the Lawnfield Industrial District. CCSD #1 is planning to study and facilitate a regional approach to manage the stormwater runoff in this area. This project may include the construction of a regional stormwater conveyance, water quality and quantity facilities.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1		\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$1,000,000
Total							\$1,000,000



SURFACE WATER

Project Name: Regional Decant Facility

Subprogram: Optimization

District: Clackamas County Service District No. 1

Project Description: Project includes design and construction of a regional decant facility that would potentially serve multiple entities including local jurisdictions. The existing decant facility is under-sized and an assessment of potential partner and customer relationships will be performed. This project could produce revenue from tipping fees charged beginning when the project is complete.

Project Costs:



Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1			\$200,000	\$764,000			\$964,000
Total							\$964,000

SURFACE WATER

Project Name: Rock Creek Restoration

Subprogram: Optimization

District: Clackamas County Service District No. 1



Project Description: Restore the existing degraded riparian and in-stream habitat at the mouth of Rock Creek. The project has been identified by the Oregon Dept. of Wildlife as a high priority stream reach for restoration. The project will improve the resiliency of Rock Creek to withstand the impacts of pending urbanization in the east Happy Valley area. Rock Creek is a tributary channel of the Clackamas River and it currently supports one of the largest anadromous fish populations in the urban area.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1	\$100,000	\$350,000					\$450,000
Total							\$400,000

SURFACE WATER

Project Name: Three Creeks Regional Facility Redesign

Subprogram: Optimization

District: Clackamas County Service District No. 1

Project Description: The purpose of this project is to eliminate the mechanical gate system which controls the rate of flow released from the facility. During the design phase of the project, options will be analyzed to determine the best alternative for mitigating peak flows in order to minimize the risk to the District's from third-party lawsuits.

Project Costs:



Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1		\$100,000	\$750,000				\$850,000
Total							\$850,000

SURFACE WATER

Project Name: Carli Property Regional Water Quality Facility

Subprogram: Optimization/Growth

District: Clackamas County Service District No. 1

Project Description: The purpose of the project is to increase the land available for industrial development by reducing or eliminating the land area needed for on-site treatment by constructing a regional water quality facility to treat stormwater runoff prior to discharge to the Clackamas River. This project will greatly improve the current level of water quality protection in the Clackamas River downstream of the facility.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1	\$808,302	\$250,000	\$2,000,000				\$3,058,302
Total							\$3,058,302



SURFACE WATER

Project Name: Regional Water Quality Facilities

Subprogram: Optimization/Growth

District: Clackamas County Service District No. 1

Project Description: Identify and procure land for the construction of regional or sub-regional water quality/detention facilities to serve redeveloped/developing areas in-lieu of requiring on-site detention as development occurs. Regional facilities facilitate growth by allowing the District to meet DEQ-mandated flow control requirements in a central location rather than requiring multiple on-site facilities that remove land from development and are expensive to maintain.

Project Costs:

Funding Source	Life to Date	2014-15	2015-16	2016-17	2017-18	2018-19	TOTAL
CCSD #1		\$200,000	\$200,000	\$200,000	\$200,000	\$200,000	\$1,000,000
Total							\$1,000,000



