CITY OF OREGON CITY
CITY COMMISSION WORK SESSION - CANCELLED
AGENDA

Virtual Meeting
Wednesday, February 03, 2021 at 6:00 PM

THIS MEETING HAS BEEN CANCELLED.

CONVENE WORK SESSION AND ROLL CALL

DISCUSSION ITEMS

1. Stormwater Rates and System Development Charges (SDC) Update

CITY MANAGER'S REPORT

ADJOURNMENT

PUBLIC COMMENT GUIDELINES

Complete a Comment Card prior to the meeting and submit it to the City Recorder. When the Mayor/Chair calls your name, proceed to the speaker table, and state your name and city of residence into the microphone. Each speaker is given three (3) minutes to speak. To assist in tracking your speaking time, refer to the timer on the table.

As a general practice, the City Commission does not engage in discussion with those making comments.

Electronic presentations are permitted but shall be delivered to the City Recorder 48 hours in advance of the meeting.

ADA NOTICE

The location is ADA accessible. Hearing devices may be requested from the City Recorder prior to the meeting. Individuals requiring other assistance must make their request known 48 hours preceding the meeting by contacting the City Recorder's Office at 503-657-0891.

Agenda Posted at City Hall, Pioneer Community Center, Library, City Website.

Video Streaming & Broadcasts: The meeting is streamed live on the Oregon City's website at www.orcity.org and available on demand following the meeting. The meeting can be viewed on Willamette Falls Television channel 28 for Oregon City area residents as a rebroadcast. Please contact WFMC at 503-650-0275 for a programming schedule.

CITY OF OREGON CITY

Staff Report

625 Center Street
Oregon City, OR 97045
503-657-0891

To: City Commission **Agenda Date:** 02/03/2021

From: Public Works Director John M. Lewis, PE

SUBJECT:

Stormwater Rates and System Development Charges (SDC) Update

STAFF RECOMMENDATION:

Consider and provide staff recommendations on moving forward with the Stormwater Rate and SDC updates needed to implement the City's adopted 2019 Stormwater Master Plan and Operating Expenses.

EXECUTIVE SUMMARY:

Stormwater rates and system development charges (SDCs) are in place, in part, to support the City's capital improvement plan (CIP). With the July 2019 Stormwater Master Plan adopted, the next logical step is for the City to update the stormwater rates and SDCs to support the newly-developed plan. The following presentation will discuss the results of the recent stormwater rate and SDC study, in alignment with Goal 5 from the City's 2019-2021 Goals, Priorities and Milestones. This goal addresses maintaining fiscal health and long-term stability and tasks the City with completing a rate study and SDC analysis and adopting appropriate charges to implement projects identified in the Stormwater Master Plan.

As recently discussed with the Commission (as it pertained to the water service), SDCs are paid by developers as new development (or redevelopment) occurs. These charges can be increased by the City Commission through a public hearing. Adjusting SDC rates sooner, rather than later, ensures that development contributes its share of the costs associated with more major infrastructure needed to serve growth to citywide buildout.

BACKGROUND:

The citywide Stormwater Master Plan guides stormwater-related priorities and capital improvement projects (CIPs) over the next 15 years. The City is currently managing more than 174 miles of stormwater infrastructure, including significant areas of aging systems. At the same time, the stormwater system will require continued expansion to

accommodate some of the City's future growth more specifically in the already developed areas of the City. Other future system improvements will be entirely built by the development community outside of SDC's but fully developer funded through conditions of approval. The Master Plan was developed to address immediate capacity needs, replace aging infrastructure, and provide regional solutions to larger flooding and water quality challenges. The updated CIP list and selected programmatic approaches included in this plan will facilitate prioritization of the City's resources and support future resource and financial planning.

The City contracted with FCS Group in March 2020 to gather information of the Stormwater Master Plan, analyze customer revenue, and expense data, and run rate analysis to support funding the improvements necessary to remedy system deficiencies and accommodate future growth. FCS Group has incorporated the findings included in the plan, reviewed current and expected operations cost, and incorporated base assumptions for financial targets.

Stormwater Rates

FCS Group will present three rate scenarios: baseline, moderate capital, and full capital. The scenarios are determined by the amount of annual revenue necessary to fund all financial obligations.

- **Baseline Level of Service** (LOS) includes only critical maintenance needs and critical master plan projects at an average of $1.7M per year.
- **Moderate Capital LOS** includes the baseline of critical maintenance needs with some deferred maintenance and funds all master plan projects at an average of $2.4M per year.
- **Full capital LOS** is all-inclusive of funding all master plan projects and all known deferred maintenance needs at an average of $3.2M per year.

Each level of service scenario is associated with differing rate increases and is evaluated with and without the use of debt funding. FCS Group will highlight the advantages and disadvantages of cash funding and debt funding. Unlike the water utility, monthly stormwater rates are not subject to the 3% limit set by the City Charter; and similar to SDCs, rates can be increased by the City Commission without voter approval.

Stormwater System Development Charges

FCS Group will also cover system development charges including reimbursement fee and improvement fee based upon the growth rate of equivalent service units. A few capital projects from the CIP list were determined to be growth-related resulting in a slight increase of the Stormwater SDC from the current $956/equivalent dwelling unit (EDU) to $1,070/EDU.

OPTIONS:

No action is required of the City Commission resulting from this presentation but confirmation or direction on specific expectations the City Commission would prefer to see moving forward is appreciated.

1.a Proceed with the SDC Public Hearing adoption process at the SDC rate recommended in the FCS Rate and SDC study. The increase of Stormwater SDC's is calculated to be a $114/EDU increase. Based on prior discussions with the City Commission on SDC changes, Staff recommend that the 90-day notice of a public hearing proceed; or

1.b Confirm that the Commission would prefer to hold up the SDC adoption process in favor of staff providing additional information. Specify what additional information is requested.

2.a Provide staff with guidance on which level of service option (rate scenario) is recommended to bring forth in a future Stormwater Rate Resolution; or

2.b Confirm whether any of the Stormwater Rate Debt Funding scenarios is supported by the City Commission knowing indebtedness as described in the Oregon City Charter Chapter XII, Section 57 requires voter approval; or

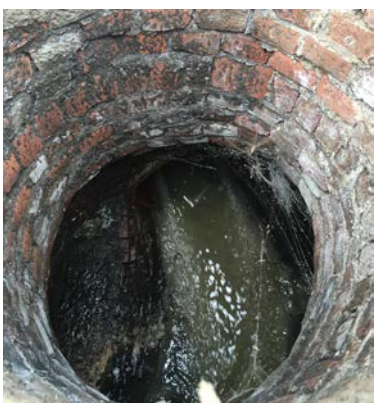
2.c Advise staff on any different rate scenario options the City Commission recommends for a future Stormwater Rate Resolution.

Brown AND Caldwell

FINAL REPORT | Prepared for
The City of Oregon City

Stormwater Master Plan

July 2019



Oregon City Stormwater Master Plan

Prepared for
City of Oregon City, Oregon
July 2019

March 18, 2020: Ordinance 19-1014
enacted which adopted the Plan

April 17, 2020: Effective date of
Ordinance 19-1014

Brown AND Caldwell

6500 SW Macadam Avenue, Suite 200
Portland, OR 97239
503.244.7005

Table of Contents

List of Figures

List of Tables

Executive Summary

The City of Oregon City (City) developed this citywide Stormwater Master Plan (Master Plan) to guide stormwater-related priorities and capital improvement projects (CIPs) over the next 10 to 15 years. The City is currently managing more than 174 miles of stormwater infrastructure, including significant areas of aging systems. At the same time, development rates and projections indicate that the stormwater system will require continued expansion to accommodate future growth. The City's previous Drainage Master Plan was completed in 1988 and is no longer relevant following nearly 30 years of development across the city.

The City needs a proactive plan to address immediate capacity needs, replace aging infrastructure, and provide regional solutions to larger flooding and water quality challenges. The updated CIP list and selected programmatic approaches included in this Master Plan will facilitate a prioritization of the City's resources and support future resource and financial planning.

Oregon City Stormwater Overview

Oregon City is the oldest city in Oregon with a rich history and strong community identity. In addition to its pioneer history, the city takes great pride in its connection to natural resources. The City's 11.92 square miles are drained by Abernethy Creek, Beaver Creek, the Clackamas River, and the Willamette River (see Figure ES-1). The eastern edge of the City borders Newell Canyon, which includes land that has been purchased by Metro for preservation. The City takes pride in being a gateway to Willamette Falls and is a partner in the Willamette Falls Legacy Project, which will provide public access to the falls and facilitate redevelopment of the historic Blue Heron Mill property.

The City manages more than 160 miles of piped stormwater infrastructure and 14 miles of roadside drainage ditches. Oregon City has some of the oldest utility infrastructure in the state, with some areas of underground infrastructure suspected to be more than 100 years old. The downtown area of the city and the Canemah neighborhood were once served by a combined sanitary sewer and storm system, which was separated in the 1980s and 1990s. The pipes that previously served the old combined system are still used for stormwater flows. The City currently has a growing database of information regarding underground utility conditions from closed circuit television (CCTV) surveys, allowing the City to make informed decisions on infrastructure improvements.

While significant areas of stormwater assets are aging, the city continues to grow and expand at the northern and southern ends of town, increasing the miles of pipes and infrastructure that need to be managed and maintained.

Providing stormwater conveyance to prevent flooding is the primary function of the City's stormwater infrastructure. The City has several drainage systems that are too small and unable to convey existing flows. As part of the master planning evaluations, a series of hydraulic models were developed to analyze the capacity of the conveyance infrastructure. The modeling was used to evaluate both existing conditions and future conditions when development expansion and infill is expected to increase flows to the conveyance system.

The City also has a robust program to address water quality through programmatic actions, such as illicit discharge investigations, construction site regulations, and stringent standards for new development and redevelopment. These water quality programs address water quality issues at the source because stormwater, unlike wastewater, does not drain to a centralized treatment facility.

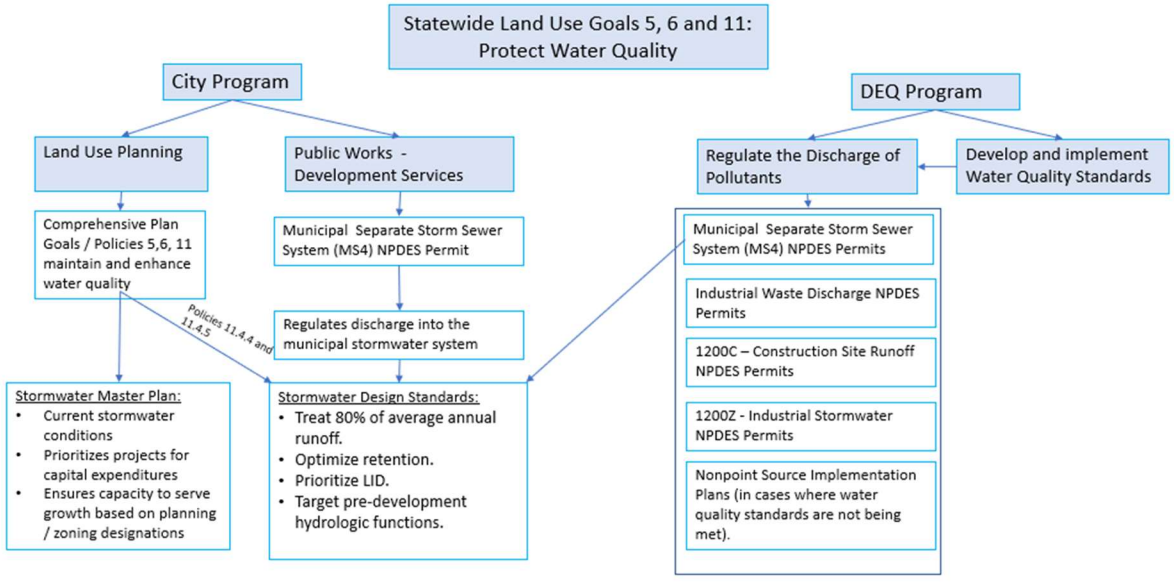
Improving water quality conditions through retrofit of existing stormwater infrastructure is an important element of the City's overall stormwater management program. The City's water quality concerns extend to Newell Creek Canyon where studies have shown an increased susceptibility for erosion and channel modification due to increasing flows.

Land Use Goals and Federal Permitting

When it comes to water quality, the City complies with the Statewide Land Use Goals by adopting comprehensive plan policies that call for protection of riparian resources through development restrictions, prioritized capital expenditures for infrastructure, and design standards regulating how stormwater is treated before it enters the municipal system. *Comp Plan Policy 11.4.7 – Provide stormwater management services and monitor, report and evaluate success of the services consistent with the NPDES MS4 permit requirements* provides clear direction to the City to utilize the NPDES MS4 permitting process for stormwater planning. Moreover, through this policy, the Comprehensive Plan recognizes that the City operates under an NPDES MS4 Permit issued by the Oregon DEQ.

The NPDES MS4 Permit is the means by which the State implements the Federal NPDES program required by the Clean Water Act. Oregon City's approach to conduct stormwater management planning according to the NPDES MS4 permit complies with both State water quality rules and Statewide Planning Goals. The City's Stormwater and Grading Design Standards implement the NPDES MS4 Permit requirements for new and re-development and provide additional clarity for developers.

Stormwater management is a critical component of the City's obligation to implement Statewide Planning Goals 5, 6 and 11. Statewide Planning Goals 5 and 6 call for the protection of certain resources, such as rivers and wetlands, as well as air and water quality. Statewide Planning Goal 11 calls for the provision of utilities. These goals are accomplished through the implementation of a Comprehensive Plan that explains the City's policies to achieve these objectives.



Planning Process

The planning process for this master plan included the following steps:

- Identify, investigate and study known problem areas.
- Create hydrologic and hydraulic models to evaluate system capacity for key problem areas or systems.
- Develop an integrated stormwater system capital improvement program to address storm system capacity needs and water quality.
- Evaluate stream channel conditions with respect to erosion and impacts from existing and future development.
- Identify implementation priorities and impacts to the program budget.
- Develop a Master Plan document that is useful and easy to read, reference, and up to date.

This Master Plan documents the means and methods used to evaluate the City's drainage infrastructure and natural systems. Results of the evaluations conducted provide the City with CIPs and programmatic stormwater actions for implementation. The study area for this Master Plan covers drainage areas to receiving water bodies including Abernethy Creek, the Clackamas River, Beaver Creek, and the Willamette River.

Master Plan Technical Analyses

Development of the Master Plan involved the following technical analyses to evaluate the stormwater infrastructure and related programs.

Problem Areas Survey. Meetings and interviews with City staff, compilation of public complaints, and site visits throughout the city provided a robust problem area list which included stormwater infrastructure, outfalls, and natural systems. The identified problems were then reviewed and studied to determine which areas needed further study through hydraulic modeling. Problem areas were classified into five categories: project opportunities, natural systems, maintenance concerns, deteriorating or missing infrastructure, and flooding. Problem area identification is discussed in Section 3.2.

Stormwater System Capacity Evaluation. Section 3 documents the development of the hydrologic and hydraulic models to simulate rainfall and runoff characteristics within the City. The models were used to simulate stormwater flows through pipe networks, drainage ditches, and culverts to identify areas of the system that are under capacity. The models were run to simulate both current conditions and the impacts of future development on stormwater flows.

Condition Assessment. Section 4 discusses the current state of the City's stormwater drainage system, as well as details the efforts currently underway via closed-circuit television surveys (CCTV). The condition of the system was analyzed in terms of its age, conveyance capacity, and state of repair based off of city records, construction documents (as-builts), and CCTV survey information.

Water Quality Retrofit. Section 5 discusses water quality improvement opportunities. In 2015, the City developed a Water Quality Retrofit Plan, which recommended that water quality retrofits be a focus of the Stormwater Master Plan. A city-wide assessment was completed to determine how water quality projects could be incorporated into previously urbanized areas or incorporated as an element of other proposed capital projects. Through the stormwater management municipal code, new development and redevelopment projects are required to provide water quality treatment.

Natural Systems Assessment. The focus of the natural systems assessment was to evaluate physical stream conditions to identify impacts from stormwater runoff. The City includes areas that are clearly susceptible to channel erosion and modification due to increases in flow from surface water runoff. Section 6 outlines the recommended infrastructure improvements and land use policies to address natural channel impacts from stormwater runoff.

Integrated Management Strategy

The City's stormwater program was formed around addressing drainage capacity and flooding problems. In the last decade, the program has shifted to include programs that address water quality needs, natural system impacts and the aging infrastructure. The recommendations in Sections 7 and 8 present an integrated strategy of programs and projects to address stormwater priorities across the City. The major recommendations include:

- Replace deteriorating and failing infrastructure, particularly in older areas of the City where stormwater infrastructure is reaching the end of the design life.
- Upsize existing infrastructure to reduce identified flooding issues.
- Upsize existing infrastructure to carry flows from projected future development and support future roadway improvements.
- Install new stormwater infrastructure systems in unserved neighborhoods (Rivercrest and Harding) to reduce stormwater inflow and infiltration into the sanitary sewer system.
- Implement outfall assessment program to systematically monitor and stabilize Newell Canyon outfalls.
- Increase water quality treatment through targeted actions and by integrating treatment features into planned capital projects.
- Expand programs to monitor stormwater infrastructure condition to identify pipes, culverts, and outfalls in degraded condition.
- Develop funding strategy and prioritized CIP implementation schedule.

Recommendations include twelve capital improvement projects and three programmatic actions. Capital Improvement Projects (CIPs) have been developed to address existing and predicted future conditions flooding problems, integrate water quality elements, and replace deteriorating pipe segments. Table ES-1 below summarizes the identified CIPs, estimated costs and priority ranking. Figure ES-1 shows the location of the proposed CIPs. Detailed fact sheets for each CIP can be found in Appendix F. Planning level cost estimates and prioritization scoring information are provided in Appendices H and I, respectively.

Table ES-1. Capital Improvement Projects and Prioritization			
Prioritization Score [a]	#	- Project Name	Conceptual Cost
18.5	#1	John Adams Basin Capacity Improvements	$8,555,000
15	#2	South End Road Stormwater Improvements	$3,209,000
12.5	#3	Division Street Infrastructure Improvements	$770,000
20.5	#4	Rivercrest Neighborhood Infrastructure Improvements	$2,428,000
26.5	#5	Harding Boulevard Sanitary Disconnect	$464,000
15	#6	Pebble Beach Pond Retrofit	$713,000
12.5	#7	Hiefield Court Culvert Improvements	$657,000
18.5	#8	The Cove Water Quality Improvements	$608,000
13	#9	Holcomb Boulevard Capacity Improvements	$3,893,000
13	#10	Coffee Creek Capacity Improvements	$1,096,000
22.5	#11	Scattering Canyon Stormwater Improvement	$521,000
24.5	#12	Newell Canyon Outfall Assessment (annual)	$100,000

a. Prioritization scores range from 12.5 to 26.5, with the higher scores representing projects that are most closely aligned with the City's stormwater planning objectives.

In addition to the identified capital projects, Section 8 identifies and recommends the following projects and studies:

- Closed Circuit Television (CCTV) of the entire stormwater system starting with the most aged areas of the Singer Basin (neighborhood in vicinity of Singer Creek), the John Adams Basin (McLoughlin neighborhood) and the Canemah neighborhood.
- Annual and ongoing Rehabilitation and Replacement (R/R) program to address failing infrastructure identified through the CCTV inspection program. The annual R/R budget is recommended between $300,000 and $750,000 per year depending on the extent of the R/R program.
- Ongoing outfall stabilization projects to upgrade and reconstruct outfalls around Newell Canyon, based on the recommendations from the outfall assessment in CIP #12.

Adoption and implementation of this Master Plan and the elements outlined within it are important for the City to move in a direction of preventive actions to minimize future and more expensive reactionary actions. Implementation of the CIPs and utilization of the prioritization matrix along with implementation of the programmatic recommendations will be critical to moving the City forward with respect to sound management of its stormwater infrastructure.

City of Oregon City

GEOGRAPHIC INFORMATION SYSTEM

Figure ES-1. Capital Project Locations

- Proposed Capital Projects
- Storm Drainage Pipe
- Ditch
- Stream Lines
- City Limits

Clackamas River

CIP #8 The Cove Water Quality Improvements

CIP #9 Holcomb Boulevard Capacity Improvements

Abernethy Creek

CIP #3 Division Street Infrastructure Improvements

CIP #1 John Adams Basin Capacity Improvements

CIP #12 Newell Canyon Outfall Assessment

Willamette River

CIP #5 Harding Boulevard Sanitary Disconnect

Newell Creek

CIP #4 Rivercrest Neighborhood Infrastructure Improvements

CIP #10 Coffee Creek Capacity Improvements

CIP #11 Scattering Canyon Stormwater Improvements

CIP #7 Hiefield Court Culvert Improvements

CIP #2 South End Road Stormwater Improvements

CIP #6 Pebble Beach Pond Retrofit

Beaver Creek

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

N W E S

0 0.5 1 2 Miles

0 5,000 10,000 Feet

City of Oregon City
P.O. Box 3040
625 Center St
Oregon City, OR 97045
503-657-0891 phone
503-657-6629 fax
www.orcity.org

OREGON CITY

Plot date: December 14, 2017
Plot name: Figure 7-1 Capital Project Locations.pdf
Map name: Figure 7-1 Capital Project Locations.mxd

City of Oregon City

STORMWATER SYSTEM DEVELOPMENT CHARGE UPDATE

DRAFT REPORT
January 2021

Washington
7525 166th Avenue NE, Ste. D215
Redmond, WA 98052
425.867.1802

Oregon
5335 Meadows Road, Ste. 330
Lake Oswego, OR 97035
503.841.6543

Colorado
1320 Pearl St, Ste 120
Boulder, CO 80302
719.284.9168

www.fcsgroup.com

FCS GROUP
Solutions-Oriented Consulting

TABLE OF CONTENTS

Section I. INTRODUCTION

I.A. SYSTEM DEVELOPMENT CHARGES

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

ORS 223.299 defines two types of SDCs:

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

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

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

I.B. UPDATING THE SDC

The City contracted with FCS GROUP to provide a utility financial plan for the stormwater utility. This financial plan included a revenue requirement analysis and SDC update. This report discusses only the SDC findings. A subsequent report will discuss the revenue requirement aspect of the study.

I.C. CALCULATION OVERVIEW

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

Table 1. SDC Equation

Eligible costs of available capacity in existing facilities		**Eligible costs of capacity-increasing capital improvements**		**SDC per unit of growth in demand**
Units of growth in demand	**+**	**Units of growth in demand**	**=**	

I.C.1. Reimbursement Fee

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

I.C.2. Improvement Fee

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

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

I.C.3. Adjustments

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

I.C.3.a Fund Balance

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

I.C.3.b Compliance Costs

ORS 223.307(5) authorizes the expenditure of SDCs for "the costs of complying with the provisions of ORS 223.297 to 223.314, including the costs of developing system development charge methodologies and providing an annual accounting of system development charge expenditures." This compliance charge is included in the reimbursement portion of the City's SDC.

I.C.4. Growth Calculation

The growth calculation is the basis by which an SDC is charged. Growth for each system is measured in units that most directly reflect the source of demand. The City currently bases SDCs on an equivalent residential unit (ERU) basis calculated by multiplying the property's area range number (ARN), in increments of 5,000 gross square feet of parcel size, by the property's development intensity factor (DIF) as shown in **Table 2.** Under this approach, each residential account is considered one ERU while ERUs for all non-residential accounts are determined by applying the formula described above (ERU = ARN x DIF).

Table 2. Development Intensity Factors

Code	Land Use or Zoning	Development Intensity Factor
R1O	10,000 sq. ft./Dwelling Unit	0.25
R8	8,000 sq. ft./Dwelling Unit	0.50
R6	6,000 sq. ft./Dwelling Unit	0.50
RD-4MDP	Manufactured Dwelling Unit	0.60
R3.5	3,500 sq. ft./Dwelling Unit	0.60
R-2	Multi-Family	0.65
LO	Limited Office	0.80
NC	Neighborhood Commercial	0.80
HC	Historical Commercial	0.70
C	General Commercial	0.90
GI	General Industrial	0.75
CI	Campus Industrial	0.80
MUC1	Mixed Use Corridor 1	0.80
MUC2	Mixed Use Corridor 2	0.90
MUD	Mixed Use Downtown	0.90
MUE	Mixed Use Employment	0.80
I	Institutional District	Actual Impervious

Section II. STORMWATER SDC

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

II.A. GROWTH

For stormwater SDCs, projected growth is typically measured in impervious surface area. The Oregon City Baseline Housing Needs Analysis addresses the period from 2019 to 2039. Growth in impervious surface area for the study period is based on the assumed development detailed in that plan. **Table 3** shows projected customer growth in the City.

Table 3. Stormwater Customer Growth

Capacity	Total System
Existing ERUs	24,085
Future Capacity ERUs	2,406
Total ERUs	**26,491**

II.B. ELIGIBLE COSTS

Below are the calculated eligible cost bases for the SDC including any applicable adjustments.

II.B.1. Reimbursement Fee Cost Basis

The reimbursement fee cost basis is based on the City's current utility plant in service, net of asset useful life already used. **Table 4** shows the cost basis for the reimbursement portion of the SDC.

Table 4. Stormwater Reimbursement Fee Cost Basis

Reimbursement Fee Cost Basis	
Plant in service	$ 9,780,208
plus: CWIP (construction work in progress)	20,646
less: CIAC (contribution in aid of construction)	(5,414,274)
Net Reimbursement Fee w. General	4,386,579
Less useful life used	(3,103,216)
Allocable Reimbursement Fee	**$ 1,283,363**
Allocable Customer Base (ERUs)	**2,406**
Reimbursement Fee	**$533**

II.B.2. Improvement Fee Cost Basis

The improvement fee cost basis is based on a specific list of planned capacity-increasing capital improvements. The portion of each project that can be included in the improvement fee cost basis is determined by the extent to which each new project creates capacity for future users. The project list

is drawn from the 2019 Stormwater Master Plan, performed by Brown and Caldwell. **Table 5** shows how a total project cost of $22,636,000 is reduced to an eligible cost of $1,375,000. The total eligible portion of project cost by source is a weighted average and varies by project.

Table 5. Stormwater Improvement Fee Cost Basis

Improvement Fee Cost Basis		
Total Formally Adopted Capital Improvement Program	$	22,635,764
less: Existing Deficiency Share of Adopted Projects		(21,260,384)
Total Allocable Cost		1,375,380
less: SDC improvement Fund Balance		(85,138)
Net Improvement Fee	**$**	**1,290,242**
Allocable Customer Base (ERUs)		**2,406**
Improvement Fee		**$536**

The improvement fee cost basis must be reduced by any improvement fee fund balance (for the same facility type) currently held by the City. The City has a balance of $85,000 in stormwater improvement fees.

II.C. CALCULATED SDC

For residential and commercial development, the current SDC is $956 per ERU. The new SDC calculation was primarily prepared using 2020 data, however, the City increased the SDC per ERU from $902 to $956 in January 2021.

Dividing the sum of the net improvement fee cost basis by the projected growth results in the total calculated SDC of $1,070, as shown in **Table 6**.

Table 6. Stormwater SDC

Total Stormwater SDC	
Reimbursement Fee	$533
Improvement Fee	$536
Total SDC	**$1,070**

Section III. Conclusion

III.A. RECOMMENDED SDCS

Table 7 summarizes the recommended SDCs per ERU and compares the new calculation to the existing SDC. This calculated SDC represents the maximum possible charge the City could implement.

Table 7. SDC Summary and Comparison

Stormwater SDC	
Calculated Max SDC per ERU	$1,070
Current SDC per ERU	$956
Increase	**$114**

III.A.1. Exemptions and Waivers

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

III.B. INDEXING

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

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

We recommend that the City index its maximum charges to the *Engineering News Record* Construction Cost Index 20 city average.

APPENDIX A – REIMBURSEMENT ELIGIBLE ASSET SCHEDULE

Asset Description	Original Cost	Original Cost less Contributions	CIAC	Useful Life Remaining
Vehicle	$ 884,660	$ -	$ 884,660	$ -
Bldg./Eqiup	104,249	91,657	12,592	525
Improvement	8,791,298	4,274,276	4,517,023	1,262,191
Total	**$ 9,780,208**	**$ 4,365,933**	**$ 5,414,274**	**$ 1,262,717**

APPENDIX B – STORMWATER CAPITAL PROJECT LIST

Project ID	Project Description	Percent Reimb. SDC Funded	Percent Impr. SDC Funded	Unescalated Total	2020	2021	2022	2023	2024
Improvements	John Adams Basin Capacity Improvements	98%	2%	8,555,000	$ -	$ -	$ -	$ 1,366,500	$ 1,366,500
Improvements	South End Road Stormwater Improvements	94%	6%	3,209,000	-	-	-	-	-
Improvements	Division Street Infrastructure Improvements	100%	0%	770,000	-	-	-	-	-
Improvements	Rivercrest Neighborhood Infrastructure Improvements	100%	0%	2,428,000	-	1,214,000	1,214,000	-	-
Improvements	Harding Boulevard Sanitary Disconnect	100%	0%	-	-	-	-	-	-
Improvements	Pebble Beach Pond Retrofit	99%	1%	713,000	-	-	-	-	-
Improvements	Hiefield Court Culvert Improvements	95%	5%	657,000	-	-	-	-	-
Improvements	The Cove Water Quality Improvements	100%	0%	608,000	-	-	-	-	-
Improvements	Holcomb Boulevard Capacity Improvements	77%	23%	3,893,000	-	-	-	-	-
Improvements	Coffee Creek Stream Restoration	97%	3%	1,096,000	-	-	-	-	-
Improvements	Scattering Canyon Stormwater Improvement	97%	3%	521,000	-	521,000	-	-	-
Improvements	Newell Canyon Outfall Assessment	100%	0%	100,000	-	100,000	-	-	-
13	Manhole (Rehab)	100%	0%	1,900,000	-	100,000	100,000	100,000	100,000
14	Pipe Replacement	100%	0%	11,207,806	-	-	219,761	439,522	659,283
15	LID Facilities Maintenance	100%	0%	313,500	-	1,650	3,300	4,950	6,600
16	Culverts	100%	0%	855,000	-	45,000	45,000	45,000	45,000
17	WQ/Detention Pond Rehabilitation	100%	0%	475,000	-	25,000	25,000	25,000	25,000
18	Outfall Rehabilitation	100%	0%	600,000	-	200,000	200,000	200,000	-
19	Outfall Rehabilitation	100%	0%	1,140,000	-	60,000	60,000	60,000	60,000
20	Short Term Budget Repair	100%	0%	950,000	-	50,000	50,000	50,000	50,000
21	Fleet	100%	0%	180,000	-	180,000	-	-	-
22	Decant/Dewatering Facilities	100%	0%	1,500,000	-	-	-	750,000	750,000
23	Facilities	100%	0%	180,000	-	60,000	60,000	60,000	-
24	Tree Maintenance & TMDL Plantings	100%	0%	475,000	-	25,000	25,000	25,000	25,000

Project ID	Project Description	Percent Reimb. SDC Funded	Percent Impr. SDC Funded	Unescalated Total	2025	2026	2027	2028	2029
Improvements	John Adams Basin Capacity Improvements	98%	2%	8,555,000	$ 1,780,000	$ 1,349,500	$ 1,349,500	$ 1,343,000	$ -
Improvements	South End Road Stormwater Improvements	94%	6%	3,209,000	-	-	-	-	-
Improvements	Division Street Infrastructure Improvements	100%	0%	770,000	-	-	-	-	-
Improvements	Rivercrest Neighborhood Infrastructure Improvements	100%	0%	2,428,000	-	-	-	-	-
Improvements	Harding Boulevard Sanitary Disconnect	100%	0%	-	-	-	-	-	-
Improvements	Pebble Beach Pond Retrofit	99%	1%	713,000	-	-	-	-	-
Improvements	Hiefield Court Culvert Improvements	95%	5%	657,000	-	-	-	-	-
Improvements	The Cove Water Quality Improvements	100%	0%	608,000	-	-	-	-	608,000
Improvements	Holcomb Boulevard Capacity Improvements	77%	23%	3,893,000	-	-	-	-	-
Improvements	Coffee Creek Stream Restoration	97%	3%	1,096,000	-	-	-	-	-
Improvements	Scattering Canyon Stormwater Improvement	97%	3%	521,000	-	-	-	-	-
Improvements	Newell Canyon Outfall Assessment	100%	0%	100,000	-	-	-	-	-
13	Manhole (Rehab)	100%	0%	1,900,000	100,000	100,000	100,000	100,000	100,000
14	Pipe Replacement	100%	0%	11,207,806	659,283	659,283	659,283	659,283	659,283
15	LID Facilities Maintenance	100%	0%	313,500	8,250	9,900	11,550	13,200	14,850
16	Culverts	100%	0%	855,000	45,000	45,000	45,000	45,000	45,000
17	WQ/Detention Pond Rehabilitation	100%	0%	475,000	25,000	25,000	25,000	25,000	25,000
18	Outfall Rehabilitation	100%	0%	600,000	-	-	-	-	-
19	Outfall Rehabilitation	100%	0%	1,140,000	60,000	60,000	60,000	60,000	60,000
20	Short Term Budget Repair	100%	0%	950,000	50,000	50,000	50,000	50,000	50,000
21	Fleet	100%	0%	180,000	-	-	-	-	-
22	Decant/Dewatering Facilities	100%	0%	1,500,000	-	-	-	-	-
23	Facilities	100%	0%	180,000	-	-	-	-	-
24	Tree Maintenance & TMDL Plantings	100%	0%	475,000	25,000	25,000	25,000	25,000	25,000

Project ID	Project Description	Percent Reimb. SDC Funded	Percent Impr. SDC Funded	Unescalated Total	2030	2031	2032	2033	2034
Improvements	John Adams Basin Capacity Improvements	98%	2%	8,555,000	$ -	$ -	$ -	$ -	$ -
Improvements	South End Road Stormwater Improvements	94%	6%	3,209,000	1,604,500	-	-	1,604,500	-
Improvements	Division Street Infrastructure Improvements	100%	0%	770,000	-	-	-	-	-
Improvements	Rivercrest Neighborhood Infrastructure Improvements	100%	0%	2,428,000	-	-	-	-	-
Improvements	Harding Boulevard Sanitary Disconnect	100%	0%	-	-	-	-	-	-
Improvements	Pebble Beach Pond Retrofit	99%	1%	713,000	-	-	713,000	-	-
Improvements	Hiefield Court Culvert Improvements	95%	5%	657,000	-	-	-	-	-
Improvements	The Cove Water Quality Improvements	100%	0%	608,000	-	-	-	-	-
Improvements	Holcomb Boulevard Capacity Improvements	77%	23%	3,893,000	-	-	-	1,946,500	1,946,500
Improvements	Coffee Creek Stream Restoration	97%	3%	1,096,000	-	-	-	-	-
Improvements	Scattering Canyon Stormwater Improvement	97%	3%	521,000	-	-	-	-	-
Improvements	Newell Canyon Outfall Assessment	100%	0%	100,000	-	-	-	-	-
13	Manhole (Rehab)	100%	0%	1,900,000	100,000	100,000	100,000	100,000	100,000
14	Pipe Replacement	100%	0%	11,207,806	659,283	659,283	659,283	659,283	659,283
15	LID Facilities Maintenance	100%	0%	313,500	16,500	18,150	19,800	21,450	23,100
16	Culverts	100%	0%	855,000	45,000	45,000	45,000	45,000	45,000
17	WQ/Detention Pond Rehabilitation	100%	0%	475,000	25,000	25,000	25,000	25,000	25,000
18	Outfall Rehabilitation	100%	0%	600,000	-	-	-	-	-
19	Outfall Rehabilitation	100%	0%	1,140,000	60,000	60,000	60,000	60,000	60,000
20	Short Term Budget Repair	100%	0%	950,000	50,000	50,000	50,000	50,000	50,000
21	Fleet	100%	0%	180,000	-	-	-	-	-
22	Decant/Dewatering Facilities	100%	0%	1,500,000	-	-	-	-	-
23	Facilities	100%	0%	180,000	-	-	-	-	-
24	Tree Maintenance & TMDL Plantings	100%	0%	475,000	25,000	25,000	25,000	25,000	25,000

Project ID	Project Description	Percent Reimb. SDC Funded	Percent Impr. SDC Funded	Unescalated Total	2035	2036	2037	2038	2039
Improvements	John Adams Basin Capacity Improvements	98%	2%	8,555,000	$ -	$ -	$ -	$ -	$ -
Improvements	South End Road Stormwater Improvements	94%	6%	3,209,000	-	-	-	-	-
Improvements	Division Street Infrastructure Improvements	100%	0%	770,000	-	-	770,000	-	-
Improvements	Rivercrest Neighborhood Infrastructure Improvements	100%	0%	2,428,000	-	-	-	-	-
Improvements	Harding Boulevard Sanitary Disconnect	100%	0%	-	-	-	-	-	-
Improvements	Pebble Beach Pond Retrofit	99%	1%	713,000	-	-	-	-	-
Improvements	Hiefield Court Culvert Improvements	95%	5%	657,000	-	657,000	-	-	-
Improvements	The Cove Water Quality Improvements	100%	0%	608,000	-	-	-	-	-
Improvements	Holcomb Boulevard Capacity Improvements	77%	23%	3,893,000	-	-	-	-	-
Improvements	Coffee Creek Stream Restoration	97%	3%	1,096,000	1,096,000	-	-	-	-
Improvements	Scattering Canyon Stormwater Improvement	97%	3%	521,000	-	-	-	-	-
Improvements	Newell Canyon Outfall Assessment	100%	0%	100,000	-	-	-	-	-
13	Manhole (Rehab)	100%	0%	1,900,000	100,000	100,000	100,000	100,000	100,000
14	Pipe Replacement	100%	0%	11,207,806	659,283	659,283	659,283	659,283	659,283
15	LID Facilities Maintenance	100%	0%	313,500	24,750	26,400	28,050	29,700	31,350
16	Culverts	100%	0%	855,000	45,000	45,000	45,000	45,000	45,000
17	WQ/Detention Pond Rehabilitation	100%	0%	475,000	25,000	25,000	25,000	25,000	25,000
18	Outfall Rehabilitation	100%	0%	600,000	-	-	-	-	-
19	Outfall Rehabilitation	100%	0%	1,140,000	60,000	60,000	60,000	60,000	60,000
20	Short Term Budget Repair	100%	0%	950,000	50,000	50,000	50,000	50,000	50,000
21	Fleet	100%	0%	180,000	-	-	-	-	-
22	Decant/Dewatering Facilities	100%	0%	1,500,000	-	-	-	-	-
23	Facilities	100%	0%	180,000	-	-	-	-	-
24	Tree Maintenance & TMDL Plantings	100%	0%	475,000	25,000	25,000	25,000	25,000	25,000

City of Oregon City

STORMWATER UTILITY RATE STUDY

DRAFT REPORT
January 2021

Washington
7525 166th Avenue NE, Ste. D215
Redmond, WA 98052
425.867.1802

Oregon

5335 Meadows Road, Ste. 330
Lake Oswego, OR 97035
503.841.6543

Colorado
1320 Pearl St, Ste 120
Boulder, CO 80302
719.284.9168

www.fcsgroup.com

FCS GROUP
Solutions-Oriented Consulting

TABLE OF CONTENTS

Section I. INTRODUCTION

Utility Background

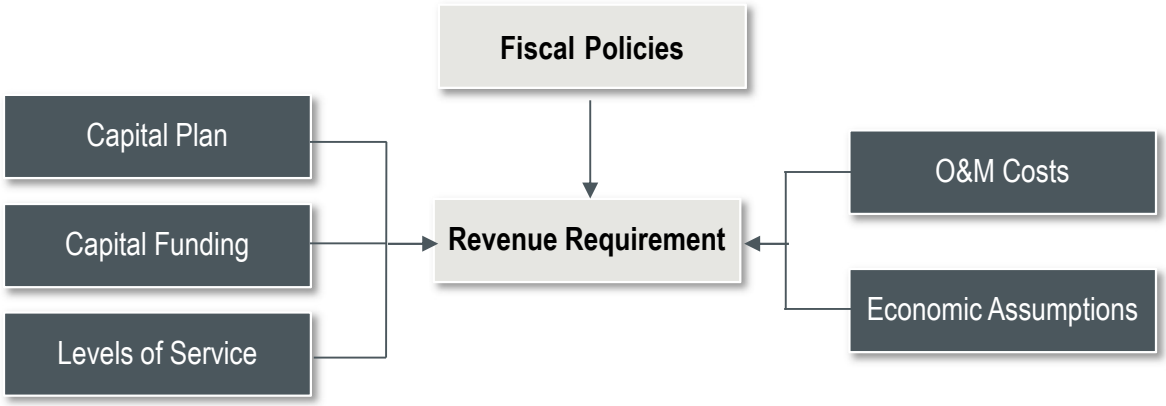
The City of Oregon City (City) stormwater utility prevents damage to people and property and maintains and enhances the City's natural environment. Stormwater utility services include surface water development review and inspections, maintaining public stormwater systems, inspecting privately maintained stormwater systems, monitoring natural waterways, permit compliance, and providing stormwater education and outreach.

The City bills monthly fees to property owners within the City limits to provide resources needed to plan, manage, design, construct, maintain, revise, and upgrade the storm drainage and surface water runoff systems within the corporate limits of the City. The City contracted with FCS GROUP to perform a stormwater utility rate study, the main purpose of which is to ensure that the City has the resources to continue to provide these valuable services into the future.

Rate Study

The main purpose of this rate study is to develop a funding plan ("revenue requirement") for the City's stormwater utility. The revenue requirement identifies the total revenue needed to fully fund the utility on a standalone basis considering operating and maintenance expenditures, fiscal policy achievement, and the capital project needs of the utility.

Exhibit 1: Revenue Requirement Overview



Issue Papers

In support of the rate study, three issue papers were developed and have been included in **Appendix C** of this report: *Issue Paper #1: Fiscal Policies, Issue Paper #2: Rate Structures, and Issue Paper #3: Rate Credits.*

Section II. Fiscal Policies

The basic framework for evaluating utility revenue needs includes sound fiscal policies. Several policy topics are important to consider as part of managing the finances of the stormwater utility, including: Cash Reserves, Capital Funding, and Rate Funded System Reinvestment. These policies were initially documented and reviewed with City staff in *Issue Paper #1*.

When evaluating fund reserve levels and objectives, it is important to recognize that the value of reserves lies in their potential use. A reserve strategy that deliberately avoids any use of reserves negates their purpose. The fluctuation of reserve levels may indicate that the system is working, while lack of variation over many years strongly suggests that the reserves are, in fact, unnecessary.

Operating Reserves

An operating reserve is designed to provide a liquidity cushion; it protects the utility from the risk of short-term variation in the timing of revenue collection or payment of expenses. The most common operating reserve minimum balance target for stormwater utilities with monthly or bi-monthly billing is between 30 days to 45 days of operating expenses.

Recommended Policy: Achieve a year-end minimum balance target of **45 days** of total annual operating expenditures. This equates to a target of **$350,000** in 2020 based on 2020 budgeted expenditures totaling $2.85 million.

Capital Reserve

This reserve provides a source of emergency funding for unexpected asset failures or other unanticipated capital needs. This capital reserve policy is not intended to guard against catastrophic system failure or extreme acts of nature. Minimum balances for capital reserves are often based on a percentage (commonly 1% to 2%) of the original cost of utility fixed assets or an amount determined sufficient to fund an emergency capital project or equipment failure.

Recommended Policy: Achieve a year-end minimum balance target of **1%** of the original cost of all plant-in-service. This equates to a target of **$100,000** in 2020 based on a total original cost basis of $9.80 million.

Debt Related Policies

The City does not currently have any outstanding stormwater utility debt. Based on discussions with City staff, it is the City's preference that the stormwater utility continues to primarily cash-fund capital projects during the study period.

Debt Reserve

A debt reserve is most often required as a condition of bond issuance, though some loan programs also require a reserve. The reserve intends to protect bondholders (or the agency issuing loans) from the risk of the borrower defaulting on their payments and is most often linked to either average annual debt service or maximum annual debt service.

Recommended Policy: The policy should be dictated by terms outlined in contracts for debt obligations if the stormwater utility chooses to utilize debt in the future.

Debt Service Coverage

Debt service coverage is typically a requirement associated with revenue bonds, and it is an important benchmark to measure the riskiness of a utility's capital funding plans. Coverage is most easily understood as a factor applied to annual debt service. In such a case, if it issues revenue bonds, the stormwater utility agrees to collect enough revenue to meet operating expenses and not only pay debt service but to collect an additional 25% above bonded debt service. The extra revenue is a "cushion" that makes bondholders more confident that debt service will be paid on time.

Recommended Policy: While 1.25 is a common legal minimum coverage for revenue bonds, FCS GROUP recommends a more conservative internal policy coverage target of at least 1.50 to 2.00 should the stormwater utility choose to utilize debt in the future.

Rate Funded System Reinvestment

Rate funded system reinvestment is the funding of long-term infrastructure replacement needs through a regular (annual) and predictable rate provision, which helps minimize reliance on debt.

Recommended Policy: The City desires to continue to cash-fund its capital program. Therefore, the utility should strive to generate revenues to cover both operating costs and the annual average capital program. The level of rate funded system reinvestment will depend on the Commission's selected level of service.

Exhibit 2 provides a summary of the recommended fiscal policies for the stormwater utility.

Exhibit 2: Summary of Fiscal Policies

Policy	Recommended Target
Operating Reserve	45 Days of O&M: $350,000 based on the 2020 budget
Capital Reserve	1% of plant-in-service original cost: $100,000 in 2020.
Debt Service Coverage	If debt is issued, an internal policy target of at least 1.50 to 2.00 would be prudent
Rate Funded System Reinvestment	Set rates to allow the utility to cash fund its capital program

Section III. Revenue Requirement

This section presents the revenue requirement results for the stormwater utility. The forecasts within this section generate the revenue needed under each level of service to fund the utility on a standalone basis, considering operating and maintenance expenditures, fiscal policy achievement, and a portion of the capital projects identified in the City's six-year capital plan for the stormwater utility.

Levels of Service (Without Debt Issuances)

Three levels of service (LOS) have been developed for consideration: Baseline, Moderate Capital, and Full Capital. Each successive level of service introduced two new full time employee positions: a utility maintenance worker and a stormwater engineer, both to be introduced in 2022. Planned capital expenses were portrayed as a 'capital budget' for use on capital projects in the City's capital improvement program (CIP). The three levels of service incorporated annual capital budgets of approximately $1,700,000 (Baseline), $2,400,000 (Moderate Capital), and $3,200,000 (Full Capital). The Baseline level of service will fund all critical master plan and critical capital maintenance needs projects, the Moderate Capital level of service will fund all master plan projects, critical capital maintenance needs, and some additional capital maintenance, and the Full Capital level of service will fund all master plan projects and known capital maintenance needs. **Exhibit 3** summarizes the programs that would be funded under each level of service as well as the monthly rate impacts if the City does not issue debt to fund the capital program.

Exhibit 3: Levels of Service (Cash Funded)

Level of Service Matrix	Single Family Monthly Rate				Capital Projects	Cash Funded / Debt Funded Capital
	2020 (existing)	2021	2022	2023		
LOS 1: Baseline	$10.54	$11.59	$12.75	$14.03	Avg. $1,700,000 / year in Capital Expenditures $1.2M - critical master plan projects $500k - critical maintenance needs	$32,000,000 Cash Funded $0 Debt Funded
	$ change:	*$1.05*	*$1.16*	*$1.28*		
LOS 2: Moderate Capital	$10.54	$12.17	$14.06	$16.24	Avg. $2,400,000 / year in Capital Expenditures $1.6M - Fund all master plan projects $800k - critical maintenance needs and some additional maintenance	$46,000,000 Cash Funded $0 Debt Funded
	$ change:	*$1.63*	*$1.89*	*$2.18*		
LOS 3: Full Capital	$10.54	$12.75	$15.43	$18.67	Avg. $3,200,000 / year in Capital Expenditures $1.6M - Fund all master plan projects $1.6M - Fund all known maintenance needs projects	$60,100,000 Cash Funded $0 Debt Funded
	$ change:	*$2.21*	*$2.68*	*$3.24*		

Economic & Inflation Factors

The operating and maintenance expenditure forecast largely relies on the City's 2020 adopted budget for the stormwater and SDC funds. The line items in the budget are then adjusted each year by utilizing one of the following factors:

- General Cost Inflation – assumed to be 2.0 percent per year based on the 20-City CPI index.
- Construction Cost Inflation – assumed to be 3.0 percent per year based on the historical Engineering News-Record's Construction Cost Index (20-City Average).
- Labor Cost Inflation – assumed to be 2.0 percent per year based on the Employment Cost Index – Wages and Salaries, as well as a discussion with City staff.
- Benefits Cost Inflation – assumed to be 5.0 percent per year based on the Employment Cost Index – Benefits, as well as a discussion with City staff.
- Taxes – City franchise fee rate of 6.0 percent.
- Fund Earnings – assumed to be 0.50 percent per year based on the Local Government Investment Pool (LGIP) for Oregon.
- Growth in Rate Revenue before Increases – the City is assumed to add approximately 120 new dwelling units per year, per the City's 2019 Housing Needs Assessment. This results in a growth rate of approximately 0.5 percent per year.

Fund Balances

The stormwater utility has separate funds for tracking operating and capital activity. The combined beginning July 1, 2020 cash and investments balance was $1,100,000. Of that total, City finance staff noted that $739,000 was operating cash in Fund 410 and $371,000 was reserved for capital expenditures in Fund 412, as shown in **Exhibit 4**.

Exhibit 4: Stormwater Utility Fund Cash Balances

Description	Beginning 2020 Cash Balances
Operating Reserve	$1,064,212
Capital Reserve	$336,122
SDC Reserve – Reimbursement	$305,601
SDC Reserve – Improvement	$85,138
Total Beginning Cash January 1, 2020	$1,791,073

Existing Debt Obligations

As noted previously, the City does not have any existing stormwater-related debt obligations. In the following sections, no new debt issuances are assumed.

Revenue Requirement Results – Baseline LOS

Exhibit 5 graphically represents the revenue requirement forecast through 2029 for the Baseline Capital LOS scenario. Detailed observations are provided below:

- Solid line: Revenue at existing rates.

Total revenue is expected to be roughly $3,150,000 in 2020 and is expected to increase 0.50 percent per year with customer growth, before future rate adjustments.

- Dashed line: Revenues with rate increases.

As the operating and capital costs associated with the Baseline LOS are incorporated into the forecast, rate revenue must increase to cover those obligations. Total revenues are expected to grow to just over $5,000,000 per year by 2029.

- Dark blue bar: Operating and maintenance expense (O&M).

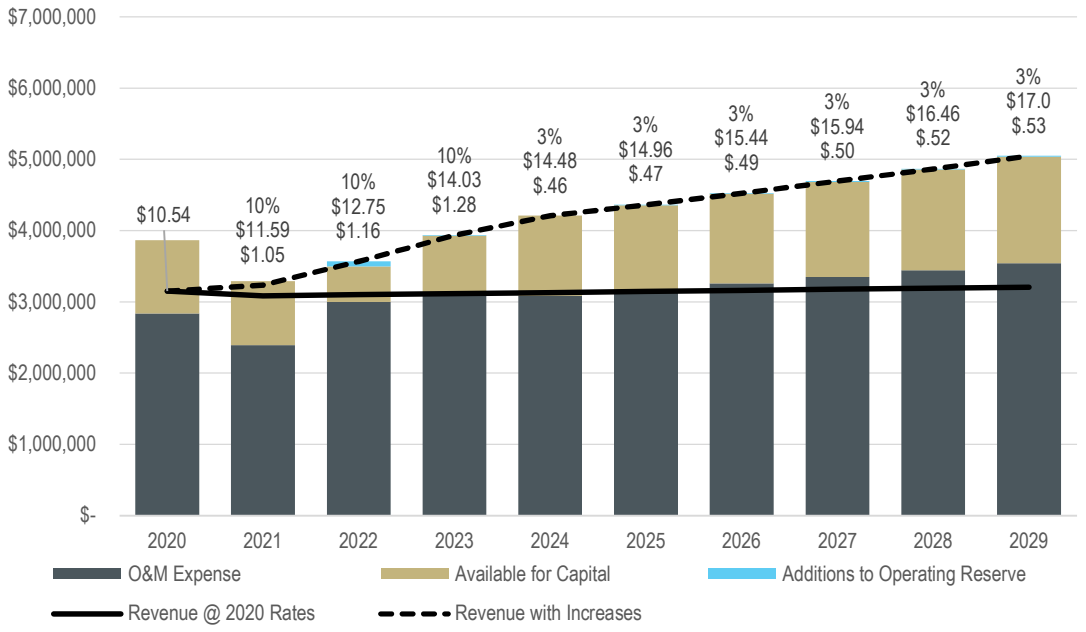
Operating expenses are based on the adopted 2020 budget plus the additional costs associated with the Baseline Capital LOS. Operating expenses are expected to grow to $3,500,000 by 2029. The one-time 'drop' in operating expenses in 2021 is related to transfers out to other City funds.

- Tan bar: Available for capital.

This amount increases gradually after 2021 as revenues increase with rate increases. By 2029, $1,500,000 per year would be available for capital projects.

- Light blue bar: Additions to the operating reserve to keep pace with escalating O&M.

Exhibit 5: Monthly Stormwater Utility Revenue Requirement Forecast 2020-29* (Baseline LOS)



**The graph labels show the monthly revenue adjustment, the single-family monthly rate, and the monthly change to the single-family rate.*

Revenue Requirement Results – Moderate Capital LOS

Exhibit 6 graphically represents the revenue requirement forecast through 2029 for the Moderate Capital LOS scenario. Detailed observations are provided below:

- Solid line: Revenue at existing rates.

Total revenue is expected to be roughly $3,150,000 in 2020 and is expected to increase 0.50 percent per year with customer growth, before future rate adjustments.

- Dashed line: Revenues with rate increases.

As the operating and capital costs associated with the Moderate Capital LOS are incorporated into the forecast, rate revenue must increase to cover those obligations. Total revenues are expected to grow to just under $6,000,000 per year by 2029.

- Dark blue bar: Operating and maintenance expense (O&M).

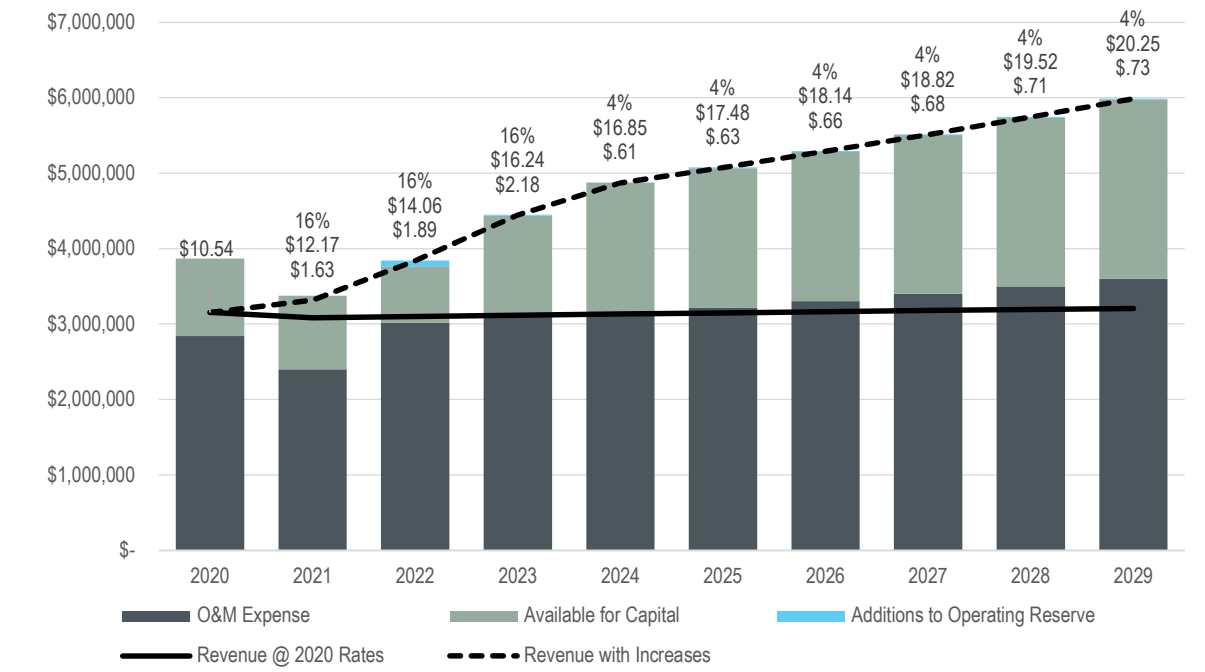
Operating expenses are based on the adopted 2020 budget plus the additional costs associated with the Moderate Capital LOS. Operating expenses are expected to grow to $3,600,000 by 2029. The one-time 'drop' in operating expenses in 2021 is related to transfers out to other City funds.

- Green bar: Available for capital.

This amount increases gradually after 2021 as revenues increase with rate increases. By 2029, $2,400,000 per year would be available for capital projects.

- Light blue bar: Additions to the operating reserve to keep pace with escalating O&M.

Exhibit 6: Monthly Stormwater Utility Revenue Requirement Forecast 2020-29* (Moderate Capital LOS)



**The graph labels show the monthly revenue adjustment, the single-family monthly rate, and the monthly change to the single-family rate.*

Revenue Requirement Results – Full Capital LOS

Exhibit 7 graphically represents the revenue requirement forecast through 2029 for the Full Capital LOS scenario. Detailed observations are provided below:

- Solid line: Revenue at existing rates.

Total revenue is expected to be roughly $3,150,000 in 2020 and is expected to increase 0.50 percent per year with customer growth, before future rate adjustments.

- Dashed line: Revenues with rate increases.

As the operating and capital costs associated with the Full Capital LOS are incorporated into the forecast, rate revenue must increase to cover those obligations. Total revenues are expected to grow to just under $7,000,000 per year by 2029.

- Dark blue bar: Operating and maintenance expense (O&M).

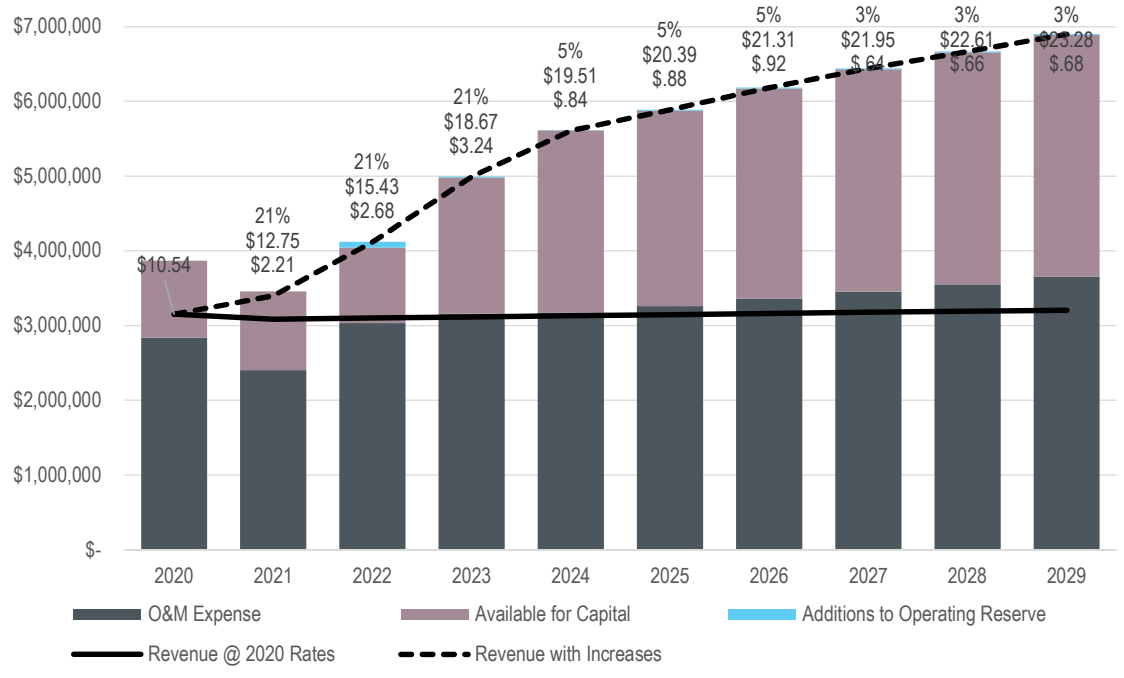
Operating expenses are based on the adopted 2020 budget plus the additional costs associated with the Full Capital LOS. Operating expenses are expected to grow to $3,650,000 by 2029. The one-time 'drop' in operating expenses in 2021 is related to transfers out to other City funds.

- Lavender bar: Available for capital.

This amount increases gradually after 2021 as revenues increase with rate increases. By 2029, $3,200,000 per year would be available for capital projects.

- Light blue bar: Additions to the operating reserve to keep pace with escalating O&M.

Exhibit 7: Monthly Stormwater Utility Revenue Requirement Forecast 2020-29* (Full Capital LOS)



**The graph labels show the monthly revenue adjustment, the single-family annual rate, and the monthly change to the single-family rate.*

Levels of Service (With Debt Issuances)

Alternative scenarios were prepared which assume the issuance of debt to fund some capital projects, rather than funding capital projects entirely through rates. The levels of service in these debt issuance scenarios are the same as assumed in the previous cash-funded scenarios. **Exhibit 8** summarizes the rate impacts if the City issues debt to fund the capital program; these rates may be directly compared to those in the previous section showing the impact of issuing debt.

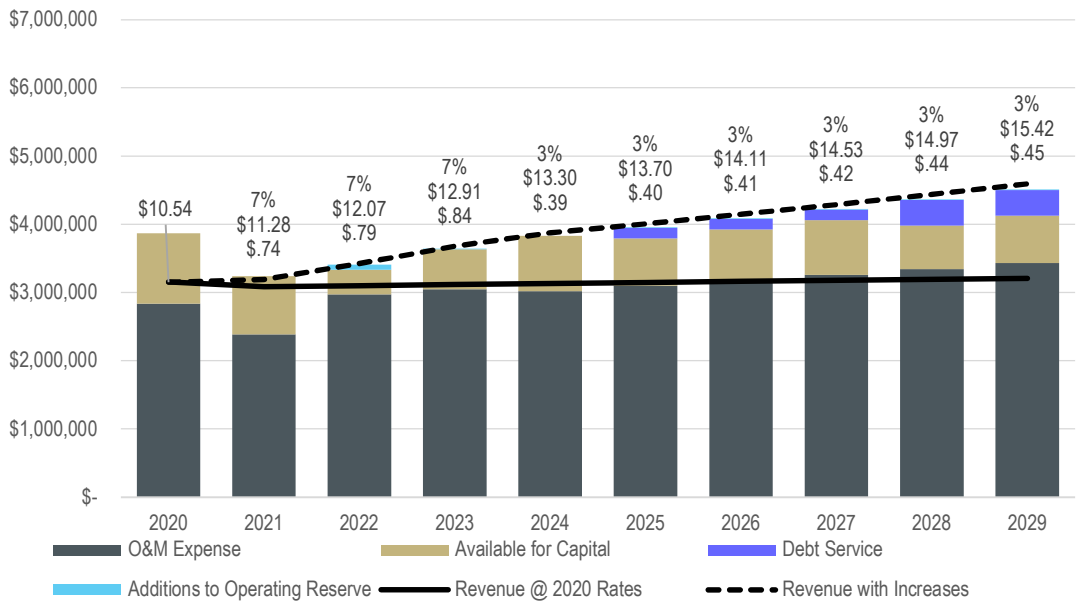
Exhibit 8: Levels of Service (Debt Funded)

Level of Service Matrix	Single Family Monthly Rate				Capital Projects	Cash Funded / Debt Funded Capital
	2020 (existing)	2021	2022	2023		
LOS 1: Baseline	$10.54	$11.28	$12.07	$12.91	Avg. $1,700,000 / year in Capital Expenditures $1.2M - critical master plan projects $500k - critical maintenance needs	$14,200,000 Cash Funded $17,800,000 Debt Funded $32,000,000 Total Capital
	$ change:	*$0.74*	*$0.79*	*$0.84*		
LOS 2: Moderate Capital	$10.54	$11.80	$13.22	$14.81	Avg. $2,400,000 / year in Capital Expenditures $1.6M - Fund all master plan projects $800k - critical maintenance needs and some additional maintenance	$21,300,000 Cash Funded $24,700,000 Debt Funded $46,000,000 Total Capital
	$ change:	*$1.26*	*$1.42*	*$1.59*		
LOS 3: Full Capital	$10.54	$12.12	$13.94	$16.03	Avg. $3,200,000 / year in Capital Expenditures $1.6M - Fund all master plan projects $1.6M - Fund all known maintenance needs projects	$24,500,000 Cash Funded $35,600,000 Debt Funded $60,100,000 Total Capital
	$ change:	*$1.58*	*$1.82*	*$2.09*		

Revenue Requirement Results – With Debt Issuances

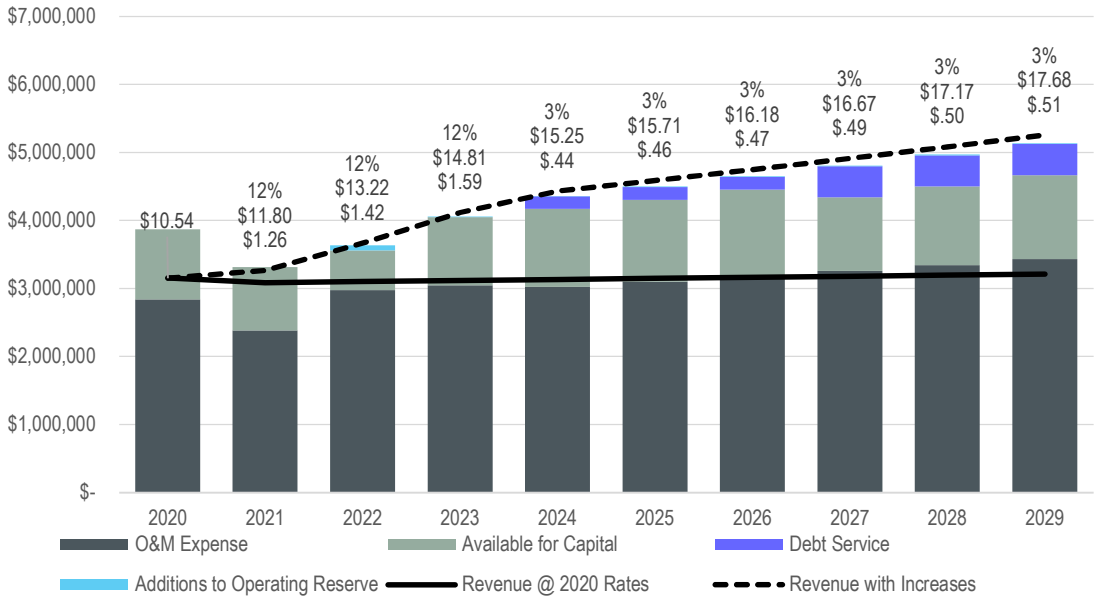
Exhibits 9, 10, and 11 graphically represent the revenue requirement forecast through 2029 for the each of the previously discussed levels of service, assuming the City issues debt at the levels presented in each scenario.

Exhibit 9: Monthly Stormwater Utility Revenue Requirement Forecast 2020-29* (Baseline LOS)



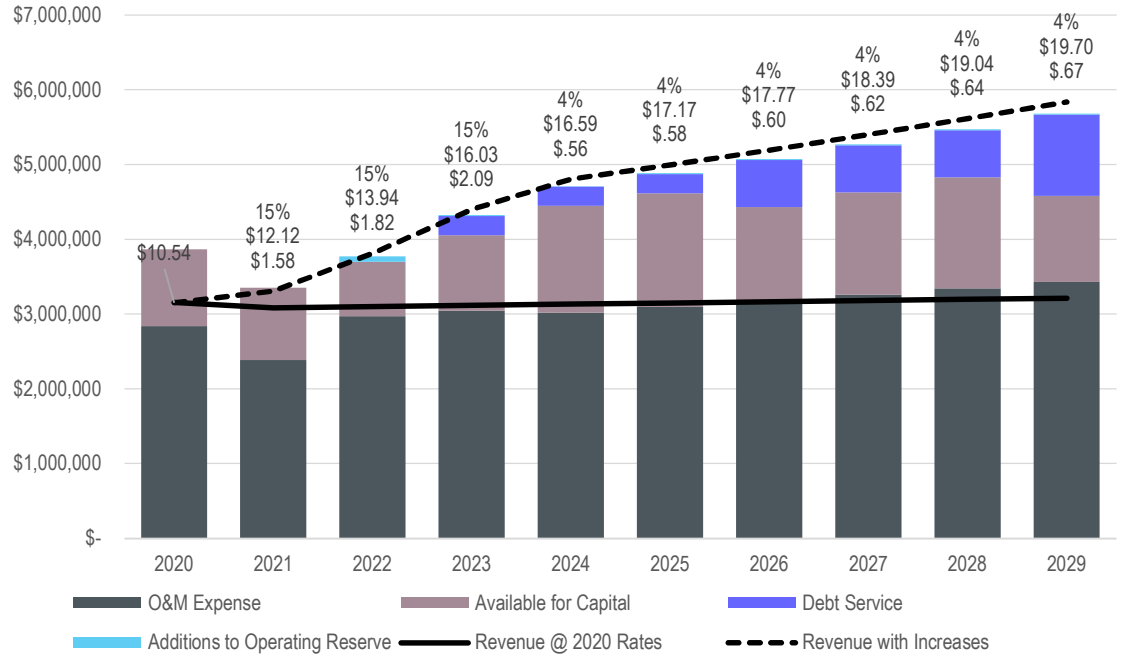
For the Baseline LOS, the total debt issuance is assumed to be $17,800,000, resulting in annual debt service payments of $375,000 by 2029.

Exhibit 10: Monthly Stormwater Utility Revenue Requirement Forecast 2020-29* (Moderate Capital LOS)



For the Moderate Capital LOS, the total debt issuance is assumed to be $24,700,000, resulting in annual debt service payments of $450,000 by 2029.

Exhibit 11: Monthly Stormwater Utility Revenue Requirement Forecast 2020-29* (Full Capital LOS)



For the Full Capital LOS, the total debt issuance is assumed to be $35,600,000, resulting in annual debt service payments of $1,100,000 by 2029.

Section IV. Rate Credits

A stormwater customer who provides onsite mitigation that is over and above the City's minimum requirements can reduce the utility's costs. Providing a rate credit for this additional mitigation can therefore be an appropriate incentive. This section provides an analytically-based maximum rate credit that the City may offer (if it offers one at all). For administrative practicality, if the City does decide to offer rate credits, we recommend that only commercial properties should be considered eligible for credits.

After calculating the total revenue requirement for the utility, we determined the maximum rate credit using the following approach. Each category of stormwater program costs was allocated between base and use. "Base" costs are not avoidable even with universal onsite mitigation. "Use" costs are theoretically avoidable with sufficient onsite mitigation. Results are shown in **Exhibit 12** below.

Exhibit 12: Base and Use Categorization

Expense Description	% Base	% Use
Personnel Services	92%	8%
Materials and Services	78%	22%
Transfers Out	100%	0%
Cash Funded Capital	33%	67%

These allocations of the FY 2021-22 projected costs resulted in approximately 71 percent of expenses classified as base costs 29 percent classified as use costs.

The maximum rate credit was determined by dividing each component cost by the expected number of ESUs to be charged. It was assumed that up to 10 percent of all ESUs would be lost to credits, or refinements to their chargeable area based on updated measurements. The calculation of the maximum credit amount is summarized in **Exhibit 13** below.

Exhibit 13: Calculation of Maximum Credit

	Base	Use	Total ($)
Total	$ 2,419,925	$ 1,018,774	$ 3,438,698
Storm Units	24,195	24,195	
Credit Qualifying (10%)		(1,379)	
Chargeable Storm Units	24,195	22,816	
Annual Charge per Unit	**$ 100.02**	**$ 44.65**	**$ 144.67**
Maximum Credit Provided		**31%**	

The result of the credit calculation is a maximum rate credit of 31 percent for qualifying on-site mitigation.

Section V. SUMMARY

A review of the 2021-23 rates for each scenario (baseline, moderate capital, full capital, with and without debt) is provided as shown in **Exhibit 14**.

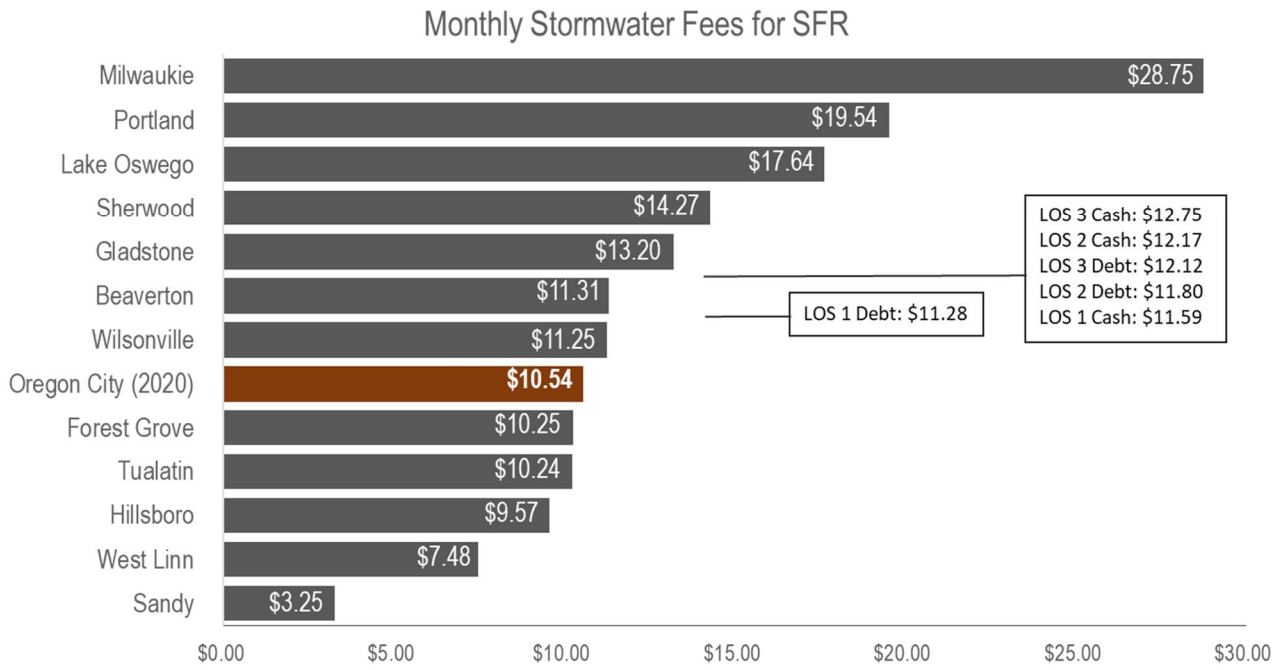
Exhibit 14: Rate Increase Scenarios

LOS Matrices	2020 (existing)	2021	2022	2023
LOS 1: Cash funded	**$10.54**	**$11.59**	**$12.75**	**$14.03**
$ change		*$1.05*	*$1.16*	*$1.28*
LOS 2: Cash funded	**$10.54**	**$12.17**	**$14.06**	**$16.24**
$ change		*$1.63*	*$1.89*	*$2.18*
LOS 3: Cash funded	**$10.54**	**$12.75**	**$15.43**	**$18.67**
$ change		*$2.21*	*$2.68*	*$3.24*
LOS 1: Debt funded	**$10.54**	**$11.28**	**$12.07**	**$12.91**
$ change		*$0.74*	*$0.79*	*$0.84*
LOS 2: Debt funded	**$10.54**	**$11.80**	**$13.22**	**$14.81**
$ change		*$1.26*	*$1.42*	*$1.59*
LOS 3: Debt funded	**$10.54**	**$12.12**	**$13.94**	**$16.03**
$ change		*$1.58*	*$1.82*	*$2.09*

Single-Family Residential Rate Comparison

As a resource to the City and its customers, a rate survey of regional stormwater utilities is provided below. **Exhibit 19** shows each jurisdiction's 2020 monthly single-family residential rate. Note that each jurisdiction has a unique set of geographic traits, customers, and system characteristics that can have a significant impact on rates.

Exhibit 15: Monthly 2020 Single-Family Residential Stormwater Rates



Updating This Study's Findings

It is recommended that the City revisit the study findings during the forecast period to check that the assumptions used are still appropriate and that no significant changes have occurred that would alter the results of the study. The City should use the study findings as a living document, routinely comparing the study outcomes to actual revenues and expenses. Any significant or unexpected changes may require adjustments to the rate strategy recommended in this report.

Section VI. APPENDICES

Appendix A - Issue Papers

City of Oregon City
Issue Paper #1

FCS GROUP
Solutions-Oriented Consulting

STORMWATER FISCAL POLICIES

BACKGROUND

The basic framework for evaluating utility revenue needs includes sound fiscal policies. Intended to promote long-term financial viability for the utility, these policies can address a variety of topics including cash management, a capital funding strategy, and financial performance.

There are several policy topics that can be important to consider further as part of managing the finances of the Oregon City Stormwater Division:

- Cash Reserves;
- Debt Management;
- Capital Funding; and
- Replacement Reserve Funding.

When evaluating fund reserve levels and objectives, it is important to recognize that the value of reserves lies in their potential use. A reserve strategy that deliberately avoids any use of reserves negates their purpose. Fluctuation of reserve levels may indicate that the system is working, while lack of variation over many years strongly suggests that the reserves are, in fact, unnecessary.

CASH RESERVES

Reserves are a key component of any utility financial strategy, as they provide the flexibility to manage variations in costs and revenues that could otherwise have an adverse impact on ratepayers. For the purpose of rate and financial planning, resources are commonly separated into the following distinct accounts or funds:

- Operating Reserves,
- Capital Reserves,
- SDC Reserves, and
- Debt Reserves.

Operating Reserves

An operating reserve is designed to provide a liquidity cushion; it protects the utility from the risk of short-term variation in the timing of revenue collection or payment of expenses. Like other types of reserves, operating reserves can help smooth rate increases over time.

Target balances for an operating reserve are generally expressed as a certain number of days of operating expenses (less transfers), with the minimum target varying with expected revenue volatility. Industry practice for utility operating reserves typically ranges from 30 days (8%) to 120 days (33%) of operating expenses, with the lower end more appropriate for utilities with stable revenue streams and the higher end of the range more appropriate for utilities with significant seasonal or consumption-based fluctuations.

The most common operating reserve target for stormwater management utilities with monthly billing schedules, like Oregon City, is between 30 days to 60 days of operating expenses (Table 1).

Table 1. Operating Reserve Policy Recommendation

Policy	Common Target	Recommended Target
Operating Reserve	30 to 60 Days of O&M	30 to 60 Days of O&M

In any year where operating reserves exceed the maximum days (i.e., 30-60 days) of operating expenses, it is assumed that the excess cash can be used to help pay for capital projects. This can be accomplished by calculating the target balance and comparing it against the actual existing cash balance. If the actual balance is greater than the target, the difference can be designated as a capital resource.

Capital Reserves

The capital reserve consists of cash that has been set aside for capital purposes. Resources can include utility rate revenue, grants, and debt proceeds. This fund provides a source of emergency funding for unexpected asset failures or other unanticipated capital needs. It can also help the utility address cash flow issues related to capital projects. For example, grants that the utility may rely upon to meet its capital needs may have a local cash matching requirement.

Given these different purposes, there are a variety of potential benchmarks for setting a minimum balance for this reserve. Some potential options include:

- A percentage (commonly 1 to 2%) of the original cost of fixed assets (Table 2);
- A rolling multi-year average of capital improvement program (CIP) costs; or
- An amount determined sufficient to fund an equipment failure.

However, this capital reserve policy is not intended to guard against catastrophic system failure or extreme acts of nature.

Table 2. Capital Reserve Policy Recommendation

Policy	Common Target	Recommended Target
Capital Reserve	1 to 2% of Original Cost of Assets	1 to 2% of Original Cost of Assets

System Development Charge Reserves

System development charge (SDC) revenue includes both reimbursement and improvement fee receipts. Revenue from each fee should be held in a separate reserve account. These funds are used to pay for capital projects, with the improvement fee balance to be used only for projects that expand the capacity of the system.

DEBT MANAGEMENT

Debt Reserve

The debt reserve is most often required as a condition of bond issuance, though some loan programs also require a reserve. The intent of the reserve is to protect bondholders (or the agency issuing loans) from the risk of the borrower defaulting on their payments.

The minimum balance for this reserve (typically specified in the bond/loan agreement) is most often linked to either average annual debt service, maximum annual debt service, or the amount issued (Table 3).

Table 3. Debt Reserve Policy Recommendation

Policy	Common Target	Recommended Target
Debt Reserve	Depends on type of debt issued.	Policy should be dictated by terms outlined in contracts for debt obligations, if applicable.

Debt Service Coverage

Debt service coverage is typically a requirement associated with revenue bonds and some state loans, and it is an important benchmark to measure the riskiness of the utility's capital funding plans. Coverage is most easily understood as a factor applied to annual debt service. In such a case, if it sells revenue bonds, the utility agrees to collect enough revenue to meet operating expenses and not only pay debt service, but collect an additional 25% increment above bonded debt service.

The extra revenue is a "cushion" that makes bondholders more confident that debt service will be paid on time. The extra revenue can be used for capital expenditures, to build reserves for future asset replacement, or for debt service on subordinate debt. Depending on the targeted rating level, some rating agencies suggest an annual debt service coverage target of 1.70 or greater (*Moody's Rating Methodology, US Municipal Utility Revenue Debt; October 2017*) (Table 4). Achieving a bonded debt service coverage level greater than the minimum required level is a positive signal that bond rating agencies notice, and can result in more favorable terms if the utility goes to the market for bonds.

Table 4. Debt Service Coverage Policy Recommendation

Policy	Common Target	Recommended Target
Debt Service Coverage	Depends on type of debt issued and targeted debt rating level (e.g., Aaa, Aa, A, etc.)	According to Moody's, a target range of between 1.25x and 1.70x might contribute towards an "A" rating. A range of 1.70x and 2.00x; an "Aa" rating.

CAPITAL FUNDING

Utilities can typically draw funds for capital improvement projects from a variety of sources, such as grants, system development charges, utility rates, and debt. While grants and developer contributions would logically be applied to project costs first, the next choice in the funding "hierarchy" is not necessarily apparent. A list of considerations is provided below.

Debt Funding

Debt mitigates the financial impact of capital investment on ratepayers, but comes with issuance and interest costs. A utility's ability to meet coverage and other debt-related requirements may limit the amount of additional debt that it can issue. Additionally, excessive amounts of outstanding debt can affect a utility's credit rating (and its ability to secure low-interest debt).

Cash Funding

Capital cash resources (e.g., system development charges, replacement reserve funding) can be applied to project costs directly, or they can be held in reserve or used toward annual debt service payments.

Resulting Considerations

The specific decision regarding whether to fund projects by debt or by cash is an important policy decision that will likely be driven by a number of considerations. While cash funding will be cheaper in the long run because there is no interest cost, debt funding may be the more practical option since it allows for the payment of costs over an extended period of time. Using debt to spread the cost over time also promotes "generational equity," ensuring that future customers pay for their fair share of system costs.

The overlay of other financial policies related to coverage and replacement reserve funding can implicitly define equity generation through rates and system development charges, automatically constraining the need for debt to reasonable levels. In this case, a new policy related to debt financing may not provide added value to financial planning or viability.

Across the Industry

Drawing from a report from Black & Veatch, "*2018 Stormwater Utility Survey*", of the 75 participants surveyed (from 21 states), the weighted funding profile for surface water and stormwater utility capital projects was approximately 87% cash versus 13% with debt. This result is up from 85% cash in 2014.

REPLACEMENT RESERVE FUNDING (RRF)

The concept of replacement reserve funding is essentially funding long-term infrastructure replacement needs through a regular and predictable rate provision. An RRF program can be structured to take into account the defined funding source (rate revenue), accumulation of funds when funding exceeds near-term needs, and augmentation of funds (e.g., through debt) when replacement needs exceed available cash resources.

Specific benchmarks for annual funding might include any of the following:

- Original cost depreciation expense;
- Replacement cost depreciation expense;
- Asset management plan; and
- Directly budgeted replacement project expenditures.

Each of these benchmarks are described in more detail in the following subsections.

Original Cost Depreciation Expense

This approach fully funds the decline in asset value attributable to the wear and tear from routine use, as measured by original construction costs. It avoids decline in system asset value (financial integrity) by replacing physical assets with cash assets.

However, as the General Finance Officers Association (GFOA) notes in their capital asset management recommendations, "Simply budgeting for the historical acquisition value of the asset may not take into account changes in price for a new asset or cases where the asset may not need full replacement based on the condition assessment," (*Recommendation 7*).

Replacement Cost Depreciation Expense

This approach estimates the replacement cost of the system, and bases the funding target on this higher cost. This approach more closely conforms to the true cost of replacing the system or asset.

Asset Management Plan

This approach identifies a specific dollar amount of funding to be budgeted annually, ideally based on an asset management plan. An asset management plan is typically based on an accurate asset inventory, supplemented by routine asset condition assessments.

Directly Budgeted Replacement Project Expenditures.

By budgeting replacement expenditures as they occur, this approach does not attempt to anticipate or accumulate toward replacement needs and is likely to provide highly variable annual requirements.

Summary

Of these various approaches, only the Asset Management Plan approach is actually designed to ensure full funding of replacement needs, assuming the accuracy of assumptions used (Table 5). All of the others are intended to provide reasonable contributions toward meeting replacement needs, but do not ensure the adequacy of such funding.

Most commonly, utilities that have addressed replacement funding needs have used historical (original cost) depreciation expense as the basis for a reasonable level of reinvestment in the system. This strategy and level of funding satisfies several standards for reasonable rates:

- It avoids decline in system asset value (financial integrity);

- It charges customers commensurate with their consumption of facility useful lives and avoids the possibility of charging customers more than the current cost to provide service (rate equity); and
- It provides a substantial source of funding for replacement (capital funding adequacy).

Table 5. Replacement Reserve Funding Recommendation

Policy	Common Target	Recommended Target
Replacement Reserve Funding	Based on original cost or replacement cost depreciation. Asset management plans are becoming more popular—and important—and would provide a more-detailed funding strategy beyond what annual depreciation would suggest.	Implement an asset management plan. Absent that, fund at least 100% of original cost depreciation. Consider building rates over time to fund replacement cost depreciation.

RECOMMENDATIONS

We recommend that the City consider the following fiscal policies for the Stormwater Management utility.

Table 6. Summary of Recommendations

Policy	Common Target	Recommended Target
Operating Reserve	30 to 60 Days of O&M	30 to 60 Days of O&M
Capital Reserve	1 to 2% of Original Cost of Assets	1 to 2% of Original Cost of Assets
SDC Reserve	Account for reimbursement and improvement fees separately	
Debt Service Coverage	Minimum required: 1.25x	If debt is issued, an internal policy target of 2.00x may be prudent.
Replacement Reserve Funding	Asset management plans are becoming more popular. Otherwise, a percentage of depreciation (original cost or replacement cost).	Develop Asset Management Plan. Or fund at least 100% of original cost depreciation.

City of Oregon City
Issue Paper #2

FCS GROUP
Solutions-Oriented Consulting

STORMWATER RATE STRUCTURE ALTERNATIVES

ISSUE

The City of Oregon City imposes monthly storm drainage charges on properties within the City limits. The City has requested an evaluation to determine whether or not the current rate structure is optimal, given the City's policy objectives.

RATE STRUCTURE ALTERNATIVES

There are a number of potential rate structure alternatives that can be considered for a stormwater utility, several of which are evaluated below. When evaluating these structures, it is important to balance equity and administrative feasibility. For example, if a rate structure is considered to be very equitable but is cost prohibitive to setup and maintain, a less "perfect" approach may be more desirable if it is less costly to administer.

Option 1: Impervious Surface Area / Equivalent Service Unit (Recommended for Consideration)

The most common stormwater rate approach is to charge customers based on impervious surface area, the hard surface area that prevents or impedes the permeation of water into the ground. Impervious surface area is widely accepted as an appropriate measure of a property's contribution of runoff, providing a rational nexus to service received from a stormwater management utility. Given the diversity that exists among non-single-family residential properties, it is common to charge these customers based on actual measured impervious surface area. Because tracking parcel-specific measurements of impervious area for single-family customers would add considerable administrative effort and complexity to the rate structure, the more common practice is to impose a uniform rate on single-family residences based on an estimated average amount of impervious surface area. Though this approach may overcharge smaller residences and undercharge larger residences, it is widely considered to be an acceptable compromise between equity and practicality.

Option 2: Density of Development (City of Oregon City's Existing Rate Structure)

An alternative measurement of runoff contribution involves applying "density factors" to gross parcel size, adjusting charges depending on the percentage of the parcel covered by hard surface. This approach can acknowledge that, for example, 3,000 square feet of impervious area on a 5,000 square foot lot more directly impacts the public system than an equivalent impervious area on a one-acre lot. As with the approach based on impervious surface area, this approach is an appropriate charge basis because it adequately quantifies the relationship between the rate paid and the level of service received.

Option 3: Runoff Coefficients

This approach is similar to the "density of development" approach in that it can be used to adjust a parcel's charge based on its runoff characteristics; however, it is more closely associated with a parcel's physical properties. When applied to lot size, runoff coefficients are generally accepted as a measure of runoff contribution (and service received). Implementing this approach requires

information relating to the basic characteristics of land (e.g., slope and soil type), land use, and lot size. Depending on slope variables and soil characteristics, undeveloped parcels may also be subject to charges under this approach. In measuring runoff contributions by evaluating property-specific characteristics that may impact those contributions, this approach rationally recovers the costs of several aspects of the stormwater utility.

Option 4: Land Use

Alternatively, runoff characteristics can be linked to types of land use. For example, empirical analysis may find that industrial land use has a more significant contribution to water quality problems from surface water runoff than undeveloped land (justifying a proportionately higher industrial rate to equitably recover program costs).

Option 5: Trip Generation

While most rate structure options focus on runoff contribution, a structure based on trip generation relates automobile traffic to non-point-source pollution contributed by properties. The Institute of Transportation Engineers' *Trip Generation* Manual assigns a number of daily trips to specific categories of land use – this information could be used to recover the costs of water quality activities within the surface water management program. Customer land uses and floor area would also be required in order to calculate equitable rates.

CITY OF OREGON CITY'S EXISTING RATE STRUCTURE

The City currently utilizes the Density of Development (Option 2) rate structure, as defined in Oregon City Municipal Code (OCMC) Section 13.16.020. The City's storm drainage rate is a fixed charge per equivalent residential unit (ERU). Each residential account is considered one ERU while ERUs for all non-residential accounts are determined by two factors:

- Area Range Number (ARN): ranges of gross area square footages are used to classify non-residential properties into groups of similar parcel size. For example, parcels with gross areas of one to two thousand five hundred square feet are assigned an area range number of 1. Parcels with gross areas of two thousand five hundred to five thousand square feet have an ARN of 2. These increments continue on so that each additional range of two thousand five hundred square feet is counted as an additional ARN of 1.

- Development Intensity Factor (DIF): this factor is indicative of the land use or assumed impervious coverage of each property.

Table 1 represents the DIFs for each of the existing land uses and zoning to be used in determination of non-residential ERUs.

Table 1. Development Intensity Factors (DIFs)

Nonresidential Land Use or Zoning	Development Intensity Factor
LOC limited office conditional	0.70
LO limited office	0.80
NC neighborhood commercial	0.80
HC historic commercial	0.70
LC limited commercial	0.70
C general commercial	0.90
CBD central business district	0.90
M1 light industrial	0.70
M2 heavy industrial	0.80
Conditional use or nonconforming	Apply a composite runoff factor

The equivalent residential units (ERUs) for a non-residential property are computed by the following formula:

ERUs = ARN x DIF

As of January 1, 2020, the City charges $10.54 per ERU on a monthly basis.

CONSIDERATIONS FOR CITY

Density of Development: Equity Issues at Edges of Non-Residential Area Ranges

While this structure charges more for properties with larger gross square footages with an applied development intensity factor, the structure can perpetuate inequities among customers at the extreme ends of each area range number.

For example, a non-residential property that is 4,900 gross square feet would pay significantly less than a similarly sized property that is 5,100 gross square feet, with the same development intensity factor, even though they have comparable amounts of gross square footage. Meanwhile, a non-residential property that is 7,400 gross square feet would pay the same as a property that is 5,100 gross square feet. Table 2 demonstrates this inequity with three hypothetical non-residential accounts.

Table 2. Inequities for Accounts at Edge of Area Ranges

Gross Parcel Size	ARN	DIF	Monthly Charge	$ Per Gross Square Foot
4,900 SF	2	0.80	$16.86	$.0034
5,100 SF	3	0.80	$25.30	$.0050
7,400 SF	3	0.80	$25.30	$.0034

Consideration of Other Rate Structures

While the Density of Development rate basis is generally supported and accepted, it is still worthwhile to consider alternatives that might address the equity issues that the Density of Development structure creates. The City could consider a fee structure that administers charges based on actual, **measured impervious surface area** (Option 1) rather than using ranges of gross square footages with a density factor applied. This impervious-based approach is also known as the equivalent service unit, or ESU approach).

The City could also incorporate a **runoff coefficient** (Option 3). This approach would require a relatively extensive data collection effort on the part of the City. It is also less defensible as a fee basis because it incorporates physical land characteristics over which the customer has minimal control.

While administratively simple compared to an impervious-area approach, an approach based on **land use** (Option 4) is typically used only when property-specific data is unavailable.

Trip generation (Option 5), while a supportable means of recovering costs related to water quality, provides little if any advantage over impervious surface area at greater administrative effort and associated cost. A trip generation rate structure should be reserved for communities that primarily deal with water quality issues (more so than water quantity issues).

RECOMMENDATIONS

An ideal fee basis creates a standard of charging that quantifies how the amount of impervious surface area impacts the environment through flooding, changes in water quality, and habitat degradation. Therefore, the fee structure basis should proportionately charge customers their share of the system's cost burden and provide an equitable, defensible means of cost recovery. The City's current rate structure generally meets these criteria by charging more for a higher percentage of assumed impervious surface area to total surface area for non-residential parcels. However, to address previously noted equity issues at the edges of the area ranges, we recommend the City consider implementing an ESU rate structure, which is outlined below. As mentioned earlier in this discussion, the City will need to weigh the increase in equity achieved through a revised rate structure against the cost to compile the needed data and administer the charge.

Equivalent Service Unit Approach (Option 1)

The rate itself is most commonly calculated as a dollar amount per ESU. This rate structure would improve the equity over that of the City's existing rate structure by charging each non-residential property based on their actual measured impervious surface area.

Non-Residential Properties

The charge basis for all non-residential customer types is generally actual measured impervious surface area, expressed as a number of ESUs (a single ESU representing the average single-family residential customer). In order to implement this rate structure shift the City would need to gather data for measured impervious surface area on all non-residential properties.

As an example, assume that the average single-family parcel has 3,000 impervious square feet. If a commercial parcel had 12,000 impervious square feet, that parcel would be charged for 4 ESUs (12,000 divided by 3,000), as shown in **Figure 1** below.

Single Family Parcels

Rather than compute ESUs for every single-family parcel, as a simplification, it would be possible to group them into rate tiers. For example, single family parcels could be grouped into "Small", "Medium", "Large", and "Measured" impervious footprints. Parcels with comparatively large impervious footprints, the "Measured" tier, would be charged like other developed property – based on the measured amount of impervious surface area. However, implementation of even a hybrid approach would require the same initial data collection to determine tier placement for each property, without significantly improving equity among rate payers.

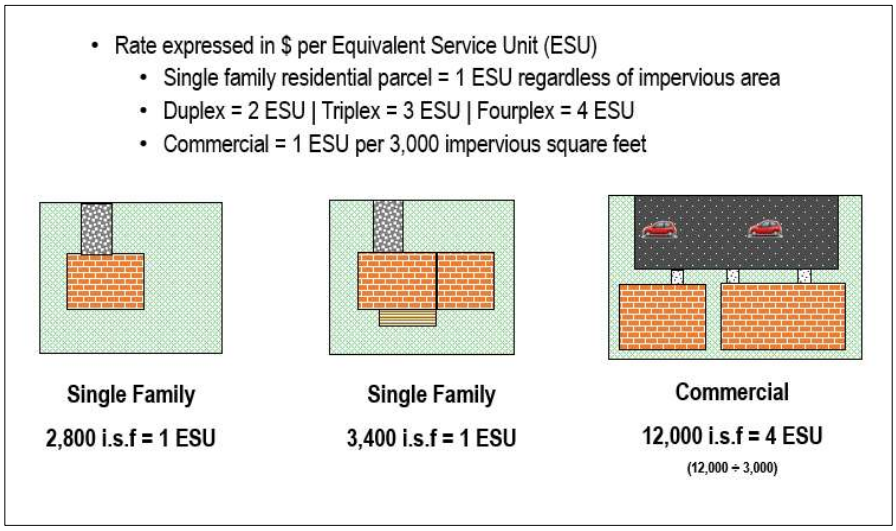
To minimize administrative and data collection costs, it is recommended that the City continue to charge a uniform rate for single family residential customers.

Summary

It is recommended that the City apply the ESU approach for non-residential properties and charge a uniform rate for single family residential customers. The ESU value to be incorporated into the non-residential properties (e.g., 3,000 impervious square feet) would be determined by using an average amount of assumed impervious surface area per developed residential property (based on a relevant sample size within the City). All single-family properties would have the same, flat charge.

It is important to note that the City could compile needed impervious data over a period of time, and schedule the transition to an ESU approach, if desired, for later years.

Figure 1. ESU Rate Structure Example (Assuming 1 ESU = 3,000 impervious square feet)



City of Oregon City
Issue Paper #3

FCS GROUP
Solutions-Oriented Consulting

STORMWATER RATE CREDITS & ADJUSTMENTS

ISSUE

This paper discusses when it may be reasonable (or required) to provide rate credits or adjustments for Stormwater Management utility customers who mitigate their stormwater impacts – and the rational basis for such credits.

EXISTING OREGON CITY RATE CREDITS & ADJUSTMENTS

The City of Oregon City currently grants a couple types of rate credits and adjustments, as outlined in Oregon City Municipal Code (OCMC), Section 13.16.100 *Exemptions, reductions and appeal*. The code language is shown below.

> **(1) Vacant and unimproved properties.**
>
> Vacant and unimproved properties within the city are exempt from the charges in Section 13.16.050;
>
> **(2) Stormwater retention.**
>
> Any other person seeking an exemption or reduction in the storm drainage fee, or appealing therefrom, may do so pursuant to a demonstration to the city manager or the manager's designee that the public storm drain service does not receive stormwater from property used or occupied by that person. Such demonstration shall include evidence of legal disposal of stormwater to a private retention system, private storm drain system, public water body, or other receiving facility.

RATE CREDIT METHODOLOGY

There are several elements to review when considering the implementation of a credit(s) program:

- "Should the City offer rate credits?" If yes, "How much should the credit(s) be?"
- "Should credits be offered to single family residential properties, or just non-single family properties?"
- "Should credits be given for meeting current development requirements?" Or, "Should rate credits only be given for exceeding current development requirements?"
- "What activities could warrant a rate credit?"

Should the City offer Rate Credits?

When considering if, and how much to charge or credit different types of customers, it is important to remember that a storm drainage rate is a fee for service, not a tax. As such, the level of a customer's charge must somewhat relate to that customer's proportionate share of the utility's costs. Overly "generous" credit policies which provide credits that are not cost-based have the potential to move a utility away from the rational linkage between service delivered and the fee amount, so the utility

should bear in mind the financial ramifications, as well as the equity and legal defensibility of any existing or proposed credits.

How Much Should the Credit(s) Be?

A Stormwater Management utility's service to its customers and the community can be analyzed in two functional categories: controlling and reducing stormwater runoff (i.e., water quantity), and controlling and managing pollutants (i.e., water quality). The broader questions to address in establishing credits are (1) whether a rate payer helps the utility reduce its costs, or to avoid additional costs, by providing certain mitigation measures in these two functional areas, and (2) if yes, how much of a cost savings is provided. Comparatively, properties with on-site mitigation have a reduced effect on the public system compared to similar properties lacking this mitigation. Therefore, it might be argued that to the extent that such facilities reduce costs to the utility, they may warrant a rate credit. In contrast, granting rate credits for on-site activities that do not reduce utility costs simply reduces the amount of resources available for basic services to the remainder of the customer base.

Should Credits be Offered to Single Family Properties, or Just Non-Single Family Properties?

Stormwater Management utilities often exclude single family residential customers from a credit program (if credits are offered at all) due to the administrative burden needed to maintain such a system. The City currently offers credits to residential properties, with qualifying retention facilities. The City may wish to review the administrative time and cost associated with providing credits to all customers, even residential customers.

Should Credits be Given for Simply Meeting Current Development Requirements?

Rate credits may be structured to reward customers who provide mitigation that meets or exceeds current development standards, while offering lesser or no credits for mitigation that does not meet or exceed current development standards. Currently, the OCMC does not offer credits for properties that develop stormwater facilities that meet or exceed development standards.

It could be argued that the cost of meeting current City standards and constructing on-site mitigation should be considered a cost of developing within the service area, with no offsetting credits or assistance, since on-site mitigation only partially neutralizes the impact of developing the property in the first place.

What Activities Could Warrant a Rate Credit?

Once it has been determined if credits will be provided for, and if qualifying applicants must meet and or exceed development standards, the next logical question is, "What activities could warrant a rate credit?" We recommend that the City evaluate the overall amount of revenue forgone by offering credits and compare that to the cumulative cost savings associated with the credit programs. Rate credits for on-site mitigation are not required but are discussed in the following sections.

ACROSS THE INDUSTRY

A review of potential credit approaches reveals a number of alternatives used across the industry.

On-site Retention and / or Detention

Many jurisdictions allow credits for developments that provide on-site retention and or detention facilities as a condition of development, often maintaining such facilities as well.

Low Impact Development, Green Building, and Rainwater Harvesting

Low impact development (LID) best management practices (BMPs), such as rainwater harvesting, permeable pavement, bioretention swales and rain gardens could also be worthy of credits. Other LID BMPs, such as vegetated roofs, may change the effective impervious area of a development or home if properly maintained because they reduce and filter runoff.

Green building techniques include site planning to take greater advantage of natural site features, achieving Leadership in Energy and Environmental Design (LEED) or Built Green certification, planting drought-resistant native landscaping, amending soils with compost, reducing impervious surface area, minimizing site disturbance during development, and previously noted LID features. Implementing these techniques will result in increased natural resource conservation, lower home operating costs, and better stewardship of the City's natural environment. Other than its LID aspects, green building techniques are not strongly linked to a reduction in Stormwater Management utility costs. Aspects that could be directly related to smaller service requirements are the minimization of impervious surface area and improved water quality.

A credit for LID would recognize the fact that effective impervious area can be much smaller than the impervious surface area that is measured from aerial photographs (due to roof rainwater collection systems, permeable paving, vegetated roofs, etc.).

Dedicated Open Space

Developments may incorporate design techniques that concentrate residences or other buildings in a compact area of the development site (lot clustering) and provide open space and natural areas elsewhere, protected by an easement. Such techniques can reduce runoff and mitigate surface water quality issues.

Open space developments have many benefits in comparison to the conventional subdivisions that they replace: they can reduce impervious surface area, surface water pollutants, construction costs, grading, and the loss of natural areas. In addition to the minimization of impervious surface area, the preserved natural areas and tree canopy can significantly mitigate the surface water runoff created by the buildings onsite. Therefore, although affected by the slope characteristics of the property, the preserved portion of the site acts to reduce the effective impervious area of the development and provides a meaningful benefit to the public system when runoff is adequately dispersed.

Rate Penalties

Rate penalties have been considered in other agencies to address private surface water management facilities that are not being properly maintained to City standards. In those locations, it has been concluded that simply offering a rate credit is not effective at encouraging a majority of customers to comply with utility design and maintenance standards.

A basic rationale for a rate penalty may be that when a property does not maintain its on-site infrastructure to a minimum standard, it can create additional inspection, maintenance, and or capital costs that must be borne by the City. If no action is taken to correct deficient infrastructure, that could create a higher risk of localized flooding or water contamination events, which can also create additional costs.

POLICY CHOICES

Rate Credit Framework

Table 1 summarizes the key policy items that City stakeholders should agree on, before revisiting which activities should qualify for a rate credit.

Table 1. General Rate Credit Policy Items for Discussion

	Policy Items for Discussion	
1	Should the City offer rate credits?	Should rate credits be offered at all?
2	Should credits be offered to single family properties?	In our experience, rate credits are rarely offered to single family properties due to the administrative burden. The exception would be low-income, senior citizen exemptions.
3	How much should the rate credit(s) be?	Maximum credit (typically expressed as a percentage) should be analytically based, but be simple enough that it is feasible to implement.
4	What level of achievement qualifies for a rate credit?	Are credits offered for meeting regulations? Or only offered for properties that exceed regulations?
5	What activities could warrant a rate credit?	In our experience, rate credits are typically related to one of the following: onsite retention / detention; dedicated open spaces; or occasionally LID.

Qualifying Activities within the Rate Credit Framework

Table 2 summarizes the activities within the service area that the City currently provides credits for. The City should review and consider whether these credit programs align with current Stormwater Management utility goals and priorities.

Table 2. Activities Currently Qualifying for a Rate Credit or Penalty

#	Program	Currently Offered by the City?	Amount of Current Credit
1	Vacant, unimproved properties	Yes	100%
2	Onsite Retention	Yes	100%

RECOMMENDATIONS

Develop Maximum Rate Credit Percentage to Offer for Qualifying Activities

Many of the Stormwater Management utility's costs are essentially "fixed" and do not decrease no matter what services customers provide on-site. As a first step, we recommend that the City determine the portion of program costs which can be reduced by the on-site activities of the customer base. Once an allocation of program revenue requirements between fixed, or "base," program costs, and variable, or "use," program costs has been made, these component shares of the Stormwater Management utility charge can be determined.

The utility will then be able to determine a theoretical maximum credit to be provided for qualifying on-site mitigation. The above recommendations ensure that properties eligible for rate credits would be reducing the average cost of Stormwater Management utility operations, as well as possibly allowing the City to delay capital projects. As a result, the utility would be able to reduce its costs by implementing the recommended credit policies. The maximum credit approach is more easily applied to an ESU-based rate structure (see Issue Paper #2), but could be considered under the City's existing approach as well.

This maximum credit approach could apply to any or some of the following activities, and should not be "stackable":

- Onsite Retention / Detention Facilities;
- Drainage Basis Plans; and
- Water Treatment / Individual NPDES Permit Holders.

An impervious-based approach is philosophically charging for the impact of developed area on increased runoff. As such, it is not consistent with that approach to charge undeveloped land. Vacant developed property should be charged, as it does generate runoff.

A credit approach based on on-site mitigation would not preclude the City from fully exempting low-income, senior customers.