CITY OF SANDPOINT AGENDA REPORT

DATE: May 10, 2023

TO: MAYOR AND CITY COUNCIL

FROM: Greg Lanning, Utilities Director

SUBJECT: Utility Rate Report Acceptance

DESCRIPTION/BACKGROUND:

In January, 2022, FCS Group, the city's rate consultant, presented to council, the process and elements of a water and sewer utility rate study to be conducted to update and replace the existing 2010 rate study.

Subsequent key dates of the water and sewer rate study included:

June 8, 2022 - Council Workshop w/ FCS Group and staff on revenue requirements and user facility fees, July 20, 2022 – Presentation and adoption of the recommended revenue adjustments, February 15, 2023 – Presentation; Water cost of service and rate design, March 1, 2023 – Presentation; Sewer cost of service and rate design, April 5, 2023 – Public Hearing, presentation, and adoption of recommended utility fee schedule.

FCS Group, has prepared and submitted the final report on the rate study entitled Water and Wastewater Utility Rate & New User Facility Fee Study, dated May 2023. Also submitted is a separate memo describing the Wholesale Rate Development, May 2023.

The report captures and describes the study process over the last year with a chapter on Rate Study Methodology and individual chapters on the Water Utility and Wastewater Utility.

STAFF RECOMMENDATION:

Staff recommends acceptance of the final water and sewer rate study report and wholesale rate memo.

ACTION:

Accepting for the record the rate study report entitled Water and Wastewater Utility Rate & New user Facility Fee Study and companion memo describing Wholesale Rate Development.

WILL THERE BE ANY FINANCIAL IMPACT? NO HAS THIS ITEM BEEN BUDGETED? YES

ATTACHMENTS:

Water and Wastewater Utility Rate & New User Facility Fee Study, May 2023 Memo dated May, 2023, from FCS Group on Wholesale Rate Development

No: 23-Date: May 17, 2023

RESOLUTION OF THE CITY COUNCIL CITY OF SANDPOINT

TITLE: ACCEPTANCE OF FINAL WATER AND SEWER RATE STUDY REPORT AND WHOLESALE RATE MEMO

WHEREAS: In January 2022, FCS Group, the City's rate consultant, presented to Council the process and elements of a water and sewer utility rate study to be conducted for the purposes of updating and replacing the existing 2010 rate study;

WHEREAS: Subsequent key dates of the water and sewer rate study included:

- June 8, 2022 Council workshop w/FCS Group and staff on revenue requirements and user facility fees
- July 20, 2022 Presentation and adoption of the recommended revenue adjustments

February 15, 2023 – Presentation re: water cost of service and rate design

March 1, 2023 – Presentation re: sewer cost of service and rate design

April 5, 2023 – Public hearing, presentation, and adoption of recommended utility fee schedule

and

- WHEREAS: FCS Group has prepared and submitted the final report on the rate study, titled *Water and Wastewater Utility Rate & New User Facility Fee Study*, dated May 2023, as well as a separate memo dated May 2023, which describes the Wholesale Rate Development, with the report capturing and describing the study process over the past year, including a chapter on Rate Study Methodology and individual chapters on the Water Utility and Wastewater Utility.
- NOW, THEREFORE, BE IT RESOLVED THAT: City Council hereby accepts the rate study report, Water and Wastewater Utility Rate & New User Facility Fee Study, and the companion memo describing Wholesale Rate Development, copies of which are attached hereto and made a part hereof as if fully incorporated herein.

Shelby Rognstad, Mayor

ATTEST:

Melissa Ward, City Clerk



City of Sandpoint

WATER AND WASTEWATER UTILITY RATE & NEW USER FACILITY FEE STUDY

FINAL REPORT May 2023

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

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Section I. INTRODUCTION

Purpose

FCS GROUP was engaged by the City of Sandpoint ("City") to conduct a rate study update for both the water and wastewater utilities. The purpose of the study was to provide a rate forecast and financial plan targeting stability, revenue sufficiency and rate equity for the FY 2023 – FY 2028 rate setting period. In addition to updated rate forecasts, the City also wished to update their New User Facility Fees (NUFFs), reflecting the most recent asset listings, to ensure ongoing equity between existing and new customers. Finances are projected for a twenty-year period with the primary focus on the near-term rate setting timeframe.

Approach

The methods used to complete the study are based on analytical principles and practices that are generally accepted and widely followed throughout the industry – The ultimate goal is cost-based utility fees and charges that generate sufficient revenue to maintain self-supporting and financially viable utilities. Guiding principles for the water study were based on the American Water Works Association M1 Principles of Water Rates, Fees and Charges, while the sewer study looked to the Water Environment Federation's Financing and Charges for Wastewater Systems for guidance on rate setting and cost allocation methodologies.

Throughout the study, we worked with the City to arrive at rate conclusions that meet forecasted utility financial obligations, achieve City goals and policies, comply with legal requirements, and adhere to industry best practices. Meetings were held with City staff to validate input parameters, review interim findings and receive policy direction.

Scope

The scope of the project included the following data driven elements for each utility:

- Develop the forecast of operating revenues and expenses to reflect the most recent approved budgets. Incorporate the most recent capital plans identifying the capital projects required to maintain each system in good repair. Develop a capital funding analysis that balances available funding from rate revenue, reserve funds, contributions and additional debt, if needed.
- Evaluate cash flow needs to meet existing and anticipated new annual debt service requirements and debt coverage requirements. Test the sufficiency of each system's current revenues in meeting all annual system obligations. Identify any projected shortfalls over the forecast period.
- Design a rate implementation strategy that meets each system's financial obligations over the multi-year planning horizon and provides smooth and moderated impacts to ratepayers.
- Perform a cost-of-service analysis (COSA) establishing a defensible basis for assigning "cost shares" and determining "equity" for system customers based on industry accepted methodologies that are tailored to the City's unique systems and customer characteristics. Identify the cost to serve each customer class within the water and wastewater systems.



- Evaluate existing rate structures for alignment with the City's current and/or recommended fiscal policies, generate sufficient revenue to meet the revenue requirement forecast, and to resolve any identified COSA differences. Begin transitioning rates towards cost-based unit costs.
- Develop a cost basis for water and wastewater new user facility fees that will provide equity between existing and new customers intended to recover a proportional share of the value of facilities required to provide service.

The methodology, key factors, conclusions, and recommendations for each of the key task areas of the study are summarized in this executive level report. Additional information can be found in the detailed rate models provided to the City.



RATE SETTING PRINCIPLES AND METHODOLOGY

The methods used to establish user rates are based on principles that are generally accepted and widely followed throughout the industry. These principles are designed to produce rates that equitably recover costs from each class of customer by setting the appropriate level of revenue to be collected from ratepayers and establishing a rate structure to equitably collect those revenues.

The primary tasks of the rate study are listed below:

Revenue Requirement Analysis. This analysis identifies the total revenue requirement to fully fund each system on a standalone basis, considering operating and maintenance expenditures, capital funding needs, debt requirements and fiscal policy objectives.

Cost of Service Analysis. This analysis equitably distributes costs to customer classes based on their proportional demand and use of each system.

Rate Design Analysis. This analysis includes the development of rates that generate sufficient revenue to meet each system's revenue requirement forecast and continue to address the City's pricing objectives (e.g. conservation and revenue stability).

Revenue requirement, rate design, and cost of service were completed for both utilities. **Exhibit 1** illustrates the entire rate study process.



Exhibit 1: Overview of the Rate Study Process



FISCAL POLICIES

The foundation for evaluating utility revenue needs consists of a set of fiscal policies. These policies, which can address a variety of topics including cash management, capital funding strategy, financial performance, and rate equity, are intended to promote long-term financial viability for the City's utilities.

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. 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. For the purpose of financial planning for the City's utilities, resources are separated into the following reserve categories:

Operating Reserve. 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 also serve another purpose: they can help smooth rate increases over time. Target funding levels for an operating reserve are generally expressed as a certain number of days of operating and maintenance (O&M) expenses, with the minimum day requirement varying with the expected revenue volatility of the utility.

• The current operating reserve target used in the study for both the water and wastewater utilities is set at approximately 90 days of O&M expenses. (Based on City of Sandpoint Res. No. 18-58).

Capital Contingency Reserve. A capital contingency reserve is an amount of cash set aside in case of an emergency should a piece of equipment or a portion of the utility's infrastructure fail unexpectedly. The reserve can also be used for other unanticipated capital needs including capital project cost overruns. Industry practices range from maintaining a balance equal to 1.00 to 2.00 percent of fixed assets, an amount equal to a 5-year rolling average of CIP costs, or an amount determined sufficient to fund equipment failure (other than catastrophic failure). The final target level should balance industry practice with the risk level of the City.

• The current capital reserve target for both the water and wastewater utilities is set at 1.00 percent of fixed assets. Reserve levels were discussed with City staff and reflect financial policy requirements that these reserve levels mitigate risk. (Based on City of Sandpoint Res. No. 18-58).

Debt Reserve. Bond covenants often establish reserve requirements as a means of protecting against the risk of nonpayment. A common reserve requirement is one year's debt service payment. The balance held in reserve for a particular debt instrument may be used to make the final payment on that debt instrument. The City must continue to fully fund such reserves as required by bond covenant or loan agreement. Since the debt reserve provides a static reserve against inability to pay, it is unnecessary to maintain operating reserves against debt repayment.

• The City does not have a formal debt reserve policy outside of maintaining reserve funds as required by bond covenants. For modeling purposes, the study does not assume reserves are



funded through new debt issuances and the City will determine reserve levels required as new issuances are needed.

System Reinvestment (Rate Funded Capital)

A utility's infrastructure (e.g., storage reservoirs, treatment facilities, transmission/distribution pipes, etc.) is a critical element of serving the City's customers. Establishing a financial plan for the eventual replacement of these assets ensures system reliability and integrity. This practice is known as system reinvestment funding. In the absence of a formal asset management plan, target system reinvestment funding levels are commonly linked to annual depreciation expense. Depreciation expense is a measure of the decline in asset value associated with routine use of the system.

Particularly for utilities that do not already have an explicit system reinvestment policy in place, implementing a funding level based on full depreciation expense can significantly impact rates. A common alternative benchmark is annual depreciation expense net of debt principal payments on outstanding debt. This approach recognizes that customers are still paying for certain assets through the debt component of their rate and intends to avoid simultaneously charging customers for an asset and its future replacement. The specific benchmark used to set system reinvestment funding targets is a matter of policy that must balance various objectives including managing rate impacts, keeping long-term costs down, and promoting "generational equity" (i.e. not excessively burdening current customers with paying for facilities that will serve a larger group of customers in the future).

- The current system reinvestment target for both the water and wastewater utilities is set at full original cost depreciation levels. (Based on City of Sandpoint Res. No. 18-58).
- Both the water and wastewater utilities are forecasted to phase in system reinvestment levels. The water utility will begin FY 2023 at 50 percent, reaching 100 percent of annual depreciation levels by FY 2026. The wastewater utility will begin FY 2023 at 100 percent of depreciation levels but will intentionally pull back on rate funded capital levels in FY 2027 as new debt service is recognized. Rate funded capital levels will drop to 60 percent with this planned reduction, before increasing back to 100 percent by FY 2030.

Debt Management

Debt financing is a viable tool for capital funding. Compared with pay-as-you-go funding, debt smooths out the rate impact of a capital program by spreading costs over time. It also creates intergenerational equity – also referred to as "pay-as-you-use" because future customers who use the assets are the ones paying for them. However, debt should not be relied on too heavily as it carries the risk of default. Debt also reduces budget flexibility – cash-funded capital projects can be delayed if there is a revenue shortfall, but once the utility has issued debt, the debt service needs to be paid in good times or bad. While debt is a useful part of the capital funding toolbox, it needs to be monitored to ensure that the system does not become too heavily dependent on it. To evaluate the City's debt level, a measurement of debt service coverage is used.

Debt Service Coverage. Debt service coverage is typically a requirement associated with revenue bonds and some State loans and is a financial measure assessing the ability to repay debt.

• A typical minimum coverage requirement for utility revenue bonds is 1.25. If the City issues debt, the coverage requirements essentially require that the City collect enough revenue to meet operating expenses and not only pay debt service but collect an additional 25.00 percent above



the bonded debt service. The extra revenue is a cushion that assures bondholders that the City has the financial resources to meet its debt service obligations.

• The City's existing target for debt service coverage is 1.40. (Based on City of Sandpoint Res. No. 18-58). Achieving a bonded debt service coverage level greater than the minimum required level is a positive signal to bond rating agencies and can result in more favorable terms when the City enters the market for revenue bonds.

REVENUE REQUIREMENT ANALYSIS

A revenue requirement analysis forms the basis for a long-range financial plan and multi-year rate management strategy for each system. It also enables the City to set utility rate structures which fully recover the total cost of operating each system: capital improvement and replacement, operations, maintenance, general administration, fiscal policy attainment, cash reserve management, and debt repayment. Linking rate levels to a financial plan such as this helps to enable sound financial performance for the City's utilities, as well as a clear and reasonable relationship between the costs imposed on utility customers and the costs incurred to provide the service.

A revenue requirement analysis includes the following core elements to form a complete portrayal of the utility's financial obligations.

Fiscal Policy Analysis. Identifies formal and informal fiscal policies of the City to ensure that current policies are maintained, including reserve levels, capital/system replacement funding and debt service coverage.

Capital Funding Plan. Defines a strategy for funding the City's capital improvement/infrastructure replacement program, including an analysis of available resources from rate revenues, debt financing, and any special resources that may be readily available (e.g., grants, outside contributions, etc.).

Operating Forecast. Identifies future annual non-capital costs associated with the operation, maintenance, and administration of the system.

Sufficiency Testing. Evaluates the sufficiency of revenues in meeting all financial obligations, including any coverage requirements associated with long-term debt.

Strategy Development. Designs a forward-looking strategy for adjusting rates to fully fund all financial obligations on a periodic or annual basis over the projections period.

COST OF SERVICE ANALYSIS

The purpose of a cost-of-service analysis is to provide a rational basis for distributing the full costs of each utility service to each class of customers in proportion to the demands they place on the system. Detailed cost allocations, along with appropriate customer class designations, help to sharpen the degree of equity that can be achieved in the resulting rate structure design. The key analytical steps of the cost-of-service analysis are as follows:

Functional Cost Allocation. Apportions the annual revenue requirement to the major functions of the system:

- Water: base (average use), peak (highest use), meters & services (reading and servicing meters), fire protection (fire specific costs) and customer (general customer costs).
- Wastewater: flow (collection), strength (treatment) and customer (general customer costs).



Customer Class Designation. Identifies the customer classes that will be evaluated as part of the study. Existing as well as new or revised customer classes or class definitions may be considered. It is appropriate to group customers that exhibit similar usage characteristics and service requirements.

Cost Allocation. Allocates the costs from the functional cost allocation to different customer classes based on their unique demands for each service as defined by system planning documents, industry standards, and recorded user history (from billing data). The results identify shifts in cost recovery by customer class from that experienced under the existing rate structure.

RATE DESIGN

The principal consideration of rate design is for the rate structure to generate sufficient revenues for the system which are reasonably commensurate with the cost of providing service. The pricing structure is largely dictated by the objectives of the system. Most rate designs consist of fixed and variable charges. Fixed charges typically attempt to cover costs of the system that do not vary while variable costs will fluctuate with a change in user demand.



Section III. WATER UTILITY

INTRODUCTION

The City of Sandpoint owns and operates its water system, which provides water to residential, commercial, industrial, and wholesale customers within the City's service area. The City's service area includes all of Sandpoint's residents as well as Ponderay, Kootenai and unincorporated areas of Bonner County. The existing facilities in the City's water system include two water treatment plants, two water storage facilities, one supply pump station, two booster pump stations and over ninety miles of water distribution pipes.

REVENUE REQUIREMENT

A revenue requirement analysis forms the basis for a long-range financial plan and multi-year rate management strategy. The analysis is developed by completing an operating forecast that identifies future annual operating costs and a capital funding plan that defines a strategy for funding the capital improvement needs of the City.

Operating Forecast

The purpose of the operating forecast is to determine whether the existing rates and charges are sufficient to recover the costs the City incurs to operate and maintain the water system. The FY 2022 budget formed the baseline for this forecast. The operating forecast was developed for the FY 2023 through FY 2028 study period. The following list highlights some of the key assumptions used in the development of the water utility operating forecast.

Reserves

Operating Reserve. A minimum of 25 percent, or approximately 90 days, of operating and maintenance (O&M) expenses (\$807,000 to \$985,000).

Capital Contingency Reserve. A target of one percent of plant in service (\$454,000 to \$570,000).

Operating Revenue

Retail Rate Revenue. Based on actual detailed customer accounts and usage statistics from the City's billing system. Usage data from FY 2021 was used to project revenues for FY 2023.

Non-rate Revenue. Non-rate revenue consists of water service charges, water service connections, and other miscellaneous revenues.

Customer Growth. Between FY 2023 and FY 2024, annual customer growth was estimated to be approximately 2.83 percent per year, before dropping to 2.38 percent through FY 2028 (based on input from City staff and reflective of population and demand projections from the City's water system plan). Growth projections result in an average of 207 new connections annually.

Interest Earnings. Interest rates are projected to be 0.15 percent per year in FY 2023, increasing to 0.50 percent by FY 2025. Projections are based on discussions with City staff and recent performance of the Idaho Local Government Investment Pool.



O&M Expenses

General Cost Inflation. 5.00 percent in FY 2023 and FY 2024, falling to 4.00 percent from FY 2025 to FY 2026 and finally to 3.00 percent by FY 2027 (represents near-term inflationary pressure with a return to historical averages).

Construction Cost Inflation. 5.94 percent per year for FY 2023 and FY 2024, falling to 4.00 percent from FY 2025 to FY 2026 and finally to 3.00 percent by FY 2027 (FY 2023 escalation is based on the 20-City Average Engineering News Record Construction Cost Index for 2022 and represents near-term inflationary pressure with a return to historical averages).

Labor Cost Inflation. 3.75 percent per year from FY 2023 to FY 2028 (based on staff input).

Benefit Cost Inflation. 6.00 percent per year from FY 2023 to FY 2028 (based on recent experience of City staff).

Debt Service

Existing Debt. The water utility currently has one outstanding revenue bond, reaching maturity in FY 2038. Annual debt payments on the outstanding loan are steady at \$973,000 a year.

New Debt. No new debt is forecasted to fund the capital improvement program.

System Reinvestment

System reinvestment funding is to ensure system integrity through reinvestment in the system. A minimum funding target would be an amount equal to or greater than the annual depreciation expense. It is important to recognize that funding system reinvestment based on original cost depreciation will not fully meet future replacement needs. Ideally, the system reinvestment benchmark is tied to a detailed asset management plan. True replacement costs are generally higher than book values, increasing over time with the cost of labor and materials. Useful lives of assets should be based on condition assessments rather than accounting values. The schedule of replacement combined with accurate replacement costs enables jurisdictions to be more informed when setting a level of funding from rates.

This study assumes system reinvestment is phased-in towards the annual depreciation target. Starting at 50 percent of depreciation levels in FY 2023, increasing to 100 percent by FY 2026. With this proposed phase-in plan, system reinvestment equates to \$332,000 in FY 2023 growing to \$1.02 million by FY 2028.

Capital Funding Plan

The water utility is anticipating \$13.4 million in capital costs from FY 2023 to FY 2028. Larger projects include replacement of coal tar enamel lined pipes, Sand Creek water treatment plant mechanical upgrades and numerous main replacement projects. Funding for the capital identified includes cash balances (including interest), dedicated system reinvestment funding, transfers from the operating fund, and new user facility fee revenues. **Exhibit 2** provides a summary of the funding sources for the capital expenditures. The full capital plan can be found in the detailed rate model provided to the City.



			•	•	•		
Funding Summary	FY 2023	FY 2024	FY 2025	FY 2020	6 FY 2027	FY 2028	Total
Total Capital Costs	\$1,734,301	\$4,854,422	\$2,146,676	\$-	\$2,562,625	\$2,111,496	\$ 13,409,520
Funding Sources							
Cash Balances	\$ 665,947	\$3,657,099	\$ 867,210	\$-	\$ 983,685	\$ 385,493	\$ 6,559,434
Rate Funded Capital	331,505	438,941	623,386	-	891,030	1,021,601	3,306,463
New User Facility Fees	736,848	758,382	656,080	-	687,910	704,403	3,543,623
Total Capital Funding	\$1,734,301	\$4,854,422	\$2,146,676	\$-	\$2,562,625	\$2,111,496	\$ 13,409,520

Exhibit 2:	Water Capital Funding Summary
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Summary of Revenue Requirement

The operating forecast components of O&M expenses, debt service and rate funded system reinvestment come together to form the multi-year revenue requirement. The revenue requirement compares the overall revenue available to the water system to the expenses to evaluate the sufficiency of rates on an annual basis. **Exhibit 3** provides a summary of the water system revenue requirement findings.





Summary of water revenue requirement:

- Current revenue levels are sufficient to meet operating expenses and existing debt service, throughout the forecast period. Without a rate increase, revenue falls short of meeting the City's goals for funding system reinvestment at 100 percent depreciation levels and would likely require future debt issuances to support the capital plan. The water utility is projected to be deficient in FY 2024 by \$90,500. As operating expenses and system reinvestment obligations continue to grow, this deficit will grow to \$738,000 by FY 2028, if no rate adjustments are made.
- System reinvestment funding is increased over time from 50 percent depreciation levels, or \$332,000, in FY 2023 to \$1.0 million by FY 2028 as annual depreciation expense increases. Reinvestment levels reach 100 percent by FY 2026 and remain there for the duration of the study.
- The operating reserve remains at the target level of 90 days throughout the forecast period.



- The capital contingency reserve is forecast to be at or above the target of 1.00 percent of asset values for the entire duration of the study period.
- Individual water utility debt service coverage is forecast to remain at or above the City's goal of 1.40 in all years; it begins FY 2023 at 2.32, increasing to 3.32 by FY 2028. Keeping this ratio at or above target can be helpful when entering the bond market.
- To meet the total projected financial obligations of the water utility, rate increases are proposed at:
 - » 3.8 percent annually from FY 2023 through FY 2028.

COST OF SERVICE ANALYSIS

A cost-of-service analysis determines the equitable recovery of costs from customers according to unique demands each class places on the system. There are three fundamental steps to allocating the annual revenue requirement to customer classes and developing the final rates -1) allocate total utility costs by function, 2) develop customer specific allocation factors and 3) allocate costs to customer classes. The methodology used conforms to industry accepted practices as identified by the American Water Works Association (AWWA) Principles of Water Rates, Fees and Charges, M1 Manual.

The functions of service to which water service costs were allocated are listed below.

Customer. These are the costs associated with establishing, maintaining, and serving water customers and tend to include administrative, billing, and customer service costs. These costs are generally uniform by customer regardless of their meter size or demand placed on the water system.

Meters & Services Costs. These costs are associated with installation, maintenance, and repairs of meters and services. These costs are typically allocated based on number of connections and meter size.

Base Costs. These costs relate to <u>average</u> service provided on demand and are essentially correlated with year-round water consumption.

Peak Costs. These costs relate to <u>peak</u> demand service typically associated with the ability of the system to provide capacity to customers with higher-than-average volume, which usually occurs during the summer months.

Fire Protection. These are the costs associated with the ability of the system to provide adequate capacity and water flow corresponding to minimum fire safety standards required to serve its customer demographic. These are mostly incremental costs related to providing storage, transmission capacity, and hydrants for fire protection.

Exhibit 4 provides a summary of the functional cost allocation results.





Exhibit 4: **Functional Cost Allocation Results**

The water utility cost allocation indicates that 46.89 percent of costs relate to meeting peak demands, 38.33 percent are related to meeting base demands, and 8.11 percent are related to fire protection. The rest of the costs make up a relatively small portion of the total cost: 5.14 percent related to the customer component, and 1.52 percent are allocated to meters and services.

Customer Class Distinctions

The City's current customer classes consist of a single-family class, a multi-family class, a commercial class, an irrigation class, and an industrial/large user class.

The cost of service analysis was completed for the following classes:

- Single Family
- Multi Family
- Commercial
- Irrigation
- Industrial/Large User

One of the main objectives of the cost-of-service rate study is to evaluate if cost differences exist when serving different customer classes of the system.

Allocation Factors

Once the customer classes were defined, functional cost pools (shown in Exhibit 4) were then allocated to these customer classes based on the demand each class places on the system. In order to complete this task, the analysis consisted of first developing allocation factors that identified customer characteristics including number of accounts, consumption levels, peak demand patterns, and fire flow requirements. The allocation factors are intended to equitably allocate total costs to those benefitting from the service. For this study, the water fund costs were allocated based on the following:

Customer. Based on customer accounts.



Meters & Services Costs. Based on number of meter service equivalents. The American Water Works Association has developed a meter service equivalency factor that reflects cost distinctions for serving different size meters.

Base Costs. Based on total annual water use.

Peak Costs. Based on use during the class's peak month. The majority of classes peaked in the August usage period.

Fire Protection. Based on fire flow gallons per minute and duration requirements identified in Table 4-1 of the City's 2021 Drinking Water Master Plan.

Allocation factors for each customer class can be seen in **Exhibit 5** and were developed from City-specific data related to actual customer demands and system requirements.

Customer Class	Met	ers	MS	Es	Annual T	otal Use	Peaking	Factor	Fire Flow Requireme	ent
Customer Class	#	%	#	%	#	%	#	%	#	%
Single Family	4,676	78%	4,643	69%	323,646	45%	2.30	47%	1,000 gpm for 60 mins	57%
Multi Family	287	5%	482	7%	78,483	11%	1.70	9%	1,000 gpm for 60 mins	3%
Commercial	858	14%	1,314	19%	194,186	27%	2.01	25%	1,500 gpm for 120 mins	31%
Irrigation	98	2%	153	2%	61,345	9%	3.93	15%	-	0%
Industrial/Large User	68	1%	155	2%	54,961	8%	1.14	4%	2,500 gpm for 240 mins	8%
Total	5,987	100%	6,748	100%	712,621	100%		100%		100%

Exhibit 5: Cost Pool Allocation Factors

Water Cost of Service

Exhibit 6 provides a comparison of current rate revenue distribution between customer classes and the results of the cost-of-service analysis.



Exhibit 6: Comparison of Water Current Revenue Distribution to Cost of Service Distribution

As a general practice, if a class's suggested increase is within +/-5 percent of the overall increase needed (shown by dashed lines), the class is considered within cost of service for the utility. Because costs fluctuate each year, the needed increase by class can also fluctuate and interclass rate changes are not suggested unless the class's revenue difference is outside of the 5 percent threshold.

Using this evaluation, results show that the multi-family class is paying more than their allocated share of costs while the irrigation class is paying less than their allocated share of costs. These results are driven to some degree by peaking costs which represent nearly 47 percent of system costs. The multi-family class has a lower peak while the irrigation class has the largest peaking factor on the



system. To minimize significant rate impacts to any customer class, the City will phase-in cost of service increases over a multi-year period, with a goal to achieve full cost of service by FY 2028. **Exhibit 7** provides a summary of the cost-of-service phase-in.

Class		Cos	t of Servic	e Phase In		
Class	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Single Family	1.7%	3.7%	3.7%	3.6%	3.6%	3.5%
Multi Family	0.8%	0.8%	0.8%	0.8%	0.8%	0.8%
Commercial	3.8%	3.8%	3.8%	3.8%	3.8%	3.8%
Irrigation	7.8%	7.8%	7.8%	7.8%	7.8%	7.8%
Industrial / Large User	3.8%	3.8%	3.8%	3.8%	3.8%	3.8%
System-Wide Revenue Increase	3.8%	3.8%	3.8%	3.8%	3.8%	3.8%

Exhibit 7:	Water Cost of Service Phase-In

RATE DESIGN

The principal objective of the rate design stage is to implement water rate structures that collect the appropriate level of revenue.

Establishing rates is a blend of "Art" and "Science" and especially so when it comes to the rate levels and structures. Several variables must be balanced to arrive at optimal rates within the system wide revenue increase target. The results of the revenue requirement analysis and cost of service were used to develop new water rate alternatives to recover the projected revenue from customers.

Existing Water Rates

The existing water rates are composed of a fixed monthly charge that varies by meter size but is the same for all customer classes, and a variable consumption charge per thousand gallons (kgals) of water usage. Consumption for the residential class is divided into four escalating pricing tiers that are applied year-round. Residential customers also have a billed usage minimum of 3,000 gallons monthly. Multi-family and industrial users are charged a seasonal consumption rate for all usage, depending on whether usage falls within the winter or summer season. Finally, commercial and large users are charged a flat rate for all consumption used year-round.

Exhibit 8 provides a summary of the existing monthly water utility rates by class in FY 2022.



Water Rates		FY 2022
Fixed Charge (All classes)		
3/4" Meter	\$	19.00
1" Meter	\$	38.15
1-1/2" Meter	\$	67.19
2" Meter	\$	95.55
3" Meter	\$	343.65
4" Meter	\$	572.90
6" Meter	\$	1,145.92
Volume Charge (per 1,000 ga	llons)
Single Family		
Tier 1: 0-3,000 gal	\$	2.88
Tier 2: 3,001- 15,000 gal	\$	3.22
Tier 3: 15,001 - 40,000 gal	\$	4.95
Tier 4: Over 40,001 gal	\$	5.87
Multi Family Summer	\$	3.96
Multi Family Winter	\$	3.17
Commercial	\$	3.73
Industrial Summer	\$	3.77
Industrial Winter	\$	3.01
Large User	\$	3.77
Irrigation	\$	5 18

Exhibit 8: FY 2022 Existing Monthly Water Rates

Proposed Water Rates

In addition to the annual rate increases based on the cost of service phase-in plan, the City desired to implement rate design changes aimed at simplifying the existing class and seasonal structure and providing increased conservation messaging to the residential class. Changes proposed through the rate design process include the following:

- Residential changes:
 - Eliminate the 3,000-gallon minimum usage level.
 - Increase usage included in first residential tier from 3,000 gallons to 6,000 gallons while keeping the rate increase for the first tier below the system average increasing affordability. The revised 6,000-gallon threshold represents the average indoor usage of the residential class. This change mitigates system-wide rate increases for average users.
 - Increase usage included in the second residential tier from 15,000 to 20,000 gallons (roughly twice the summer average) and revise rates for the Tier 3 and Tier 4 users to recover necessary revenue. Rates for Tier 3 and Tier 4 volumes will increase above the system average targeting discretionary usage of the class. Customers using more than 40,000 gallons monthly are using more than six times the monthly average of the class.
- Other rate design changes:



- Transition seasonal rates for multi-family to a uniform year-round rate. The multi-family class does not demonstrate significant peaking behavior.
- Consolidate industrial and large users into one commercial class to streamline the rate structure and eliminate seasonal rates for the industrial users. Similarly, industrial users demonstrate very little peaking behavior.

Exhibit 9 provides a summary of the proposed rates through FY 2028.

Water Potes						Prop	ose	ed		
Waler Rales	[F Y 202 3		FY 2024		FY 2025		FY 2026	FY 2027	FY 2028
		F	ixeo	d Charge (<i>I</i>	All (classes)				
3/4" Meter	\$	19.72	\$	20.47	\$	21.25	\$	22.06	\$ 22.90	\$ 23.77
1" Meter	\$	39.60	\$	41.10	\$	42.66	\$	44.28	\$ 45.96	\$ 47.71
1-1/2" Meter	\$	69.74	\$	72.39	\$	75.14	\$	78.00	\$ 80.96	\$ 84.04
2" Meter	\$	99.18	\$	102.95	\$	106.86	\$	110.92	\$ 115.13	\$ 119.50
3" Meter	\$	356.71	\$	370.26	\$	384.33	\$	398.93	\$ 414.09	\$ 429.83
4" Meter	\$	594.67	\$	617.27	\$	640.73	\$	665.08	\$ 690.35	\$ 716.58
6" Meter	\$	1,189.46	\$	1,234.66	\$	1,281.58	\$	1,330.28	\$ 1,380.83	\$ 1,433.30
		Volun	ne C	Charge (pe	r 1,	000 gallon:	s)			
Single Family						-				
Tier 1: 0- 6,000 gal	\$	2.93	\$	3.04	\$	3.15	\$	3.26	\$ 3.38	\$ 3.50
Tier 2: 6,001- 20,000 gal	\$	3.75	\$	3.88	\$	4.00	\$	4.12	\$ 4.23	\$ 4.35
Tier 3: 20,001 - 40,000 gal	\$	7.51	\$	7.75	\$	7.99	\$	8.23	\$ 8.46	\$ 8.69
Tier 4: Over 40,001 gal	\$	8.47	\$	8.72	\$	8.99	\$	9.26	\$ 9.52	\$ 9.78
Multi-Family (all usage)	\$	4.13	\$	4.16	\$	4.20	\$	4.23	\$ 4.26	\$ 4.30
Commercial (includes industrial and large user)	\$	4.19	\$	4.35	\$	4.51	\$	4.68	\$ 4.86	\$ 5.04
Irrigation	\$	5.88	\$	6.38	\$	6.91	\$	7.49	\$ 8.12	\$ 8.79

Exhibit 9: Proposed Monthly Water Rates



WATER NEW USER FACILITY FEE ANALYSIS

In addition to the rate study update performed, the City requested an update of their New User Facility Fee (NUFF). The City currently imposes NUFFs for both the water and wastewater utility. The following section discusses the various aspects of the process used to update the NUFF for the water utility.

Methodology

New user facility fees are one-time fees for new or redevelopment used to recover a proportional share of the value of facilities required to provide service. It should be noted that new user facility fees are not intended to fund ongoing O&M expenses, only capital related obligations. The following section discusses the various aspects of the process used to update the new user facility fee.

The methodology and calculation used for these fees is based on the interpretation by the Court in the 2015 Idaho Supreme Court Case: NIBCA v the City of Hayden. **Exhibit 10** provides the new user facility fee calculation.

	-
	New User Facility Fee Calculation
	Gross Present Day Replacement Value of System
Less:	Bond Principal Outstanding
Less:	Accumulated Original Cost Depreciation
=	Net System Replacement Value for the Current Year
÷	Number of Users Current System Can Support
=	Total New User Facility Fee per Equivalent Unit

Exhibit 10: New User Facility Fee Calculation

The court held that the new user facility fee must be based on the cost of replacing the pipe and equipment that is in the ground today (i.e. the value of the existing system). The value of the system should represent that portion of the system capacity that the new user will utilize at that point in time. More specifically, the steps used to calculate the total new user facility fee per equivalent unit include:

- 1.) Determine gross present day replacement value of the system by using an engineering cost index
- 2.) Subtract applicable bond principal outstanding
- 3.) Subtract accumulated original cost depreciation
- 4.) Result of steps 1-3 equals net replacement value for the current year
- 5.) Divide net system replacement value by the number of users the system can support

The results of this calculation represent the value of that portion of the system capacity that the new user will utilize at that point in time.

The new user facility fee update completed for the City's water utility includes the following key elements and data sources.



Gross Present-Day Replacement Value

The gross present day replacement value was determined by identifying all existing facilities utilized to provide water service to customers as of September 30, 2021. Important considerations for this part of the equation include:

- Assessing accurate installation years
 - » Installation year is not only important for determining annual depreciation, it is also important for determining replacement cost. Existing asset records are used to populate installation years.
- Transmission and distribution system asset replacement cost determination
 - » Transmission and distribution system replacement costs were estimated by applying a pipe replacement cost approximation based on pipe diameter to the 485,000 linear feet of pipe detailed in Table 5-2 of the 2021 WSP. Pipe replacement costs were based on recent engineering estimates for utilities of similar size and location. Total transmission and distribution system replacement costs are estimated at \$86.6 million.
- Replacement cost determination for all other system assets
 - » Replacement costs for other system assets were determined by applying an Engineering News Record (ENR) construction cost index (CCI) ratio to the original cost of the asset as listed on the detailed asset register on record at the City. The ENR CCI 2021 average is used for determining replacement cost. The difference in the CCI between the installation year and this 2021 average determines the multiplier applied to the original cost of the asset, ultimately deriving the replacement cost.

Total gross present-day system replacement value = \$147.4 million as shown in **Exhibit 11**.

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Exhibit 11:	Gross System Replacement Valu
System Replacement Val	ue Total
Supply & Treatment	\$48,547,583
Pumping	\$2,347,512
Storage	\$808,536
Transmission & Distribution	\$86,566,600
Hydrants	\$1,750,000
General	\$7,390,060
Total Gross Replacement Valu	e \$147,410,292

Bond Principal

The methodology identified allows a deduction for outstanding bond principal which represents the unpaid value of the system. Debt service is paid for through user fees and therefore should be deducted from the system replacement value so it is not double charged – once in rates and once in the new user facility fee. The City currently has one outstanding debt obligation resulting in a deduction of \$11.8 million from the system replacement value.



Accumulated Original Cost Depreciation

Accumulated original cost depreciation is another deduction identified in the methodology. Original cost depreciation was calculated using the original cost of each asset divided by the useful life of each asset. The result of this calculation is annual straight-line depreciation. Depreciation accumulates each year until the full original cost is reached. Useful lives were based on the City's detailed asset register.

The original cost accumulated depreciation for the City is estimated at \$17.7 million.

Net Present-Day Replacement Value

Exhibit 12 summarizes the net present day system replacement value by deducting the bond principal remaining and original cost accumulated depreciation values. The net present day system replacement value is calculated at \$117.9 million.

System Replacement Value	Total
Supply & Treatment	\$48,547,583
Pumping	\$2,347,512
Storage	\$808,536
Transmission & Distribution	\$86,566,600
Hydrants	\$1,750,000
General	\$7,390,060
Total Gross Replacement Value	\$147,410,292
Less: Bond Principal Outstanding	-\$11,835,789
Less: Original Cost Accumulated Depreciation	-\$17,686,257
Net Present-Day Replacement Value	\$117,888,245

Exhibit 12: New Present-Day Replacement Value

System Capacity

A key component of the new user facility fee calculation is determining the number of users the system can support. Based on Table 4-4 of the City's 2021 WSP, the firm water supply capacity is 5,680 gallons per minute (gpm). Section E-1 of the 2021 WSP also states an estimate of residential demand per equivalent residential unit (ERU) as 190 gallons per day, per ERU. Dividing total system capacity by the definition of an ERU results in 18,717 ERUs of capacity in the existing system. The existing system capacity represents a 100.5 percent increase over the number of existing ERUs (based on 2021 detailed customer statistics).

The City currently charges all new connections based on their meter size, or meter capacity equivalent (MCE). In order to derive the existing system capacity in terms of MCEs, rather than ERUs, the same percentage increase, 100.5 percent, was applied to the existing MCEs, resulting in total existing system capacity of 14,969 MCEs, as shown in **Exhibit 13**.

Exhibit 13:	Total Existing S	ystem Capacity
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System Capacity	MCEs
Existing MCEs	7,467
Additional Capacity	7,502
Total Existing Capacity	14,969



Calculation of the New User Facility Fee

The new user facility fee is calculated by taking the net present day replacement value and dividing by the existing system capacity in MCEs. The calculated new user facility fee is \$7,875 per MCE, which is \$4,486 more than the current fee of \$3,389.

New User Facility Fee	Total
Net Present Day Replacement Value	\$117,888,245
Existing System Capacity (MCEs)	14,969
Total New User Facility Fee	\$7,875

Exhibit 14: Total New User Facility Fe	e
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The calculated charge is the maximum allowable charge that the City may choose to implement. The City also has the option to phase the increase in over time. Adopting a charge less than the maximum is a viable option, particularly as part of a multi-year strategy to phase the increase in – however, the City should be aware that this alternative may result in less cash being available for capital purposes. In such a scenario, near-term capital needs may put additional pressure on current ratepayers.

The analysis described above concludes the new user facility fee study for the City. The calculated charge represents the legally defensible maximum that the City may impose for new connections to the system.

It is strongly recommended that the City recalculate their new user facility fee upon completion of major projects to maintain full representation of system value as assets are placed into service.

SUMMARY

The analysis described above concludes the rate and new user facility fee study for the water utility. The revenue requirement analysis results indicate that revenues at current levels are not sufficient to fund ongoing water system obligations as operating expenses continue to grow and system reinvestment obligations are phased in to 100 percent of depreciation levels by FY 2026 to support the planned \$13.4 million capital plan. As a result, 3.80 percent annual increases are proposed from FY 2023 to FY 2028. The increases will be applied to the revised rate structure, based on the cost-of-service phase-in proposed.

In addition to the rate analysis, a new user facility fee (NUFF) was calculated for the water utility. The City adopted the updated NUFF on August 17th, 2022 with FY 2023 rate increases adopted on October 1st of 2022; rate design changes discussed will be effective for the May 2023 utility billings.

We recommend that the City revisit the study findings during the budget cycle to check that the assumptions used are still appropriate and no significant changes have occurred that would alter the results of the study. The City should use the study findings as a living document, continuously comparing the study outcomes to actual revenues and expenses. Any significant or unexpected changes will require adjustments to the rate strategy proposed.

The detail behind the summary tables discussed in this report can be found in the detailed rate model provided to the City.



Section IV. WASTEWATER UTILITY

INTRODUCTION

The City of Sandpoint collects, transports, and treats residential, commercial, and industrial wastewater within the City's service area. The existing facilities in the City's wastewater system include nineteen lift stations, one wastewater treatment plant, and almost fifty miles of collection pipelines. Currently, the City's treatment facility is approaching the end of its useful life while the new discharge permit will likely come with more stringent limits. The discussion below incorporates the need to replace the wastewater treatment plant ensuring that the City remains compliant with permit requirements, state and federal laws and evaluates its impacts on wastewater rates.

REVENUE REQUIREMENT

Similar to the water utility, a revenue requirement was completed for the wastewater utility and forms the basis for the long-range financial plan and multi-year financial management strategy.

Operating Forecast

The purpose of the operating forecast is to determine whether the existing rates and charges are sufficient to recover the costs the City incurs to operate and maintain the wastewater system. The FY 2022 budget formed the baseline for this forecast. The operating forecast was developed for the FY 2023 through FY 2028 study period. The following list highlights some of the key assumptions used in the development of the wastewater utility operating forecast.

Reserves

Operating Reserve. A minimum of 25 percent, or approximately 90 days, of operating and maintenance (O&M) expenses (\$770,000 to \$936,000)

Capital Contingency Reserve. A target of 1.00 percent of plant in service (\$352,000 to \$1.2 million).

Operating Revenue

Retail Rate Revenue. Based on actual detailed customer accounts and flow statistics from the City's billing system. Flow data from FY 2021 was used to project FY 2022.

Non-rate Revenue. Non-rate revenue consists of wastewater service charges, equipment rentals and other miscellaneous revenues.

Customer Growth. In alignment with the water utility, between FY 2023 and FY 2024, annual customer growth was estimated to be approximately 2.83 percent per year, before dropping to 2.38 percent through FY 2028 (based on input from City staff). Growth projections result in an average of 101 new sewer connections annually.

Interest Earnings. Interest rates are projected to be 0.15 percent per year in FY 2023, increasing to 0.50 percent by FY 2025. Projections are based on discussions with City staff and recent performance of the Idaho Local Government Investment Pool.



O&M Expenses

General Cost Inflation. 5.00 percent in FY 2023 and FY 2024, falling to 4.00 percent from FY 2025 to FY 2026 and finally to 3.00 percent by FY 2027 (represents near-term inflationary pressure with a return to historical averages).

Construction Cost Inflation. 5.94 percent per year for FY 2023 and FY 2024, falling to 4.00 percent from FY 2025 to FY 2026 and finally to 3.00 percent by FY 2027 (FY 2023 escalation is based on the 20-City Average Engineering News Record Construction Cost Index for 2022 and represents near-term inflationary pressure with a return to historical averages).

Labor Cost Inflation. 3.75 percent per year from FY 2023 to FY 2028 (based on staff input).

Benefit Cost Inflation. 6.00 percent per year from FY 2023 to FY 2028 (based on recent experience of City staff).

Debt Service

Existing Debt. The wastewater utility does not currently have any outstanding debt obligations. The City's 2016 refunding revenue bond was fully repaid in FY 2022.

New Debt. One new debt issuance is anticipated to help fund the \$88.9 million capital program:

• \$61.5 million Department of Environmental Quality (DEQ) loan in FY 2025. This loan is assumed to be a 30-year term, with a 2.5 percent interest rate, a 1.00 percent issuance cost and two years of interest only payments.

The forecasted low interest loan will be aimed at funding the new wastewater treatment plant construction. This new issuance, in FY 2025, will add \$3.1 million in annual debt service once the full principal and interest are realized in FY 2027. The City will revisit the level of debt needed prior to issuance.

System Reinvestment

The wastewater utility will begin FY 2023 at 100 percent of depreciation levels but will intentionally pull back on rate funded capital levels in FY 2027 as full principal and interest related to the new DEQ loan is recognized. Rate funded capital levels will drop to 60 percent with this planned reduction, before increasing back to 100 percent by FY 2030.

Capital Funding Plan

The wastewater utility is anticipating \$88.9 million in capital costs from FY 2023 through FY 2028, escalated to the date of construction. The most significant capital project is the construction of the new wastewater treatment plant in FY 2025/2026, with additional infrastructure investments related to lift station rehabilitations and mainline pipe repair and replacements rounding out the total. Funding for the capital identified includes cash balances (including interest), rate funded system reinvestment, new user facility fee revenues, transfers from the operating fund and new DEQ loan proceeds. **Exhibit 15** provides a summary of the funding sources for the capital funding expenditures. The full capital plan can be found in the detailed rate model provided to the City.



			•	•	•			
Funding Summary	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	Tota	
Total Capital Costs	\$ 6,520,578	\$ 8,658,268	\$ 39,051,058	\$ 29,557,218	\$ 2,586,178	\$ 2,575,862	\$ 88,949	,162
Funding Sources								
Cash Balances	\$ 5,171,756	\$ 7,165,772	\$ -	\$ 3,222,497	\$ 647,078	\$ 296,550	\$ 16,503	,653
Rate Funded Capital	880,000	1,010,412	1,129,600	1,910,621	1,501,059	1,830,770	8,262	,462
New User Facility Fees	468,823	482,085	417,772	427,785	438,040	448,542	2,683	,047
DEQ Loan Proceeds			37,503,686	23,996,314			61,500	,000,
Total Capital Funding	\$ 6,520,578	\$ 8,658,268	\$ 39,051,058	\$ 29,557,218	\$ 2,586,178	\$ 2,575,862	\$ 88,949	,162

Exhibit 15: Wastewater Capital Funding Summary

Summary of Revenue Requirement

The operating forecast components of O&M expenses, debt service and rate funded system reinvestment come together to form the multi-year revenue requirement. The revenue requirement compares the overall revenue available to the wastewater system to the expenses to evaluate the sufficiency of rates. **Exhibit 16** provides a summary of the wastewater system revenue requirement findings.



Exhibit 16: Wastewater Utility Revenue Requirement Summary

Summary of wastewater revenue requirement:

- Current revenue levels are sufficient to meet cash operating expenses and targeted levels of rate funded system reinvestment in FY 2023. Without a rate increase, revenue falls short of meeting all rate funded capital needs. As operating expenses continue to grow and the utility prepares for new debt service payments associated with the DEQ loan in FY 2025, the wastewater utility is projected to be deficient in FY 2025 by \$1.5 million increasing to \$3.8 million by FY 2028.
- With the introduction of the DEQ loan, new debt service over the study period will increase from \$1.6 million annually in FY 2025/FY 2026, when interest only payments are incurred, to \$3.1 million annually by FY 2027, when full principal and interest payments begin.
- Rate funded system reinvestment begins FY 2023 at 100 percent of depreciation levels but will intentionally be retracted in FY 2027 as full principal and interest related to the new DEQ loan is



recognized. Rate funded capital levels will drop to 60 percent with this planned reduction, before increasing back to 100 percent by FY 2030.

- The operating reserve remains at the target level of 90 days throughout the forecast.
- The capital contingency reserve maintains its target of 1.00 percent of plant assets for FY 2023 to FY 2026 but falls slightly in FY 2027 and FY 2028. It's worth mentioning that the capital target for the wastewater utility is forecasted to grow significantly with the addition of the new wastewater treatment plant, increasing from \$352,000 in FY 2023 to \$1.2 million by FY 2028. With the notable increase in target balances, it's reasonable to expect a multi-year timeframe to build reserves to this new elevated level. At its lowest point, in FY 2028, the capital fund balance is expected to be at 68 percent of target levels, or \$816,000, and is forecast to meet target by FY 2032.
- Individual wastewater utility debt service coverage is forecast to remain at or above the City's goal of 1.40 in all years. The wastewater utility does not have any debt service payments until the new DEQ loan is drawn in FY 2025. When coverage on total debt is calculated, it begins FY 2025 at 3.00, falling to a low of 1.66 in FY 2027, before bouncing back to 1.80 by FY 2028. Keeping this ratio at or above target is important when entering the bond market.
- To meet the total projected financial obligations of the wastewater utility, rate increases are proposed at:
 - » 19.00 percent annually from FY 2023 through FY 2025, before falling to 3.00 percent annually thereafter.

COST OF SERVICE ANALYSIS

Similar to the water utility, the cost-of-service allocation process for the wastewater utility involves three steps - 1) allocate total utility costs by function, 2) develop customer class specific allocation factors and 3) allocate costs to customer classes. The methodology used conforms to industry accepted practices as identified by the Water Environment Federation (WEF) Financing and Charges for Sewer Systems Manual 27.

The functions of service to which wastewater service costs have been allocated are listed below.

Customer. These costs are associated with providing service to customers regardless of wastewater contribution, such as billing and office support.

Wastewater Flow. These costs relate to actual and estimated wastewater volume processed within the system in a year.

Strength. These costs reflect strength of sewage processed. Strength is tracked by two measurements – biochemical oxygen demand (BOD) and total suspended solids (TSS). BOD is the parameter used to characterize the organic strength of sewage and TSS is the parameter that measures the amount of particles suspended in water.

Exhibit 17 provides a summary of the functional cost allocation results.





Exhibit 17: Wastewater Utility Functional Cost Allocation Summary

The wastewater utility cost allocation indicates that 78.74 percent of costs are related to flow, 10.07 percent of costs are related to TSS, 6.55 percent of costs are related to BOD and 4.64 percent of costs are related to the customer component.

Customer Class Distinctions

The City's current customer classes consist of a single-family class, a multi-family class, and two commercial classes - one for customers who contribute domestic level effluent (non-grease) and one for customers who have higher strength concentrations (grease).

The cost of service analysis was performed for the following classes:

- Single Family
- Multi Family
- Commercial 1 Non Grease
- Commercial 2 Grease

One of the main objectives of the cost-of-service rate study is to evaluate if cost differences exist when serving different customer classes of the system.

Allocation Factors

The next step in the cost-of-service analysis involves distribution of the allocated system costs to the customer classes served by the system. The functionally allocated system-wide costs are allocated to these customer classes as follows:

Customer costs are allocated to the customer classes based on their proportional share of the total number of accounts in the system.

Wastewater flow costs are allocated based on annual volume contributed to the wastewater system.

Strength costs were allocated based on annual volume and adjusted for the different strength factors associated with each customer class. The strength factors applied rely on data developed during the previous cost of service analysis.



- Single-family, multi-family and commercial class non grease customers are all assumed to have the same strength concentrations. BOD for these classes is assumed at 200 mg/l and TSS is assumed at 140 mg/l.
- Commercial class grease customers demonstrate higher strength concentrations than their domestic strength counterparts. BOD for this class is assumed at 500 mg/l and TSS is assumed at 340 mg/l.

Allocation factors for each customer class can be seen in **Exhibit 18** and were developed from City-specific data related to actual customer flows and system requirements.

Customer Class	Acco	unts	Flo	W	BOD Conc	entration	TSS Concentration		
Cusioner Class	#	%	#	%	#	%	#	%	
Single Family	2,951	61%	117,703	42%	200 mg/l	37%	140 mg/l	37%	
Multi Family	1,308	27%	27,534	10%	200 mg/l	9%	140 mg/l	9%	
Commercial 1 - Non Grease	527	11%	97,148	35%	200 mg/l	31%	140 mg/l	31%	
Commercial 2 - Grease	53	1%	37,730	13%	500 mg/l	23%	340 mg/l	23%	
Total	4,839	100%	280,115	100%		100%		100%	

Exhibit 18:	Sewer	Cost Po	ool Alloc	ation	Factors
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Wastewater Cost of Service

Exhibit 19 provides a comparison of current rate revenue distribution between customer classes and the distribution of revenues indicated from the cost-of-service analysis.





As discussed for the water utility, if a class's suggested increase is within +/-5 percent of the overall increase needed (shown by dashed lines), the class is considered within cost of service for the utility. Using this evaluation, results show that the single family and multi-family classes are paying more

than their allocated share of costs while the commercial non-grease and grease classes are paying less than their allocated share of costs. These results are driven by the data analysis showing the commercial classes contribute proportionately more flow with higher concentrations of strength constituents. In addition, for many customers, the City's existing non-residential flow rates are lower than the flow rates charged to residential customers, compounding the cost allocation imbalance. To



minimize significant rate impacts to any customer class, the City will phase-in cost of service increases over a multi-year period, with a goal to achieve full cost of service by FY 2028.

Exhibit 20 provides a summary of the cost-of-service	e phase-in.
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Class	Cost of Service Phase In									
01055	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028				
Single Family	16.2%	15.6%	15.1%	0.0%	0.0%	0.0%				
Multi Family	12.0%	12.0%	12.0%	0.0%	0.0%	0.0%				
Commercial 1 - Non Grease	25.0%	25.0%	25.0%	7.5%	7.5%	7.5%				
Commercial 2 - Grease	30.0%	30.0%	30.0%	8.0%	8.0%	7.5%				
System-Wide Revenue Increase	19.0%	19.0%	19.0%	3.0%	3.0%	3.0%				

Exhibit 20:	Wastewater	Cost of	Service	Phase-In

RATE DESIGN

As discussed in the water utility section, the principal objective of the rate design stage is to implement rate structures that collect the appropriate level of revenue as outlined by the revenue requirement and cost of service findings.

Existing Wastewater Rates

All customers of the wastewater utility pay a monthly fixed charge per account that is the same for single family and commercial customers. Multi-family customers pay a monthly fixed charge per unit, which is eighty percent of the single family fixed charge. All customers also pay a volume charge per thousand gallons of flow (kgals). Single family and multi-family customers pay a uniform rate for all flow. Commercial customers are charged based on an inclining two tier rate structure that differs between the non-grease and grease commercial classes. All customer classes currently have a monthly minimum billed flow, that differs by class.

Exhibit 21 provides a summary of the existing FY 2022 wastewater utility rates by class.



Sewer Rates	F`	Y 2022
Fixed Charge		
Single Family	\$	29.36
Multi Family (per unit)	\$	23.47
Commercial Class 1 - Non Grease	\$	29.36
Commercial Class 2 - Grease	\$	29.36
Flow Charge (per 1,000 gallons)		
Single Family	\$	9.55
Multi Family	\$	9.55
Commercial Class 1 - Non Grease		
Tier 1: 0-6,000 gal	\$	7.67
Tier 2: Over 6,001 gal	\$	9.06
Commercial Class 2 - Grease		
Tier 1: 0-6,000 gal	\$	7.75
Tier 2: Over 6,001 gal	\$	10.25
Existing Minimums:		
Single Family	\$	48.46
Multi Family	\$	38.75
Commercial 1 - Non Grease	\$	56.21
Commercial 2 - Grease	\$	56.49

Exhibit 21: FY 2022 Existing Monthly Wastewater Rates

Proposed Wastewater Rates

In addition to the annual rate increases based on the cost-of-service phase-in plan, rate design changes will help ensure revenue stability as new debt service is forecast in the near-term, and simplification of the schedule of existing charges. Changes proposed through the rate design process include the following:

- Residential changes:
 - Eliminate minimum billed flow.
 - Move to a fixed rate for all residential customers eliminate the existing flow charge. This change will help address revenue stability as the utility prepares for increased debt obligations.
 - Create two residential sub-classes; one for usage less than 2,000 gallons monthly and one for usage more than 2,000 gallons monthly. In order to be classified in the low user group, usage had to fall below the 2,000 gallon threshold, but be more than zero, in all months of the year. This modification eases the impact of the rate design change for the lower users of the class. The City will aim to phase the fixed rates into one charge for the whole residential class by FY 2028.
- Other rate design changes:
 - Eliminate minimum billed flow.
 - Transition multi-family class to a fixed rate per unit for all multi-family customers. This change will also help to address revenue stability.



- Eliminate the tier structure for the Commercial 2– Grease class. Based on customer statistics, 92 percent of usage is over the existing tier threshold of 6,000 gallons. Eliminating the tier structure will simplify the rate schedule without substantial customer impacts.
- Move towards elimination of the Commercial 1 tiered rate in the future when rates near more inflationary levels to minimize impacts to this customer class.

Exhibit 22 provides a summary of the proposed rates through FY 2028.

Sower Pater						Prop	ose	d				
Sewer Rales	F`	Y 2023	F	Y 2024	F	Y 2025	F	Y 2026	F	Y 2027	F	Y 2028
		Fiz	xed	Charge								
Single Family												
Less than 2,000 gallons	\$	57.66	\$	68.62	\$	81.65	\$	85.73	\$	90.02	\$	95.30
More than 2,000 gallons	\$	75.63	\$	87.07	\$	99.62	\$	98.59	\$	97.16	\$	95.30
Multi Family (per unit)	\$	44.49	\$	49.83	\$	55.81	\$	55.81	\$	55.81	\$	55.81
Commercial Class 1 - Non Grease	\$	68.00	\$	85.00	\$	106.25	\$	114.22	\$	122.79	\$	131.99
Commercial Class 2 - Grease	\$	70.00	\$	91.00	\$	118.30	\$	127.76	\$	137.99	\$	148.33
	Flo	w Charg	e (p	per 1,000	gall	lons)						
Commercial Class 1 - Non Grease												
Tier 1: 0-6,000 gal	\$	8.35	\$	10.44	\$	13.05	\$	14.03	\$	15.08	\$	16.21
Tier 2: Over 6,001 gal	\$	9.61	\$	12.01	\$	15.01	\$	16.13	\$	17.34	\$	18.64
Commercial Class 2 - Grease												
All Flow	\$	13.04	\$	16.96	\$	22.04	\$	23.81	\$	25.71	\$	27.64

Exhibit 22: Proposed Wastewater Rates

WASTEWATER NEW USER FACILITY FEE ANALYSIS

In addition to the rate study update performed, the City requested an update of their New User Facility Fee (NUFF). The following section discusses the various aspects of the process used to update the NUFF for the wastewater utility.

As discussed for the water utility, the methodology and calculation used for these fees is based on the interpretation by the Court in the 2015 Idaho Supreme Court Case: NIBCA v the City of Hayden. Please refer to **Exhibit 10** for more explanation on the methodology of the charge. The following discussion will concentrate on the key elements and data sources used in development of the charge update.

Gross Present-Day Replacement Value

The gross present day replacement value was determined by identifying all existing facilities utilized to provide wastewater service to customers as of September 30, 2021. Important considerations for this part of the equation include:



- Assessing accurate installation years
 - » Installation year is not only important for determining annual depreciation, it is also important for determining replacement cost. Existing asset records are used to populate installation years.
- Collection system asset replacement cost determination
 - » Collection system replacement costs were estimated by applying a pipe replacement cost approximation based on pipe diameter to the 256,000 linear feet of pipe based on existing Geographic Information System (GIS) data at the City. Pipe replacement costs were based on recent engineering estimates for utilities of similar size and location. Total collection system replacement costs are estimated at \$37.8 million.
- Replacement cost determination for all other system assets
 - » Replacement costs for other system assets were determined by applying an Engineering News Record (ENR) construction cost index (CCI) ratio to the original cost of the asset as listed on the detailed asset register on record at the City. The ENR CCI 2021 average is used for determining replacement cost. The difference in the CCI between the installation year and this 2021 average determines the multiplier applied to the original cost of the asset, ultimately deriving the replacement cost.

Total gross present-day system replacement value = \$76.8 million as shown in **Exhibit 23**.

System Replacement Value	Total
Treatment	\$27,375,248
Collection	\$37,779,424
Pumping	\$5,516,611
General	\$6,175,546
Total Gross Replacement Value	\$76,846,829

Exhibit 23: Gross System Replacement Value

Bond Principal

The methodology identified allows a deduction for outstanding bond principal which represents the unpaid value of the system. Debt service is paid for through user fees and therefore should be deducted from the system replacement value so it is not double charged – once in rates and once in the new user facility fee. The City currently has one outstanding debt obligation resulting in a deduction of \$763,000 from the system replacement value.

Accumulated Original Cost Depreciation

Accumulated original cost depreciation is another deduction identified in the methodology. Original cost depreciation was calculated using the original cost of each asset divided by the useful life of each asset. The result of this calculation is annual straight-line depreciation. Depreciation accumulates each year until the full original cost is reached. Useful lives were based on the City's detailed asset register.

The original cost accumulated depreciation for the City is estimated at \$15.3 million.



Net Present-Day Replacement Value

Exhibit 24 summarizes the net present day system replacement value by deducting the bond principal remaining and original cost accumulated depreciation values. The net present day system replacement value is calculated at \$60.8 million.

System Replacement Value	Total
Treatment	\$27,375,248
Collection	\$37,779,424
Pumping	\$5,516,611
General	\$6,175,546
Total Gross Replacement Value	\$76,846,829
Less: Bond Principal Outstanding	-\$763,129
Less: Original Cost Accumulated Depreciation	-\$15,279,524
Net Present-Day Replacement Value	\$60,804,175

Exhibit 24: New Present-Day Replacement Value

System Capacity

A key component of the new user facility fee calculation is determining the number of users the system can support. Based on Exhibit B-2 of the 2010 HDR Engineering report, the existing treatment plant capacity is 2.83 million gallons per day (mgd). Section 1 of the City's 2016 sewer rules and regulations also states an estimate of residential demand per equivalent residential unit (ERU) as 6,000 gallons per month, per ERU. A peaking factor of 1.8 is added to the ERU definition to account for wet weather events. The peaking factor used was based on Table 3.1 of the City's 2019 treatment plant facility plan. Dividing total system capacity by the definition of a max month ERU results in 7,970 ERUs of capacity in the existing system, as shown in **Exhibit 25**.

Exhibit 25: Total Existing System Capacity

System Capacity	ERUs
Existing ERUs	3,652
Additional Capacity	4,318
Total Existing Capacity	7,970

Calculation of the New User Facility Fee

-

The new user facility fee is calculated by taking the net present day replacement value and dividing by the existing system capacity in ERUs. The calculated new user facility fee is \$7,629 per ERU, which is \$3,215 more than the current fee of \$4,413.

-

Exhibit 26: Total New User Fa	cility Fee
New User Facility Fee	Total
Net Present Day Replacement Value	\$60,804,175
Existing System Capacity (ERUs)	7,970
Total New User Facility Fee	\$7,629

The calculated charge is the maximum allowable charge that the City may choose to implement.



While the City could implement the maximum allowable charge now, with the near-term construction of the new wastewater treatment plant, it's prudent to review a range of future fee levels to avoid volatility in the charge as new infrastructure costs and offsetting debt principal levels are realized.

In order to project future fee levels, the components of net system replacement value and total system capacity were reviewed to forecast future conditions. Considerations were made to reflect planned capital spending that will result in future assets for the utility, the level of future outstanding debt principal and decreases to forecasted depreciation with replacement of aging infrastructure. **Exhibit 27** provides a range of potential future charges, depending on the final level of infrastructure investment and outstanding debt.

System Penlacement Value	Maximum Calculated	Future Range		
System Replacement value	Total	Total	Total	
Total Gross Replacement Value	\$76,846,829	\$145,924,422	\$145,924,422	
Less: Bond Principal Outstanding	-\$763,129	-\$62,121,212	-\$31,060,606	
Less: Original Cost Accumulated Depreciation	-\$15,279,524	-\$11,234,990	-\$11,234,990	
Net Present-Day Replacement Value	\$60,804,175	\$72,568,220	\$103,628,826	
System Capacity	ERUs	EF	RUs	
Existing ERUs	3,652	3,652		
Additional Capacity	4,318	12,768		
Total Existing Capacity	7,970	16,419		
New User Facility Fee	Total	Total	Total	
Net Present Day Replacement Value	\$60,804,175	\$72,568,220	\$103,628,826	
Existing System Capacity (ERUs)	7,970	16,419	16,419	
Total New User Facility Fee	\$7 629	\$4 420	\$6,311	

The analysis in **Exhibit 26**, represents the legally defensible maximum that the City may impose for new connections to the system.

Based on the future forecast in **Exhibit 27**, updated fee levels after construction of the new wastewater treatment plant could range from \$4,420 per ERU to \$6,311 per ERU. To avoid potential fee volatility in the future, it's recommended that the City implement the new user facility fee at \$6,311 per ERU to account for the likely increase of bond principal outstanding in the future.

It is strongly recommended that the City recalculate their new user facility fee upon completion of major projects to maintain full representation of system value as assets are placed into service.

SUMMARY

The analysis described above concludes the rate and new user facility fee study for the wastewater utility. The revenue requirement analysis results indicate that revenues at current levels are not sufficient to fund ongoing wastewater system obligations as operating expenses continue to grow and the city incurs new debt service on the anticipated \$61.5 million DEQ loan for the wastewater treatment plant. System reinvestment begins FY 2023 at 100 percent of depreciation levels but will drop to 60 percent in FY 2027. This forecasted reduction is intentional, as full principal and interest related to the new DEQ loan is recognized. Rate funded capital levels will return to 100 percent by FY 2030 to support the planned \$88.9 million capital plan. As a result, 19.00 percent annual increases are proposed from FY 2023 to FY 2025 before dropping to 3.00 percent annually from FY



2026 forward. The increases will be applied to the revised rate structure, based on the cost-of-service phase-in proposed.

In addition to the rate analysis, a new user facility fee (NUFF) was calculated for the wastewater utility.

The City adopted the updated NUFF on August 17th, 2022 with FY 2023 rate increases adopted on October 1st of 2022; rate design changes discussed will be effective for the May 2023 utility billings.

We recommend that the City revisit the study findings during the budget cycle to check that the assumptions used are still appropriate and no significant changes have occurred that would alter the results of the study. The City should use the study findings as a living document, continuously comparing the study outcomes to actual revenues and expenses. Any significant or unexpected changes will require adjustments to the rate strategy proposed.

The detail behind the summary tables discussed in this report can be found in the detailed rate model provided to the City.



Section V. RATE STUDY PRESENTATIONS

It has been over 10 years since a comprehensive rate study was completed by the City. A key component of the rate study was education and engagement of the City Council in the rate-setting process and providing a forum for members to evaluate the rate recommendations and advise on the recommendations to align with community goals and objectives.

The following presentations/workshops were held over the course of the study to share results, gain feedback and to incorporate suggestions:

- Rate Setting Fundamentals January 5, 2022
- Water and Sewer Revenue Requirement Results and New User Facility Fees June 8, 2022
- Water Cost of Service, Rate Design and Wholesale Results February 15, 2023
- Sewer Cost of Service and Rate Design Results March 1, 2023
- Water and Sewer Rate Study Public Hearing April 5, 2023

Recordings of past presentation materials can be found on the City's YouTube channel and can be accessed through the following web address: <u>https://www.youtube.com/@CityofSandpoint</u>.





| Memorandum

To: Greg Lanning, Utilities Director Sarah Lynds, Finance DirectorFrom: Angie Sanchez Virnoche, Principal

Brooke Tacia, Project Manager

Final Wholesale Rate Development

Date: May 2023

INTRODUCTION

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The City of Sandpoint (City) currently provides wholesale water service to three water purveyors located adjacent to the City's service area. The City provides the infrastructure and water supply necessary to deliver water to the master meters of each customer. Each purveyor then uses its own distribution system to provide water from the master metering points to its customers. The sale of water to each purveyor is managed through wholesale contracts, all of which are currently up for renewal. As a part of that process, the City engaged Financial Consulting Solutions Group (FCS GROUP) to update the rate for providing wholesale water service. Below is a summary of the 2023 wholesale rate calculation.

METHODOLOGY

There are two primary methods of setting utility rates: the utility basis and cash basis. The differences mainly have to do with how the eligible costs are calculated. The cost of service is the amount of money that the utility needs to recover to meet its financial obligations. This amount is divided by the applicable number of units (such as number of customers or cubic feet of water consumed) to yield the actual rate assessed to customers.

While the utility basis and cash basis treat operating costs the same, they differ in their recovery of capital costs. The cash basis is forward looking, focusing on ensuring funding for projected *future* capital costs and debt service costs. The utility basis focuses on recovering what has been invested in the *past*, along with a return *on* that investment and a return *of* that investment in the form of annual amortization.

Chapter VI.1 of the AWWA M1 Manual provides guidance around the use of the utility basis for wholesale customers, noting these customers typically do not have legal responsibilities to repay any debts incurred, operate the system within regulatory specifications or have any legal standing in the governance of the utility. Utilizing a utility basis approach compensates the retail customers for the risks incurred in providing service to wholesale customers.

The utility basis approach recovers costs related to the following three (3) main cost components:

- *Operating and Maintenance Expenses (O&M)* costs related to ongoing maintenance and operation of eligible assets.
- *Annual Depreciation Expense* costs related to the loss in value of facilities, not restored by current maintenance, due to wear and tear, decay, and obsolescence.

• *Return on Investment* – intends to pay the annual interest cost of debt capital and provide a fair rate of return for the total equity capital employed to finance facilities used to provide water service.

BASIS FOR ALLOCATING COSTS

• *Consumption & Demand*. There are two primary demand bases for allocating costs to wholesale customers. Allocable assets and fixed supply-related operating costs allocated to customers based on their share of system capacity. Variable operating costs such as electricity or chemicals are allocated to customers based on actual consumption relative to total water system consumption.

In order to calculate wholesale customer's share of system capacity, annual usage statistics were adjusted by a maximum day demand (MDD) to average day demand (ADD) ratio. A ratio of 1.83 was used, based on max and average day demand data from the City's 2021 detailed billing statistics. The peaking factor for the wholesale customers is lower than the peaking factor for the retail system, which averages 2.30 based on Table 2-2 of the City's 2021 Water System Plan.

Exhibit 1 summarizes the derivation of the capacity share and consumption share allocation factors for the whole customers.

Description	Wholesale	City
Capacity (ccf)	88,282	1,639,028
% Share	5.11%	94.89%
Actual Usage (ccf)	48,236	712,621
% Share	6.34%	93.66%

Exhibit 1: Demand Allocation Factors

• *System Assets*. The City's water system asset schedule drives several calculations in the wholesale rate determination, including both the allocation of capital assets (depreciation) and the allocation of asset-related operating costs to functions of service (and ultimately the wholesale customers). The 2023 rate structure is based on plant-in-service for year-end 2021, as summarized in **Exhibit 2**.

In order to equitably assign assets that provide service to wholesale customers, the City's system assets were first organized by functions of water service. Next, each asset was allocated based on the following allocation basis:

- » *Supply/Treatment*. The \$22.8 million in supply/treatment assets were allocated to wholesale customers based on their actual consumption share, or average use, of 6.34 percent.
- » *Pumping*. The \$95,700 in pumping assets were allocated to wholesale customers based on their capacity share of 5.11 percent.
- » *Storage*. The \$106,000 in storage assets were allocated to wholesale customers based on their capacity share of 5.11 percent.
- » *Transmission*. The \$2.6 million in transmission assets were allocated to wholesale customers based on their capacity share of 5.11 percent.
- » *Distribution*. Since each wholesale purveyor delivers water to their customers through a distribution system that is maintained by the wholesale customer, no distribution system costs were allocated to wholesale customers.



- » Meters & Services. The City's investment of \$841,000 in meters and services was allocated based on the number of meter service equivalents (MSEs). Of the total 6,784 MSEs in the City, 37 MSEs were identified as eligible to wholesale customers, resulting in an allocation of 0.54 percent.
- » *General*. Since the \$2.4 million in general assets are in support of the system as a whole, these assets were allocated to the wholesale customers based on the weighted allocation of all other functional allocations, resulting in an allocation of 3.94 percent to wholesale customers.
- » Hydrants. Similar to the methodology used for the distribution system, since each wholesale customer provides distribution services, it is assumed that all hydrants and fire protection needs are met by the wholesale customers. Therefore, no hydrant costs are allocated to wholesale customers.

The same allocation factors were then applied by function of service to accumulated depreciation, contributions in aid of construction (CIAC), and annual depreciation net of CIAC. The combination of assets at their original cost less accumulated depreciation and CIAC results in the net rate base for the wholesale customers. This allocation factor is used to assign costs that are in support of the whole system – resulting in a net rate base of \$1.69 million or a 3.94 percent allocation to wholesale customers.

WHOLESALE SHARE					
Functions of Service	Original Cost	Less: Accum. Depreciation	Less: CIAC	Net Rate Base	Annual Depreciation
Supply & Treatment	\$ 1,721,303	\$ (277,549)	\$-	\$ 1,443,754	\$ 20,383
Pumping	14,068	(9,178)	-	4,890	191
Storage	7,137	(1,742)	-	5,395	104
Transmission	191,330	(56,544)	-	134,785	2,551
Distribution	-	-	-	-	-
Meters & Services	6,347	(1,821)	-	4,526	117
Hydrants	-	-	-	-	-
General	132,600	(37,954)	-	94,646	1,688
Total	\$ 2.072.784	\$ (384,788)	\$ -	\$ 1.687.996	\$ 25.034

Exhibit 2: System Asset Summary

		CITY SHARE				
Functions of Service	Original Cost	Less: Accum. Depreciation	Less: CIAC	Net Rate Base	Dep	Annual preciation
Supply & Treatment	\$ 25,429,894	\$ (4,100,400)	\$-	\$ 21,329,494	\$	301,134
Pumping	261,187	(170,406)	-	90,781		3,551
Storage	132,496	(32,337)	-	100,159		1,928
Transmission	3,552,195	(1,049,792)	-	2,502,403		47,363
Distribution	26,283,627	(10,762,999)	(1,733,218)	13,787,411		327,339
Meters & Services	1,172,271	(336,280)	-	835,991		21,547
Hydrants	196,275	(44,470)	-	151,805		2,777
General	3,228,797	(924,179)	-	2,304,618		51,007
Total	\$ 60,256,743	\$ (17,420,862)	\$ (1,733,218)	\$ 41,102,662	\$	756,646



OPERATING COST ALLOCATIONS

Next, O&M expenses were functionalized by department and budget line item as follows:

- Utilities administration expenses were allocated based on the overall net rate base or 3.94 percent to wholesale customers.
- Water transmission and distribution expenses were allocated based on the weighted allocation of transmission, distribution, and hydrant assets. Since wholesale customers do not receive allocations for distribution and hydrant assets, the weighted allocation for O&M expenses is reduced to 0.81 percent for wholesale customers.
- Water treatment expenses and all electricity costs were allocated based on average use, resulting in an allocation of 6.34 percent to wholesale customers.
- Water project expenses were allocated based on the overall net rate base of 3.94 percent to wholesale customers.
- Resale supply expenses were allocated based on the number of MSEs, or 0.54 percent to wholesale customers.
- Transfers to the general fund were allocated based on the weighted average of all other expense allocations. This weighted average resulted in an allocation of 3.76 percent to wholesale customers.

Exhibit 3 provides the summary of the O&M allocations.

Exhibit 3: O&M Allocation Summary

Description		O&M Allocation			
		/holesale		City	
Utilities Administration	\$	20,870	\$	508,189	
Transmission & Distribution		4,264		520,093	
Treatment & Electricity		45,556		673,027	
Project Expenses		2,696		65,651	
Resale Expenses		707		130,543	
Transfers to General Fund		48,890		1,252,056	
Total O&M	\$	122,982	\$	3,149,558	

DEPRECIATION ALLOCATION

The rate structure recovers a share of depreciation on assets that provide service to wholesale customers. As identified in **Exhibit 2** above, the annual depreciation on non-contributed assets included in the calculated charge was \$25,034.

RETURN ON INVESTMENT

Since the wholesale customers have not bought into the system through a NUFF, they are renting capacity from the City. The return-on-investment cost component represents the capacity "*rental*" portion. In general, the return on investment is intended to provide a reasonable rate of return on the City's investment in facilities which the wholesale customers utilize.

The return on investment is calculated by multiplying the rate base by a rate of return, as follows:

• *Rate base* is the utility's net investment in assets. It excludes capital funded by grants or originally contributed by developers and deducts accumulated depreciation / amortization on



assets that were paid for by the utility. The asset values utilized in the rate base calculation are typically expressed in original costs. Deducting allocable cumulative depreciation of \$17.81 million and contributions in aid of construction of \$1.73 million from the allocable original cost of \$62.33 million results in an allocable rate base of \$42.79 million.

- *Rate of return* is typically referred to as the weighted average cost of capital (WACC) and should provide a return on investment to "*owners*" of the system equivalent with returns available from other investments having equal risk. The WACC consists of two components:
 - » Debt interest rate on outstanding debt. As of year-end FY 2021 the City's water utility had \$13.5 million in outstanding loan debt principal. Given the total FY 2021 expense of \$381,465 in debt service interest, the average interest rate on outstanding debt was 2.82 percent. This rate changes over time as debt is retired and new debt is issued.
 - *Return on equity.* The return on equity recognizes that the utility's capital investment **>>** provides value and should earn a return. It can be set as a premium over expected future debt interest costs, reflecting the discretionary investment of utility financial resources and reasonable expectation of return, as well as the various risks associated with system ownership, use of equity financing, and the terms of individual wholesale supply contracts. The risk premium on the rate of return can be specified as an amount or by formula in the contract. The methodology chosen by the City sets this rate based on the prevailing Bond Buyers Index for 20-year municipal bonds (3.25 percent during the completion of the study), plus a risk premium associated with the incremental return above the risk-free rate, multiplied by a water services industry beta. Including the beta component attempts to capture the comovement in a company's returns with the returns of the market, an effect which is usually more prominent with smaller companies than with larger ones. The incremental return above the identified risk-free rate was determined by comparing the twenty-year average returns of the S&P 500 Index (8.95 percent from 2003-2022) to the twenty-year average rate of return on common treasury stock (3.44 percent from 2003-2022) and multiplying by a water services beta of 0.52, as identified by Kroll's Cost of Capital¹ components. The identified adjusted risk premium is 2.86 percent.
 - » Using this methodology, the total rate of return on equity was calculated at 6.11 percent. Absent a specific rate in the agreement between the City and the wholesale customers, this factor is linked to the prevailing bond market and will vary over time as market conditions change.

The WACC is computed by identifying debt and equity shares of the rate base and then multiplying each component by the appropriate rate of return as shown in **Exhibit 4**.

¹ Kroll is a leading independent valuation services provider and a trusted expert on estimating cost of capital. Their published industry betas and other cost of capital components can be found on their website, at: <u>www.krolls.com</u>.



Weighted Average Cost	Share of Net Book Assets		Pate of Peturn	
of Capital (WACC)	\$	%	Nate of Neturn	
Debt	\$ 13,526,696	31.61%	2.82%	
Equity	29,263,962	68.39%	6.11%	
Total O&M	\$ 42,790,658	100.00%	5.07%	

Exhibit 4: Calculation of Weighted Average Cost of Capital

The return-on-investment component was computed by multiplying the wholesale net rate base of \$1.69 million by the WACC of 5.07 percent resulting in a return on investment of \$85,610.

WHOLESALE RATE CALCULATION

Combining the O&M, depreciation and return on investment components results in a wholesale allocable cost of service of \$233,626. Exhibit 5 provides a summary of the three cost components.

Utility Basis		23 Cost of
		Service
Operations and maintenance (O&M)	\$	122,982
Annual depreciation		25,034
Return on investment		85,610
Revenue Requirement	\$	233,626

Exhibit 5: Wholesale Allocable Cost of Service

The current wholesale water rates are summarized in **Exhibit 6** and consist of an inclining tier structure for volume charges and a monthly fixed charge based on the meter size of each customer's connection. Tier thresholds are multiplied by the number of accounts served by each wholesale purveyor.

Description	2023 Existing
Fixed Charge	
3/4" Meter	\$19.72
1" Meter	\$39.60
1-1/2" Meter	\$69.74
2" Meter	\$99.18
3" Meter	\$356.71
4" Meter	\$594.67
6" Meter	\$1,189.46
Volume Charge (per 1,000 gal	lons)
Wholesale - thresholds are	per account
Tier 1: 0-15,000 gal	\$3.91
Tier 2: 15,001- 40,000 gal	\$6.43
Tier 3: Over 40,001 gal	\$7.62

Exhibit 6: Existing Monthly Wholesale Rates

To help address revenue stability and align cost causation with revenue collection, the City will begin collecting the capital components of annual depreciation and return on investment through a monthly fixed charge. The capital components were allocated to the three wholesale customers based on an average of five years of historical usage levels. Historical data was reviewed to remove any abnormalities (i.e., leaks). O&M expenses will be collected through a uniform usage charge, moving



away from the inclining tier structure applied today. Each wholesale customer will continue to have the flexibility to charge their customers based on a rate structure that addresses the policies and objectives of each wholesale purveyor. **Exhibit 7** provides a summary of the monthly fixed and variable charges applicable to the wholesale customers.

Description	Proposed
Fixed Charge	
Syringa Heights Water District	\$4,949
Northside Water Users Association	\$3,683
Edelweiss Village Improvement Association	\$588
Volume Charge (per 1,000 gallons)	
All Usage	\$2.85

Exhibit 7: Proposed Monthly Wholesale Rates

SUMMARY

The initial rate calculation described above, representative of the utility basis methodology, is intended to set rates for FY 2023. The allocated costs to be recovered from wholesale customers results in a 26.5 percent increase over forecasted FY 2022 revenue generation for the class. It is recommended that the City increase the stated rates annually, by the water system average rate increase of 3.80 percent from FY 2024 through FY 2028. During the next rate setting cycle, a comprehensive wholesale analysis is recommended to recalibrate the rate basis.

Aside from the annual updates, any material changes in the system infrastructure, asset base, specific facilities serving wholesale customers, level of service provided, and the utility's operating and maintenance expenses relative to the current cost structure could warrant an update of the wholesale rate analysis and an adjustment to wholesale rates.

