City of Lakeport, CA

Water & Sewer Rate Study

August 2021

WILLDAN

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Section 1 – Executive Summary

1.1 Introduction

Willdan Financial Services (Willdan) is pleased to submit to the City of Lakeport (the "City") the Water and Sewer Rate Study report (the "Report") for your consideration. Willdan has completed the study of the City's water and sewer rates and summarized the results of the investigations, analyses and conclusions in this Report.

The City owns and operates water supply, treatment, transmission and distribution facilities, and sewer collection, treatment and disposal facilities, providing utility services to residential and nonresidential customers both within and outside its incorporated limits. During recent years, the City has focused a significant amount of attention and effort on strategic planning measures in all areas of utility operations to ensure that it remains prepared for the future. As part of its ongoing strategic planning efforts, the City has commissioned Willdan to perform a water and sewer rate study to analyze the revenue sources and expenditures of the utility system and provide recommendations for proposed rate and/or rate structure adjustments to meet the financial and administrative goals and objectives of the City. The primary objectives of the rate study include:

- Full cost recovery (i.e., operating costs, debt and other expenditure requirements);
- Cost-based rate structure;
- Consistency with American Water Works ("AWWA") and Water Environment Federation ("WEF") guidelines;
- Equity among customer classes;
- Meeting Proposition 218 requirements;
- Administrative efficiency (i.e., easy to understand and implement); and
- 5-Year capital funding plan.

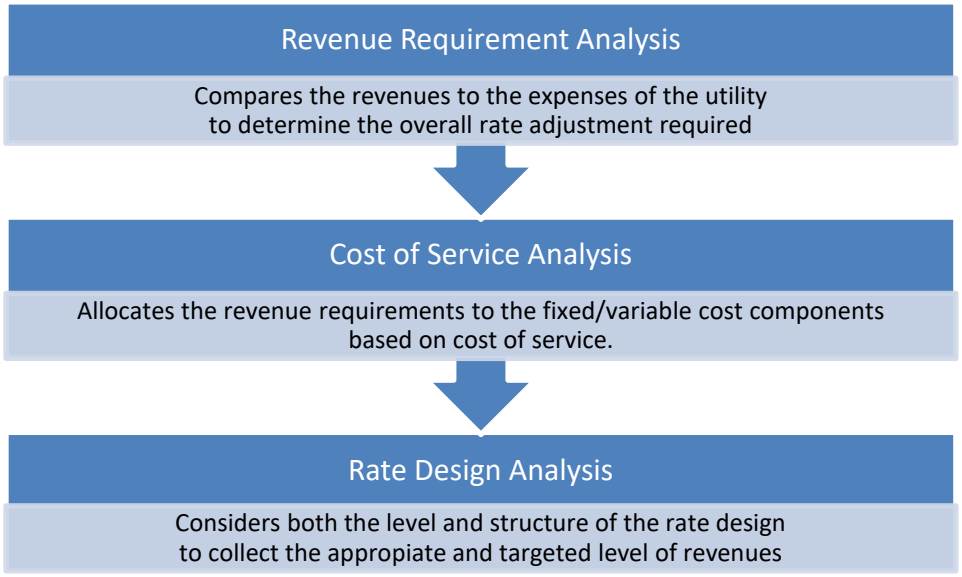
1.2 Overview of the Rate Study Process

The study develops water and sewer financial plans for the upcoming 5-year planning period and includes the development of cost-based rates through a cost-of-service and rate design analysis. Utility rates must be set at a level such that operating, maintenance, debt and capital expenses are funded with the revenues received from customers. In addition, the revenues generated from utility rates must only be used for this purpose and for each system separately. This is a significant point, as failure to achieve the needed revenues can lead to unacceptable service levels and inadequately maintained facilities. Therefore, a rate study typically consists of following three interrelated analyses:

I. **Financial Planning/Revenue Requirement Analysis**: Creates a five-year plan to support an orderly, efficient program of on-going maintenance and operating costs, capital improvement and replacement activities, debt financing, and retirement of outstanding debt. In addition, the plan should fund and maintain appropriate reserve balances based on industry standards, as well as the City's fiscal policies and specific needs.

II. **Cost-of-Service Analysis**: Identifies and apportions annual revenue requirements (i.e., expenditures) to functional cost components based on the demand placed on the utility system. The purpose of this analysis is to develop rates that generate revenues relatively proportionate to the share of each utility's costs. This objective is consistent with industry standards as well as the requirements of Proposition 218.

III. **Rate Design:** Develops an equitable and proportionate fixed/variable schedule of rates for the City's customer base. The policy objectives are coordinated with cost-of-service objectives to achieve a balance between customer equity and financial stability goals. The balance of fixed and variable charges considers the need for a stable revenue source (the fixed charge) and the variable component of the rate structure such that customers placing higher costs on the system (through higher water and sewer use) incur a higher bill reflective of their impact on the system.



This rate study utilizes generally accepted rate-making principles and standards established by such industry experts as the AWWA in its "M1 - Principles of Water Rates Fees and Charges" manual and WEF in its "Financing and Charges for Sewer Systems, Manual of Practice No. 27". The principles established by these entities are used as guidelines in the development of

the proposed rates for water and sewer. A discussion of some of the key principles of rate-making is presented in the following subsection of this Report.

1.3 Summary of Proposed Rates

The rate study methodology applied in the development of updated water and sewer rates, and outlined in this Report, consisted of reviewing the historical operating results of the water and sewer utility systems, analyzing the budget to identify the net revenue requirements to be recovered from user rate revenues, performing general cost of service allocations based on the rate components, and revising the rates based on the applicable costs and expenditures to be recovered from user rates. In addition, an analysis of the system customers and usage characteristics was performed to identify the rate determinants since these are the primary sources for generating revenues. The allocated revenue requirements were utilized in conjunction with the rate determinants and rate structure to develop proposed rates for water and sewer.

The findings and conclusions of the rate analysis, as well as the resulting revised rate recommendations, were utilized to develop a projection of future operating results for a 5-year planning period from fiscal year 2022 (beginning July 1, 2021) through fiscal year 2026 (ending June 30, 2026), herein referred to as the "Projection Period". The purpose for developing the 5-year projections is to demonstrate the financial capability of the water and sewer revenues to support system operations and fund planned capital improvements. The analyses, findings and accompanying recommendations are presented in the subsequent sections of the Report.

The water and sewer rate analyses described in the Report are performed based on the general guidelines of the defined objectives, as well as common industry standards for setting utility rates. In addition to focusing on these major objectives, the rate analyses performed herein will consider other factors in designing rates. As will be discussed in detail later in the Report, such other rate considerations generally include sensitivity to the impact on existing customers, the relative comparability with neighboring utilities, the City's existing rate structure, and the impact on future development. The proposed water and sewer rates for assumed implementation effective July 1, 2021 (or other such date as determined by the City) for the entire fiscal year 2021/22 (fiscal year 2022, herein referred to as the "Test Year") are provided in **Tables 1 and 2**, respectively.

Table 1 – Proposed Water Rates

Description	Rate
Monthly Service Charge by Meter Size:	
5/8 Inch x 3/4 Inch [1]	$ 34.52
1.0 Inch	$ 72.08
1.5 Inch	$ 134.67
2.0 Inch	$ 209.78
3.0 Inch	$ 385.03
4.0 Inch	$ 635.40
6.0 Inch	$ 1,261.31
Multi-Family Monthly Service Charge Per Dwelling Unit	
Apartments	$ 34.52
Duplex, Triplex and Mobile Home	$ 34.52
Motel and Bed & Breakfast w/o Kitchen	$ 34.52
Motel and Bed & Breakfast w/Kitchen	$ 34.52
Volumetric Rates Per 100 Cubic Feet:	
Single-Family Residential	
0 - 600 Cubic Feet	$ 2.92
601 - 1,200 Cubic Feet	$ 4.71
Over 1,200 Cubic Feet	$ 7.23
Multi-Family	
0 - 400 Cubic Feet	$ 2.72
All Flow Over 400 Cubic Feet	$ 4.12
All Other Customers	
All Flow	$ 4.39
Notes: [1] All Single-Family Residential customers are billed at the 5/8 x 3/4 Inch Service Chrage Rate.	

Table 2 – Proposed Sewer Rates

Description	Rate
Monthly Service Charge [1]:	
Single-Family Residential	$ 79.50
Apartments	$ 58.48
Commercial	$ 67.30
Volumetric Rates Per 100 Cubic Feet:	
Commercial - All Flow	$ 4.84
Notes: [1] Residential and Apartment customers are billed a flat monthly fee per dwelling unit.	

Section 2 – Revenue Sufficiency Analysis

2.1 Financial Planning Principles

While the individual rates for each of the utility systems vary based on a variety of factors, rates should be consistent with common rate-making principles within the utility industry. The guiding principle is that rates designed for any utility should provide a reasonable balance between several key factors. In general, the utility rates should:

- Generate a stable revenue stream that, when combined with other sources of funds, is sufficient to meet the expenditure requirements and goals of the system;
- Be based upon the proportionate cost of providing the service and not exceed the cost of providing the service;
- Be equitable – that is, they should generate revenue from customer classes in a manner which is reasonably in proportion to the cost to provide service to that customer class;
- Be easy to understand by customers; and
- Be easy to administer by the utility.

Striking the appropriate balance between the principles of rate-making is the result of a detailed process of evaluation of revenue requirements and cost of service, and how those translate into the rate design alternatives which meet legal requirements and the specific objectives of the utility under the circumstances in which it operates.

2.2 Existing Rates

The City has established user rates that are applied to the retail customers (residential, multi-family, and non-residential) of the system. The rates charged for water and sewer service are approved by the City Council and are not subject to administrative review or approval by any other local or state agency. The City has historically adjusted rates, as necessary, to provide for recovery of financial obligations including operating expenses, debt service, capital expenditures and any other expenses and transfers.

The existing water rates consist of 1) monthly service charges that designate the minimum amount a customer will pay, and 2) volumetric rates per 100 cubic feet (CF) based upon the amount of monthly metered water usage. The monthly service charge is incremented based on the size of the metered connection. The volumetric rates apply an inclining tiered structure such that the rate per CF increases as monthly flows exceed the defined thresholds. For non-residential customers (commercial and irrigation), the tier thresholds are also incremented based upon the size of the water meter. Additionally, customers that are located outside of the City limits pay 1.60-times the inside-City monthly service charge. There

is no outside-City differential for the volumetric rates. The existing rates for water service are provided in **Table 3**.

Table 3 – Water Existing Rates

Description	Inside	Outside
Monthly Service Charge by Meter Size:		
5/8 Inch - 3/4 Inch	$ 34.85	$ 55.75
1.0 Inch	$ 69.70	$ 111.50
1.5 Inch	$ 145.10	N/A
2.0 Inch	$ 208.90	N/A
3.0 Inch	$ 418.10	N/A
4.0 Inch	$ 696.80	N/A
6.0 Inch	$ 1,341.20	N/A
Multi-Family Charge Per Dwelling Unit		
Apartments	$ 20.90	N/A
Duplex, Triplex and Mobile Home	$ 26.15	N/A
Motel and Bed & Breakfast w/o Kitchen	$ 17.45	N/A
Motel and Bed & Breakfast w/Kitchen	$ 20.90	N/A
Volumetric Rates Per 100 Cubic Feet:		
Single-Family Residential		
0 - 600 Cubic Feet	$ 1.92	$ 1.92
601 - 1,200 Cubic Feet	$ 3.36	$ 3.36
Over 1,200 Cubic Feet	$ 5.94	$ 5.94
All Other Customers [1]		
Tier 1	$ 2.23	N/A
Tier 2	$ 5.54	N/A

Notes:
[1] For Commercial & Irrigation customers, Tier 1 is determined by the respective meter size. Apartments, Motels and Bed & Breakfast customers first tier is set at 300 cubic feet. Duplex, Triplex and Mobile Home customers first tier is set at 500 cubic feet.

The existing sewer rates consist of 1) a monthly service charge that designates the minimum amount a customer will pay, and 2) a volumetric rate per 100 CF based upon the amount of monthly metered water usage. The monthly service charge is constant regardless of the size of the water-metered connection. For residential and multi-family customers, the charge is a flat monthly fee with no additional volumetric charges. The monthly service charge for non-residential customers includes a 1,000 CF (approximately 7,500 gallons) monthly usage allowance. For flows that exceed the monthly usage allowance, the volumetric rates utilize a uniform rate structure such that the rate per 100 CF remains constant for all levels of metered usage. The existing rates for sewer service are provided in **Table 4**.

Table 4 – Wastewater Existing Rates

Description	Rate
Monthly Service Charge [1]:	
Single-Family Residential & Commercial	$ 74.25
Apartments	$ 57.25
Volumetric Rates Per 100 Cubic Feet [2]:	
0 - 1,000 Cubic Feet	$ -
Over 1,000 Cubic Feet	$ 8.81

Notes:

[1] Single-Family Residential and Apartment customers are billed a flat monthly rate.

[2] Commercial customers receive 1,000 cubic feet that is included in the monthly service charge. All flow exceeding 1,000 cubic feet is billed per 100 cubic feet.

2.3 Revenue Sufficiency Process

In evaluating whether the existing rates will generate sufficient revenue to meet the expenditure requirements of the water and sewer systems, the annual expenditures required (herein referred to as the "Revenue Requirements") must be developed. The Revenue Sufficiency Analysis compares the forecasted revenues of each system under its existing rates (including customer growth) to the projected Revenue Requirements.

2.3.1 Test Year Revenue Requirements

The rate analysis performed herein utilizes the City's preliminary budget for fiscal year 21/22 (the "Budget" for fiscal year ending June 30, 2022) as the basis for developing the Revenue Requirements to be recovered from user rates over the Projection Period. The Budget, as prepared by the City, has certain expenditures that are allocated between identifiable water and sewer components, as well as expenditures that are associated with the combined system operations. In developing the rate analysis, certain adjustments are made such that the expenditures are categorized into either Operating and Maintenance (O&M) expenses or Non-Operating expenses. The O&M expenses are primarily those ongoing costs for labor, materials, supplies, services, etc., required to manage and operate the utility system on a day-to-day basis while maintaining a dependable level of service. The estimated O&M requirements are generally a function of a budgetary process and are directly related to the level of service provided to customers of the utility system. The non-operating expenses include such items as debt service, capital outlay and any other expenses & transfers. The Budget also identifies estimated revenues to be derived from

sources other than the retail water and sewer user rates. Such other revenue sources include penalty fees and various other miscellaneous service charges. The revenues generated from the other sources are applied to the gross Revenue Requirements to reduce the amount of revenues required from user rates. The result is the net Revenue Requirement.

In performing the rate analysis, each of the budgeted expenditures and revenues are allocated between water and sewer on a line-item basis. The allocations are based on such factors as revenues (water vs. sewer), specific system identification, capital expenditures and combined expenditure results (e.g., total O&M allocated to water vs. sewer).

The proposed water and sewer rates developed in the Report are designed for assumed implementation for fiscal year 2021/22 (the Test Year as previously defined). The projected Test Year Revenue Requirements are estimated by utilizing the adjusted Budget, actual debt service requirements as provided in the applicable debt service schedules, using capital outlay estimates as provided by the City, and tying non-operating transfers to revenues or O&M expenses as applicable. The Test Year Revenue Requirements that are used for developing the user rates proposed herein are detailed in **Appendix A** at the end of this report and summarized in **Table 5**.

Table 5 – Test Year Revenue Requirements – FY 2022

Description	Water	Wastewater	Total
Total O&M	$ 1,808,011	$ 2,166,845	$ 3,974,856
Debt Service	424,605	592,998	1,017,603
Other Expenditures & Transfers	214,516	154,554	369,070
Gross Requirement	**$ 2,447,132**	**$ 2,914,397**	**$ 5,361,529**
Less Other Revenues	(45,000)	(126,050)	(171,050)
Net Requirement	**$ 2,402,132**	**$ 2,788,347**	**$ 5,190,479**

2.3.2 Projected Revenue Requirements

As previously discussed, the estimated Revenue Requirements for the Test Year are developed utilizing the Budget as a basis. The Revenue Requirements for the Test Year and the remainder of the Projection Period are developed by escalating the budgeted costs on a line-item basis in accordance with assumed future activities and events that may impact the system. The costs associated with certain operating expenses that are typically more variable in nature, such as chemicals and electrical power, are escalated pursuant to various factors based on a combination of estimated customer and/or flow growth and assumed inflationary forces. Personnel related costs such as employee salaries and benefits are generally escalated based on assumed labor escalator factors that, over the Projection Period, include adjustments in pay and incremental addition of employees as necessary. Certain expenses that do not generally vary with system growth (e.g., telephones, publications, training, etc.) are assumed to either escalate based only on inflation or remain

relatively constant. Materials, supplies, general repair and maintenance expenses generally increase from current levels based on inflationary factors that directly impact the water and sewer industry. Such factors are derived on a composite basis from historical analyses of price indices used by many utilities for financial forecasting. Line-item budgeted costs are also evaluated to make determinations as to whether they are recurring or one-time, and adjustments made accordingly.

The projected Revenue Requirements developed herein also include debt service payments from outstanding debt obligations as well as any anticipated new debt issuances by the City. The required annual payments for the existing debt are based on debt service schedules for each utility system as provided by the City. Based on discussions with staff, it is anticipated that new debt will be issued during the Projection Period to fund projects included in the City's Capital Improvement Program (CIP). Based on discussions with City staff, the estimated annual debt service payments for the new debt assume an interest rate of 4.0% for a 25-year term and a principle amount equal to the cost of the project(s) plus 2.0% in issuance/borrowing costs. The current CIP is provided in **Table 6.** The table also identifies the amount of capital projects that will be funded with new debt.

Table 6 – Capital Improvement Program Funding Summary

Description	Projected for Fiscal Year Ending June 30,				
	2022	2023	2024	2025	2026
Water:					
Debt Funded Projects	$ 152,500	$ 380,000	$ 135,000	$ 695,000	$ 650,000
Cash Funded Projects	450,000	195,000	85,000	100,000	-
Other Funding Sources	2,500	-	25,000	-	-
Subtotal	**$ 605,000**	**$ 575,000**	**$ 245,000**	**$ 795,000**	**$ 650,000**
Wastewater:					
Debt Funded Projects	$ -	$ -	$ -	$ -	$ -
Cash Funded Projects	700,000	810,000	710,000	310,000	210,000
Other Funding Sources	-	500,000	-	-	900,000
Subtotal	**$ 700,000**	**$ 1,310,000**	**$ 710,000**	**$ 310,000**	**$ 1,110,000**
Combined:					
Debt Funded Projects	$ 152,500	$ 380,000	$ 135,000	$ 695,000	$ 650,000
Cash Funded Projects	1,150,000	1,005,000	795,000	410,000	210,000
Other Funding Sources	2,500	500,000	25,000	-	900,000
Total Combined CIP	**$ 1,305,000**	**$ 1,885,000**	**$ 955,000**	**$ 1,105,000**	**$ 1,760,000**

The preliminary estimates for the new debt service requirements are included in the Revenue Requirements. Based on the CIP, all of the new debt is allocated to the water system. The projected Revenue Requirements for water and sewer over the entire Projection Period are provided in **Tables 7 and 8.**

Table 7 – Water Revenue Requirements for the Projection Period

Description	Projected for Fiscal Year Ending June 30,				
	2022	2023	2024	2025	2026
Total O&M	$ 1,808,011	$ 1,867,588	$ 1,922,519	$ 1,970,906	$ 2,030,035
Existing Debt Service	380,605	378,823	380,971	377,563	378,955
Future Debt Service	44,000	44,000	44,000	146,000	146,000
Other Expenditures & Transfers	214,516	349,497	359,620	280,592	289,018
Gross Requirement	**$ 2,447,132**	**$ 2,639,908**	**$ 2,707,110**	**$ 2,775,061**	**$ 2,844,008**
Less Other Revenues	(45,000)	(45,000)	(45,000)	(45,000)	(45,000)
Net Requirement	**$ 2,402,132**	**$ 2,594,908**	**$ 2,662,110**	**$ 2,730,061**	**$ 2,799,008**

Table 8 – Sewer Revenue Requirements for the Projection Period

Description	Projected for Fiscal Year Ending June 30,				
	2022	2023	2024	2025	2026
Total O&M	$ 2,166,845	$ 2,240,840	$ 2,308,186	$ 2,367,859	$ 2,438,898
Existing Debt Service	592,998	598,541	603,425	612,816	620,149
Future Debt Service	-	-	-	-	-
Other Expenditures & Transfers	154,554	130,621	115,280	104,482	85,335
Gross Requirement	**$ 2,914,397**	**$ 2,970,002**	**$ 3,026,891**	**$ 3,085,157**	**$ 3,144,382**
Less Other Revenues	(126,050)	(126,050)	(126,050)	(126,050)	(126,050)
Net Requirement	**$ 2,788,347**	**$ 2,843,952**	**$ 2,900,841**	**$ 2,959,107**	**$ 3,018,332**

2.4 Customers & Billable Flows

The rate study performed herein is heavily reliant upon a detailed analysis of the system customers and accompanying usage characteristics. The existing utility customer base and metered/billable flows provide the determinants utilized in calculating the monthly user rates and charges, which become the foundation for projecting future revenues generated by the water and wastewater systems.

It is important to note that the customer and flow analysis focuses primarily on the customer classifications that will be impacted by the user rates and charges to be developed in the Report. This consists of the general service (retail) customers that currently pay for utility services pursuant to the existing user rates and charges as previously detailed. For the purpose of the rate study, it is these customers and their accompanying flows that will generate revenues based upon the proposed user rates and charges.

2.4.1 Customer Billing Analysis

For the purpose of the rate study, detailed information was provided for each individual customer for the 30-consecutive month period from July 2018 through December 2020. This data offered a breakdown of the water and sewer customer by class, billed flows and billed charges. The historical billing data was queried from the City's electronic billing records for the time period described. An analysis of the billing data was conducted in order to obtain an understanding of the existing customers, customer classes, and metered usage per

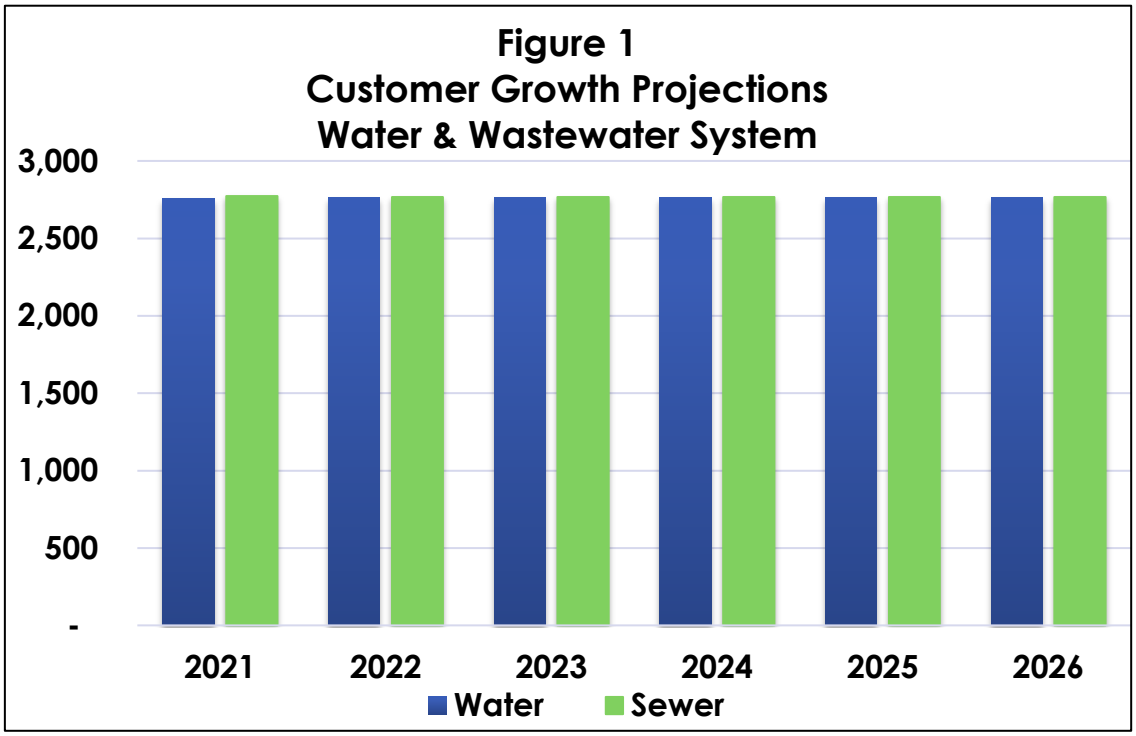
customer class. In addition, the historical billing data provides a basis to estimate future customer growth trends within each class. In accordance with the data, as well as discussions with the City staff, the utility system provides service to various identifiable retail customer classes consisting of:

- Residential,
- Multi-Family, and
- Non-Residential (Commercial and Irrigation).

Each of these customer classes embodies certain common characteristics in their utility use and service demand profiles that provide the basis for establishing an equitable allocation of system costs. The billing data was utilized to identify the number of customer accounts within each class, the applicable ERUs based on meter size, and the metered/billable usage profiles.

2.4.2 Customer Accounts

A customer account is representative of a single physical connection to the water and/or sewer system regardless of the size of the meter, the number of dwelling units or the amount of flow. The historical customer data was utilized to establish growth trends for each customer classification. The growth trends were then used to project the average number of accounts/users within each class for the Test Year plus the remaining years of the Projection Period. The existing and projected average customer accounts are summarized in **Figure 1**.



The City has not experienced customer growth in recent years. As such, it is assumed that no additional growth will occur during the Projection Period. The projected customer accounts and billable flows are provided in **Tables 9 and 10** for water and sewer, respectively.

Table 9 – Projected Number of Customers

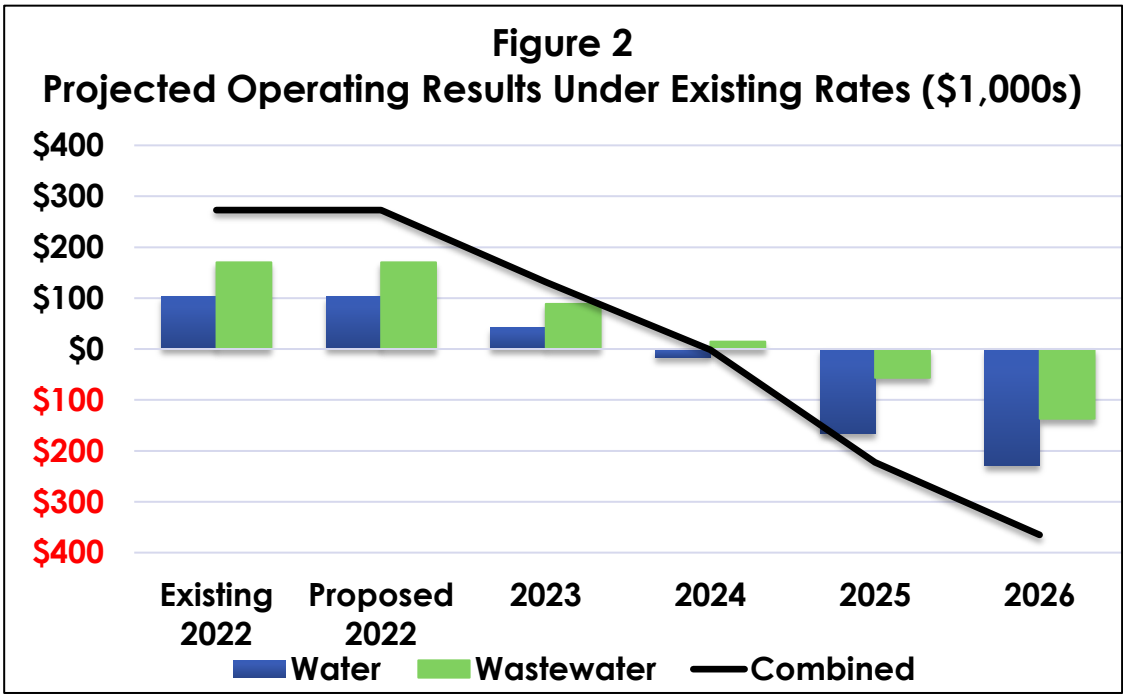
System	Estimated	Projected				
	2021	2022	2023	2024	2025	2026
Water						
Single-Family Residential	1,579	1,579	1,579	1,579	1,579	1,579
Multi-Family	766	766	766	766	766	766
Non-Residential	413	413	413	413	413	413
Total Water	**2,758**	**2,758**	**2,758**	**2,758**	**2,758**	**2,758**
Sewer						
Single-Family Residential	1,920	1,920	1,920	1,920	1,920	1,920
Multi-Family	462	462	462	462	462	462
Non-Residential	392	392	392	392	392	392
Total Sewer	**2,775**	**2,775**	**2,775**	**2,775**	**2,775**	**2,775**

Table 10 – Projected Billed Volume Sold (100s CF)

System	Estimated	Projected				
	2021	2022	2023	2024	2025	2026
Water						
Single-Family Residential	156,327	154,878	154,878	154,878	154,878	154,878
Multi-Family	32,911	33,252	33,252	33,252	33,252	33,252
Non-Residential	79,907	78,309	78,309	78,309	78,309	78,309
Total Water	**269,145**	**266,439**	**266,439**	**266,439**	**266,439**	**266,439**
Sewer						
Single-Family Residential	-	-	-	-	-	-
Multi-Family	-	-	-	-	-	-
Non-Residential	35,210	38,328	38,328	38,328	38,328	38,328
Total Sewer	**35,210**	**38,328**	**38,328**	**38,328**	**38,328**	**38,328**

2.5 Financial Projections Under Existing Rates

The projected customers and accompanying billable flows are applied to the existing rates to develop a projection of user rate revenues under the existing rates. The revenues are then compared to the projected revenue requirements/expenditures to determine if rate adjustments are needed. Based on this comparison, it is projected that both the water and sewer utility systems cannot meet their projected financial obligations at the existing rates. As such, without rate adjustments, the system will not be able to fund its operations and capital programs. This is driven primarily by water capital projects that are anticipated to be funded with a combination of cash reserves and new debt. A graphical illustration of the projected operating results under the existing rates is provided in **Figure 2** for water and sewer, respectively.



Since it is projected that the utility systems will not meet their respective financial and capital requirements without rate adjustments, the analysis developed herein proposes manageable annual adjustments that will address the financial objectives of both utilities and mitigate the impacts of rate shock on system customers. The proposed rates and projected financial results are addressed in the subsequent sections of this Report.

Section 3 – Cost of Service Analysis

3.1 General

In accordance with the American Water Works Association (AWWA) Manual M1, the costs incurred in a utility system are generally driven by specific service requirements imposed on the system by its customers. The primary service requirements that drive costs include annual flow volumes, peaking flow volumes (e.g., peak day, peak hour) the number of customers and the type of customers served. There are a number of different options that can be used to perform a cost-of-service (COS) analysis and the allocation methodology depends upon the basis applied. The analysis performed for the rate study utilizes a common industry approach known as the base-extra capacity method.

3.2 Water Cost of Service

The COS utilizes the revenue requirements for the Test Year as the cost basis. The Test Year revenue requirements as identified in the previous section of the Report are functionally unbundled, classified and allocated to customer classes to determine the cost of service by class. More detail relating to the water COS approach can be found in **Appendix B.**

3.2.1 Peaking Factors

The system-wide peaking factors are used to derive the cost component allocation bases for Base (Delivery), Max Day, and Max Hour costs. Base represents average daily demand during the year, which has been normalized to a factor of 1.00. Based on data provided by City staff, the average water demand was 0.66 million gallons per day (MGD) and the Max Day water demand was 1.37 MGD in the most recent full fiscal year. The Max Day peaking factor shows that the system-wide Max Day demand is 2.08 (1.37 Max Day MGD divided by 0.66 Base Delivery) times greater than the average daily demand. The Max Hour peaking factor assumes that the system-wide Max Hour demand is 2.50 (1.65 Max Hour MGD divided by 0.66 Base Delivery) times greater than average demand based on common industry standards. The system-wide peaking factors are shown in **Table 11**.

The Max Day allocations are calculated as follows:

Base Delivery: 0.66 / 1.37 x 100% = 48.18%

Max Day: (1.37 – 0.66) / 1.37 x 100% = 51.82%

The Max Hour allocations are calculated as follows:

Base Delivery: 0.66 / 1.65 x 100% = 40.00%

Max Day: (1.37 - 0.66) / 1.65 x 100% = 43.03%

Max Hour: (1.65 – 1.37) / 1.65 x 100% = 16.97%

Table 11 – Peaking Factors System-Wide

Description	Demand (MGD)	Factor	Base	Max Day	Max Hour	Total
Avg Day	0.66	1.00	100.00%	0.00%	0.00%	**100.00%**
Max Day	1.37	2.08	48.18%	51.82%	0.00%	**100.00%**
Max Hour	1.65	2.50	40.00%	43.03%	16.97%	**100.00%**

Max Day Customer specific peaking factors are then developed, based on the maximum monthly usage divided by average monthly usage for each customer class and tier. The maximum month peaking factor is used as a proxy for the class and tier-specific Max Day peaking factors. For Max Hour demands, the Max Day customer-specific peaking factors are inflated based on the ratio between the system-wide Max Day and Max Hour peaking factors to determine the Max Hour peaking factors for all classes and tiers. This is calculated using the following equation:

(Max Day Peaking Factor (**Table 12**) x [(1.65 / 0.66) / (1.37 / 0.66)]

The peaking factors by customer class and tier is shown in **Table 12.**

Table 12 – Peaking Factors by Customer Class and Tier

Description	Max Day Peaking Fator	Max Hour Peaking Factor
Single-Family Residential		
Tier 1	1.15	1.39
Tier 2	1.76	2.12
Tier 3	2.62	3.16
Multi-Family		
Tier 1	1.08	1.30
Tier 2	1.56	1.88
Commercial and Irrigation	1.65	1.99

Once peaking factors are determined, Max Day and Max Hour demands of each customer class and tier are calculated and shown in **Table 13**. Total annual usage is derived from the customer data and then converted to an average daily usage by dividing the total annual usage by 365 days in a year. Total Max Day capacity is developed by multiplying the customer-specific peaking factors (from **Table 12**) by the average daily usage to arrive at the total capacity required to meet each class and tier's Max Day demand. The extra capacity required to meet Max Day demands is calculated by subtracting the average daily usage from the total capacity for Max Day. The total capacity for Max Hour demand is calculated by multiplying the average daily usage by the Max Hour peaking factors. The

extra capacity required for Max Hour demand is equal to the Max Hour total capacity less the Max Day total capacity. The calculation of additional capacity to meet Max Day and Max Hour demands for each customer class and tier is shown in **Table 13**.

Table 13 – Usage and Extra Capacity by Customer Class and Tier

Description			Max Day			Max Hour		
	Total Annual Flow (CCF)	Average Daily Flow (CCF)	Peaking Factor	Total Capacity (CCF/Day)	Additional Capacity (CCF/Day)	Peaking Factor	Total Capacity (CCF/Day)	Additional Capacity (CCF/Day)
Single-Family Residential								
Tier 1	83,080	228	1.15	262	35	1.39	316	54
Tier 2	35,703	98	1.76	172	74	2.12	207	35
Tier 3	38,299	105	2.62	275	170	3.16	331	56
Multi-Family								
Tier 1	7,845	21	1.08	23	2	1.30	28	5
Tier 2	25,407	70	1.56	109	39	1.88	131	22
Commercial and Irrigation	78,309	215	1.65	355	140	1.99	427	73
Total	**268,643**	**736**		**1,196**	**460**		**1,441**	**244**

3.2.2 Functional Unbundling of Revenue Requirements

The water system costs are unbundled into operating components consisting of Supply/Treatment, Transmission, Distribution, Customer, and Administration functions. These are the primary services provided by most water utility systems to its customers. A brief description of each component is as follows:

- **Supply/Treatment –** the costs associated with obtaining and converting raw water to potable water;
- **Transmission –** the costs associated with major pumping and large diameter line facilities that transmit potable water throughout the system at-large;
- **Distribution –** the costs associated with smaller diameter lines that carry water to individual customer properties;
- **Customer –** the costs associated with metering, billing and providing other services to customers (e.g. printing, delivering and collecting utility bills, recordkeeping, etc.);
- **Administration –** various overhead and other non-operating costs.

The allocation of the functionally unbundled revenue requirements for the Test Year are summarized in **Table 14**.

Table 14 – Functionally Unbundled Cost Allocations

Description	Test Year FY 2022
Total O&M	$ 1,808,011
Existing Debt Service	380,605
Future Debt Service	44,000
Other Expenditures & Transfers	214,516
Gross Requirement	**$ 2,447,132**
Less Other Revenues	(45,000)
Net Requirement	**$ 2,402,132**
Functional Unbundled Revenue Requirement	
Treatment	$ 1,035,431
Transmission & Distribution	48,402
Customer Service	225,131
Admin	491,047
Source of Supply	8,000
Existing Bond DS	380,605
New Bond DS	44,000
CIP	450,000
Capital Outlay	48,860
Non-Rate Revenue	(45,000)
Fund Balance [1]	(284,344)
Total	**$ 2,402,132**
Notes: [1] Represents a transfer from reserves to provide funding for capital outlay and CIP costs.	

3.2.3 Classification of Water System Costs

As previously addressed, the functionally unbundled water system revenue requirements are then classified using the base-extra capacity cost allocation method. Applying this methodology, costs are classified into the following categories:

- **Base Costs –** capital costs and O&M expenses associated with service to customers under average demand conditions. This category does not include any costs attributable to variations in water use resulting from peaks in demand. Base costs tend to vary directly with the total quantity of water used.
- **Maximum Day/Extra Capacity Costs –** costs attributable to facilities that are designed to meet peaking requirements. These costs include capital and operating costs for additional plant and system capacity beyond that required for average usage. For the purposes of this analysis, the max/extra capacity costs are further separated into systemwide facilities and distribution facilities.
- **Customer Costs –** costs associated with any aspect of customer service including billing, accounting, recordkeeping and meter services. These costs are independent of the amount of water used and the size of the customer's meter and are not subject to peaking factors.

As the name would indicate, using the base-extra capacity method, the costs are separated between those attributed to base capacity and those attributed to extra capacity. Other components such as treatment, transmission and distribution are allocated based on flows and peaking factors. All customer service-related costs are allocated 100% to customer billing.

Based on discussions with City staff, the general makeup of the customer base is not expected to change, so it is anticipated that the allocation percentages and factors will not change materially in the Projection Period. However, it is important to note that COS analyses are based on the data at a specific point in time (e.g., the most recent fiscal year). To the extent that weather conditions, economic conditions and customer usage characteristics change during the Projection Period, the cost allocators can be impacted. The system-wide costs by service characteristic are shown in **Table 15**.

Table 15 - Classification of Unbundled Revenue Requirements

Component	Base	Max Day	Max Hour	Meters & Services	Billing & Collection	Total
Treatment	$ 498,821	$ 536,610	$ -	$ -	$ -	$ 1,035,431
Transmission & Distribution	19,361	20,828	8,213	-	-	48,402
Customer Service	-	-	-	133,915	91,216	225,131
Admin	-	-	-	292,090	198,957	491,047
Source of Supply	8,000	-	-	-	-	8,000
Existing Bond DS	-	-	-	380,605	-	380,605
New Bond DS	-	-	-	44,000	-	44,000
CIP	225,000	-	-	225,000	-	450,000
Capital Outlay	-	-	-	48,860	-	48,860
Non-Rate Rev & Fund Bal	(90,573)	(67,212)	(990)	(135,581)	(34,988)	(329,344)
Total	**$ 660,609**	**$ 490,226**	**$ 7,223**	**$ 988,889**	**$ 255,185**	**$ 2,402,132**

3.2.4 Allocation to Customer Classes and Unit Cost Development

The functionalized and classified revenue requirements are allocated to customer classes as follows:

- **Base Costs –** Based on relative percentage of Base Annual Usage.
- **Maximum Day/Extra Capacity System Costs –** Based on relative percentage of Extra Capacity for the entire system.
- **Maximum Day/Extra Capacity Distribution Costs –** Based on relative percentage of Extra Capacity for the distribution system.
- **Customer Costs –** Based on relative percentage of Equivalent Residential Units (ERUs).

The units of service for each component of cost by customer class and tier (if applicable) are provided in **Table 16.** The units of service consist of accounts, ERUs, annual flows in CCF and Max Day and Max Hour extra capacity. Accounts are based on the number of customers as provided in the customer data. ERUs are based on meter equivalencies in accordance with AWWA standards for the Single-Family, Commercial and Irrigation customers. Multi-Family ERUs are based on the number of dwelling units. Base is the total annual usage projected for the test year based on historical customer data. Max Day and Max Hour are the extra capacity demand results as previously developed in **Table 13.**

Table 16 – Units of Service

Description	Accounts	ERUs	Base (CCF)	Max Day (CCF/Day)	Max Hour (CCF/Day)
Single-Family Residential	1,579	1,594			
Tier 1			83,080	35	54
Tier 2			35,703	74	35
Tier 3			38,299	170	56
Multi-Family	250	766			
Tier 1			7,845	2	5
Tier 2			25,407	39	22
Commercial and Irrigation	413	932	78,309	140	73
Total	**2,242**	**3,292**	**268,643**	**460**	**244**

The revenue requirement for each cost component is divided by its respective unit of service to calculate a unit cost. The unit cost for each cost component is demonstrated in **Table 17.**

Table 17 – Cost Per Unit

Description	Base	Max Day	Max Hour	Meters & Services	Billing & Collection	Total
Total Revenue Requirement	$ 660,609	$ 490,226	$ 7,223	$ 988,889	$ 255,185	**2,402,132**
Units of Service	268,643	460	244	39,498	26,904	
	CCF	CCF/Day	CCF/Day	ERUs/Year	Bills/Year	
Cost Per Unit	**$ 2.46**	**$ 1,065.32**	**$ 29.55**	**$ 25.04**	**$ 9.49**	
	CCF	**CCF/Day**	**CCF/Day**	**ERU**	**Bill**	

The allocation of the revenue requirement to each customer class and tier is based on the unit costs for each component multiplied by the units of service for each customer class and tier. For example, the Base unit cost is multiplied by the base flow amounts for each customer class and tier to generate the allocated revenue requirement. The total costs to be recovered from each customer class by rate component are shown in **Table 18.**

Table 18 – Cost of Service by Customer Class and Cost Component

Rate Class	ERUs	Accounts	Base (CCF)	Max Day (CCF/Day)	Max Hour (CCF/Day)	Total
Single-Family Residential	**$ 478,897**	**$ 179,722**	**$ 386,274**	**$ 297,428**	**$ 4,285**	**$ 1,346,606**
Tier 1			$ 204,298	$ 37,067	$ 1,585	
Tier 2			$ 87,795	$ 79,197	$ 1,040	
Tier 3			$ 94,181	$ 181,164	$ 1,660	
Multi-Family	**$ 230,135**	**$ 28,455**	**$ 81,769**	**$ 43,372**	**$ 796**	**$ 384,527**
Tier 1			$ 19,292	$ 1,876	$ 140	
Tier 2			$ 62,476	$ 41,496	$ 656	
Commercial and Irrigation	**$ 279,857**	**$ 47,008**	**$ 192,566**	**$ 149,425**	**$ 2,142**	**$ 670,999**
Total	**$ 988,889**	**$ 255,185**	**$ 660,609**	**$ 490,226**	**$ 7,223**	**$ 2,402,132**

3.2.5 Rate Design by Unit Cost

The unit costs developed in the previous section are used to design the proposed rates for the Test Year. The fixed rate components are based on accounts, ERUs and the allocated customer-related costs. The volumetric rate component is based on the annual usage and extra capacity requirements (Max Day and Max Hour).

The first component of the fixed charge is the meter charge and is applied by ERUs. It is common practice in the utility industry to establish a rate structure that includes an incremented service availability charge (monthly meter charge) such that customers placing a greater potential demand requirement on the system (those with larger meters) will pay proportionately more for the service availability component. The methodology for incrementing the availability charge is based upon standardized meter/capacity criteria established by the AWWA relative to the size of the water meter. The AWWA equivalent meter capacity criteria are commonly used to establish a standard unit of measure for customers referred to as an Equivalent Residential Unit, or ERU for short. Based upon the established standards, an ERU is equal to one single-family residential connection with a 5/8x3/4-inch water meter. The applicable ERU factors for larger water meters are based upon the incremental increase in potential capacity of those meters as compared to the standard meter size. These factors are derived from actual flow testing results as performed and defined by the AWWA, and commonly utilized by the water and sewer utility industry. In fact, many state public service commissions have adopted the AWWA meter equivalency basis as the required structure for rate-making by the private utility systems within their regulatory jurisdiction. The AWWA equivalency factors can be applied to the minimum charge for a 5/8x3/4-inch meter to calculate the applicable minimum charges for each meter size. A summary of the AWWA meter-size equivalency factors is provided in **Table 19**.

Table 19 - AWWA Meter Equivalency Factors

Description	AWWA Factors [1]
Meter Size	
5/8 Inch & 3/4 Inch	1.00
1.0 Inch	2.50
1.5 Inch	5.00
2.0 Inch	8.00
3.0 Inch	15.00
4.0 Inch	25.00
6.0 Inch	50.00
8.0 Inch	80.00

Notes:
(1) Meter-size equivalency factors established by the AWWA and identified in AWWA Standards C700, M1 and M22. Such factors are commonly applied consistently for both water and wastewater rate design.

The second component of the fixed charge is the customer charge. Unlike meter-related costs, customer costs do not vary with meter size. Therefore, the monthly customer unit cost is applied equally to each account. The two fixed charge components are added together to develop the total proposed monthly service charge for each respective meter size. The proposed monthly service charges for the Test Year are shown in **Table 20.**

Table 20 – Monthly Service Charge Calculation

Meter Size	Capacity Ratio	Meter Charge	Customer Charge	Proposed Charge
5/8 Inch x 3/4 Inch	1.00	$ 25.04	$ 9.49	**$ 34.52**
1.0 Inch	2.50	$ 62.59	$ 9.49	**$ 72.08**
1.5 Inch	5.00	$ 125.18	$ 9.49	**$ 134.67**
2.0 Inch	8.00	$ 200.29	$ 9.49	**$ 209.78**
3.0 Inch	15.00	$ 375.55	$ 9.49	**$ 385.03**
4.0 Inch	25.00	$ 625.91	$ 9.49	**$ 635.40**
6.0 Inch	50.00	$ 1,251.82	$ 9.49	**$ 1,261.31**
8.0 Inch	80.00	$ 2,002.91	$ 9.49	**$ 2,012.40**
10.0 Inch	115.00	$ 2,879.19	$ 9.49	**$ 2,888.67**

The water volumetric rates are made up of two different cost components. The first cost component is for base usage. The second cost component represents peaking costs (the combination of Max Day and Max Hour cost components). The base unit cost is $2.46 as previously identified in **Table 17**. The Max Day and Max Hour peaking costs for each customer class and tier (from **Table 18**) are added together and then divided by annual use within each tier. The peaking unit costs are shown in **Table 21.**

Table 21 – Peaking Unit Cost Calculation

Rate Class	Annual Use (CCF)	Peaking Costs	Peaking Unit Cost
Single-Family Residential			
Tier 1	83,080	$ 38,651	$ 0.47
Tier 2	35,703	$ 80,237	$ 2.25
Tier 3	38,299	$ 182,825	$ 4.77
Multi-Family			
Tier 1	7,845	$ 2,017	$ 0.26
Tier 2	25,407	$ 42,152	$ 1.66
Commercial and Irrigation	78,309	$ 151,568	$ 1.94
Total	**268,643**	**$ 497,449**	

The peaking unit costs are then added to the base unit cost to come up with the proposed volumetric rates for each customer class and tier. The proposed volumetric rates are shown in **Table 22.**

Table 22 – Volumetric Rate Calculation

Meter Size	Base	Peaking	Proposed Rate ($/CCF)	Tier Differential
Single-Family Residential				
Tier 1	$ 2.46	$ 0.47	**$ 2.92**	1.00
Tier 2	$ 2.46	$ 2.25	**$ 4.71**	1.61
Tier 3	$ 2.46	$ 4.77	**$ 7.23**	2.47
Multi-Family				
Tier 1	$ 2.46	$ 0.26	**$ 2.72**	1.00
Tier 2	$ 2.46	$ 1.66	**$ 4.12**	1.52
Commercial and Irrigation	2.46	$ 1.94	**$ 4.39**	

3.3 Sewer Cost of Service

As with the water system, the COS analysis for the sewer utility utilizes the revenue requirements for the Test Year as the cost basis. The Test Year revenue requirements are functionally unbundled, classified and allocated to customer classes to determine the cost of service by class. More detail relating to the sewer COS approach can be found in **Appendix C.**

3.3.1 Functional Unbundling of Revenue Requirements

The sewer system costs are unbundled into Collection, Treatment, and Customer functions. A brief description of each component is as follows:

- **Collection –** costs associated with lines and facilities that transport wastewater from customer properties to the plants for treatment;
- **Treatment –** costs associated with treating wastewater for disposal reclamation and/or discharge;
- **Customer –** costs associated with metering, billing and providing other services to customers (e.g. printing, delivering and collecting utility bills, recordkeeping, etc.).

The allocation of the functionally unbundled revenue requirements for the Test Year are summarized in **Table 23**.

Table 23 - Functional Unbundled Cost Allocations

Description	Test Year FY 2022
Total O&M	$ 2,166,845
Existing Debt Service	592,998
Future Debt Service	-
Other Expenditures & Transfers	154,554
Gross Requirement	**$ 2,914,397**
Less Other Revenues	(126,050)
Net Requirement	**$ 2,788,347**
Functional Unbundled Revenue Requirement	
Treatment	$ 116,758
Collection	266,941
Administration	109,365
Customer Service	1,673,781
CIP	700,000
Capital Outlay	28,050
Existing Debt	592,998
New Debt	-
Non-Rate Revenue	(126,050)
Fund Balance [1]	(573,496)
Non-Rate Rev & Fund Bal	**$ 2,788,347**
Notes: [1] Represents a transfer from reserves to provide funding for capital outlay and CIP costs.	

3.3.2 Classification of Revenue Requirements

The functionally unbundled revenue requirements for the sewer system are classified into fixed and volumetric customer components based on methodology consistent with the Water Environmental Federation (WEF), Manual of Practice No. 27. As discussed for the water COS analysis, it is anticipated that the allocation percentages will not change materially in the Projection Period. However, it is important to note that COS analyses are based on the data at a specific point in time (e.g., the most recent fiscal year). To the extent that weather conditions, economic conditions and customer usage characteristics change during the Projection Period, the cost allocators can be impacted. The system-wide costs by service characteristic are shown in **Table 24**.

Table 24 - Classification of Unbundled Revenue Requirements

Component	Volume	Capacity	Strength - SS	Strength - BOD	Billing & Collection	Customer Service	Total
Treatment	$ 29,190	$ 29,190	$ 29,190	$ 29,188	$ -	$ -	$ 116,758
Collection	133,471	133,470	-	-	-	-	266,941
Administration	54,683	54,682	-	-	-	-	109,365
Customer Service	-	-	-	-	836,891	836,890	1,673,781
CIP	280,000	280,000	-	-	-	140,000	700,000
Capital Outlay	11,220	11,220	-	-	-	5,610	28,050
Existing Debt	296,499	296,499	-	-	-	-	592,998
New Debt	-	-	-	-	-	-	-
Non-Rate Rev & Fund Bal	(161,467)	(161,466)	(5,854)	(5,854)	(167,850)	(197,055)	(699,546)
Total	**$ 643,596**	**$ 643,595**	**$ 23,336**	**$ 23,334**	**$ 669,041**	**$ 785,445**	**$ 2,788,347**

3.3.3 Allocation to Customer Classes

The functionalized and classified costs are allocated to customer classes proportionate to service characteristics and billable flow levels for each class. Customer costs are commonly allocated based on ERUs in accordance with WEF guidelines that are also the same as the AWWA meter equivalency factors. The functionalized and classified costs are allocated to the applicable customer class is summarized in **Table 25**.

Table 25 - Allocation of Functionalized & Classified Revenue Requirements

Rate Class	Volume Cost/Kgals	Capacity Cost/Kgals	Strength - SS Cost/pound	Strength - BOD Cost/pound	Customer Service	Total
Residential	$ 403,835	$ 403,835	$ 12,076	$ 5,539	$ 1,006,702	$ 1,831,987
Apartments	32,655	32,655	781	358	196,282	262,731
Commercial	207,106	207,105	10,479	17,437	251,502	693,629
Total	**$ 643,596**	**$ 643,595**	**$ 23,336**	**$ 23,334**	**$ 1,454,486**	**$ 2,788,347**

Section 4 – Proposed Test Year Rates

4.1 General

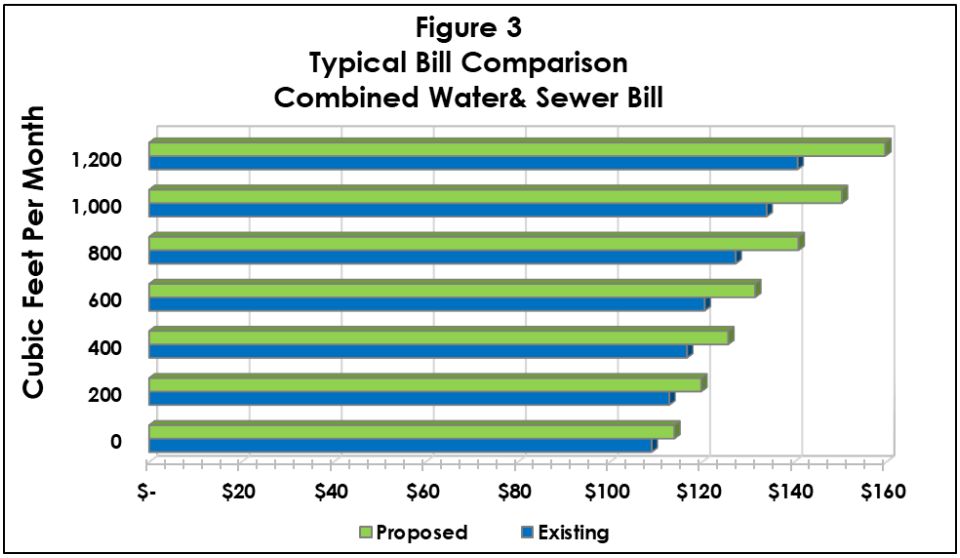
The methodology used to calculate the water and sewer rates proposed herein involves applying the projected customers and flows to the existing rates in order to develop the estimated revenues (separately for water and sewer), comparing the projected revenues to the estimated Test Year revenue requirements, and adjusting the water and/or sewer rates on a percentage basis as necessary to generate the revenues sufficient to meet the revenue needs of the utility system. In addition, there are other factors that must be considered in designing rates in order to satisfy the City's objectives. Such other rate considerations include, but are not limited to:

1. **Sensitivity to existing customers -** the proposed rates must consider the impact on existing customers and avoid putting an inequitable financial burden on any particular customer class.
2. **Comparability with neighboring utilities -** the proposed rates should consider, and be relatively comparable to, the rates and charges applied to customers of neighboring utilities of relatively similar size for similar service.
3. **Existing rate structure -** the proposed rates must consider the logistics and cost/benefit implications of instituting significant changes to the existing rates and rate structure.
4. **Economic development -** the proposed rates must consider the potential for future development within the City's service area and ensure that the rates do not make it cost-prohibitive for future development.

The proposed rates developed herein utilize these considerations, as well as discussions with the City staff, professional judgment, and prior experience with comparable utility systems. The results of the COS indicated that, although the existing rates will not generate sufficient revenues to meet all the expenditure needs, the existing rate structure equitably recovers the costs allocated to each customer class. When reviewing potential rate structure options in conjunction with the need for additional revenues, particularly for the water system, it was determined that existing rate structure will be maintained at this time.

In conjunction with the existing rate structure, the proposed water and sewer rates for the upcoming fiscal year are composed of two rate components consisting of a monthly service charge and volumetric rates. The proposed water and sewer rates for the Test Year were provided at the beginning of this Report in **Tables 1 and 2**, respectively.

4.2 Typical Monthly Bill Comparison



In addition to reviewing the effect that a change in the rates will have on the system revenues, it is also important for utility management to understand the impact that a change will have on the existing customers. **Tables 26, 27 and 28** provide a comparison of several typical monthly bills at various flow levels for water and sewer, as well as the combined utility bills under the existing and proposed rates. A graphical illustration of the typical bill comparison is provided in **Figure 3** for a residential customer with both water and sewer service. Based on the proposed rates, a typical customer with monthly flow of 800 CF (approximately 6,000 gallons) per month will experience an increase of **$13.64** in their combined water and sewer bill.

Table 26 – Residential Water Rate Impact

Description	Monthly Flow	Monthly Charges		$ Amount Difference
		Existing	Proposed	
Residential				
5/8 x 3/4 Inch	0	$ 34.85	$ 34.52	$ (0.33)
5/8 x 3/4 Inch	100	$ 36.77	$ 37.45	$ 0.68
5/8 x 3/4 Inch	200	$ 38.69	$ 40.37	$ 1.68
5/8 x 3/4 Inch	300	$ 40.61	$ 43.29	$ 2.68
5/8 x 3/4 Inch	400	$ 42.53	$ 46.22	$ 3.69
5/8 x 3/4 Inch	500	$ 44.45	$ 49.14	$ 4.69
5/8 x 3/4 Inch	600	$ 46.37	$ 52.07	$ 5.70
5/8 x 3/4 Inch	700	$ 49.73	$ 56.77	$ 7.04
5/8 x 3/4 Inch	800	$ 53.09	$ 61.48	$ 8.39
5/8 x 3/4 Inch	1,000	$ 59.81	$ 70.89	$ 11.08
5/8 x 3/4 Inch	1,200	$ 66.53	$ 80.31	$ 13.78
5/8 x 3/4 Inch	1,400	$ 78.41	$ 94.77	$ 16.36
5/8 x 3/4 Inch	1,600	$ 90.29	$ 109.24	$ 18.95
5/8 x 3/4 Inch	1,800	$ 102.17	$ 123.70	$ 21.53
5/8 x 3/4 Inch	2,000	$ 114.05	$ 138.17	$ 24.12

Table 27 – Residential Sewer Rate Impact

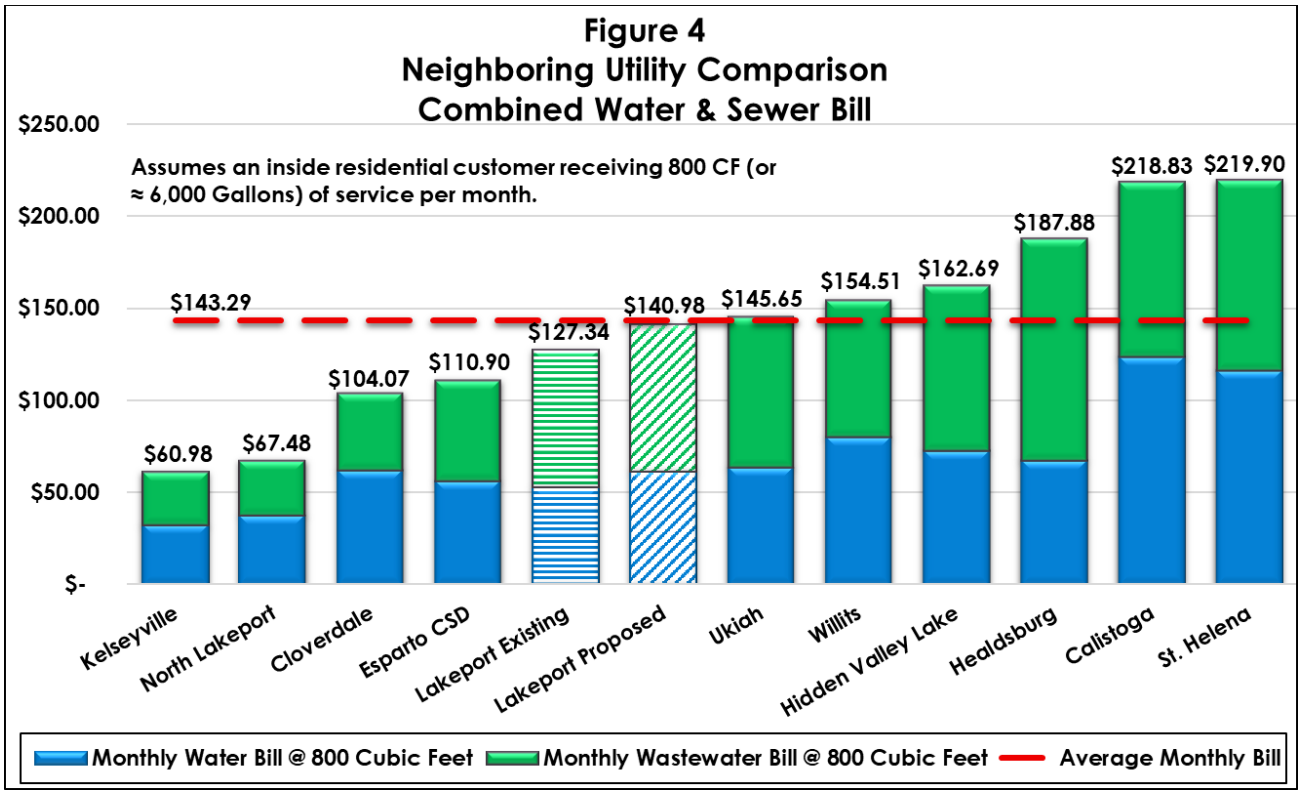
Description	Monthly Flow	Monthly Charges		$ Amount Difference
		Existing	Proposed	
Residential				
5/8 x 3/4 Inch	0	$ 74.25	$ 79.50	$ 5.25
5/8 x 3/4 Inch	100	$ 74.25	$ 79.50	$ 5.25
5/8 x 3/4 Inch	200	$ 74.25	$ 79.50	$ 5.25
5/8 x 3/4 Inch	300	$ 74.25	$ 79.50	$ 5.25
5/8 x 3/4 Inch	400	$ 74.25	$ 79.50	$ 5.25
5/8 x 3/4 Inch	500	$ 74.25	$ 79.50	$ 5.25
5/8 x 3/4 Inch	600	$ 74.25	$ 79.50	$ 5.25
5/8 x 3/4 Inch	700	$ 74.25	$ 79.50	$ 5.25
5/8 x 3/4 Inch	800	$ 74.25	$ 79.50	$ 5.25
5/8 x 3/4 Inch	1,000	$ 74.25	$ 79.50	$ 5.25
5/8 x 3/4 Inch	1,200	$ 74.25	$ 79.50	$ 5.25
5/8 x 3/4 Inch	1,400	$ 74.25	$ 79.50	$ 5.25
5/8 x 3/4 Inch	1,600	$ 74.25	$ 79.50	$ 5.25
5/8 x 3/4 Inch	1,800	$ 74.25	$ 79.50	$ 5.25
5/8 x 3/4 Inch	2,000	$ 74.25	$ 79.50	$ 5.25

Table 28 – Residential Combined Rate Impact

Description	Monthly Flow	Monthly Charges		$ Amount Difference
		Existing	Proposed	
Residential				
5/8 x 3/4 Inch	0	$ 109.10	$ 114.02	$ 4.92
5/8 x 3/4 Inch	100	$ 111.02	$ 116.95	$ 5.93
5/8 x 3/4 Inch	200	$ 112.94	$ 119.87	$ 6.93
5/8 x 3/4 Inch	300	$ 114.86	$ 122.79	$ 7.93
5/8 x 3/4 Inch	400	$ 116.78	$ 125.72	$ 8.94
5/8 x 3/4 Inch	500	$ 118.70	$ 128.64	$ 9.94
5/8 x 3/4 Inch	600	$ 120.62	$ 131.57	$ 10.95
5/8 x 3/4 Inch	700	$ 123.98	$ 136.27	$ 12.29
5/8 x 3/4 Inch	800	$ 127.34	$ 140.98	$ 13.64
5/8 x 3/4 Inch	1,000	$ 134.06	$ 150.39	$ 16.33
5/8 x 3/4 Inch	1,200	$ 140.78	$ 159.81	$ 19.03
5/8 x 3/4 Inch	1,400	$ 152.66	$ 174.27	$ 21.61
5/8 x 3/4 Inch	1,600	$ 164.54	$ 188.74	$ 24.20
5/8 x 3/4 Inch	1,800	$ 176.42	$ 203.20	$ 26.78
5/8 x 3/4 Inch	2,000	$ 188.30	$ 217.67	$ 29.37

4.3 Rate Comparison with Other Utilities

In order to provide the City with additional insight regarding the proposed rate levels, the analysis includes a comparison of both the existing and proposed user rates relative to the user rates imposed by other water and sewer utility systems located in same region of California. A summary analysis is provided comparing the cost of monthly water and sewer service for a typical residential customer (assumed to have a 5/8 x 3/4-inch water meter) calculated under the existing and proposed rates of the City with those of the other utilities. The rates utilized for the other neighboring utilities shown were in effect as of April 2021 and are exclusive of local taxes, outside surcharges, franchise fees, regulatory fees or other rate adjustments. A summary comparison with other utilities for a residential customer using 800 CF (approximately 6,000 gallons) per month is illustrated in **Figure 4**.



It should be noted that when making comparisons for water and sewer service, several factors have an effect on the level of rates and charges. Such factors may include:

1) Terms of wholesale service agreements;
2) Time since last rate update for comparison providers;
3) Level of treatment required before the distribution of water to the ultimate customers;

4) Level of treatment and effluent disposal methods of sewer service;
5) Anticipated capital improvement programs and capital financing methods;
6) Plant capacity utilization, age of facilities, and assistance in construction by federal or state grants, connection fees, developer contributions, etc.;
7) General Fund and/or administrative fee transfers made by other systems which may account for differences in the level of rates charged; and
8) Bond covenants and funding requirements of the rates.

For the utilities included in the rate comparisons, no analysis has been performed with consideration to the above-mentioned factors as they relate to the reported water and sewer rates currently being charged.

Section 5 – Projected Operating Results

5.1 General

As a conclusion to the study, individual proforma operating statements are developed for both the water and sewer systems, together with a combined proforma of the collective operations. The statements summarize the projected financial results based on the system revenues, expenses and other revenue requirements anticipated in future years. The individual operating statements cover the 5-fiscal year Projection Period through June 30, 2026 and are prepared on a cash-flow basis. In addition, the individual statements provide the applicable annual percentage rate adjustments necessary to meet the projected revenue requirements. The annual rate adjustments are considered separately for both water and sewer and further separated by the base charge and volumetric rate components. The following discussions describe the development of the major components of the projected operating results.

5.2 Projected Revenues

The user rate and charge revenues are estimated by applying the existing and proposed rates to the projected customers and flows. The revenues for the Projection Period are estimated separately for both water and sewer and further segmented by rate component and customer class. The resulting revenues are then compared to the projected revenue requirements (i.e., O&M expenses, debt service, capital outlay, transfers, etc.) in each fiscal year in order to determine if the revenues are sufficient to satisfy the expenditure needs of the system. To the extent that there are revenue shortfalls, the water and/or sewer rates are adjusted on a percentage basis as necessary to generate the required level of revenues. The projected water, sewer and combined revenues are provided in **Table 29**.

Table 29 – Projected User Rate Revenues

System	Existing	Proposed	Projected			
	2022	2022	2023	2024	2025	2026
Water						
Single-Family Residential	$ 1,173,248	$ 1,346,606	$ 1,454,883	$ 1,494,070	$ 1,533,394	$ 1,573,527
Multi-Family	370,374	384,527	415,067	424,879	435,018	445,157
Non-Residential	681,101	670,999	724,958	743,161	761,649	780,324
Total Water	**$ 2,224,723**	**$ 2,402,132**	**$ 2,594,908**	**$ 2,662,110**	**$ 2,730,061**	**$ 2,799,008**
Sewer						
Single-Family Residential	$ 1,710,984	$ 1,831,987	$ 1,868,399	$ 1,913,617	$ 1,960,119	$ 2,007,412
Multi-Family	257,230	262,731	268,010	273,359	278,800	284,410
Non-Residential	765,158	693,629	707,544	713,866	720,188	726,510
Total Sewer	**$ 2,733,372**	**$ 2,788,347**	**$ 2,843,952**	**$ 2,900,841**	**$ 2,959,107**	**$ 3,018,332**
Combined						
Single-Family Residential	$ 2,884,232	$ 3,178,593	$ 3,323,282	$ 3,407,687	$ 3,493,513	$ 3,580,939
Multi-Family	627,604	647,258	683,077	698,238	713,818	729,567
Non-Residential	1,446,259	1,364,628	1,432,502	1,457,027	1,481,837	1,506,834
Total Combined	**$ 4,958,095**	**$ 5,190,479**	**$ 5,438,861**	**$ 5,562,951**	**$ 5,689,168**	**$ 5,817,340**

The projected revenues include the annual water and sewer rate adjustments anticipated for the remaining years of Projection Period beyond the Test Year. The proposed user rates from which the projected operating results are developed for the entire 5-fiscal year Projection Period are provided in **Tables 30 and 31.**

Table 30 – Proposed Monthly Water Rates

Description	Existing Rates [1]	Projected For Fiscal Year Ending June 30:				
		2022	2023	2024	2025	2026
Monthly Service Charge by Meter Size:						
5/8 Inch x 3/4 Inch [2]	$ 34.85	$ 34.52	$ 37.28	$ 38.21	$ 39.17	$ 40.15
1.0 Inch	$ 69.70	$ 72.08	$ 77.84	$ 79.78	$ 81.79	$ 83.83
1.5 Inch	$ 145.10	$ 134.67	$ 145.43	$ 149.06	$ 152.80	$ 156.63
2.0 Inch	$ 208.90	$ 209.78	$ 226.55	$ 232.20	$ 238.04	$ 243.99
3.0 Inch	$ 418.10	$ 385.03	$ 415.78	$ 426.16	$ 436.86	$ 447.79
4.0 Inch	$ 696.80	$ 635.40	$ 686.18	$ 703.29	$ 720.96	$ 739.00
6.0 Inch	$ 1,341.20	$ 1,261.31	$ 1,362.10	$ 1,396.08	$ 1,431.15	$ 1,466.96
Multi-Family Monthly Service Charge Per Dwelling Unit						
Apartments	$ 20.90	$ 34.52	$ 37.28	$ 38.21	$ 39.17	$ 40.15
Duplex, Triplex and Mobile Home	$ 26.15	$ 34.52	$ 37.28	$ 38.21	$ 39.17	$ 40.15
Motel and Bed & Breakfast w/o Kitchen	$ 17.45	$ 34.52	$ 37.28	$ 38.21	$ 39.17	$ 40.15
Motel and Bed & Breakfast w/Kitchen	$ 20.90	$ 34.52	$ 37.28	$ 38.21	$ 39.17	$ 40.15
Volumetric Rates Per 100 Cubic Feet:						
Single-Family Residential						
0 - 600 Cubic Feet	$ 1.92	$ 2.92	$ 3.16	$ 3.24	$ 3.32	$ 3.40
601 - 1,200 Cubic Feet	$ 3.36	$ 4.71	$ 5.08	$ 5.21	$ 5.34	$ 5.47
Over 1,200 Cubic Feet	$ 5.94	$ 7.23	$ 7.81	$ 8.01	$ 8.21	$ 8.41
Multi-Family						
0 - 400 Cubic Feet	$ 2.23	$ 2.72	$ 2.93	$ 3.00	$ 3.08	$ 3.16
All Flow Over 400 Cubic Feet	$ 5.54	$ 4.12	$ 4.44	$ 4.55	$ 4.67	$ 4.79
All Other Customers						
Tier 1	$ 2.23	$ 4.39	$ 4.75	$ 4.87	$ 4.99	$ 5.11
Tier 2	$ 5.54	$ 4.39	$ 4.75	$ 4.87	$ 4.99	$ 5.11

Notes:
[1] For Commercial & Irrigation customers, Tier 1 and Tier 2 thresholds are adjusted by meter size. For Apartments, Motels and Bed & Breakfast customers, the first tier is 300 cubic feet per dwelling unit. For Duplex, Triplex and Mobile Home customers, the first tier is 500 cubic feet per dwelling unit.
[2] All Single-Family Residential customers are billed at the 5/8 x 3/4 Inch Service Chrage Rate.

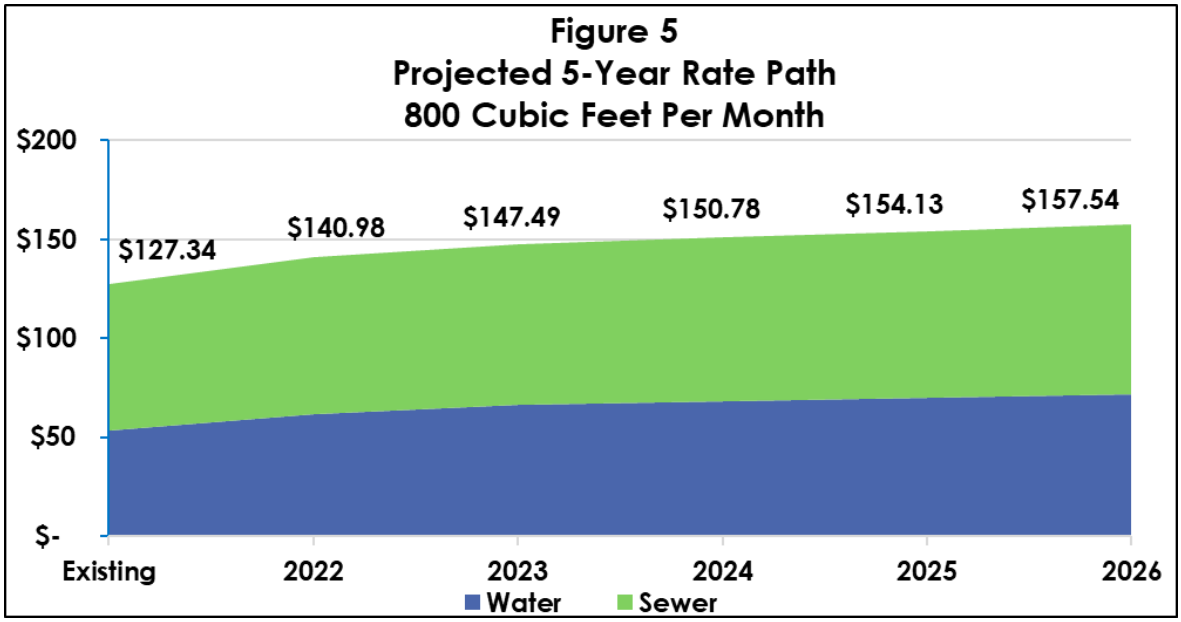
Table 31 – Proposed Monthly Sewer Rates

Description	Existing Rates [2]	Projected For Fiscal Year Ending June 30:				
		2022	2023	2024	2025	2026
Monthly Service Charge [1]:						
Single-Family Residential	$ 74.25	$ 79.50	$ 81.09	$ 82.71	$ 84.36	$ 86.05
Apartments	$ 57.25	$ 58.48	$ 59.65	$ 60.84	$ 62.05	$ 63.30
Commercial	$ 74.25	$ 67.30	$ 68.65	$ 70.02	$ 71.42	$ 72.85
Volumetric Rates Per 100 Cubic Feet:						
0 - 1,000 Cubic Feet	$ -	$ 4.84	$ 4.94	$ 5.04	$ 5.14	$ 5.24
Over 1,000 Cubic Feet	$ 8.81	$ 4.84	$ 4.94	$ 5.04	$ 5.14	$ 5.24

Notes:
[1] Single-Family Residential and Apartment customers are billed a flat monthly fee.
[2] Under existing rates for Commercial customers, the monthly Service Charge includes a usage allowance of 1,000 cubic feet of flow. All flow exceeding 1,000 cubic feet is billed per 100 cubic feet.

The projected user rates provided herein for the periods beyond the Test Year are intended for strategic planning purposes and to provide the City with the estimated future rates that may be needed to satisfy the projected cash flow requirements. The rates are developed in accordance with the assumed customer, flow, expenditure and revenue estimates projected in this rate study. It is important to note that, since it is necessary to utilize a number

of assumptions to develop the projected operating results, to the extent that actual customers, flows and/or system expenditures differ from those assumed herein, additional rate adjustments may be required. For informative purposes, a calculation of the typical monthly bill for a representative inside City residential customer based on the projected rates, as well as the accompanying change in the monthly bill for each year of the Projection Period is included herein. An illustration of the projected typical bill rate path is provided in **Figure 5**.



5.3 Debt Service Coverage

The combined operating statement also includes a calculation of the annual debt service coverage. Debt service coverage is generally viewed as an indicator of the financial strength of the utility. The debt service coverage ratio is broadly calculated by dividing the net revenues by the annual debt service requirement. For the purpose of the debt service coverage calculation developed herein, the net revenues consist of the total operating revenues (user rate revenues plus other revenues) less the O&M expenses. In accordance with the requirements of the outstanding loan requirements, the City must maintain coverage of at least 120% (1.20 times) of the debt service requirements. Assuming this will be the required coverage amount for any anticipated new debt, the pro-forma operating statements indicate that the combined water and sewer system is expected to exceed the minimum level of debt service coverage in each fiscal year of the Projection Period. It is important to note that the coverage results are provided for informative purposes only and not intended as a legally supportable calculation for representation to bondholders. The

debt service coverage for the combined enterprise system over the projection period is provided in **Table 32**.

Table 32 – Combined Enterprise System Projected Debt Service Coverage

Fiscal Year	Total Indebtedness	
	Projected	Minimum
2022	1.52	1.20
2023	1.63	1.20
2024	1.61	1.20
2025	1.46	1.20
2026	1.44	1.20

5.4 Summary of Projected Operating Results

The cash-flow statements developing the projected operating results are summarized in **Tables 33, 34** and **35** for water, sewer and the combined systems, respectively. The projected results are graphically illustrated in **Figure 6** for water, sewer and the combined systems, respectively. The results demonstrate that the proposed rates and charges along with the other system revenues and estimated future rate adjustments are anticipated to be sufficient to satisfy the projected revenue requirements and capital needs of the combined utility system.

Table 33 – Water System Projected Operating Results

Description	Projected for Fiscal Year Ending June 30, ($1,000s)					
	Existing 2022	Proposed 2022	2023	2024	2025	2026
Revenues:						
Water Sales	$ 2,225	$ 2,402	$ 2,595	$ 2,662	$ 2,730	$ 2,799
Other Revenues	45	45	45	45	45	45
Total Revenues	**$ 2,270**	**$ 2,447**	**$ 2,640**	**$ 2,707**	**$ 2,775**	**$ 2,844**
O&M Expenses	(1,808)	(1,808)	(1,868)	(1,923)	(1,971)	(2,030)
Net Income For Debt	**$ 462**	**$ 639**	**$ 772**	**$ 785**	**$ 804**	**$ 814**
Debt Service:						
Existing	$ 329	$ 329	$ 329	$ 333	$ 332	$ 335
Future	44	44	44	44	146	146
Total Debt Service	**$ 373**	**$ 373**	**$ 373**	**$ 377**	**$ 478**	**$ 481**
Balance After Debt	**$ 89**	**$ 266**	**$ 399**	**$ 407**	**$ 326**	**$ 333**
Other Expenditures & Transfers:						
Capital Outlay	$ (49)	$ (49)	$ (49)	$ (49)	$ (49)	$ (49)
Transfers In	-	-	-	-	-	-
Transfers Out	-	-	-	-	-	-
2015 Series POB - Umpqua Bank	(52)	(52)	(50)	(48)	(46)	(43)
Total Other Expenditures & Transfers	**$ (101)**	**$ (101)**	**$ (98)**	**$ (97)**	**$ (94)**	**$ (92)**
Net Results	**$ (12)**	**$ 166**	**$ 301**	**$ 311**	**$ 232**	**$ 240**
Fund Balance Activity:						
Beginning Balance	$ 361	$ 361	$ 77	$ 182	$ 408	$ 540
Operating Balance	(12)	166	301	311	232	240
Transfer to Capital	(450)	(450)	(195)	(85)	(100)	-
Ending Fund Balance	**$ (101)**	**$ 77**	**$ 182**	**$ 408**	**$ 540**	**$ 780**
Debt Coverage	**1.24**	**1.71**	**2.07**	**2.08**	**1.68**	**1.69**

Table 34 – Sewer System Projected Operating Results

Description	Projected for Fiscal Year Ending June 30, ($1,000s)					
	Existing 2022	Proposed 2022	2023	2024	2025	2026
Revenues:						
Wastewater Sales	$ 2,733	$ 2,788	$ 2,844	$ 2,901	$ 2,959	$ 3,018
Other Revenues	126	126	126	126	126	126
Total Revenues	**$ 2,859**	**$ 2,914**	**$ 2,970**	**$ 3,027**	**$ 3,085**	**$ 3,144**
O&M Expenses	(2,167)	(2,167)	(2,241)	(2,308)	(2,368)	(2,439)
Net Income For Debt	**$ 693**	**$ 748**	**$ 729**	**$ 719**	**$ 717**	**$ 705**
Debt Service:						
Existing	$ 541	$ 541	$ 549	$ 556	$ 567	$ 577
Future	-	-	-	-	-	-
Total Debt Service	**$ 541**	**$ 541**	**$ 549**	**$ 556**	**$ 567**	**$ 577**
Balance After Debt	**$ 151**	**$ 206**	**$ 180**	**$ 163**	**$ 150**	**$ 129**
Other Expenditures & Transfers:						
Capital Outlay	$ (28)	$ (28)	$ (28)	$ (28)	$ (28)	$ (28)
Transfers In	-	-	-	-	-	-
Transfers Out	-	-	-	-	-	-
2015 Series POB - Umpqua Bank	(52)	(52)	(50)	(48)	(46)	(43)
Total Other Expenditures & Transfers	**$ (80)**	**$ (80)**	**$ (78)**	**$ (76)**	**$ (74)**	**$ (72)**
Net Results	**$ 72**	**$ 127**	**$ 103**	**$ 87**	**$ 76**	**$ 57**
Fund Balance Activity:						
Beginning Balance	$ 3,800	$ 3,800	$ 3,227	$ 2,519	$ 1,896	$ 1,663
Operating Balance	72	127	103	87	76	57
Transfer to Capital	(700)	(700)	(810)	(710)	(310)	(210)
Ending Fund Balance	**$ 3,172**	**$ 3,227**	**$ 2,519**	**$ 1,896**	**$ 1,663**	**$ 1,510**
Debt Coverage	**1.28**	**1.38**	**1.33**	**1.29**	**1.26**	**1.22**

Table 35 – Combined System Projected Operating Results

Description	Projected for Fiscal Year Ending June 30, ($1,000s)					
	Existing 2022	Proposed 2022	2023	2024	2025	2026
Revenues:						
Water Sales	$ 2,225	$ 2,402	$ 2,595	$ 2,662	$ 2,730	$ 2,799
Wastewater Sales	2,733	2,788	2,844	2,901	2,959	3,018
Combined	**$ 4,958**	**$ 5,190**	**$ 5,439**	**$ 5,563**	**$ 5,689**	**$ 5,817**
Other Revenues	171	171	171	171	171	171
Total Revenues	**$ 5,129**	**$ 5,362**	**$ 5,610**	**$ 5,734**	**$ 5,860**	**$ 5,988**
O&M Expenses	(3,975)	(3,975)	(4,108)	(4,231)	(4,339)	(4,469)
Net Income For Debt	**$ 1,154**	**$ 1,387**	**$ 1,501**	**$ 1,503**	**$ 1,521**	**$ 1,519**
Debt Service:						
Existing	$ 870	$ 870	$ 878	$ 889	$ 899	$ 912
Future	44	44	44	44	146	146
Total Debt Service	**$ 914**	**$ 914**	**$ 922**	**$ 933**	**$ 1,045**	**$ 1,058**
Balance After Debt	**$ 240**	**$ 472**	**$ 579**	**$ 570**	**$ 476**	**$ 461**
Other Expenditures & Transfers:						
Capital Outlay	$ (77)	$ (77)	$ (77)	$ (77)	$ (77)	$ (77)
Transfers In	-	-	-	-	-	-
Transfers Out	-	-	-	-	-	-
2015 Series POB - Umpqua Bank	(103)	(103)	(99)	(95)	(91)	(87)
Total Other Expenditures & Transfers	**$ (180)**	**$ (180)**	**$ (176)**	**$ (172)**	**$ (168)**	**$ (164)**
Net Results	**$ 60**	**$ 292**	**$ 403**	**$ 398**	**$ 308**	**$ 297**
Fund Balance Activity:						
Beginning Balance	$ 4,161	$ 4,161	$ 3,303	$ 2,701	$ 2,304	$ 2,203
Operating Balance	60	292	403	398	308	297
Transfer to Capital	(1,150)	(1,150)	(1,005)	(795)	(410)	(210)
Ending Fund Balance	**$ 3,071**	**$ 3,303**	**$ 2,701**	**$ 2,304**	**$ 2,203**	**$ 2,290**
Debt Coverage	**1.26**	**1.52**	**1.63**	**1.61**	**1.46**	**1.44**

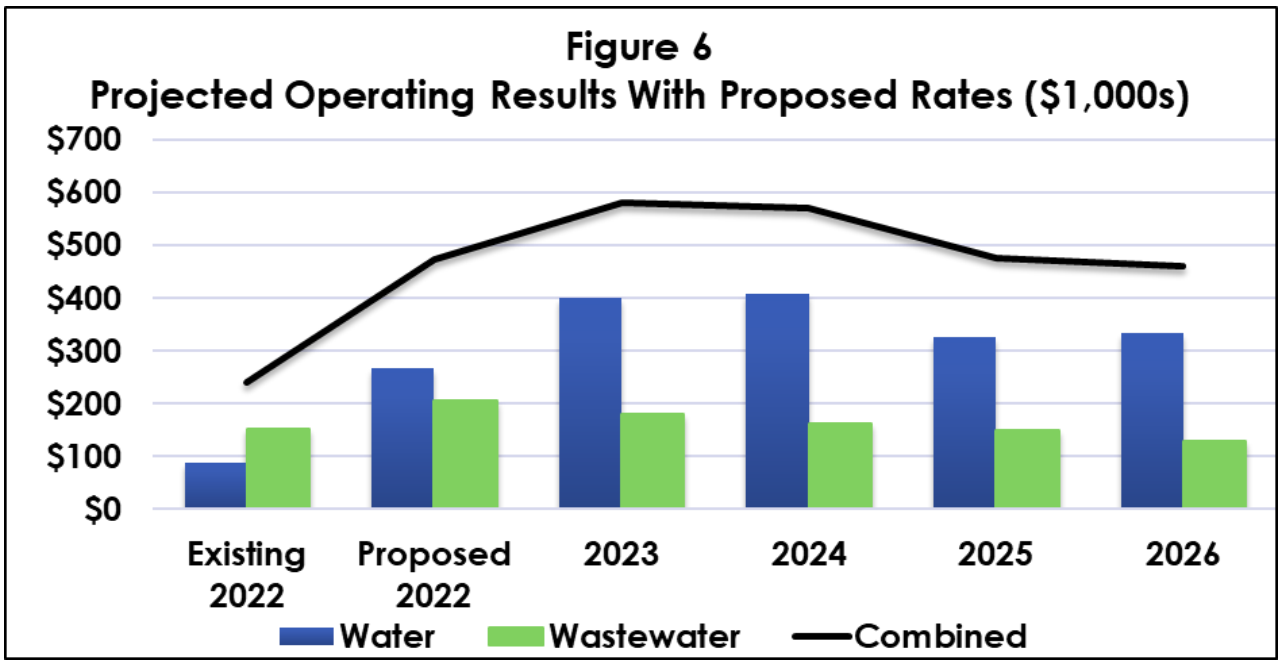


Figure 6
Projected Operating Results With Proposed Rates ($1,000s)
$700
$600
$500
$400
$300
$200
$100
$0
Existing 2022
Proposed 2022
2023
2024
2025
2026
Water
Wastewater
Combined

Section 6 – Conclusions and Recommendations

6.1 General Disclaimer

In the development of the proposed user rates and charges, certain historical reviews and analyses have been performed, together with the application of assumptions based on prudent financial, operational and ratemaking relationships. The cost criteria and customer usage characteristics associated with general ratemaking procedures are representative of averages and are not intended as indicators of any individual customer.

In the preparation of the rate study, certain assumptions have been made with respect to conditions that may occur in the future. While it is believed that these assumptions are reasonable for the purpose of this update, they are dependent upon future events and actual conditions may differ from those assumed. In addition, the study has used and relied upon certain information that was provided by other parties not associated with Willdan. Such information includes, among other things, the City's audited financial statements, annual operating budgets, periodic reports, and other information and data provided by the City, its independent auditors, and other sources. While the sources are believed to be reliable, there has been no independent verification of the information and no assurances are offered with respect thereto. To the extent that future conditions differ from those assumed herein or provided by others, the actual results may vary from those projected.

6.2 Conclusions

As previously addressed, the purpose of this study is to provide a review of the City's existing utility rates to determine if rate adjustments are necessary to meet the budgeted and/or projected financial needs in future years. This Report is the result of the collaborative efforts of representatives from both the City and Willdan. City staff was diligent and cooperative in their efforts to ensure the availability and quality of source data on financial and operating matters. Based on the reviews, analyses and assumptions discussed herein, it is concluded that:

1. The proposed user rates and charges are anticipated to generate sufficient revenues to meet the revenue requirements of the system based upon the projected expenditures, transfers, customers and billable flows estimated for the Test Year. The proposed rates are based on an assumed implementation date of July 1, 2021 (or other such date as determined by the City). To the extent that the implementation date is postponed, additional rate adjustments and/or appropriations from existing reserves may be necessary.
2. The estimated revenues and resulting rate adjustments for the remaining years of the Projection Period beyond the Test Year are developed based on the

customer growth assumptions generated from the historical analyses and discussions with City staff. If the customer growth projections are not realized, additional rate adjustments may be necessary.

3. Customer account growth for the water and sewer systems is projected based on historical customer account data as provided by the City as well as discussions with the City staff regarding developer activity and anticipated construction. The customer information indicates that the utility system has experienced limited to no new growth during recent years. As such, for the purpose of the analyses developed herein, it is assumed that no growth will be realized during the Projection Period. If it turns out that this assumption is too conservative and additional customers connect to the system, the resulting revenues could be higher than projected.

4. The projection of billable water and sewer flows are based on historical trends with regard to the average flow per user for each customer class. The average water and sewer flows per account are developed from historical customer data and are assumed to remain relatively constant for the Projection Period. The historical billing data provided by the City was utilized to identify the average flow statistics for system customers. For the analyses developed herein, it is assumed that the average usage statistics for the Projection Period will be consistent with recent historical average usage levels as realized in recent years, or as otherwise assumed based on discussions with staff. When applying the estimated average usage statistics, it is assumed that the water and sewer sales will increase with the estimated growth in customers. However, it is important to note that annual variations in rainfall and other climatological factors may influence the level of future water demands and the accompanying billable sewer flows for the City.

5. Future capital improvement projects are assumed to occur as reported by the City in its CIP. To the extent that the timing of such projects may change from that estimated herein, the cost of such projects and resulting impact on future rates and charges may vary from those indicated.

6. The proposed rates and rate structure are consistent with industry standards for rate-setting practices, comply with Proposition 218 and conform to the City's financial policies with respect to:

    a. Equitably recovering costs;

    b. Being based upon the proportionate cost of providing services; and

    c. Generating sufficient revenue to recover system revenue requirements, fund capital needs and meet reserve requirements.

6.3 Recommendations

Based on the reviews, analyses and assumptions addressed herein, as well as the resulting conclusions provided above, it is respectfully recommended that the City:

1. Adopt the proposed water and wastewater rates.
2. Enact the proposed rates to become effective as of July 1, 2021 (or other such date as determined by the City). However, based on the timing of the project and the required public hearing notice procedures, it is expected that the effective date will occur after the recommended date.
3. Readdress the cost-of-service analysis portion of this study every three to five years to ensure costs are recovered consistent with cost-of-service principles and customer characteristics.

We appreciate the opportunity to be of service to the City in this engagement. In addition, we would like to thank City staff for the valuable assistance provided during the completion of the rate study.

Respectfully Yours,

WILLDAN FINANCIAL SERVICES

APPENDIX

COST OF SERVICE DETAIL FOR THE WATER & SEWER RATE STUDY

WATER & SEWER RATE STUDY FOR THE CITY OF LAKEPORT, CALIFORNIA

Prepared by Willdan Financial Services

APPENDIX - A

CITY OF LAKEPORT, CA

Development of Rate Revenue Requirements

		A		B		C
Line No:	**Description**	**Test Year Revenue Requirement**				
		FY 2022	**% to Water**	**Water**	**% to Sewer**	**Sewer**
1	**Total Operating Revenue Requirement**	**$ 5,361,529**		**$ 2,447,132**		**$ 2,914,397**
	Less:					
	Other Operating Revenues					
2	Interest Earnings	$ -	100%	$ -	0%	$ -
3	Water Service Charges-Inside	-	100%	-	0%	-
4	Water Service Charges-Outside	-	100%	-	0%	-
5	Water Service Misc Fees	20,000	100%	20,000	0%	-
6	Delinquent Penalty	25,000	100%	25,000	0%	-
7	Loan Interest Payments	-	100%	-	0%	-
8	Transfers In	-	100%	-	0%	-
9	Water Service Expansion Fee	-	100%	-	0%	-
10	Property Taxes-Current Secured	45,000	0%	-	100%	45,000
11	Property Taxes-Curr Unsecured	1,200	0%	-	100%	1,200
12	Property Taxes-813 Supplement	100	0%	-	100%	100
13	Property Taxes-Prior Secured	1,500	0%	-	100%	1,500
14	Tax Increment Pass-Through	5,000	0%	-	100%	5,000
15	Interest Earnings	30,000	0%	-	100%	30,000
16	Property Leases	22,500	0%	-	100%	22,500
17	Homeowners Property Tax Relief	750	0%	-	100%	750
18	Clmsd Service Charges	-	0%	-	100%	-
19	Clmsd County Service Charges	-	0%	-	100%	-
20	Delinquent Service Charge	20,000	0%	-	100%	20,000
27	**Total Other Operating Revenues**	**$ 171,050**		**$ 45,000**		**$ 126,050**
28	**Total Rate Revenue Requirement**	**$ 5,190,479**	**46%**	**$ 2,402,132**	**54%**	**$ 2,788,347**

APPENDIX - B

CITY OF LAKEPORT, CA

Water Max Day/Hour Allocation Factors - Test Year FY 2022

Line No:	Description	[A] Flow	[B] Peak Month (CCF)	[C] Average Month (CCF)	[D] Max Day/Avg Day Factor	[E] Max Day Total Capacity (CCF/Day)	[F] Max Day Extra Capacity (CCF/Day)	[G] Max Hour Capacity Factor	[H] Max Hour Total Capacity (CCF/Day)	[I] Max Hour Extra Capacity (CCF/Day)
	Operating Statistics:	**MGD**	**Factor**							
1	Avg Day Flow (MGD)	0.66	1.00							
2	Max Day Flow (MGD)	1.37	2.08							
3	Max Hour Flow (MGD)	1.65	2.50							
	Cost Allocation Factors:	**Base**	**Max Day**	**Max Hour**						
4	Base/Max Day	48.18%	51.82%	0.00%						
5	Base/Max Day/Max Hour	40.00%	43.03%	16.97%						
	Peaking Factors:									
	Single-Family Residential				**[B] / [C]**			**[D] * [B3 / B2]**		
6	Tier 1		7,934	6,882	1.15			1.39		
7	Tier 2		5,009	2,846	1.76			2.12		
8	Tier 3		7,710	2,942	2.62			3.16		
	Multi-Family									
9	Tier 1		713	659	1.08			1.30		
10	Tier 2		3,389	2,173	1.56			1.88		
11	**Commercial and Irrigation**		10,908	6,596	1.65			1.99		

					Maximum Day			**Maximum Hour**		
						[D] x [B]	**[E] - [B]**		**[G] x [B]**	**[H] - [E]**
	Estimated Max Day/Hour Flows:	**Total Annual Flow (CCF)**	**Average Daily Flow (CCF)**		**Peaking Factor**	**Total Capacity**	**Extra Capacity**	**Peaking Factor**	**Total Capacity**	**Extra Capacity**
	Single-Family Residential									
12	Tier 1	83,080	228		1.15	262	35	1.39	316	54
13	Tier 2	35,703	98		1.76	172	74	2.12	207	35
14	Tier 3	38,299	105		2.62	275	170	3.16	331	56
	Multi-Family									
15	Tier 1	7,845	21		1.08	23	2	1.30	28	5
16	Tier 2	25,407	70		1.56	109	39	1.88	131	22
17	**Commercial and Irrigation**	78,309	215		1.65	355	140	1.99	427	73
18	**Total**	**268,643**	**736**			**1,196**	**460**		**1,441**	**244**

APPENDIX - B

CITY OF LAKEPORT, CA

Water Units of Service by Cost Component - Test Year FY 2022

Line No:	Description	[A] ERUs	[B] Accounts	[C] Base (CCF)	[D] Max Day (CCF/Day)	[E] Max Hour (CCF/Day)
	Single-Family Residential	1,594	1,579			
1	Tier 1			83,080	35	54
2	Tier 2			35,703	74	35
3	Tier 3			38,299	170	56
	Multi-Family	766	250			
4	Tier 1			7,845	2	5
5	Tier 2			25,407	39	22
6	**Commercial and Irrigation**	932	413	78,309	140	73
7	**Total**	**3,292**	**2,242**	**268,643**	**460**	**244**

APPENDIX - B

CITY OF LAKEPORT, CA

Allocation of Water Costs - Test Year FY 2022

Line No:	Description	Water Costs	Base	Extra Capacity Max Day	Extra Capacity Max Hour	Meters & Services	Billing & Collection	Total
	Allocation Factors:							
1	Treatment		**48.18%**	**51.82%**	**0.00%**	**0.00%**	**0.00%**	**100.00%**
2	Transmission & Distribution		**40.00%**	**43.03%**	**16.97%**	**0.00%**	**0.00%**	**100.00%**
3	Customer Service		**0.00%**	**0.00%**	**0.00%**	**59.48%**	**40.52%**	**100.00%**
4	Administration		**0.00%**	**0.00%**	**0.00%**	**59.48%**	**40.52%**	**100.00%**
5	Source of Supply		**100.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**100.00%**
6	Transfers		**75.00%**	**0.00%**	**0.00%**	**25.00%**	**0.00%**	**100.00%**
7	Existing Bond DS		**0.00%**	**0.00%**	**0.00%**	**100.00%**	**0.00%**	**100.00%**
8	New Bond DS		**0.00%**	**0.00%**	**0.00%**	**100.00%**	**0.00%**	**100.00%**
9	CIP		**50.00%**	**0.00%**	**0.00%**	**50.00%**	**0.00%**	**100.00%**
10	Capital Outlay		**0.00%**	**0.00%**	**0.00%**	**100.00%**	**0.00%**	**100.00%**
	Allocation of Costs:							
11	Treatment	$ 1,035,431	$ 498,821	$ 536,610	$ -	$ -	$ -	$ 1,035,431
12	Transmission & Distribution	48,402	19,361	20,828	8,213	-	-	48,402
13	Customer Service	225,131	-	-	-	133,915	91,216	225,131
14	Admin	491,047	-	-	-	292,090	198,957	491,047
15	Source of Supply	8,000	8,000	-	-	-	-	8,000
16	Transfers	-	-	-	-	-	-	-
17	Existing Bond DS	380,605	-	-	-	380,605	-	380,605
18	New Bond DS	44,000	-	-	-	44,000	-	44,000
19	CIP	450,000	225,000	-	-	225,000	-	450,000
20	Capital Outlay	48,860	-	-	-	48,860	-	48,860
21	Non-Rate Rev & Fund Bal	(329,344)	(90,573)	(67,212)	(990)	(135,581)	(34,988)	(329,344)
22	**Total**	**$ 2,402,132**	**$ 660,609**	**$ 490,226**	**$ 7,223**	**$ 988,889**	**$ 255,185**	**$ 2,402,132**
	Units of Service		**268,643.00 CCF**	**460.17 CCF/Day**	**244.47 CCF/Day**	**39,498.00 ERUs/Year**	**26,904.00 Bills/Year**	
	Cost Per Unit		**$ 2.4591 CCF**	**$ 1,065.3192 CCF/Day**	**$ 29.5451 CCF/Day**	**$ 25.0364 ERU**	**$ 9.4850 Bill**	

APPENDIX - B

CITY OF LAKEPORT, CA

Water Cost of Service by Cost Component and Customer Class - Test Year FY 2022

Line No:	Description	[A] ERUs	[B] Accounts	[C] Base (CCF)	[D] Max Day (CCF/Day)	[E] Max Hour (CCF/Day)	[F] Total
	Single-Family Residential	**$ 478,897**	**$ 179,722**	**$ 386,274**	**$ 297,428**	**$ 4,285**	**$ 1,346,606**
1	Tier 1			$ 204,298	$ 37,067	$ 1,585	
2	Tier 2			$ 87,795	$ 79,197	$ 1,040	
3	Tier 3			$ 94,181	$ 181,164	$ 1,660	
	Multi-Family	**$ 230,135**	**$ 28,455**	**$ 81,769**	**$ 43,372**	**$ 796**	**$ 384,527**
4	Tier 1			$ 19,292	$ 1,876	$ 140	
5	Tier 2			$ 62,476	$ 41,496	$ 656	
6	**Commercial and Irrigation**	**$ 279,857**	**$ 47,008**	**$ 192,566**	**$ 149,425**	**$ 2,142**	**$ 670,999**
7	**Total**	**988,889**	**255,185**	**660,609**	**490,226**	**7,223**	**2,402,132**

APPENDIX - B

CITY OF LAKEPORT, CA

Water Rate Calculation - Test Year FY 2022

Line No:	Description	[A] Capacity Ratio	[B] Meter Charge	[C] Customer Charge	[D] Proposed Charge	[E] Existing Charge	[F] Difference
1	5/8 Inch x 3/4 Inch	1.00	$ 25.04	$ 9.49	**$ 34.52**	**$ 34.85**	**$ (0.33)**
2	1.0 Inch	2.50	$ 62.59	$ 9.49	**$ 72.08**	**$ 69.70**	**$ 2.38**
3	1.5 Inch	5.00	$ 125.18	$ 9.49	**$ 134.67**	**$ 145.10**	**$ (10.43)**
4	2.0 Inch	8.00	$ 200.29	$ 9.49	**$ 209.78**	**$ 208.90**	**$ 0.88**
5	3.0 Inch	15.00	$ 375.55	$ 9.49	**$ 385.03**	**$ 418.10**	**$ (33.07)**
6	4.0 Inch	25.00	$ 625.91	$ 9.49	**$ 635.40**	**$ 696.80**	**$ (61.40)**
7	6.0 Inch	50.00	$ 1,251.82	$ 9.49	**$ 1,261.31**	**$ 1,341.20**	**$ (79.89)**
8	8.0 Inch	80.00	$ 2,002.91	$ 9.49	**$ 2,012.40**	**$ 1,341.20**	**$ 671.20**
9	10.0 Inch	115.00	$ 2,879.19	$ 9.49	**$ 2,888.67**	**$ 1,341.20**	**$ 1,547.47**

Line No:	Customer Class	Base	Peaking	Proposed Rate ($/CCF)	Existing Rate ($/CCF)	Difference	Tier Differential
	Single-Family Residential						
1	Tier 1	$ 2.46	$ 0.47	**$ 2.92**	**$ 1.92**	**$ 1.00**	**1.00**
2	Tier 2	$ 2.46	$ 2.25	**$ 4.71**	**$ 3.36**	**$ 1.35**	**1.61**
3	Tier 3	$ 2.46	$ 4.77	**$ 7.23**	**$ 5.94**	**$ 1.29**	**2.47**
	Multi-Family						
4	Tier 1	$ 2.46	$ 0.26	**$ 2.72**	**$ 2.23**	**$ 0.49**	**1.00**
5	Tier 2	$ 2.46	$ 1.66	**$ 4.12**	**$ 5.54**	**$ (1.42)**	**1.52**
	Commercial and Irrigation						
6	Tier 1	$ 2.46	$ 1.94	**$ 4.39**	**$ 2.23**	**$ 2.16**	**1.00**
7	Tier 2	$ 2.46	$ 1.94	**$ 4.39**	**$ 5.54**	**$ (1.15)**	**1.00**

Line No:	Customer Class	Annual Use (CCF)	Peaking Costs	Peaking Unit Cost
	Single-Family Residential			
1	Tier 1	83,080	$ 38,651	$ 0.47
2	Tier 2	35,703	$ 80,237	$ 2.25
3	Tier 3	38,299	$ 182,825	$ 4.77
	Multi-Family			
4	Tier 1	7,845	$ 2,017	$ 0.26
5	Tier 2	25,407	$ 42,152	$ 1.66
6	**Commercial and Irrigation**	78,309	$ 151,568	$ 1.94
7	**Total**	**268,643**	**$ 497,449**	

APPENDIX - C

CITY OF LAKEPORT, CA

Allocation of Sewer Costs FY - 2022

Line No:	Description	Sewer Costs	Volume	Capacity	Strength - SS	Strength - BOD	Pretreatment & Inspection	Readiness to Serve: Billing & Collection	Readiness to Serve: Customer Service	Total
	Allocation Factors:									
1	Pretreatment & Inspection		50.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
2	Treatment		25.00%	25.00%	25.00%	25.00%	0.00%	0.00%	0.00%	100.00%
3	Collection		50.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
4	Administration		50.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
5	Pump		50.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
6	Customer Service		0.00%	0.00%	0.00%	0.00%	0.00%	50.00%	50.00%	100.00%
7	Existing DS		50.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
8	New Bond DS		50.00%	50.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
9	Transfers		75.00%	0.00%	0.00%	0.00%	0.00%	0.00%	25.00%	100.00%
10	CIP		40.00%	40.00%	0.00%	0.00%	0.00%	0.00%	20.00%	100.00%
11	Capital Outlay		40.00%	40.00%	0.00%	0.00%	0.00%	0.00%	20.00%	100.00%
	Allocation of Costs:									
12	Pretreatment & Inspection	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
13	Treatment	116,758	29,190	29,190	29,190	29,188	-	-	-	116,758
14	Collection	266,941	133,471	133,470	-	-	-	-	-	266,941
15	Administration	109,365	54,683	54,682	-	-	-	-	-	109,365
16	Pump	-	-	-	-	-	-	-	-	-
17	Customer Service	1,673,781	-	-	-	-	-	836,891	836,890	1,673,781
18	Existing Debt	592,998	296,499	296,499	-	-	-	-	-	592,998
19	New Debt	-	-	-	-	-	-	-	-	-
20	Transfers	-	-	-	-	-	-	-	-	-
21	CIP	700,000	280,000	280,000	-	-	-	-	140,000	700,000
22	Capital Outlay	28,050	11,220	11,220	-	-	-	-	5,610	28,050
23	Non-Rate Rev & Fund Bal	(699,546)	(161,467)	(161,466)	(5,854)	(5,854)	-	(167,850)	(197,055)	(699,546)
24	**Total**	**$ 2,788,347**	**$ 643,596**	**$ 643,595**	**$ 23,336**	**$ 23,334**	**$ -**	**$ 669,041**	**$ 785,445**	**$ 2,788,347**
25	Fixed Costs		$ 480,935	$ 480,935	$ -	$ -	$ -	$ 669,041	$ 785,445	$ 2,416,356
26	Variable Costs		162,661	162,660	23,336	23,334	-	-	-	371,991
27	**Total**		**$ 643,596**	**$ 643,595**	**$ 23,336**	**$ 23,334**	**$ -**	**$ 669,041**	**$ 785,445**	**$ 2,788,347**

28 **Allocation to Customer Class - Sewer - Annual Basis**

29 Customer Class	Total Annual Bills	Total Monthly Units	Total Flow (CCF)	Strength - SS	Strength - BOD
30 Residential	23,044	1,920	123,277	257,032	257,032
31 Apartments	4,493	374	9,968	16,627	16,627
32 Commercial	5,757	480	63,222	223,036	809,152
33 Total	33,294	2,774	196,467	496,695	1,082,811

	Cost/Kgals	Cost/Kgals	Cost/pound	Cost/pound	Billing	Cust Service	
Total Cost All Customers	$ 643,596	$ 643,595	$ 23,336	$ 23,334	$ 669,041	$ 785,445	
Total Kgals/pounds	196,467	196,467	496,695	1,082,811	33,294	33,294	Equiv Meters/Bills
Cost Kgals/pounds	$0.28	$0.28	$0.05	$0.02	20.09	23.59	Cost/Bill

34 Customer Class	Total Annual Flow	Volume Cost	Capacity Cost	Strength - SS Cost	Strength - BOD Cost	Pretreatment & Inspection	Billing & Collection	Customer Service	Total Costs Allocated to Customer Class
35 Residential	123,277	$ 403,835	$ 403,835	$ 12,076	$ 5,539	$ -	$ 463,067	$ 543,635	$ 1,831,987
36 Apartments	9,968	32,655	32,655	781	358	-	90,287	105,995	262,731
37 Commercial	63,222	207,106	207,105	10,479	17,437	-	115,687	135,815	693,629
38 Total	196,467	$ 643,596	643,595	$ 23,336	23,334	$ -	$ 669,041	$ 785,445	$ 2,788,347

APPENDIX - C

CITY OF LAKEPORT, CA

Sewer Rate Design and Revenue Check Test Year FY 2022

Line No:	Description	Residential	Apartments	Commercial
	Cost Allocation:			
1	Allocated Costs	$ 1,831,987	$ 262,731	
2	Annual Bills	23,044	4,493	
3	Monthly Charge	$ 79.50	$ 58.48	
	Service Charges:			
4	Allocated Costs			$ 693,629
5	Sewer System Fixed Costs Percentage			86.66%
6	Percent of Cost For Fixed Charge Recovery			55.86%
7	Cost to be Recovered From Fixed Charge			$ 387,467
8	Annual Bills			5,757
9	Monthly Charge			$ 67.30
	Costs Recovered From Volume Rates:			
10	Total Allocated Costs			$ 693,629
11	Less Service Charge Revenues			(387,467)
12	Total Costs To Volumetric Rates			$ 306,162
	Billable Flows (CCF):			
13	All Flow			63,222
	Cost of Service Volmetric Rates:			
14	All Flow			$ 4.84
	Total Revenue Check			
15	Monthly Charge Revenues	$ 1,831,987	$ 262,731	$ 387,467
16	Volumetric Charge Revenues	-	-	306,162
17	Total	$ 1,831,987	$ 262,731	$ 693,629
18	Less Revenue Requirement	(1,831,987)	(262,731)	(693,629)
19	Total Revenue Check	$ -	$ -	$ -

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