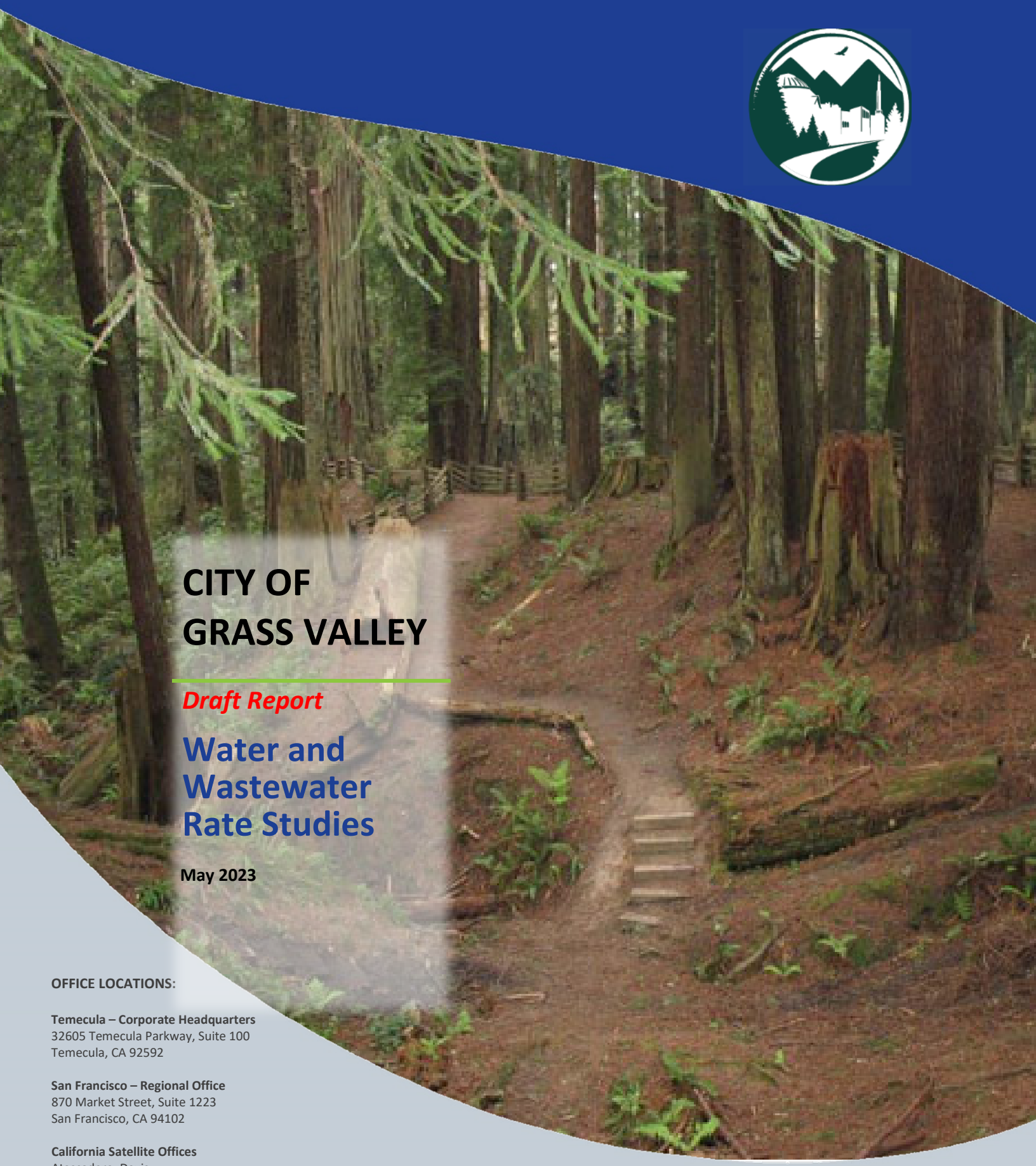

CITY OF GRASS VALLEY

Draft Report

Water and Wastewater Rate Studies

May 2023

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Section 1. EXECUTIVE SUMMARY

Purpose

The overall purpose of the rate study was to develop the proposed water and wastewater rates. The rate study required thoroughly reviewing and confirming the City's broader rate-related goals and objectives, including key financial parameters, and ensuring the new rates reflect the City's unique characteristics and provide long-term revenue stability.

The rates developed in this study are intended to meet the requirements of Proposition 218 (Prop 218), commonly referred to as the "right to vote on new taxes" act and were developed in a manner that is consistent with industry standards. This report is provided in part to assist the City in its effort to communicate transparently with the residents and businesses it serves.

In developing proposed utility rates, NBS and City staff worked cooperatively in developing study results and rate alternatives. The City Council reviewed initial results, provided NBS and City staff with feedback and direction, and ultimately approved the water and wastewater rates.

Key Findings

REVENUE REQUIREMENTS AND PROJECTED RATES

The City's water and wastewater utilities both need to complete ongoing rehabilitation and replacement projects while at the same time building and maintaining healthy reserve funds. NBS calculated two scenarios of rate increases as will be discussed in sections 2 and 3 in this report.

WATER RATES

The current water rate design was retained; where water customers will be charged a monthly fixed service charge by meter size, and a volumetric charge based on water consumption for all customers, grouped by residential and non-residential. Although increases are proposed, customer bills under the recommended water rates still compare favorably with other communities in the region.

WASTEWATER RATES

The current wastewater rate design retained; where wastewater customers will be charged a monthly fixed service charge by living unit for all customers, and a volumetric charge based on water consumption for non-residential customers. As with water rates, although increases are recommended, customer bills under the recommended wastewater rates still compare favorably with other communities in the region.

Study Recommendations

NBS recommends the City take the following measures:

- Conduct a legal review of the proposed rates.
- Proceed with Prop 218 noticing requirements and 45-day protest period.
- Assuming a successful Prop 218 process (that is, there is no majority protest of the rates), adopt the rates summarized in this report.

Section 2. OVERVIEW OF THE STUDY METHODOLOGY

Comprehensive rate studies such as this one typically includes three components: (1) preparation of a financial plan, which identifies the net revenue requirements for the utility; (2) analysis of the cost to serve each customer class, and; (3) the rate structure design. These steps are shown in **Figure 1** and are intended to follow industry standards and reflect the fundamental principles of cost-of-service ratemaking embodied in the American Water Works Association (AWWA) Principles of Water Rates, Fees, and Charges[1], also referred to as Manual M1 as well as the Water Environment Federation's (WEF) Financing and Charges for Wastewater Systems, Manual of Practice No 27, Fourth Edition.

FIGURE 1. PRIMARY COMPONENTS OF A RATE STUDY

Step 1: Financial Plan/ Revenue Requirements – Compares current sources and uses of funds and determines the revenue needed from rates and project rate adjustments.

Step 2: Cost-of-Service Analysis – Proportionately allocates the revenue requirements to the customer classes in compliance with industry standards and State Law.

Step 3: Rate Design - Considers what rate structure will best meet the City's need to collect rate revenue from each customer class.

This methodology also addresses requirements under Proposition 218 that rates not exceed the cost of providing the service and be proportionate to the cost of providing service for all customers. In terms of the chronology of the study, these three steps represent the order they were performed in this Study for both utilities.

As a part of this rate study, NBS projected revenues and expenditures, developed net revenue requirements, performed cost-of-service rate analyses, and prepared new utility rates for the City. As a result of this study, rate increases – or more accurately, increases in the total revenue collected from rates – are recommended for each utility. The City provided NBS with the necessary data, including historical, current, and projected revenues, expenditures, customer accounts and water consumption, along with other operational and capital cost data.

Rate Design Criteria

It is important for utilities to send proper price signals to its customers about the actual cost of providing service. This objective is typically addressed through both the magnitude of the rates and the rate structure design. In other words, both the amount of revenue collected and the way in which the revenue is collected from customers are important.

Several criteria are typically considered in setting rates and developing sound rate structures. The fundamentals of this process have been documented in a number of rate-setting manuals. For example, the foundation for evaluating rate structures is generally credited to James C. Bonbright in the *Principles of*

1 Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, seventh edition, 2017.

Public Utility Rates[2], which outlines pricing policies, theories, and economic concepts along with various rate designs. The other common industry standard is the American Water Works Association's (AWWA) Manual M1.

The following is a simplified list of the attributes of a sound rate structure, which apply to water and wastewater utilities:

- Rates should be easy to understand from the customer's perspective.
- Rates should be easy to administer from the utility's perspective.
- Rates should promote the efficient allocation of the resource.
- Rates should be equitable and non-discriminating (i.e., cost based).
- There should be continuity in the ratemaking philosophy over time.
- Other utility policies should be considered (e.g., encouraging conservation & economic development).
- Rates should consider the customer's ability to pay.
- Rates should provide month-to-month and year to year revenue stability.

Rate Structure Terminology

One of the most fundamental points in considering rate structures is the relationship between fixed and variable costs. The vast majority of water and wastewater rate structures contain a fixed or minimum charge, and a volumetric charge.

The City's rate design criteria are unique to the characteristics of the City's utilities. Capital and operational reserve funding targets used in this study have been established with the input of City staff in order to meet specific utility objectives. The following discussion describes general industry rate-study practices in California and principals that were reflected in the recommended rates.

FIXED CHARGES

Fixed charges can be called base charges, minimum monthly charges, customer charges, fixed meter charges, etc. Although fixed charges are typically a significant percentage of the utility's overall cost structure, utilities rarely collect 100% of their fixed costs through fixed charges. In general, customers prefer that charges include a volumetric component, as there is an inherent and widely recognized equity in a "pay-for-what-you-use" philosophy.

For a water utility, fixed charges typically increase by meter size. For example, a customer with a 2" meter may have a fixed meter charge that is eight times greater than the 5/8" meter charge based on the meter's maximum flow rate.[3] Because a large portion of water utilities' costs are typically related to meeting capacity requirements, reflecting the capacity demands of each meter size is important in establishing equitable fixed charges for customers.

2 James C. Bonbright; Albert L. Danielsen and David R. Kamerschen, Principles of Public Utility Rates, (Arlington, VA: Public Utilities Report, Inc., Second Edition, 1988), p. 383-384.

3 These are typically referred to as "hydraulic capacity factors" that represent the relative capacity required in the water system. See American Water Works Association, Water Meters – Selection, Installation, Testing and Maintenance, M6 Manual, Table 5-3.

VARIABLE (CONSUMPTION-BASED) CHARGES

In contrast, variable costs such as the cost of purchased water, electricity used in pumping water, and chemicals used in the water and wastewater treatment facilities tend to change with the quantity of water produced (or wastewater effluent treated). For water utilities, variable charges are generally based on metered consumption and charged on a dollar-per-unit cost (per 100 cubic feet, or hcf, in the City's case).

There are significant variations in the basic philosophy of variable charge rate alternatives. Under a uniform (single tier) water rate structure, the cost per unit does not change with consumption, and provides a simple and straightforward approach from the perspective of customer understanding and rate administration/billing. A similar volumetric rate is often used for wastewater utilities to reflect the flow-related costs (i.e., sewage effluent) as well as the costs of treating the level of wastewater "strength" (i.e., the amount of biochemical oxygen demand (BOD) and total suspended solids (TSS) constituents).

KEY FINANCIAL ASSUMPTIONS

The following are the key assumptions used in the water and wastewater rate analyses:

- **Funding Capital Projects –** The analysis for both utilities assumes:
  - Capital costs attributable to existing customers are funded with rate revenue.
  - Capital costs attributable to growth, or expansion-related costs, will be funded through connection fee revenue.
  - All capital projects listed in the financial plans are City projections.
  - Outside funding may be sought out for capital improvement projects.
- **Reserve Targets for Water and Wastewater** – Reserves for operations and capital needs are set at levels established by City staff and Council. Reserve targets used in the analysis are as follows:
  - Operating & Maintenance Reserve – 90 days of O&M expenses
  - Capital Rehabilitation and Replacement Reserve – 3 percent of net asset values for wastewater and 6 percent of net asset values for water
  - System Reinvestment Reserve Fund - $300,000 annually for ongoing maintenance
  - Emergency Reserve Fund - $300,000 for emergency revenue stability
- **Inflation and Growth Projections** – Inflation and growth projections are applied equally to the water and wastewater utilities:
  - General inflation is 3 percent annually, per Bureau of Labor for Nevada County and California State projections.
  - Customer growth is 0 percent annually, per City projections.
  - Labor cost inflation is 1.5 percent annually, per Bureau of Labor for Nevada County and California State projections.
  - Energy cost inflation is 1.5 percent annually, per Bureau of Labor for Nevada County and California State projections.
  - Fuel cost inflation is 7.5 percent annually, per Bureau of Labor for Nevada County and California State projections.

The next two sections discuss the water and wastewater rate studies in further detail.

Section 3. WATER RATE STUDY

Developing Recommended Water Rates

The water rate analysis was undertaken with a few specific objectives in mind, including:

- Generating sufficient additional revenue needed to meet projected funding requirements,
- Providing revenue stability,
- Providing equity among customer classes,
- Incorporating projected water consumption levels.

NBS developed several water rate alternatives as requested by City staff over the course of this study. All rate structure alternatives were developed using industry standards and cost-of-service principles. The following are the basic components included in this analysis:

- **Developing Cost Allocations:** The water revenue requirements were "functionalized" into three categories: (1) fixed capacity costs; (2) commodity (or volume-based) costs; and (3) customer service costs. Each of these functional costs has a distinct allocation factor used to determine revenue requirements by customer class.
- **Determining Revenue Requirements by Customer Class[4]:** Revenue requirements for each customer class were determined based on allocation factors such as water consumption, capacity peaking factors, and number of accounts by meter size. For example, volume-related costs are allocated based on the water consumption for each class, while customer costs are allocated based on number of accounts. Once the costs are allocated and revenue requirement for each customer class is determined, collecting these revenue requirements from each customer class is addressed in the rate design task.
- **Rate Design and Fixed vs. Variable Costs:** Fixed costs, such as capacity-related and infrastructure costs, billing, and general administrative costs, are typically collected through a fixed monthly charge, while variable costs such as pumping and purchased water costs are typically collected through volumetric charges. While this study determined that the City's fixed and variable costs are approximately 65% fixed and 35% variable, California law[5] and industry practices provide flexibility regarding the actual percentages collected from fixed vs. variable rates. After evaluating various rate alternatives, a rate structure that recovers 45% fixed and 55% variable charges is proposed, based on direction from City staff and the City Council.

Water Utility Revenue Requirements

It is important for municipal utilities to maintain reasonable reserves in order to handle emergencies, fund working capital, maintain a good credit rating, and generally follow sound financial management practices. Rate increases are governed by the need to meet these objectives as follows:

4 In the City's case, meter sizes serve as customer classes for the water utility while more traditional customer classes, such as single-family, multi-family, and commercial classes were used for the wastewater utility.

5 For example, AB 2882 allows a variety of conservation-oriented rate structures, including tiered water rates, and the California Urban Water Conservation Council recommends recovering 70 percent of rate revenue through volume-based rates. However, water utilities generally develop their own policy and conservation objectives.

- **Meeting Operating Costs:** For Fiscal Years 2023/24 through 2027/28, the net revenue requirement (i.e., total annual O&M expenses, debt service, and rate-funded capital costs less non-rate revenues) is estimated to be approximately $2 mil to $3 mil. If no rate increases are implemented, current revenue is expected to be insufficient to cover these operating costs.
- **Maintaining Adequate Bond Coverage:** The City is required by its bond covenants for 4 current debt obligations to maintain debt-service coverage ratios of at least 1.20. The benefit of maintaining a higher coverage ratio is that it strengthens the City's credit rating, which can help lower the interest rates for debt-funded capital projects, and in turn reduce annual debt service payments. This analysis assumes that the City will *be incurring $1.5 million in grants* to fund the planned capital expenses.
- **Building and Maintaining Reserve Funds:** If no rate increases are implemented, reserves are expected to essentially be depleted by FY 2025/26. Implementing annual rate increases builds target reserve fund levels to appropriate levels. Primarily to minimize impacts on ratepayers, City staff chose to use the following reserve targets:
    - **Operating Reserves** reserve target is equal to a three-month (or 90-day) cash cushion for normal operations. For Fiscal Year 2023/24, this is estimated to be $411,000. This reserve is intended to preserve financial viability in the event of short-term fluctuations in revenues and/or expenditures, including those due to weather patterns, the natural billing cycle cash flows, variability in volume-based rates, and changes in the age of receivables.
    - **Capital Reserves** of 6 percent of net assets serve as a starting point for addressing longer-term capital needs. For Fiscal Year 2023/24, this is estimated to be $276,000. If ratepayers can generate this level of revenues, the City will have reserved a partial cash resource that can be applied toward future capital replacement and rehabilitation needs.
    - **System Reinvestment Reserve** of $300,000 annually for any unplanned maintenance the City may occur.
    - **Emergency Reserve** of $300,00 for any emergency situations.

Figure 2 summarizes the sources and uses of funds and net revenue requirements for the next five years and includes the recommended annual rate increases**.**

FIGURE 2. SUMMARY OF WATER REVENUE REQUIREMENTS

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget FY 2022/23	Projected FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Sources of Water Funds						
Rate Revenue Under Prevailing Rates	$ 2,200,000	$ 2,200,000	$ 2,200,000	$ 2,200,000	$ 2,200,000	$ 2,200,000
Additional Revenue from Rate Increase	-	*115,500*	*318,780*	*495,095*	*683,751*	*885,614*
Projected Annual Rate Increase	*0.00%*	*7.00%*	*7.00%*	*7.00%*	*7.00%*	*7.00%*
Non-Rate Revenues	80,000	80,000	80,000	80,000	80,000	80,000
Interest Earnings	57,150	56,370	57,200	54,705	47,547	41,049
Total Sources of Funds	**$ 2,337,150**	**$ 2,451,870**	**$ 2,655,980**	**$ 2,829,799**	**$ 3,011,298**	**$ 3,206,663**
Uses of Water Funds						
Operating Expenses	$ 1,572,379	$ 1,645,700	$ 1,723,800	$ 1,807,200	$ 1,896,000	$ 1,990,800
Debt Service	394,016	396,504	397,814	398,918	400,057	240,094
Rate-Funded Capital Expenses	332,023	-	-	-	-	844,829
Total Use of Funds	**$ 2,298,418**	**$ 2,042,204**	**$ 2,121,614**	**$ 2,206,118**	**$ 2,296,057**	**$ 3,075,723**
Surplus (Deficiency) after Rate Increase	**$ 38,732**	**$ 409,666**	**$ 534,366**	**$ 623,681**	**$ 715,240**	**$ 130,940**
Cumulative Rate Increases	*0.00%*	*7.00%*	*14.49%*	*22.50%*	*31.08%*	*40.26%*
Surplus (Deficiency) before Rate Increase	**$ 38,732**	**$ 294,166**	**$ 215,586**	**$ 128,586**	**$ 31,489**	**$ (754,674)**
Net Revenue Requirement [2]	**$ 2,181,268**	**$ 1,925,834**	**$ 2,004,414**	**$ 2,091,414**	**$ 2,188,511**	**$ 2,974,674**

1. Revenue from rate increases assume an implementation date of October 1, 2023 and then July 1st, 2024 through 2027.
2. Total Use of Funds less non-rate revenues and interest earnings. This is the annual amount needed from water rates.

Figure 3 summarizes the projected reserve fund balances and reserve targets. A summary of the water utility's proposed 10-year financial plan, which is included in Appendix B – Water Rate Study Summary Tables, includes revenue requirements, reserve funds, revenue sources, proposed rate increases, and the City's capital improvement program.

FIGURE 3. SUMMARY OF WATER RESERVE FUNDS

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget FY 2022/23	Projected FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Operating Reserve Fund						
Ending Balance	$ 393,095	$ 411,425	$ 430,950	$ 451,800	$ 474,000	$ 497,700
Recommended Minimum Target	*393,095*	*411,425*	*430,950*	*451,800*	*474,000*	*497,700*
Capital Outlay Reserve Fund						
Ending Balance	$ 2,037,555	$ 2,063,847	$ 1,910,154	$ 1,504,466	$ 1,132,944	$ 494,340
Recommended Minimum Target	*273,400*	*276,000*	*301,900*	*336,900*	*372,400*	*407,100*
System Reinvestment Reserve Fund						
Ending Balance	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000
Recommended Minimum Target	*300,000*	*300,000*	*300,000*	*300,000*	*300,000*	*300,000*
Emergency Reserve Fund						
Ending Balance	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000	$ 300,000
Recommended Minimum Target	*300,000*	*300,000*	*300,000*	*300,000*	*300,000*	*300,000*
Debt Service Reserve Fund						
Ending Balance	$ 357,285	$ 363,931	$ 370,700	$ 377,595	$ 384,618	$ 391,772
Recommended Minimum Target	-	-	-	-	-	-
Total Ending Balance	**$ 3,387,935**	**$ 3,439,203**	**$ 3,311,804**	**$ 2,933,861**	**$ 2,591,562**	**$ 1,983,812**
Total Recommended Minimum Target	***$ 1,266,495***	***$ 1,287,425***	***$ 1,332,850***	***$ 1,388,700***	***$ 1,446,400***	***$ 1,504,800***

Characteristics of Water Customers by Class

Water customer characteristics are used in allocating costs in the cost-of-service analysis. The City's most recent data by customer class includes the consumption data in **Figure 4**, peaking factors in **Figure 5**, and the total number of accounts in **Figure 6**.

FIGURE 4. WATER CONSUMPTION BY CUSTOMER CLASS

Development of the COMMODITY Allocation Factor					
Customer Class	Volume (Tgal)[1]	Percent of Total Volume	*Average Monthly Statistics per Meter (Tgal)*		
			Summer	*Winter*	*Average*
Single Family Residential					
5/8-inch meter	151,714	**48.8%**	11	4	7
3/4-inch meter	7,788	**2.5%**	10	6	8
1-inch meter	5,191	**1.7%**	79	16	48
1.5-inch meter	5,621	**1.8%**	296	28	156
2-inch meter	2,711	**0.9%**	423	33	226
Multi Family Residential					
5/8-inch meter	3,738	**1.2%**	15	1	7
3/4-inch meter	4,916	**1.6%**	23	7	14
1-inch meter	3,966	**1.3%**	17	1	8
1.5-inch meter	12,804	**4.1%**	75	23	46
2-inch meter	14,508	**4.7%**	97	49	71
3-inch meter	18	**0.0%**	2	0	1
Mobile Home					
5/8-inch meter	34	**0.0%**	4	2	3
Commercial					
5/8-inch meter	25,760	**8.3%**	12	6	9
3/4-inch meter	6,945	**2.2%**	25	9	16
1-inch meter	9,351	**3.0%**	32	17	22
1.5-inch meter	26,551	**8.5%**	69	42	50
2-inch meter	9,282	**3.0%**	120	29	70
3-inch meter	6,465	**2.1%**	216	23	108
4-inch meter	7,661	**2.5%**	580	112	319
6-inch meter	2,440	**0.8%**	403	0	203
Fire Meter					
2-inch fire meter	-	**0.0%**	0	0	0
4-inch fire meter	-	**0.0%**	0	0	0
Compound Meter	3,367	**1.1%**	84	2	35
Total	**310,832**	**100%**	**17**	**6**	**125**

1. Consumption is from June 2021 through January 2022. It has been annualized for estimation of full year.

Source file: Billed Consumption Excel Export_manipulated.xlsx

FIGURE 5. PEAKING FACTORS BY CUSTOMER CLASS

Development of the CAPACITY Allocation Factor				
Customer Class	**Average Monthly Use (Tgal)**	**Peak Monthly Use (Tgal)[2]**	**Peaking Factor**	**Max Monthly Capacity Factor**
Single Family Residential				
5/8-inch meter	12,643	20,532	**1.62**	**49.5%**
3/4-inch meter	649	801	**1.23**	**1.9%**
1-inch meter	433	712	**1.65**	**1.7%**
1.5-inch meter	468	888	**1.90**	**2.1%**
2-inch meter	226	423	**1.87**	**1.0%**
Multi Family Residential				
5/8-inch meter	312	670	**2.15**	**1.6%**
3/4-inch meter	410	659	**1.61**	**1.6%**
1-inch meter	331	691	**2.09**	**1.7%**
1.5-inch meter	1,067	1,733	**1.62**	**4.2%**
2-inch meter	1,209	1,654	**1.37**	**4.0%**
3-inch meter	1	2	**1.47**	**0.0%**
Mobile Home				
5/8-inch meter	3	4	**1.30**	**0.0%**
Commercial				
5/8-inch meter	2,147	2,990	**1.39**	**7.2%**
3/4-inch meter	579	922	**1.59**	**2.2%**
1-inch meter	779	1,109	**1.42**	**2.7%**
1.5-inch meter	2,213	3,018	**1.36**	**7.3%**
2-inch meter	774	1,325	**1.71**	**3.2%**
3-inch meter	539	1,078	**2.00**	**2.6%**
4-inch meter	638	1,160	**1.82**	**2.8%**
6-inch meter	203	403	**1.98**	**1.0%**
Fire Meter				
2-inch fire meter	0	0	**0.00**	**0.0%**
4-inch fire meter	0	0	**0.00**	**0.0%**
Compound Meter	281	672	**2.40**	**1.6%**
Total	**25,903**	**41,449**		**100%**

2. Based on peak monthly data (peak day data not available).

FIGURE 6. NUMBER OF ACCOUNTS BY CUSTOMER CLASS

Development of the CUSTOMER Allocation Factor		
Customer Class	**Number of Meters[1]**	**Percent of Total Accounts**
Single Family Residential		
5/8-inch meter	1,851	**74.3%**
3/4-inch meter	81	**3.3%**
1-inch meter	9	**0.4%**
1.5-inch meter	3	**0.1%**
2-inch meter	1	**0.0%**
Multi Family Residential		
5/8-inch meter	45	**1.8%**
3/4-inch meter	29	**1.2%**
1-inch meter	40	**1.6%**
1.5-inch meter	23	**0.9%**
2-inch meter	17	**0.7%**
3-inch meter	1	**0.0%**
Mobile Home		
5/8-inch meter	1	**0.0%**
Commercial		
5/8-inch meter	247	**9.9%**
3/4-inch meter	37	**1.5%**
1-inch meter	35	**1.4%**
1.5-inch meter	44	**1.8%**
2-inch meter	11	**0.4%**
3-inch meter	5	**0.2%**
4-inch meter	2	**0.1%**
6-inch meter	1	**0.0%**
Fire Meter		
2-inch fire meter	0	**0.0%**
4-inch fire meter	0	**0.0%**
Compound Meter	8	**0.3%**
Total	**2,491**	**100.0%**

1. Meter Count is from November 2021.

Cost of Service Analysis – Water

As previously noted in Figure 1, the purpose of the cost-of-service analysis is to fairly and equitably allocate annual water utility revenue requirements to *customer classes*, while the rate design determines the actual rates *within each customer class*. The first step of separating costs into commodity-, capacity-, and customer-related cost classifications is based on their functional purpose in the water utility: results are summarized in **Figure 7**, while more detailed fixed and variable allocations are shown in Appendix B.

FIGURE 7. SUMMARY OF FIXED AND VARIABLE RATE REVENUE REQUIREMENTS

Functional Category	*Proposed Rates for FY 2023/24* Adjusted Net Revenue Requirements 45% Fixed / 55% Variable	
Commodity - Related Costs	**$ 868,196**	*36.9%*
Variable Capacity - Related Costs	**$ 426,504**	*18.1%*
Fixed Capacity - Related Costs	**$ 581,055**	*24.7%*
Customer - Related Costs	**$ 478,245**	*20.3%*
Total	**$ 2,354,000**	*100%*

The next step is to allocate these commodity-related, capacity-related, and customer-related costs to each customer class based on the allocation factors previously shown in Figure 4 through Figure 6, as follows:

- Water consumption (Figure 4) is used to allocate commodity-related variable costs shown in Figure 7.
- Peaking factors (Figure 5) are used to allocate the capacity-related costs shown in Figure 7.
- Number of meters (Figure 6) are used to allocate the customer-related costs shown in Figure 7.

The results of this cost allocation process are summarized in **Figure 8**:

FIGURE 8. SUMMARY OF ADJUSTED RATE REVENUE REQUIREMENTS BY CUSTOMER CLASS

Net Revenue Requirements for FY 2023/24						
Customer Classes	Classification Components				Cost of Service Net Rev. Req'ts	% of COS Net Revenue Req'ts
	Commodity - Related Costs	Variable Capacity - Related Costs	Fixed Capacity - Related Costs	Customer - Related Costs		
Single Family Residential						
5/8-inch meter	$ 423,758	$ 211,275	$ 287,833	$ 355,372	$ 1,278,238	*54%*
3/4-inch meter	21,753	8,244	11,232	15,551	56,780	*2%*
1-inch meter	14,499	7,331	9,987	1,728	33,545	*1%*
1.5-inch meter	15,701	9,139	12,451	576	37,867	*2%*
2-inch meter	7,572	4,357	5,936	192	18,058	*1%*
Multi Family Residential						
5/8-inch meter	10,441	6,896	9,395	8,640	35,372	*2%*
3/4-inch meter	13,731	6,781	9,238	5,568	35,317	*2%*
1-inch meter	11,078	7,114	9,691	7,680	35,562	*2%*
1.5-inch meter	35,764	17,834	24,296	4,416	82,310	*3%*
2-inch meter	40,522	17,018	23,185	3,264	83,989	*4%*
3-inch meter	50	23	31	192	296	*0%*
Mobile Home						
5/8-inch meter	96	38	52	192	378	*0%*
Commercial						
5/8-inch meter	71,951	30,765	41,913	47,421	192,050	*8%*
3/4-inch meter	19,398	9,485	12,923	7,104	48,910	*2%*
1-inch meter	26,117	11,415	15,551	6,720	59,803	*3%*
1.5-inch meter	74,159	31,055	42,309	8,448	155,971	*7%*
2-inch meter	25,927	13,635	18,576	2,112	60,250	*3%*
3-inch meter	18,059	11,094	15,115	960	45,228	*2%*
4-inch meter	21,398	11,938	16,263	384	49,983	*2%*
6-inch meter	6,816	4,150	5,654	192	16,813	*1%*
Fire Meter						
2-inch fire meter	-	-	-	-	-	*0%*
4-inch fire meter	-	-	-	-	-	*0%*
Compound Meter	9,405	6,917	9,423	1,536	27,281	*1%*
Total Net Revenue Requirement	**$ 868,196**	**$ 426,504**	**$ 581,055**	**$ 478,245**	**$ 2,354,000**	**100%**

Current vs. Proposed Water Rate Structures

Besides merely providing the mechanism for collecting rate revenue from individual customers, water rate design presents an opportunity to consider broader rate-design objectives and policies, including revenue stability, equity among customer classes, and water conservation.

During the rate-design analysis, City staff and NBS developed several water rate structure alternatives for consideration. As previously noted, after carefully considering Proposition 218 requirements and recent court cases, maintaining a uniform volumetric rate was, in the opinion of NBS, City staff, and the City's legal counsel the most defensible rate structure. Additionally, maintaining the current meter sizes as customer classifications was also recommended – it maintains continuity with the City's current design is easy for customers to understand, and easy for the City to administrate.

Figure 9 compares the current and recommended rates for FY 2023/24 through 2027/28. Cost-of-service adjustments are reflected in the FY 2023/24 rates; thereafter rate increases are applied on an across-the-board basis. Appendix B provides more detail on the development of the proposed water rates.

FIGURE 9. CURRENT AND PROPOSED WATER RATES FISCAL YEAR 2023/24 – 2027/28

Water Rate Schedule	Current Rates	Proposed Rates				
		FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Fixed Meter Charges						
Monthly Fixed Service Charges:						
5/8 inch	$26.00	$30.06	$32.16	$34.41	$36.82	$39.40
3/4 inch	$39.00	$37.09	$39.69	$42.47	$45.44	$48.62
1 inch	$65.00	$51.14	$54.72	$58.55	$62.65	$67.04
1.5 inch	$130.00	$86.29	$92.33	$98.79	$105.71	$113.11
2 inch	$208.00	$128.46	$137.45	$147.07	$157.36	$168.38
3 inch	$390.00	$578.30	$618.78	$662.09	$708.44	$758.03
4 inch	$650.00	$894.60	$957.22	$1,024.23	$1,095.93	$1,172.65
6 inch	$1,300.00	$1,773.19	$1,897.31	$2,030.12	$2,172.23	$2,324.29
8 inch	$2,080.00	$2,827.51	$3,025.44	$3,237.22	$3,463.83	$3,706.30
Commodity Charges						
Rate per Tgal of Water Consumed:						
Residential Uniform Rate	$3.75	$4.17	$4.46	$4.77	$5.10	$5.46
Non-Residential Uniform Rate	$4.48	$4.17	$4.46	$4.77	$5.10	$5.46
Temporary Meter Uniform Rate	$4.48	$4.17	$4.46	$4.77	$5.10	$5.46

Comparison of Current and Proposed Monthly Bills

SINGLE-FAMILY WATER CUSTOMERS

Figure 10 compares monthly water bills under the current and proposed rates, for single-family residential customers, in the first year of the rate adjustment plan. **Figure 11** compares current and proposed typical single-family monthly water bills to other communities.

FIGURE 10. MONTHLY WATER BILL COMPARISON FOR SFR CUSTOMERS

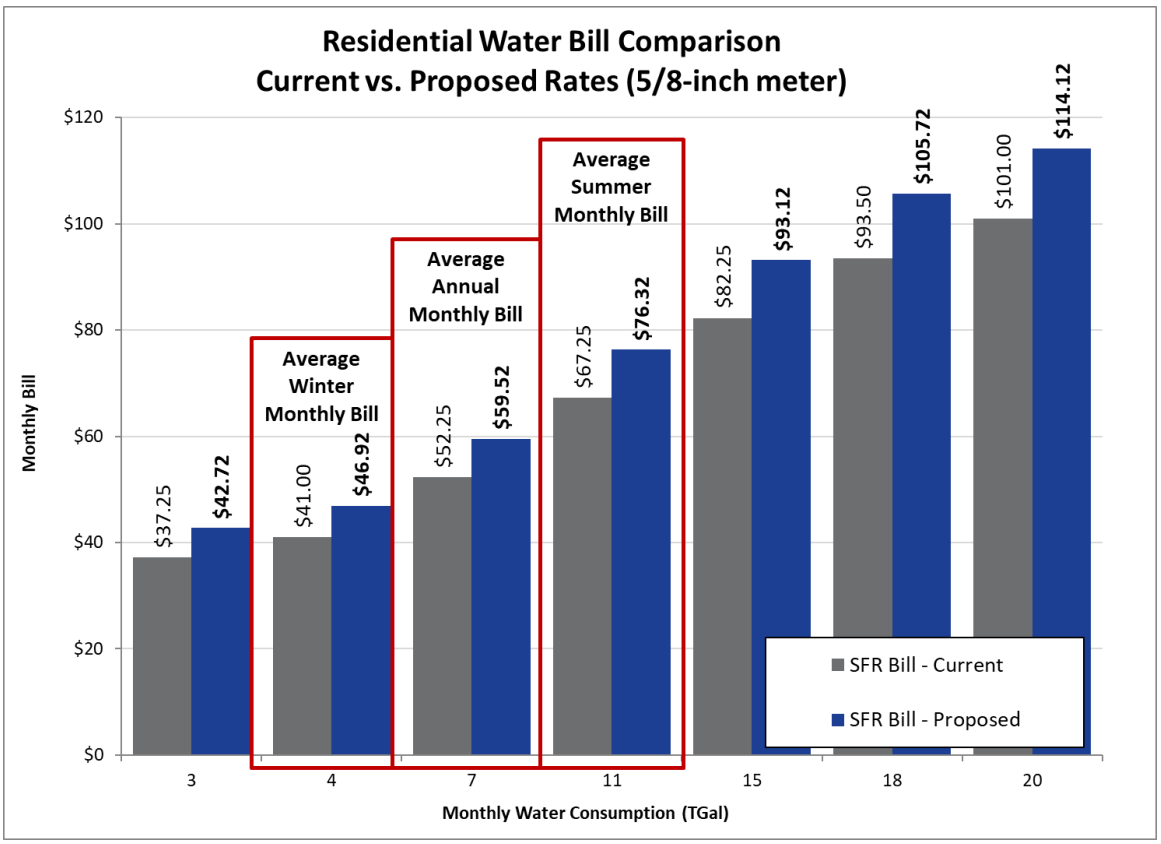
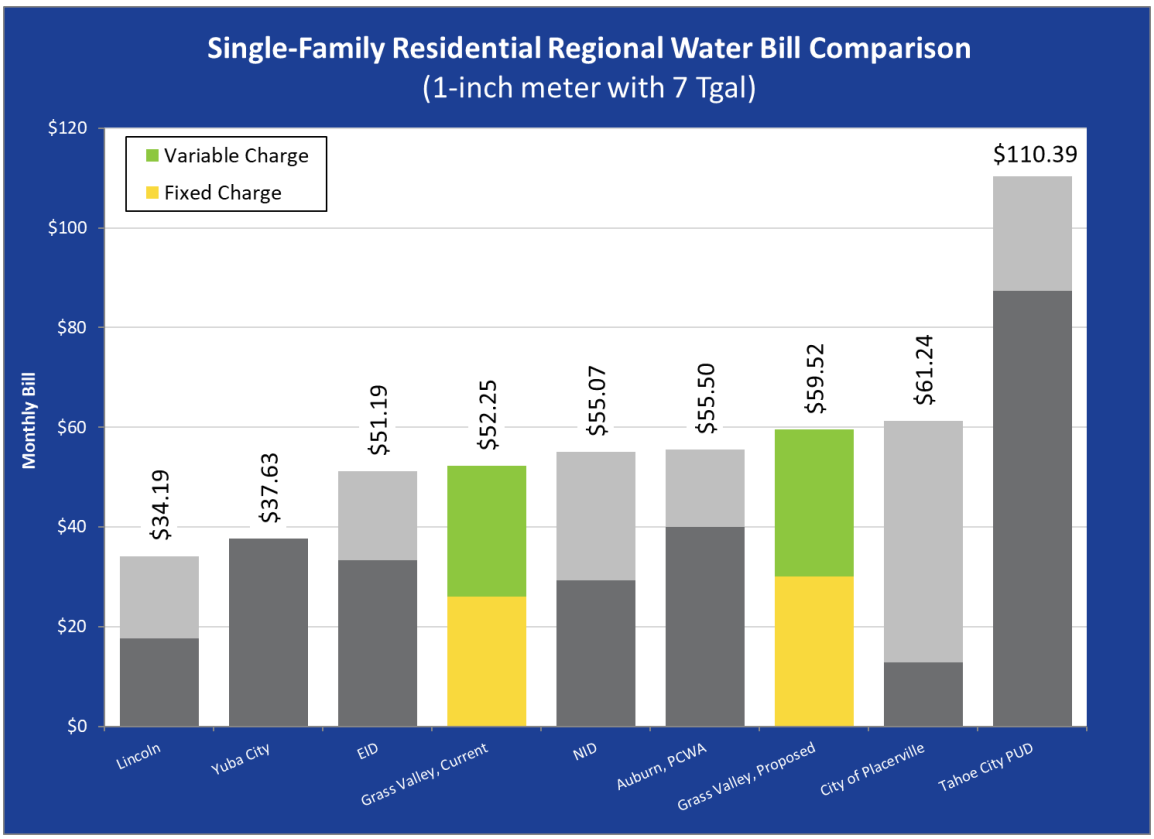


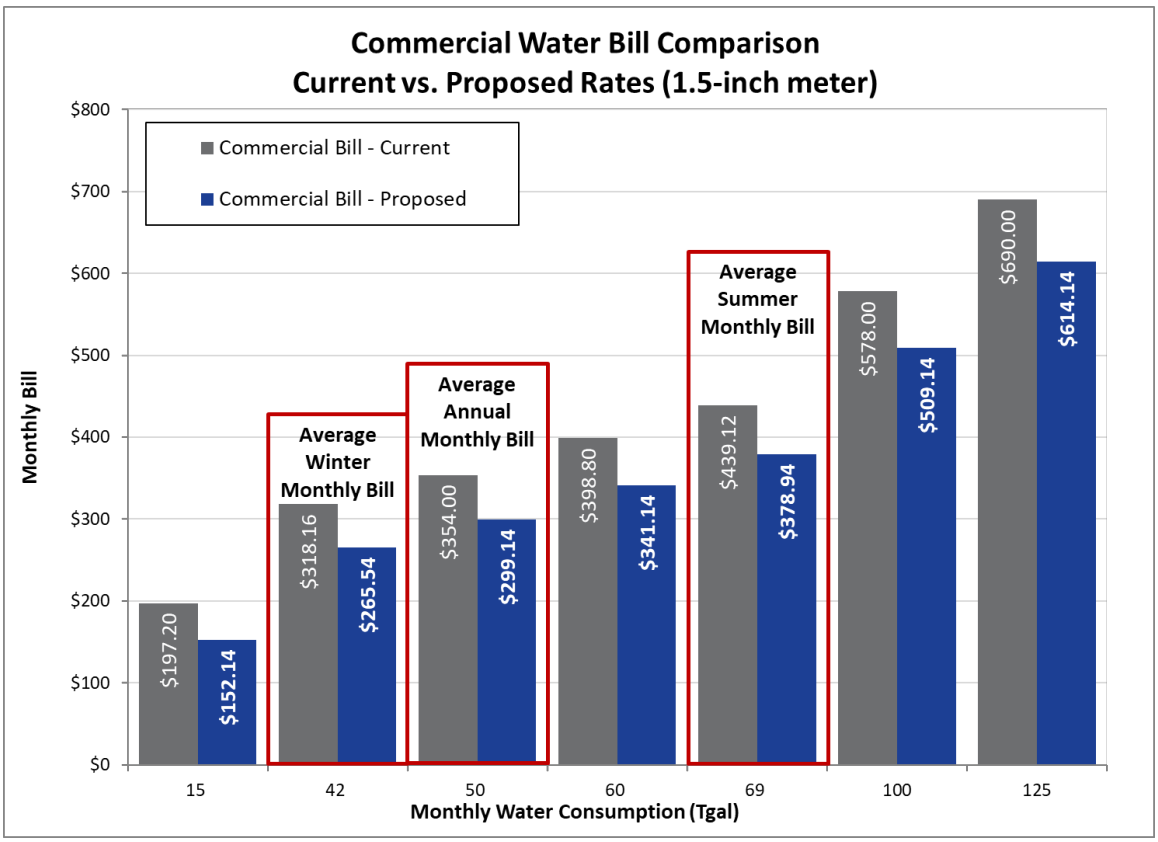
FIGURE 11. MONTHLY WATER BILL COMPARISON WITH OTHER COMMUNITIES



COMMERCIAL WATER CUSTOMERS

Commercial customers are currently subject to the same fixed monthly charges by meter size and uniform volumetric rate as single-family customers. **Figure 12** compares current and proposed monthly bills for commercial customers with a 1.5-inch meter at various levels of consumption, in the first year of the rate adjustment plan.

FIGURE 12. MONTHLY WATER BILL COMPARISON FOR COMMERCIAL USERS



Section 4. WASTEWATER RATE STUDY

Developing Recommended Wastewater Rates

The wastewater rate study focused on key objectives similar to those considered in the water rate study, with the overriding concern being maintaining the financial health of the utility.

Similar wastewater rate tasks were performed, including (1) developing functional cost allocations, (2) developing revenue requirements by customer class, and (3) determining rates within customer classes. Detailed tables showing the step-by-step development of the analysis are presented in Appendix C – Wastewater Rate Summary Tables.

Wastewater Utility Revenue Requirements

To identify the wastewater utility's long-term financial needs, including funding for capital improvement projects, NBS developed a 10-year financial plan that forecasts wastewater revenues, expenditures, and projected reserves. This plan is based on the City's current operating budget for the utility, discussions with City staff, and related information such as debt service schedules and capital improvement plans. This financial plan addresses four primary objectives:

- **Meeting Operating Costs:** The wastewater utility must generate enough revenue to cover the expenses of wastewater operations, including administration, maintenance, and the collection system.
- **Meeting Capital Improvement Costs:** The wastewater utility plans to adequately fund necessary capital improvements, which assumes roughly $10 million in planned capital improvements for the current fiscal year through the end of FY 2027/28.
- **Maintaining Adequate Bond Coverage:** The City is required by its bond covenants to maintain a debt service coverage ratio of at least 1.20 for the outstanding debt obligations. This analysis assumes that the City will *be cash funding* the planned capital expenses. It is projected that, with the recommended rate increases, the City will meet the 1.20 debt coverage ratio for all existing and anticipated debt through Fiscal Year 2027/28.
- **Maintaining Reserve Funds:** Implementing annual rate increases builds target reserve fund levels to appropriate levels. Primarily to minimize impacts on ratepayers, City staff chose to use the following reserve targets:
    - **Operating Reserves** reserve target is equal to a three-month (or 90-day) cash cushion for normal operations. For Fiscal Year 2023/24, this is estimated to be $731,000. This reserve is intended to preserve financial viability in the event of short-term fluctuations in revenues and/or expenditures, including those due to weather patterns, the natural billing cycle cash flows, variability in volume-based rates, and changes in the age of receivables.
    - **Capital Reserves** of 3 percent of net assets serve as a starting point for addressing longer-term capital needs. For Fiscal Year 2023/24, this is estimated to be $1,053,000. If ratepayers can generate this level of revenues, the City will have reserved a partial cash resource that can be applied toward future capital replacement and rehabilitation needs.
    - **System Reinvestment Reserve** of $300,000 annually for any unplanned maintenance the City may occur.

- **Emergency Reserve** of $300,00 for any emergency situations.

For FY 2023/24, the net revenue requirement is approximately $3.56 million. Current annual revenues are sufficient to cover annual operating expenditures, debt service payments and contribute to planned capital improvement costs. With the need to maintain healthy reserves, small rate increases are recommended.

Figure 13 summarizes the sources and uses of funds and net revenue requirements for the next five years and includes the recommended annual rate increases**. Figure 14** summarizes the utility's projected reserve funds and target balances.

FIGURE 13. SUMMARY OF WASTEWATER REVENUE REQUIREMENTS

Summary of Sources and Uses of Funds and Net Revenue Requirements		Prop 218 Rate Period				
	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Sources of Sewer Funds						
Rate Revenue Under Current Rates	$ 4,750,000	$ 4,750,000	$ 4,750,000	$ 4,750,000	$ 4,750,000	$ 4,750,000
Non-Rate Revenues	255,000	255,000	255,000	255,000	255,000	255,000
Interest Earnings	55,000	110,680	101,992	92,668	82,261	82,166
Total Sources of Funds	**$ 5,060,000**	**$ 5,115,680**	**$ 5,106,992**	**$ 5,097,668**	**$ 5,087,261**	**$ 5,087,166**
Uses of Sewer Funds						
Operating Expenses	$ 2,894,678	$ 2,965,791	$ 3,038,846	$ 3,113,899	$ 3,191,011	$ 3,270,241
Existing Debt Service	1,515,365	966,501	975,570	981,738	371,792	381,451
New Debt Service	-	-	-	-	-	-
Rate Funded Capital Expenses	868,000	-	-	215,413	886,287	500,743
Total Use of Funds	**$ 5,278,043**	**$ 3,932,292**	**$ 4,014,416**	**$ 4,311,050**	**$ 4,449,089**	**$ 4,152,435**
Surplus (Deficiency) before Rate Increase	**$ (218,043)**	**$ 1,183,389**	**$ 1,092,576**	**$ 786,617**	**$ 638,172**	**$ 934,731**
Additional Revenue from Rate Increases[1]	-	71,250	191,900	290,738	391,553	494,384
Surplus (Deficiency) after Rate Increase	**$ (218,043)**	**$ 1,254,639**	**$ 1,284,476**	**$ 1,077,355**	**$ 1,029,725**	**$ 1,429,115**
Increase in Rate Revenue Needed to Avoid Deficit	***0.00%***	***2.00%***	***2.00%***	***2.00%***	***2.00%***	***2.00%***
Cumulative Increases	*0.00%*	*2.00%*	*4.04%*	*6.12%*	*8.24%*	*10.41%*
Net Revenue Requirement[2]	**$ 4,968,043**	**$ 3,566,611**	**$ 3,657,424**	**$ 3,963,383**	**$ 4,111,828**	**$ 3,815,269**

1. Assumes new rates are implemented October 1, 2023.
2. Total Use of Funds less non-rate revenues and interest earnings. This is the annual amount needed from rates.

FIGURE 14. SUMMARY OF WASTEWATER RESERVE FUNDS

Beginning Reserve Fund Balances and Recommended Reserve Targets	Prop 218 Rate Period					
	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
Sewer Operating Reserve Fund						
Ending Balance	$ 713,756	$ 731,291	$ 749,304	$ 767,811	$ 786,825	$ 806,361
Recommended Minimum Target	*713,756*	*731,291*	*749,304*	*767,811*	*786,825*	*806,361*
Working Capital Reserve Fund						
Ending Balance	$ 3,736,807	$ 3,252,158	$ 2,732,820	$ 2,154,849	$ 2,130,711	$ 2,540,579
Recommended Minimum Target	*1,033,000*	*1,053,000*	*1,074,000*	*1,096,000*	*1,120,000*	*1,131,000*
System Reinvestment Reserve Fund						
Ending Balance	$ 750,000	$ 750,000	$ 750,000	$ 750,000	$ 750,000	$ 750,000
Recommended Minimum Target	*300,000*	*300,000*	*300,000*	*300,000*	*300,000*	*300,000*
Emergency Reserve Fund						
Ending Balance	$ 750,000	$ 750,000	$ 750,000	$ 750,000	$ 750,000	$ 750,000
Recommended Minimum Target	*300,000*	*300,000*	*300,000*	*300,000*	*300,000*	*300,000*
Total Ending Balance (Unrestricted)	**$ 5,950,563**	**$ 5,483,449**	**$ 4,982,125**	**$ 4,422,660**	**$ 4,417,535**	**$ 4,846,940**
Recommended Min. Target (Unrestricted)	***$ 2,346,756***	***$ 2,384,291***	***$ 2,423,304***	***$ 2,463,811***	***$ 2,506,825***	***$ 2,537,361***

A summary of the entire 10-year financial plan, showing revenue requirements, revenue sources (including rate revenue), and necessary rate increases is presented in Appendix C, along with a summary of the City's capital improvement program detail.

Cost of Service Analysis – Wastewater

The wastewater cost-of-service analysis is where annual revenue requirements are fairly and equitably allocated to customer classes. In contrast to the City's water customer classes, the wastewater customer classes are represented by type of customer: residential, multi-family, mobile home, and commercial.

The key factors used in the wastewater cost-of-service analysis include the estimated effluent (flow) going to the wastewater treatment plant, the effluent strengths (BOD and TSS), and customer-related costs (e.g., billing and administrative costs). Actual wastewater flow data from 2020 was used.

Figure 15 shows how the volume allocation factors were developed, which are the percentages of annual consumption and estimated flow by various types of customers.

FIGURE 15. SUMMARY OF ESTIMATED FLOW TO TREATMENT PLANT

Development of the VOLUME Allocation Factor[1]					
Customer Class	**Number of Accounts**	**June 21-Jan 22 Consumption (Tgal)**	**Annualized Consumption (Tgal)**	**Adjusted Annual Volume[2] (Tgal)**	**Percentage of Volume**
Single Family/Duplex	3,406	151,086	226,630	223,558	**46.81%**
Multi Family	207	26,633	96,496	95,188	**19.93%**
Mobile Home	2	23	78	77	**0.02%**
Commercial					
Class A Usage[3]	562	68,599	102,899	101,504	**21.25%**
Class B Usage[4]	14	20,468	30,702	30,285	**6.34%**
Class C Usage[5]	59	10,919	16,378	16,156	**3.38%**
Class D Usage[6]	33	6,768	10,152	10,015	**2.10%**
GV FLAT	37	558	838	826	**0.17%**
NID FLAT	51	0	0	0	**0.00%**
Total	**4,371**	**285,055**	**484,172**	**477,610**	**100.00%**
				477,610	*Flow (Tgal/yr.)*
				0.99	*Flow Adj. Factor*

1. Source files for accounts: *Billed Consumption Excel Export_manipulated.xlsx*
2. Adjusted annual volume based on wastewater treatment plant influent data for 2020 flow.
   Source file: *Annual Flow totals.xlsx*
3. Standard strength commercial customers include general, theaters, laundries, fairgrounds & dumping at WWTP.
4. Moderate strength commercial customers include hotels & motels.
5. High strength commercial customers include restaurants.
6. Class D commercial customers include schools.

Customer Class Effluent Strengths – Effluent strength factors for individual customer classes are estimated using the general industry guidelines[6]. The estimated effluent strengths by customer class are described below.

- Residential customers, including single-family, multi-family and mobile homes, are estimated to have BOD and TSS strength factors of 175 mg/l.

6 The State Water Resources Control Council (SWRCB) Revenue Program Guidelines, Appendix G, page G-21 "Commercial User Strength Characteristics," were used for this purpose.

- Commercial customers have strength factors ranging from lower to higher than residential users, reflecting four strength-related classes (A-, B-, C- and D-strength users).

Figure 16 summarizes the strength characteristics and allocation percentages of the utility's wastewater customer classes.

FIGURE 16. SUMMARY OF FLOW AND STRENGTH (BOD & TSS) CHARACTERISTICS BY CUSTOMER CLASS

Development of the STRENGTH Allocation Factor							
Customer Class	Adjusted Annual Flow (Tgal)	Biochemical Oxygen Demand (BOD)			Total Suspended Solids (TSS)		
		Average Strength Factor[3] (mg/l)	Calculated BOD (lbs./yr.)	Percent of Total	Average Strength Factor[3] (mg/l)	Calculated TSS (lbs./yr.)	Percent of Total
Single Family/Duplex	223,558	175	326,283	**40.8%**	175	326,283	**50.0%**
Multi Family	95,188	175	138,926	**17.4%**	175	138,926	**21.3%**
Mobile Home	77	175	113	**0.0%**	175	113	**0.0%**
Commercial							
Class A Usage[4]	101,504	130	110,051	**13.8%**	80	67,724	**10.4%**
Class B Usage[5]	30,285	310	78,300	**9.8%**	120	30,310	**4.6%**
Class C Usage[6]	16,156	1,000	134,742	**16.9%**	600	80,845	**12.4%**
Class D Usage[7]	10,015	130	10,858	**1.4%**	100	8,352	**1.3%**
Total	**476,784**		**799,274**	**100.0%**		**652,553**	**100.0%**

3. Typical strength factors for BOD and TSS are from the State Water Resources Control Board Revenue Program Guidelines, Appendix G
4. Standard strength commercial customers include general, theaters, laundries, fairgrounds & dumping at WWTP.
5. Moderate strength commercial customers include hotels & motels.
6. High strength commercial customers include restaurants.
7. Class D commercial customers include schools.

Figure 17 compares the total number of accounts and living units or EDUs (depending on how customers are billed) by customer class. **Figure 18** then summarizes the total rate revenue requirements by customer class resulting from the cost-of-service cost allocation process. Cost classification components include volume, strength-related (BOD and TSS) and customer-related costs and are represented both as a dollar amount and as a percentage of total net revenue requirements.

FIGURE 17. SUMMARY OF WASTEWATER CUSTOMER ACCOUNTS AND EDU'S

Development of the CUSTOMER Allocation Factor				
Customer Class	Number of Accounts[1]	Percentage of Accounts	Number of EDUs[1]	Percentage of Units
Single Family/Duplex	3,406	**77.9%**	3,542	**46.9%**
Multi Family	207	**4.7%**	2,465	**32.7%**
Mobile Home	2	**0.0%**	2	**0.0%**
Commercial				
Class A	562	**12.9%**	1,015	**13.4%**
Class B	14	**0.3%**	223	**3.0%**
Class C	59	**1.3%**	98	**1.3%**
Class D	33	**0.8%**	35	**0.5%**
GV FLAT	37	**0.8%**	59	**0.8%**
NID FLAT	51	**1.2%**	109	**1.4%**
Total	**4,371**	**100%**	**7,548**	**100%**

1. Source files for accounts: *Billed Consumption Excel Export_manipulated.xlsx*
   EDU - Equivalent Dwelling Unit

FIGURE 18. SUMMARY OF ADJUSTED RATE REVENUE REQUIREMENTS BY CUSTOMER CLASS

Customer Class	Cost Classification Components				Cost-of-Service Revenue Req't.	% of COS Revenue Req't.
	Volume	Treatment		Customer Related		
		BOD	TSS			
Net Revenue Requirements [1]	***$ 1,797,892***	***$ 967,892***	***$ 967,892***	***$ 1,111,957***	***$ 4,845,633***	--
	37.1%	*20.0%*	*20.0%*	*22.9%*	*100.0%*	
Single Family/Duplex	841,552	395,117	483,956	521,779	**2,242,404**	46.3%
Multi Family	358,320	168,235	206,061	363,124	**1,095,740**	22.6%
Mobile Home	291	136	167	295	**889**	0.0%
Commercial	-					
Class A Usage[2]	382,098	133,268	100,450	149,522	**765,338**	15.8%
Class B Usage[3]	114,005	94,819	44,957	32,851	**286,631**	5.9%
Class C Usage[4]	60,817	163,168	119,913	14,437	**358,335**	7.4%
Class D Usage[5]	37,698	13,148	12,388	5,156	**68,391**	1.4%
GV FLAT	3,110	-	-	8,737	**11,847**	0.2%
NID FLAT	-	-	-	16,057	**16,057**	0.3%
Total	**$ 1,797,892**	**$ 967,892**	**$ 967,892**	**$ 1,111,957**	**$ 4,845,633**	**100%**

1. Revenue requirement for each customer class is determined by multiplying the revenue requirement from each cost classification by the allocation factors for each customer class.
2. Standard strength commercial customers include general, theaters, laundries, fairgrounds & dumping at WWTP.
3. Moderate strength commercial customers include hotels & motels.
4. High strength commercial customers include restaurants.
5. Class D commercial customers include schools.

As shown in Figure 18, the total rate revenue expected to be collected in FY 2023/24 would be approximately $4.85 million. The cost allocation factors shown in Figure 15 through Figure 17 are used to calculate the amount of this revenue collected from fixed charges and volumetric rates.

How these costs are then collected from fixed and volumetric charges within each customer class is part of the rate design analysis, the third study component previously shown in Figure 1.

Current vs. Proposed Wastewater Rates

Currently, the City's wastewater rates consist of a fixed monthly account charge for all customers, and a volumetric rate for commercial customers only (based on commercial class). The proposed rates collect 17 percent of revenue requirements from volumetric rates (commercial only) and 83 percent from fixed charges.

Figure 19 shows the current and proposed wastewater rates through FY 2027/28.

FIGURE 19. CURRENT AND PROPOSED WASTEWATER RATES

Sewer Rate Schedule	Current Rates	Proposed Sewer Rates				
		FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28
FIXED MONTHLY CHARGES (per unit)						
Single Family/Duplex	$55.00	$52.76	$53.82	$54.90	$56.00	$57.12
Multi Family	$43.19	$37.04	$37.78	$38.54	$39.31	$40.10
Mobile Home	$31.66	$37.04	$37.78	$38.54	$39.31	$40.10
Commercial	$21.73	$32.62	$33.28	$33.95	$34.63	$35.32
NON-RESIDENTIAL VOLUMETRIC CHARGES PER TGAL [1]						
Commercial						
Class A Usage[2]	$4.43	$4.52	$4.61	$4.70	$4.79	$4.89
Class B Usage[3]	$5.34	$5.68	$5.79	$5.91	$6.03	$6.15
Class C Usage[4]	$9.42	$13.31	$13.58	$13.85	$14.13	$14.41
Class D Usage[5]	$3.96	$4.10	$4.18	$4.26	$4.35	$4.44

1. Tgal = thousand gallon, or 1,000 gallons
2. Standard strength commercial customers include general, theaters, laundries, fairgrounds & dumping at WWTP.
3. Moderate strength commercial customers include hotels & motels.
4. High strength commercial customers include restaurants.
5. Class D commercial customers include schools.

SINGLE-FAMILY WASTEWATER CUSTOMERS

Figure 20 compares typical single-family monthly wastewater bills in adjusted rate plan.

Figure 21 compares typical single-family monthly wastewater bills with other communities.

Figure 22 compares total water and wastewater bills for single-family monthly customers with other communities.

FIGURE 20. MONTHLY SINGLE-FAMILY WASTEWATER BILL COMPARISON

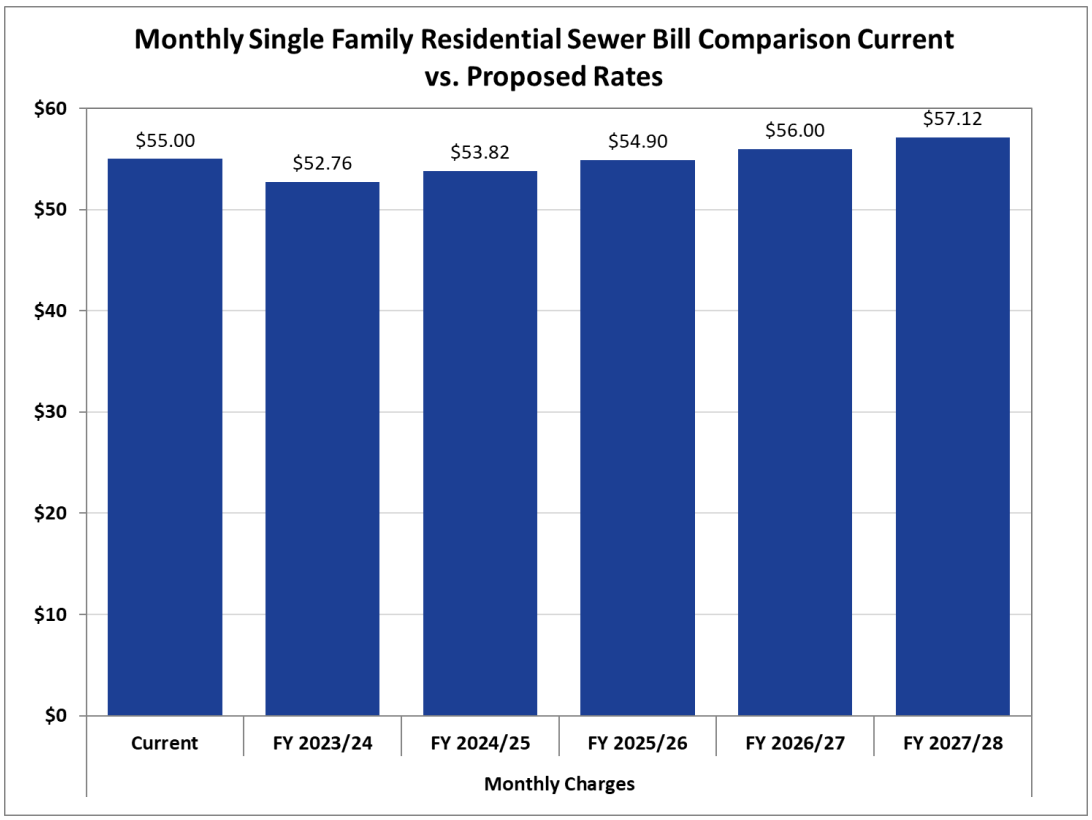


FIGURE 21. MONTHLY SINGLE-FAMILY WASTEWATER BILL COMPARISON WITH OTHER COMMUNITIES

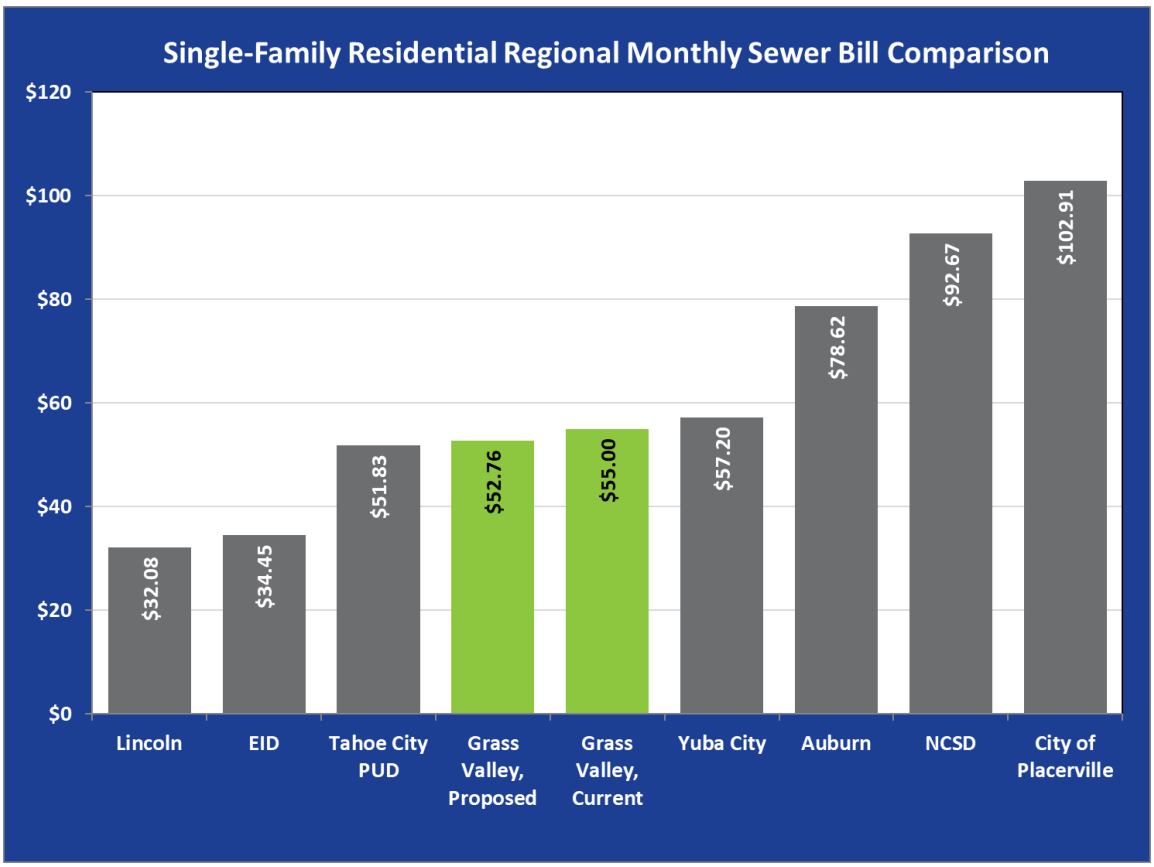
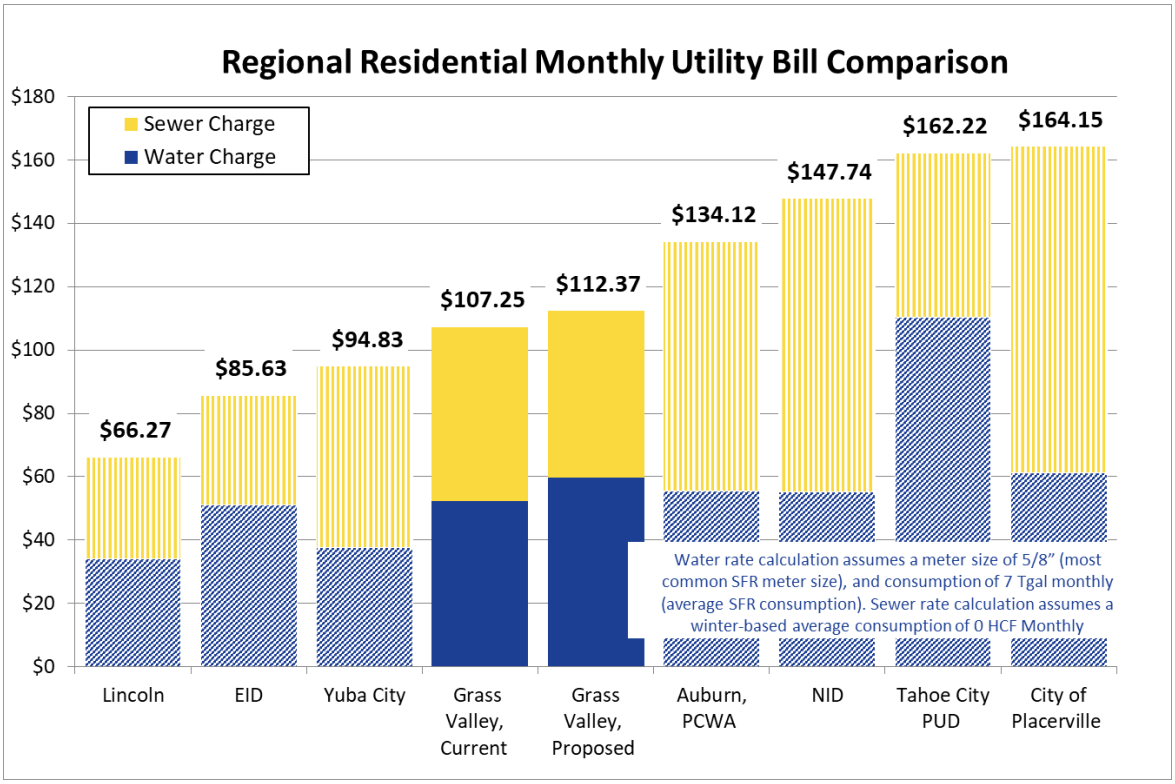


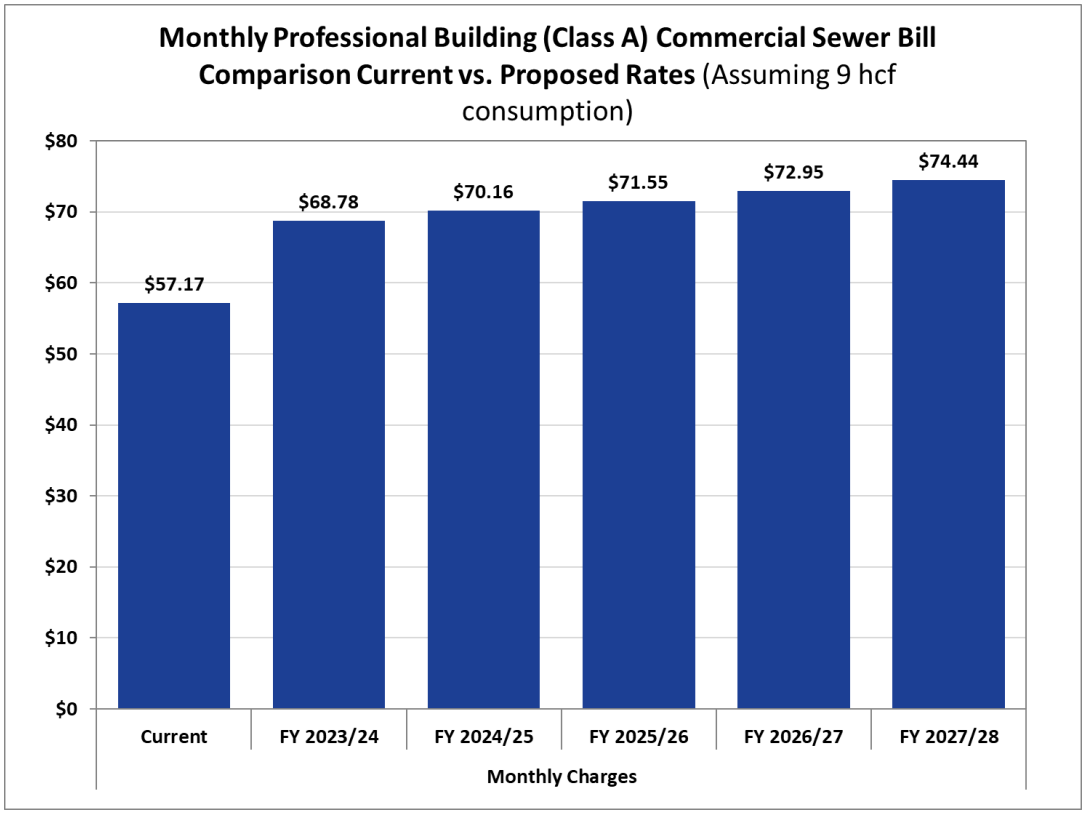
FIGURE 22. MONTHLY SINGLE-FAMILY WASTEWATER BILL COMPARISON WITH OTHER COMMUNITIES



COMMERCIAL WASTEWATER CUSTOMERS

Figure 23 compares typical class A-strength commercial monthly wastewater bills in year one of the adjusted rate plan, assuming the average 9 hcf monthly consumption.

FIGURE 23. MONTHLY CLASS A-STRENGTH COMMERCIAL WASTEWATER BILL COMPARISON



Section 5. RECOMMENDATIONS AND NEXT STEPS

Consultant Recommendations

This rate study reflects input from City staff and the City Council and is intended to comply with general industry standards and meet the requirements of Proposition 218. Public hearings and protest balloting requirements. Below are the next steps required to complete the adoption and implementation requirements. As a part of this process, NBS recommends the City take the following actions:

- **Implement Recommended Levels of Rate Increases and Proposed Rates**: Based on successfully meeting the Proposition 218 balloting requirements, the City Council should proceed with implementing the rate increases and rate structures recommended in this report for both utilities for the next five years. These rate increases are necessary to ensure the continued financial health of the City's water and wastewater utilities, although maintaining the financial health of the water and wastewater utilities will be an ongoing process.
- **Adopt Reserve Fund Targets**: NBS recommends the City Council adopt and strive to meet the recommended reserve fund targets described in this report for each utility. The City should periodically evaluate reserve fund levels with the intent of achieving long-term goals.

Next Steps

ANNUALLY REVIEW RATES AND REVENUE

Any time an agency adopts new utility rates, particularly when facing significant capital costs and recent unforeseen expenditures, those new rates should be closely monitored over the next several years to ensure the revenue generated is sufficient to meet the annual revenue requirements. Changing economic and drought-related consumption patterns underscore the need for this review, as well as potential and unseen changing revenue requirements, particularly those related to capital improvement and repair and replacement costs that can significantly affect annual cash flows.

PRINCIPAL ASSUMPTIONS AND CONSIDERATIONS

In preparing this report and the recommendations included herein, NBS has relied on a number of principal assumptions and considerations with regard to financial matters, including the City's utility budgets, capital improvement plans, the number of customer accounts, water consumption records, and other conditions and events projected to occur in the future. This information and these assumptions were provided by sources we believe to be reliable, although NBS has not independently verified this data.

While we believe NBS' use of such information and assumptions is reasonable for the purpose of this report and its recommendations, some assumptions will invariably not materialize as stated herein or may vary significantly due to unanticipated events and circumstances. Therefore, the actual results can be expected to vary from those projected to the extent that actual future conditions differ from those assumed by us or provided to us by others.

Section 6. APPENDIX A - ABBREVIATIONS & ACRONYMS[7]

AAF	Average Annual Flow
AF	Acre Foot, equal to 435.6 HCF/CCF or 325,851 gallons
Alt.	Alternative
Avg.	Average
AWWA	American Water Works Association
BMP	Best Management Practice
BOD	Biochemical Oxygen Demand
CA	Customer
CAP	Capacity
CCF	Hundred Cubic Feet (same as HCF); equal to 748 gallons
CCI	Construction Cost Index
COD	Chemical Oxygen Demand
COM	Commodity
Comm.	Commercial
COS	Cost of Service
COSA	Cost of Service Analysis
CPI	Consumer Price Index
CIP	Capital Improvement Program
DU	Dwelling Unit
Excl.	Exclude
ENR	Engineering News Record
EDU	Equivalent Dwelling Unit
Exp.	Expense
FP	Fire Protection
FY	Fiscal Year (e.g., July 1st to June 30th)
FY 2022/23	July 1, 2022 through June 30, 2023
GPD	Gallons per Day
GPM	Gallons per Minute
HCF	Hundred Cubic Feet; equal to 748 gallons or 1 CCF
Ind.	Industrial
Irr.	Irrigation
LAIF	Local Agency Investment Fund
Lbs.	Pounds
MFR	Multi-Family Residential
MGD	Million Gallons per Day
MG/L	Milligrams per Liter
Mo.	Month
Muni.	Municipal
NH3	Ammonia
NPV	Net Present Value
N/A	Not Available or Not Applicable
O&M	Operational & Maintenance Expenses
Prop 13	Proposition 13 (1978) – Article XIIIA of the California Constitution which limits taxes on real property to 1% of the full cash value of such property.
Prop 218	Proposition 218 (1996) – State Constitutional amendment expanded restrictions of local government revenue collections.
Req't	Requirement
Res.	Residential

[7] *This appendix identifies abbreviations and acronyms that may be used in this report. This appendix has not been viewed, arranged, or edited by an attorney, nor should it be relied on as legal advice. The intent of this appendix is to support the recognition and analysis of this report. Any questions regarding clarification of this document should be directed to staff or an attorney specializing in this particular subject matter.*

Rev.	Revenue
RTS	Readiness-to-Serve
R&R	Rehabilitation & Replacement
SFR	Single Family Residential
SRF Loan	State Revolving Fund Loan
SWRCB	State Water Resources Control Council
TSS / SS	Total Suspended Solids
V. / Vs. /vs.	Versus
WWTP	Wastewater Treatment Plant

Section 7. APPENDIX B – WATER RATE SUMMARY TABLES

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Section 8. APPENDIX C – WASTEWATER RATE SUMMARY TABLES