



# CITY OF GRASS VALLEY

*Draft Report*

## Water and Wastewater Rate Studies

May 2023

### OFFICE LOCATIONS:

**Temecula – Corporate Headquarters**  
32605 Temecula Parkway, Suite 100  
Temecula, CA 92592

**San Francisco – Regional Office**  
870 Market Street, Suite 1223  
San Francisco, CA 94102

**California Satellite Offices**  
Atascadero, Davis  
Huntington Beach,  
Joshua Tree, Riverside  
Sacramento, San Jose

Prepared by:



[www.nbsgov.com](http://www.nbsgov.com)

*This page left blank intentionally.*

# TABLE OF CONTENTS

---

|   |           |
|---|-----------|
| <b>Section 1. Executive Summary .....</b>                 | <b>1</b>  |
| Background and Purpose .....                              | 1         |
| Key Findings.....   | 1         |
| Study Recommendations .....                               | 1         |
| <b>Section 2. Overview of the Study Methodology .....</b> | <b>2</b>  |
| Rate Design Criteria.....                                 | 2         |
| Rate Structure Terminology .....                          | 3         |
| <b>Section 3. Water Rate Study.....</b>                   | <b>5</b>  |
| Developing Recommended Water Rates .....                  | 5         |
| Water Utility Revenue Requirements .....                  | 5         |
| Characteristics of Water Customers by Class.....          | 7         |
| Cost of Service Analysis – Water .....                    | 10        |
| Current vs. Proposed Water Rate Structures.....           | 12        |
| Comparison of Current and Proposed Monthly Bills .....    | 13        |
| <b>Section 4. Wastewater Rate Study.....</b>              | <b>17</b> |
| Developing Recommended Wastewater Rates .....             | 17        |
| Wastewater Utility Revenue Requirements.....              | 17        |
| Cost of Service Analysis – Wastewater .....               | 19        |
| Current vs. Proposed Wastewater Rates .....               | 22        |
| <b>Section 5. RECOMMENDATIONS AND NEXT STEPS .....</b>    | <b>26</b> |
| Consultant Recommendations.....                           | 26        |
| Next Steps.....   | 26        |

|                   |  |           |
|-------------------|--|-----------|
| <b>Section 6.</b> | <b>Appendix A - ABBREVIATIONS &amp; ACRONYMS .....</b>   | <b>27</b> |
| <b>Section 7.</b> | <b>Appendix B – Water Rate Summary Tables .....</b>      | <b>29</b> |
| <b>Section 8.</b> | <b>Appendix C – Wastewater Rate Summary Tables .....</b> | <b>31</b> |

*This page left blank intentionally.*

# TABLE OF FIGURES

|   |    |
|---|----|
| Figure 1. Primary Components of a Rate Study .....  | 2  |
| Figure 2. Summary of Water Revenue Requirements.....  | 7  |
| Figure 3. Summary of Water Reserve Funds .....  | 7  |
| Figure 4. Water Consumption by Customer Class .....   | 8  |
| Figure 5. Peaking Factors by Customer Class .....   | 9  |
| Figure 6. Number of Accounts by Customer Class .....  | 10 |
| Figure 7. Summary of Fixed and Variable Rate Revenue Requirements.....                      | 11 |
| Figure 8. Summary of Adjusted Rate Revenue Requirements by Customer Class.....              | 12 |
| Figure 9. Current and Proposed Water Rates Fiscal Year 2022/23 – 2026/27.....               | 13 |
| Figure 10. Monthly Water Bill Comparison for SFR Customers.....                             | 14 |
| Figure 11. Monthly Water Bill Comparison with Other Communities .....                       | 15 |
| Figure 12. Monthly Water Bill Comparison for Commercial Users .....                         | 16 |
| Figure 13. Summary of Wastewater Revenue Requirements .....                                 | 18 |
| Figure 14. Summary of Wastewater Reserve Funds .....  | 18 |
| Figure 15. Summary of Estimated Flow to Treatment Plant .....                               | 19 |
| Figure 16. Summary of Flow and Strength (BOD & TSS) Characteristics by Customer Class ..... | 20 |
| Figure 17. Summary of Wastewater customer Accounts and EDU's .....                          | 21 |
| Figure 18. Summary of Adjusted Rate Revenue Requirements by Customer Class.....             | 21 |
| Figure 19. Current and Proposed Wastewater Rates.....                                       | 22 |
| Figure 20. Monthly Single-Family Wastewater Bill Comparison .....                           | 23 |
| Figure 21. Monthly Single-Family Wastewater Bill Comparison with Other Communities .....    | 24 |
| Figure 22. Monthly Single-Family Wastewater Bill Comparison with Other Communities .....    | 24 |
| Figure 23. Monthly CLASS A-Strength Commercial Wastewater Bill Comparison .....             | 25 |

*This page left blank intentionally.*

# 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:

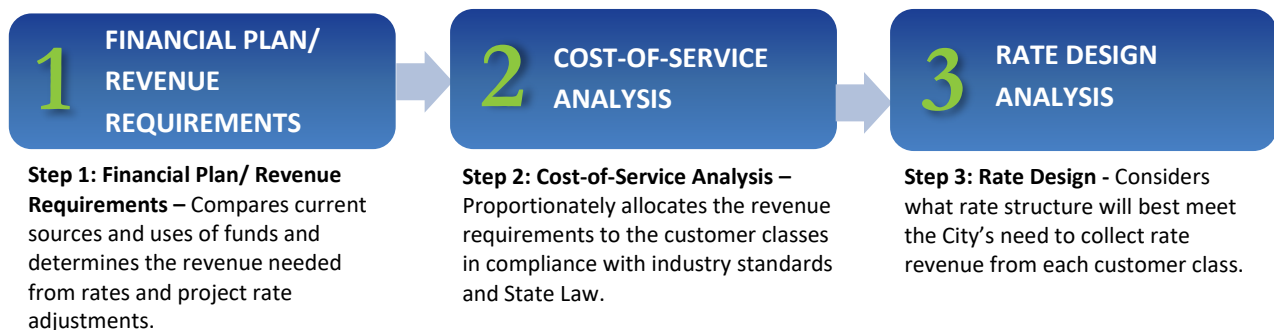
- Conduct a legal review of the proposed rates.
- Proceed with Prop 218 noticing requirements and 45-day protest period.
- Assuming a successful Prop 218 process (that is, there is no majority protest of the rates), adopt the rates summarized in this report.



## 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<sup>1</sup>, 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**



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*

<sup>1</sup> *Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, seventh edition, 2017.*

*Public Utility Rates*<sup>2</sup>, 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.<sup>3</sup> 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.

---

<sup>2</sup> 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.

<sup>3</sup> 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<sup>4</sup>:** 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<sup>5</sup> 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:

---

<sup>4</sup> 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.

<sup>5</sup> 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** 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              | Projected           |                     |                     |                     |                     |
|---|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|   | FY 2022/23          | FY 2023/24          | FY 2024/25          | FY 2025/26          | FY 2026/27          | FY 2027/28          |
| <b>Sources of Water Funds</b>                                     |                     |                     |                     |                     |                     |                     |
| 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             |
| <b>Projected Annual Rate Increase</b>                             | <b>0.00%</b>        | <b>7.00%</b>        | <b>7.00%</b>        | <b>7.00%</b>        | <b>7.00%</b>        | <b>7.00%</b>        |
| 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              |
| <b>Total Sources of Funds</b>                                     | <b>\$ 2,337,150</b> | <b>\$ 2,451,870</b> | <b>\$ 2,655,980</b> | <b>\$ 2,829,799</b> | <b>\$ 3,011,298</b> | <b>\$ 3,206,663</b> |
| <b>Uses of Water Funds</b>  |                     |                     |                     |                     |                     |                     |
| 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             |
| <b>Total Use of Funds</b>   | <b>\$ 2,298,418</b> | <b>\$ 2,042,204</b> | <b>\$ 2,121,614</b> | <b>\$ 2,206,118</b> | <b>\$ 2,296,057</b> | <b>\$ 3,075,723</b> |
| <b>Surplus (Deficiency) after Rate Increase</b>                   | <b>\$ 38,732</b>    | <b>\$ 409,666</b>   | <b>\$ 534,366</b>   | <b>\$ 623,681</b>   | <b>\$ 715,240</b>   | <b>\$ 130,940</b>   |
| <i>Cumulative Rate Increases</i>                                  | <i>0.00%</i>        | <i>7.00%</i>        | <i>14.49%</i>       | <i>22.50%</i>       | <i>31.08%</i>       | <i>40.26%</i>       |
| <b>Surplus (Deficiency) before Rate Increase</b>                  | <b>\$ 38,732</b>    | <b>\$ 294,166</b>   | <b>\$ 215,586</b>   | <b>\$ 128,586</b>   | <b>\$ 31,489</b>    | <b>\$ (754,674)</b> |
| <b>Net Revenue Requirement <sup>2</sup></b>                       | <b>\$ 2,181,268</b> | <b>\$ 1,925,834</b> | <b>\$ 2,004,414</b> | <b>\$ 2,091,414</b> | <b>\$ 2,188,511</b> | <b>\$ 2,974,674</b> |

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

## 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** , peaking factors in **Figure** , and the total number of accounts in **Figure** .

**FIGURE 4. WATER CONSUMPTION BY CUSTOMER CLASS**

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

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

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 <sup>1</sup> | Percent of Total Accounts |
| <u>Single Family Residential</u>              |                               |                           |
| 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%                      |
| <u>Multi Family Residential</u>               |                               |                           |
| 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%                      |
| <u>Mobile Home</u>                            |                               |                           |
| 5/8-inch meter                                | 1                             | 0.0%                      |
| <u>Commercial</u>                             |                               |                           |
| 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%                      |
| <u>Fire Meter</u>                             |                               |                           |
| 2-inch fire meter                             | 0                             | 0.0%                      |
| 4-inch fire meter                             | 0                             | 0.0%                      |
| Compound Meter                                | 8                             | 0.3%                      |
| <b>Total</b>                                  | <b>2,491</b>                  | <b>100.0%</b>             |

1. Meter Count is from November 2021.

## Cost of Service Analysis – Water

As previously noted in Figure , 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** , 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<br>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%       |
| <b>Total</b>                      | <b>\$ 2,354,000</b>   | <b>100%</b> |

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 through Figure , as follows:

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

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

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

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

## 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** 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**

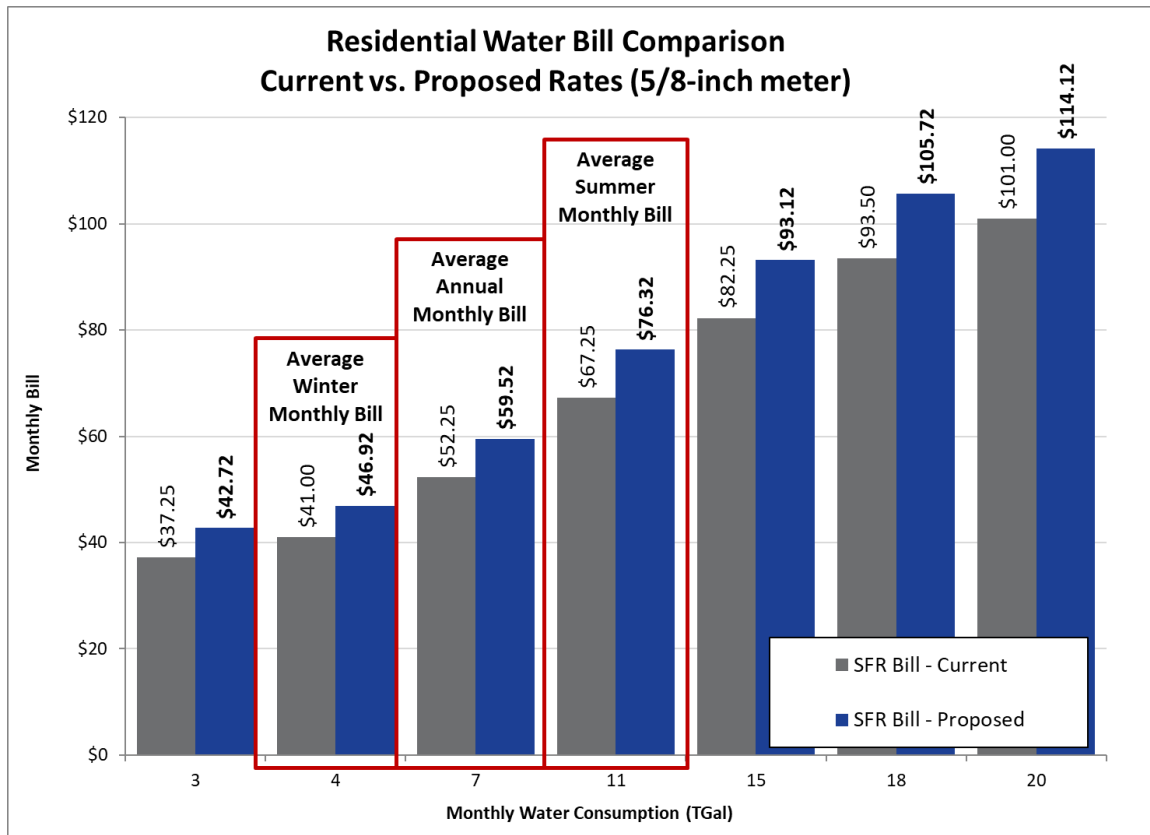
| Water Rate Schedule              | Current Rates | Proposed Rates |            |            |            |            |
|----------------------------------|---------------|----------------|------------|------------|------------|------------|
|                                  |               | FY 2023/24     | 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

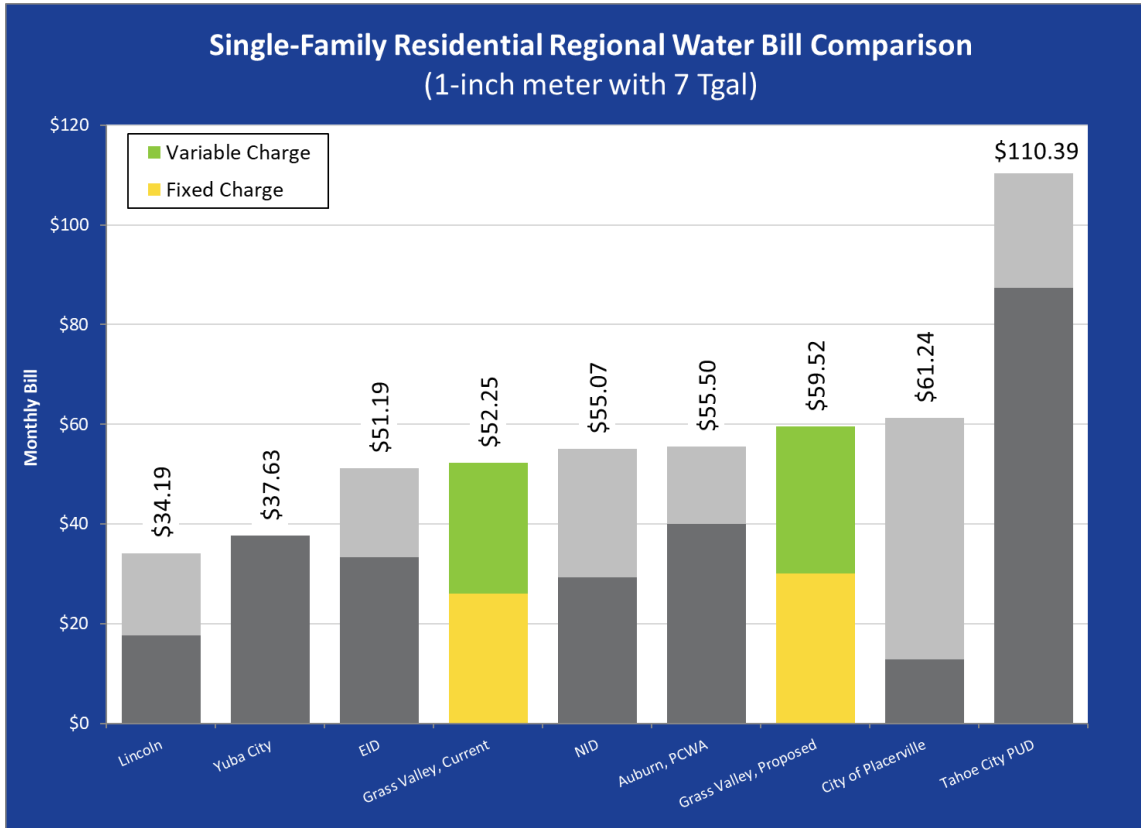
### SINGLE-FAMILY WATER CUSTOMERS

**Figure** 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** compares current and proposed typical single-family monthly water bills to other communities.

**FIGURE 10. MONTHLY WATER BILL COMPARISON FOR SFR CUSTOMERS**



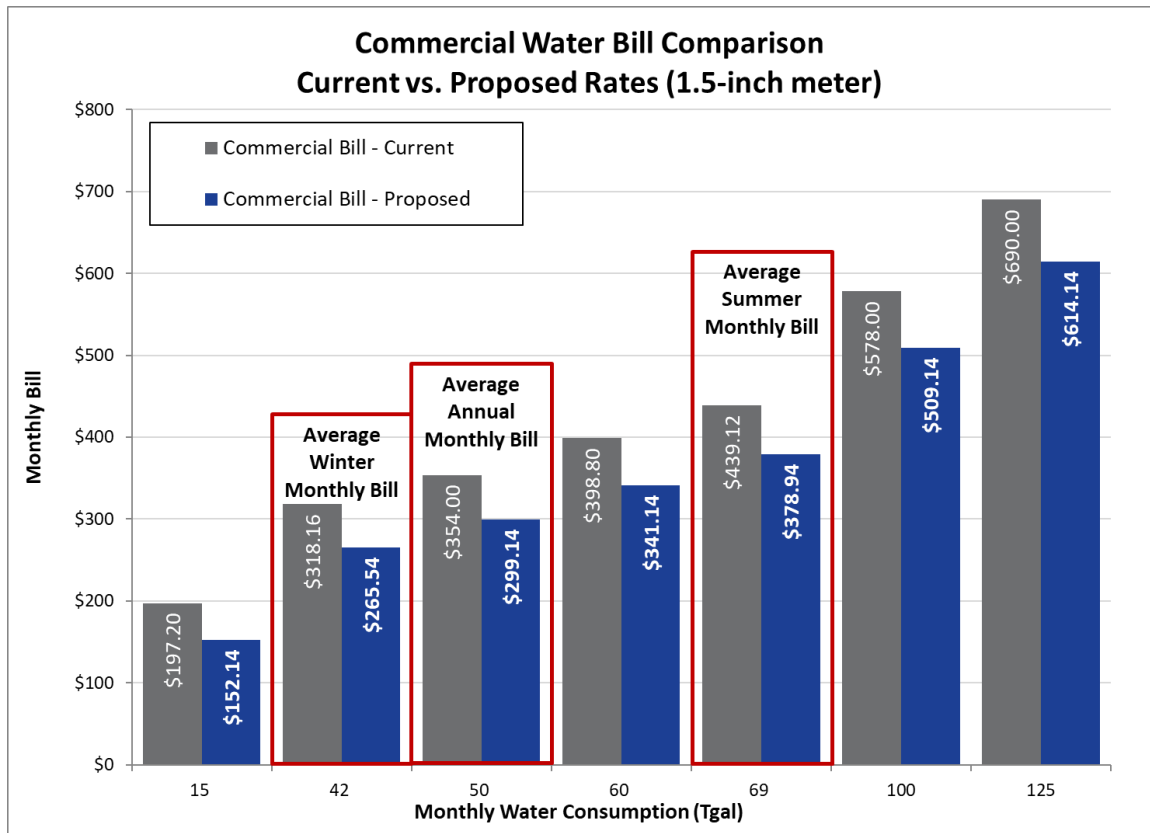
**FIGURE 11. MONTHLY WATER BILL COMPARISON WITH OTHER COMMUNITIES**



### 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** 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** summarizes the sources and uses of funds and net revenue requirements for the next five years and includes the recommended annual rate increases. **Figure** 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          |
| <b>Sources of Sewer Funds</b>                                     |                      |                     |                     |                     |                     |                     |
| 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              |
| <b>Total Sources of Funds</b>                                     | <b>\$ 5,060,000</b>  | <b>\$ 5,115,680</b> | <b>\$ 5,106,992</b> | <b>\$ 5,097,668</b> | <b>\$ 5,087,261</b> | <b>\$ 5,087,166</b> |
| <b>Uses of Sewer Funds</b>  |                      |                     |                     |                     |                     |                     |
| 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             |
| <b>Total Use of Funds</b>   | <b>\$ 5,278,043</b>  | <b>\$ 3,932,292</b> | <b>\$ 4,014,416</b> | <b>\$ 4,311,050</b> | <b>\$ 4,449,089</b> | <b>\$ 4,152,435</b> |
| <b>Surplus (Deficiency) before Rate Increase</b>                  | <b>\$ (218,043)</b>  | <b>\$ 1,183,389</b> | <b>\$ 1,092,576</b> | <b>\$ 786,617</b>   | <b>\$ 638,172</b>   | <b>\$ 934,731</b>   |
| Additional Revenue from Rate Increases <sup>1</sup>               | -                    | 71,250              | 191,900             | 290,738             | 391,553             | 494,384             |
| <b>Surplus (Deficiency) after Rate Increase</b>                   | <b>\$ (218,043)</b>  | <b>\$ 1,254,639</b> | <b>\$ 1,284,476</b> | <b>\$ 1,077,355</b> | <b>\$ 1,029,725</b> | <b>\$ 1,429,115</b> |
| <b>Increase in Rate Revenue Needed to Avoid Deficit</b>           | <b>0.00%</b>         | <b>2.00%</b>        | <b>2.00%</b>        | <b>2.00%</b>        | <b>2.00%</b>        | <b>2.00%</b>        |
| <b>Cumulative Increases</b>                                       | <b>0.00%</b>         | <b>2.00%</b>        | <b>4.04%</b>        | <b>6.12%</b>        | <b>8.24%</b>        | <b>10.41%</b>       |
| <b>Net Revenue Requirement<sup>2</sup></b>                        | <b>\$ 4,968,043</b>  | <b>\$ 3,566,611</b> | <b>\$ 3,657,424</b> | <b>\$ 3,963,383</b> | <b>\$ 4,111,828</b> | <b>\$ 3,815,269</b> |

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          |
| <b>Sewer Operating Reserve Fund</b>                             |                      |                     |                     |                     |                     |                     |
| Ending Balance  | \$ 713,756           | \$ 731,291          | \$ 749,304          | \$ 767,811          | \$ 786,825          | \$ 806,361          |
| <i>Recommended Minimum Target</i>                               | <i>713,756</i>       | <i>731,291</i>      | <i>749,304</i>      | <i>767,811</i>      | <i>786,825</i>      | <i>806,361</i>      |
| <b>Working Capital Reserve Fund</b>                             |                      |                     |                     |                     |                     |                     |
| Ending Balance  | \$ 3,736,807         | \$ 3,252,158        | \$ 2,732,820        | \$ 2,154,849        | \$ 2,130,711        | \$ 2,540,579        |
| <i>Recommended Minimum Target</i>                               | <i>1,033,000</i>     | <i>1,053,000</i>    | <i>1,074,000</i>    | <i>1,096,000</i>    | <i>1,120,000</i>    | <i>1,131,000</i>    |
| <b>System Reinvestment Reserve Fund</b>                         |                      |                     |                     |                     |                     |                     |
| Ending Balance  | \$ 750,000           | \$ 750,000          | \$ 750,000          | \$ 750,000          | \$ 750,000          | \$ 750,000          |
| <i>Recommended Minimum Target</i>                               | <i>300,000</i>       | <i>300,000</i>      | <i>300,000</i>      | <i>300,000</i>      | <i>300,000</i>      | <i>300,000</i>      |
| <b>Emergency Reserve Fund</b>                                   |                      |                     |                     |                     |                     |                     |
| Ending Balance  | \$ 750,000           | \$ 750,000          | \$ 750,000          | \$ 750,000          | \$ 750,000          | \$ 750,000          |
| <i>Recommended Minimum Target</i>                               | <i>300,000</i>       | <i>300,000</i>      | <i>300,000</i>      | <i>300,000</i>      | <i>300,000</i>      | <i>300,000</i>      |
| <b>Total Ending Balance (Unrestricted)</b>                      | <b>\$ 5,950,563</b>  | <b>\$ 5,483,449</b> | <b>\$ 4,982,125</b> | <b>\$ 4,422,660</b> | <b>\$ 4,417,535</b> | <b>\$ 4,846,940</b> |
| <b>Recommended Min. Target (Unrestricted)</b>                   | <b>\$ 2,346,756</b>  | <b>\$ 2,384,291</b> | <b>\$ 2,423,304</b> | <b>\$ 2,463,811</b> | <b>\$ 2,506,825</b> | <b>\$ 2,537,361</b> |

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

<sup>6</sup> 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** 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 <sup>3</sup> (mg/l) | Calculated BOD (lbs./yr.) | Percent of Total | Average Strength Factor <sup>3</sup> (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 <sup>4</sup>                    | 101,504                     | 130   | 110,051                   | 13.8%            | 80  | 67,724                    | 10.4%            |
| Class B Usage <sup>5</sup>                    | 30,285                      | 310   | 78,300                    | 9.8%             | 120   | 30,310                    | 4.6%             |
| Class C Usage <sup>6</sup>                    | 16,156                      | 1,000                                       | 134,742                   | 16.9%            | 600   | 80,845                    | 12.4%            |
| Class D Usage <sup>7</sup>                    | 10,015                      | 130   | 10,858                    | 1.4%             | 100   | 8,352                     | 1.3%             |
| <b>Total</b>                                  | <b>476,784</b>              |   | <b>799,274</b>            | <b>100.0%</b>    |   | <b>652,553</b>            | <b>100.0%</b>    |

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** compares the total number of accounts and living units or EDUs (depending on how customers are billed) by customer class. **Figure** 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 <sup>1</sup> | Percentage of Accounts | Number of EDUs <sup>1</sup> | 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%                |
| <b>Total</b>                                  | <b>4,371</b>                    | <b>100%</b>            | <b>7,548</b>                | <b>100%</b>         |

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 <sup>1</sup> | \$ 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 <sup>2</sup>            | 382,098                        | 133,268    | 100,450    | 149,522          | 765,338                        | 15.8%                   |
| Class B Usage <sup>3</sup>            | 114,005                        | 94,819     | 44,957     | 32,851           | 286,631                        | 5.9%                    |
| Class C Usage <sup>4</sup>            | 60,817                         | 163,168    | 119,913    | 14,437           | 358,335                        | 7.4%                    |
| Class D Usage <sup>5</sup>            | 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 , 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 through Figure 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 .

## 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** 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 T GAL <sup>1</sup> |               |                      |            |            |            |            |
| Commercial  |               |                      |            |            |            |            |
| Class A Usage <sup>2</sup>                                | \$4.43        | \$4.52               | \$4.61     | \$4.70     | \$4.79     | \$4.89     |
| Class B Usage <sup>3</sup>                                | \$5.34        | \$5.68               | \$5.79     | \$5.91     | \$6.03     | \$6.15     |
| Class C Usage <sup>4</sup>                                | \$9.42        | \$13.31              | \$13.58    | \$13.85    | \$14.13    | \$14.41    |
| Class D Usage <sup>5</sup>                                | \$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.

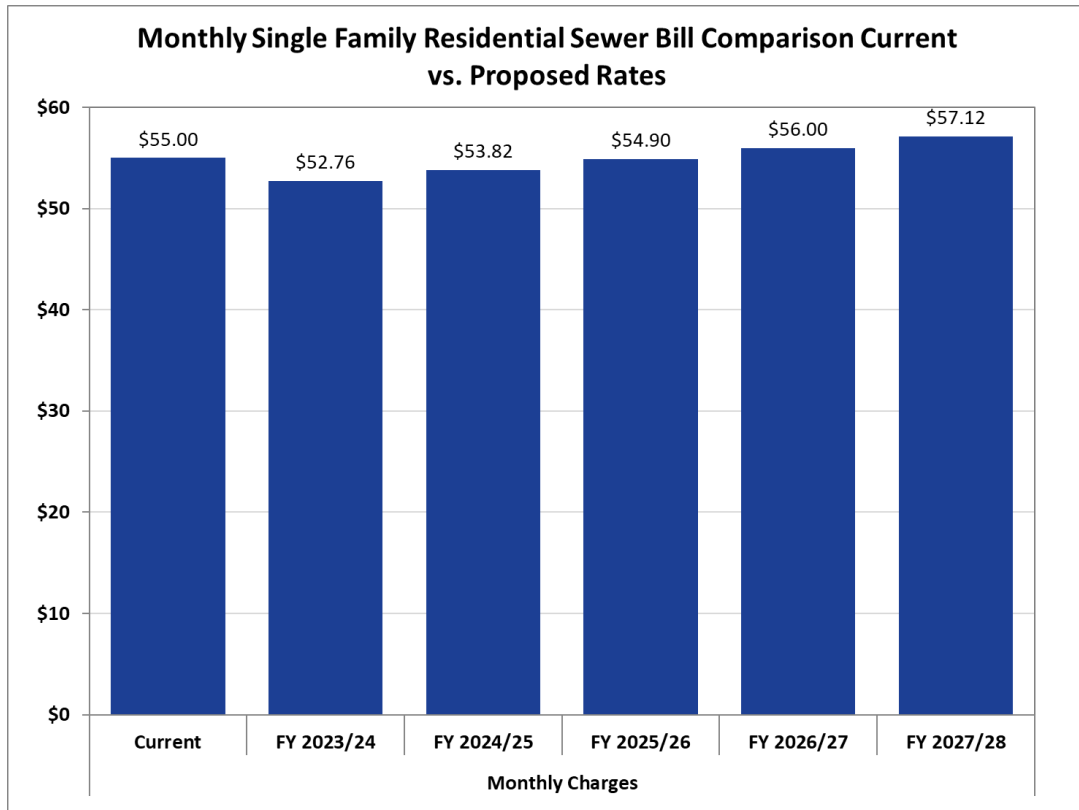
3. Moderate strength commercial customers include hotels & motels.

4. High strength commercial customers include restaurants.

5. Class D commercial customers include schools.

## SINGLE-FAMILY WASTEWATER CUSTOMERS

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



**Figure** 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

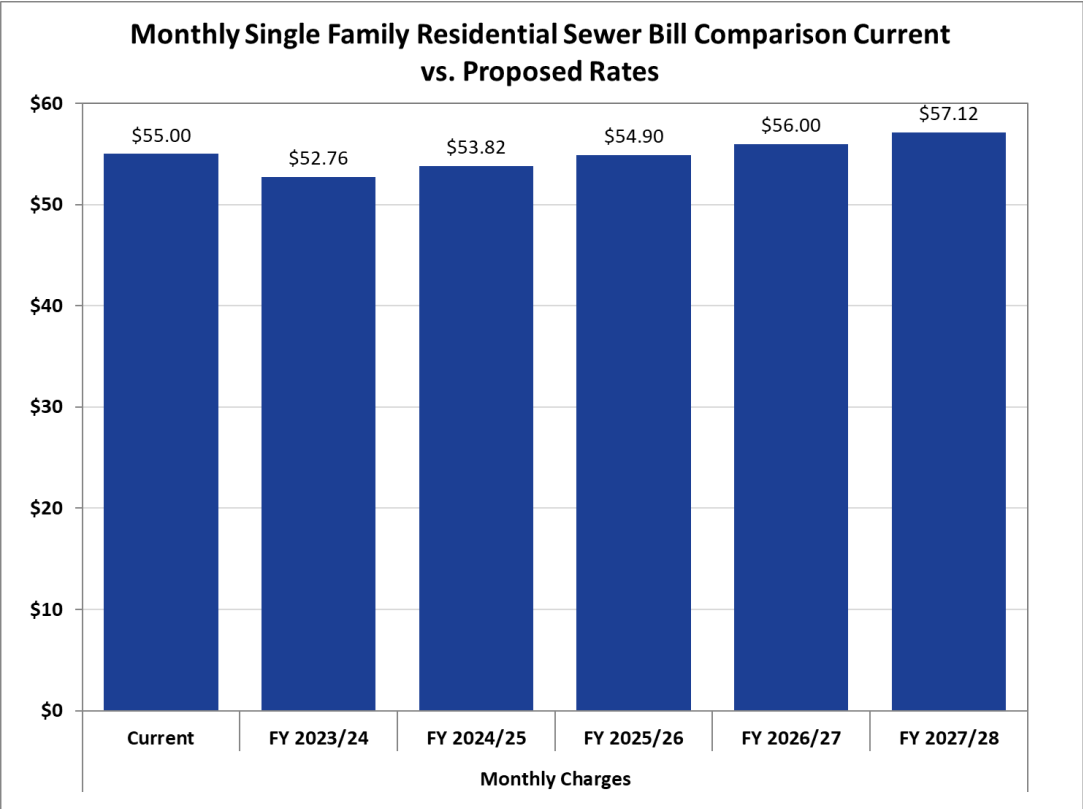


FIGURE 21. MONTHLY SINGLE-FAMILY WASTEWATER BILL COMPARISON WITH OTHER COMMUNITIES

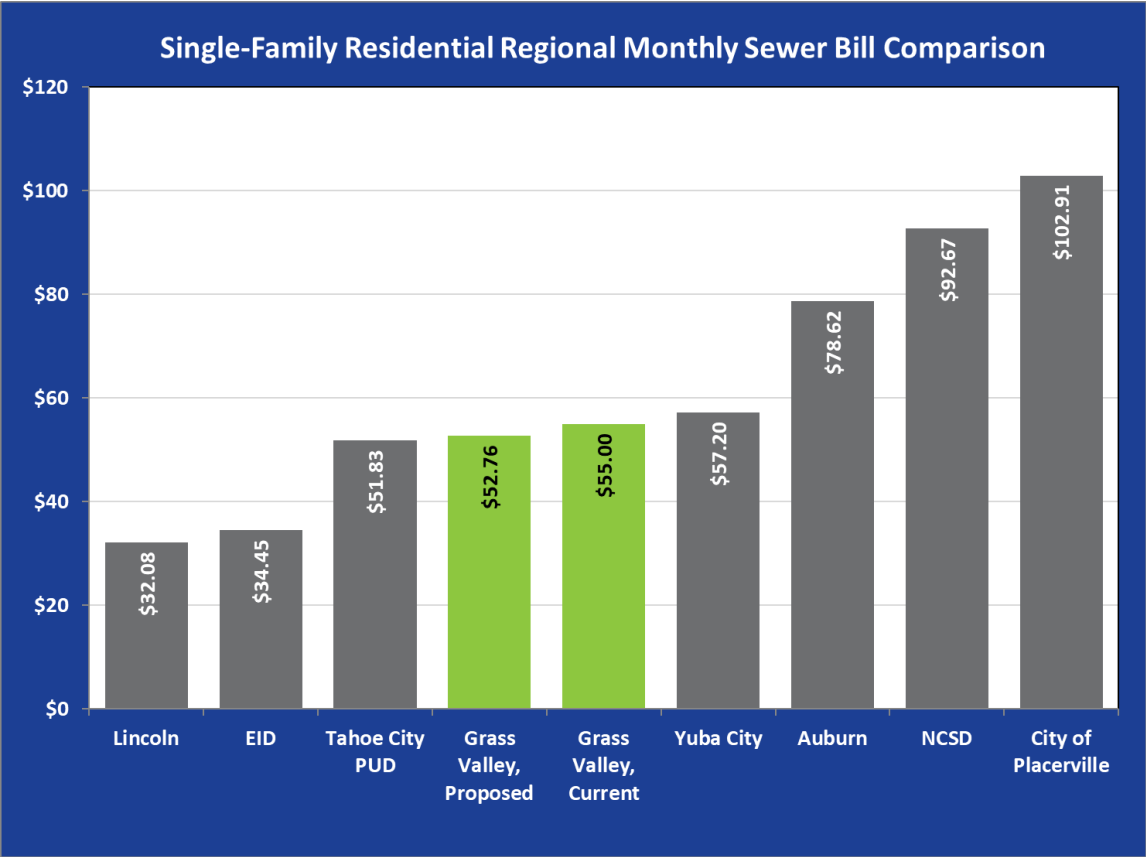
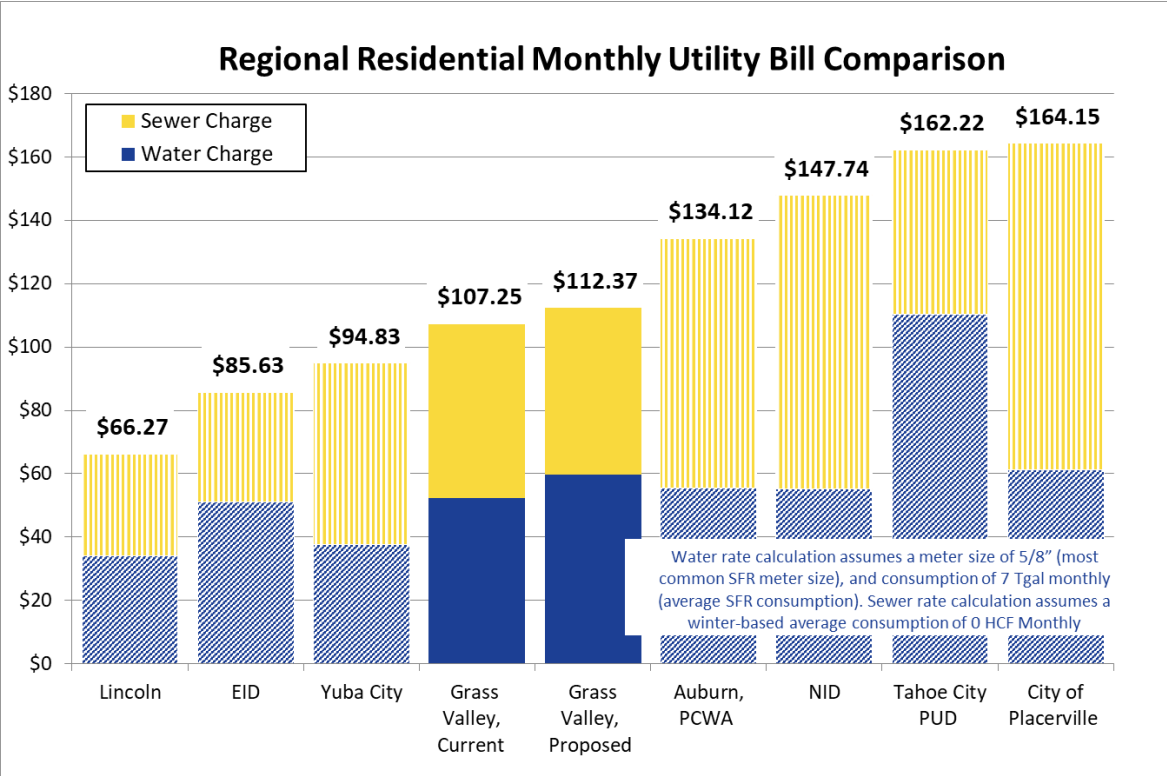


FIGURE 22. MONTHLY SINGLE-FAMILY WASTEWATER BILL COMPARISON WITH OTHER COMMUNITIES

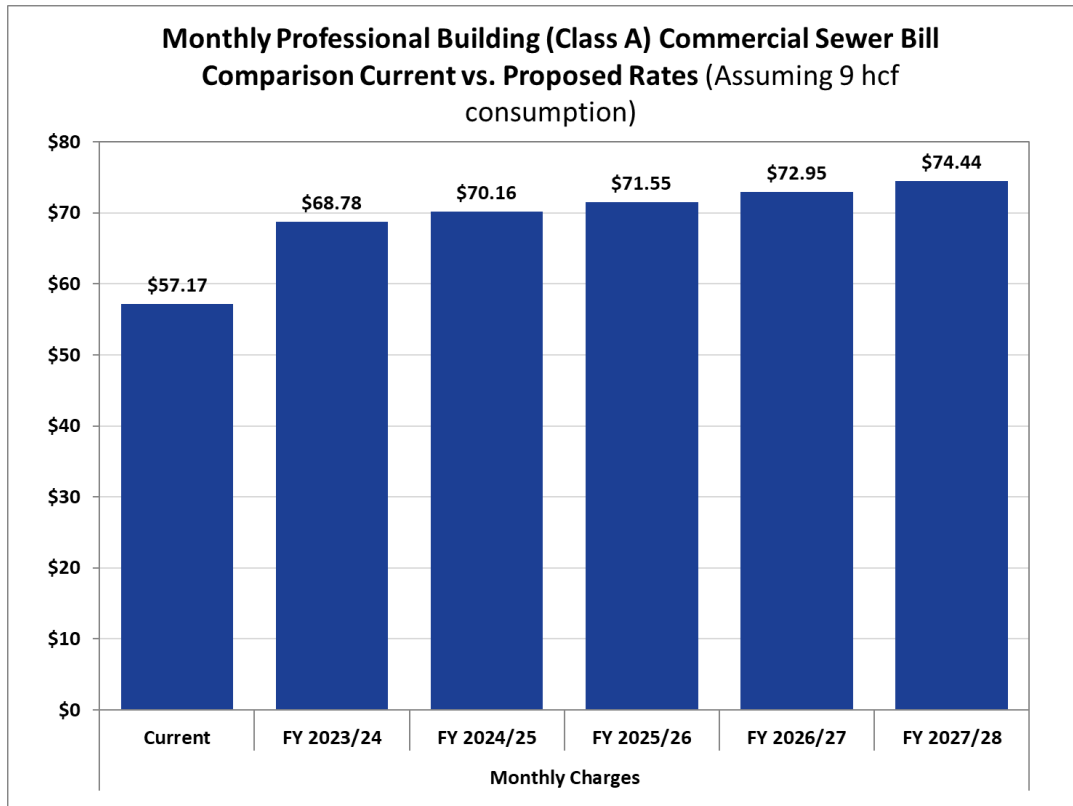




## COMMERCIAL WASTEWATER CUSTOMERS

**Figure** 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<sup>7</sup>

---

|            |  |
|------------|--|
| 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 XIII A 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  |

---

<sup>7</sup> 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.

## Appendix A, continued

|               |                                       |
|---------------|---------------------------------------|
| 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**

---

*This page left blank intentionally.*

## Section 8. **APPENDIX C – WASTEWATER RATE SUMMARY TABLES**

---