

UNION PUBLIC UTILITY DISTRICT

Water Rate Study

DRAFT *Final Report*

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1. Introduction

1.1 Purpose

The Union Public Utility District (District) retained NBS to conduct a comprehensive cost of service water rate study to ensure that water rates collect sufficient revenues over the next five years to meet the District's financial needs. The District had several objectives and goals in mind for this study including meeting revenue requirements, reviewing the rising costs of providing services, funding capital improvements and changes in costs, and complying with certain legal requirements (e.g., California Constitution Article XIII D, Section 6, which is commonly referred to as Proposition 218 [Prop 218]). The District's broader objectives in this study include ensuring adequate funding for operating and capital costs, maintaining reasonable reserves, and ensuring revenue stability in water rates. The rates resulting from this study were developed in a manner that is consistent with industry standard cost-of-service principles. In addition to documenting the rate study methodology, this report is provided with the intent to assist the District in its continuing effort to maintain transparent communications with the residents and community it serves.

In developing new water rates for the District, NBS worked cooperatively with District staff and the District Board of Directors (Board) in selecting the appropriate rate alternatives that address the District's goals and objectives. Based on input provided by District staff and the Board, NBS proposes the rates summarized in this report. The Board has the final decision regarding the adoption of the proposed rates and whether to proceed with the Prop 218 approval process.

1.2 Overview of the Study

Comprehensive rate studies, such as this one, typically include three components: (1) preparation of a financial plan that 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 rate making embodied in the American Water Works Association's (AWWA) *Principles of Water Rates, Fees, and Charges*,¹ also referred to as Manual M1.

Rate studies also address requirements under Prop 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, the three steps shown in Figure 1 represent the order in which they were performed in this study.

¹ *Principles of Water Rates, Fees, and Charges*, Manual of Water Supply Practices, Manual M1, American Water Works Association (AWWA), 7th Edition, 2017.

Figure 1. Primary Components of a Rate Study



NBS projected revenues and expenditures, developed net revenue requirements, performed cost-of-service rate analyses, and developed new water rates for the District using this approach. The following sections in this report present an overview of the methodologies, assumptions, and data used along with the financial plans and rates developed. Detailed tables and figures documenting the development of the proposed rates are provided in the Appendices.

The District provided NBS with the data necessary to conduct the study, including historical, current, and projected revenues and expenditures, number of customer accounts, and water consumption data along with other operational and capital cost information.

FINANCIAL PLAN

As a part of the rate study, NBS projected revenues and expenditures on a cash-flow basis for the next five (5) years. The amount of rate revenue required, that will allow reserves to be maintained at the recommended levels, is known as the net revenue requirement. As current rate revenue falls short of the net revenue requirement, rate adjustments – or more accurately, adjustments in the total revenue collected from rates – are recommended. This report presents an overview of the methodologies, assumptions, and data used along with the financial plan and proposed rates developed in this study.²

COST-OF-SERVICE ANALYSIS

The basic purpose of the cost-of-service analysis (COSA) is to fairly and equitably allocate costs to customer classes. The cost-of-service analysis consists of two major components: (1) the classification of expenses, and (2) the allocation of costs to customer classes. For example, a key task is the “classification” of the water revenue requirements into the following categories:

- Commodity related costs
- Capacity related costs
- Customer service-related costs
- Irrigation (raw water) service-related costs

² The complete financial plans are available in the *Appendices*.

- Utica Water and Power Authority (UWPA) related costs

Together, these allocation factors represent the cost allocation classifications used in the cost-of-service analysis. Further details are discussed below and documented in the *Appendices*.

RATE DESIGN ANALYSIS

During the rate design phase of the study, NBS and District staff worked together to develop rate alternatives that will meet the District’s objectives and allocate costs proportionately based on the cost of service.

Several criteria are typically considered in setting rates and developing sound rate structures. The fundamentals of this process have been well documented in several rate-setting manuals, such as AWWA’s Manual M1. The foundation for evaluating rate structures is generally credited to James C. Bonbright in *Principles of Public Utility Rates*,³ which outlines pricing policies, theories, and economic concepts along with various rate designs. The following is a simplified list of the attributes of a sound rate structure:

- Rates should be easy to understand from the customer’s perspective.
- Rates should be easy to administer from the utility’s perspective.
- Rates should be equitable and non-discriminating (i.e., cost-based).
- Rates should promote the efficient allocation of the resource.
- There should be continuity in the rate making philosophy over time.
- Rates should address other utility policies (e.g., conservation and economic development).
- Rates should provide month-to-month and year-to-year revenue stability.

While these criteria can be considered generally, in California, they are all secondary to Proposition 218. In other words, costs must be allocated in a manner that is proportional to the cost of service to each parcel. However, there are many different methodologies that accomplish this goal, and provided proportional, cost-based rates are established, an agency many consider other criteria when choosing between different methodologies.

RATE STRUCTURE TERMINOLOGY

This section covers basic rate design criteria that NBS and District staff considered as a part of their review of the rate structure alternatives. One of the most fundamental points in considering rate structures is the relationship between fixed and variable costs. Fixed costs, such as debt service and personnel costs, typically do not vary with the amount of water consumed. In contrast, variable costs, such as the cost of purchased water, chemicals, and electricity, tend to change with the quantity of water sold. Most rate structures contain a fixed, or minimum, charge in combination with a volumetric charge.

Fixed Charges – Fixed charges can be called base charges, minimum monthly charges, customer charges, fixed meter charges, etc. Fixed charges for water utilities typically increase by meter size. For example, a customer with a 2-inch meter has a fixed meter charge that is more than five times greater than the typical

³ James C. Bonbright, Albert L. Danielsen, and David R. Kamerschen, *Principles of Public Utility Rates*, Arlington, VA: Public Utilities Report, Inc., Second Edition, 1988, pp. 383-384.

residential customer based on the safe operating capacity of the meter.⁴ Since a large portion of utility costs are typically related to meeting capacity requirements, individual capacity demands are important in establishing equitable rates for customers.

Variable (Consumption-Based) Charges – In contrast to fixed charges, variable costs, such as purchased water, and the cost of electricity used in pumping water and chemicals for treatment, tend to change with the quantity of water produced. For water utility, variable charges are calculated based on a metered consumption per unit price (e.g., per 100 cubic feet, or HCF).

Uniform (Single-Tier) Water Rates – There are significant variations in the basic philosophy of variable charge rate structure alternatives. Under a uniform (single tier) rate structure, the cost per unit does not change with consumption and, therefore, provides a simple and straightforward approach from the customer’s perspective and in terms of the District’s rate administration.

Tiered Water Charges – The 2015 San Juan Capistrano court decision held that water agencies may only charge tiered rates if they can show that the rate within each tier reflects the marginal costs associated with providing increased amounts of water.

KEY FINANCIAL ASSUMPTIONS

The following is a summary of the key financial assumptions used in the analyses. The following capital and operational fund targets reflect input from District staff to meet specific utility objectives.

Funding of Capital Projects – The capital improvement costs will be funded with a combination of cash in reserves, debt financing and the additional revenue generated from the proposed rate increases. The capital projects listed in the financial plan are from the District’s capital improvement program. The analysis assumes:

- Capital costs attributable to existing customers are funded using rate revenue.
- Capital costs attributable to growth are funded by revenue from the impact fee reserves.

Reserve Targets – The District maintains reserves for operations, capital, and other specific needs. The details of each utility’s reserve targets are covered in their respective sections of this report.

Inflation and Growth Projections – Assumptions were made in the analysis regarding cost inflation to project future revenues and expenses for the study period. The following inflation factors were used in the analysis:

- Customer growth is estimated at 2.00% per year.⁵
- General cost inflation is set at 3.45% annually.⁶
- Labor cost inflation is set at 3.02% annually.⁷

⁴ *Principles of Water Rates, Fees, and Charges*, Manual of Water Supply Practices, Manual M1, AWWA, 7th Edition, 2017, pp. 151-152.

⁵ *Customer growth is based on the population projections provided by the District.*

⁶ *General cost inflation is based on the 5-year average annual change in the Consumer Price Index for all Urban Consumers in the San Francisco-Oakland-Hayward, CA area.*

⁷ *Labor cost inflation is based on the 10-year average annual change in the Quarterly Census of Employment and Wages for San Francisco County, CA.*

- Chemical cost inflation is set at 5.45% annually.⁸
- Energy cost inflation is set at 10.84% annually.⁹
- Electricity cost inflation is set at 8.35% annually.¹⁰
- Fuel & Utilities cost inflation is set at 7.08% annually.¹¹
- Construction cost inflation is set at 3.50% annually.¹²
- UWPA contribution inflation factor is set at 10.00% annually.¹³

These inflation factors are based on long-term trends; therefore, the District should re-examine these factors in another year to assess the impacts on utility costs and whether projected rate increases will be sufficient for the remainder of the rate adoption period.

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⁸ Chemical cost inflation is based on the 5-year average annual change in the Producer Price Index for Chemical Manufacturing.

⁹ Energy cost inflation is based on the 5-year average annual change in the Consumer Price Index for all Urban Consumers in the San Francisco-Oakland-Hayward, CA area.

¹⁰ Electricity cost inflation is based on the 5-year average change in the Consumer Price Index for San Francisco County.

¹¹ Fuel & Utilities cost inflation is based on the 5-year average annual change in the Consumer Price Index - Average Price Data for Fuels and related products and power. This factor is used for utility costs other than electricity.

¹² Construction cost Inflation is the 10-year average change in the Construction Cost Index for 2012-2022. Source: Engineering News Record website (<http://enr.construction.com>).

¹³ UWPA contribution inflation factor as provided by the District.

2. Water Rate Study

2.1 Key Water Rate Study Issues

The District's water rate analysis was undertaken with a few specific objectives, including:

- Generating sufficient revenue to meet anticipated operating and maintenance costs and fund necessary capital improvement projects for the next five years.
- A rate design that promotes revenue stability.
- Verifying the cost-of-service linkage between the current rate structure and the proposed water rates, for both domestic and raw water customers.
- Maintaining adequate reserve levels to ensure continuity in operations.
- Complying with the legal requirements of Prop 218 to ensure the cost of providing service is properly allocated amongst user classifications.

NBS developed various water rate alternatives as requested by District staff over the course of this study. All rate structure alternatives relied on industry standards and cost-of-service principles. The rate alternative that will ultimately be implemented is the decision of the District's Board of Directors. The fixed and volume-based charges were calculated based on the net revenue requirements, number of customer accounts, water consumption, and other relevant data provided by the District.

The following are the basic components included in this analysis:

Developing Cost Allocations – The water revenue requirements were “functionalized” into five categories: (1) commodity (or volume-based) costs; (2) fixed capacity costs; (3) customer service costs; (4) raw water costs; and (5) UWPA costs. These functionalized costs were then used to develop unit costs based on various factors, such as water consumption, peaking factors, and number of accounts by meter size.

Determining Revenue Requirements by Customer Class – The total revenue that needs to be collected from each customer class was determined using the functional costs and allocation factors. For example, customer costs are allocated based on the number of meters, while volume-related costs are allocated based on the water consumption of each customer class. Once the costs are allocated and the net revenue requirement for each customer class is determined, collecting the revenue requirements from each customer class is addressed within the rate design.

Evaluating Rate Design (Fixed vs. Variable Charges) – The revenue requirements for each customer class are collected through a combination of fixed monthly service charges and volumetric rates. Based on direction from District staff, the rates proposed in this report will collect approximately 75% of the rate revenue from the fixed charge and 25% from the variable charges.

2.2 Financial Plan

It is important for municipal utilities to not only collect sufficient revenues every year, but to also maintain reasonable reserves to handle emergencies, fund working capital, maintain a good credit rating, and generally follow sound financial management practices. Rate adjustments are governed by the need to meet operating and capital costs as well as maintain reasonable reserve levels. The current state of the District's, regarding these objectives, is as follows:

Meeting Net Revenue Requirements: As found in Table 1 of the Appendix, for FY 2024/25 through FY 2028/29, the projected net revenue requirement (that is, total annual expenses plus debt service and rate-funded capital costs, less non-rate revenues) for the water system increases from approximately \$2.0 million to \$3.7 million annually. If no rate adjustments are implemented, the District is projected to run an annual deficit of approximately \$1 million by FY 2028/29.

Maintaining Reserve Funds: Reserve funds provide a basis for a utility to cope with fiscal emergencies, such as revenue shortfalls, asset failure, and natural disasters, among other events. Reserve policies provide guidelines for sound financial management, with an overall long-range perspective to maintain financial solvency and mitigate financial risks associated with revenue instability, volatile capital costs, and unexpected emergencies.

- As summarized in Table 2 of the Appendix, the District’s existing reserves are healthy, and the challenge is to meet future revenue requirements and still maintain adequate reserves. NBS together with District staff have chosen to set the following reserve targets:
 - **Operating Reserve** equal to 90 days of operating and maintenance expenses, or approximately \$572,000 in FY 2024/25. An operating reserve is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures, such as those caused by weather patterns, the natural inflow and outflow of cash during billing cycles, natural variability in demand-based revenue streams (e.g., volumetric charges), and – particularly in periods of economic distress – changes or trends in the age of receivables. NBS considers a 90-day operating reserve to be a responsible reserve fund target and in line with industry standard (i.e., most municipal water utilities use a 90-day target for the operating reserve).
 - **Capital Rehabilitation & Replacement Reserve** equal to \$1 million dollars over the 5-year rate adoption period, as set in the previous rate study conducted in 2022. The District has proposed approximately \$8.4 million in capital improvements over the course of the five year rate adoption period. This \$1 million capital rehabilitation and replacement reserve represents approximately 12% of the total planned CIP over the five-year period. This reserve is intended to be a cash resource set aside to address long-term capital system replacement and rehabilitation needs.

Funding Capital Improvement Projects: The District must fund necessary capital improvements to maintain current service levels. As found in Tables 8 through 13 in the Appendix, District staff has identified roughly \$8.4 million in expected capital expenditures over the next five years (FY 2024/25 through FY 2028/29) which is an average of \$1.68 million in capital expenditures annually. This rate study assumes the District will be issuing \$1.5 million in revenue bonds in FY 2024/24 as well as an additional \$750,000 in revenue bonds in FY 2026/27. Future debt financing assumptions are found in Tables 17 through 19 in the Appendix. Proceeds from these revenue bonds along with the recommended rate increases, enable the District to fund these capital expenditures without exhausting the existing reserves. Unrestricted reserves are projected to end at about the target reserve level at the end of the five-year rate adoption period.

Inflation and Growth Projections: Cost inflation and growth assumptions are necessary to project future revenues and expenses for the study period. Customer growth is modeled to be approximately 2.00% annually based on projections provided by the District based on average population growth in Calaveras County. This factor was used in the analysis for rate revenues while inflation factors, including the

Consumer Price Index,¹⁴ were used in projecting expenses as summarized above in Section 1 and as detailed in Table 7 of the Appendix.

Maintaining Adequate Bond Coverage: Although the water utility currently has no outstanding debt, this analysis assumes that the District will be issuing a total of \$2.25 million in new debt to fund capital projects over the five year rate implementation period. However, whether new debt will be needed will depend on the actual delivery of capital projects (i.e., the timing and costs). The rate covenants of the new revenue bonds include a minimum debt service coverage ratio of 1.25. The benefit of maintaining a higher coverage ratio is that it strengthens the District’s credit rating which can help lower interest rates for debt-funded capital projects and, in turn, reduce annual debt service payments.

Figure 2 summarizes the sources and uses of funds, net revenue requirements, and the annual percent adjustments in total rate revenue recommended for the next five years.

Figure 2. Summary of Water Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget		5-Year Projected Rate Period			
	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29
Sources of Water Funds						
Water Sales	\$ 2,151,277	\$ 2,276,582	\$ 2,351,726	\$ 2,431,335	\$ 2,515,792	\$ 2,605,523
Connection Fees	56,000	14,000	-	-	-	-
Interest Earnings	430,200	240,200	245,004	249,904	254,902	260,000
Total Sources of Funds:	\$ 2,637,477	\$ 2,530,782	\$ 2,596,730	\$ 2,681,239	\$ 2,770,695	\$ 2,865,523
Uses of Water Funds						
Operating Expenses	\$ 2,377,477	\$ 2,286,498	\$ 2,343,152	\$ 2,448,140	\$ 2,559,411	\$ 2,677,453
Debt Service	-	-	140,038	140,038	210,057	210,057
Rate-Funded Capital Expenses	367,630	-	-	89,001	757,960	1,052,269
Total Use of Funds:	\$ 2,745,107	\$ 2,286,498	\$ 2,483,190	\$ 2,677,179	\$ 3,527,428	\$ 3,939,779
Surplus (Deficiency) before Rate Increase	\$ (107,630)	\$ 244,284	\$ 113,540	\$ 4,060	\$ (756,733)	\$ (1,074,257)
Additional Revenue from Rate Increases ¹	-	126,539	400,883	700,108	971,630	1,221,275
Surplus (Deficiency) after Rate Increase	\$ (107,630)	\$ 370,823	\$ 514,424	\$ 704,167	\$ 214,897	\$ 147,018
Projected Annual Rate Increase	0.00%	10.00%	10.00%	9.00%	6.00%	6.00%
<i>Cumulative Rate Increases</i>	<i>0.00%</i>	<i>10.00%</i>	<i>21.00%</i>	<i>31.89%</i>	<i>39.80%</i>	<i>48.19%</i>
Net Revenue Requirement²	\$ 2,258,907	\$ 2,032,298	\$ 2,238,186	\$ 2,427,275	\$ 3,272,526	\$ 3,679,779

1. Assumes new rates are implemented January 1, 2025.

2. This is the annual amount needed from water rates. [Net Revenue Requirement = Total Use of Funds - (Non-Rate Revenues + Interest Earnings)].

Figure 3 summarizes the projected reserve fund balances and reserve targets for the District’s unrestricted funds. A detailed version of the proposed 5-year financial plan is included in *Appendix A*. The tables in the appendix include the revenue requirements (Table 1), reserve funds (Tables 2-3), revenue sources (Tables 4-5), operating expense forecasts (Tables 6-7), capital improvement costs (8-14), and the proposed rate adjustments needed to meet the District’s funding requirements (Table 1).

Figure 3. Summary of Primary Water Reserve Funds

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget		5-Year Projected Rate Period			
	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29
Operating Reserve						
Ending Balance	\$ 494,027	\$ 572,000	\$ 586,000	\$ 612,000	\$ 640,000	\$ 669,000
<i>Recommended Minimum Target</i>	<i>594,000</i>	<i>572,000</i>	<i>586,000</i>	<i>612,000</i>	<i>640,000</i>	<i>669,000</i>
Capital Reserve						
Ending Balance	\$ 949,600	\$ 1,536,266	\$ 1,698,391	\$ 2,457,613	\$ 1,226,464	\$ 1,142,077
<i>Recommended Minimum Target</i>	<i>1,000,000</i>	<i>1,000,000</i>	<i>1,000,000</i>	<i>1,000,000</i>	<i>1,000,000</i>	<i>1,000,000</i>
Total Ending Balance	\$ 1,443,627	\$ 2,108,266	\$ 2,284,391	\$ 3,069,613	\$ 1,866,464	\$ 1,811,077
<i>Total Recommended Minimum Target</i>	<i>\$ 1,594,000</i>	<i>\$ 1,572,000</i>	<i>\$ 1,586,000</i>	<i>\$ 1,612,000</i>	<i>\$ 1,640,000</i>	<i>\$ 1,669,000</i>

¹⁴ Consumer Price Index for all urban consumers in the San Francisco-Oakland-Hayward area. Source: Website: <https://www.bls.gov/cpi/>.

2.3 Cost-of-Service Analysis

Once the net revenue requirements are determined, the cost-of-service analysis (COSA) proportionately distributes the revenue requirements to each of the customer classes. The COSA consists of two major components: (1) the classification of expenses, and (2) the allocation of costs to each customer class. Costs are classified according to the function they serve. All costs in the District’s budget are allocated to each component of the rate structure in proportion to the level of service required by customers.

The level of service is related to the volume and strength of the water treated, infrastructure capacity, and customer service. These costs are based on allocation factors, such as water consumption, number of meters, and customer class. Ultimately, a COSA develops rates that are proportional to the cost of providing service to each group of similarly situated parcels.

FUNCTIONALIZATION AND CLASSIFICATION OF COSTS

Most costs are not typically allocated just to fixed or variable categories but rather allocated to multiple functions of water service. The functionalization and classification process provides the basis for allocating costs to various customer classes based on the cost causation (classification) components described below:

- **Commodity-related costs** are costs associated with the change in the volume of domestic (potable) water produced and delivered. These commonly include the costs of water quality testing, energy related to pumping for transmission and distribution, and source of supply. These costs are allocated to domestic water system customers.
- **Capacity-related costs** are costs associated with sizing domestic (potable) water facilities to meet the maximum, or peak, demand. This includes both operating costs and capital infrastructure costs incurred to accommodate peak system capacity events. These costs are allocated to domestic water system customers.
- **Customer-related costs** are costs associated with having a customer connected to the water system (both domestic and raw water customers), such as meter reading, postage, billing, and other administrative duties. These costs are allocated to both domestic and raw water system customers.
- **Raw water costs** are costs associated with providing raw (non-potable water) service to the District’s irrigation customers. Raw water is generally not safe for human consumption but can be used for a variety of non-potable purposes such as irrigation. These costs are allocated to raw water system customers.
- **Utica Water and Power Authority (UWPA) costs** are costs associated with the District’s direct reliance on the Utica Water and Power Authority for delivery of surface water from the North Fork Stanislaus River to UPUD facilities. These costs are allocated to both domestic and raw water system customers.

The District’s budgeted costs were reviewed and allocated to these cost causation components which are used as the basis for establishing new water rates and translated into fixed and variable charges for both domestic and raw water customers. Tables in the *Appendices* show how the District’s expenses were classified and allocated to these cost causation components (Tables 21-24). In the cost-of-service analysis, these cost causation components are also considered to be either fixed or variable.

FIXED AND VARIABLE COSTS

Ideally, utilities should recover all of their fixed costs from fixed charges and all of their variable costs from volumetric charges. When this is the case, fluctuations in water sales revenues would be directly offset by reductions or increases in variable expenses, which provides greater revenue stability for the utility. However, certain costs that are considered “fixed” are captured through commodity rates, particularly where an agency incurs such costs to accommodate varying levels of water usage. For example, fixed costs associated with infrastructure to accommodate higher levels of water usage may appropriately be recovered through commodity charges to align with the cause for incurring such costs. As part of the cost-of-service analysis, NBS functionalized the District’s costs into categories that represent fixed and variable costs for domestic water customers as well as the direct assignment costs for the raw water customers as well as UWPA-related costs (which are allocated to both domestic and raw water customers).

Figure 4 summarizes how costs are allocated to each cost component based on the functionalization of expenses and used to establish the proposed water rates. Full details of the functionalization and allocation of expenses for the cost-of-service analysis are found in Tables 21-24 of the Appendix. **Figure 5** shows the resulting cost allocation summary to each cost classification component by customer class.

Figure 4. Allocation Percentages of Revenue Requirements

Net Revenue Requirements - Per COSA Results	Total Rate Revenue Requirements FY 2025/26	Commodity Related Costs	Fixed Costs		Direct Assignment Costs	
			Capacity Related Costs	Customer Related Costs	Raw Water Related Costs	UWPA Related Costs
Rate-Design Adjustments to Fixed/Variable %	100.0%	37.9%	36.9%	3.2%	7.3%	14.6%
Rate-Design Adjustments to Fixed/Variable (\$)	\$2,783,860	\$1,056,439	\$1,027,934	\$89,623	\$202,864	\$407,000

Figure 5. Allocated Net Revenue Requirements by Customer Class

Customer Classes	Classification Components					Cost of Service Net Rev. Req'ts	% of COS Net Revenue Req'ts
	VARIABLE	FIXED		Direct Assignment			
	Commodity-Related Costs	Capacity-Related Costs	Customer-Related Costs	Raw Water-Related Costs	UWPA-Related Costs		
Residential	\$ 895,236	\$ 869,688	\$ 77,736	\$ -	\$ 348,637	\$ 2,191,297	78.7%
Commercial	161,203	158,246	7,222	-	35,458	362,130	13.0%
Raw Water	-	-	4,665	202,864	22,905	230,434	8.3%
Total Net Revenue Requirement	\$ 1,056,439	\$ 1,027,934	\$ 89,623	\$ 202,864	\$ 407,000	\$ 2,783,860	100%

2.4 Characteristics of Water Customers by Customer Class

Customer classes are typically determined by grouping customers with similar demand characteristics into categories that reflect the cost differentials to serve each type of customer. Customer classes are most often identified as single-family, multi-family, commercial, landscape, etc., and the District follows this common methodology. The rates proposed in this report follow a similar structure where the fixed charges within each customer class vary by meter size while all customers are charged a uniform volumetric rate.

The amount of consumption, the peaking factors, and the number of meters by size are used to allocate costs to customer classes and determine the appropriate rate structures for each. These components of the COSA are presented in the following figures. Detailed analysis for the cost-of-service analysis are found in Tables 29 through 39 in the Appendix.

Commodity-related costs are costs associated with the total annual consumption of water by customer class. **Figure 6** below summarizes the most recent consumption data by customer class and represents the

expected percent of consumption over the 5-year rate period. Residential and commercial customer classes represent domestic (potable) water consumption, whereas irrigation only customers represent the non-potable water (raw water) consumption for the District.

Figure 6. Water Consumption by Customer Class

Development of the Volumetric/Variable Allocation Factor ¹			
Customer Class	CY 2023 Consumption (HCF)	% of Total Volume (Potable)	% of Total Volume (Non-potable)
Residential	275,136	84.7%	0.0%
Commercial	49,543	15.3%	0.0%
Raw Water	509,576	0.0%	100.0%
Total	834,255	100.0%	100.0%

1. Consumption data is based on UPUD billing data for CY 2023.

Figure 7 shows the peaking factors for each customer class. A “peaking factor” is the relationship between the average use by meter size to its peak use.

Figure 7. Peaking Factors by Customer Class

Development of the PEAK CAPACITY (MAX MONTH) Allocation Factors					
Customer Class	Average Monthly Use (HCF)	Peak Monthly Use (HCF) ¹	Peak Monthly Factor	% of Max Month Capacity Factor (Potable)	% of Max Month Capacity Factor (Non-potable)
Residential	22,928	38,800	1.69	84.6%	0.0%
Commercial	4,129	7,060	1.71	15.4%	0.0%
Raw Water	42,465	102,807	2.42	0.0%	100.0%
Total	69,521	148,667	2.14	100.0%	100.0%

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

Both operating costs and capital infrastructure costs incurred to accommodate peak system capacity events are typically allocated to each meter size according to its contribution to peak capacity events. As summarized in Figure 7 above, however, residential and commercial customer classes have peak monthly factors that are nearly identical for the domestic (potable) water customers. Therefore, there is no differential by customer class that supports a higher allocation of capacity costs to one domestic (potable) water customer class compared to another based on the peak capacity (maximum month) use analysis. Based on the analysis, it is appropriate to will follow the existing rate structure for the District, in which all potable water meters (both residential and commercial classes) are allocated capacity costs based on the hydraulic capacity factor of the meter, as detailed in Table 33 in the Appendix.

Figure 8 shows the number of customers for each customer class. The percentage of total customers by customer class is then used to develop the customer allocation factors to allocate customer costs. Customer costs are those costs associated with having customers connected to the water system and include costs related to meter reading, postage, and billing.

Figure 8. Number of Customers by Customer Class

Development of the Customer Allocation Factor		
Customer Class	No. of Dwelling Units CY 2023	% of Total Units
Residential	1,733	86.7%
Commercial	161	8.1%
Raw Water	104	5.2%
Total	1,998	100.0%

1. Meter count data is based on the District's billing data for December 2023.
2. Residential customer class includes additional 280 ADU units.

2.5 Rate Design Analysis

A rate structure must result in rates that reflect the proportional cost of service on a parcel basis (including through establishing rates for groups of similarly situated parcels). There may be many ways of establishing cost-based rates, and when evaluating amongst such Proposition 218-compliant structures, an agency may consider other factors including continuity of rate design, revenue stability, equity among customers, and water conservation. NBS discussed various rate designs alternatives with District staff, the District Finance Committee and the District Board of Directors over the course of this study. The following section describes how the proposed water rates were determined.

DEVELOPMENT OF PROPOSED RATES

Fixed Service Charges

The fixed meter charge recognizes that the water utility incurs fixed costs regardless of whether customers use water. Two components comprise the fixed meter charge: (1) the capacity component, and (2) the customer component. The capacity component recovers costs associated with sizing the water system to ensure there is sufficient capacity in the system to meet peak demand. A user class with higher-peaking ratio is typically allocated a proportionately higher share of the capacity-related costs compared to customer classes with lower peaking ratios. However, as summarized above, the residential and commercial classes in the domestic (potable) water system have peaking factors that are nearly identical, and thus the capacity costs are allocated based on meter size in relationship to the hydraulic capacity factor of the meter. The customer component includes those costs related to reading and maintaining meters, customer billing and collection, and other customer service-related costs.

Fixed charges also vary based on meter sizes because larger meters have higher capacity requirements and reflect their potential to use more of the system's capacity.¹⁵ The potential capacity demands (peaking) is proportional to the maximum hydraulic flow through each meter size based on the hydraulic capacity ratios established by AWWA.¹⁶ The AWWA capacity ratios used for this report are shown in **Figure 9**.

¹⁵ System capacity is the system's ability to supply water to all delivery points at the time when demanded.

¹⁶ *Principles of Water Rates, Fees and Charges, Manual of Water Supply Practices, Manual M1, AWWA, 7th Edition, 2017, p. 386. Water Meters – Selection, Installation, Testing and Maintenance, Manual M6, AWWA, 5th Edition, 2012, pp. 63-65.*

Figure 9. Hydraulic Capacity Factors

Meter Size	Standard Meters	
	Meter Capacity (gpm) ¹	Equivalency to 1-inch
<i>Displacement Meters</i>		
3/4 inch	30	1.00
1 inch	50	1.67
1 1/2 inch	100	3.33
2 inch	160	5.33
<i>Compound Class I Meters</i>		
3 inch	320	10.67
4 inch	500	16.67
6 inch	1,000	33.33
8 inch	1,600	53.33
<i>Turbine Class II Meters</i>		
10 inch	4,200	140.00

1. Per AWWA M-1, Table B-1.

The actual number of meters by size is multiplied by the corresponding capacity ratios to calculate “equivalent” meters. The number of equivalent meters is used as a proxy for the potential demand that each customer can place on the water system. **Figure 10** summarizes the number of meters, the hydraulic capacity factors, and the number of equivalent meters (i.e., the number of meters multiplied by the hydraulic capacity factor) by customer class and meter size.

Figure 10. Equivalent Meters for Domestic and Raw Water Customers

Number of Meters by Class and Size ¹	FY 2024/25							Total
	5/8 - 3/4" meter	1" meter	1.5" meter	2" meter	3" meter	4" meter	6" meter	
Residential	1,563	16	1	2	0	0	1	1,582
Commercial	135	16	3	5	1	1	0	161
Total Meters/Accounts	1,698	32	4	7	1	1	1	1,743
<i>Hydraulic Capacity Factor²</i>	<i>1.00</i>	<i>1.67</i>	<i>3.33</i>	<i>5.33</i>	<i>10.67</i>	<i>16.67</i>	<i>33.33</i>	
Total Equivalent Meters	1,698	53	13	37	11	17	33	1,863

Number of Meters by Class and Size ¹	FY 2024/25							Total
	5/8 - 3/4" meter	1" meter	1.5" meter	2" meter	3" meter	4" meter	6" meter	
Raw Water	8	36	37	13	8	2	0	104
Total Meters/Accounts	8	36	37	13	8	2	0	104
<i>Hydraulic Capacity Factor²</i>	<i>1.00</i>	<i>1.67</i>	<i>3.33</i>	<i>5.33</i>	<i>10.67</i>	<i>16.67</i>	<i>33.33</i>	
Total Equivalent Meters	8	60	123	69	85	33	0	379

1. Meter by Class and Size are based on UPUD customer billing data.

Using the costs allocated to each customer class from Figure 5, **Figure 11** shows the calculation of the fixed monthly service charges for all customer classes based on meter size, for both domestic customers as well as for raw water customers. As previously mentioned, the customer service charge is calculated by dividing the customer service-related costs by the total number of meters, whereas the fixed capacity charge is calculated by dividing the capacity-related costs by the total number of equivalent meters for each meter size. As demonstrated in the functionalization and classification during the cost-of-service analysis, the capacity costs for domestic water customers are higher than for raw water customers due to the treatment costs of treating domestic water to potable use standards, the complexity of the domestic water distribution system, the operations & maintenance costs associated with the domestic system, as well as the additional costs associated with State reporting requirements for the domestic water system.

Figure 11. Calculation of Fixed Service Charges for Domestic and Raw Water Customers

Number of Meters by Class and Size ¹	FY 2024/25								Total
	5/8 - 3/4" meter	1" meter	1.5" meter	2" meter	3" meter	4" meter	6" meter		
Residential	1,563	16	1	2	0	0	1	1	1,582
Commercial	135	16	3	5	1	1	0	0	161
Total Meters/Accounts	1,698	32	4	7	1	1	1	1	1,743
Hydraulic Capacity Factor ²	1.00	1.67	3.33	5.33	10.67	16.67	33.33		
Total Equivalent Meters	1,698	53	13	37	11	17	33		1,863
Monthly Fixed Service Charges									
Customer Costs (\$/Acct/month) ³	\$3.74	\$3.74	\$3.74	\$3.74	\$3.74	\$3.74	\$3.74	\$3.74	
Capacity Costs (\$/Acct/month) ⁴	\$64.24	\$107.07	\$214.14	\$342.62	\$685.24	\$1,070.70	\$2,141.39		
UPWA Costs (\$/Acct/month) ⁵	\$18.36	\$18.36	\$18.36	\$18.36	\$18.36	\$18.36	\$18.36	\$18.36	
Total Monthly Meter Charge	\$67.98	\$110.81	\$217.88	\$346.36	\$688.98	\$1,074.43	\$2,145.13		
Annual Fixed Costs Allocated to Monthly Meter Charges									
Customer Costs	\$ 84,958								
Capacity Costs	1,435,931								
UPWA Costs	384,095								
Total Fixed Meter Costs	\$ 1,904,984								
Annual Revenue from Monthly Meter Charges									
Customer Charges	\$ 76,166	\$ 1,435	\$ 179	\$ 314	\$ 45	\$ 45	\$ 45	\$ 45	\$ 78,229
Capacity Charges	\$ 1,308,989	\$ 41,115	\$ 10,279	\$ 28,780	\$ 8,223	\$ 12,848	\$ 25,697	\$ 25,697	\$ 1,435,931
UPWA Charges	\$ 374,179	\$ 7,052	\$ 881	\$ 1,543	\$ 220	\$ 220	\$ 220	\$ 220	\$ 384,316
Total Revenue from Monthly Meter Charge	\$ 1,385,155	\$ 42,550	\$ 10,458	\$ 29,094	\$ 8,268	\$ 12,893	\$ 25,742	\$ 25,742	\$ 1,898,476

1. Meter by Class and Size are based on June 2023 customer billing data.
2. Source: *Principles of Water Rates, Fees, and Charges*, Manual M1, AWWA, Table B-1.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.
5. UPWA costs are allocated to each customer by dividing the total customer costs by the total number of customers.

Number of Meters by Class and Size ¹	FY 2024/25								Total
	5/8 - 3/4" meter	1" meter	1.5" meter	2" meter	3" meter	4" meter	6" meter		
Raw Water	8	36	37	13	8	2	0	0	104
Total Meters/Accounts	8	36	37	13	8	2	0	0	104
Hydraulic Capacity Factor ²	1.00	1.67	3.33	5.33	10.67	16.67	33.33		
Total Equivalent Meters	8	60	123	69	85	33	0		379
Monthly Fixed Service Charges									
Customer Costs (\$/Acct/month) ³	\$3.74	\$3.74	\$3.74	\$3.74	\$3.74	\$3.74	\$3.74	\$3.74	
Capacity Costs (\$/Acct/month) ⁴	\$31.91	\$53.18	\$106.37	\$170.19	\$340.38	\$531.84	\$1,063.68		
Total Monthly Meter Charge	\$35.65	\$56.92	\$110.11	\$173.93	\$344.11	\$535.58	\$1,067.41		
Annual Fixed Costs Allocated to Monthly Meter Charges									
Customer Costs	\$ 4,665								
Capacity Costs	145,255								
UPWA Costs	22,905								
Total Fixed Meter Costs	\$ 172,825								
Annual Revenue from Monthly Meter Charges									
Customer Charges	\$ 359	\$ 1,615	\$ 1,660	\$ 583	\$ 359	\$ 90	\$ -	\$ -	\$ 4,665
Capacity Charges	\$ 3,063	\$ 22,975	\$ 47,227	\$ 26,549	\$ 32,676	\$ 12,764	\$ -	\$ -	\$ 145,255
UPWA Charges	\$ 1,763	\$ 7,933	\$ 8,153	\$ 2,865	\$ 1,763	\$ 441	\$ -	\$ -	\$ 22,918
Total Revenue from Monthly Meter Charge	\$ 5,185	\$ 32,523	\$ 57,040	\$ 29,997	\$ 34,798	\$ 13,295	\$ -	\$ -	\$ 172,838

1. Meter by Class and Size are based on UPUID customer billing data.
2. Source: *Principles of Water Rates, Fees, and Charges*, Manual M1, AWWA, Table B-1.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

Volumetric Rates

Currently, the District uses a uniform rate structure for all customers; and the proposed rates maintain the uniform volumetric rate for both domestic and non-potable (raw) water. Given the single source of water supply, a uniform volumetric rate is the most defensible commodity rate structure from a Prop 218 perspective.

Figure 12 summarizes the calculation of the maximum rate for uniform tier rate per unit of water for all customers, including the basic commodity rate for both potable and non-potable (raw) water. Additional detail on the rate design summarizing revenue requirements by customer class is found in Table 30 in the Appendix. Additional detail on the calculation of revenue collection from the fixed and variable components of the rate structure is found in Table 31 of the Appendix.

Figure 12. Uniform Tier Rates for CY 2025

Customer Classes	Water Consumption (HCF/yr)	Total Target Rev. Req't from Vol. Charges	% of Total Rate Revenue	Uniform Commodity Rates (\$/HCF)	Proposed Rate Structure
Domestic	324,679	\$ 648,443	23.3%	\$2.00	Uniform
Raw Water	509,576	57,608	2.1%	\$0.11	Uniform
Total Water	834,255	\$ 706,051	25.4%		

UWPA Charge

The District relies directly on Utica Water & Power Authority (UWPA) for delivery of surface water from the North Fork Stanislaus River to District facilities. The water delivered by UPWA is then treated by the District’s water treatment plant to potable use standards for the domestic system and distributed to domestic customers; whereas the raw water is distributed to raw water customers without being treated to potable use standards by the District. The UWPA Charge is designed to be a “pass-through” that covers the costs of the District’s projected contribution amounts to UWPA for delivery of surface water.

Based on input from District staff and the District Board of Directors, the proposed maximum charge is calculated by dividing the District’s budgeted yearly required UWPA contribution by the District’s total number of accounts and additional dwelling units (both domestic and raw water customers), as shown in Figure 12 below.

Figure 13. UWPA Charges by Calendar Year

Category	January 1, 2025	January 1, 2026	January 1, 2027	January 1, 2028	January 1, 2029
UWPA Contribution	\$ 388,500	\$ 427,350	\$ 470,085	\$ 517,094	\$ 568,803
Number of Accounts & Dwelling Units	1,998	2,038	2,079	2,120	2,163
UPWA Monthly Charge	\$ 16.20	\$ 17.47	\$ 18.85	\$ 20.32	\$ 21.92

Per direction from the District Board of Directors on October 23, 2024, a pass-through policy will not be included in the as part of the Proposition 218 notification letter. Therefore, even if the required UWPA contribution amount increases above the projected contribution amounts found in Figure 13 during the five-year rate adoption period, the District will not be authorized to recalculate the UWPA Fee in excess of the maximum monthly charges listed in the notification letter without undertaking another Proposition 218 process.

2.6 Proposed Water Rates

The District’s previous rate study was in 2022. Since then, the underlying cost factors, particularly with regard to O&M and capital improvement costs, have changed. The cost-of-service analysis by nature “re-balances” how costs are allocated between customer classes and, as a result, there are uneven adjustments in the first year of the 5-year rate adoption period. In contrast, in the subsequent four years of the rate planning period, proposed charges are simply adjusted by the proposed adjustment in total rate revenue needed to meet projected revenue requirements.

As directed by the Board of Directors meeting on August 28, 2024, the proposed adjustments for the raw water customers reflect adjustments less than the maximum cost-of-service adjustments. As mentioned above, the uneven adjustments in the first year reflect the re-balancing of the cost-of-service analysis. For

years two through five, the adjustments for raw water customers reflect a 6.5% adjustment annually, as shown in the maximum rates found in the proposed rate table below. As a result, the District will be collecting less revenue from the raw water customers than the maximum calculated by the cost-of-service analysis. As a result, the projected reserve levels in the raw water reserve fund will be less than what would be projected if the maximum rates per the cost-of-service analysis were implemented. The water usage charge for raw water usage charges is also reflective of the maximum 6.5% adjustment annually, as directed by the Board.

Figure 14 provides a comparison of the current and proposed water rates for January 1, 2025 through January 1, 2029 for each customer class and meter size. Projected rates for each calendar year¹⁷ reflect adjustments based on the cost-of-service analysis, the proposed rate design structure, and the recommended percent increases in rate revenue planned for each year. More detailed tables on the development of the proposed water rates are documented in Appendix A.

Figure 14. Current and Proposed Water Rates

Water Rate Schedule	Current Rates	Proposed Rates				
		January 1, 2025	January 1, 2026	January 1, 2027	January 1, 2028	January 1, 2029
Water Usage Charges (in \$/HCF)						
Domestic/Potable Water	\$1.04	\$2.00	\$2.20	\$2.39	\$2.54	\$2.69
Raw/non-potable Water	\$0.09	\$0.10	\$0.10	\$0.11	\$0.12	\$0.12
Monthly Fixed Service Charges (in \$/mo)						
Domestic Service Charge						
5/8" or 3/4"	\$62.86	\$67.98	\$74.78	\$81.51	\$86.40	\$91.58
1"	\$94.15	\$110.81	\$121.89	\$132.86	\$140.83	\$149.28
1.5"	\$172.39	\$217.88	\$239.66	\$261.23	\$276.91	\$293.52
2"	\$266.28	\$346.36	\$381.00	\$415.29	\$440.20	\$466.62
3"	\$485.34	\$688.98	\$757.88	\$826.09	\$875.66	\$928.20
4"	\$798.28	\$1,074.43	\$1,181.88	\$1,288.25	\$1,365.54	\$1,447.47
6"	\$1,580.65	\$2,145.13	\$2,359.64	\$2,572.01	\$2,726.33	\$2,889.91
Raw Water Service Charge						
5/8" or 3/4"	\$32.83	\$35.65	\$37.97	\$40.43	\$43.06	\$45.86
1"	\$45.16	\$56.92	\$60.62	\$64.56	\$68.76	\$73.23
1.5"	\$75.97	\$110.11	\$117.26	\$124.88	\$133.00	\$141.65
2"	\$112.95	\$173.93	\$185.23	\$197.27	\$210.09	\$223.75
3"	\$199.24	\$344.11	\$366.48	\$390.30	\$415.67	\$442.69
4"	\$322.51	\$535.58	\$570.39	\$607.46	\$646.95	\$689.00
6"	\$630.67	\$1,067.41	\$1,136.80	\$1,210.69	\$1,289.38	\$1,373.19
Customer Service Charge (\$/mo/dwelling unit)						
Customer Service Charge - Per Each Additional Dwelling Unit or Parcel	N/A	\$3.74	\$4.11	\$4.48	\$4.75	\$5.04
UPWA Fee (\$/mo)						
UPWA Fee - All Customers, Per Equivalent Dwelling Unit or Parcel	\$18.00	\$16.20	\$17.47	\$18.85	\$20.32	\$21.92

2.7 Emergency Response Rates

The District is obligated to meet its annual net revenue requirements regardless of whether consumption levels decline due to State mandated conservation or other unexpected events (e.g., natural disasters, wildfire, catastrophic infrastructure failure, etc.). Even if consumption levels decline, the District will continue to incur fixed costs, and must have a revenue-neutral mechanism to ensure fiscal sustainability. To this end, emergency responses rates are intended to maintain the necessary level of revenues.¹⁸

¹⁷ All rate adjustments are scheduled to be effective on January 1, 2025.

¹⁸ Details regarding the calculation of the emergency response rates can be found in Appendix A.

Domestic Emergency Response Rates –

Figure 15 shows baseline consumption as well as projected consumption at each increased shortage level for 2023 for domestic water customers. **Figure 16** shows the maximum emergency response charge (\$/HCF) that could be enacted by the District Board of Directors in the event of an emergency scenario by mandate shortage level and calendar year for domestic water customers.

Figure 15. Domestic Consumption Assumptions Used in Emergency Response Charge Analysis

2023 Consumption Assumptions				
Shortage Level ¹	Percent Shortage Range ²	Potable Water Consumption (AF/yr.)	Potable Water Consumption (ccf/yr.)	Difference to Baseline (ccf)
1	Less than 10% Conservation ³	745	324,679	0
2	Up to 20% Conservation	596	292,211	(32,468)
3	Up to 30% Conservation	522	259,743	(64,936)
4	Up to 40% Conservation	447	227,275	(97,404)
5	Up to 50% Conservation	373	194,807	(129,872)
6	Greater than 50% Conservation	298	162,339	(162,339)

1. State Water Resources Control Board Water Shortage Contingency Plan Shortage Level.
2. Drought levels based on the State Water Resources Control Board Drought Emergency Water Conservation.
3. This represents the baseline consumption for CY 2023 consumption. Conservation percentage for each drought stage is relative to the baseline consumption.

Figure 16. Emergency Response Charge for Domestic Customers

Rate Structure: Potable Water					
Emergency Response Charge (\$/HCF)					
Conservation Goal	2025	2026	2027	2028	2029
< 10%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Up to 20%	\$0.22	\$0.24	\$0.27	\$0.28	\$0.30
Up to 30%	\$0.50	\$0.55	\$0.60	\$0.63	\$0.67
Up to 40%	\$0.86	\$0.94	\$1.03	\$1.09	\$1.15
Up to 50%	\$1.33	\$1.46	\$1.60	\$1.69	\$1.79
> 50%	\$2.00	\$2.20	\$2.39	\$2.54	\$2.69

Raw Water Emergency Response Rates –

Figure 15 shows baseline consumption as well as projected consumption at each increased shortage level for 2023 for raw water customers. **Figure 16** shows the maximum emergency response charge (\$/HCF) that could be enacted by the District Board of Directors in the event of an emergency scenario by shortage level and calendar year for raw water customers.

Figure 17. Raw Water Consumption Assumptions Used in Emergency Response Charge Analysis

2023 Consumption Assumptions				
Shortage Level ¹	Percent Shortage Range ²	Potable Water Consumption (AF/yr.)	Raw Water Consumption (ccf/yr.)	Difference to Baseline (ccf)
1	Less than 10% Conservation ³	1,170	509,576	0
2	Up to 20% Conservation	936	458,618	(50,958)
3	Up to 30% Conservation	819	407,661	(101,915)
4	Up to 40% Conservation	702	356,703	(152,873)
5	Up to 50% Conservation	585	305,746	(203,830)
6	Greater than 50% Conservation	468	254,788	(254,788)

1. State Water Resources Control Board Water Shortage Contingency Plan Shortage Level.
2. Drought levels based on the State Water Resources Control Board Drought Emergency Water Conservation.
3. This represents the baseline consumption for CY 2023 consumption. Conservation percentage for each drought stage is relative to the baseline consumption.

Figure 18. Emergency Response Charge for Raw Water Customers

Rate Structure: Irrigation/Raw Water					
Emergency Response Charge (\$/HCF)					
Conservation Goal	2025	2026	2027	2028	2029
< 10%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Up to 20%	\$0.01	\$0.01	\$0.02	\$0.02	\$0.02
Up to 30%	\$0.03	\$0.03	\$0.03	\$0.04	\$0.04
Up to 40%	\$0.05	\$0.05	\$0.06	\$0.06	\$0.07
Up to 50%	\$0.08	\$0.08	\$0.09	\$0.10	\$0.10
> 50%	\$0.11	\$0.12	\$0.14	\$0.14	\$0.15

2.8 Comparison of Current and Proposed Water Bills

Figure 19 and Figure 20 compare a range of monthly water bills under the current rate schedule and proposed water rates for both potable water customers beginning on January 1, 2025. These monthly bills are based on typical meter sizes and highlight the average consumption levels for each customer.

Figure 19. Monthly Water Bill Comparison for Residential Customers

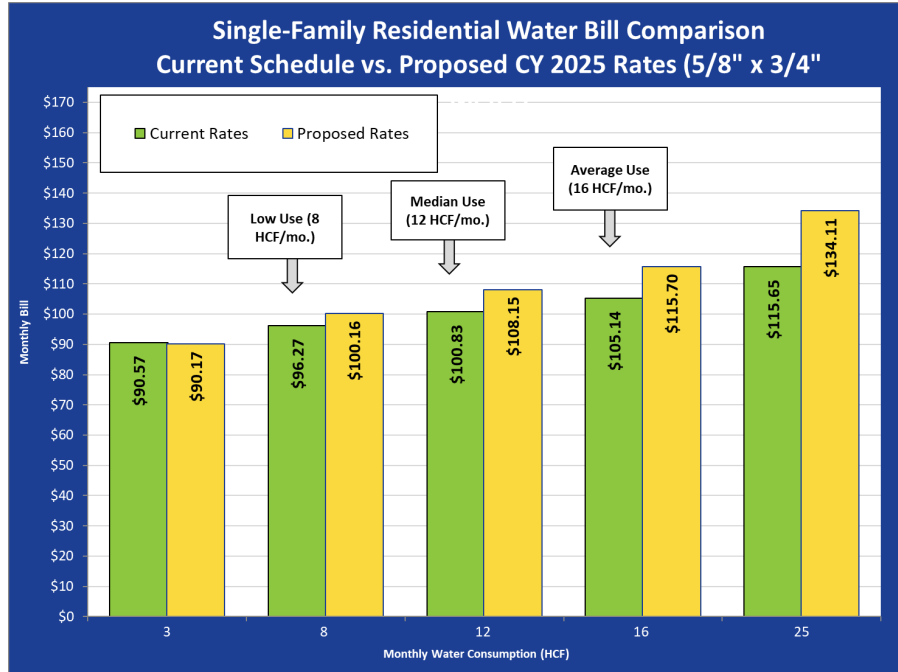


Figure 20. Monthly Water Bill Comparison for Commercial Customers

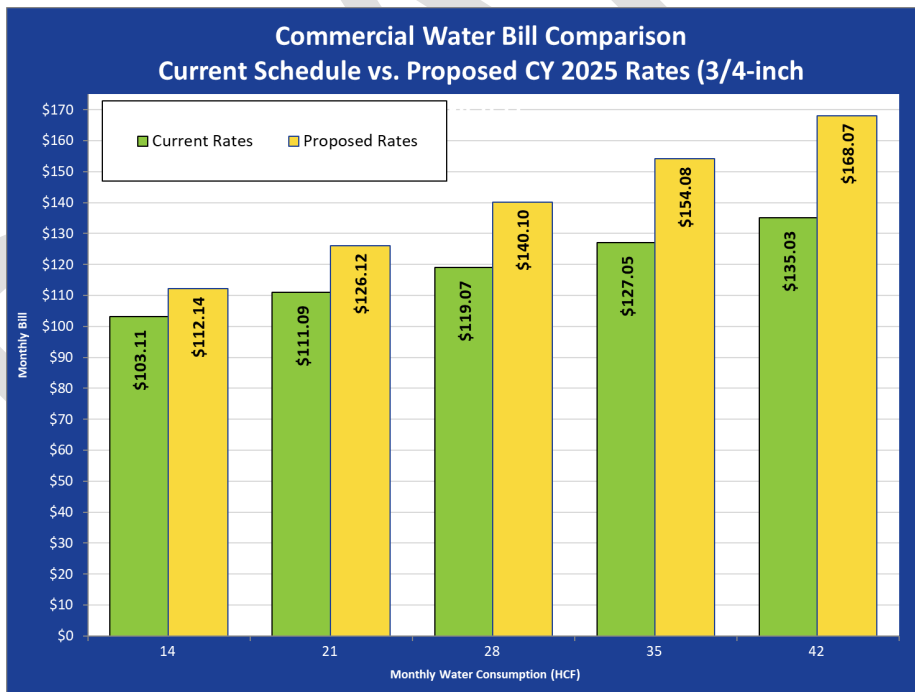


Figure 21 and **Figure 22** compare a range of monthly water bills under the current rate schedule and proposed water rates for both raw water customers beginning on January 1, 2025. These monthly bills are based on typical meter sizes and highlight the average consumption levels for each customer.

Figure 21. Monthly Water Bill Comparison for Raw Water Customers

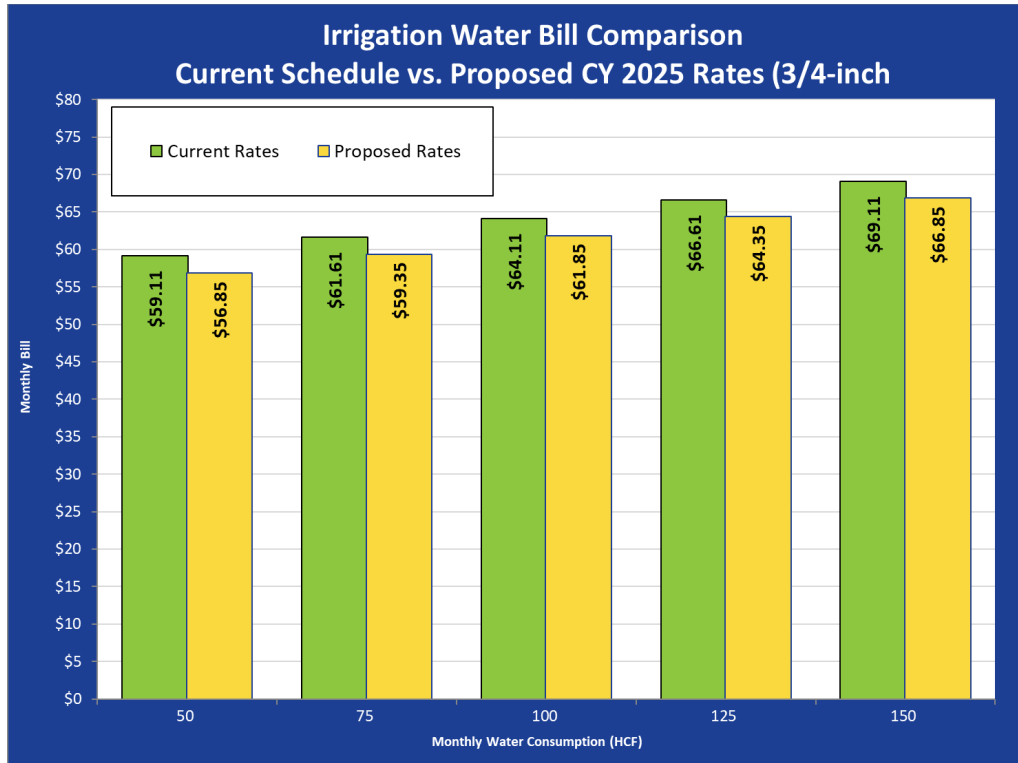


Figure 22. Monthly Water Bill Comparison for Raw Water Customers

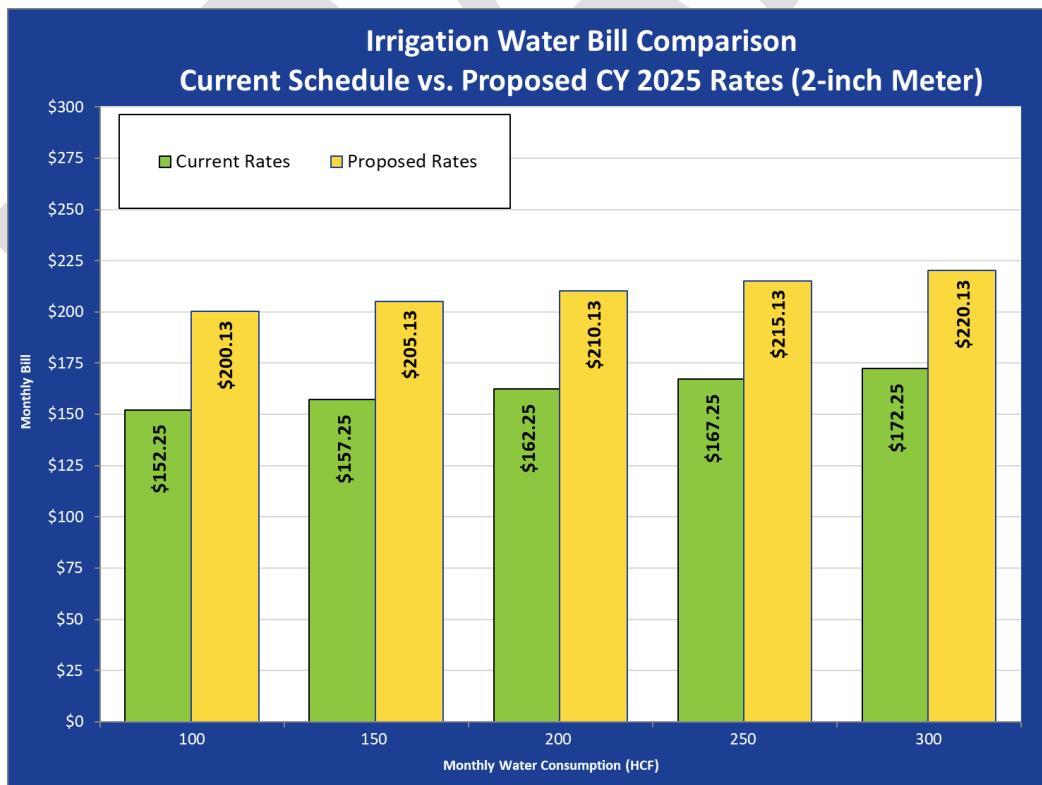
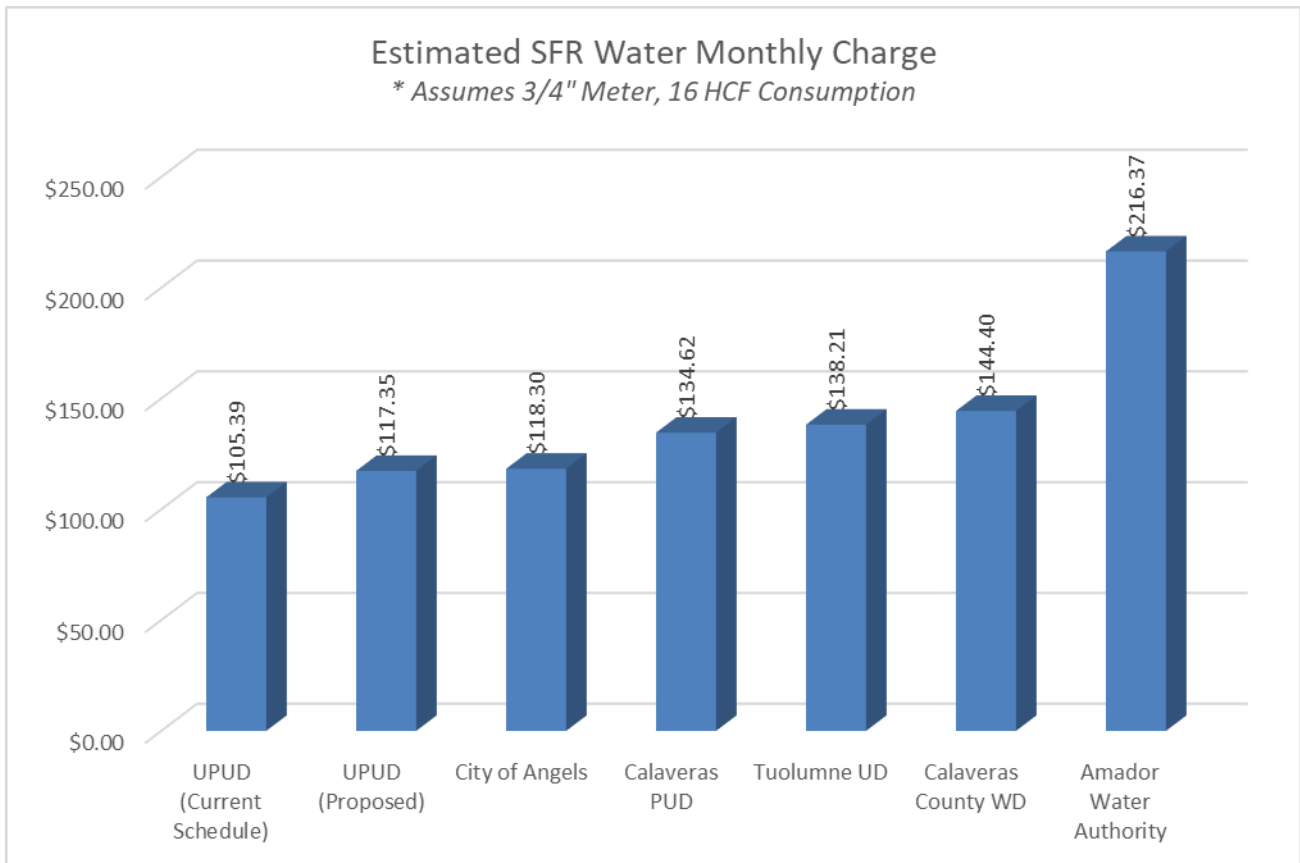


Figure 23 presents a comparison of residential water rates for similar communities. For the bill comparison, all rates shown are reflective of effective date of January 1, 2025.

Figure 23. Residential Bills Comparison for Similar Communities



3. Recommendations and Next Steps

3.1 Consultant Recommendations

NBS recommends the District take the following actions:

- **Accept this Study:** NBS recommends the District Board of Directors approve this Study and its recommendations and proceed with the next steps outlined below to implement the proposed rates. This will provide documentation of the rate study analyses and the basis for analyzing potential changes to future rates.
- **Implement Recommended Levels of Rate Increases and Proposed Rates:** Based on successfully meeting the Prop 218 procedural requirements, the District should proceed with implementing the 5-year schedule of proposed rates and rate increases previously shown in Figure 14. This will help ensure the continued financial health of District's utilities.

3.2 Next steps

Annually Review Rates and Revenue – Any time an agency adopts new utility rates or rate structures, 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 water consumption patterns underscore the need for this review, as well as potential and unseen changing revenue requirements – particularly those related to environmental regulations that can significantly affect capital improvements and repair and replacement costs.

Note: The attached Technical Appendices provide more detailed information on the analysis of the financial plan, revenue requirements, cost-of-service, and the rate design analyses that have been summarized in this report.

3.3 NBS' Principal Assumptions and Considerations

In preparing this report and the opinions and recommendations included herein, NBS has relied on several principal assumptions and considerations regarding financial matters, conditions, and events that may occur in the future. This information and these assumptions, including the District's budgets, capital improvement costs, customer accounts and consumption, and information from District staff 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 and 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.

Technical Appendices

These Appendices contain:

- Appendix A: Water Rate Study Tables and Figures

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Appendix A. Water Rate Study Tables and Figures

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TABLE 1 : FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY	5-Year Projected Rate Period					Projected				
	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
Sources of Water Funds¹										
Water Sales	\$ 2,276,582	\$ 2,351,726	\$ 2,431,335	\$ 2,515,792	\$ 2,605,523	\$ 2,700,989	\$ 2,802,700	\$ 2,911,214	\$ 3,027,145	\$ 3,151,165
Connection Fees	14,000	-	-	-	-	-	-	-	-	-
Non-Operating Revenue	240,200	245,004	249,904	254,902	260,000	265,200	270,504	275,914	281,433	287,061
Total Sources of Funds:	\$ 2,530,782	\$ 2,596,730	\$ 2,681,239	\$ 2,770,695	\$ 2,865,523	\$ 2,966,189	\$ 3,073,204	\$ 3,187,129	\$ 3,308,578	\$ 3,438,226
Uses of Water Funds¹										
<i>Operating Expenses:</i>										
Water System	\$ 2,286,498	\$ 2,343,152	\$ 2,448,140	\$ 2,559,411	\$ 2,677,453	\$ 2,802,801	\$ 2,936,037	\$ 3,077,796	\$ 3,228,772	\$ 3,389,722
Subtotal: Operating Expenses	\$ 2,286,498	\$ 2,343,152	\$ 2,448,140	\$ 2,559,411	\$ 2,677,453	\$ 2,802,801	\$ 2,936,037	\$ 3,077,796	\$ 3,228,772	\$ 3,389,722
<i>Other Expenditures:</i>										
Existing Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
New Debt Service	-	140,038	140,038	210,057	210,057	210,057	210,057	210,057	229,563	230,636
Rate-Funded Capital Expenses	-	-	89,001	757,960	1,052,269	3,148,295	2,796,270	1,450,270	1,842,037	1,140,006
Subtotal: Other Expenditures	\$ -	\$ 140,038	\$ 229,039	\$ 968,017	\$ 1,262,326	\$ 3,358,352	\$ 3,006,327	\$ 1,660,327	\$ 2,071,601	\$ 1,370,642
Total Uses of Water Funds:	\$ 2,286,498	\$ 2,483,190	\$ 2,677,179	\$ 3,527,428	\$ 3,939,779	\$ 6,161,153	\$ 5,942,364	\$ 4,738,124	\$ 5,300,373	\$ 4,760,364
<i>plus: Revenue from Rate Increases³</i>	126,539	400,883	700,108	971,630	1,221,275	1,497,113	1,801,640	2,137,587	2,507,943	2,915,977
Annual Surplus/(Deficit)	\$ 370,823	\$ 514,424	\$ 704,167	\$ 214,897	\$ 147,018	\$ (1,697,851)	\$ (1,067,520)	\$ 586,592	\$ 516,148	\$ 1,593,840
Net Revenue Req't. (Total Uses less Non-Rate Revenue)	\$ 2,032,298	\$ 2,238,186	\$ 2,427,275	\$ 3,272,526	\$ 3,679,779	\$ 5,895,953	\$ 5,671,860	\$ 4,462,209	\$ 5,018,940	\$ 4,473,303
Total Rate Revenue After Rate Increases (Water)	\$ 2,529,660	\$ 2,895,353	\$ 3,277,050	\$ 3,596,422	\$ 3,945,831	\$ 4,328,101	\$ 4,746,326	\$ 5,203,891	\$ 5,704,501	\$ 6,252,216
Projected Annual Rate Revenue Increase	10.00%	10.00%	9.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
<i>Cumulative Increase from Annual Revenue Increases</i>	10.00%	21.00%	31.89%	39.80%	48.19%	57.08%	66.51%	76.50%	87.09%	98.31%
<i>Debt Coverage After Rate Increase</i>	N/A	4.67	6.66	5.63	6.71	7.90	9.23	10.70	11.27	12.85

- Revenue and expenses for FY 2021/22 through FY 2023/24 provided by the District. Revenues and expenses for all other years are escalated based on the forecasting assumptions in Table 8.
- Interest earnings for FY 2021/22 through FY 2023/24 are from the District's Budget. For all other years, interest is calculated based on historical LAIF returns.
- Revenue from rate increases assumes an implementation date of January 1, 2025 for new rates. For each year thereafter, the assumption is that new rates will be implemented on January 1st of each year.

1	<-- Select Financial Plan Scenario Here	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
1	Alternative 1 - Custom Rate Increases	10.00%	10.00%	9.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
2	Alternative 2 - Custom Rate Increases	8.00%	8.00%	8.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%	6.00%
3	Alternative 3 - Custom Rate Increases	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
4	Alternative 4 - No Rate Increases	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

TABLE 2 : RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY	5-Year Projected Rate Period					Projected				
	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
Unrestricted Reserve:										
Total Beginning Cash¹	\$1,761,043									
Operating Reserve										
Beginning Reserve Balance	\$ 494,027	\$ 572,000	\$ 586,000	\$ 612,000	\$ 640,000	\$ 669,000	\$ (1,020,228)	\$ (2,087,747)	\$ (1,501,155)	\$ (985,007)
Beginning Irrigation Reserve Fund Balance	201,496	153,518	191,005	242,318	257,978					
Beginning Domestic Reserve Fund Balance	292,531	418,482	394,995	369,682	382,022					
Plus: Net Cash Flow (After Rate Increases)	370,823	514,424	704,167	214,897	147,018	(1,697,851)	(1,067,520)	586,592	516,148	1,593,840
Plus: Transfer in of Debt Reserve Surplus	-	-	-	-	-	-	-	-	-	-
Plus: Interest Earnings	6,368	7,373	7,554	7,889	8,250	8,623	-	-	-	-
Plus: Loan Proceeds	1,500,000	-	750,000	-	-	-	-	-	-	-
Less: Transfer out to Capital and Infrastructure Reserve	(1,799,218)	(507,797)	(1,435,721)	(194,785)	(126,268)	-	-	-	-	-
Ending Operating Reserve Balance	\$ 572,000	\$ 586,000	\$ 612,000	\$ 640,000	\$ 669,000	\$ (1,020,228)	\$ (2,087,747)	\$ (1,501,155)	\$ (985,007)	\$ 608,833
Target Ending Balance (90 days of O&M)²	\$ 572,000	\$ 586,000	\$ 612,000	\$ 640,000	\$ 669,000	\$ 701,000	\$ 734,000	\$ 769,000	\$ 807,000	\$ 847,000
Capital Reserve										
Beginning Reserve Balance	\$1,267,016	\$ 1,536,266	\$ 1,698,391	\$ 2,457,613	\$ 1,226,464	\$ 1,142,077	\$ 1,014,721	\$ 1,013,080	\$ 1,013,059	\$ 1,013,058
Plus: Grant Proceeds	-	-	-	-	-	-	-	-	-	-
Plus: Transfer of Operating Reserve Surplus	1,799,218	507,797	1,435,721	194,785	126,268	-	-	-	-	-
Plus: Interest Earnings	16,332	19,802	21,892	31,679	15,809	14,721	13,080	13,059	13,058	13,058
Less: Use of Reserves for Capital Projects	(1,546,300)	(365,474)	(698,391)	(1,457,613)	(226,464)	(142,077)	(14,721)	(13,080)	(13,059)	(13,058)
Ending Capital Reserve Balance	\$ 1,536,266	\$ 1,698,391	\$ 2,457,613	\$ 1,226,464	\$ 1,142,077	\$ 1,014,721	\$ 1,013,080	\$ 1,013,059	\$ 1,013,058	\$ 1,013,058
Target Ending Balance (\$1 million)³	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
Ending Balance - Excl. Restricted Reserves	\$ 2,108,266	\$ 2,284,391	\$ 3,069,613	\$ 1,866,464	\$ 1,811,077	\$ (5,506)	\$ (1,074,668)	\$ (488,096)	\$ 28,051	\$ 1,621,891
Min. Target Ending Balance -Excl. Restricted Reserves	\$ 1,572,000	\$ 1,586,000	\$ 1,612,000	\$ 1,640,000	\$ 1,669,000	\$ 1,701,000	\$ 1,734,000	\$ 1,769,000	\$ 1,807,000	\$ 1,847,000
Ending Surplus/(Deficit) Compared to Reserve Targets	\$ 536,266	\$ 698,391	\$ 1,457,613	\$ 226,464	\$ 142,077	\$ (1,706,506)	\$ (2,808,668)	\$ (2,257,096)	\$ (1,778,949)	\$ (225,109)
Annual Interest Earnings Rate⁴	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%

1. Beginning cash balances provided by District Staff.
2. The target ending balance is set equal to 90 days of O&M expenses.
3. The target ending balance is set equal to \$1 million
4. Historical interest earning rates are per the average annual yields for funds invested in LAIF (2018-2022). The source is the California State Treasurer's website: <https://www.treasurer.ca.gov/pmia-laif/historical/annual.asp>.

TABLE 3 : RESERVE FUND SUMMARY, cont.

SUMMARY OF CASH ACTIVITY	5-Year Projected Rate Period					Projected				
	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
Restricted Reserve:										
Capacity Fee Reserve										
Beginning Reserve Balance	\$ 155,263	\$ 171,265	\$ 173,472	\$ 175,708	\$ 177,973	\$ 180,267	\$ 182,591	\$ 184,944	\$ 187,328	\$ 189,743
Plus: Interest Earnings	2,001	2,208	2,236	2,265	2,294	2,324	2,354	2,384	2,415	2,446
Plus: Capacity Fee Revenue ¹	14,000	-	-	-	-	-	-	-	-	-
Less: Use of Reserves for Capital Projects	-	-	-	-	-	-	-	-	-	-
Ending Connection Fee Fund Balance	\$ 171,265	\$ 173,472	\$ 175,708	\$ 177,973	\$ 180,267	\$ 182,591	\$ 184,944	\$ 187,328	\$ 189,743	\$ 192,189
Target Ending Balance (\$1 million)³	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000
Annual Interest Earnings Rate³	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%	1.29%

1. Capacity fee revenue provided by District Staff.
2. The target ending balance is set equal to 3% of net capital assets. See Exhibit 2 (CIP) for details.
3. Historical interest earning rates are per the average annual yields for funds invested in LAIF (2017-2021). The source is the California State Treasurer's website: <https://www.treasurer.ca.gov/pmia-laif/historical/annual.asp>.

CHART 1

Water Revenue Requirements vs. Revenue Under Existing and Increased Rates

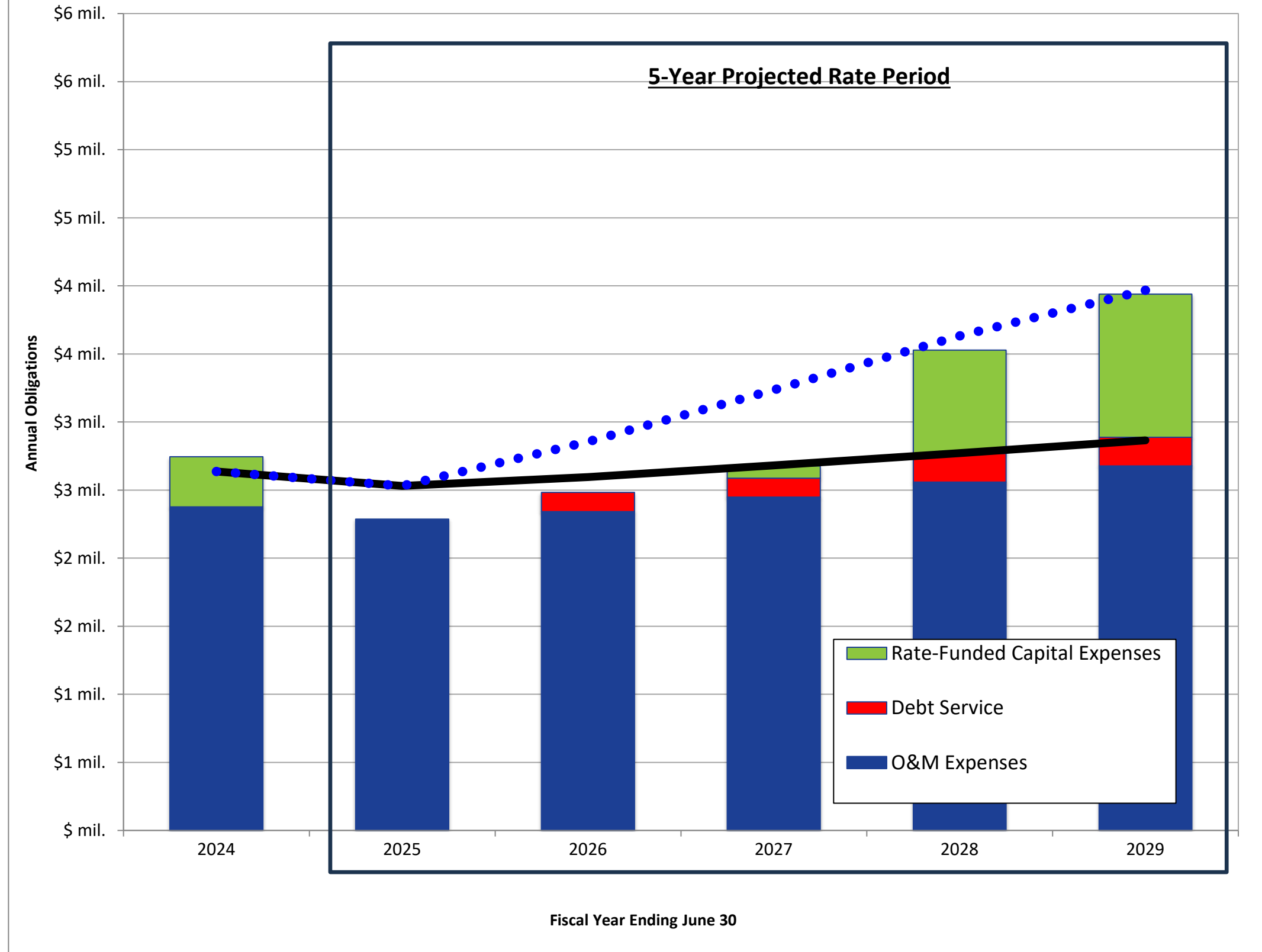


CHART 2

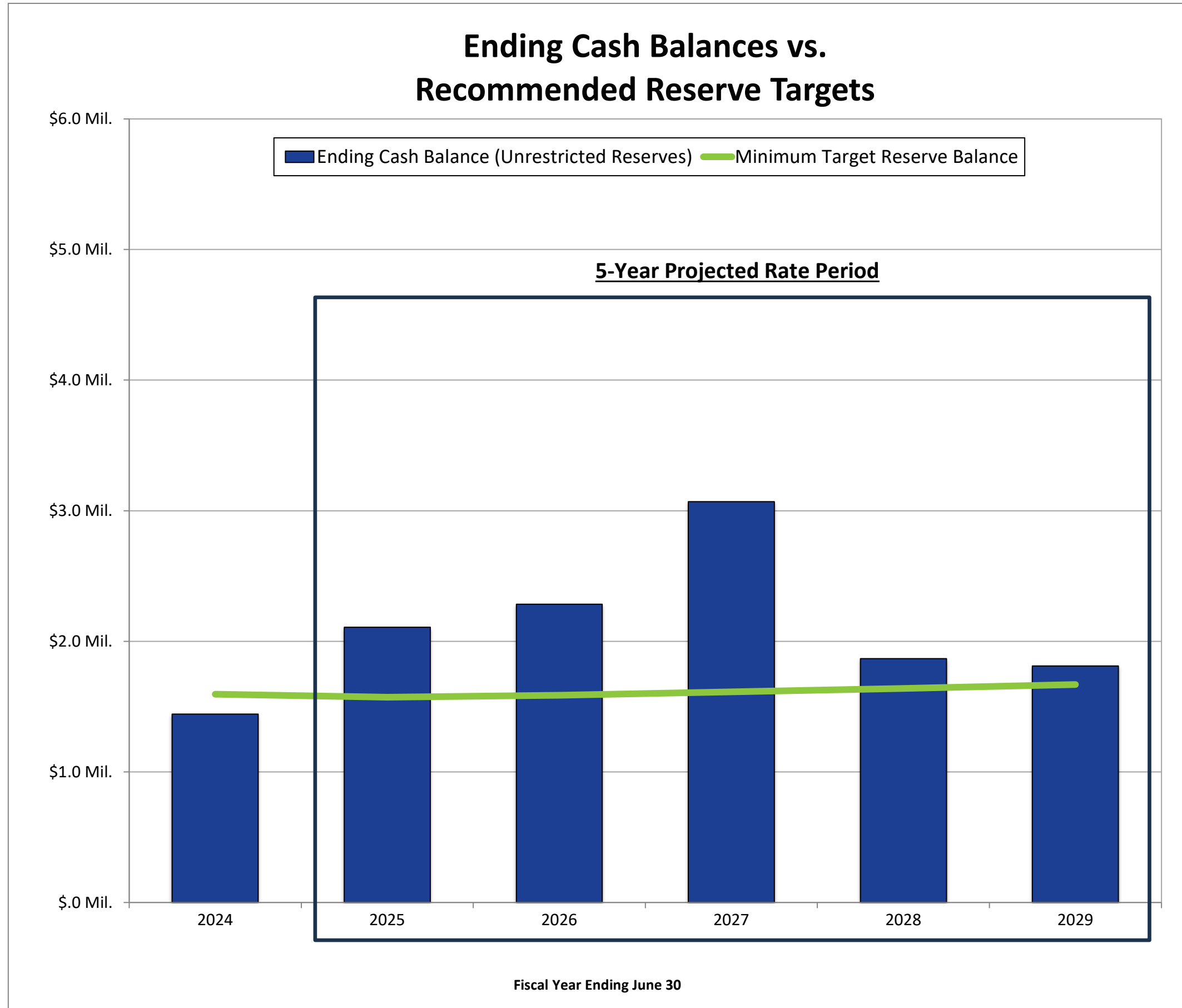


CHART 3

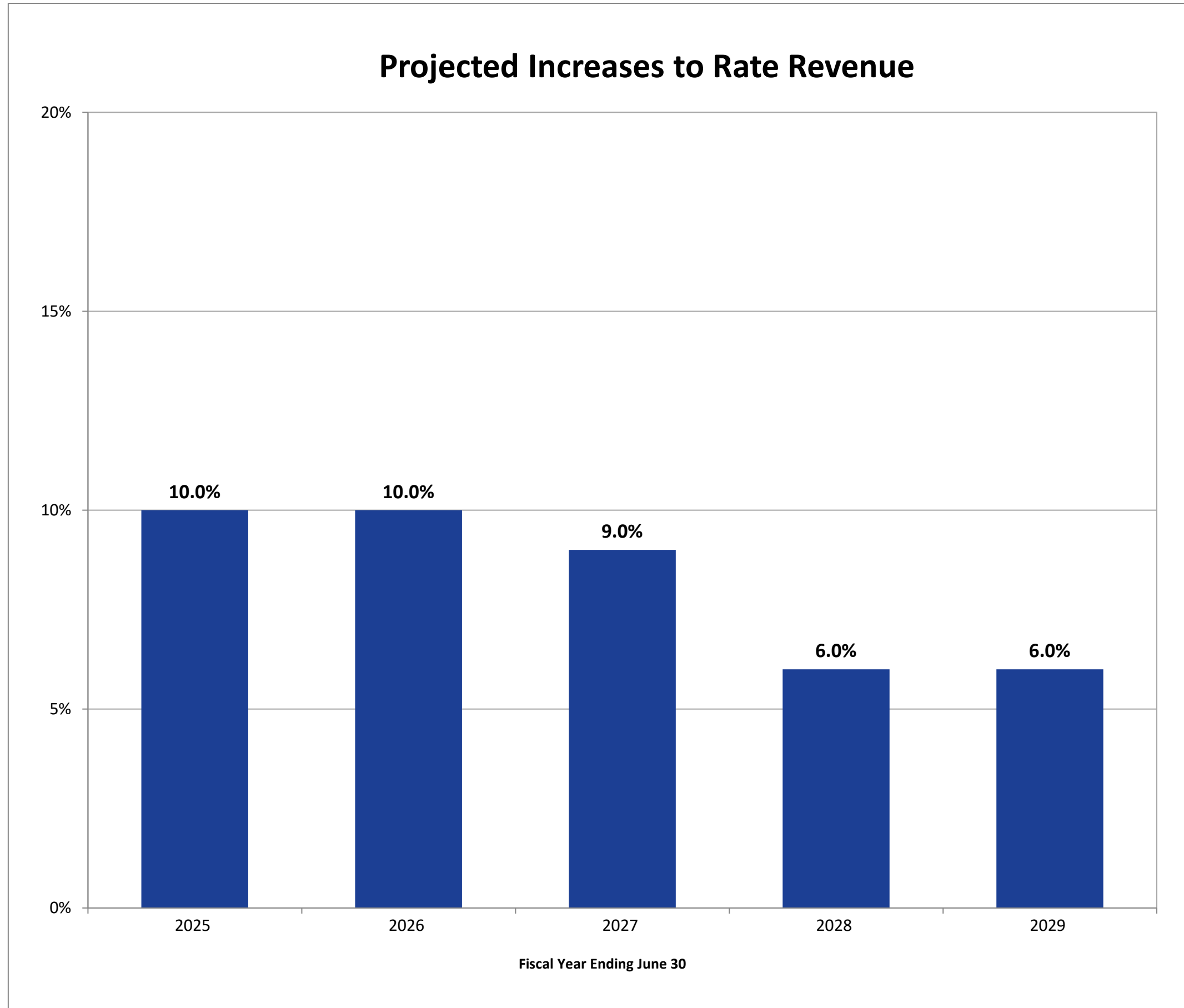


CHART 4

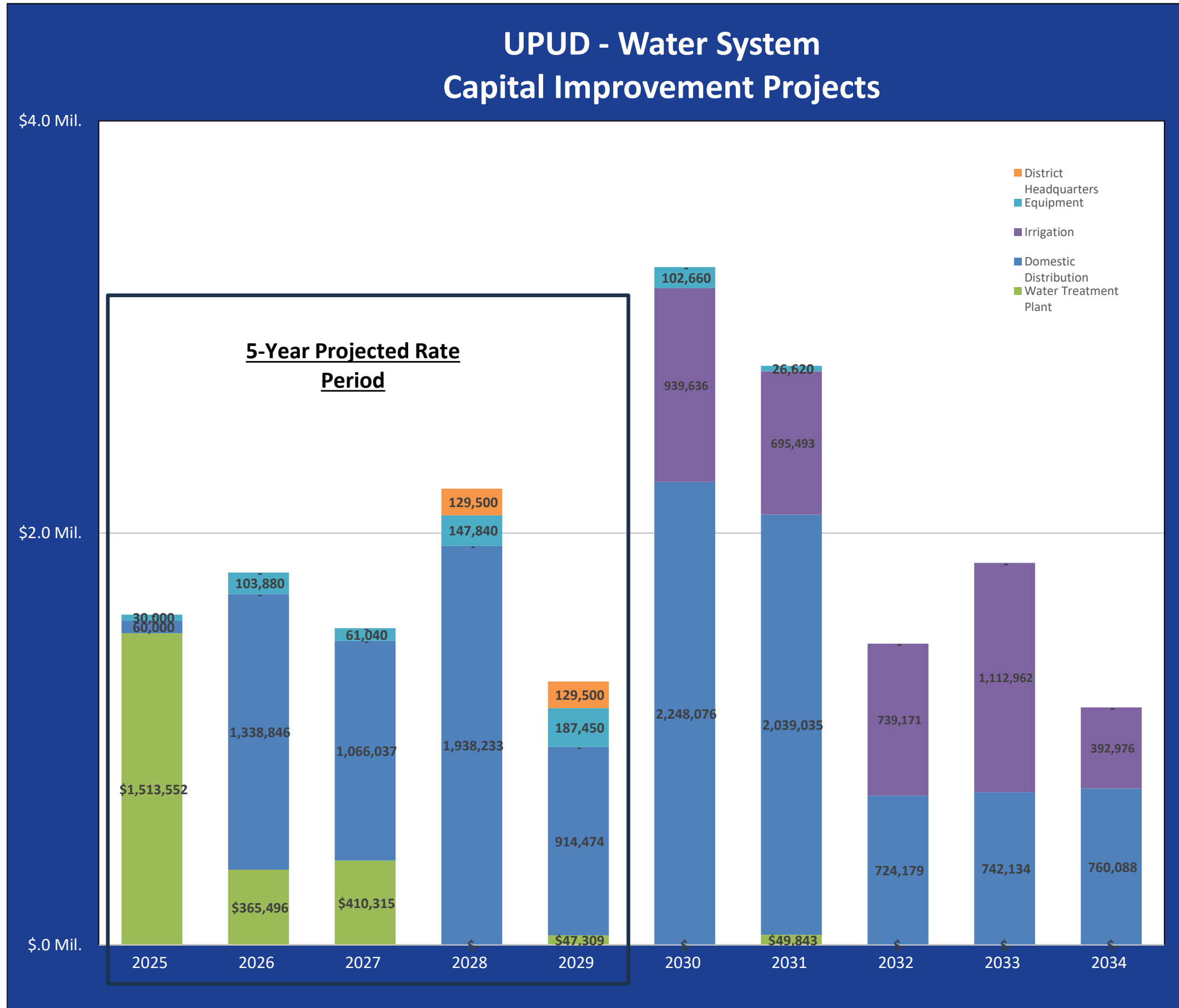


TABLE 4 : REVENUE FORECAST ¹

DESCRIPTION	Basis	Actual	Actual	Budget	5-Year Projected Rate Period					Projected				
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
Operating Revenue														
Water Sales														
Domestic & Irrigation	1	\$ 2,027,000			\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Domestic	1		1,830,000	1,583,114	\$1,741,425	\$ 1,776,254	\$ 1,811,779	\$ 1,848,014	\$ 1,884,974	\$ 1,922,674	\$ 1,961,127	\$ 2,000,350	\$ 2,040,357	\$ 2,081,164
Irrigation	1		132,000	180,000	\$147,000	\$ 149,940	\$ 152,939	\$ 155,998	\$ 159,118	\$ 162,300	\$ 165,546	\$ 168,857	\$ 172,234	\$ 175,679
Utica Conveyance Fees	9			370,000	\$370,000	\$ 407,000	\$ 447,700	\$ 492,470	\$ 541,717	\$ 595,889	\$ 655,478	\$ 721,025	\$ 793,128	\$ 872,441
Utica Irrigation Water Sales	9		163	163	\$157	\$ 173	\$ 190	\$ 209	\$ 230	\$ 253	\$ 278	\$ 306	\$ 337	\$ 370
Other Water Related	1													
Hydrant meters	1		2,000	2,000	\$ 2,000	\$ 2,040	\$ 2,081	\$ 2,122	\$ 2,165	\$ 2,208	\$ 2,252	\$ 2,297	\$ 2,343	\$ 2,390
Penalties	1		22,500	10,000	\$ 10,000	\$ 10,200	\$ 10,404	\$ 10,612	\$ 10,824	\$ 11,041	\$ 11,262	\$ 11,487	\$ 11,717	\$ 11,951
Other - Water related	1		7,000	5,000	\$ 5,000	\$ 5,100	\$ 5,202	\$ 5,306	\$ 5,412	\$ 5,520	\$ 5,631	\$ 5,743	\$ 5,858	\$ 5,975
Meter Reset Fees	1	3,000	1,000	1,000	\$ 1,000	\$ 1,020	\$ 1,040	\$ 1,061	\$ 1,082	\$ 1,104	\$ 1,126	\$ 1,149	\$ 1,172	\$ 1,195
Connection Fees														
Domestic	See FP	84,000	98,000	56,000	14,000									
Irrigation	See FP	15,000	-	-	-									
Non-Operating Revenue														
Sale of Assets	1	-	-	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Non-Oper Income(CV Autogate (offsets exp in 01	1	1,500	7,100	1,500	\$ 1,500	\$ 1,530	\$ 1,561	\$ 1,592	\$ 1,624	\$ 1,656	\$ 1,689	\$ 1,723	\$ 1,757	\$ 1,793
Interest Earned (LAIF & Bank Accts)	1	35,000	57,000	110,000	\$ 70,000	\$ 71,400	\$ 72,828	\$ 74,285	\$ 75,770	\$ 77,286	\$ 78,831	\$ 80,408	\$ 82,016	\$ 83,656
Taxes	1	123,000	145,000	165,000	\$ 165,000	\$ 168,300	\$ 171,666	\$ 175,099	\$ 178,601	\$ 182,173	\$ 185,817	\$ 189,533	\$ 193,324	\$ 197,190
Insurance Refunds	1	-	11,142	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Garage Rentals	1	1,200	1,200	1,200	\$ 1,200	\$ 1,224	\$ 1,248	\$ 1,273	\$ 1,299	\$ 1,325	\$ 1,351	\$ 1,378	\$ 1,406	\$ 1,434
NCPA Facilities Use Agreement	1	2,500	2,500	2,500	\$ 2,500	\$ 2,550	\$ 2,601	\$ 2,653	\$ 2,706	\$ 2,760	\$ 2,815	\$ 2,872	\$ 2,929	\$ 2,988
Forest Meadows-Div.Wtr	1	50	-	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grant Income	1	-	38,500	150,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Loan Proceeds	1	-	-	-	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Transfer from Emergency Reserve	See FP				\$ 725,300									
Transfer from Irrigation Reserve	See FP				\$ 75,000									
Transfer from Utica Reserve	See FP													
Transfer from Operations Reserve	See FP	150,000	150,000	300,000	\$ 746,000									
Transfer from Capital Reserve	See FP				\$ -									
TOTAL: REVENUE		\$ 2,292,250	\$ 2,355,105	\$ 2,637,477	\$ 2,530,782	\$ 2,596,730	\$ 2,681,239	\$ 2,770,695	\$ 2,865,523	\$ 2,966,189	\$ 3,073,204	\$ 3,187,129	\$ 3,308,578	\$ 3,438,226

TABLE 5 : REVENUE SUMMARY

DESCRIPTION	Basis	Actual	Actual	Budget	5-Year Projected Rate Period					Projected				
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
Water Sales		\$ 2,030,000	\$ 1,994,663	\$ 2,151,277	\$ 2,276,582	\$ 2,351,726	\$ 2,431,335	\$ 2,515,792	\$ 2,605,523	\$ 2,700,989	\$ 2,802,700	\$ 2,911,214	\$ 3,027,145	\$ 3,151,165
Connection Fees		99,000	98,000	56,000	14,000	-	-	-	-	-	-	-	-	-
Non-Operating Revenue		163,250	262,442	430,200	240,200	245,004	249,904	254,902	260,000	265,200	270,504	275,914	281,433	287,061
TOTAL: REVENUE		\$ 2,292,250	\$ 2,355,105	\$ 2,637,477	\$ 2,530,782	\$ 2,596,730	\$ 2,681,239	\$ 2,770,695	\$ 2,865,523	\$ 2,966,189	\$ 3,073,204	\$ 3,187,129	\$ 3,308,578	\$ 3,438,226

TABLE 6 : OPERATING EXPENSE FORECAST¹

DESCRIPTION	Basis	Actual		Budget	5-Year Projected Rate Period					Projected				
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
Water Purchased														
Utica Fees	9	\$ 41,906	\$ 490,000		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
UPUD Contribution	9			290,000	370,000	407,000	447,700	492,470	541,717	595,889	655,478	721,025	793,128	872,441
Utica Reserve	9			80,000	-	-	-	-	-	-	-	-	-	-
Treatment														
Labor	3	75,000	83,991	86,300	88,798	91,480	94,243	97,089	100,021	103,042	106,154	109,359	112,662	116,064
Overtime	3	5,000	4,256	20,000	20,900	21,531	22,181	22,851	23,541	24,252	24,985	25,739	26,517	27,317
On-Call	3	17,880	18,000	10,494	10,966	11,297	11,639	11,990	12,352	12,725	13,110	13,505	13,913	14,333
WT Cert Bonus	3	1,500	1,500	500	500	515	531	547	563	580	598	616	634	654
Temp Labor	3	7,000	1,000	-	-	-	-	-	-	-	-	-	-	-
FICA/Medicare (6.2%/1.45% Emplr)	3	8,100	8,500	9,200	9,500	9,787	10,082	10,387	10,701	11,024	11,357	11,700	12,053	12,417
Repairs & Maintenance	3	5,000	5,000	5,000	5,000	5,151	5,307	5,467	5,632	5,802	5,977	6,158	6,344	6,535
Equipment Repairs	3	3,500	7,500	7,500	7,500	7,727	7,960	8,200	8,448	8,703	8,966	9,237	9,516	9,803
Supplies	2	45,000	85,000	75,000	75,000	77,588	80,264	83,033	85,898	88,862	91,927	95,099	98,380	101,774
Capital Expenditures/Equipment Purchases	Exh. 2													
Equipment Rental	2	2,000	2,300	2,500	2,500	2,586	2,675	2,768	2,863	2,962	3,064	3,170	3,279	3,392
Uniforms	2	250	500	500	600	621	642	664	687	711	735	761	787	814
Water Analysis	2	20,000	22,000	22,000	22,000	22,759	23,544	24,356	25,197	26,066	26,965	27,896	28,858	29,854
Other	2	500	500	-	-	-	-	-	-	-	-	-	-	-
Equipment Purchase to \$999	Exh. 3	1,000	5,000	8,000	8,000	-	-	-	-	-	-	-	-	-
Education	Exh. 3	1,000	1,000	1,500	2,500	-	-	-	-	-	-	-	-	-
Autogate Expense - Crestview	2	1,600	1,000	1,500	1,500	1,552	1,605	1,661	1,718	1,777	1,839	1,902	1,968	2,035
Health Insurance - PEMCHA - Retiree FT	2	-	-	-	-	-	-	-	-	-	-	-	-	-
Health Insurance	2	33,000	40,135	44,000	40,035	41,416	42,845	44,323	45,852	47,434	49,070	50,763	52,515	54,326
Worker's Comp	2	5,500	4,160	4,150	4,535	4,691	4,853	5,020	5,194	5,373	5,558	5,750	5,948	6,153
CalPERS Contributions(Employer & Employee Cor	2	18,500	20,000	20,000	20,344	21,046	21,772	22,523	23,300	24,104	24,936	25,796	26,686	27,607
Travel & Mileage	7	300	500	500	1,000	1,071	1,147	1,228	1,315	1,408	1,507	1,614	1,728	1,851
Telephone	2	4,000	3,500	3,500	3,500	3,621	3,746	3,875	4,009	4,147	4,290	4,438	4,591	4,749
Professional Services - Engineer	2	-	-	10,000	15,000	15,518	16,053	16,607	17,180	17,772	18,385	19,020	19,676	20,355
Professional Services - Other	2	9,500	9,075	9,500	20,000	20,690	21,404	22,142	22,906	23,696	24,514	25,360	26,235	27,140
Domestic Distribution														
Labor	3	215,000	243,833	269,000	273,045	281,291	289,786	298,537	307,553	316,841	326,410	336,267	346,423	356,885
Overtime	3	6,700	8,000	4,000	5,000	5,151	5,307	5,467	5,632	5,802	5,977	6,158	6,344	6,535
On-Call	3	10,920	11,500	10,494	10,966	11,297	11,639	11,990	12,352	12,725	13,110	13,505	13,913	14,333
TD Cert Bonus	3	500	1,000	1,500	1,000	1,030	1,061	1,093	1,126	1,160	1,195	1,232	1,269	1,307
Temp Labor	3	2,000	1,000	-	15,000	15,453	15,920	16,400	16,896	17,406	17,932	18,473	19,031	19,606
FICA/Medicare (6.2%/1.45% Emplr)	3	18,000	24,000	22,000	20,064	20,670	21,294	21,937	22,600	23,282	23,985	24,710	25,456	26,225
Repairs & Maintenance	2	2,000	2,000	5,000	8,000	8,276	8,562	8,857	9,162	9,479	9,806	10,144	10,494	10,856
Equipment Repairs	2	7,500	7,500	7,500	6,000	6,207	6,421	6,643	6,872	7,109	7,354	7,608	7,870	8,142
Supplies	2	20,000	30,000	30,000	24,000	24,828	25,685	26,571	27,487	28,436	29,417	30,432	31,481	32,568
Utilities	5	5,000	5,800	5,800	4,640	5,143	5,701	6,319	7,004	7,763	8,604	9,537	10,571	11,717
Capital Expenditures/Equipment Purchases	Exh. 2													
Memberships	2	500	4,500	4,500	3,680	3,807	3,938	4,074	4,215	4,360	4,511	4,666	4,827	4,994
Permits	2	250	140	500	500	517	535	554	573	592	613	634	656	678
Equipment Rental	2	2,000	2,000	2,500	2,500	2,586	2,675	2,768	2,863	2,962	3,064	3,170	3,279	3,392
Uniforms	2	750	2,000	2,000	2,000	2,069	2,140	2,214	2,291	2,370	2,451	2,536	2,623	2,714
Gas, Oil & Fuel	7	15,000	24,000	24,000	19,200	20,559	22,014	23,572	25,241	27,028	28,941	30,989	33,183	35,532
Other	2	200	-	-	-	-	-	-	-	-	-	-	-	-
Equipment (to \$999)	2	1,250	3,000	3,000	4,000	4,138	4,281	4,428	4,581	4,739	4,903	5,072	5,247	5,428
Education & Training	2	1,000	5,000	2,500	5,200	5,379	5,565	5,757	5,956	6,161	6,374	6,594	6,821	7,056
Health Insurance	2	82,000	146,000	120,000	113,414	117,326	121,374	125,561	129,893	134,375	139,011	143,806	148,768	153,900
Worker's Comp	2	17,000	10,500	12,400	11,567	11,966	12,379	12,806	13,247	13,704	14,177	14,666	15,172	15,696
Unemployment	2	-	-	-	-	-	-	-	-	-	-	-	-	-
CalPERS Contributions(Employer & Employee Cor	2	48,000	48,000	57,500	44,185	45,709	47,286	48,917	50,605	52,351	54,157	56,026	57,958	59,958
Travel & Mileage	7	150	300	300	800	857	917	982	1,052	1,126	1,206	1,291	1,383	1,480
Telephone	2	6,500	5,000	5,500	4,400	4,552	4,709	4,871	5,039	5,213	5,393	5,579	5,772	5,971
Professional Services - Engineer	2	75,000	65,000	65,000	56,000	57,932	59,931	61,998	64,137	66,350	68,639	71,007	73,457	75,991
Professional Services - Other	2	18,000	22,000	12,000	30,000	31,035	32,106	33,213	34,359	35,545	36,771	38,039	39,352	40,709
Irrigation Distribution														
Labor	3	-	-	-	68,262	70,323	72,447	74,635	76,889	79,211	81,603	84,067	86,606	89,222
Overtime	3	-	-	-	-	-	-	-	-	-	-	-	-	-
On-Call	3	-	-	-	-	-	-	-	-	-	-	-	-	-
TD Cert Bonus	3	-	-	-	-	-	-	-	-	-	-	-	-	-
Temp Labor	3	-	-	-	-	-	-	-	-	-	-	-	-	-
FICA/Medicare (6.2%/1.45% Emplr)	3	-	-	-	5,016	5,167	5,324	5,484	5,650	5,821	5,996	6,177	6,364	6,556
Repairs & Maintenance	2	-	-	-	2,000	2,069	2,140	2,214	2,291	2,370	2,451	2,536	2,623	2,714
Equipment Repairs	2	-	-	-	1,500	1,552	1,605	1,661	1,718	1,777	1,839	1,902	1,968	2,035
Supplies	2	-	-	-	6,000	6,207	6,421	6,643	6,872	7,109	7,354	7,608	7,870	8,142
Utilities	2	-	-	-	1,160	1,200	1,241	1,284	1,329	1,374	1,422	1,471	1,522	1,574
Capital Expenditures/Equipment Purchases	Exh. 2													
Memberships	2	-	-	-	900	931	963	996	1,031	1,066	1,103	1,141	1,181	1,221

Union Public Utility District
WATER RATE STUDY
 Operating Revenue and Expenses

Exhibit 1 - O&M

Permits	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Equipment Rental	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Uniforms	2	-	-	-	500	517	535	554	573	592	613	634	656	678	
Gas, Oil & Fuel	7	-	-	-	4,800	5,140	5,504	5,893	6,310	6,757	7,235	7,747	8,296	8,883	
Equipment (to \$999)	2	-	-	-	600	621	642	664	687	711	735	761	787	814	
Education & Training	2	-	-	-	1,300	1,345	1,391	1,439	1,489	1,540	1,593	1,648	1,705	1,764	
Health Insurance	2	-	-	-	28,353	29,332	30,344	31,390	32,473	33,594	34,753	35,952	37,192	38,475	
Worker's Comp	3	-	-	-	2,892	2,979	3,069	3,162	3,257	3,355	3,457	3,561	3,669	3,780	
CalPERS Contributions(Employer & Employee Cor	3	-	-	-	11,046	11,380	11,723	12,078	12,442	12,818	13,205	13,604	14,015	14,438	
Travel & Mileage	7	-	-	-	100	107	115	123	131	141	151	161	173	185	
Telephone	2	-	-	-	1,100	1,138	1,177	1,218	1,260	1,303	1,348	1,395	1,443	1,493	
Professional Services - Engineer	2	-	-	-	14,000	14,483	14,983	15,500	16,034	16,587	17,160	17,752	18,364	18,998	
Professional Services - Other	2	-	-	-	15,000	15,518	16,053	16,607	17,180	17,772	18,385	19,020	19,676	20,355	
Administration & General															
Labor	3	78,000	295,000	339,080	299,998	309,058	318,392	328,007	337,913	348,118	358,631	369,462	380,620	392,114	
Overtime	3	6,000	4,500	1,000	1,000	1,030	1,061	1,093	1,126	1,160	1,195	1,232	1,269	1,307	
FICA/Medicare	3	8,000	24,000	27,000	22,950	23,643	24,357	25,093	25,850	26,631	27,435	28,264	29,117	29,997	
Repairs & Maintenance	2	1,000	5,000	5,000	10,000	10,345	10,702	11,071	11,453	11,848	12,257	12,680	13,117	13,570	
Equipment Repairs	2	300	500	500	500	517	535	554	573	592	613	634	656	678	
Office & Billing Supplies	2	10,000	5,000	5,000	5,000	5,173	5,351	5,536	5,727	5,924	6,128	6,340	6,559	6,785	
Copier Expense	2	5,000	3,700	3,700	3,700	3,828	3,960	4,096	4,238	4,384	4,535	4,692	4,853	5,021	
Utilities	2	3,500	2,500	4,500	4,500	4,655	4,816	4,982	5,154	5,332	5,516	5,706	5,903	6,106	
Capital Expenditures/Equipment Purchases	Exh. 2														
Memberships	2	3,000	19,000	22,000	23,000	23,794	24,614	25,464	26,342	27,251	28,191	29,164	30,170	31,211	
Permits & Fees	2	1,500	200	800	200	207	214	221	229	237	245	254	262	271	
Equipment Rental	2	-	-	-	-	-	-	-	-	-	-	-	-	-	
Uniforms	2	-	-	500	500	517	535	554	573	592	613	634	656	678	
Postage	2	10,000	8,500	8,500	8,200	8,483	8,776	9,078	9,392	9,716	10,051	10,397	10,756	11,127	
Banking Fees	2	15,000	18,000	30,000	2,000	2,069	2,140	2,214	2,291	2,370	2,451	2,536	2,623	2,714	
Customer Transaction Fees	2	-	-	-	2,000	-	-	-	-	-	-	-	-	-	
other	2	500	-	-	-	-	-	-	-	-	-	-	-	-	
Equipment (to \$999)	2	2,000	2,500	5,000	5,000	5,173	5,351	5,536	5,727	5,924	6,128	6,340	6,559	6,785	
Education & Training	2	2,000	6,000	1,500	6,000	6,207	6,421	6,643	6,872	7,109	7,354	7,608	7,870	8,142	
Late Fees	2	-	-	-	-	-	-	-	-	-	-	-	-	-	
Health Insurance	2	26,000	83,000	72,500	45,982	47,569	49,210	50,908	52,664	54,481	56,360	58,305	60,316	62,397	
Worker's Comp	2	675	6,250	950	1,350	1,397	1,445	1,495	1,546	1,599	1,655	1,712	1,771	1,832	
General Insurance	2	25,000	25,000	25,000	25,000	25,863	26,755	27,678	28,633	29,621	30,642	31,700	32,793	33,925	
Unemployment	2	-	-	-	-	-	-	-	-	-	-	-	-	-	
CalPERS Contributions(Employer & Employee Cor	2	20,000	47,500	75,000	37,450	38,742	40,079	41,461	42,892	44,372	45,902	47,486	49,124	50,819	
Travel & Mileage	2	1,000	1,300	10,000	12,000	12,414	12,842	13,285	13,744	14,218	14,708	15,216	15,741	16,284	
Telephone	2	4,000	3,500	3,500	4,000	4,138	4,281	4,428	4,581	4,739	4,903	5,072	5,247	5,428	
Professional Services - Engineer	2	-	-	-	-	-	-	-	-	-	-	-	-	-	
Professional Services - Legal	2	3,000	30,000	140,000	30,000	31,035	32,106	33,213	34,359	35,545	36,771	38,039	39,352	40,709	
Professional Services - Accounting	2	10,000	9,700	10,400	20,000	20,690	21,404	22,142	22,906	23,696	24,514	25,360	26,235	27,140	
Professional Services - Other	2	25,000	50,000	31,000	25,000	25,863	26,755	27,678	28,633	29,621	30,642	31,700	32,793	33,925	
Professional Services - IT	2	-	18,000	20,809	20,800	21,518	22,260	23,028	23,822	24,644	25,494	26,374	27,284	28,225	
Professional Services - Software	2	-	-	35,000	30,000	31,035	32,106	33,213	34,359	35,545	36,771	38,039	39,352	40,709	
Communicatons	2	-	-	5,000	5,000	5,173	5,351	5,536	5,727	5,924	6,128	6,340	6,559	6,785	
Election Expense	2	1,000	-	-	-	-	-	-	-	-	-	-	-	-	
Bad Debts	2	-	-	-	-	-	-	-	-	-	-	-	-	-	
Contingencies	2	388,289	150,000	42,600	-	-	-	-	-	-	-	-	-	-	
Non-Operating Expenses	2	1,843	-	-	5,000	5,173	5,351	5,536	5,727	5,924	6,128	6,340	6,559	6,785	
SUBTOTAL: WATER SYSTEM EXPENSES		\$ 1,550,363	\$ 2,375,140	\$ 2,377,477	\$ 2,286,498	\$ 2,343,152	\$ 2,448,140	\$ 2,559,411	\$ 2,677,453	\$ 2,802,801	\$ 2,936,037	\$ 3,077,796	\$ 3,228,772	\$ 3,389,722	
GRAND TOTAL: WATER EXPENSES		\$ 1,550,363	\$ 2,375,140	\$ 2,377,477	\$ 2,286,498	\$ 2,343,152	\$ 2,448,140	\$ 2,559,411	\$ 2,677,453	\$ 2,802,801	\$ 2,936,037	\$ 3,077,796	\$ 3,228,772	\$ 3,389,722	

TABLE 7 : FORECASTING ASSUMPTIONS

INFLATION FACTORS ³	Basis	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Customer Growth ⁴	1	--	--	--	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
General Cost Inflation ⁵	2	--	--	--	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%	3.45%
Labor Cost Inflation ⁶	3	--	--	--	3.02%	3.02%	3.02%	3.02%	3.02%	3.02%	3.02%	3.02%	3.02%	3.02%
Chemicals ⁷	4	--	--	--	5.45%	5.45%	5.45%	5.45%	5.45%	5.45%	5.45%	5.45%	5.45%	5.45%
Energy ⁸	5	--	--	--	10.84%	10.84%	10.84%	10.84%	10.84%	10.84%	10.84%	10.84%	10.84%	10.84%
Electricity ⁹	6	--	--	--	8.35%	8.35%	8.35%	8.35%	8.35%	8.35%	8.35%	8.35%	8.35%	8.35%
Fuel & Utilities ¹⁰	7	--	--	--	7.08%	7.08%	7.08%	7.08%	7.08%	7.08%	7.08%	7.08%	7.08%	7.08%
Construction Cost Inflation ¹¹	8	--	--	--	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%	3.50%
UPWA Inflation	9	--	--	--	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
No Escalation	10	--	--	--	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

1. Revenue and expenses for FY 2021/22 through FY 2023/24 provided by the District. Revenues and expenses for all other years are escalated based on the forecasting assumptions in Table 8.
2. Capacity fee revenue is based on the Budget provided by District staff.
3. Expenses are inflated each year by the following annual inflation factor categories.
4. Customer growth is based on the population projections provided by the District.
5. General cost inflation is based on the 5-year average annual change in the Consumer Price Index for all Urban Consumers in the San Francisco-Oakland-Hayward, CA area.
6. Labor cost inflation is based on the 10-year average annual change in the Quarterly Census of Employment and Wages for San Francisco County, CA.
7. Chemical cost inflation is based on the 5-year average annual change in the Producer Price Index for Chemical Manufacturing.
8. Energy cost inflation is based on the 5-year average annual change in the Consumer Price Index for all Urban Consumers in the San Francisco-Oakland-Hayward, CA area.
9. Electricity cost inflation is based on the 5-year average change in the Consumer Price Index for San Francisco County.
10. Fuel & Utilities cost inflation is based on the 5-year average annual change in the Consumer Price Index - Average Price Data for Fuels and related products and power. This factor is used for utility costs other than electricity.
11. Construction cost Inflation is the 10-year average change in the Construction Cost Index for 2012-2022. Source: Engineering News Record website (<http://enr.construction.com>).

TABLE 8 : CAPITAL FUNDING SUMMARY

CAPITAL FUNDING FORECAST	Actual	Actual	Budget	5-Year Projected Rate Period						Projected				
	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34	
Funding Sources:														
Grants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Use of Capacity Fee Reserves	-	-	-	-	-	-	-	-	-	-	-	-	-	
SRF Loan Funding	-	-	-	-	-	-	-	-	-	-	-	-	-	
Use of New Revenue Bond Proceeds	-	-	-	\$57,252	\$1,442,748	\$750,000	-	-	-	-	-	-	-	
Use of Capital Rehabilitation and Replacement Reserve	-	-	-	1,546,300	365,474	698,391	1,457,613	226,464	142,077	14,721	13,080	13,059	13,058	
Rate Revenue	-	-	367,630	-	-	89,001	757,960	1,052,269	3,148,295	2,796,270	1,450,270	1,842,037	1,140,006	
Total Sources of Capital Funds	\$ -	\$ -	\$ 367,630	\$ 1,603,552	\$ 1,808,222	\$ 1,537,392	\$ 2,215,573	\$ 1,278,733	\$ 3,290,372	\$ 2,810,991	\$ 1,463,350	\$ 1,855,096	\$ 1,153,064	
Uses of Capital Funds:														
Total Project Costs	\$ -	\$ -	\$ 367,630	\$ 1,603,552	\$ 1,808,222	\$ 1,537,392	\$ 2,215,573	\$ 1,278,733	\$ 3,290,372	\$ 2,810,991	\$ 1,463,350	\$ 1,855,096	\$ 1,153,064	
Capital Funding Surplus (Deficiency)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
SRF Loan Funding	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
New Revenue Bond Proceeds	\$ -	\$ -	\$ -	\$1,500,000	\$ -	\$750,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	

TABLE 9 : CAPITAL IMPROVEMENT PROGRAM FUNDING OPTIONS

Policy Choice	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
1 Alternative 1 - Full Funding of CIP	\$ -	\$ -	\$ 367,630	\$ 1,603,552	\$ 1,808,222	\$ 1,537,392	\$ 2,215,573	\$ 1,278,733	\$ 3,290,372	\$ 2,810,991	\$ 1,463,350	\$ 1,855,096	\$ 1,153,064
2 Alternative 2 - 75% Funding of CIP	\$ -	\$ -	\$ 275,723	\$ 1,202,664	\$ 1,356,167	\$ 1,153,044	\$ 1,661,680	\$ 959,050	\$ 2,467,779	\$ 2,108,243	\$ 1,097,513	\$ 1,391,322	\$ 864,798
3 Alternative 3 - 50% Funding of CIP	\$ -	\$ -	\$ 183,815	\$ 801,776	\$ 904,111	\$ 768,696	\$ 1,107,787	\$ 639,367	\$ 1,645,186	\$ 1,405,496	\$ 731,675	\$ 927,548	\$ 576,532

Insert policy choice in box to right, based on options listed above:

Capital Improvement Program Funding Choice	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
Effective Annual Funding Amount	\$ -	\$ -	\$ 367,630	\$ 1,603,552	\$ 1,808,222	\$ 1,537,392	\$ 2,215,573	\$ 1,278,733	\$ 3,290,372	\$ 2,810,991	\$ 1,463,350	\$ 1,855,096	\$ 1,153,064

CAPITAL IMPROVEMENT PROGRAM

TABLE 10: CAPITAL IMPROVEMENT PROGRAM COSTS (in Current-Year Dollars)¹

Project #	Project Description ²	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
<i>Water Treatment Plant</i>														
1A	Tules problem Cadematori removal vegetation late fall				\$42,240		\$44,774		\$47,309		\$49,843			
1B	Electrical Service Upgrade at WTP			\$15,000	\$725,312									
1C	Coat & re-coat filters (3 ea)				\$283,000									
1D	Replace filter media and service wash				\$463,000									
1E	Paint / Coat Storage Tanks					\$355,196	\$365,541							
1F	Backwash Project (delay until grant funding)													
1G	Surveillance System at WTP and Corp Yard					\$10,300								
Subtotal: Water Treatment Plant Costs (Current-Year Dollars)		\$ -	\$ -	\$ 15,000	\$ 1,513,552	\$ 365,496	\$ 410,315	\$ -	\$ 47,309	\$ -	\$ 49,843	\$ -	\$ -	\$ -
<i>Domestic Distribution</i>														
2	Paint / Coat Storage Tanks					\$355,196		\$751,773		\$386,232				
2A	Rebuild 13 ea Pressure Reducing Valve Stations, piping, valves, lids					\$224,540	\$231,080	\$237,620	\$244,160	\$250,700	\$385,860			
2B.1	6" Pipe, Vallecito Bypass to Hwy 4 Existing Main						\$83,952.00							
2B.2	6" Pipe, Algiers Street - Church St. to Gold Street, Murphys						\$116,600.00							
2B.3	2.5" Pipe, Tanner Street, Murphys					\$22,660								
2C.1	8" Pipe, Coyote Dr, Sheet 5													
2C.2	12" Pipe, N Hwy 4, Sheet 1													
2C.3	8" Pipe, Apple Blossom Dr, Sheet 1/2													
2C.4	6" Pipe, S Algiers St, Sheet 3													
2C.5	6" Pipe, Main St, Sheet 4													
2C.6	6" Pipe, Woodland Dr, Sheet 4													
2C.7	6" Pipe, Woodland Dr, Sheet 4													
2C.8	6" Pipe, Watkins St, Sheet 4													
2C.9	8" Pipe, Fair Oaks Ln / Allen Ln, Sheets 4/7													
2C.10	8" Pipe, Green Meadow Ct, Sheet 6													
2D.1	10" Pipe, S Hwy 4, Sheet 7													
2D.2	10" Pipe, S Hwy 4 / Main St, Sheet 8													
2D.3	10" Pipe, S Hwy 4, Sheet 9													
2D.4	10" Pipe, Hwy 4 / Vallecito Bypass Rd, Sheet 10													
2D.5	8" Pipe, Red Hill Rd / Poag Rd, Sheet 10													
2D.6	8" Pipe, Church St / Angels Rd, Sheet 10													
2D.7	10" Pipe, Hwy 4 / Main St / Church St, Sheet 10													
2E	Replace wharf hydrants					\$532,793	\$548,312	\$563,830	\$579,348	\$594,866	\$610,385	\$625,903	\$641,421	\$656,939
2F	Add mixer at Eltringham Water Tank													
2G	New Hydrants													
2H	Add remote read meter & meter box									\$922,875	\$946,950			
2I	Meter software and hardware for automatic meter reading													
2J	Replacement of all galvanized water service lines					\$83,657	\$86,093	\$88,530	\$90,966	\$93,403	\$95,840	\$98,276	\$100,713	\$103,149
2K	SCADA upgrades (tank level monitoring)							\$296,480						
2L	Monge Ranch Bridge Utility Relocation			\$254,630										
2M	Water Master Plan				\$60,000	\$120,000								
Subtotal: Domestic Distribution Costs (Current-Year Dollars)		\$ -	\$ -	\$ 254,630	\$ 60,000	\$ 1,338,846	\$ 1,066,037	\$ 1,938,233	\$ 914,474	\$ 2,248,076	\$ 2,039,035	\$ 724,179	\$ 742,134	\$ 760,088

TABLE 11 : CAPITAL IMPROVEMENT PROGRAM COSTS (in Current-Year Dollars)¹

Project #	Project Description ²	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
Irrigation														
3A.1	6" pipe, Church Street to Coyote Creek Road												\$340,022	
3A.2	6" pipe, Coyote Creek Rd. to end of Main, Vallecito											\$399,149		
3A.3	12" pipe, Carson Hill - Association Res. To Exist. 8" ACP Main										\$178,800			
3A.4	12" pipe, Mosbaugh Irr. Service to PRV Station													\$145,847
3B.1	12" pipe, Main St. DF & Hwy 4 East End to Main St. DF and Hwy 4 West End												\$1,112,962	
3B.2	12" pipe, Hatcher Winery to Batten Rd									\$939,636				
3C.1	12" pipe, Chlorine Building to Stephens Reservoir													\$247,129
3C.2	12" pipe, Seibel Reservoir to Penn Gulch Rd													
3C.3	12" pipe, Penn Gulch Rd to end of Green Meadow Ct.													
3C.4	12" pipe, End of Green Meadow Court to Hwy 4													
3C.5	6" pipe, Angels Road, Vallecito										\$81,273			
3D	Upgrade and increase hydrants													
3E	AMR/AMI													
3F	Siebel Reservoir: repair drain and outlet slide gates										\$128,620			
3G	Stephens Reservoir: repair slide gate										\$88,500			
3H	Association Reservoir: sediment removal & replace head gate valves										\$218,300			
Subtotal: Irrigation Costs (Current-Year Dollars)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 939,636	\$ 695,493	\$ 739,171	\$ 1,112,962	\$ 392,976
Equipment														
4A	F550 4x4 dump bed (upgrade 1970's truck)	-	-			\$103,880								
4B	F150 Pickup							\$147,840						
4C	F250 / F350 full box (Utility Truck)	-	-	\$86,000										
4D	Air compressor, gas/diesel (180 cfm)						\$30,520							
4E	Vac Trailer	-	-	\$12,000	\$30,000									
4F	Bumper Pull Dump Trailer						\$30,520							
4G	Mini Excavator	-	-					\$187,450						
4H	Skid Steer								\$102,660					
4I	Side by Side 4x4	-	-								\$26,620			
Subtotal: Equipment Costs (Current-Year Dollars)		\$ -	\$ -	\$ 98,000	\$ 30,000	\$ 103,880	\$ 61,040	\$ 147,840	\$ 187,450	\$ 102,660	\$ 26,620	\$ -	\$ -	\$ -
District Headquarters														
	Roof replacement & Electrical Upgrades	-	-					\$129,500.00	\$129,500.00	-	-	-	-	-
Subtotal: District Headquarters Costs (Current-Year Dollars)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 129,500	\$ 129,500	\$ -	\$ -	\$ -	\$ -	\$ -
Total: CIP Program Costs (Current-Year Dollars)		\$ -	\$ -	\$ 367,630	\$ 1,603,552	\$ 1,808,222	\$ 1,537,392	\$ 2,215,573	\$ 1,278,733	\$ 3,290,372	\$ 2,810,991	\$ 1,463,350	\$ 1,855,096	\$ 1,153,064

TABLE 12 : CAPITAL IMPROVEMENT PROGRAM COSTS (in Future-Year Dollars)³

Project Description	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
Water Treatment Plant													
1A Tules problem Cadematori removal vegetation late fall	\$ -	\$ -	\$ -	\$ 42,240	\$ -	\$ 44,774	\$ -	\$ 47,309	\$ -	\$ 49,843	\$ -	\$ -	\$ -
1B Electrical Service Upgrade at WTP	\$ -	\$ -	\$ 15,000	\$ 725,312	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1C Coat & re-coat filters (3 ea)	\$ -	\$ -	\$ -	\$ 283,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1D Replace filter media and service wash	\$ -	\$ -	\$ -	\$ 463,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1E Paint / Coat Storage Tanks	\$ -	\$ -	\$ -	\$ -	\$ 355,196	\$ 365,541	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1F Backwash Project (delay until grant funding)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
1G Surveillance System at WTP and Corp Yard	\$ -	\$ -	\$ -	\$ -	\$ 10,300	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal: Water Treatment Plant Costs (Future-Year Dollars)	\$ -	\$ -	\$ 15,000	\$ 1,513,552	\$ 365,496	\$ 410,315	\$ -	\$ 47,309	\$ -	\$ 49,843	\$ -	\$ -	\$ -
Domestic Distribution													
2 Paint / Coat Storage Tanks	-	-	-	-	355,196	-	751,773	-	386,232	-	-	-	-
2A Rebuild 13 ea Pressure Reducing Valve Stations, piping, valves, lids	-	-	-	-	224,540	231,080	237,620	244,160	250,700	385,860	-	-	-
2B.1 6" Pipe, Vallecito Bypass to Hwy 4 Existing Main	-	-	-	-	-	83,952	-	-	-	-	-	-	-
2B.2 6" Pipe, Algiers Street - Church St. to Gold Street, Murphys	-	-	-	-	-	116,600	-	-	-	-	-	-	-
2B.3 2.5" Pipe, Tanner Street, Murphys	-	-	-	-	22,660	-	-	-	-	-	-	-	-
2C.1 8" Pipe, Coyote Dr, Sheet 5	-	-	-	-	-	-	-	-	-	-	-	-	-
2C.2 12" Pipe, N Hwy 4, Sheet 1	-	-	-	-	-	-	-	-	-	-	-	-	-
2C.3 8" Pipe, Apple Blossom Dr, Sheet 1/2	-	-	-	-	-	-	-	-	-	-	-	-	-
2C.4 6" Pipe, S Algiers St, Sheet 3	-	-	-	-	-	-	-	-	-	-	-	-	-
2C.5 6" Pipe, Main St, Sheet 4	-	-	-	-	-	-	-	-	-	-	-	-	-
2C.6 6" Pipe, Woodland Dr, Sheet 4	-	-	-	-	-	-	-	-	-	-	-	-	-
2C.7 6" Pipe, Woodland Dr, Sheet 4	-	-	-	-	-	-	-	-	-	-	-	-	-
2C.8 6" Pipe, Watkins St, Sheet 4	-	-	-	-	-	-	-	-	-	-	-	-	-
2C.9 8" Pipe, Fair Oaks Ln / Allen Ln, Sheets 4/7	-	-	-	-	-	-	-	-	-	-	-	-	-
2C.10 8" Pipe, Green Meadow Ct, Sheet 6	-	-	-	-	-	-	-	-	-	-	-	-	-
2D.1 10" Pipe, S Hwy 4, Sheet 7	-	-	-	-	-	-	-	-	-	-	-	-	-
2D.2 10" Pipe, S Hwy 4 / Main St, Sheet 8	-	-	-	-	-	-	-	-	-	-	-	-	-
2D.3 10" Pipe, S Hwy 4, Sheet 9	-	-	-	-	-	-	-	-	-	-	-	-	-
2D.4 10" Pipe, Hwy 4 / Vallecito Bypass Rd, Sheet 10	-	-	-	-	-	-	-	-	-	-	-	-	-
2D.5 8" Pipe, Red Hill Rd / Poag Rd, Sheet 10	-	-	-	-	-	-	-	-	-	-	-	-	-
2D.6 8" Pipe, Church St / Angels Rd, Sheet 10	-	-	-	-	-	-	-	-	-	-	-	-	-
2D.7 10" Pipe, Hwy 4 / Main St / Church St, Sheet 10	-	-	-	-	-	-	-	-	-	-	-	-	-
2E Replace wharf hydrants	-	-	-	-	532,793	548,312	563,830	579,348	594,866	610,385	625,903	641,421	656,939
2F Add mixer at Eltringham Water Tank	-	-	-	-	-	-	-	-	-	-	-	-	-
2G New Hydrants	-	-	-	-	-	-	-	-	-	-	-	-	-
2H Add remote read meter & meter box	-	-	-	-	-	-	-	-	922,875	946,950	-	-	-
2I Meter software and hardware for automatic meter reading	-	-	-	-	-	-	-	-	-	-	-	-	-
2J Replacement of all galvanized water service lines	-	-	-	-	83,657	86,093	88,530	90,966	93,403	95,840	98,276	100,713	103,149
2K SCADA upgrades (tank level monitoring)	-	-	-	-	-	-	296,480	-	-	-	-	-	-
2L Monge Ranch Bridge Utility Relocation	-	-	254,630	-	-	-	-	-	-	-	-	-	-
2M Water Master Plan	-	-	-	60,000	120,000	-	-	-	-	-	-	-	-
Subtotal: Domestic Distribution Costs (Future-Year Dollars)	\$ -	\$ -	\$ 254,630	\$ 60,000	\$ 1,338,846	\$ 1,066,037	\$ 1,938,233	\$ 914,474	\$ 2,248,076	\$ 2,039,035	\$ 724,179	\$ 742,134	\$ 760,088

TABLE 13 : CAPITAL IMPROVEMENT PROGRAM COSTS (in Future-Year Dollars)³

Project #	Project Description ²	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
Irrigation														
3A.1	6" pipe, Church Street to Coyote Creek Road	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 340,022	\$ -	\$ -
3A.2	6" pipe, Coyote Creek Rd. to end of Main, Vallecito	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 399,149	\$ -	\$ -
3A.3	12" pipe, Carson Hill - Association Res. To Exist. 8" ACP Main	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 178,800	\$ -	\$ -	\$ -
3A.4	12" pipe, Mosbaugh Irr. Service to PRV Station	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 145,847
3B.1	12" pipe, Main St. DF & Hwy 4 East End to Main St. DF and Hwy 4 Wes	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,112,962	\$ -
3B.2	12" pipe, Hatcher Winery to Batten Rd	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 939,636	\$ -	\$ -	\$ -	\$ -
3C.1	12" pipe, Chlorine Building to Stephens Reservoir	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 247,129
3C.2	12" pipe, Seibel Reservoir to Penn Gulch Rd	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3C.3	12" pipe, Penn Gulch Rd to end of Green Meadow Ct.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3C.4	12" pipe, End of Green Meadow Court to Hwy 4	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3C.5	6" pipe, Angels Road, Vallecito	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 81,273	\$ -	\$ -	\$ -
3D	Upgrade and increase hydrants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3E	AMR/AMI	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
3F	Siebel Reservoir: repair drain and outlet slide gates	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 128,620	\$ -	\$ -
3G	Stephens Reservoir: repair slide gate	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 88,500	\$ -	\$ -
3H	Association Reservoir: sediment removal & replace head gate valves	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 218,300	\$ -	\$ -	\$ -
Subtotal: Irrigation Costs (Future-Year Dollars)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 939,636	\$ 695,493	\$ 739,171	\$ 1,112,962	\$ 392,976
Equipment														
4A	F550 4x4 dump bed (upgrade 1970's truck)	\$ -	\$ -	\$ -	\$ -	\$ 103,880	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4B	F150 Pickup	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 147,840	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4C	F250 / F350 full box (Utility Truck)	\$ -	\$ -	\$ 86,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4D	Air compressor, gas/diesel (180 cfm)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 30,520	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4E	Vac Trailer	\$ -	\$ -	\$ 12,000	\$ 30,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4F	Bumper Pull Dump Trailer	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 30,520	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
4G	Mini Excavator	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 187,450	\$ -	\$ -	\$ -	\$ -	\$ -
4H	Skid Steer	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 102,660	\$ -	\$ -	\$ -	\$ -
4I	Side by Side 4x4	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 26,620	\$ -	\$ -	\$ -
Subtotal: Equipment Costs (Future-Year Dollars)		\$ -	\$ -	\$ 98,000	\$ 30,000	\$ 103,880	\$ 61,040	\$ 147,840	\$ 187,450	\$ 102,660	\$ 26,620	\$ -	\$ -	\$ -
District Headquarters														
	Roof replacement & Electrical Upgrades	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 129,500	\$ 129,500	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal: District Headquarters Costs (Current-Year Dollars)		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 129,500	\$ 129,500	\$ -	\$ -	\$ -	\$ -	\$ -
Total: CIP Program Costs (Current-Year Dollars)		\$ -	\$ -	\$ 367,630	\$ 1,603,552	\$ 1,808,222	\$ 1,537,392	\$ 2,215,573	\$ 1,278,733	\$ 3,290,372	\$ 2,810,991	\$ 1,463,350	\$ 1,855,096	\$ 1,153,064

TABLE 14: FORECASTING ASSUMPTIONS

Economic Variables	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
Annual Construction Cost Inflation, Per Engineering News Record ⁴	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Cumulative Construction Cost Multiplier from FY 2023/24	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

- Capital project costs were provided by City Staff and assumes Year 1 begins in FY 2023/24.
- The capital project costs have been inflated by District Staff in Current CIP Budget using the Construction Cost Index (See Table 13). Website: <http://enr.construction.com>.
- For reference purposes, the annual Construction Cost Inflation percentage is the 5-year average change in the Construction Cost Index from 2017 to 2022 (3.91%). Source: Engineering News Record website (<http://enr.construction.com>).

TABLE 15 : EXISTING DEBT OBLIGATIONS

EXISTING DEBT OBLIGATIONS	Actual		Budget	5-Year Projected Rate Period						Projected			
	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
Annual Repayment Schedules:													
N/A													
Principal Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Payment	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Annual Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Coverage Requirement (\$-Amnt above annual payment)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Reserve Requirement (total fund balance)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grand Total: Existing Annual Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grand Total: Existing Annual Coverage Requirement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grand Total: Existing Debt Reserve Target	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

1
2
3
4

TABLE 16 : EXISTING ANNUAL DEBT OBLIGATIONS TO BE SATISFIED BY WATER RATES

Annual Obligations	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31	FY 2031/32	FY 2032/33	FY 2033/34
Existing Annual Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Existing Annual Coverage Requirement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Existing Debt Reserve Target	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

TABLE 17 : FUTURE DEBT FINANCING ASSUMPTIONS

Long-Term Debt Terms	State Revolving Fund Loan	Revenue Bonds
Issuance Cost	2.00%	2.00%
Annual Interest Cost (%)	3.00%	5.50%
Term	30	20
Debt Reserve Funded	No	Yes
Coverage Requirement (% above annual pmt)	120%	125%

TABLE 18 : FUTURE DEBT OBLIGATIONS

Annual Repayment Schedules	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
SRF Loan Funding													
Principal Payment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Payment	-	-	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Annual Debt Service	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Revenue Bonds													
Principal Payment	\$ -	\$ -	\$ -	\$ -	\$ 47,995	\$ 50,635	\$ 77,417	\$ 81,675	\$ 86,167	\$ 90,907	\$ 95,906	\$ 101,181	\$ 106,746
Interest Payment	-	-	-	-	92,043	89,403	132,640	128,382	123,890	119,150	114,151	128,382	123,890
Subtotal: Annual Debt Service	\$ -	\$ -	\$ -	\$ -	\$ 140,038	\$ 140,038	\$ 210,057	\$ 210,057	\$ 210,057	\$ 210,057	\$ 210,057	\$ 229,563	\$ 230,636
Grand Total: Future Annual Debt Service	\$ -	\$ -	\$ -	\$ -	\$ 140,038	\$ 140,038	\$ 210,057	\$ 210,057	\$ 210,057	\$ 210,057	\$ 210,057	\$ 229,563	\$ 230,636
Grand Total: New Annual Coverage Requirement	\$ -	\$ -	\$ -	\$ -	\$ 175,048	\$ 175,048	\$ 262,571	\$ 262,571	\$ 262,571	\$ 262,571	\$ 262,571	\$ 286,954	\$ 288,295
Grand Total: Future Debt Reserve Target	\$ -	\$ -	\$ -	\$ -	\$ 140,038	\$ 140,038	\$ 210,057	\$ 210,057	\$ 210,057	\$ 210,057	\$ 210,057	\$ 210,057	\$ 210,057

TABLE 19 : TOTAL DEBT SERVICE

Annual Obligations	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Annual Debt Service	\$ -	\$ -	\$ -	\$ -	\$ 140,038	\$ 140,038	\$ 210,057	\$ 210,057	\$ 210,057	\$ 210,057	\$ 210,057	\$ 229,563	\$ 230,636
Annual Coverage Requirement	\$ -	\$ -	\$ -	\$ -	\$ 175,048	\$ 175,048	\$ 262,571	\$ 262,571	\$ 262,571	\$ 262,571	\$ 262,571	\$ 286,954	\$ 288,295
Total Debt Reserve Target	\$ -	\$ -	\$ -	\$ -	\$ 140,038	\$ 140,038	\$ 210,057	\$ 210,057	\$ 210,057	\$ 210,057	\$ 210,057	\$ 210,057	\$ 210,057
<i>Check</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

TABLE 20 : CURRENT WATER RATE SCHEDULE

Water Rate Schedule	January 1, 2024
Monthly Fixed Service Charges (in \$/mo)	
Domestic Service Charge	
5/8" or 3/4"	\$62.86
1"	\$94.15
1.5"	\$172.39
2"	\$266.28
3"	\$485.34
4"	\$798.28
6"	\$1,580.65
Irrigation Service Charge	
5/8" or 3/4"	\$32.83
1"	\$45.16
1.5"	\$75.97
2"	\$112.95
3"	\$199.24
4"	\$322.51
6"	\$630.67
Water Usage Charges (in \$/HCF)	
Domestic/Potable Water	\$1.04
Irrigation/Non-potable Water	\$0.09

*Note: The above fees do not include an additional \$18 monthly charge for water service to support UPUD's participation in the Utica Water and Power Authority (UWPA), established on July 2, 1994 and with the 4th revision effective July 1, 2020.

This charge will continue to be charged to all customers per meter connection (Domestic, Industrial, Commercial and Irrigation).

*Note: Irrigation rates updated as of 3/1/2024.

TABLE 21 : CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS

Classification of Expenses											
Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Raw Water	UWPA	Basis of Classification				
	FY 2025/26	(COM)	(CAP)	(CA)	(RAW)	(UWPA)	(COM)	(CAP)	(CA)	(RAW)	(UWPA)
Operating Expenses											
Water Purchased											
Utica Fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%	0.0%	100.0%
Upud Contribution	\$ 407,000	\$ -	\$ -	\$ -	\$ -	\$ 407,000	0.0%	0.0%	0.0%	0.0%	100.0%
Utica Reserve	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%	0.0%	100.0%
Treatment											
Labor	\$ 91,480	\$ 45,740	\$ 41,166	\$ 4,574	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Overtime	\$ 21,531	\$ 10,766	\$ 9,689	\$ 1,077	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
On-Call	\$ 11,297	\$ 5,649	\$ 5,084	\$ 565	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Wt Cert Bonus	\$ 515	\$ 258	\$ 232	\$ 26	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Temp Labor	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Fica/Medicare (6.2%/1.45% Emplr)	\$ 9,787	\$ 4,893	\$ 4,404	\$ 489	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Repairs & Maintenance	\$ 5,151	\$ 2,576	\$ 2,318	\$ 258	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Equipment Repairs	\$ 7,727	\$ 3,863	\$ 3,477	\$ 386	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Supplies	\$ 77,588	\$ 38,794	\$ 34,914	\$ 3,879	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Utilities	\$ 42,415	\$ 21,207	\$ 19,087	\$ 2,121	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Capital Expenditures/Equipment Purchases	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Permits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Equipment Rental	\$ 2,586	\$ 1,293	\$ 1,164	\$ 129	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Uniforms	\$ 621	\$ 310	\$ 279	\$ 31	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Water Analysis	\$ 22,759	\$ 11,380	\$ 10,242	\$ 1,138	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Equipment Purchase To \$999	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Education	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Autogate Expense - Crestview	\$ 1,552	\$ 776	\$ 698	\$ 78	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Health Insurance - Pemcha - Retiree Ft	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Health Insurance	\$ 41,416	\$ 20,708	\$ 18,637	\$ 2,071	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Worker'S Comp	\$ 4,691	\$ 2,346	\$ 2,111	\$ 235	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Calpers Contributions(Employer & Employee Contributions)	\$ 21,046	\$ 10,523	\$ 9,471	\$ 1,052	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Travel & Mileage	\$ 1,071	\$ 535	\$ 482	\$ 54	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Telephone	\$ 3,621	\$ 1,810	\$ 1,629	\$ 181	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Professional Services - Engineer	\$ 15,518	\$ 7,759	\$ 6,983	\$ 776	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Professional Services - Other	\$ 20,690	\$ 10,345	\$ 9,311	\$ 1,035	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Domestic Distribution											
Labor	\$ 281,291	\$ 140,645	\$ 126,581	\$ 14,065	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Overtime	\$ 5,151	\$ 2,576	\$ 2,318	\$ 258	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
On-Call	\$ 11,297	\$ 5,649	\$ 5,084	\$ 565	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Td Cert Bonus	\$ 1,030	\$ 515	\$ 464	\$ 52	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Temp Labor	\$ 15,453	\$ 7,727	\$ 6,954	\$ 773	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Fica/Medicare (6.2%/1.45% Emplr)	\$ 20,670	\$ 10,335	\$ 9,301	\$ 1,033	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Repairs & Maintenance	\$ 8,276	\$ 4,138	\$ 3,724	\$ 414	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Equipment Repairs	\$ 6,207	\$ 3,104	\$ 2,793	\$ 310	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Supplies	\$ 24,828	\$ 12,414	\$ 11,173	\$ 1,241	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Utilities	\$ 5,143	\$ 2,572	\$ 2,314	\$ 257	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Capital Expenditures/Equipment Purchases	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Memberships	\$ 3,807	\$ 1,903	\$ 1,713	\$ 190	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Permits	\$ 517	\$ 259	\$ 233	\$ 26	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Equipment Rental	\$ 2,586	\$ 1,293	\$ 1,164	\$ 129	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Uniforms	\$ 2,069	\$ 1,035	\$ 931	\$ 103	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Gas, Oil & Fuel	\$ 20,559	\$ 10,280	\$ 9,252	\$ 1,028	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%

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Functionalization & Classification

Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Equipment (To \$999)	\$ 4,138	\$ 2,069	\$ 1,862	\$ 207	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Education & Training	\$ 5,379	\$ 2,690	\$ 2,421	\$ 269	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Health Insurance	\$ 117,326	\$ 58,663	\$ 52,797	\$ 5,866	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Worker'S Comp	\$ 11,966	\$ 5,983	\$ 5,385	\$ 598	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Unemployment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Calpers Contributions(Employer & Employee Contributions)	\$ 45,709	\$ 22,855	\$ 20,569	\$ 2,285	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Travel & Mileage	\$ 857	\$ 428	\$ 385	\$ 43	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Telephone	\$ 4,552	\$ 2,276	\$ 2,048	\$ 228	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Professional Services - Engineer	\$ 57,932	\$ 28,966	\$ 26,069	\$ 2,897	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Professional Services - Other	\$ 31,035	\$ 15,518	\$ 13,966	\$ 1,552	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Irrigation Distribution											
Labor	\$ 70,323	\$ -	\$ -	\$ -	\$ 70,323	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Overtime	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
On-Call	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Td Cert Bonus	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Temp Labor	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Fica/Medicare (6.2%/1.45% Emplr)	\$ 5,167	\$ -	\$ -	\$ -	\$ 5,167	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Repairs & Maintenance	\$ 2,069	\$ -	\$ -	\$ -	\$ 2,069	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Equipment Repairs	\$ 1,552	\$ -	\$ -	\$ -	\$ 1,552	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Supplies	\$ 6,207	\$ -	\$ -	\$ -	\$ 6,207	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Utilities	\$ 1,200	\$ -	\$ -	\$ -	\$ 1,200	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Capital Expenditures/Equipment Purchases	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Memberships	\$ 931	\$ -	\$ -	\$ -	\$ 931	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Permits	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Equipment Rental	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Uniforms	\$ 517	\$ -	\$ -	\$ -	\$ 517	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Gas, Oil & Fuel	\$ 5,140	\$ -	\$ -	\$ -	\$ 5,140	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Equipment (To \$999)	\$ 621	\$ -	\$ -	\$ -	\$ 621	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Education & Training	\$ 1,345	\$ -	\$ -	\$ -	\$ 1,345	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Health Insurance	\$ 29,332	\$ -	\$ -	\$ -	\$ 29,332	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Worker'S Comp	\$ 2,979	\$ -	\$ -	\$ -	\$ 2,979	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Calpers Contributions(Employer & Employee Contributions)	\$ 11,380	\$ -	\$ -	\$ -	\$ 11,380	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Travel & Mileage	\$ 107	\$ -	\$ -	\$ -	\$ 107	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Telephone	\$ 1,138	\$ -	\$ -	\$ -	\$ 1,138	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Professional Services - Engineer	\$ 14,483	\$ -	\$ -	\$ -	\$ 14,483	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Professional Services - Other	\$ 15,518	\$ -	\$ -	\$ -	\$ 15,518	\$ -	0.0%	0.0%	0.0%	100.0%	0.0%
Administration & General											
Labor	\$ 309,058	\$ 139,076	\$ 123,623	\$ 15,453	\$ 30,906	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Overtime	\$ 1,030	\$ 464	\$ 412	\$ 52	\$ 103	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Fica/Medicare	\$ 23,643	\$ 10,639	\$ 9,457	\$ 1,182	\$ 2,364	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Repairs & Maintenance	\$ 10,345	\$ 4,655	\$ 4,138	\$ 517	\$ 1,035	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Equipment Repairs	\$ 517	\$ 233	\$ 207	\$ 26	\$ 52	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Office & Billing Supplies	\$ 5,173	\$ 2,328	\$ 2,069	\$ 259	\$ 517	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Copier Expense	\$ 3,828	\$ 1,722	\$ 1,531	\$ 191	\$ 383	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Utilities	\$ 4,655	\$ 2,095	\$ 1,862	\$ 233	\$ 466	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Capital Expenditures/Equipment Purchases	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Memberships	\$ 23,794	\$ 10,707	\$ 9,517	\$ 1,190	\$ 2,379	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Permits & Fees	\$ 207	\$ 93	\$ 83	\$ 10	\$ 21	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Equipment Rental	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Uniforms	\$ 517	\$ 233	\$ 207	\$ 26	\$ 52	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Postage	\$ 8,483	\$ 3,817	\$ 3,393	\$ 424	\$ 848	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Banking Fees	\$ 2,069	\$ 931	\$ 828	\$ 103	\$ 207	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Customer Transaction Fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Other	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Equipment (To \$999)	\$ 5,173	\$ 2,328	\$ 2,069	\$ 259	\$ 517	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%

Education & Training	\$ 6,207	\$ 2,793	\$ 2,483	\$ 310	\$ 621	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Late Fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Health Insurance	\$ 47,569	\$ 21,406	\$ 19,027	\$ 2,378	\$ 4,757	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Worker'S Comp	\$ 1,397	\$ 628	\$ 559	\$ 70	\$ 140	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
General Insurance	\$ 25,863	\$ 11,638	\$ 10,345	\$ 1,293	\$ 2,586	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Unemployment	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Calpers Contributions(Employer & Employee Contributions)	\$ 38,742	\$ 17,434	\$ 15,497	\$ 1,937	\$ 3,874	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Travel & Mileage	\$ 12,414	\$ 5,586	\$ 4,966	\$ 621	\$ 1,241	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Telephone	\$ 4,138	\$ 1,862	\$ 1,655	\$ 207	\$ 414	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Professional Services - Engineer	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Professional Services - Legal	\$ 31,035	\$ 13,966	\$ 12,414	\$ 1,552	\$ 3,104	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Professional Services - Accounting	\$ 20,690	\$ 9,311	\$ 8,276	\$ 1,035	\$ 2,069	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Professional Services - Other	\$ 25,863	\$ 11,638	\$ 10,345	\$ 1,293	\$ 2,586	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Professional Services - It	\$ 21,518	\$ 9,683	\$ 8,607	\$ 1,076	\$ 2,152	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Professional Services - Software	\$ 31,035	\$ 13,966	\$ 12,414	\$ 1,552	\$ 3,104	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Communicatons	\$ 5,173	\$ 2,328	\$ 2,069	\$ 259	\$ 517	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Election Expense	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Bad Debts	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Contingencies	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Non-Operating Expenses	\$ 5,173	\$ 2,328	\$ 2,069	\$ 259	\$ 517	\$ -	45.0%	40.0%	5.0%	10.0%	0.0%
Subtotal: Water System Expenses	\$ 2,343,152	\$ 849,307	\$ 761,000	\$ 88,307	\$ 237,538	\$ 407,000	36.2%	32.5%	3.8%	10.1%	17.4%

TABLE 22 : CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS, cont.

Classification of Expenses, cont.											
Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Raw Water	UWPA	Basis of Classification				
	FY 2025/26	(COM)	(CAP)	(CA)	(RAW)	(UWPA)	(COM)	(CAP)	(CA)	(RAW)	(UWPA)
Debt Service Payments											
Outstanding Debt	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
New Debt Issue - SRF Loan	-	-	-	-	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
New Debt Issue - Revenue Bond	210,057	105,029	94,526	10,503	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Total Debt Service Payments	\$ 210,057	\$ 105,029	\$ 94,526	\$ 10,503	\$ -	\$ -	50.0%	45.0%	5.0%	0.0%	0.0%
Capital Expenditures											
Rate-Funded Capital Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	50.0%	45.0%	10.0%	0.0%	0.0%
TOTAL REVENUE REQUIREMENTS	\$ 2,553,209	\$ 954,335	\$ 855,525	\$ 98,810	\$ 237,538	\$ 407,000	37.4%	33.5%	3.9%	9.3%	15.9%
Less: Non-Rate Revenues											
Non-Operating Revenue											
Connection Fees	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	50.0%	50.0%	0.0%	0.0%	0.0%
Non-Operating Revenue	(245,004)	(78,401)	(73,501)	(24,500)	(69,336)	\$ -	32.0%	30.0%	10.0%	28.3%	0.0%
NET REVENUE REQUIREMENTS	\$ 2,308,205	\$ 875,934	\$ 782,024	\$ 74,310	\$ 168,202	\$ 407,000					
Allocation of Revenue Requirements	100.0%	37.9%	33.9%	3.2%	7.3%	17.6%					

TABLE 23 : ADJUSTMENT TO CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS

Adjustments to Classification of Expenses						
Adjustment for Current Rate Level:	Total	(COM)	(CAP)	(CA)	(RAW)	(UWPA)
Test Year (FY 2025/26) Target Revenue After Rate Increases	\$ 2,783,860					
Projected Revenue at Current Rates	\$ 2,530,782					
Test Year (FY 2025/26) Projected Rate Adjustment	10%					
Adjusted Net Revenue Req'ts	\$ 2,783,860	\$ 1,056,439	\$ 1,027,934	\$ 89,623	\$ 202,864	\$ 407,000
<i>Percent of Revenue</i>	<i>100.0%</i>	<i>37.9%</i>	<i>36.9%</i>	<i>3.2%</i>	<i>7.3%</i>	<i>14.6%</i>

TABLE 24 : NET REVENUE REQUIREMENTS PER COSA RESULTS

Net Revenue Requirements - Per COSA Results	Total Rate Revenue Requirements FY 2025/26	Commodity Related Costs	Fixed Costs		Direct Assignment Costs	
			Capacity Related Costs	Customer Related Costs	Raw Water Related Costs	UWPA Related Costs
Rate-Design Adjustments to Fixed/Variable %	100.0%	37.9%	36.9%	3.2%	7.3%	14.6%
Rate-Design Adjustments to Fixed/Variable (\$)	\$2,783,860	\$1,056,439	\$1,027,934	\$89,623	\$202,864	\$407,000

TABLE 25 : DEVELOPMENT OF THE COMMODITY ALLOCATION FACTOR

Development of the Volumetric/Variable Allocation Factor ¹			
Customer Class	CY 2023 Consumption (HCF)	% of Total Volume (Potable)	% of Total Volume (Non-potable)
Residential	275,136	84.7%	0.0%
Commercial	49,543	15.3%	0.0%
Raw Water	509,576	0.0%	100.0%
Total	834,255	100.0%	100.0%

1. Consumption data is based on UPUD billing data for CY 2023.

TABLE 26 : DEVELOPMENT OF THE CAPACITY ALLOCATION FACTORS

Development of the PEAK CAPACITY (MAX MONTH) Allocation Factors					
Customer Class	Average Monthly Use (HCF)	Peak Monthly Use (HCF) ¹	Peak Monthly Factor	% of Max Month Capacity Factor (Potable)	% of Max Month Capacity Factor (Non-potable)
Residential	22,928	38,800	1.69	84.6%	0.0%
Commercial	4,129	7,060	1.71	15.4%	0.0%
Raw Water	42,465	102,807	2.42	0.0%	100.0%
Total	69,521	148,667	2.14	100.0%	100.0%

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

TABLE 27 : DEVELOPMENT OF THE CUSTOMER ALLOCATION FACTORS: METERS

Development of the Customer Allocation Factor		
Customer Class	No. of Meters CY 2023	% of Total Meters
Residential	1,583	85.7%
Commercial	161	8.7%
Raw Water	104	5.6%
Total	1,848	100.0%

1. Meter count data is based on the District's billing data for December 2023.

2. Residential customer class includes additional 280 ADU units.

TABLE 28 : DEVELOPMENT OF THE CUSTOMER ALLOCATION FACTORS:ACCOUNTS & DWELLING UNITS

Development of the Customer Allocation Factor		
Customer Class	No. of Dwelling Units CY 2023	% of Total Units
Residential	1,733	86.7%
Commercial	161	8.1%
Raw Water	104	5.2%
Total	1,998	100.0%

1. Meter count data is based on the District's billing data for December 2023.

2. Residential customer class includes additional 280 ADU units.

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WATER RATE STUDY
Cost-of-Service Analysis & Rate Design

TABLE 29 : ALLOCATION OF WATER REVENUE REQUIREMENTS

Classification Components	Cost-of-Service Net Revenue Requirements (FY 2025/26)	
	Amount	Percentage
Commodity-Related Costs	\$ 1,056,439	37.9%
Capacity-Related Costs	1,027,934	36.9%
Customer-Related Costs	89,623	3.2%
Raw Water Related Costs	202,864	7.3%
UWPA Costs	407,000	14.6%
Net Revenue Requirement	\$ 2,783,860	100.0%

Unadjusted Net Rev. Req'ts.
37.9% total variable
62.1% total fixed
100.0%

TABLE 30 : ALLOCATION OF NET REVENUE REQUIREMENTS - FY 2024/25

Customer Classes	Classification Components					Cost of Service Net Rev. Req'ts	% of COS Net Revenue Req'ts
	VARIABLE	FIXED		Direct Assignment			
	Commodity-Related Costs	Capacity-Related Costs	Customer-Related Costs	Raw Water-Related Costs	UWPA-Related Costs		
Residential	\$ 895,236	\$ 869,688	\$ 77,736	\$ -	\$ 348,637	\$ 2,191,297	78.7%
Commercial	161,203	158,246	7,222	-	35,458	362,130	13.0%
Raw Water	-	-	4,665	202,864	22,905	230,434	8.3%
Total Net Revenue Requirement	\$ 1,056,439	\$ 1,027,934	\$ 89,623	\$ 202,864	\$ 407,000	\$ 2,783,860	100%
<i>Total Net Revenue Requirement by Classification Component</i>	<i>VARIABLE</i> \$1,056,439	<i>FIXED</i> \$1,117,557		<i>DIRECT ASSIGNMENT</i> \$609,864		\$2,783,860	

TABLE 31 : RATE DESIGN - SUMMARY OF REVENUE REQUIREMENTS

Customer Class	COSA Net Revenue Requirements		NET REVENUE REQUIREMENT - ALTERNATIVE 1				
	FY 2025/26	% of COS Rev. Req't.	% Fixed Revenue	% Variable Revenue	Revenue from Volumetric Charges	Revenue from Hydraulic Capacity Charges	Revenue from Customer Costs
Residential	\$ 2,191,297	78.7%	75%	25%	\$ 556,480	\$ 1,557,081	\$ 77,736
Commercial	362,130	13.0%	75%	25%	91,963	262,945	7,222
Raw Water	230,434	8.3%	75%	25%	57,608	168,160	4,665
Total	\$ 2,783,860	100.0%			\$ 706,051	\$ 1,988,186	\$ 89,623

Percent of Total Revenue Collected 75% 25%

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TABLE 32 : METER EQUIVALENCY FACTORS USED IN FIXED CHARGES CALCULATION

Meter Size	Standard Meters	
	Meter Capacity (GPM) ¹	Equivalency to 3/4 inch
	<i>Displacement Meters</i>	
3/4 inch	30	1.00
1 inch	50	1.67
1 1/2 inch	100	3.33
2 inch	160	5.33
	<i>Compound Class I Meters</i>	
3 inch	320	10.67
4 inch	500	16.67
6 inch	1,000	33.33
8 inch	1,600	53.33
	<i>Turbine Class II Meters</i>	
10 inch	4,200	140.00
12 inch	5,300	176.67

1. Per AWWA, M1 Manual, Table B-1.

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TABLE 33 : CALCULATION OF MONTHLY FIXED DOMESTIC METER SERVICE CHARGES FOR CY 2025

NET REVENUE REQUIREMENT - ALTERNATIVE 1								
Number of Meters by Class and Size ¹	FY 2024/25							Total
	5/8 - 3/4" meter	1" meter	1.5" meter	2" meter	3" meter	4" meter	6" meter	
Residential	1,563	16	1	2	0	0	1	1,582
Commercial	135	16	3	5	1	1	0	161
Total Meters/Accounts	1,698	32	4	7	1	1	1	1,743
<i>Hydraulic Capacity Factor</i> ²	1.00	1.67	3.33	5.33	10.67	16.67	33.33	
Total Equivalent Meters	1,698	53	13	37	11	17	33	1,863
Monthly Fixed Service Charges								
Customer Costs (\$/Acct/month) ³	\$3.74	\$3.74	\$3.74	\$3.74	\$3.74	\$3.74	\$3.74	
Capacity Costs (\$/Acct/month) ⁴	\$64.24	\$107.07	\$214.14	\$342.62	\$685.24	\$1,070.70	\$2,141.39	
UPWA Costs (\$/Acct/month) ⁵	\$18.36	\$18.36	\$18.36	\$18.36	\$18.36	\$18.36	\$18.36	
Total Monthly Meter Charge	\$67.98	\$110.81	\$217.88	\$346.36	\$688.98	\$1,074.43	\$2,145.13	
Annual Fixed Costs Allocated to Monthly Meter Charges								
Customer Costs	\$ 84,958							
Capacity Costs	1,435,931							
UPWA Costs	384,095							
Total Fixed Meter Costs	\$ 1,904,984							
Annual Revenue from Monthly Meter Charges								
Customer Charges	\$ 76,166	\$ 1,435	\$ 179	\$ 314	\$ 45	\$ 45	\$ 45	\$ 78,229
Capacity Charges	\$ 1,308,989	\$ 41,115	\$ 10,279	\$ 28,780	\$ 8,223	\$ 12,848	\$ 25,697	\$ 1,435,931
UPWA Charges	\$ 374,179	\$ 7,052	\$ 881	\$ 1,543	\$ 220	\$ 220	\$ 220	\$ 384,316
Total Revenue from Monthly Meter Cha	\$ 1,385,155	\$ 42,550	\$ 10,458	\$ 29,094	\$ 8,268	\$ 12,893	\$ 25,742	\$ 1,898,476

1. Meter by Class and Size are based on June 2023 customer billing data.
2. Source: *Principles of Water Rates, Fees, and Charges*, Manual M1, AWWA, Table B-1.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.
5. UPWA costs are allocated to each customer by dividing the total customer costs by the total number of customers.

TABLE 34 : CALCULATION OF MONTHLY FIXED RAW WATER METER SERVICE CHARGES FOR CY 2025

NET REVENUE REQUIREMENT - ALTERNATIVE 1								
Number of Meters by Class and Size ¹	FY 2024/25							Total
	5/8 - 3/4" meter	1" meter	1.5" meter	2" meter	3" meter	4" meter	6" meter	
Raw Water	8	36	37	13	8	2	0	104
Total Meters/Accounts	8	36	37	13	8	2	0	104
<i>Hydraulic Capacity Factor</i> ²	1.00	1.67	3.33	5.33	10.67	16.67	33.33	
Total Equivalent Meters	8	60	123	69	85	33	0	379
Monthly Fixed Service Charges								
Customer Costs (\$/Acct/month) ³	\$3.74	\$3.74	\$3.74	\$3.74	\$3.74	\$3.74	\$3.74	
Capacity Costs (\$/Acct/month) ⁴	\$31.91	\$53.18	\$106.37	\$170.19	\$340.38	\$531.84	\$1,063.68	
Total Monthly Meter Charge	\$35.65	\$56.92	\$110.11	\$173.93	\$344.11	\$535.58	\$1,067.41	
Annual Fixed Costs Allocated to Monthly Meter Charges								
Customer Costs	\$ 4,665							
Capacity Costs	145,255							
UPWA Costs	22,905							
Total Fixed Meter Costs	\$ 172,825							
Annual Revenue from Monthly Meter Charges								
Customer Charges	\$ 359	\$ 1,615	\$ 1,660	\$ 583	\$ 359	\$ 90	\$ -	\$ 4,665
Capacity Charges	\$ 3,063	\$ 22,975	\$ 47,227	\$ 26,549	\$ 32,676	\$ 12,764	\$ -	\$ 145,255
UPWA Charges	\$ 1,763	\$ 7,933	\$ 8,153	\$ 2,865	\$ 1,763	\$ 441	\$ -	\$ 22,918
Total Revenue from Monthly Meter Cha	\$ 5,185	\$ 32,523	\$ 57,040	\$ 29,997	\$ 34,798	\$ 13,295	\$ -	\$ 172,838

1. Meter by Class and Size are based on UPUD customer billing data.
2. Source: *Principles of Water Rates, Fees, and Charges*, Manual M1, AWWA, Table B-1.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

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TABLE 35 : ESTIMATED DOMESTIC FIXED REVENUE BY CUSTOMER CLASS

NET REVENUE REQUIREMENT - ALTERNATIVE 1							
Customer Class and Meter Size	Hydraulic Capacity Factor	Number of Meters	Total Equivalent Meters	Fixed Meter Charge		Total Fixed Meter Charge	Estimated Revenue from Fixed Charges
				Customer Component	Capacity Component		
3/4"	1.00	1,698	1,698	\$3.74	\$64.24	\$67.98	\$ 1,385,155
1"	1.67	32	53	\$3.74	\$107.07	\$110.81	42,550
1 1/2"	3.33	4	13	\$3.74	\$214.14	\$217.88	10,458
2"	5.33	7	37	\$3.74	\$342.62	\$346.36	29,094
3"	10.67	1	11	\$3.74	\$685.24	\$688.98	8,268
4"	16.67	1	17	\$3.74	\$1,070.70	\$1,074.43	12,893
6"	33.33	1	33	\$3.74	\$2,141.39	\$2,145.13	25,742
Total		1,744	1,863				\$ 1,514,160

- Check

TABLE 36 : ESTIMATED RAW WATER FIXED REVENUE BY CUSTOMER CLASS

NET REVENUE REQUIREMENT - ALTERNATIVE 1							
Customer Class and Meter Size	Hydraulic Capacity Factor	Number of Meters	Total Equivalent Meters	Fixed Meter Charge		Total Fixed Meter Charge	Estimated Revenue from Fixed Charges
				Customer Component	Capacity Component		
3/4"	1.00	8	8	\$3.74	\$31.91	\$35.65	\$ 3,422
1"	1.67	36	60	\$3.74	\$53.18	\$56.92	24,590
1 1/2"	3.33	37	123	\$3.74	\$106.37	\$110.11	48,887
2"	5.33	13	69	\$3.74	\$170.19	\$173.93	27,132
3"	10.67	8	85	\$3.74	\$340.38	\$344.11	33,035
4"	16.67	2	33	\$3.74	\$531.84	\$535.58	12,854
6"	33.33	0	0	\$3.74	\$1,063.68	\$1,067.41	-
Total		104	379				\$ 149,921

- Check

TABLE 37 : UPWA CHARGES BY CALENDAR YEAR

Category	January 1, 2025	January 1, 2026	January 1, 2027	January 1, 2028	January 1, 2029
UWPA Contribution	\$ 388,500	\$ 427,350	\$ 470,085	\$ 517,094	\$ 568,803
Reserve Offset Contribution	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
Number of Accounts & Dwelling Units	1,998	2,038	2,079	2,120	2,163
UPWA Monthly Charge	\$ 16.20	\$ 17.47	\$ 18.85	\$ 20.32	\$ 21.92
UPWA Monthly Charge (reduced)	\$ 15.37	\$ 16.66	\$ 18.04	\$ 19.54	\$ 21.15

TABLE 38 : PROPOSED VOLUMETRIC CHARGES FOR CY 2025 BY CUSTOMER CLASS

NET REVENUE REQUIREMENT - ALTERNATIVE 1					
Customer Classes	Water Consumption (HCF/yr)	Total Target Rev. Req't from Vol. Charges	% of Total Rate Revenue	Uniform Commodity Rates (\$/HCF)	Proposed Rate Structure
Residential	275,136	\$ 556,480	20.0%	\$2.00	Uniform
Commercial	49,543	91,963	3.3%	\$2.00	Uniform
Raw Water	509,576	57,608	2.1%	\$0.11	Uniform
Total Water	834,255	\$ 706,051	25.4%		

TABLE 39 : SUMMARY OF VOLUMETRIC CHARGES FOR CY 2025 FOR PROPOSED RATE TABLE

NET REVENUE REQUIREMENT - ALTERNATIVE 1					
Customer Classes	Water Consumption (HCF/yr)	Total Target Rev. Req't from Vol. Charges	% of Total Rate Revenue	Uniform Commodity Rates (\$/HCF)	Proposed Rate Structure
Domestic	324,679	\$ 648,443	23.3%	\$2.00	Uniform
Raw Water	509,576	57,608	2.1%	\$0.11	Uniform
Total Water	834,255	\$ 706,051	25.4%		

TABLE 40 : ESTIMATED VOLUMETRIC REVENUE BY CUSTOMER CLASS

Customer Class	Estimated Consumption	Estimated Variable Revenue	% of Variable Rate Revenue	Estimated Fixed Revenue		Total Estimated	Cost of Service Net Revenue
				Fixed Charges	UPWA Charges		
				NET REVENUE REQUIREMENT - ALTERNATIVE 1			
Residential	275,136	\$ 549,496	77.8%	\$ 1,286,180	\$ 348,637	\$ 2,184,313	\$ 2,191,297
Commercial	49,543	98,947	14.0%	\$ 234,709	\$ 35,458	\$ 369,114	362,130
Raw Water	509,576	57,608	8.2%	\$ 149,921	\$ 22,905	\$ 230,434	230,434
Grand Total	834,255	\$ 706,051	100.0%	\$ 1,670,809	\$ 407,000	\$ 2,783,860	\$ 2,783,860

- Check

TABLE 41 : CURRENT VS. PROPOSED MAXIMUM WATER RATES NET REVENUE REQUIREMENT - ALTERNATIVE 1

Water Rate Schedule	Current Rates	Proposed Rates				
		January 1, 2025	January 1, 2026	January 1, 2027	January 1, 2028	January 1, 2029
Water Usage Charges (in \$/HCF)						
Domestic/Potable Water	\$1.04	\$2.00	\$2.20	\$2.39	\$2.54	\$2.69
Irrigation/Non-potable Water	\$0.09	\$0.11	\$0.12	\$0.14	\$0.14	\$0.15
Monthly Fixed Service Charges (in \$/mo)						
Domestic Service Charge						
5/8" or 3/4"	\$62.86	\$67.98	\$74.78	\$81.51	\$86.40	\$91.58
1"	\$94.15	\$110.81	\$121.89	\$132.86	\$140.83	\$149.28
1.5"	\$172.39	\$217.88	\$239.66	\$261.23	\$276.91	\$293.52
2"	\$266.28	\$346.36	\$381.00	\$415.29	\$440.20	\$466.62
3"	\$485.34	\$688.98	\$757.88	\$826.09	\$875.66	\$928.20
4"	\$798.28	\$1,074.43	\$1,181.88	\$1,288.25	\$1,365.54	\$1,447.47
6"	\$1,580.65	\$2,145.13	\$2,359.64	\$2,572.01	\$2,726.33	\$2,889.91
Irrigation/Raw Water Service Charge						
5/8" or 3/4"	\$32.83	\$35.65	\$39.21	\$42.74	\$45.31	\$48.03
1"	\$45.16	\$56.92	\$62.61	\$68.25	\$72.34	\$76.68
1.5"	\$75.97	\$110.11	\$121.12	\$132.02	\$139.94	\$148.33
2"	\$112.95	\$173.93	\$191.32	\$208.54	\$221.05	\$234.31
3"	\$199.24	\$344.11	\$378.53	\$412.59	\$437.35	\$463.59
4"	\$322.51	\$535.58	\$589.13	\$642.16	\$680.68	\$721.53
6"	\$630.67	\$1,067.41	\$1,174.15	\$1,279.83	\$1,356.62	\$1,438.02
Customer Service Charge (\$/mo/dwelling unit)						
Customer Service Charge - Per Each Additional Dwelling Unit or Parcel	N/A	\$3.74	\$4.11	\$4.48	\$4.75	\$5.04
UPWA Fee (\$/mo)						
UPWA Fee - All Customers	\$18.00	\$16.20	\$17.47	\$18.85	\$20.32	\$21.92

Water Rate Schedule	Current Rates	BOARD DIRECTION				
		Proposed Rates	Proposed Rates	Proposed Rates	Proposed Rates	Proposed Rates
		January 1, 2025	January 1, 2026	January 1, 2027	January 1, 2028	January 1, 2029
Water Usage Charges (in \$/HCF)						
Domestic/Potable Water	\$1.04	\$2.00	\$2.20	\$2.39	\$2.54	\$2.69
Raw/Non-potable Water	\$0.09	\$0.10	\$0.10	\$0.11	\$0.12	\$0.12
Monthly Fixed Service Charges (in \$/mo)						
Domestic Service Charge						
5/8" or 3/4"	\$62.86	\$67.98	\$74.78	\$81.51	\$86.40	\$91.58
1"	\$94.15	\$110.81	\$121.89	\$132.86	\$140.83	\$149.28
1.5"	\$172.39	\$217.88	\$239.66	\$261.23	\$276.91	\$293.52
2"	\$266.28	\$346.36	\$381.00	\$415.29	\$440.20	\$466.62
3"	\$485.34	\$688.98	\$757.88	\$826.09	\$875.66	\$928.20
4"	\$798.28	\$1,074.43	\$1,181.88	\$1,288.25	\$1,365.54	\$1,447.47
6"	\$1,580.65	\$2,145.13	\$2,359.64	\$2,572.01	\$2,726.33	\$2,889.91
Raw Water Service Charge						
5/8" or 3/4"	\$32.83	\$35.65	\$37.97	\$40.43	\$43.06	\$45.86
1"	\$45.16	\$56.92	\$60.62	\$64.56	\$68.76	\$73.23
1.5"	\$75.97	\$110.11	\$117.26	\$124.88	\$133.00	\$141.65
2"	\$112.95	\$173.93	\$185.23	\$197.27	\$210.09	\$223.75
3"	\$199.24	\$344.11	\$366.48	\$390.30	\$415.67	\$442.69
4"	\$322.51	\$535.58	\$570.39	\$607.46	\$646.95	\$689.00
6"	\$630.67	\$1,067.41	\$1,136.80	\$1,210.69	\$1,289.38	\$1,373.19
Customer Service Charge (\$/mo/dwelling unit)						
Customer Service Charge - Per Each Additional Dwelling Unit or Parcel	N/A	\$3.74	\$4.11	\$4.48	\$4.75	\$5.04
UPWA Fee (\$/mo)						
UPWA Fee - All Customers, Per Equivalent Dwelling Unit or Parcel	\$18.00	\$16.20	\$17.47	\$18.85	\$20.32	\$21.92

TABLE 43 : ASSUMPTIONS USED IN EMERGENCY RESPONSE RATE ANALYSIS

2023 Consumption Assumptions				
Shortage Level ¹	Percent Shortage Range ²	Potable Water Consumption (AF/yr.)	Potable Water Consumption (HCF/yr.)	Difference to Baseline (HCF)
1	Less than 10% Conservation ³	745	324,679	0
2	Up to 20% Conservation	596	292,211	(32,468)
3	Up to 30% Conservation	522	259,743	(64,936)
4	Up to 40% Conservation	447	227,275	(97,404)
5	Up to 50% Conservation	373	194,807	(129,872)
6	Greater than 50% Conservation	298	162,339	(162,339)

1. State Water Resources Control Board Water Shortage Contingency Plan Shortage Level.
2. Drought levels based on the State Water Resources Control Board Drought Emergency Water Conservation.
3. This represents the baseline consumption for CY 2023 consumption. Conservation percentage for each drought stage is relative to the baseline consumption.

Note: For the rate period, water consumption is assumed to be the same each year to be consistent with how volumetric rates were calculated even though there are new connections each year.

TABLE 44 : EMERGENCY RESPONSE RATES

Expenses Directly Effected By Consumption Changes						
Fund	Description	Commodity-Related Costs				
		2025	2026	2027	2028	2029
Operating Fund	NA					
Operating Fund	NA					
Operating Fund	NA					
Total:		\$ -	\$ -	\$ -	\$ -	\$ -

Inflation based on factors in Exhibit 1 (O&M)

TABLE 45 : CALCULATION OF EMERGENCY RESPONSE RATES FOR CY 2025

Rate Structure: Potable Water						
Conservation Goal	Water Consumption (HCF/yr.)	Baseline Rev. Req't from Vol. Charges	Cost Reduction Due to Conservation ¹	Target Rev. Req't from Vol. Charges	Drought Response Charge (\$/HCF)	Uniform Commodity Rates (\$/HCF)
< 10%	324,679	\$ 648,443	\$ -	\$ 648,443	\$0.00	\$2.00
Up to 20%	292,211	648,443	-	648,443	\$0.22	\$2.22
Up to 30%	259,743	648,443	-	648,443	\$0.50	\$2.50
Up to 40%	227,275	648,443	-	648,443	\$0.86	\$2.85
Up to 50%	194,807	648,443	-	648,443	\$1.33	\$3.33
> 50%	162,339	648,443	-	648,443	\$2.00	\$3.99

1. Cost reduction equals the conservation goal percentage multiplied by expenses directly effected by consumption charges.

TABLE 46 : CALCULATION OF EMERGENCY RESPONSE RATES FOR FY 2026

Rate Structure: Potable Water						
Conservation Goal	Water Consumption (HCF/yr.)	Baseline Rev. Req't from Vol. Charges	Cost Reduction Due to Conservation ¹	Target Rev. Req't from Vol. Charges	Drought Response Charge (\$/HCF)	Uniform Commodity Rates (\$/HCF)
< 10%	324,679	\$ 713,287	\$ -	\$ 713,287	\$0.00	\$2.20
Up to 20%	292,211	713,287	-	713,287	\$0.24	\$2.44
Up to 30%	259,743	713,287	-	713,287	\$0.55	\$2.75
Up to 40%	227,275	713,287	-	713,287	\$0.94	\$3.14
Up to 50%	194,807	713,287	-	713,287	\$1.46	\$3.66
> 50%	162,339	713,287	-	713,287	\$2.20	\$4.39

1. Cost reduction equals the conservation goal percentage multiplied by expenses directly effected by consumption charges.

TABLE 47 : CALCULATION OF EMERGENCY RESPONSE RATES FOR FY 2027

Rate Structure: Potable Water						
Conservation Goal	Water Consumption (HCF/yr.)	Baseline Rev. Req't from Vol. Charges	Cost Reduction Due to Conservation ¹	Target Rev. Req't from Vol. Charges	Drought Response Charge (\$/HCF)	Uniform Commodity Rates (\$/HCF)
< 10%	324,679	\$ 777,483	\$ -	\$ 777,483	\$0.00	\$2.39
Up to 20%	292,211	777,483	-	777,483	\$0.27	\$2.66
Up to 30%	259,743	777,483	-	777,483	\$0.60	\$2.99
Up to 40%	227,275	777,483	-	777,483	\$1.03	\$3.42
Up to 50%	194,807	777,483	-	777,483	\$1.60	\$3.99
> 50%	162,339	777,483	-	777,483	\$2.39	\$4.79

1. Cost reduction equals the conservation goal percentage multiplied by expenses directly effected by consumption charges.

TABLE 48 : CALCULATION OF EMERGENCY RESPONSE RATES FOR FY 2028

Rate Structure: Potable Water						
Conservation Goal	Water Consumption (HCF/yr.)	Baseline Rev. Req't from Vol. Charges	Cost Reduction Due to Conservation ¹	Target Rev. Req't from Vol. Charges	Drought Response Charge (\$/HCF)	Uniform Commodity Rates (\$/HCF)
< 10%	324,679	\$ 824,132	\$ -	\$ 824,132	\$0.00	\$2.54
Up to 20%	292,211	824,132	-	824,132	\$0.28	\$2.82
Up to 30%	259,743	824,132	-	824,132	\$0.63	\$3.17
Up to 40%	227,275	824,132	-	824,132	\$1.09	\$3.63
Up to 50%	194,807	824,132	-	824,132	\$1.69	\$4.23
> 50%	162,339	824,132	-	824,132	\$2.54	\$5.08

1. Cost reduction equals the conservation goal percentage multiplied by expenses directly effected by consumption charges.

TABLE 49 : CALCULATION OF EMERGENCY RESPONSE RATES FOR FY 2029

Rate Structure: Potable Water						
Conservation Goal	Water Consumption (HCF/yr.)	Baseline Rev. Req't from Vol. Charges	Cost Reduction Due to Conservation ¹	Target Rev. Req't from Vol. Charges	Drought Response Charge (\$/HCF)	Uniform Commodity Rates (\$/HCF)
< 10%	324,679	\$ 873,580	\$ -	\$ 873,580	\$0.00	\$2.69
Up to 20%	292,211	873,580	-	873,580	\$0.30	\$2.99
Up to 30%	259,743	873,580	-	873,580	\$0.67	\$3.36
Up to 40%	227,275	873,580	-	873,580	\$1.15	\$3.84
Up to 50%	194,807	873,580	-	873,580	\$1.79	\$4.48
> 50%	162,339	873,580	-	873,580	\$2.69	\$5.38

1. Cost reduction equals the conservation goal percentage multiplied by expenses directly effected by consumption charges.

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 WATER RATE STUDY
 Water Cost of Service Analysis/Rate Design

Emergency Response Rates

Table 50: SUMMARY OF PROPOSED EMERGENCY RESPONSE CHARGES

Rate Structure: Potable Water					
Emergency Response Charge (\$/HCF)					
Conservation Goal	2025	2026	2027	2028	2029
< 10%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Up to 20%	\$0.22	\$0.24	\$0.27	\$0.28	\$0.30
Up to 30%	\$0.50	\$0.55	\$0.60	\$0.63	\$0.67
Up to 40%	\$0.86	\$0.94	\$1.03	\$1.09	\$1.15
Up to 50%	\$1.33	\$1.46	\$1.60	\$1.69	\$1.79
> 50%	\$2.00	\$2.20	\$2.39	\$2.54	\$2.69

TABLE 51 : ASSUMPTIONS USED IN EMERGENCY RESPONSE RATE ANALYSIS

2023 Consumption Assumptions				
Shortage Level ¹	Percent Shortage Range ²	Potable Water Consumption (AF/yr.)	Raw Water Consumption (ccf/yr.)	Difference to Baseline (ccf)
1	Less than 10% Conservation ³	1,170	509,576	0
2	Up to 20% Conservation	936	458,618	(50,958)
3	Up to 30% Conservation	819	407,661	(101,915)
4	Up to 40% Conservation	702	356,703	(152,873)
5	Up to 50% Conservation	585	305,746	(203,830)
6	Greater than 50% Conservation	468	254,788	(254,788)

1. State Water Resources Control Board Water Shortage Contingency Plan Shortage Level.
2. Drought levels based on the State Water Resources Control Board Drought Emergency Water Conservation.
3. This represents the baseline consumption for CY 2023 consumption.
Conservation percentage for each drought stage is relative to the baseline consumption.

Note: For the rate period, water consumption is assumed to be the same each year to be consistent with how volumetric rates were calculated even though there are new connections each year.

TABLE 52 : EXPENSES EFFECTED BY CONSUMPTION CHANGES

Expenses Directly Effected By Consumption Changes						
Fund	Description	Commodity-Related Costs				
		2025	2026	2027	2028	2029
Operating Fund	NA					
Operating Fund	NA					
Operating Fund	NA					
Total:		\$ -	\$ -	\$ -	\$ -	\$ -

Inflation based on factors in Exhibit 1 (O&M)

TABLE 53 : CALCULATION OF EMERGENCY RESPONSE RATES FOR FY 2025

Rate Structure: Irrigation/Raw Water						
Conservation Goal	Water Consumption (HCF/yr.)	Baseline Rev. Req't from Vol. Charges	Cost Reduction Due to Conservation ¹	Target Rev. Req't from Vol. Charges	Drought Response Charge (\$/HCF)	Uniform Commodity Rates (\$/HCF)
< 10%	509,576	\$ 57,608	\$ -	\$ 57,608	\$0.00	\$0.11
Up to 20%	458,618	57,608	-	57,608	\$0.01	\$0.13
Up to 30%	407,661	57,608	-	57,608	\$0.03	\$0.14
Up to 40%	356,703	57,608	-	57,608	\$0.05	\$0.16
Up to 50%	305,746	57,608	-	57,608	\$0.08	\$0.19
> 50%	254,788	57,608	-	57,608	\$0.11	\$0.23

1. Cost reduction equals the conservation goal percentage multiplied by expenses directly effected by consumption charges.

TABLE 54 : CALCULATION OF EMERGENCY RESPONSE RATES FOR FY 2026

Rate Structure: Irrigation/Raw Water						
Conservation Goal	Water Consumption (HCF/yr.)	Baseline Rev. Req't from Vol. Charges	Cost Reduction Due to Conservation ¹	Target Rev. Req't from Vol. Charges	Drought Response Charge (\$/HCF)	Uniform Commodity Rates (\$/HCF)
< 10%	509,576	\$ 63,369	\$ -	\$ 63,369	\$0.00	\$0.12
Up to 20%	458,618	63,369	-	63,369	\$0.01	\$0.14
Up to 30%	407,661	63,369	-	63,369	\$0.03	\$0.16
Up to 40%	356,703	63,369	-	63,369	\$0.05	\$0.18
Up to 50%	305,746	63,369	-	63,369	\$0.08	\$0.21
> 50%	254,788	63,369	-	63,369	\$0.12	\$0.25

1. Cost reduction equals the conservation goal percentage multiplied by expenses directly effected by consumption charges.

TABLE 55 : CALCULATION OF EMERGENCY RESPONSE RATES FOR FY 2027

Rate Structure: Irrigation/Raw Water						
Conservation Goal	Water Consumption (HCF/yr.)	Baseline Rev. Req't from Vol. Charges	Cost Reduction Due to Conservation ¹	Target Rev. Req't from Vol. Charges	Drought Response Charge (\$/HCF)	Uniform Commodity Rates (\$/HCF)
< 10%	509,576	\$ 69,073	\$ -	\$ 69,073	\$0.00	\$0.14
Up to 20%	458,618	69,073	-	69,073	\$0.02	\$0.15
Up to 30%	407,661	69,073	-	69,073	\$0.03	\$0.17
Up to 40%	356,703	69,073	-	69,073	\$0.06	\$0.19
Up to 50%	305,746	69,073	-	69,073	\$0.09	\$0.23
> 50%	254,788	69,073	-	69,073	\$0.14	\$0.27

1. Cost reduction equals the conservation goal percentage multiplied by expenses directly effected by consumption charges.

TABLE 56 : CALCULATION OF EMERGENCY RESPONSE RATES FOR FY 2028

Rate Structure: Irrigation/Raw Water						
Conservation Goal	Water Consumption (HCF/yr.)	Baseline Rev. Req't from Vol. Charges	Cost Reduction Due to Conservation ¹	Target Rev. Req't from Vol. Charges	Drought Response Charge (\$/HCF)	Uniform Commodity Rates (\$/HCF)
< 10%	509,576	\$ 73,217	\$ -	\$ 73,217	\$0.00	\$0.14
Up to 20%	458,618	73,217	-	73,217	\$0.02	\$0.16
Up to 30%	407,661	73,217	-	73,217	\$0.04	\$0.18
Up to 40%	356,703	73,217	-	73,217	\$0.06	\$0.21
Up to 50%	305,746	73,217	-	73,217	\$0.10	\$0.24
> 50%	254,788	73,217	-	73,217	\$0.14	\$0.29

1. Cost reduction equals the conservation goal percentage multiplied by expenses directly effected by consumption charges.

TABLE 57 : CALCULATION OF EMERGENCY RESPONSE RATES FOR FY 2029

Rate Structure: Irrigation/Raw Water						
Conservation Goal	Water Consumption (HCF/yr.)	Baseline Rev. Req't from Vol. Charges	Cost Reduction Due to Conservation ¹	Target Rev. Req't from Vol. Charges	Drought Response Charge (\$/HCF)	Uniform Commodity Rates (\$/HCF)
< 10%	509,576	\$ 77,610	\$ -	\$ 77,610	\$0.00	\$0.15
Up to 20%	458,618	77,610	-	77,610	\$0.02	\$0.17
Up to 30%	407,661	77,610	-	77,610	\$0.04	\$0.19
Up to 40%	356,703	77,610	-	77,610	\$0.07	\$0.22
Up to 50%	305,746	77,610	-	77,610	\$0.10	\$0.25
> 50%	254,788	77,610	-	77,610	\$0.15	\$0.30

1. Cost reduction equals the conservation goal percentage multiplied by expenses directly effected by consumption charges.

Table 58: SUMMARY OF PROPOSED EMERGENCY RESPONSE CHARGES

Rate Structure: Irrigation/Raw Water					
Emergency Response Charge (\$/HCF)					
Conservation Goal	2025	2026	2027	2028	2029
< 10%	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Up to 20%	\$0.01	\$0.01	\$0.02	\$0.02	\$0.02
Up to 30%	\$0.03	\$0.03	\$0.03	\$0.04	\$0.04
Up to 40%	\$0.05	\$0.05	\$0.06	\$0.06	\$0.07
Up to 50%	\$0.08	\$0.08	\$0.09	\$0.10	\$0.10
> 50%	\$0.11	\$0.12	\$0.14	\$0.14	\$0.15