City of Shasta Lake

2024 Water Rate Study

Final Report – March 2024

Prepared by: Water Resources Economics, LLC

Water Resources Economics

PROMOTING THE VALUE AND PRICE OF WATER SERVICE

This page intentionally left blank

March 28, 2024

Jessaca Lugo
City Manager
City of Shasta Lake
4477 Main Street
Shasta Lake, CA 96019

Subject: City of Shasta Lake 2024 Water Rate Study Report

Dear Ms. Lugo,

Water Resources Economics, LLC is pleased to submit this 2024 Water Rate Study Report to the City of Shasta Lake. This report documents the results and recommendations of the City's water rate study. The overall goal of the study was to develop an updated five-year schedule of water rates that will sufficiently fund the City's water system expenses, provide financial sustainability, and comply with cost-of-service principles.

This study utilized industry-standard rate-setting methodology in accordance with guidelines developed by the American Water Works Association and incorporates guidance provided by the City's policymakers. Our project team has a proven track record of developing fair and equitable water rates for numerous public water agencies in California over the past 25 years. We are confident in our ability to develop sound water rates that satisfy the requirements of Proposition 218.

It has been a pleasure assisting the City, and we appreciate the support provided by yourself and other City staff over the course of the study.

Sincerely,

Sanjay Gaur
Principal Consultant

Nancy Phan
Senior Consultant

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

1. EXECUTIVE SUMMARY

1.1 SYSTEM OVERVIEW

The City of Shasta Lake (City) provides water service to approximately 4,000 metered connections, including residential, multi-family residential, and non-residential customers (commercial, industrial, irrigation, government, schools). The City's water utility enterprise serves a population of approximately 10,000 residents.

The water system consists of a water treatment plant (the Fisherman's Point Water Treatment Plant), approximately 60 miles of transmission and distribution pipelines, and nine storage tanks (one for raw water; eight for potable water). The City's water supply sources include Central Valley Project (CVP), Anderson-Cottonwood Irrigation District (ACID), and the McConnell Foundation (McConnell). CVP water, which is the City's main source of water supply, requires use of pump stations and transmission pipelines owned by the US Bureau of Reclamation (USBR).

1.2 RATE STUDY OVERVIEW

Public retail water agencies in California typically conduct a water rate study at least once every five years to ensure that customers are appropriately charged for water service. The City's currently adopted rates were established during the most recent adopted rate study, which was conducted in 2016, spanning fiscal year (FY) 2017 through FY 2021.

The City engaged Water Resources Economics (WRE) in 2023 conduct an updated water rate study, with the following objectives in mind:

- Develop a five-year water rate schedule for implementation in FY 2025 through FY 2029
- Evaluate the impact of a uniform volumetric rate for water usage
- Identify amount of revenue required to maintain financial sufficiency
- Conduct an updated cost-of-service analysis
- Develop drought rates and/or surcharges to implement in years with constrained water supply and government-mandated usage cutbacks

1.3 LEGAL REQUIREMENTS

Legal considerations relating to retail water rates in California focus heavily on Proposition 218, which was enacted in 1996 and is now reflected in Article XIII C and Article XIII D of the California Constitution. Proposition 218 states that "property related fees and charges" (which include retail water rates) may not exceed the proportional cost of providing the service to the customer and may not be used for any purpose other than providing said service. The practical implication is that public retail water agencies in California must demonstrate a sufficient nexus between the costs incurred by the agency to provide water service and the rates charged to customers. The primary means by which retail water agencies address this requirement is by conducting a "cost-of-service analysis."

Proposition 218 also affects the rate adoption process by requiring agencies to hold a public hearing to adopt rates. The agency must mail public hearing notices to all customers no fewer than 45 days prior to the public hearing. The public hearing notices must clearly show all proposed rate changes, provide information on the public hearing date/time/location, and provide instructions on how customers may protest the proposed rate changes. If a majority of customers submit a protest, the proposed rate changes cannot be adopted.

1.4 RATE-SETTING METHODOLOGY

This study was conducted using industry-standard methodology outlined by the American Water Works Association (AWWA) in its *Manual of Water Supply Practices M1: Principles of Water Rates, Fees and Charges, Seventh Edition* (M1 Manual). The overall rate study process includes the following steps:

1. **Financial Plan**: Annual revenues and expenses are projected over the rate-setting period to determine the magnitude of rate increases needed to maintain financial sufficiency. Financial policies, such as reserve targets, are also evaluated and updated if necessary.
2. **Cost-of-Service Analysis**: Costs are allocated to customers in proportion to use of and burden on the water system. The overall goal is to establish a robust nexus between the costs incurred by an agency and the rates charged to customers, as required by Proposition 218.
3. **Rate Design**: The existing rate structure is evaluated, and potential changes are identified. A multi-year proposed rate schedule is then calculated directly from the results of the financial plan and cost-of-service analysis.
4. **Rate Study Documentation**: A rate study report is developed to document the proposed rate development process. This provides transparency and enhances legal defensibility in light of Proposition 218 requirements. This document serves as the report for this rate study.

1.5 ADDITIONAL INFORMATION AND DISCLAIMERS

This report summarizes the data, analyses, processes, and results of the City's water rate study. Some important information to keep in mind when reading the report includes the following:

- All study projections are based on the best available data as of February 2024.
- All table values are rounded to the nearest digit shown unless stated otherwise. However, all calculations are based on precise values. Attempting to manually recreate the calculations described in this report from the values displayed in tables may therefore produce slightly different results.
- All current and proposed rates and charges in this report are shown on a monthly basis.

1.6 CURRENT WATER RATES

The City's current water rate structure includes a monthly service charge based on meter size, a monthly private fire charge (for customers with private fire service) based on fire line size, and a consumption charge based on units of water usage. One unit of water is equal to 100 cubic feet (hcf).

The consumption charge for the Residential and Lifeline customer classes are based on an inclining three-tiered structure. Customers that qualify for the City's Lifeline assistance program currently receive a discounted Tier 1 rate for usage up to 10 hcf per month.

The current water rates and rate structure were effective starting on July 1, 2020 or the beginning of FY 2021. These rates were developed in the City's most recent adopted water rate study, which was conducted in 2016.

Table 1-1 shows the current monthly service charges; **Table 1-2** shows the current monthly private fire charges; and **Table 1-3** shows the current consumption charges for all customer classes.

Table 1-1: Current Monthly Service Charges

Line	Current Monthly Service Charges	As of 7/1/2020
1	5/8" Meter	$31.08
2	1" Meter	$70.45
3	1.5" Meter	$136.06
4	2" Meter	$214.79
5	3" Meter	$398.52
6	4" Meter	$660.97
7	6" Meter	$1,317.12
8	8" Meter	$2,104.51
9	10" Meter	$3,810.49
10	12" Meter	$5,647.71

Table 1-2: Current Monthly Private Fire Charges

Line	Current Monthly Private Fire Charges	As of 7/1/2020
1	2" or Less	$5.53
2	3" or Less	$16.06
3	4" or Less	$34.22
4	6" or Less	$99.42
5	8" or Less	$211.86
6	10" or Less	$381.00
7	12" or Less	$615.41

Table 1-3: Current Consumption Charges

Line	Current Consumption Charges ($/hcf)	As of 7/1/2020
1	Residential	
2	Tier 1 (0-10 hcf)	$2.44
3	Tier 2 (11-20 hcf)	$2.79
4	Tier 3 (>20 hcf)	$3.50
5		
6	Lifeline	
7	Tier 1 (0-10 hcf)	$1.94
8	Tier 2 (11-20 hcf)	$2.79
9	Tier 3 (>20 hcf)	$3.50
10		
11	Multi-Family & Mobile	$2.58
12	Commercial & Industrial	$2.63
13	Commercial Irr. & Govt.	$2.86
14	Schools	$3.07

1.7 FINANCIAL PLAN

WRE worked closely with City staff and the City's Ad Hoc Committee (a subcommittee of the City Council) to determine the financial plan scenario that best suits the City's needs. The results and recommendations of the water rate study are driven by the City's financial performance, input from City staff, and feedback and direction from the Ad Hoc Committee.

FACTORS AFFECTING FINANCIAL PERFORMANCE

The water system's financial performance is driven by the ability of the current water rates to meet the City's funding needs. To maintain financial sufficiency, water rates must fully fund operations and maintenance (O&M) costs, capital improvement plan (CIP) expenditures, and any relevant financial policies, which typically include target reserve balances and debt coverage.

The key factors affecting financial performance include:

- **No water rate increases since FY 2021:** The current water rates were adopted in FY 2021, which means that rates are not keeping pace with inflating costs. Based on the Consumer Price Index (CPI), prices have increased by approximately 18% since 2021. The water enterprise's revenues at current rates are just enough to cover O&M expenses and debt service, with no additional funds available to fund CIP needs or reserve balances to meet policy targets.
- **Substantial capital needs on the planning horizon:** Between FY 2024 and FY 2029, the total CIP for the water system totals approximately $18.8 million. After netting out approximately $6.0 million worth of confirmed grant funding, the City's water enterprise must fund $12.8 million over six years. The water enterprise's current revenues cannot fund any CIP; the City must increase rate revenues to fund critical CIP projects over the planning horizon.
- **Reserve policy targets:** The City's reserve policy, shown in **Table 1-4**, includes targets for an operating reserve (to maintain cash on hand to meet short-term cash flow imbalances) and a

capital projects reserve (to maintain cash on hand to execute CIP projects). The projected fund balances at the end of FY 2024 are just below target; fund balances will be depleted without future rate increases.

Table 1-4: Current Reserve Policy

Line	Current Reserve Policy	Policy Targets	FY 2024
1	Reserve Targets		
2	Operating Reserve Target	25% of O&M expenses	$912,987
3	Capital Projects Reserve Target	1 year of average CIP	$1,137,965
4	Combined Target		$2,050,952
5			
6	Projected Reserve Levels		$1,949,566

STATUS QUO FINANCIAL PLAN

The first step in evaluating the City's financial performance is to develop a "status quo financial plan," which is the scenario in which the City does not increase its water rate revenues. This exercise is to determine whether the City's current water rates are sufficient to meet key financial performance metrics. This section shows two important metrics: fund balance and debt coverage.

Figure 1-1 shows the projected fund balances under the status quo scenario. The green bars represent the projected water fund balance, and the black line represents the reserve target. In this scenario, the City will not meet its reserve targets, and funds will be completely depleted in FY 2026.

Figure 1-1: Fund Balance Projections (Status Quo Financial Plan)

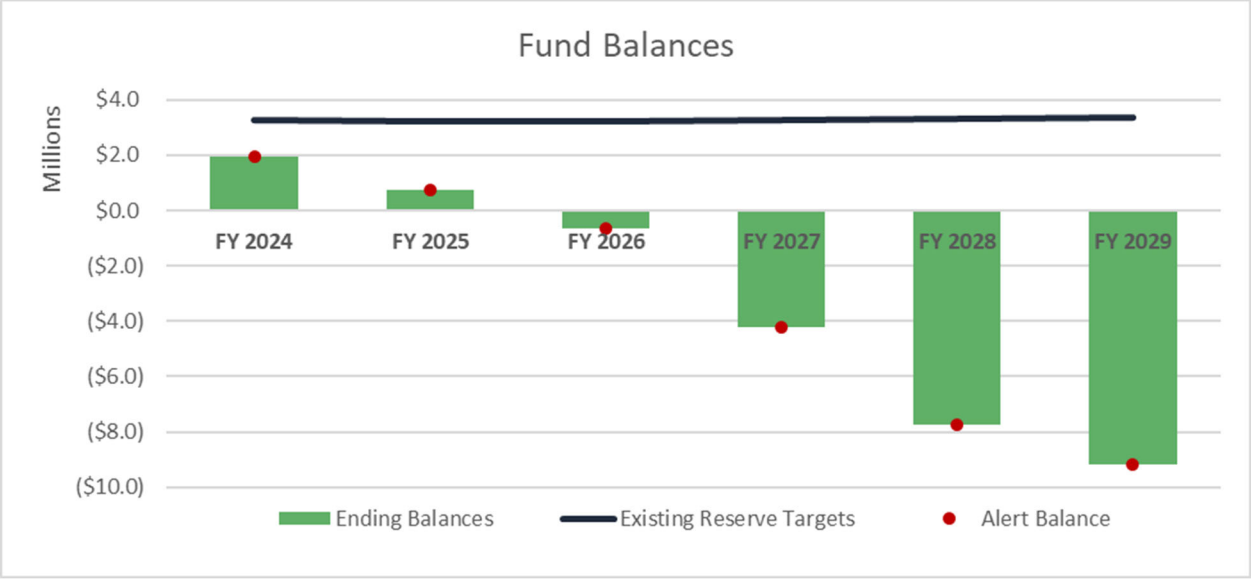
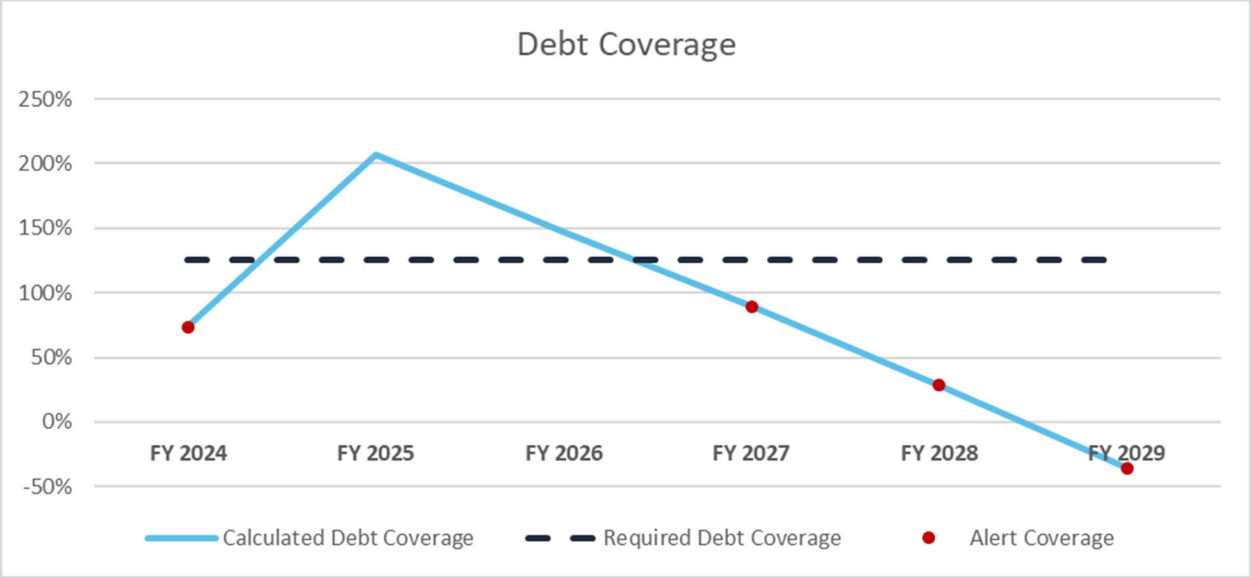


Figure 1-2 shows the projected debt coverage under the status quo financial plan. The blue line represents the projected debt coverage, and the dotted black line represents the required debt coverage for the City's debt service. If the City does not meet its debt coverage requirements, it is

considered to be in technical default[1]. Under the status quo scenario, the City will be in technical default starting in FY 2027.

Figure 1-2: Debt Coverage Projections (Status Quo Financial Plan)



PROPOSED REVENUE ADJUSTMENTS AND DEBT ISSUANCES

Overall annual increases in water rate revenues resulting from rate increases are referred to as "revenue adjustments." WRE worked with City staff and the Ad Hoc Committee to determine the most appropriate financial plan scenario, which is shown in **Table 1-5**. The proposed financial plan scenario includes five years of revenue adjustments, which are required to maintain financial sufficiency, and one debt issuance in FY 2026 to fund the tank replacement project in the City's CIP.

Since the City has not had a water rate increase since FY 2021, the first year of revenue adjustments in FY 2025 is higher to realign water rate revenues with cost escalations that occurred over the past several years. The proposed revenue adjustments in the latter four years, between FY 2026 and FY 2029, are designed to keep pace with ongoing O&M and CIP costs.

Table 1-5: Revenue Adjustments and Debt Issuances (Proposed Financial Plan)

Line	Fiscal Year	Revenue Adjustments	Debt Issuance
1	FY 2025	25.0%	$0
2	FY 2026	6.0%	$6,122,449
3	FY 2027	6.0%	$0
4	FY 2028	6.0%	$0
5	FY 2029	6.0%	$0

[1] Although the calculated debt coverage for FY 2024 is below the required debt coverage, this is not due to technical default. Rather, this is due to the City's early repayment of its CalPERS Loan in that year.

PROPOSED FINANCIAL PLAN

The proposed financial plan applies the revenue adjustments and debt issuance, shown in **Table 1-5**, to reevaluate the water enterprise's financial performance.

Figure 1-3 shows the projected fund balances under the proposed financial plan scenario. The fund balance for FY 2026 is high due to the inclusion of debt proceeds, which will be drawn down in latter years due to CIP expenditures. Under this scenario, the City will meet its reserve targets in the latter four years.

Figure 1-3: Fund Balance Projections (Proposed Financial Plan)

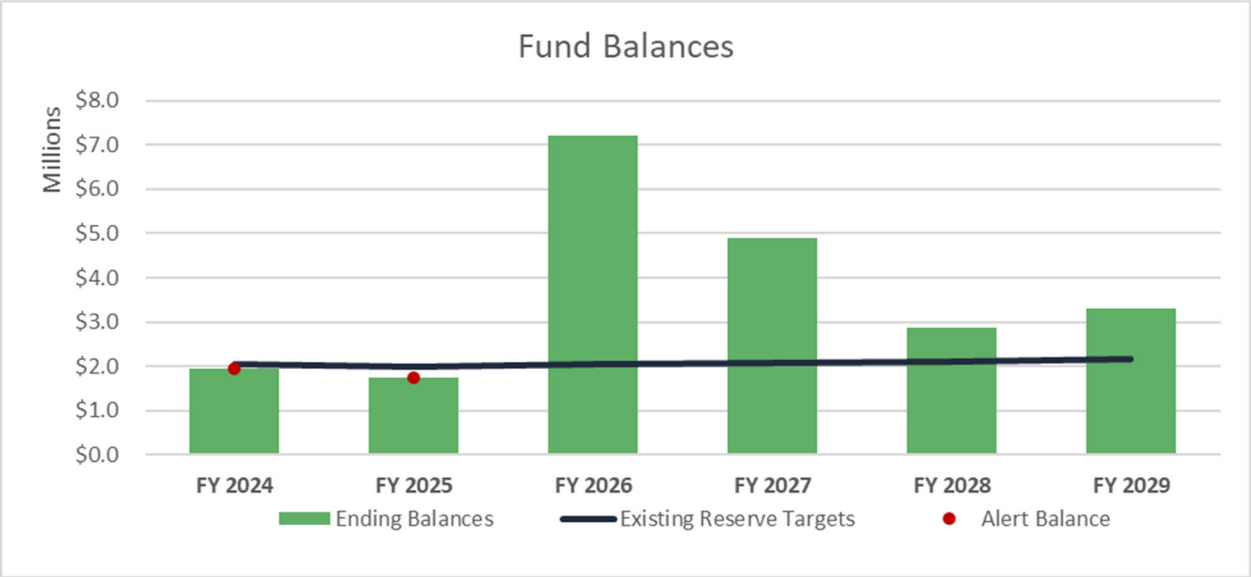
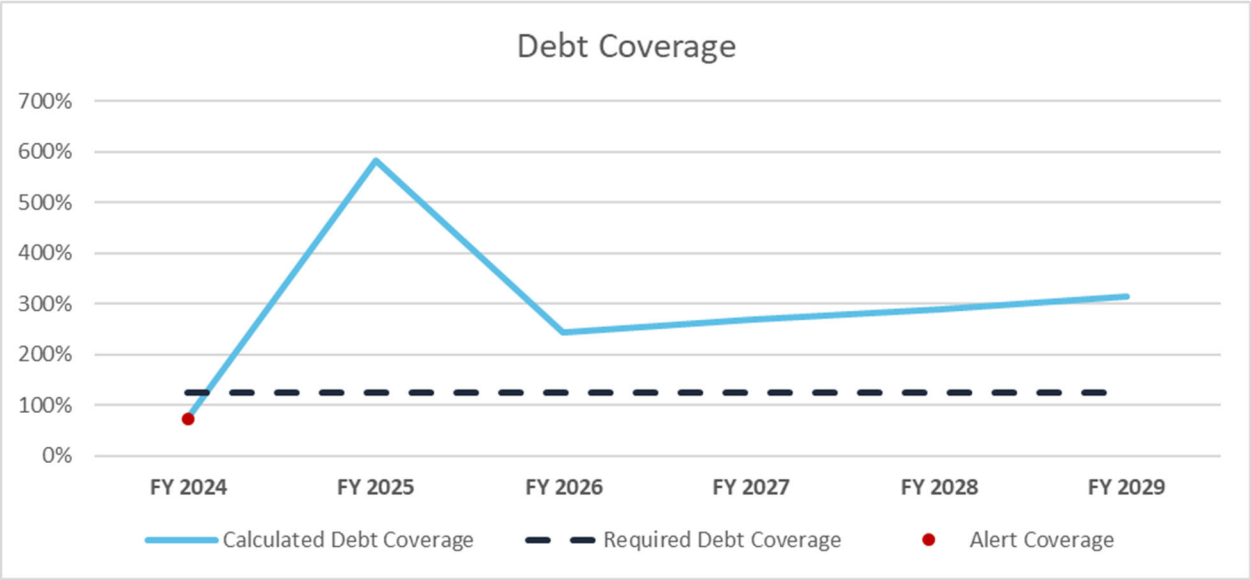


Figure 1-4 shows the projected debt coverage in the proposed financial plan scenario; the City will meet its debt coverage requirements in all years of the study (see earlier footnote about FY 2024). The calculated debt coverage decreases in FY 2026 due to the proposed debt issuance but is still sufficiently above the required coverage of 125%.

Figure 1-4: Debt Coverage Projections (Proposed Financial Plan)



1.8 COST-OF-SERVICE ANALYSIS

A cost-of-service analysis is a technical process used to determine the cost of providing water service to the City's customers based on each customer's use of and burden on the water system. The cost-of-service analysis is the basis of the nexus between the costs incurred by the utility to provide water service and the water rates charged to customers, which is a requirement of Proposition 218.

COST-OF-SERVICE METHODOLOGY

The cost-of-service methodology is based on industry standards set forth by AWWA in its M1 Manual; this rate study utilizes the base-extra capacity method. The overall goal of the cost-of-service analysis is to develop "unit costs," which provide the basis from which proposed rates are directly calculated from. Note that although the study period spans five years, the cost-of-service analysis is limited to a single representative year referred to as the "test year." The test year in this study is FY 2024. The key steps in conducting a water cost-of-service analysis are outlined below:

- **Revenue requirement determination**: The total rate revenue requirement for the test year is determined based on the results of the proposed financial plan and divided into primary sub-components (operating, capital, etc.).
- **Cost functionalization**: Operating and capital costs are evaluated and assigned to "functional categories" in the water system (e.g., customer service, groundwater wells, distribution, etc.). This provides a proportional breakdown of system costs by functional category.
- **Revenue requirement allocation to cost causation components**: Functionalized costs are allocated to "cost causation components" (e.g., water supply, base delivery, max day delivery, etc.), which is used to attribute customers' use of the system to the City's incursion of costs.

- **Unit cost development**: The rate revenue requirement allocation for each individual cost causation component is divided by the appropriate units of service to establish unit costs for the test year. Unit costs provide the basis from which proposed rates are calculated.

1.9 PROPOSED WATER RATES

WRE worked closely with City staff and the Ad Hoc Committee to evaluate various rate structure alternatives and determine an appropriate water rate structure.

PROPOSED RATE STRUCTURE CHANGES

The proposed changes to the water rate structure were developed based on direction from the Ad Hoc Committee and include the following:

- **Proposed uniform consumption charge:** the City's current consumption charge includes a three-tiered structure for Residential customers and a uniform consumption charge that varies by non-residential customer classes. A key objective of this study is to evaluate the impact of a uniform consumption charge, based on direction provided by the Ad Hoc Committee. The proposed water rate structure includes one uniform consumption charge for all customer classes.
- **Proposed change to fixed revenue recovery:** the City's current water rate structure collects approximately 45% of its revenues via fixed charges (monthly service charges and monthly private fire charges). The Ad Hoc Committee provided direction to increase the fixed revenue recovery to approximately 54%, which would increase financial stability for the City's water enterprise.
- **Proposed change to Lifeline discount:** the current Lifeline discount is applied to Tier 1 usage. The proposed Lifeline discount is applied to the monthly service charge since the proposed rate structure does not have tiered rates. Additionally, this proposed change can help offset some affordability concerns due to increasing fixed revenue recovery. City staff and the Ad Hoc Committee recommended a discount of $4 per Lifeline customer per month; the costs of this program are funded via the General Fund. The Lifeline discount will stay at $4 per customer per month for all years of the study.

PROPOSED FIVE-YEAR WATER RATE SCHEDULE

The proposed five-year water rate schedules in this section of the report are based on the proposed rate structure changes, the updated cost-of-service analysis, and the proposed revenue adjustments for the five-year period. The rate schedule shows water rates that are proposed to be implemented from FY 2025 through FY 2029.

The proposed five-year rate schedule for monthly service charges, monthly private fire charges, and consumption charges is shown in **Table 1-6**, **Table 1-7**, and **Table 1-8**, respectively.

Table 1-6: Proposed 5-Year Rate Schedule (Monthly Service Charges)

Line	Proposed Monthly Service Charges	Effective 7/1/2024	Effective 7/1/2025	Effective 7/1/2026	Effective 7/1/2027	Effective 7/1/2028
1	Lifeline	$40.29	$42.95	$45.77	$48.76	$51.93
2	5/8" Meter	$44.29	$46.95	$49.77	$52.76	$55.93
3	1" Meter	$108.89	$115.43	$122.36	$129.71	$137.50
4	1.5" Meter	$216.55	$229.55	$243.33	$257.93	$273.41
5	2" Meter	$345.75	$366.50	$388.49	$411.80	$436.51
6	3" Meter	$647.23	$686.07	$727.24	$770.88	$817.14
7	4" Meter	$1,077.89	$1,142.57	$1,211.13	$1,283.80	$1,360.83
8	6" Meter	$2,154.57	$2,283.85	$2,420.89	$2,566.15	$2,720.12
9	8" Meter	$3,446.57	$3,653.37	$3,872.58	$4,104.94	$4,351.24
10	10" Meter	$6,245.90	$6,620.66	$7,017.90	$7,438.98	$7,885.32
11	12" Meter	$9,260.58	$9,816.22	$10,405.20	$11,029.52	$11,691.30

Table 1-7: Proposed 5-Year Rate Schedule (Monthly Private Fire Charges)

Line	Proposed Monthly Private Fire Charges	Effective 7/1/2024	Effective 7/1/2025	Effective 7/1/2026	Effective 7/1/2027	Effective 7/1/2028
1	2" or Less	$16.93	$17.95	$19.03	$20.18	$21.40
2	3" or Less	$46.17	$48.95	$51.89	$55.01	$58.32
3	4" or Less	$96.60	$102.40	$108.55	$115.07	$121.98
4	6" or Less	$277.62	$294.28	$311.94	$330.66	$350.50
5	8" or Less	$589.82	$625.21	$662.73	$702.50	$744.65
6	10" or Less	$1,059.43	$1,123.00	$1,190.38	$1,261.81	$1,337.52
7	12" or Less	$1,710.30	$1,812.92	$1,921.70	$2,037.01	$2,159.24

Table 1-8: Proposed 5-Year Rate Schedule (Consumption Charges)

Line	Proposed Consumption Charges ($/hcf)	Effective 7/1/2024	Effective 7/1/2025	Effective 7/1/2026	Effective 7/1/2027	Effective 7/1/2028
1	Residential	$2.85	$3.03	$3.22	$3.42	$3.63
2	Multi-Family & Mobile	$2.85	$3.03	$3.22	$3.42	$3.63
3	Commercial & Industrial	$2.85	$3.03	$3.22	$3.42	$3.63
4	Commercial Irr. & Govt.	$2.85	$3.03	$3.22	$3.42	$3.63
5	Schools	$2.85	$3.03	$3.22	$3.42	$3.63

CUSTOMER IMPACTS

WRE evaluated the impact to the Residential customer class (which makes up approximately 79% of metered connections within the City's water system) based on the proposed water rates in FY 2025. **Table 1-9** shows the impact to Residential customers with a 5/8" meter size at various usage levels. The customer impacts are driven by several factors: the proposed change to a uniform consumption charge, the proposed change to the fixed revenue recovery percentage, and the updated cost-of-service analysis.

Table 1-9: Residential Customer Impacts at Various Usage Levels

Line	Residential Customer Impacts	Billed Usage (hcf)	Proposed Bill	Current Bill	Difference ($)	Difference (%)
1	Very Low Use (10th percentile)	2	$49.99	$35.96	$14.03	39%
2	Low Use (25th percentile)	4	$55.69	$40.84	$14.85	36%
3	Median Use	7	$64.24	$48.16	$16.08	33%
4	Average Use	11	$75.64	$58.27	$17.37	30%
5	High Use (75th percentile)	14	$84.19	$66.64	$17.55	26%
6	Very High Use (90th percentile)	25	$115.54	$100.88	$14.66	15%

PROPOSED WATER SUPPLY SURCHARGES AND DROUGHT RATES

The City relies solely on imported water purchases from CVP, ACID, and McConnell to meet its customer water demand. However, these sources of supply are subject to cost increases during years with constrained water supply. This poses a financial risk for the City; constrained year costs can be double those of non-constrained years. The proposed water rate structure includes a water supply cost surcharge that can be implemented during constrained years when costs are increased, which is shown in **Table 1-10**.

The McConnell and ACID water supply cost surcharges are based on the maximum potential cost per acre-feet (AF) and maximum purchases in AF for each source of supply, based on guidance from City staff and the Ad Hoc Committee. These surcharges represent the maximum the City can charge in constrained years; the City has the discretion to implement lower surcharges dependent upon the actual constrained year costs.

Table 1-10: Proposed Water Supply Cost Surcharges

Line	Water Supply Cost Surcharges	Effective 7/1/2024
1	Constrained Year Water Supply	
2	McConnell Water Surcharge	$0.17
3	ACID Water Surcharge	$0.24
4	Combined Surcharge	$0.41

In addition to the risk of water supply cost increases during constrained years, the City also faces risks related to government-mandated cutbacks in water usage. The City's Water Shortage Contingency Plan (WSCP) includes six stages of drought, which all require a different level of usage reduction from the City's customers. When customers reduce their usage, the City's rate revenues are directly impacted. Drought rates are a tool to recover lost consumption charge revenue during each stage of drought, which keeps the water enterprise financially sufficient even during periods of mandated usage cutbacks. **Table 1-11** shows the proposed drought rates during each stage of drought as defined by the WSCP.

The drought rates represent the maximum the City can charge its customers during each stage of drought. Drought rates are in addition to the City's base consumption charge and are designed to recover lost revenue from usage cutbacks.

Table 1-11: Proposed Drought Rates by Stage

Line	Drought Rates	Effective 7/1/2024	Effective 7/1/2025	Effective 7/1/2026	Effective 7/1/2027	Effective 7/1/2028
1	Stage 1 - 10% Reduction	$0.32	$0.34	$0.37	$0.40	$0.43
2	Stage 2 - 20% Reduction	$0.72	$0.77	$0.82	$0.87	$0.93
3	Stage 3 - 30% Reduction	$1.23	$1.31	$1.39	$1.48	$1.57
4	Stage 4 - 40% Reduction	$1.90	$2.02	$2.15	$2.28	$2.42
5	Stage 5 - 50% Reduction	$2.85	$3.03	$3.22	$3.42	$3.63
6	Stage 6 - 60% Reduction	$4.28	$4.54	$4.82	$5.11	$5.42

Table 1-12 shows the Residential water shortage impacts for a customer with a 5/8" meter using 11 hcf during no drought conditions (11 hcf is the average monthly usage for a Residential customer in the City's water system).

- During non-constrained years with no drought, this customer's water bill is $75.64.
- During non-constrained years during a Stage 2 drought, this customer's water bill is $83.56 if they do not reduce their water usage; this is an increase of $7.92.
- If the same customer during a non-constrained year and Stage 2 drought does reduce their water usage by the 20% required by Stage 2, they will use approximately 9 hcf of water instead. With their reduced water usage, this customer's water bill is $76.42, which is similar to their water bill during no drought. The proposed drought rates are designed to minimize impacts to customers that reduce their water according to the appropriate drought stage.
- The last scenario shows the same customer during a constrained year and Stage 2 drought, with a 20% reduction in use. The water supply cost surcharge is added to the total water bill to recover higher costs related to constrained year supply. Their water bill will be $80.11.

Table 1-12: Residential Water Shortage Impacts

Line	Residential Water Shortage Impacts	No Drought (Non-Constrained)	Stage 2 Drought w/ No Reduction (Non-Constrained)	Stage 2 Drought w/ 20% Reduction (Non-Constrained)	Stage 2 Drought w/ 20% Reduction (Constrained)
1	Residential Meter Size	5/8" Meter	5/8" Meter	5/8" Meter	5/8" Meter
2	Monthly Usage (hcf)	11	11	9	9
3					
4	Monthly Service Charge	$44.29	$44.29	$44.29	$44.29
5	Consumption Charge	$31.35	$31.35	$25.65	$25.65
6	Drought Rate	$0.00	$7.92	$6.48	$6.48
7	Water Supply Cost Surcharge	$0.00	$0.00	$0.00	$3.69
8	**Total Water Bill**	**$75.64**	**$83.56**	**$76.42**	**$80.11**

2. FINANCIAL PLAN

2.1 FINANCIAL PLAN METHODOLOGY

The purpose of a financial plan is to project revenues, expenses, cash flows, reserve balances, and debt coverage over a multi-year period to assess financial sufficiency and performance and to determine the amount of required rate revenue. For this study, the planning period is from FY 2024 through FY 2029. The key steps in developing a financial plan for a water enterprise are below:

- **Revenue projections:** Annual revenues from rates and other miscellaneous sources are projected over the planning period. Rate revenues are projected based on current rates to establish baseline revenues from which the need for additional rate increases can be evaluated.
- **Expense projections:** Annual expenses are projected over the study period, including O&M expenses, debt service, and CIP costs. CIP funding options (grants, debt, etc.) are evaluated.
- **Financial policy evaluation:** Key financial policies include debt coverage requirements and reserve targets. Debt coverage requirements are typically explicitly stated in official agreements on outstanding debt issuances. Reserve targets are typically set by an agency's elected officials and may need to be periodically evaluated and updated.
- **Status quo financial plan projections:** Cash flow, reserve balances, and debt coverage are projected over the study period in the absence of additional rate increases (this scenario is called the "status quo"). Projected reserve balances and debt coverage are then compared to the agency's financial policy requirements and targets. The status quo financial plan provides a baseline to evaluate the need for rate increases.
- **Proposed financial plan projections:** The magnitude and timing of annual proposed revenue increases over the study period are evaluated and determined based on the agency's financial policies, financial performance, and policy objectives. Proposed rate increases (referred to as "revenue adjustments") should generate sufficient revenue to recover the agency's expenses, maintain adequate reserves, and meet all debt coverage requirements. The proposed financial plan determines the total annual rate revenue requirement over the study period.

2.2 REVENUES

CURRENT WATER RATES

The City's current water rate structure includes a monthly service charge based on meter size, a monthly private fire charge (for customers with private fire service) based on fire line size, and a consumption charge based on units of water usage in hcf. The consumption charge for the Residential and Lifeline customer classes are based on an inclining three-tiered structure. Customers that qualify for the City's Lifeline assistance program currently receive a discounted Tier 1 rate, for usage up to 10 hcf per month.

The current water rates and rate structure were effective starting on July 1, 2020 or the beginning of FY 2021. These rates were developed in the City's most recent water rate study, which was

conducted in 2016. **Table 2-1** shows the current monthly service charges; **Table 2-2** shows the current monthly private fire charges; and **Table 2-3** shows the current consumption charges for all customer classes.

Table 2-1: Current Monthly Service Charges

Line	Current Monthly Service Charges	As of 7/1/2020
1	5/8" Meter	$31.08
2	1" Meter	$70.45
3	1.5" Meter	$136.06
4	2" Meter	$214.79
5	3" Meter	$398.52
6	4" Meter	$660.97
7	6" Meter	$1,317.12
8	8" Meter	$2,104.51
9	10" Meter	$3,810.49
10	12" Meter	$5,647.71

Table 2-2: Current Monthly Private Fire Charges

Line	Current Monthly Private Fire Charges	As of 7/1/2020
1	2" or Less	$5.53
2	3" or Less	$16.06
3	4" or Less	$34.22
4	6" or Less	$99.42
5	8" or Less	$211.86
6	10" or Less	$381.00
7	12" or Less	$615.41

Table 2-3: Current Consumption Charges

Line	Current Consumption Charges ($/hcf)	As of 7/1/2020
1	Residential	
2	Tier 1 (0-10 hcf)	$2.44
3	Tier 2 (11-20 hcf)	$2.79
4	Tier 3 (>20 hcf)	$3.50
5		
6	Lifeline	
7	Tier 1 (0-10 hcf)	$1.94
8	Tier 2 (11-20 hcf)	$2.79
9	Tier 3 (>20 hcf)	$3.50
10		
11	Multi-Family & Mobile	$2.58
12	Commercial & Industrial	$2.63
13	Commercial Irr. & Govt.	$2.86
14	Schools	$3.07

CUSTOMER ACCOUNTS AND USAGE

Units of service represent the quantity of billing units that are subject to the City's water rates and charges. The number of metered water connections are the units of service for the City's monthly service charges. The number of private fire lines are the units of service for the City's monthly private fire charges.

Table 2-4 shows the projected number of water meters and private fire lines for the study period. City staff provided data for FY 2023 and number of new connections for the remainder of the period. Detailed information on the number of water meters by customer class is provided in the **Appendix** (**Table 6-1**).

Table 2-4: Customer Account Projections

Line	Customer Accounts	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	**Water Meters**							
2	5/8"	3,849	3,849	3,849	3,849	3,849	3,849	3,849
3	1"	71	71	71	71	71	71	71
4	1.5"	14	14	14	14	14	14	14
5	2"	43	43	44	44	44	44	44
6	3"	1	1	1	1	1	1	1
7	4"	2	2	3	3	3	3	3
8	6"	1	1	1	1	1	1	1
9	8"	0	0	0	0	0	0	0
10	10"	2	2	2	2	2	2	2
11	12"	0	0	0	0	0	0	0
12	**Subtotal**	**3,983**	**3,983**	**3,985**	**3,985**	**3,985**	**3,985**	**3,985**
13								
14	**Private Fire Lines**							
15	2" or Less	0	0	0	0	0	0	0
16	3" or Less	0	0	0	0	0	0	0
17	4" or Less	5	5	5	5	5	5	5
18	6" or Less	8	8	8	8	8	8	8
19	8" or Less	4	4	4	4	4	4	4
20	10" or Less	2	2	2	2	2	2	2
21	12" or Less	0	0	0	0	0	0	0
22	**Subtotal**	**19**	**19**	**19**	**19**	**19**	**19**	**19**
23								
24	**Total**	**4,002**	**4,002**	**4,004**	**4,004**	**4,004**	**4,004**	**4,004**

The amount of water usage in hcf is the unit of service for the City's consumption charges. **Table 2-5** shows the water usage projections for the study period. City staff provided usage data for FY 2023; WRE worked with City staff to determine demand projections for FY 2024 based on estimated water rate revenues. Water demand per account is estimated to increase by approximately 7.5% in FY 2024 and will stay constant for the remaining years.

Table 2-5: Water Usage Projections

Line	Water Usage (hcf)	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	**Residential**							
2	Tier 1 (0-10 hcf)	252,237	271,211	271,211	271,211	271,211	271,211	271,211
3	Tier 2 (11-20 hcf)	89,651	96,395	96,395	96,395	96,395	96,395	96,395
4	Tier 3 (>20 hcf)	83,742	90,041	90,041	90,041	90,041	90,041	90,041
5								
6	**Lifeline**							
7	Tier 1 (0-10 hcf)	28,507	30,651	30,651	30,651	30,651	30,651	30,651
8	Tier 2 (11-20 hcf)	8,795	9,457	9,457	9,457	9,457	9,457	9,457
9	Tier 3 (>20 hcf)	7,060	7,591	7,591	7,591	7,591	7,591	7,591
10								
11	**Multi-Family & Mobile**	62,303	66,990	66,990	66,990	66,990	66,990	66,990
12	**Commercial & Industrial**	157,073	168,889	168,889	168,889	168,889	168,889	168,889
13	**Commercial Irr. & Govt.**	29,899	32,148	32,148	32,148	32,148	32,148	32,148
14	**Schools**	28,700	30,859	30,859	30,859	30,859	30,859	30,859
15								
16	**Total (hcf)**	**747,967**	**804,232**	**804,232**	**804,232**	**804,232**	**804,232**	**804,232**

REVENUES FROM CURRENT RATES

Annual revenues from current rates were projected over the study period in **Table 2-6**. These revenue projections assume no rate increases during the period and are the baseline for the status quo financial plan.

Monthly service charge revenues are calculated by multiplying the current monthly service charge (**Table 2-1**) by the respective number of connections for each meter size in each year (**Table 2-4**), and then multiplying by 12 months to annualize the revenue.

Monthly private fire charge revenues are calculated by multiplying the current private fire charge (**Table 2-2**) by the respective number of fire lines for each size in each year (**Table 2-4**), and then multiplying by 12 months.

Consumption charge revenues are calculated by multiplying the current consumption charges (**Table 2-3**) by the respective amount of water usage by customer class and tier in each year (**Table 2-5**).

Table 2-6: Calculated Water Rate Revenues from Current Rates

Line	Calculated Water Rate Revenues	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	**Monthly Service Charges**						
2	Residential	$1,179,300	$1,179,300	$1,179,300	$1,179,300	$1,179,300	$1,179,300
3	Lifeline	$183,123	$183,123	$183,123	$183,123	$183,123	$183,123
4	Multi-Family & Mobile	$145,720	$153,652	$153,652	$153,652	$153,652	$153,652
5	Commercial & Industrial	$166,954	$169,531	$169,531	$169,531	$169,531	$169,531
6	Commercial Irr. & Govt.	$49,123	$49,123	$49,123	$49,123	$49,123	$49,123
7	Schools	$32,919	$32,919	$32,919	$32,919	$32,919	$32,919
8	Private Fire Lines	$30,911	$30,911	$30,911	$30,911	$30,911	$30,911
9	**Subtotal**	**$1,757,139**	**$1,767,648**	**$1,767,648**	**$1,767,648**	**$1,767,648**	**$1,767,648**
10							
11	**Consumption Charges**						
12	Residential	$1,245,843	$1,245,843	$1,245,843	$1,245,843	$1,245,843	$1,245,843
13	Lifeline	$112,416	$112,416	$112,416	$112,416	$112,416	$112,416
14	Multi-Family & Mobile	$172,833	$172,833	$172,833	$172,833	$172,833	$172,833
15	Commercial & Industrial	$444,177	$444,177	$444,177	$444,177	$444,177	$444,177
16	Commercial Irr. & Govt.	$91,944	$91,944	$91,944	$91,944	$91,944	$91,944
17	Schools	$94,737	$94,737	$94,737	$94,737	$94,737	$94,737
18	**Subtotal**	**$2,161,950**	**$2,161,950**	**$2,161,950**	**$2,161,950**	**$2,161,950**	**$2,161,950**
19							
20	**Total**	**$3,950,000**	**$3,960,509**	**$3,960,509**	**$3,960,509**	**$3,960,509**	**$3,960,509**

REVENUE SUMMARY

Table 2-7 shows the summary of projected revenues throughout the study period. Water rate revenues (Line 1) are from **Table 2-6**. Connection fee revenues, miscellaneous revenues, and interest income for FY 2024 are from the City's annual revenue budget. Interest income was projected beginning in FY 2025 and is based on projected fund balances and assumed a 1% interest rate. Miscellaneous and connection fee revenues are expected to stay constant and are therefore not inflated.

Table 2-7: Revenue Summary

Line	Revenues	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	Water Rate Revenues	$3,950,000	$3,960,509	$3,960,509	$3,960,509	$3,960,509	$3,960,509
2	Connection Fees	$32,500	$32,500	$32,500	$32,500	$32,500	$32,500
3	Miscellaneous Revenue	$9,000	$9,000	$9,000	$9,000	$9,000	$9,000
4	Interest Income	$0	$18,383	$44,581	$60,223	$38,587	$30,777
5	**Total**	**$3,991,500**	**$4,020,392**	**$4,046,591**	**$4,062,232**	**$4,040,597**	**$4,032,786**

2.3 OPERATING EXPENSES

INFLATIONARY ASSUMPTIONS

Annual inflationary assumptions were developed based on data provided by City staff in its annual operating budget. The assumptions utilized in the study are shown in **Table 2-8**; no inflationary

assumptions are shown for FY 2024, which is the base year from which all inflationary adjustments were applied.

Table 2-8: Expense Inflationary Assumptions

Line	Inflationary Assumptions	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	General	3.0%	3.0%	3.0%	3.0%	3.0%
2	Salaries	5.0%	5.0%	5.0%	5.0%	5.0%
3	Benefits	10.0%	10.0%	10.0%	10.0%	10.0%
4	Water Supply	5.0%	5.0%	5.0%	5.0%	5.0%
5	Utilities	4.0%	4.0%	4.0%	4.0%	4.0%
6	Capital	4.0%	4.0%	4.0%	4.0%	4.0%
7	Meter & Insurance	5.0%	5.0%	5.0%	5.0%	5.0%

NON-CONSTRAINED WATER SUPPLY COSTS

The City purchases water to serve its customers from three sources: the Central Valley Project (using pump stations and transmission pipelines owned by the US Bureau of Reclamation), Anderson-Cottonwood Irrigation District, and the McConnell Foundation.

Water supply costs during constrained years (when supply is constrained, or lower, than typical years) can be significantly more expensive for the City. The estimated water supply costs calculated in this study assume a non-constrained water supply year; the study proposes a water supply cost surcharge that the City can implement during constrained years.

Table 2-9 shows the calculated non-constrained water supply costs for the study period, starting in FY 2025. FY 2024 water supply costs are based on the City's operating budget.

The amount of water produced in each year (Line 5) is calculated by applying the estimated water loss percentage (Line 1) to the amount of water used by customers each year (Lines 3-4, from **Table 2-5**). City staff provided historical water supply cost data, which provides the proportion of water produced from each source (Lines 7-11) and the cost of water from each source (Lines 13-16). The water supply cost by source (Lines 18-22) is calculated by multiplying the water produced by source by the cost per source.

Table 2-9: Calculated Non-Constrained Water Supply Costs

Line	Non-Constrained Water Supply Costs	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	Estimated Water Loss	4.72%	4.72%	4.72%	4.72%	4.72%
2						
3	Water Usage (hcf)	804,232	804,232	804,232	804,232	804,232
4	Water Usage (AF)	1,846	1,846	1,846	1,846	1,846
5	**Water Production (AF)**	**1,938**	**1,938**	**1,938**	**1,938**	**1,938**
6						
7	**Water Produced by Source (AF)**					
8	USBR	800	800	800	800	800
9	ACID	1,069	1,069	1,069	1,069	1,069
10	McConnell	68	68	68	68	68
11	**Total**	**1,938**	**1,938**	**1,938**	**1,938**	**1,938**
12						
13	**Water Unit Cost by Source ($/AF)**					
14	USBR	$65.40	$68.67	$72.10	$75.71	$79.49
15	ACID	$240.03	$252.03	$264.63	$277.86	$291.75
16	McConnell	$58.71	$61.64	$64.73	$67.96	$71.36
17						
18	**Water Supply Cost by Source**					
19	USBR	$52,322	$54,938	$57,685	$60,569	$63,598
20	ACID	$256,691	$269,526	$283,002	$297,152	$312,010
21	McConnell	$4,008	$4,208	$4,418	$4,639	$4,871
22	**Total**	**$313,021**	**$328,672**	**$345,105**	**$362,361**	**$380,479**

OPERATING EXPENSE SUMMARY

Table 2-10 shows the operating expense summary for the study period. The operating expenses are based on the City's O&M budget for FY 2024, inflated based on the assumptions in **Table 2-8** for future years. The water purchases (Line 4) for FY 2025 and beyond are based on the non-constrained water supply cost calculations in **Table 2-9**. Detailed operating expense projections are included in the **Appendix** (**Table 6-3)**.

Table 2-10: Operating Expense Summary

Line	Expense Summary	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	Water Admin	$896,567	$925,164	$954,704	$985,219	$1,016,744	$1,049,313
2	Water Distribution	$1,087,876	$1,121,112	$1,155,376	$1,190,698	$1,227,114	$1,264,657
3	Water Treatment Plant	$1,047,505	$1,108,818	$1,174,506	$1,244,932	$1,320,493	$1,401,618
4	Water Purchases	$620,000	$313,021	$328,672	$345,105	$362,361	$380,479
5	**Total**	**$3,651,948**	**$3,468,115**	**$3,613,257**	**$3,765,956**	**$3,926,711**	**$4,096,066**

2.4 DEBT SERVICE

EXISTING DEBT SERVICE

The City has two existing debt issuances: an I-Bank Water Loan and a CalPERS Loan. The City is paying off the CalPERS Loan early; the last payment is in FY 2024. **Table 2-11** shows the City's existing debt service for the study period.

Table 2-11: Existing Debt Service

Line	Existing Debt Service	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	I-Bank Water Loan (Interest)	$77,687	$71,937	$66,013	$59,910	$53,622	$47,143
2	I-Bank Water Loan (Principal)	$186,926	$192,590	$198,425	$204,437	$210,632	$217,014
3	CalPERS Loan (Interest)	$48,231	$0	$0	$0	$0	$0
4	CalPERS Loan (Principal)	$186,926	$0	$0	$0	$0	$0
5	**Total**	**$499,770**	**$264,527**	**$264,438**	**$264,347**	**$264,253**	**$264,157**

PROPOSED DEBT SERVICE

The proposed financial plan (detailed in a later section of this report) includes a $6,122,449 debt issuance in FY 2026. This debt issuance will provide $6 million in debt proceeds (after paying for a 2% issuance cost) for the City to spend on capital projects. The proposed debt issuance assumes a 6% interest rate over a 30-year term. **Table 2-12** shows the proposed debt service for the $6.1 million issuance.

Table 2-12: Proposed Debt Service

Line	Proposed Debt Service	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	Proposed FY 2026 Issuance	$0	$0	$444,789	$444,789	$444,789	$444,789
2	**Total**	**$0**	**$0**	**$444,789**	**$444,789**	**$444,789**	**$444,789**

DEBT SERVICE SUMMARY

Table 2-13 shows the debt service summary for the study period. The City will pay approximately $709,000 each year in debt service starting in FY 2026.

Table 2-13: Debt Service Summary

Line	Debt Service Summary	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	Existing Debt	$499,770	$264,527	$264,438	$264,347	$264,253	$264,157
2	Proposed Debt	$0	$0	$444,789	$444,789	$444,789	$444,789
3	**Total - Debt Service**	**$499,770**	**$264,527**	**$709,228**	**$709,136**	**$709,043**	**$708,946**

2.5 CAPITAL IMPROVEMENT PLAN

CAPITAL IMPROVEMENT PROJECTS

Table 2-14 shows the City's six-year CIP. Project costs have been inflated for future years using the Capital cost inflationary assumption (**Table 2-8**) starting in FY 2025. The City has secured grant funding for the Centimudi Tank (Line 2) and Lake Boulevard Water Transmission Line Design (Line 12) projects. Another major project is the Water Treatment Plant (WTP) Raw Water Tank Replacement (Line 11), which costs approximately $4.6 million in total and will be funded by the proposed debt issuance. The City expects to spend approximately $18.8 million on capital projects over six years.

Table 2-14: Capital Improvement Projects

Line	Capital Improvement Projects	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	Storage Tank Maintenance	$275,000	$286,000	$297,440	$309,338	$321,711	$334,580
2	Centimudi Tank	$5,000,000	$0	$0	$0	$0	$0
3	PRV Replacement Project	$100,000	$104,000	$108,160	$112,486	$116,986	$121,665
4	Water Rate Study	$55,000	$0	$0	$0	$0	$0
5	Water Improvements 22-23 (Ranchera Water)	$1,143,000	$0	$0	$0	$0	$0
6	WTP-Centrifuge Skid Unit	$0	$468,000	$0	$0	$0	$0
7	WTP-UCMR5 Testing	$10,000	$0	$0	$0	$0	$0
8	WTP-20" Mag Meter (Raw Water Line)	$30,000	$0	$0	$0	$0	$0
9	WTP-Filter 2-Clarifier Beads	$175,000	$0	$0	$0	$0	$0
10	Filter to Waste Improvements	$0	$0	$540,800	$0	$0	$0
11	WTP - Raw Water Tank Demo/Replacement	$0	$0	$0	$2,249,728	$2,339,717	$0
12	Lake Blvd. Water Transmission Line (Design)	$0	$1,040,000	$0	$0	$0	$0
13	Water Master Plan update	$0	$0	$216,320	$0	$0	$0
14	Water Meter ERT Replacement	$0	$260,000	$270,400	$281,216	$0	$0
15	BOR Raw Water Pumps- Upgrade SCADA/Comms	$0	$0	$108,160	$0	$0	$0
16	WTP Backwash Basin Pumps	$0	$260,000	$0	$0	$0	$0
17	SCADA Radios (City Wide)	$0	$104,000	$0	$0	$0	$0
18	Water Improvements (Projects TBD)	$0	$0	$0	$562,432	$584,929	$608,326
19	**Total**	**$6,788,000**	**$2,522,000**	**$1,541,280**	**$3,515,200**	**$3,363,343**	**$1,064,571**

CAPITAL EXPENSE SUMMARY

Table 2-15 shows the capital expense summary and funding sources. The Centimudi and Lake Boulevard projects are entirely grant funded. The proposed debt issuance will provide $6 million in debt proceeds, which will fund capital projects from FY 2026 through FY 2028. All other project costs will be funded by water rates (or cash balances).

Table 2-15: Capital Expense Summary

Line	Capital Summary	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	Grant Funded	$5,000,000	$1,040,000	$0	$0	$0	$0
2	Debt Funded	$0	$0	$1,541,280	$3,515,200	$943,520	$0
3	Rate Funded	$1,788,000	$1,482,000	$0	$0	$2,419,823	$1,064,571
4	**Total**	**$6,788,000**	**$2,522,000**	**$1,541,280**	**$3,515,200**	**$3,363,343**	**$1,064,571**

2.6 FINANCIAL POLICIES

RESERVE POLICY

The City's reserve policy maintains cash on hand to meet short-term cash imbalances and to execute CIP projects. The reserve target for the study period ranges from approximately $2.1 million to $2.2 million in the City's reserve funds (Fund 510). The City current has an adopted reserve policy that consists of the following components:

- Operating Reserve Target: 25% of annual operating expenses
- Capital Projects Reserve Target: 100% of average annual rate funded CIP

DEBT COVERAGE REQUIREMENT

The City's debt coverage requirement is 125% of annual debt service. To meet coverage requirements, net revenues (revenues less operating expenses) must be 125% or more of annual debt service. If the City does not meet its debt coverage requirements, it will be in technical default.

2.7 STATUS QUO FINANCIAL PLAN

STATUS QUO FINANCIAL PLAN SCENARIO

Table 2-16 shows the revenue adjustments and proposed debt issuances for the status quo scenario. This scenario shows no revenue adjustments and no proposed debt issuances.

Table 2-16: Revenue Adjustments and Debt Issuances (Status Quo Financial Plan)

Line	Fiscal Year	Revenue Adjustments	Debt Issuance
1	FY 2025	0.0%	$0
2	FY 2026	0.0%	$0
3	FY 2027	0.0%	$0
4	FY 2028	0.0%	$0
5	FY 2029	0.0%	$0

STATUS QUO CASH FLOW PROJECTIONS

Table 2-17 shows the status quo cash flow projections. Revenues are from **Table 2-7**. Operating expenses are from **Table 2-10**; debt service is from **Table 2-13**. Rate funded CIP is from **Table 2-15** (rate and debt funded). Net cash flow is negative in all years.

Table 2-17: Cash Flow Projections (Status Quo Financial Plan)

Line	Cash Flow Projections	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	**Revenues**						
2	Rate Revenues at Existing Rates	$3,950,000	$3,960,509	$3,960,509	$3,960,509	$3,960,509	$3,960,509
3	Revenue Adjustments	$0	$0	$0	$0	$0	$0
4	Connection Fees	$32,500	$32,500	$32,500	$32,500	$32,500	$32,500
5	Miscellaneous Revenues	$9,000	$9,000	$9,000	$9,000	$9,000	$9,000
6	Interest Income	$28,947	$13,432	$419	$0	$0	$0
7	**Subtotal**	**$4,020,447**	**$4,015,442**	**$4,002,428**	**$4,002,009**	**$4,002,009**	**$4,002,009**
8							
9	**Operating Expenses**						
10	Water Admin	$896,567	$925,164	$954,704	$985,219	$1,016,744	$1,049,313
11	Water Distribution	$1,087,876	$1,121,112	$1,155,376	$1,190,698	$1,227,114	$1,264,657
12	Water Treatment Plant	$1,047,505	$1,108,818	$1,174,506	$1,244,932	$1,320,493	$1,401,618
13	Water Purchases	$620,000	$313,021	$328,672	$345,105	$362,361	$380,479
14	**Subtotal**	**$3,651,948**	**$3,468,115**	**$3,613,257**	**$3,765,956**	**$3,926,711**	**$4,096,066**
15							
16	**Net Revenue**	**$368,499**	**$547,327**	**$389,171**	**$236,053**	**$75,298**	**($94,057)**
17							
18	**Debt Service**						
19	Existing Debt	$499,770	$264,527	$264,438	$264,347	$264,253	$264,157
20	Proposed Debt	$0	$0	$0	$0	$0	$0
21	**Subtotal**	**$499,770**	**$264,527**	**$264,438**	**$264,347**	**$264,253**	**$264,157**
22							
23	**Capital Projects**						
24	Rate Funded CIP	$1,788,000	$1,482,000	$1,541,280	$3,515,200	$3,363,343	$1,064,571
25	**Subtotal**	**$1,788,000**	**$1,482,000**	**$1,541,280**	**$3,515,200**	**$3,363,343**	**$1,064,571**
26							
27	**Net Cash Flow**	**($1,919,271)**	**($1,199,200)**	**($1,416,548)**	**($3,543,494)**	**($3,552,299)**	**($1,422,785)**

STATUS QUO FUND BALANCE PROJECTIONS

Table 2-18 shows the fund balance projections for the status quo financial plan. Based on the sources (revenues, grants, and debt proceeds) and uses (operating expenses, debt service, and CIP) of funds, the City's fund balances will be negative at the end of FY 2026. At the end of the study period, the fund balances will be approximately negative $9.2 million.

Table 2-18: Fund Balance Projections (Status Quo Financial Plan)

Line	Fund Balance Projections	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	**Beginning Balance**	**$3,868,837**	**$1,949,566**	**$750,366**	**($666,181)**	**($4,209,675)**	**($7,761,974)**
2							
3	**Sources of Funds**						
4	Rate Revenues	$3,950,000	$3,960,509	$3,960,509	$3,960,509	$3,960,509	$3,960,509
5	Revenue Adjustments	$0	$0	$0	$0	$0	$0
6	Non-Rate Revenues	$41,500	$41,500	$41,500	$41,500	$41,500	$41,500
7	Grant Proceeds	$5,000,000	$1,040,000	$0	$0	$0	$0
8	Debt Proceeds	$0	$0	$0	$0	$0	$0
9	Interest Income	$28,947	$13,432	$419	$0	$0	$0
10	**Subtotal**	**$9,020,447**	**$5,055,442**	**$4,002,428**	**$4,002,009**	**$4,002,009**	**$4,002,009**
11							
12	**Uses of Funds**						
13	Operating Expenses	$3,651,948	$3,468,115	$3,613,257	$3,765,956	$3,926,711	$4,096,066
14	Debt Service	$499,770	$264,527	$264,438	$264,347	$264,253	$264,157
15	Grant Funded CIP	$5,000,000	$1,040,000	$0	$0	$0	$0
16	Debt Funded CIP	$0	$0	$0	$0	$0	$0
17	Rate Funded CIP	$1,788,000	$1,482,000	$1,541,280	$3,515,200	$3,363,343	$1,064,571
18	**Subtotal**	**$10,939,718**	**$6,254,641**	**$5,418,976**	**$7,545,503**	**$7,554,308**	**$5,424,794**
19							
20	**Ending Balance**	**$1,949,566**	**$750,366**	**($666,181)**	**($4,209,675)**	**($7,761,974)**	**($9,184,759)**

STATUS QUO FINANCIAL PERFORMANCE

The water utility's financial performance is evaluated based on the reserve targets and debt coverage requirements, shown in **Table 2-19**. The City will not meet its reserve targets in any year of the study; it will also not meet its debt coverage requirements for the latter years of the study.

Table 2-19: Financial Performance (Status Quo Financial Plan)

Line	Financial Performance	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	**Existing Reserve Targets**						
2	Operating Target	$912,987	$867,029	$903,314	$941,489	$981,678	$1,024,017
3	Capital Reserve Target	$2,337,965	$2,337,965	$2,337,965	$2,337,965	$2,337,965	$2,337,965
4	Combined Target	$3,250,952	$3,204,993	$3,241,279	$3,279,454	$3,319,643	$3,361,981
5	Combined Reserves	$1,949,566	$750,366	($666,181)	($4,209,675)	($7,761,974)	($9,184,759)
6	*Meets Target?*	*No*	*No*	*No*	*No*	*No*	*No*
7							
8	**Debt Coverage Target**						
9	Required Debt Coverage	125%	125%	125%	125%	125%	125%
10	Calculated Debt Coverage	74%	207%	147%	89%	28%	-36%
11	*Meets Target?*	*No*	*Yes*	*Yes*	*No*	*No*	*No*

Figure 2-1 shows the comparison of revenues and the revenue requirement in the status quo financial plan. The stacked bars represent the revenue requirements, or costs: navy for O&M expenses, green for debt service, and turquoise for rate funded CIP. The City will not be adding to its reserves (grey bars) in this scenario. The current revenue, shown as a solid line, is lower than the revenue requirements, meaning that revenues are insufficient to fund necessary costs.

Figure 2-1: Revenue vs. Revenue Requirement (Status Quo Financial Plan)

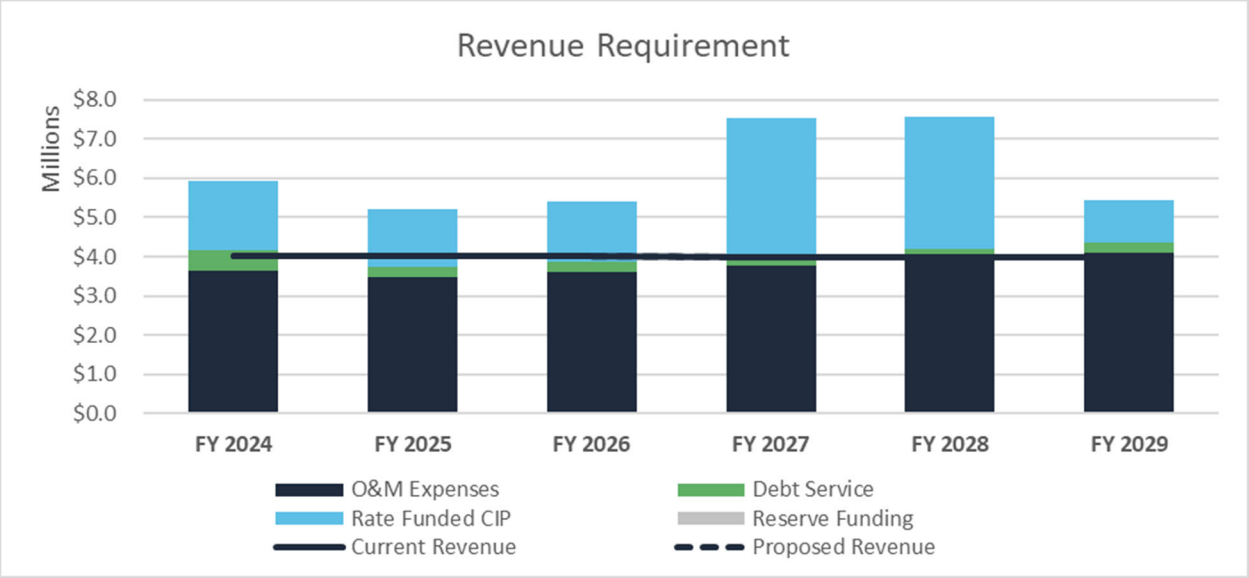


Figure 2-2 shows the fund balance projections in the status quo financial plan. The City's ending balances (green bars) will not meet its reserve targets (solid black line) during the study period. Starting in FY 2026, the City's water funds will be negative.

Figure 2-2: Fund Balance Projections (Status Quo Financial Plan)

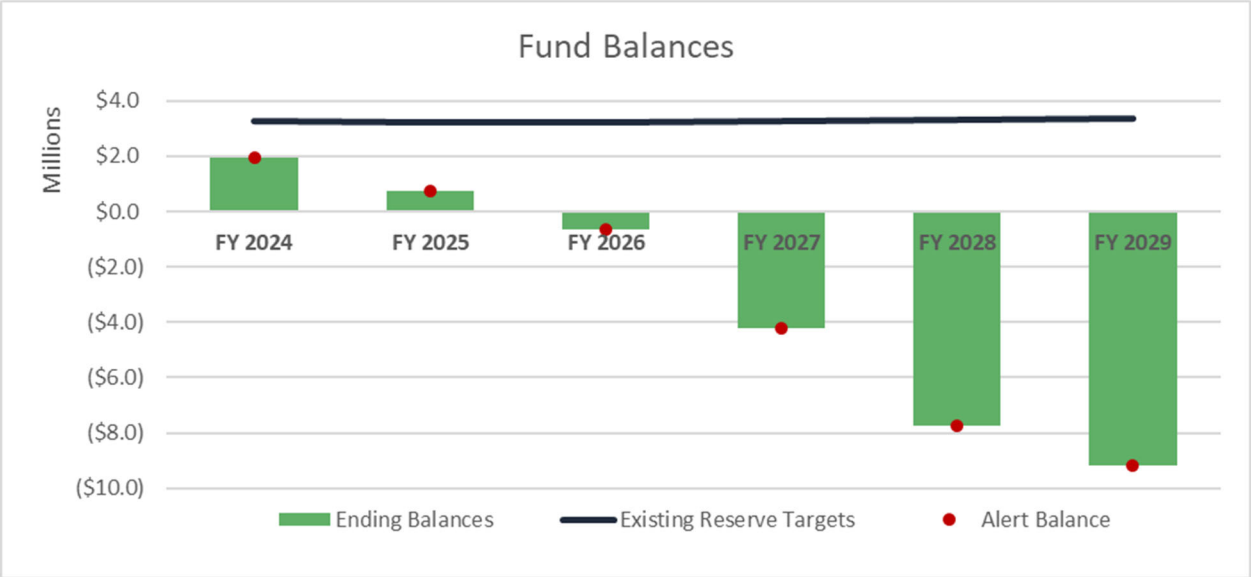
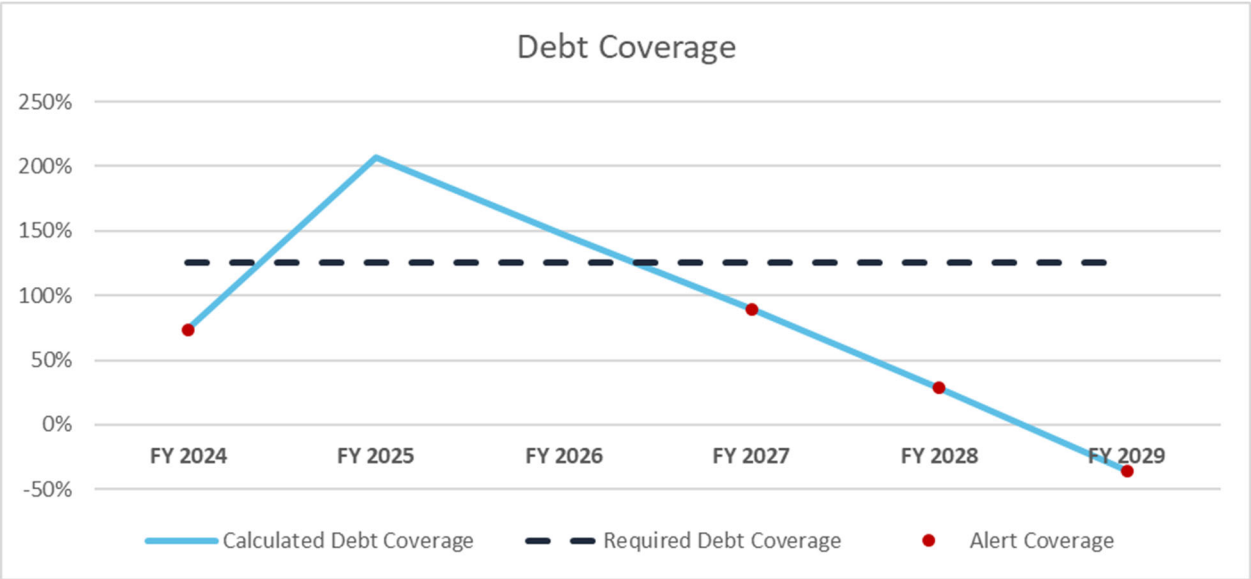


Figure 2-3 shows the debt coverage projections in the status quo financial plan. The required debt coverage (dashed black line) is not met in FY 2027 and beyond. Debt coverage is lower than the requirement in FY 2024 due to an early repayment of the CalPERS loan; the City is not in technical default in that year. However, the City will be in technical default in this scenario starting in FY 2027.

Figure 2-3: Debt Coverage Projections (Status Quo Financial Plan)



2.8 PROPOSED FINANCIAL PLAN

PROPOSED FINANCIAL PLAN SCENARIO

The proposed financial plan scenario includes five years of revenue adjustments, which are needed to maintain the financial sufficiency of the water enterprise, and one debt issuance in FY 2026 to fund CIP. WRE worked with City staff and the Ad Hoc Committee to determine the most appropriate financial plan scenario, which is shown in **Table 2-20**.

Since the City has not had a water rate increase since FY 2021, the first year of revenue adjustments in FY 2025 is higher to realign water rate revenues with cost escalations that occurred over the past several years. The proposed revenue adjustments in the latter four years, between FY 2026 and FY 2029, are designed to keep pace with ongoing O&M and CIP costs.

Table 2-20: Revenue Adjustments and Debt Issuances (Proposed Financial Plan)

Line	Fiscal Year	Revenue Adjustments	Debt Issuance
1	FY 2025	25.0%	$0
2	FY 2026	6.0%	$6,122,449
3	FY 2027	6.0%	$0
4	FY 2028	6.0%	$0
5	FY 2029	6.0%	$0

PROPOSED CASH FLOW PROJECTIONS

Table 2-21 shows the proposed cash flow projections. Revenues are from **Table 2-7**; revenue adjustments are derived from the percentage revenue adjustments in **Table 2-20**. Net cash flow is positive in FY 2026, FY 2027, and FY 2029; reserves are replenished in those years.

Table 2-21: Cash Flow Projections (Proposed Financial Plan)

Line	Cash Flow Projections	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	**Revenues**						
2	Rate Revenues at Existing Rates	$3,950,000	$3,960,509	$3,960,509	$3,960,509	$3,960,509	$3,960,509
3	Revenue Adjustments	$0	$990,127	$1,287,165	$1,602,026	$1,935,778	$2,289,555
4	Connection Fees	$32,500	$32,500	$32,500	$32,500	$32,500	$32,500
5	Miscellaneous Revenues	$9,000	$9,000	$9,000	$9,000	$9,000	$9,000
6	Interest Income	$28,947	$18,383	$44,581	$60,223	$38,587	$30,777
7	**Subtotal**	**$4,020,447**	**$5,010,520**	**$5,333,756**	**$5,664,258**	**$5,976,375**	**$6,322,341**
8							
9	**Operating Expenses**						
10	Water Admin	$896,567	$925,164	$954,704	$985,219	$1,016,744	$1,049,313
11	Water Distribution	$1,087,876	$1,121,112	$1,155,376	$1,190,698	$1,227,114	$1,264,657
12	Water Treatment Plant	$1,047,505	$1,108,818	$1,174,506	$1,244,932	$1,320,493	$1,401,618
13	Water Purchases	$620,000	$313,021	$328,672	$345,105	$362,361	$380,479
14	**Subtotal**	**$3,651,948**	**$3,468,115**	**$3,613,257**	**$3,765,956**	**$3,926,711**	**$4,096,066**
15							
16	**Net Revenue**	**$368,499**	**$1,542,405**	**$1,720,499**	**$1,898,302**	**$2,049,663**	**$2,226,275**
17							
18	**Debt Service**						
19	Existing Debt	$499,770	$264,527	$264,438	$264,347	$264,253	$264,157
20	Proposed Debt	$0	$0	$444,789	$444,789	$444,789	$444,789
21	**Subtotal**	**$499,770**	**$264,527**	**$709,228**	**$709,136**	**$709,043**	**$708,946**
22							
23	**Capital Projects**						
24	Rate Funded CIP	$1,788,000	$1,482,000	$0	$0	$2,419,823	$1,064,571
25	**Subtotal**	**$1,788,000**	**$1,482,000**	**$0**	**$0**	**$2,419,823**	**$1,064,571**
26							
27	**Net Cash Flow**	**($1,919,271)**	**($204,122)**	**$1,011,271**	**$1,189,166**	**($1,079,203)**	**$452,758**

PROPOSED FUND BALANCE PROJECTIONS

Table 2-22 shows the fund balance projections for the proposed financial plan. Based on the sources (revenues, grants, and debt proceeds) and uses (operating expenses, debt service, and CIP) of funds, the City's fund balances will be approximately $3.3 million at the end of the study. The ending balances from FY 2024 to FY 2029 are slowly growing, meaning that the City is replenishing its reserves to meet its reserve targets.

Table 2-22: Fund Balance Projections (Proposed Financial Plan)

Line	Fund Balance Projections	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	**Beginning Balance**	**$3,868,837**	**$1,949,566**	**$1,745,444**	**$7,215,435**	**$4,889,401**	**$2,866,679**
2							
3	**Sources of Funds**						
4	Rate Revenues	$3,950,000	$3,960,509	$3,960,509	$3,960,509	$3,960,509	$3,960,509
5	Revenue Adjustments	$0	$990,127	$1,287,165	$1,602,026	$1,935,778	$2,289,555
6	Non-Rate Revenues	$41,500	$41,500	$41,500	$41,500	$41,500	$41,500
7	Grant Proceeds	$5,000,000	$1,040,000	$0	$0	$0	$0
8	Debt Proceeds	$0	$0	$6,000,000	$0	$0	$0
9	Interest Income	$28,947	$18,383	$44,581	$60,223	$38,587	$30,777
10	**Subtotal**	**$9,020,447**	**$6,050,520**	**$11,333,756**	**$5,664,258**	**$5,976,375**	**$6,322,341**
11							
12	**Uses of Funds**						
13	Operating Expenses	$3,651,948	$3,468,115	$3,613,257	$3,765,956	$3,926,711	$4,096,066
14	Debt Service	$499,770	$264,527	$709,228	$709,136	$709,043	$708,946
15	Grant Funded CIP	$5,000,000	$1,040,000	$0	$0	$0	$0
16	Debt Funded CIP	$0	$0	$1,541,280	$3,515,200	$943,520	$0
17	Rate Funded CIP	$1,788,000	$1,482,000	$0	$0	$2,419,823	$1,064,571
18	**Subtotal**	**$10,939,718**	**$6,254,641**	**$5,863,765**	**$7,990,292**	**$7,999,097**	**$5,869,584**
19							
20	**Ending Balance**	**$1,949,566**	**$1,745,444**	**$7,215,435**	**$4,889,401**	**$2,866,679**	**$3,319,436**

PROPOSED FINANCIAL PERFORMANCE

Table 2-23 shows the water enterprise's financial performance in the proposed financial plan scenario. The City will meet its reserve targets starting in FY 2026 and maintain adequate levels throughout the rest of the study period. The City will meet its debt coverage requirements for all years of the study as well (debt coverage is low in FY 2024 due to an early repayment of the CalPERS loan). In the proposed financial plan, the City will meet its financial targets and adequately fund its necessary operating and capital costs.

Table 2-23: Financial Performance (Proposed Financial Plan)

Line	Financial Performance	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	**Existing Reserve Targets**						
2	Operating Target	$912,987	$867,029	$903,314	$941,489	$981,678	$1,024,017
3	Capital Reserve Target	$1,137,965	$1,137,965	$1,137,965	$1,137,965	$1,137,965	$1,137,965
4	Combined Target	$2,050,952	$2,004,993	$2,041,279	$2,079,454	$2,119,643	$2,161,981
5	Combined Reserves	$1,949,566	$1,745,444	$7,215,435	$4,889,401	$2,866,679	$3,319,436
6	*Meets Target?*	*No*	*No*	*Yes*	*Yes*	*Yes*	*Yes*
7							
8	**Debt Coverage Target**						
9	Required Debt Coverage	125%	125%	125%	125%	125%	125%
10	Calculated Debt Coverage	74%	583%	243%	268%	289%	314%
11	*Meets Target?*	*No*	*Yes*	*Yes*	*Yes*	*Yes*	*Yes*

Figure 2-4 shows the comparison of revenues and the revenue requirement in the proposed financial plan. The stacked bars represent the revenue requirements, or costs: navy for O&M expenses, green for debt service, turquoise for rate funded CIP, and grey for reserve funding. The proposed revenue, shown as a dashed line, is higher than the stacked bars for most years. This means that the City is adequately funding operating, debt service, and capital costs.

Figure 2-4: Revenue vs. Revenue Requirement (Proposed Financial Plan)

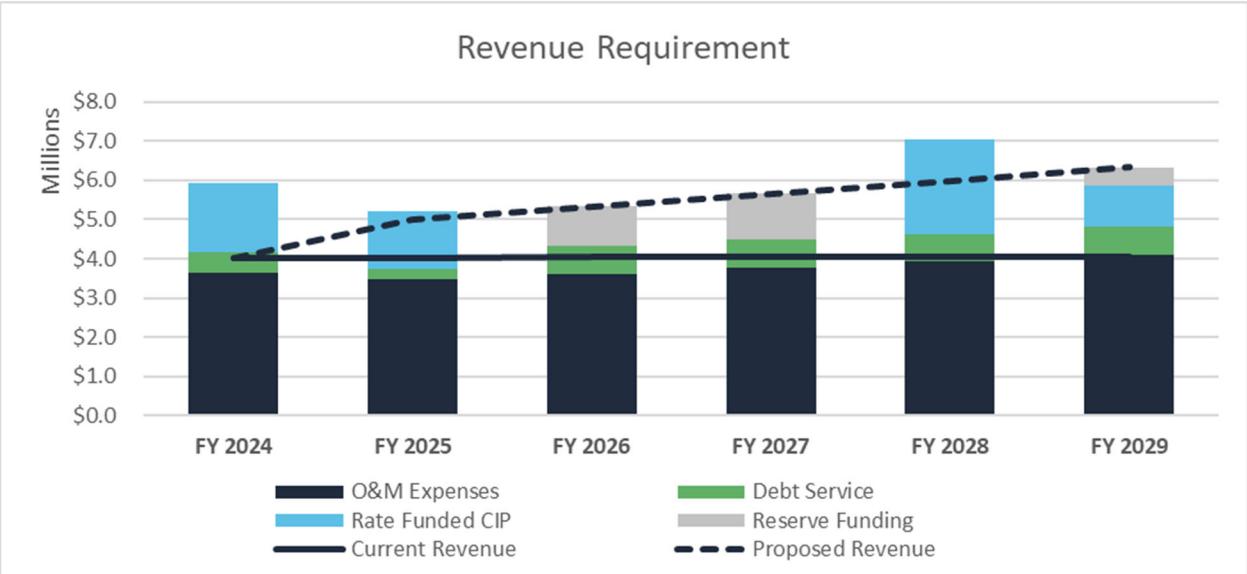


Figure 2-5 shows the fund balance projections in the proposed financial plan. The City's ending balances (green bars) will meet its reserve targets (solid black line) starting in FY 2026. The City's fund balances in FY 2026 are high due to the $6 million in debt proceeds, which will be spent down by FY 2028. The City will meet its reserve targets at the end of the study period.

Figure 2-5: Fund Balance Projections (Proposed Financial Plan)

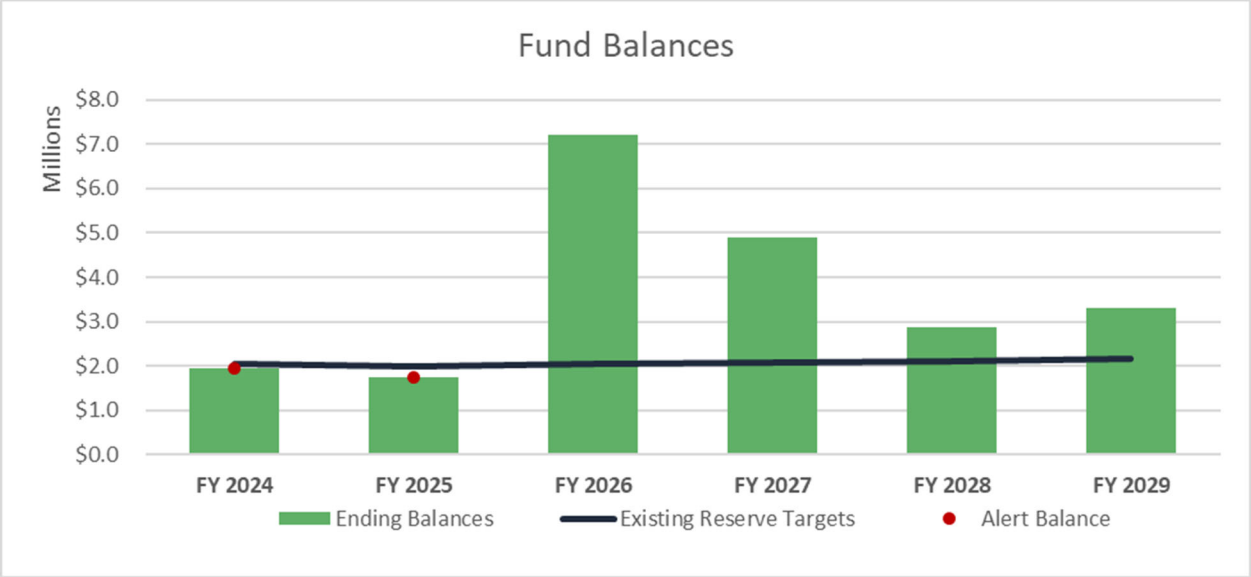
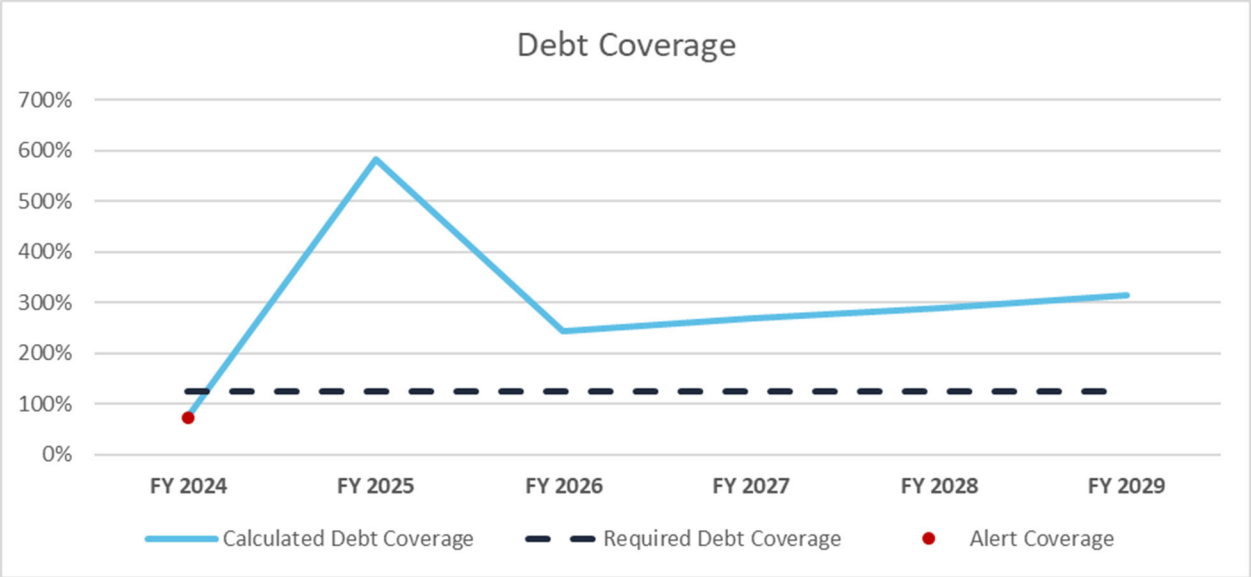


Figure 2-6 shows the debt coverage projections in the proposed financial plan. The required debt coverage (dashed black line) is met in all years. Debt coverage is lower than the requirement in FY 2024 due to an early repayment of the CalPERS loan; the City is not in technical default in that year.

Figure 2-6: Debt Coverage Projections (Proposed Financial Plan)



3. COST-OF-SERVICE ANALYSIS

3.1 COST-OF-SERVICE METHODOLOGY

A cost-of-service analysis was conducted to allocate the proposed FY 2024 rate revenue requirement to customers in proportion to use of and burden on the City's water system. The overall goal of the cost-of-service analysis is to develop "unit costs," which provide the basis from which proposed rates are directly calculated from. Note that although the study period spans five years, the cost-of-service analysis is limited to a single representative year referred to as the "test year." The test year in this study is FY 2024.

The cost-of-service analysis is "revenue neutral," meaning that the resulting cost-of-service based rates collect the same amount of revenue as the City expects to collect in FY 2024 (equal to $3,950,000). The revenue neutral unit costs determine revenue neutral rates, which are then adjusted based on the proposed financial plan increases to arrive at the proposed water rates for five years. All values presented in this section pertain to FY 2024 and are revenue neutral unless stated otherwise.

The key steps in conducting a water cost-of-service analysis are outlined below:

- **Revenue requirement determination**: The total rate revenue requirement for the test year is determined based on the results of the proposed financial plan and divided into primary sub-components (operating, capital, etc.).
- **Cost functionalization**: Operating and capital costs are evaluated and assigned to "functional categories" in the water system (e.g., customer service, groundwater wells, distribution, etc.). This provides a proportional breakdown of system costs by functional category.
- **Revenue requirement allocation to cost causation components**: Functionalized costs are allocated to "cost causation components" (e.g., water supply, base delivery, max day delivery, etc.), which is used to attribute customers' use of the system to the District's incursion of costs.
- **Unit cost development**: The rate revenue requirement allocation for each individual cost causation component is divided by the appropriate units of service to establish unit costs for the test year. Unit costs provide the basis from which proposed rates are calculated.

3.2 REVENUE REQUIREMENT

REVENUE REQUIREMENT DETERMINATION

The total rate revenue requirement for FY 2024 is based on the financial plan projections (**Table 2-21**) and was allocated between Operating and Capital components, shown in **Table 3-1**. The Operating revenue requirement consists of operating expenses (Line 2), miscellaneous non-rate revenues (Lines 7-12), and cash from reserves (Line 15) which is equal to net cash flow in FY 2024. The revenue adjustment annualization (Line 16) is an adjustment for when rates are not implemented for partial

years; for this study this adjustment is equal to $0 because proposed rates will be effective for the entire fiscal year. The Capital operating revenue requirement is equal to debt service and CIP (Lines 3-4). The total revenue requirement (Line 19) is equal to the amount of rate revenue collected in FY 2024 in the financial plan (**Table 2-21**, Line 2).

Table 3-1: Revenue Requirement for FY 2024

Line	FY 2024 Revenue Requirement	Operating	Capital	Total
1	**Revenue Requirements**			
2	Operating Expenses	$3,651,948	$0	$3,651,948
3	Debt Service	$0	$499,770	$499,770
4	Rate Funded CIP	$0	$1,788,000	$1,788,000
5	**Subtotal**	**$3,651,948**	**$2,287,770**	**$5,939,718**
6				
7	**Non-Rate Revenues**			
8	Connection Fees	($32,500)	$0	($32,500)
9	Miscellaneous Revenues	($9,000)	$0	($9,000)
10	All Other Revenues	$0	$0	$0
11	Interest Income	($28,947)	$0	($28,947)
12	**Subtotal**	**($70,447)**	**$0**	**($70,447)**
13				
14	**Adjustments**			
15	Cash to/(from) Reserves	($1,919,271)	$0	($1,919,271)
16	Revenue Adjustment Annualization	$0	$0	$0
17	**Subtotal**	**($1,919,271)**	**$0**	**($1,919,271)**
18				
19	**Total**	**$1,662,230**	**$2,287,770**	**$3,950,000**

3.3 COST FUNCTIONALIZATION

FUNCTIONAL CATEGORY DEFINITIONS

The City's water system costs were evaluated and assigned to various functional categories within the water system. The functional categories include the following:

- **Supply**: costs of acquiring water to serve the City's customers
- **Distribution**: costs related to delivering water through the City's distribution system
- **Treatment**: costs related to treatment of water to potable standards
- **Pumping**: costs related to pumping water to higher elevations
- **Storage**: costs related to water storage (such as reservoirs and tanks)
- **Conservation**: costs of the City's water conservation program
- **Meter**: costs of meter maintenance and replacement
- **Fire**: costs related to fire protection
- **Billing & Admin**: costs related to customer service, billing, and other administrative activities
- **General**: related to general costs that are not directly attributable to any other functional category

OPERATING COST FUNCTIONALIZATION

Operating expenses for FY 2024 were evaluated and allocated to the most closely associated functional categories within the water system, as shown in **Table 3-2**. The detailed functionalization of the operating budget is included in the **Appendix** (**Table 6-4**).

Table 3-2: Operating Costs by Function

Line	Cost Functions	Operating Expenses
1	Supply	$620,000
2	Distribution	$1,057,876
3	Treatment	$1,027,505
4	Pumping	$0
5	Storage	$0
6	Conservation	$20,000
7	Meter	$30,000
8	Fire	$0
9	Billing & Admin	$281,391
10	General	$615,176
11	**Total**	**$3,651,948**

CAPITAL ASSET FUNCTIONALIZATION

Current capital assets were evaluated and allocated to the most closely associated functional categories within the water system, as shown in **Table 3-3**. It is standard practice in water cost-of-service studies to functionalize existing capital assets rather than planned CIP costs; this is because planned CIP projects can fluctuate significantly from year to year. The existing capital asset base provides a more stable representation of long-term capital needs and their associated costs. The asset valuation methodology utilized in this study is Replacement Cost Less Depreciation (RCLD), which takes both inflation and depreciation of the City's water system assets into account. The derivation of capital asset value and detailed functionalization of the capital assets is included in the **Appendix** (**Table 6-5**).

Table 3-3: Capital Assets by Function

Line	Cost Functions	Capital Assets (RCLD)
1	Supply	$0
2	Distribution	$12,834,870
3	Treatment	$2,063,261
4	Pumping	$62,121
5	Storage	$55,462
6	Conservation	$0
7	Meter	$0
8	Fire	$0
9	Billing & Admin	$0
10	General	$2,512,452
11	**Total**	**$17,528,166**

3.4 COST CAUSATION COMPONENTS

COST COMPONENT DEFINITIONS

While the functional categories represent the costs of system functions, cost causation components represent the reasons for why and how those costs are incurred within the system (thus, cost causation). Cost causation components will be referred to as cost components in this report. The next step of the cost-of-service analysis is to allocate the functionalized operating and capital costs between the cost components, most of which directly correspond to a single functional category.

The cost components in this study include the following:

- **Meter**: directly corresponds to the Meter functional category
- **Customer**: costs associated with customer service and billing-related activities included in the Billing & Admin functional category
- **Fire**: directly corresponds to the Fire functional category
- **Average Day Demand (Base)**: costs associated with delivering water to customers during average water demand conditions (average water use)
- **Maximum Day Demand (Max Day)**: costs associated with delivering water to customers during maximum day demand conditions (water usage during highest day of year)
- **Maximum Hour Demand (Max Hour)**: costs associated with delivering water to customer during maximum hour demand conditions (water usage during highest hour of highest day)
- **Supply**: directly corresponds to the Supply functional category
- **Conservation**: directly corresponds to the Conservation functional category
- **General**: directly corresponds to the General functional category

SYSTEM-WIDE PEAKING FACTORS

System-wide peaking factors for the City's water system, shown in **Table 3-4**, are used to allocate costs associated with the Distribution, Treatment, Pumping, and Storage functional categories to the Base, Max Day, and Max Hour cost components. Peaking factors represent the ratio of maximum to average water demand over the course of one year. This provides a basis from which to identify costs incurred to provide water service during average demand conditions and to provide additional capacity during peak demand conditions.

City staff provided the peaking factor data. Average day demand is allocated entirely to Base. Max day demand is allocated proportionately to Base (1.00/2.50) and Max Day ([2.50-1.00]/2.50). Max hour demand is allocated proportionately to Base (1.00/3.50), Max Day ([2.50-1.00]/3.50), and Max Hour ([3.50-2.50]/3.50).

Table 3-4: System-Wide Peaking Factor Allocations

Line	System-Wide Peaking	Peaking Factor	Base	Max Day	Max Hour	Total
1	Average Day Demand	1.00	100.0%	0.0%	0.0%	100.0%
2	Max Day Demand	2.50	40.0%	60.0%	0.0%	100.0%
3	Max Hour Demand	3.50	28.6%	42.9%	28.6%	100.0%

COST COMPONENT ALLOCATION FACTORS

Table 3-5 shows the allocation factors to allocate the functionalized costs between the cost components. For the cost components that directly correlate to a functional category (Supply, Conservation, Meter, Fire, General), the functionalized costs are allocated entirely to the matching cost component. Distribution systems (Line 2) and pumping infrastructure (Line 4) are sized to withstand maximum hour demand, and thus are allocated based on the Max Hour peaking factor allocations (**Table 3-4**, Line 3). Treatment- and storage-related infrastructure is sized to meet maximum day demand, and thus are allocated based on the Max Day peaking factor allocations (**Table 3-4**, Line 2). The portion of Billing & Admin costs related to customer service and billing activities is allocated to the Customer cost component; the remaining is allocated to General.

Table 3-5: Cost Component Allocation Factors

Line	Cost Functions	Meter	Customer	Fire	Base	Max Day	Max Hour	Supply	Conserv-ation	General	Total
1	Supply	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	100.0%
2	Distribution	0.0%	0.0%	0.0%	28.6%	42.9%	28.6%	0.0%	0.0%	0.0%	100.0%
3	Treatment	0.0%	0.0%	0.0%	40.0%	60.0%	0.0%	0.0%	0.0%	0.0%	100.0%
4	Pumping	0.0%	0.0%	0.0%	28.6%	42.9%	28.6%	0.0%	0.0%	0.0%	100.0%
5	Storage	0.0%	0.0%	0.0%	40.0%	60.0%	0.0%	0.0%	0.0%	0.0%	100.0%
6	Conservation	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
7	Meter	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
8	Fire	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
9	Billing & Admin	0.0%	30.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	70.0%	100.0%
10	General	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%

OPERATING COST COMPONENT ALLOCATION

Table 3-6 shows the operating cost component allocation. The functionalized costs from **Table 3-2** are allocated based on the cost component allocation factors in **Table 3-5**. The operating allocation (Line 12) is derived from the total operating costs by cost component (Line 11) and represents the proportion of the operating revenue requirement that is allocated to each cost component.

Table 3-6: Operating Cost Component Allocation

Line	Operating Expenses	Meter	Customer	Fire	Base	Max Day	Max Hour	Supply	Conserv-ation	General	Total
1	Supply	$0	$0	$0	$0	$0	$0	$620,000	$0	$0	$620,000
2	Distribution	$0	$0	$0	$302,250	$453,375	$302,250	$0	$0	$0	$1,057,876
3	Treatment	$0	$0	$0	$411,002	$616,503	$0	$0	$0	$0	$1,027,505
4	Pumping	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
5	Storage	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
6	Conservation	$0	$0	$0	$0	$0	$0	$0	$20,000	$0	$20,000
7	Meter	$30,000	$0	$0	$0	$0	$0	$0	$0	$0	$30,000
8	Fire	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
9	Billing & Admin	$0	$84,417	$0	$0	$0	$0	$0	$0	$196,974	$281,391
10	General	$0	$0	$0	$0	$0	$0	$0	$0	$615,176	$615,176
11	**Total**	**$30,000**	**$84,417**	**$0**	**$713,252**	**$1,069,878**	**$302,250**	**$620,000**	**$20,000**	**$812,150**	**$3,651,948**
12	***Operating Allocation***	***0.8%***	***2.3%***	***0.0%***	***19.5%***	***29.3%***	***8.3%***	***17.0%***	***0.5%***	***22.2%***	***100.0%***

CAPITAL COST COMPONENT ALLOCATION

Table 3-7 shows the capital cost component allocation. The functionalized costs from **Table 3-3** are allocated based on the cost component allocation factors in **Table 3-5**. The capital allocation (Line 12) is derived from the total capital asset value by cost component (Line 11) and represents the proportion of the capital revenue requirement that is allocated to each cost component.

Table 3-7: Capital Cost Component Allocation

Line	Capital Fixed Assets	Meter	Customer	Fire	Base	Max Day	Max Hour	Supply	Conserv-ation	General	Total
1	Supply	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
2	Distribution	$0	$0	$0	$3,667,106	$5,500,659	$3,667,106	$0	$0	$0	$12,834,870
3	Treatment	$0	$0	$0	$825,304	$1,237,957	$0	$0	$0	$0	$2,063,261
4	Pumping	$0	$0	$0	$17,749	$26,623	$17,749	$0	$0	$0	$62,121
5	Storage	$0	$0	$0	$22,185	$33,277	$0	$0	$0	$0	$55,462
6	Conservation	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
7	Meter	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
8	Fire	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
9	Billing & Admin	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
10	General	$0	$0	$0	$0	$0	$0	$0	$0	$2,512,452	$2,512,452
11	**Total**	**$0**	**$0**	**$0**	**$4,532,344**	**$6,798,516**	**$3,684,855**	**$0**	**$0**	**$2,512,452**	**$17,528,166**
12	***Capital Allocation***	***0.0%***	***0.0%***	***0.0%***	***25.9%***	***38.8%***	***21.0%***	***0.0%***	***0.0%***	***14.3%***	***100.0%***

3.5 SYSTEM CAPACITY ALLOCATIONS

The costs for certain system functions are based on the capacity requirements related to that function. For example, meter-related costs are allocated based on meter capacity, which is defined by the safe maximum operating capacity of each meter size. This section describes and defines capacity requirements and allocations relating to water meters, private fire lines, customer water usage, and fire protection.

EQUIVALENT METER UNITS

Costs related to meter capacity increase based on meter size. Therefore, equivalent meter units (EMUs) are calculated to provide a basis from which to allocate costs in proportion to meter size. Equivalent meter calculations are shown in **Table 3-8**.

EMUs are calculated based on meter capacity ratios, which represent the safe operating capacity of a water meter relative to the base meter size. For this study, the base meter size is a 5/8" meter, which is the most common meter size in the City's system. Capacity in gallons per minute (gpm) is derived from the AWWA M1 Manual. The meter ratio for a 1.5" meter is 5.00, which means that the capacity of a 1.5" meter is five times that of a 5/8" meter.

The number of meters in each meter size is from **Table 2-4**. Equivalent meters are calculated by multiplying the meter counts by the meter ratio in each size.

Table 3-8: Equivalent Meter Units

Line	Meter Size	Capacity (gpm)	Meter Ratio	Meter Counts	Equivalent Meters
1	5/8"	20	1.00	3,849	3,849
2	1"	50	2.50	71	178
3	1.5"	100	5.00	14	70
4	2"	160	8.00	43	344
5	3"	300	15.00	1	15
6	4"	500	25.00	2	50
7	6"	1,000	50.00	1	50
8	8"	1,600	80.00	0	0
9	10"	2,900	145.00	2	290
10	12"	4,300	215.00	0	0
11	**Total**			**3,983**	**4,846**

EQUIVALENT FIRE LINES

Costs related to fire protection capacity increase based on fire line diameter and are attributable to both public fire hydrants and private fire connections. Therefore, equivalent fire lines are calculated to provide a basis from which to allocate costs in proportion to fire line size, and between public and private fire connections. Equivalent fire line calculations are shown in **Table 3-9**.

The capacity of a fire line is based on the diameter of the connection and is equal to the connection diameter in inches raised to the 2.63 power based on the Hazen-Williams equation in the AWWA M1 Manual. The fire line ratio is the fire capacity of each diameter size divided by the base fire line, which is a 2" diameter. Equivalent fire lines are calculated by multiplying the fire line ratio of each diameter size by the number of connections by size.

The concept of equivalent fire lines provides a methodology to compare the capacity requirements of both private fire protection and public hydrants. The fire protection capacity attributed to private fire connections is equal to 5.7%; the remaining 94.3% is attributed to public fire hydrants.

Table 3-9: Equivalent Fire Lines

Line	Fire Line Size	Fire Capacity	Fire Line Ratio	Private Fire Counts	Public Hydrant Counts	Private Fire Equivalents	Public Hydrant Equivalents
1	2" or Less	6.19	1.00	0	0	0	0
2	3" or Less	17.98	2.90	0	0	0	0
3	4" or Less	38.32	6.19	5	51	31	316
4	6" or Less	111.31	17.98	8	411	144	7,390
5	8" or Less	237.21	38.32	4	0	153	0
6	10" or Less	426.58	68.91	2	0	138	0
7	12" or Less	689.04	111.31	0	0	0	0
8	**Total**			**19**	**462**	**466**	**7,706**
9	***% of Equiv. Lines***					***5.7%***	***94.3%***

CUSTOMER DEMAND AND FIRE CAPACITY

Cost-of-service allocations are typically based on system-wide capacity (which is the combination of customer demand and fire protection). However, Max Day and Max Hour cost components are further allocated between customer demand and fire protection based on their proportion share of the system.

Table 3-10 shows the customer demand capacity calculation for Max Day and Max Hour. The annual use (Line 1) matches the FY 2024 total water usage in **Table 2-5**. The average daily use (Line 2) is the total use divided by 365 days.

The Max Day peaking factor (Line 3) utilizes the maximum month demand for all customer classes as a proxy for maximum day demand; typically, maximum day demand is not determined at the customer level due to data limitations. The Max Day demand (Line 4) is the average use multiplied by the Max Day peaking factor. Max Day extra capacity (Line 5) is the difference between Max Day demand and average daily use.

The Max Hour peaking factor (Line 6) is derived from the ratio of the system-wide Max Hour factor to the system-wide Max Day factor (**Table 3-4**). The Max Hour demand is calculated similarly to Max Day demand. The Max Hour extra capacity (Line 8) is the incremental difference between Max Hour demand and Max Day demand.

Table 3-10: Customer Demand Capacity Calculation

Line	Customer Demand Capacity	All Classes
1	Annual Use (hcf)	804,232
2	**Average Use (hcf/day)**	**2,203**
3	Max Day Peaking Factor	1.56
4	Max Day Demand	3,444
5	**Max Day Extra Capacity (hcf/day)**	**1,240**
6	Max Hour Peaking Factor	2.19
7	Max Hour Demand	4,821
8	**Max Hour Extra Capacity (hcf/day)**	**1,378**

Table 3-11 shows the fire capacity calculation, which is later utilized to allocate the Max Day and Max Hour cost-of-service between customer demand, public fire protection, and private fire protection costs. The extra capacity required for fire is based on a maximum fire that lasts three hours using 3,000 gpm of water based on the City's Water Master Plan. The fire capacity is allocated between public hydrants (Line 5) and private fire (Line 6) using the proportion of equivalent fire lines attributed to each service (**Table 3-9**).

The customer demand (**Table 3-10**), public hydrant, and private fire extra capacity are added together to form the total capacity requirements of the system within the Max Day and Max Hour cost components. From there, the capacity allocations (Lines 13-16) are calculated. These allocations are used in a later section of the report to reallocate Max Day and Max Hour costs.

Table 3-11: Fire Capacity Calculation

Line	Fire Capacity	Max Day	Max Hour
1	Maximum Fire		
2	Hours	3	3
3	gpm	3,000	3,000
4	**Fire Extra Capacity**	**722**[2]	**5,053**[3]
5	*Public Hydrants*	*94.3%*	*94.3%*
6	*Private Fire*	*5.7%*	*5.7%*
7			
8	Customer Demand	1,240	1,378
9	Public Hydrants	681	4,765
10	Private Fire	41	288
11	**Total - Capacity Requirements**	**1,962**	**6,431**
12			
13	Customer Demand	63%	21%
14	Public Hydrants	35%	74%
15	Private Fire	2%	4%
16	**Total - Capacity Allocation**	**100%**	**100%**

[2] 3 hours x 3,000 gpm x 60 minutes/hour x 748 gallons/hcf

[3] (3,000 gpm x 60 minutes/hour x 24 hours/day / 748 gallons/hcf) – 722 (Max Day fire capacity)

3.6 ALLOCATION TO COST COMPONENTS

PRELIMINARY COST-OF-SERVICE ALLOCATION

Table 3-12 shows the preliminary cost-of-service allocation prior to any adjustments or reallocation. The operating and capital revenue requirements (**Table 3-1**) are allocated to the cost components based on the operating allocation factors (**Table 3-6**, Line 12) and the capital allocation factors (**Table 3-7**, Line 12). Note that the preliminary cost-of-service allocation by cost components (Line 3) equals the total rate revenue requirement for FY 2024 (**Table 3-1**, Line 19).

Table 3-12: Preliminary Cost-of-Service Allocation

Line	Revenue Requirement	Meter	Customer	Fire	Base	Max Day	Max Hour	Supply	Conserv-ation	General	Total
1	Operating Costs	$13,655	$38,424	$0	$324,646	$486,969	$137,573	$282,201	$9,103	$369,660	$1,662,230
2	Capital Costs	$0	$0	$0	$591,560	$887,340	$480,946	$0	$0	$327,924	$2,287,770
3	**Preliminary Allocation**	**$13,655**	**$38,424**	**$0**	**$916,206**	**$1,374,308**	**$618,519**	**$282,201**	**$9,103**	**$697,584**	**$3,950,000**

GENERAL AND FIRE PROTECTION COST REALLOCATION

The next step is to reallocate General costs and capacity-related costs (between customer demand, public fire, and private fire), as shown in **Table 3-13**. The preliminary allocation is from **Table 3-12**. The general costs are allocated between the other cost components proportionately based on the preliminary allocation to form the cost-of-service adjusted for General (Line 3). Then public fire (Line 4) and private fire (Line 5) costs are allocated from Max Day and Max Hour based on the fire capacity allocations (**Table 3-11**, Line 14-15). Public fire costs are allocated to Meter, since all public fire protection is a benefit shared by all water customers. Private fire costs are allocated to Fire. The remainder of Max Day and Max Hour costs are related to customer demand.

Table 3-13: Cost-of-Service Allocation Adjusted for General and Fire Protection

Line	Revenue Requirement	Meter	Customer	Fire	Base	Max Day	Max Hour	Supply	Conserv-ation	General	Total
1	Preliminary Allocation	$13,655	$38,424	$0	$916,206	$1,374,308	$618,519	$282,201	$9,103	$697,584	$3,950,000
2	General Cost Allocation	$2,929	$8,241	$0	$196,510	$294,764	$132,661	$60,527	$1,952	($697,584)	$0
3	**Adjusted - General**	**$16,584**	**$46,665**	**$0**	**$1,112,715**	**$1,669,073**	**$751,180**	**$342,728**	**$11,056**	**$0**	**$3,950,000**
4	Public Fire Allocation	$1,135,644	$0	$0	$0	($579,020)	($556,624)	$0	$0	$0	$0
5	Private Fire Allocation	$0	$0	$68,660	$0	($35,007)	($33,653)	$0	$0	$0	$0
6	**Adjusted - Fire**	**$1,152,228**	**$46,665**	**$68,660**	**$1,112,715**	**$1,055,046**	**$160,903**	**$342,728**	**$11,056**	**$0**	**$3,950,000**

METER AND PEAKING COST REALLOCATION

After adjusting the cost-of-service allocations based on General and Fire costs, it is adjusted for Meter and Peaking costs in **Table 3-14**. Meter costs are broken out between Meter Maintenance (which are charged to private fire lines) and Meter Capacity (which are not charged to private fire lines). Meter Maintenance costs (Line 2) are equal to Meter costs after the General adjustment but prior to the Fire reallocation (**Table 3-13**, Line 3).

Finally, the peaking costs in Max Day and Max Hour are adjusted to recover peak-capacity costs in the Meter Capacity component. This allocation is to increase the percentage of fixed revenue recovery from approximately 45% to 54% based on direction from the City's Ad Hoc Committee. Some of the capacity-related costs from Max Day and Max Hour are recovered through the meter charges to increase revenue stability.

Table 3-14: Cost-of-Service Allocation Adjusted for Meter and Peaking

Line	Revenue Requirement	Meter Maint-enance	Meter Capacity	Customer	Private Fire	Base	Max Day	Max Hour	Supply	Conserv-ation	Total
1	Adjusted - Fire	$0	$1,152,228	$46,665	$68,660	$1,112,715	$1,055,046	$160,903	$342,728	$11,056	$3,950,000
2	Meter Maint. Allocation	$16,584	($16,584)	$0	$0	$0	$0	$0	$0	$0	$0
3	**Adjusted - Meter**	**$16,584**	**$1,135,644**	**$46,665**	**$68,660**	**$1,112,715**	**$1,055,046**	**$160,903**	**$342,728**	**$11,056**	**$3,950,000**
4	Peaking Allocation	$0	$851,164	$0	$0	$0	($738,532)	($112,632)	$0	$0	$0
5	**Adjusted - Peaking**	**$16,584**	**$1,986,808**	**$46,665**	**$68,660**	**$1,112,715**	**$316,514**	**$48,271**	**$342,728**	**$11,056**	**$3,950,000**

FINAL COST-OF-SERVICE ALLOCATION

Table 3-15 shows the final cost-of-service allocation based on the adjustments for General, Fire, Meter, and Peaking from the prior report tables. Note that the final cost-of-service after all readjustments is equal to the revenue neutral FY 2024 revenue requirement derived in **Table 3-1**.

Table 3-15: Final Cost-of-Service Allocation

Line	Cost Components	Final Cost Allocation
1	Meter Maintenance	$16,584
2	Meter Capacity	$1,986,808
3	Customer	$46,665
4	Private Fire	$68,660
5	Base	$1,112,715
6	Max Day	$316,514
7	Max Hour	$48,271
8	Supply	$342,728
9	Conservation	$11,056
10	**Total**	**$3,950,000**

3.7 UNIT COST CALCULATION

UNITS OF SERVICE DEFINITIONS

The appropriate units of service are then established for each cost component based on cost causation. Cost components to be recovered by fixed charges are assigned units of service based on the number of water meters, EMUs, or equivalent fire lines. Cost components to be recovered by the uniform consumption charges are assigned units based on annual usage for all customers in hcf.

Table 3-16 shows the units of service for each cost component. Units of service for the Meter Maintenance cost component includes EMUs for water service and number of fire lines for private fire protection. Private fire lines within the City have a 5/8" "tattle-tale meter," which measures water usage in the event of a fire; Meter Maintenace captures the costs of maintaining these meters.

Table 3-16: Units of Service Definitions

Line	Cost Components	Units of Service Definition	Annualized Units of Service	Units
1	Meter Maintenance	*Equiv. meters and fire lines x 12 mo.*	58,374	EMUs/year
2	Meter Capacity	*Equiv. meters x 12 mo.*	58,146	EMUs/year
3	Customer	*Meters and fire lines x 12 mo.*	48,024	bills/year
4	Private Fire	*Equiv. fire lines x 12 mo.*	5,591	EFLs/year
5	Base	*Annual usage in hcf*	804,232	hcf/year
6	Max Day	*Annual usage in hcf*	804,232	hcf/day
7	Max Hour	*Annual usage in hcf*	804,232	hcf/day
8	Supply	*Annual usage in hcf*	804,232	hcf/year
9	Conservation	*Annual usage in hcf*	804,232	hcf/year

UNIT COST BY COST COMPONENT

The final step in the cost-of-service analysis is to calculate the unit costs by cost component, shown in **Table 3-17**. The final cost-of-service allocation by cost component (**Table 3-15**) is divided by the units of service (**Table 3-16**) to derive the unit cost. These unit costs will determine the revenue neutral rates based on cost-of-service.

Table 3-17: Unit Cost Calculation

Line	Cost Components	Final Cost Allocation	Annualized Units of Service	Unit Cost	Units
1	Meter Maintenance	$16,584	58,374	$0.28	per EMU
2	Meter Capacity	$1,986,808	58,146	$34.17	per EMU
3	Customer	$46,665	48,024	$0.97	per bill
4	Private Fire	$68,660	5,591	$12.28	per EFL
5	Base	$1,112,715	804,232	$1.38	per hcf
6	Max Day	$316,514	804,232	$0.39	per hcf
7	Max Hour	$48,271	804,232	$0.06	per hcf
8	Supply	$342,728	804,232	$0.43	per hcf
9	Conservation	$11,056	804,232	$0.01	per hcf

4. WATER RATES

4.1 RATE DESIGN METHODOLOGY

A five-year proposed water rate schedule was developed based on the results of the proposed financial plan and cost-of-service analysis. The key steps in developing the proposed rate schedule are outlined below:

- **Rate structure evaluation**: The existing rate structure is evaluated, and any proposed changes are identified. Proposed rate structure changes are typically intended to address specific policy objectives or to improve legal defensibility.
- **Test year rate development**: Rates are calculated for the proposed rate structure for the cost-of-service test year (FY 2024). Rate calculations directly incorporate the unit costs developed in the cost-of-service analysis. The test year rates are revenue neutral, then are increased based on the proposed financial plan revenue adjustments. Although total rate revenues in the first year of adjustments (FY 2025) are designed to increase by the proposed revenue adjustment percentage (25% in FY 2025), the proposed percentage increase to each rate/charge varies due to the updated cost-of-service allocations.
- **Five-year rate schedule development**: Proposed rates for the full five-year study period are calculated by increasing the cost-of-service rates by the proposed annual revenue adjustment percentages from the proposed financial plan.

4.2 PROPOSED CHANGES TO RATE STRUCTURE

The proposed changes to the water rate structure were developed based on direction from the Ad Hoc Committee and include the following:

- **Proposed uniform consumption charge:** the City's current consumption charge includes a three-tiered structure for Residential customers and a uniform consumption charge that varies by non-residential customer classes. A key objective of this study is to evaluate the impact of a uniform consumption charge, based on direction provided by the Ad Hoc Committee. The proposed water rate structure includes one uniform consumption charge for all customer classes.
- **Proposed change to fixed revenue recovery:** the City's current water rate structure collects approximately 45% of its revenues via fixed charges (monthly service charges and monthly private fire charges). The Ad Hoc Committee provided direction to increase the fixed revenue recovery to approximately 54%, which would increase financial stability for the City's water enterprise.
- **Proposed change to Lifeline discount:** the current Lifeline discount is applied to Tier 1 usage. The proposed Lifeline discount is applied to the monthly service charge since the proposed rate structure does not have tiered rates. Additionally, this proposed change can help offset some affordability concerns due to increasing fixed revenue recovery. City staff and the Ad Hoc Committee recommended a discount of $4 per Lifeline customer per month; the costs of

this program are funded via the General Fund. The Lifeline discount will stay at $4 per customer per month for all years of the study.

4.3 PROPOSED WATER RATE CALCULATION

PROPOSED MONTHLY SERVICE CHARGES

Table 4-1 shows the revenue neutral monthly service charge calculation. The Meter Maintenance, Meter Capacity, and Customer unit costs are from **Table 3-17** (Lines 1, 2, and 3, respectively). Meter Maintenance and Meter Capacity unit costs are multiplied by the meter ratio; Customer costs do not vary based on meter size and thus are the same for all meter sizes. The revenue neutral rate represents the cost-of-service analysis for FY 2024 but does not include the proposed revenue adjustments for the first year of rates in FY 2025.

Table 4-1: Revenue Neutral Monthly Service Charge Calculation

Line	Meter Size	Meter Ratio	Number of Meters	Meter Maintenance Cost	Meter Capacity Cost	Customer Cost	Revenue Neutral Rate
1	5/8"	1.00	3,849	$0.28	$34.17	$0.97	**$35.43**
2	1"	2.50	71	$0.71	$85.42	$0.97	**$87.11**
3	1.5"	5.00	14	$1.42	$170.85	$0.97	**$173.24**
4	2"	8.00	43	$2.27	$273.35	$0.97	**$276.60**
5	3"	15.00	1	$4.26	$512.54	$0.97	**$517.78**
6	4"	25.00	2	$7.10	$854.23	$0.97	**$862.31**
7	6"	50.00	1	$14.20	$1,708.47	$0.97	**$1,723.65**
8	8"	80.00	0	$22.73	$2,733.54	$0.97	**$2,757.25**
9	10"	145.00	2	$41.19	$4,954.55	$0.97	**$4,996.72**
10	12"	215.00	0	$61.08	$7,346.40	$0.97	**$7,408.46**

Table 4-2 shows the proposed monthly service charge for FY 2025 based on the revenue neutral rate (**Table 4-1**) and adjusted by the proposed revenue adjustment of 25% in the first year.

Table 4-2: Proposed Monthly Service Charge Calculation for FY 2025

Line	Meter Size	Proposed Rate (w/ 25% Adjustment)	Current Rate	Difference ($)	Difference (%)
1	5/8"	**$44.29**	$31.08	$13.21	43%
2	1"	**$108.89**	$70.45	$38.44	55%
3	1.5"	**$216.55**	$136.06	$80.49	59%
4	2"	**$345.75**	$214.79	$130.96	61%
5	3"	**$647.23**	$398.52	$248.71	62%
6	4"	**$1,077.89**	$660.97	$416.92	63%
7	6"	**$2,154.57**	$1,317.12	$837.45	64%
8	8"	**$3,446.57**	$2,104.51	$1,342.06	64%
9	10"	**$6,245.90**	$3,810.49	$2,435.41	64%
10	12"	**$9,260.58**	$5,647.71	$3,612.87	64%

PROPOSED MONTHLY PRIVATE FIRE CHARGES

Table 4-3 shows the revenue neutral monthly private fire charge calculation. The Private Fire, Meter Maintenance, and Customer unit costs are from **Table 3-17** (Lines 4, 1, and 3, respectively). Private Fire costs are multiplied by the fire ratio. Meter Maintenance costs do not vary based on the fire line size (all private fire customers have the same size tattle-tale meter); Customer costs also do not vary based on fire line size. The revenue neutral rate represents the cost-of-service analysis for FY 2024 but does not include the proposed revenue adjustments for the first year of rates in FY 2025.

Table 4-3: Revenue Neutral Monthly Private Fire Charge Calculation

Line	Fire Line Size	Fire Ratio	Number of Fire Lines	Private Fire Cost	Meter Maintenance Cost	Customer Cost	Revenue Neutral Rate
1	2" or Less	1.00	0	$12.28	$0.28	$0.97	**$13.54**
2	3" or Less	2.90	0	$35.67	$0.28	$0.97	**$36.93**
3	4" or Less	6.19	5	$76.02	$0.28	$0.97	**$77.28**
4	6" or Less	17.98	8	$220.83	$0.28	$0.97	**$222.09**
5	8" or Less	38.32	4	$470.59	$0.28	$0.97	**$471.85**
6	10" or Less	68.91	2	$846.28	$0.28	$0.97	**$847.54**
7	12" or Less	111.31	0	$1,366.98	$0.28	$0.97	**$1,368.24**

Table 4-4 shows the proposed monthly private fire charge for FY 2025 based on the revenue neutral rate (**Table 4-3**) and adjusted by the proposed revenue adjustment of 25% in the first year.

Table 4-4: Proposed Monthly Private Fire Charge Calculation for FY 2025

Line	Fire Line Size	Proposed Rate (w/ 25% Adjustment)	Current Rate	Difference ($)	Difference (%)
1	2" or Less	**$16.93**	$5.53	$11.40	206%
2	3" or Less	**$46.17**	$16.06	$30.11	187%
3	4" or Less	**$96.60**	$34.22	$62.38	182%
4	6" or Less	**$277.62**	$99.42	$178.20	179%
5	8" or Less	**$589.82**	$211.86	$377.96	178%
6	10" or Less	**$1,059.43**	$381.00	$678.43	178%
7	12" or Less	**$1,710.30**	$615.41	$1,094.89	178%

PROPOSED UNIFORM CONSUMPTION CHARGES

The consumption charges calculated in this study result in a uniform charge that is the same for all customers, based on direction from the City's Ad Hoc Committee. The City currently has a three-tiered Residential rate and a uniform rate that is differentiated by all non-Residential classes. **Table 4-5** shows the revenue neutral uniform consumption charge calculation. The Base, Max Day, Max Hour, Supply, and Conservation unit costs are from **Table 3-17** (Lines 5, 6, 7, 8, and 9, respectively). The revenue neutral rate represents the cost-of-service analysis for FY 2024 but does not include the proposed revenue adjustments for the first year of rates in FY 2025.

Table 4-5: Revenue Neutral Uniform Consumption Charge Calculation

Line	Customer Class	Annual Use (hcf)	Base Cost	Max Day Cost	Max Hour Cost	Supply Cost	Conserv-ation Cost	Revenue Neutral Rate
1	**Residential**							
2	Tier 1	271,211	$1.38	$0.39	$0.06	$0.43	$0.01	**$2.28**
3	Tier 2	96,395	$1.38	$0.39	$0.06	$0.43	$0.01	**$2.28**
4	Tier 3	90,041	$1.38	$0.39	$0.06	$0.43	$0.01	**$2.28**
5								
6	**Lifeline**							
7	Tier 1	30,651	$1.38	$0.39	$0.06	$0.43	$0.01	**$2.28**
8	Tier 2	9,457	$1.38	$0.39	$0.06	$0.43	$0.01	**$2.28**
9	Tier 3	7,591	$1.38	$0.39	$0.06	$0.43	$0.01	**$2.28**
10								
11	**Multi-Family & Mobile**	66,990	$1.38	$0.39	$0.06	$0.43	$0.01	**$2.28**
12	**Commercial & Industrial**	168,889	$1.38	$0.39	$0.06	$0.43	$0.01	**$2.28**
13	**Commercial Irr. & Govt.**	32,148	$1.38	$0.39	$0.06	$0.43	$0.01	**$2.28**
14	**Schools**	30,859	$1.38	$0.39	$0.06	$0.43	$0.01	**$2.28**

Table 4-6 shows the proposed monthly private fire charge for FY 2025 based on the revenue neutral rate (**Table 4-5**) and adjusted by the proposed revenue adjustment of 25% in the first year.

Table 4-6: Proposed Uniform Consumption Charge Calculation for FY 2025

Line	Customer Class	Proposed Rate (w/ 25% Adjustment)	Current Rate	Difference ($)	Difference (%)
1	**Residential**				
2	Tier 1	$2.85	$2.44	$0.41	17%
3	Tier 2	$2.85	$2.79	$0.06	2%
4	Tier 3	$2.85	$3.50	($0.65)	-19%
5					
6	**Lifeline**				
7	Tier 1	$2.85	$1.94	$0.91	47%
8	Tier 2	$2.85	$2.79	$0.06	2%
9	Tier 3	$2.85	$3.50	($0.65)	-19%
10					
11	**Multi-Family & Mobile**	$2.85	$2.58	$0.27	10%
12	**Commercial & Industrial**	$2.85	$2.63	$0.22	8%
13	**Commercial Irr. & Govt.**	$2.85	$2.86	($0.01)	0%
14	**Schools**	$2.85	$3.07	($0.22)	-7%

4.4 PROPOSED WATER RATE SCHEDULE

PROPOSED FIVE-YEAR REVENUE ADJUSTMENTS

Table 4-7 shows the revenue adjustments based on the proposed financial plan and their effective date.

Table 4-7: Proposed Revenue Adjustments

Line	Fiscal Year	Revenue Adjustments	Effective Date
1	FY 2025	25.0%	7/1/2024
2	FY 2026	6.0%	7/1/2025
3	FY 2027	6.0%	7/1/2026
4	FY 2028	6.0%	7/1/2027
5	FY 2029	6.0%	7/1/2028

PROPOSED FIVE-YEAR WATER RATE SCHEDULE

Table 4-8, **Table 4-9**, and **Table 4-10** show the proposed five-year water rate schedule for the monthly service charges, monthly private fire charges, and uniform consumption charges. The five-year rates are based on the proposed cost-of-service rates (**Table 4-2**, **Table 4-4**, **Table 4-6**, respectively) adjusted by the proposed revenue adjustments (**Table 4-7**) for the four remaining years.

Table 4-8: Proposed Five-Year Monthly Service Charges

Line	Proposed Monthly Service Charges	Effective 7/1/2024	Effective 7/1/2025	Effective 7/1/2026	Effective 7/1/2027	Effective 7/1/2028
1	Lifeline	$40.29	$42.95	$45.77	$48.76	$51.93
2	5/8" Meter	$44.29	$46.95	$49.77	$52.76	$55.93
3	1" Meter	$108.89	$115.43	$122.36	$129.71	$137.50
4	1.5" Meter	$216.55	$229.55	$243.33	$257.93	$273.41
5	2" Meter	$345.75	$366.50	$388.49	$411.80	$436.51
6	3" Meter	$647.23	$686.07	$727.24	$770.88	$817.14
7	4" Meter	$1,077.89	$1,142.57	$1,211.13	$1,283.80	$1,360.83
8	6" Meter	$2,154.57	$2,283.85	$2,420.89	$2,566.15	$2,720.12
9	8" Meter	$3,446.57	$3,653.37	$3,872.58	$4,104.94	$4,351.24
10	10" Meter	$6,245.90	$6,620.66	$7,017.90	$7,438.98	$7,885.32
11	12" Meter	$9,260.58	$9,816.22	$10,405.20	$11,029.52	$11,691.30

Table 4-9: Proposed Five-Year Monthly Private Fire Charges

Line	Proposed Monthly Private Fire Charges	Effective 7/1/2024	Effective 7/1/2025	Effective 7/1/2026	Effective 7/1/2027	Effective 7/1/2028
1	2" or Less	$16.93	$17.95	$19.03	$20.18	$21.40
2	3" or Less	$46.17	$48.95	$51.89	$55.01	$58.32
3	4" or Less	$96.60	$102.40	$108.55	$115.07	$121.98
4	6" or Less	$277.62	$294.28	$311.94	$330.66	$350.50
5	8" or Less	$589.82	$625.21	$662.73	$702.50	$744.65
6	10" or Less	$1,059.43	$1,123.00	$1,190.38	$1,261.81	$1,337.52
7	12" or Less	$1,710.30	$1,812.92	$1,921.70	$2,037.01	$2,159.24

Table 4-10: Proposed Five-Year Consumption Charges

Line	Proposed Consumption Charges ($/hcf)	Effective 7/1/2024	Effective 7/1/2025	Effective 7/1/2026	Effective 7/1/2027	Effective 7/1/2028
1	Residential	$2.85	$3.03	$3.22	$3.42	$3.63
2	Multi-Family & Mobile	$2.85	$3.03	$3.22	$3.42	$3.63
3	Commercial & Industrial	$2.85	$3.03	$3.22	$3.42	$3.63
4	Commercial Irr. & Govt.	$2.85	$3.03	$3.22	$3.42	$3.63
5	Schools	$2.85	$3.03	$3.22	$3.42	$3.63

4.5 CUSTOMER IMPACTS

RESIDENTIAL CUSTOMER IMPACTS

WRE evaluated the impact to the Residential customer class (which makes up approximately 79% of metered connections within the City's water system) based on the proposed water rates in FY 2025. **Table 4-11** shows the impact to Residential customers with a 5/8" meter size at various usage levels. The customer impacts are driven by several factors: the proposed change to a uniform consumption charge, the proposed change to the fixed revenue recovery percentage, and the updated cost-of-service analysis.

Table 4-11: Residential Customer Impacts at Various Usage Levels

Line	Residential Customer Impacts	Billed Usage (hcf)	Proposed Bill	Current Bill	Difference ($)	Difference (%)
1	Very Low Use (10th percentile)	2	$49.99	$35.96	$14.03	39%
2	Low Use (25th percentile)	4	$55.69	$40.84	$14.85	36%
3	Median Use	7	$64.24	$48.16	$16.08	33%
4	Average Use	11	$75.64	$58.27	$17.37	30%
5	High Use (75th percentile)	14	$84.19	$66.64	$17.55	26%
6	Very High Use (90th percentile)	25	$115.54	$100.88	$14.66	15%

5. WATER SHORTAGE RATES

5.1 WATER SHORTAGE RATE DESIGN METHODOLOGY

In addition to the base water rates developed in the prior section of the report, water shortage rates were developed to be implemented during periods of constrained water supply and during drought emergencies. The key steps in determining the water shortage rates are as follows:

- **Evaluate financial risks**: the City faces different risks based on two main water shortage conditions – a constrained year water supply (when water supply is low and more expensive to purchase) and a drought emergency (when government-mandated usage cutbacks reduce the City's consumption charge revenues).
- **Determine cost impact**: the cost impact is dependent upon the water shortage condition. Constrained water supply results in higher costs to purchase water for the City to meet its customer demand. Drought emergencies result in lost revenues from consumption charges when customers use less water.
- **Calculate water shortage rates**: the resulting cost impact is then used to calculate two different water shortage rates. The first is a water supply cost surcharge, to be implemented during years of constrained water supply. The second is a drought rate, to be implemented during drought emergencies and which vary based on drought stages (from the City's Water Shortage Contingency Plan).

5.2 RISKS RELATED TO WATER SHORTAGES

CONSTRAINED WATER SUPPLY YEARS

The City relies solely on imported water purchases from CVP, ACID, and McConnell to meet its customer water demand. However, these sources of supply are subject to cost increases during years with constrained water supply. This poses a financial risk for the City since constrained year costs can be double those of non-constrained years.

DROUGHT EMERGENCIES

In addition to the risk of water supply cost increases during constrained years, the City also faces risks related to government-mandated cutbacks in water usage. The City's WSCP includes six stages of drought, which all require a different level of usage reduction from the City's customers. When customers reduce their usage, the City's rate revenues are directly impacted. Some of the financial risk of drought is mitigated by the increase in fixed revenue recovery, but consumption charge revenues are still a significant portion of the City's water rate revenues. When drought emergencies occur, especially during more severe drought stages, the amount of lost revenue can significantly impact the City's ability to meet its operating, capital, and reserve requirements.

5.3 PROPOSED WATER SUPPLY COST SURCHARGES

CONSTRAINED YEAR SUPPLY COSTS

WRE worked with City staff and the City's Ad Hoc Committee to determine the potential constrained year water supply costs, shown in **Table 5-1**. The cost of McConnell and ACID water are primarily affected by constrained years. The City provided the maximum amount purchased and maximum supply cost for McConnell; the costs for ACID are based on the amount of water purchased from the past three years and the cost of ACID water during the last constrained year.

The constrained year cost (Line 3) for each source of supply is calculated by multiplying the maximum amount purchased in AF by the maximum cost less the FY 2025 budgeted cost for non-constrained water purchases (**Table 2-9**, Line 20-21), which have already been accounted for in the base rates. The incremental cost associated with each source represents the additional cost the City must recover to pay for water supply during constrained years.

Table 5-1: Constrained Year Water Supply Costs

Line	Water Supply Cost Surcharges	McConnell	ACID	Combined
1	Maximum Amount Purchased (AF)	400	1,180	1,580
2	Maximum Supply Cost ($/AF)	$350	$377	$370
3	Constrained Year Cost	$140,000	$444,813	$584,813
4	Less FY 2025 Budgeted Cost	($4,008)	($256,691)	($260,699)
5	**Additional Cost for Constrained Year**	**$135,992**	**$188,122**	**$324,114**

PROPOSED WATER SUPPLY COST SURCHARGES

Table 5-2 shows the proposed water supply cost surcharge calculation. The additional cost for constrained year water supply (Line 1) is from **Table 5-1**. The annual usage (Line 2) is from **Table 2-5** for FY 2025. The unit cost for each source of supply is combined to form the proposed water supply cost surcharge. The surcharge represents the maximum rate that the City can choose to implement during constrained years; depending on the financial situation, the City's policymakers may choose to implement a surcharge that is lower than the rate shown.

Table 5-2: Proposed Water Supply Cost Surcharges

Line	Water Supply Cost Surcharges	McConnell	ACID	Combined
1	**Additional Cost for Constrained Year**	**$135,992**	**$188,122**	**$324,114**
2	Annual Usage (hcf)	804,232	804,232	804,232
3	Unit Cost ($/hcf)	$0.17	$0.24	$0.41

5.4 PROPOSED DROUGHT RATES

USAGE REDUCTIONS BY DROUGHT STAGE

The proposed drought rates are designed to recover lost consumption charge revenue during drought emergencies that require water usage cutbacks. The drought rates are based on the six drought stages defined in the City's WSCP. **Table 5-3** shows the estimated water usage in FY 2024 for all customers in each drought stage based on the usage reduction percentages from the WSCP.

Table 5-3: Water Usage Reductions by Drought Stage

Line	Drought Stages	Max Usage Reduction	Total Water Consumption	Difference from Baseline
1	Baseline	0%	804,232	0
2	Stage 1	10%	723,809	(80,423)
3	Stage 2	20%	643,386	(160,846)
4	Stage 3	30%	562,963	(241,270)
5	Stage 4	40%	482,539	(321,693)
6	Stage 5	50%	402,116	(402,116)
7	Stage 6	60%	321,693	(482,539)

CONSUMPTION REVENUE LOSS

Table 5-4 shows the consumption revenue loss by drought stage for FY 2025, the first year of proposed water rates (**Table 4-10**). The proposed FY 2025 uniform consumption charge is multiplied by the estimated usage in each stage (**Table 5-3**) to determine the consumption revenues by stage. The difference from baseline, or the "no drought" scenario, represents the revenue loss during each drought stage.

Table 5-4: Consumption Revenue Loss by Drought Stage

Line	Drought Stages	Proposed FY 2025 Consumption Charge	Total Water Consumption	Consumption Revenues	Difference from Baseline
1	Baseline	$2.85	804,232	$2,292,062	$0
2	Stage 1	$2.85	723,809	$2,062,856	($229,206)
3	Stage 2	$2.85	643,386	$1,833,650	($458,412)
4	Stage 3	$2.85	562,963	$1,604,443	($687,619)
5	Stage 4	$2.85	482,539	$1,375,237	($916,825)
6	Stage 5	$2.85	402,116	$1,146,031	($1,146,031)
7	Stage 6	$2.85	321,693	$916,825	($1,375,237)

PROPOSED DROUGHT RATES

Table 5-5 shows the calculated drought rates by stage for FY 2025. The revenue loss from baseline (**Table 5-4**) is divided by the total water consumption in each stage (**Table 5-3**) to calculate the drought rate for each stage. Drought rates can be implemented by the City after its policymakers adopt a drought declaration for a particular drought stage. The resulting drought rates for FY 2025 represent the maximum amount that the City may implement during drought, although the City's policymakers may elect to implement a lower rate depending on its financial situation and policy objectives.

Table 5-5: Proposed Drought Rates by Drought Stage for FY 2025

Line	Drought Stages	Revenue Loss from Baseline	Total Water Consumption	Drought Rate ($/hcf)
1	Baseline	$0	804,232	$0.00
2	Stage 1	$229,206	723,809	$0.32
3	Stage 2	$458,412	643,386	$0.72
4	Stage 3	$687,619	562,963	$1.23
5	Stage 4	$916,825	482,539	$1.90
6	Stage 5	$1,146,031	402,116	$2.85
7	Stage 6	$1,375,237	321,693	$4.28

5.5 PROPOSED WATER SHORTAGE RATE SCHEDULE

PROPOSED FIVE-YEAR REVENUE ADJUSTMENTS

Table 5-6 shows the revenue adjustments based on the proposed financial plan and their effective date. Note that the proposed revenue adjustments only apply to the drought rates for future years; the water supply cost surcharges will stay the same throughout the period based on direction from the Ad Hoc Committee.

Table 5-6: Proposed Revenue Adjustments

Line	Fiscal Year	Revenue Adjustments	Effective Date
1	FY 2025	25.0%	7/1/2024
2	FY 2026	6.0%	7/1/2025
3	FY 2027	6.0%	7/1/2026
4	FY 2028	6.0%	7/1/2027
5	FY 2029	6.0%	7/1/2028

PROPOSED FIVE-YEAR WATER SHORTAGE RATE SCHEDULE

Table 5-7 shows the proposed five-year water shortage rate schedule, which includes the water supply cost surcharge (that stays constant throughout the study period) and the drought rates (which are adjusted based on the proposed financial plan revenue adjustments in **Table 5-6**).

Table 5-7: Proposed Five-Year Water Supply Cost Surcharges and Drought Rates

Line	Water Shortage Rates	Effective 7/1/2024	Effective 7/1/2025	Effective 7/1/2026	Effective 7/1/2027	Effective 7/1/2028
1	**Water Supply Cost Surcharge ($/hcf)**	$0.41	$0.41	$0.41	$0.41	$0.41
2						
3	**Drought Rates ($/hcf)**					
4	Stage 1 - 10% Reduction	$0.32	$0.34	$0.37	$0.40	$0.43
5	Stage 2 - 20% Reduction	$0.72	$0.77	$0.82	$0.87	$0.93
6	Stage 3 - 30% Reduction	$1.23	$1.31	$1.39	$1.48	$1.57
7	Stage 4 - 40% Reduction	$1.90	$2.02	$2.15	$2.28	$2.42
8	Stage 5 - 50% Reduction	$2.85	$3.03	$3.22	$3.42	$3.63
9	Stage 6 - 60% Reduction	$4.28	$4.54	$4.82	$5.11	$5.42

5.6 WATER SHORTAGE IMPACTS

RESIDENTIAL CUSTOMER IMPACTS

Table 5-8 shows the Residential water shortage impacts for a customer with a 5/8" meter using 11 hcf during no drought conditions (11 hcf is the average monthly usage for a Residential customer in the City's water system).

- During non-constrained years with no drought, this customer's water bill is $75.64.
- During non-constrained years during a Stage 2 drought, this customer's water bill is $83.56 if they do not reduce their water usage; this is an increase of $7.92.
- If the same customer during a non-constrained year and Stage 2 drought does reduce their water usage by the 20% required by Stage 2, they will use approximately 9 hcf of water instead. With their reduced water usage, this customer's water bill is $76.42, which is similar to their water bill during no drought. The proposed drought rates are designed to minimize impacts to customers that reduce their water according to the appropriate drought stage.
- The last scenario shows the same customer during a constrained year and Stage 2 drought, with a 20% reduction in use. The water supply cost surcharge is added to the total water bill to recover higher costs related to constrained year supply. Their water bill will be $80.11.

Table 5-8: Residential Water Shortage Impacts

Line	Residential Water Shortage Impacts	No Drought (Non-Constrained)	Stage 2 Drought w/ No Reduction (Non-Constrained)	Stage 2 Drought w/ 20% Reduction (Non-Constrained)	Stage 2 Drought w/ 20% Reduction (Constrained)
1	Residential Meter Size	5/8" Meter	5/8" Meter	5/8" Meter	5/8" Meter
2	Monthly Usage (hcf)	11	11	9	9
3					
4	Monthly Service Charge	$44.29	$44.29	$44.29	$44.29
5	Consumption Charge	$31.35	$31.35	$25.65	$25.65
6	Drought Rate	$0.00	$7.92	$6.48	$6.48
7	Water Supply Cost Surcharge	$0.00	$0.00	$0.00	$3.69
8	**Total Water Bill**	**$75.64**	**$83.56**	**$76.42**	**$80.11**

6. APPENDICES

6.1 FINANCIAL PLAN APPENDICES

Table 6-1: (Appendix) Residential Customer Accounts

Line	Residential Customer Accounts	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	**Residential**							
2	5/8"	3,162	3,162	3,162	3,162	3,162	3,162	3,162
3	1"	0	0	0	0	0	0	0
4	1.5"	0	0	0	0	0	0	0
5	2"	0	0	0	0	0	0	0
6	3"	0	0	0	0	0	0	0
7	4"	0	0	0	0	0	0	0
8	6"	0	0	0	0	0	0	0
9	8"	0	0	0	0	0	0	0
10	10"	0	0	0	0	0	0	0
11	12"	0	0	0	0	0	0	0
12	**Subtotal - Residential**	**3,162**	**3,162**	**3,162**	**3,162**	**3,162**	**3,162**	**3,162**
13								
14	**Lifeline**							
15	5/8"	491	491	491	491	491	491	491
16	1"	0	0	0	0	0	0	0
17	1.5"	0	0	0	0	0	0	0
18	2"	0	0	0	0	0	0	0
19	3"	0	0	0	0	0	0	0
20	4"	0	0	0	0	0	0	0
21	6"	0	0	0	0	0	0	0
22	8"	0	0	0	0	0	0	0
23	10"	0	0	0	0	0	0	0
24	12"	0	0	0	0	0	0	0
25	**Subtotal - Lifeline**	**491**	**491**	**491**	**491**	**491**	**491**	**491**
26								
27	**Multi-Family & Mobile**							
28	5/8"	81	81	81	81	81	81	81
29	1"	36	36	36	36	36	36	36
30	1.5"	2	2	2	2	2	2	2
31	2"	14	14	14	14	14	14	14
32	3"	0	0	0	0	0	0	0
33	4"	0	0	1	1	1	1	1
34	6"	0	0	0	0	0	0	0
35	8"	0	0	0	0	0	0	0
36	10"	1	1	1	1	1	1	1
37	12"	0	0	0	0	0	0	0
38	**Subtotal - Multi-Family & Mobile**	**134**	**134**	**135**	**135**	**135**	**135**	**135**

Table 6-2: (Appendix) Non-Residential Customer Accounts

Line	Non-Residential Customer Accounts	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	**Commercial & Industrial**							
2	5/8"	94	94	94	94	94	94	94
3	1"	19	19	19	19	19	19	19
4	1.5"	8	8	8	8	8	8	8
5	2"	16	16	17	17	17	17	17
6	3"	0	0	0	0	0	0	0
7	4"	0	0	0	0	0	0	0
8	6"	1	1	1	1	1	1	1
9	8"	0	0	0	0	0	0	0
10	10"	1	1	1	1	1	1	1
11	12"	0	0	0	0	0	0	0
12	**Subtotal - Commercial & Industrial**	**139**	**139**	**140**	**140**	**140**	**140**	**140**
13								
14	**Commercial Irr. & Govt.**							
15	5/8"	19	19	19	19	19	19	19
16	1"	15	15	15	15	15	15	15
17	1.5"	4	4	4	4	4	4	4
18	2"	7	7	7	7	7	7	7
19	3"	1	1	1	1	1	1	1
20	4"	0	0	0	0	0	0	0
21	6"	0	0	0	0	0	0	0
22	8"	0	0	0	0	0	0	0
23	10"	0	0	0	0	0	0	0
24	12"	0	0	0	0	0	0	0
25	**Subtotal - Commercial Irr. & Govt.**	**46**	**46**	**46**	**46**	**46**	**46**	**46**
26								
27	**Schools**							
28	5/8"	2	2	2	2	2	2	2
29	1"	1	1	1	1	1	1	1
30	1.5"	0	0	0	0	0	0	0
31	2"	6	6	6	6	6	6	6
32	3"	0	0	0	0	0	0	0
33	4"	2	2	2	2	2	2	2
34	6"	0	0	0	0	0	0	0
35	8"	0	0	0	0	0	0	0
36	10"	0	0	0	0	0	0	0
37	12"	0	0	0	0	0	0	0
38	**Subtotal - Schools**	**11**	**11**	**11**	**11**	**11**	**11**	**11**

Table 6-3: (Appendix) Operating Expense Budget Detail

Line	Operating Expenses	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
1	**Water Admin**						
2	Permits and Fees	$50,000	$51,500	$53,045	$54,636	$56,275	$57,964
3	Travel, Meetings, Dues	$11,500	$11,845	$12,200	$12,566	$12,943	$13,332
4	Insurance - General	$85,000	$89,250	$93,713	$98,398	$103,318	$108,484
5	Services-Consulting	$30,000	$30,900	$31,827	$32,782	$33,765	$34,778
6	Bad Debt	$7,500	$7,725	$7,957	$8,195	$8,441	$8,695
7	Admin Fee Gen. Fund Allocation	$686,058	$706,640	$727,839	$749,674	$772,164	$795,329
8	Motor Pool	$26,509	$27,304	$28,123	$28,967	$29,836	$30,731
9	**Subtotal**	**$896,567**	**$925,164**	**$954,704**	**$985,219**	**$1,016,744**	**$1,049,313**
10							
11	**Water Distribution**						
12	Office Supplies	$1,000	$1,030	$1,061	$1,093	$1,126	$1,159
13	Distribution-Parts & Materials	$42,500	$43,775	$45,088	$46,441	$47,834	$49,269
14	Meter Program	$30,000	$31,500	$33,075	$34,729	$36,465	$38,288
15	Travel, Meetings, Dues	$4,000	$4,120	$4,244	$4,371	$4,502	$4,637
16	Training	$5,500	$5,665	$5,835	$6,010	$6,190	$6,376
17	Maintenance Agreements	$32,000	$32,960	$33,949	$34,967	$36,016	$37,097
18	Computer Services & Repair	$3,500	$3,605	$3,713	$3,825	$3,939	$4,057
19	Services-Consulting	$12,000	$12,360	$12,731	$13,113	$13,506	$13,911
20	Small Tools & Equipment	$4,000	$4,120	$4,244	$4,371	$4,502	$4,637
21	Labor Allocation - Motor Pool/PW	$953,376	$981,977	$1,011,437	$1,041,780	$1,073,033	$1,105,224
22	**Subtotal**	**$1,087,876**	**$1,121,112**	**$1,155,376**	**$1,190,698**	**$1,227,114**	**$1,264,657**
23							
24	**Water Treatment Plant**						
25	Salaries	$429,830	$451,322	$473,888	$497,582	$522,461	$548,584
26	Benefits	$298,797	$328,677	$361,544	$397,699	$437,469	$481,216
27	Water Purchases	$620,000	$313,021	$328,672	$345,105	$362,361	$380,479
28	Office Supplies	$1,000	$1,030	$1,061	$1,093	$1,126	$1,159
29	General Operating Supplies	$3,000	$3,090	$3,183	$3,278	$3,377	$3,478
30	Chemicals	$35,000	$36,050	$37,132	$38,245	$39,393	$40,575
31	Lab Supplies & Equipment	$5,000	$5,150	$5,305	$5,464	$5,628	$5,796
32	CV Restoration Fund	$35,000	$36,050	$37,132	$38,245	$39,393	$40,575
33	General Maintenance	$20,000	$20,600	$21,218	$21,855	$22,510	$23,185
34	Utilities	$50,000	$51,500	$53,045	$54,636	$56,275	$57,964
35	Water Conservation Program	$20,000	$20,600	$21,218	$21,855	$22,510	$23,185
36	Lab Testing	$18,000	$18,540	$19,096	$19,669	$20,259	$20,867
37	Telephone	$1,500	$1,560	$1,622	$1,687	$1,755	$1,825
38	Generator Maintenance	$8,500	$8,755	$9,018	$9,288	$9,567	$9,854
39	Alarms	$1,000	$1,040	$1,082	$1,125	$1,170	$1,217
40	Maint., Equipment	$35,000	$36,400	$37,856	$39,370	$40,945	$42,583
41	Travel, Meetings, Dues	$8,500	$8,755	$9,018	$9,288	$9,567	$9,854
42	Training	$5,000	$5,150	$5,305	$5,464	$5,628	$5,796
43	Safety	$2,000	$2,060	$2,122	$2,185	$2,251	$2,319
44	Services-Consulting	$18,000	$18,540	$19,096	$19,669	$20,259	$20,867
45	Services-Miscellaneous	$20,000	$20,600	$21,218	$21,855	$22,510	$23,185
46	Labor Allocation	$29,878	$30,774	$31,698	$32,648	$33,628	$34,637

Line	Operating Expenses	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029
47	Equipment Rental Fees	$1,000	$1,030	$1,061	$1,093	$1,126	$1,159
48	Small Tools & Equipment	$1,500	$1,545	$1,591	$1,639	$1,688	$1,739
49	**Subtotal**	**$1,667,505**	**$1,421,838**	**$1,503,178**	**$1,590,038**	**$1,682,854**	**$1,782,097**
50							
51	**Total**	**$3,651,948**	**$3,468,115**	**$3,613,257**	**$3,765,956**	**$3,926,711**	**$4,096,066**

6.2 COST-OF-SERVICE ANALYSIS APPENDICES

Table 6-4: (Appendix) Operating Cost Function Detail

Line	Operating Expenses	FY 2024 Budget	Cost Function
1	**Water Admin**		
2	Permits and Fees	$50,000	General
3	Travel, Meetings, Dues	$11,500	General
4	Insurance - General	$85,000	General
5	Services-Consulting	$30,000	General
6	Bad Debt	$7,500	General
7	Admin Fee General Fund Allocation	$404,667	General
8	Admin Fee - Customer Billing	$281,391	Billing & Admin
9	Motor Pool	$26,509	General
10	**Subtotal**	**$896,567**	
11			
12	**Water Distribution**		
13	Office Supplies	$1,000	Distribution
14	Distribution-Parts & Materials	$42,500	Distribution
15	Meter Program	$30,000	Meter
16	Travel, Meetings, Dues	$4,000	Distribution
17	Training	$5,500	Distribution
18	Maintenance Agreements	$32,000	Distribution
19	Computer Services & Repair	$3,500	Distribution
20	Services-Consulting	$12,000	Distribution
21	Small Tools & Equipment	$4,000	Distribution
22	Labor Allocation - Motor Pool/PW	$953,376	Distribution
23	**Subtotal**	**$1,087,876**	
24			
25	**Water Treatment Plant**		
26	Salaries	$429,830	Treatment
27	Benefits	$298,797	Treatment
28	Water Purchases	$620,000	Supply
29	Office Supplies	$1,000	Treatment
30	General Operating Supplies	$3,000	Treatment
31	Chemicals	$35,000	Treatment
32	Lab Supplies & Equipment	$5,000	Treatment
33	CV Restoration Fund	$35,000	Treatment
34	General Maintenance	$20,000	Treatment
35	Utilities	$50,000	Treatment
36	Water Conservation Program	$20,000	Conservation
37	Lab Testing	$18,000	Treatment
38	Telephone	$1,500	Treatment
39	Generator Maintenance	$8,500	Treatment
40	Alarms	$1,000	Treatment
41	Maint., Equipment	$35,000	Treatment
42	Travel, Meetings, Dues	$8,500	Treatment
43	Training	$5,000	Treatment

Line	Operating Expenses	FY 2024 Budget	Cost Function
44	Safety	$2,000	Treatment
45	Services-Consulting	$18,000	Treatment
46	Services-Miscellaneous	$20,000	Treatment
47	Labor Allocation	$29,878	Treatment
48	Equipment Rental Fees	$1,000	Treatment
49	Small Tools & Equipment	$1,500	Treatment
50	**Subtotal**	**$1,667,505**	
51			
52	**Total**	**$3,651,948**	

Table 6-5: (Appendix) Capital Asset Function Detail

Line	Asset Description	Acquisition Date	Original Cost	Accum. Depreciation	RCLD	Cost Function
1	LAND-WATER TREATMENT SITE	6/30/1970	$17,700	$0	$170,810	General
2	STATE LAND PURCHASE	6/30/1970	$184,325	$0	$1,778,783	General
3	WTR BLDG - PRIOR TO 1989	12/1/1972	$41,325	$41,325	$0	General
4	WTR DIST-PRIOR TO 1986	1/22/1976	$1,964,245	$1,964,245	$0	Distribution
5	WTR FILTRATION-PRIOR TO 1988	6/27/1976	$486,834	$486,834	$0	Treatment
6	WTR EQUIP-PRIOR TO 1989	1/1/1981	$1,729	$1,729	$0	General
7	WTR DIST-PRIOR TO 1988	12/21/1987	$61,637	$61,637	$0	Distribution
8	WTR DIST-PRIOR TO 1989	12/13/1988	$30,336	$30,336	$0	Distribution
9	WTR DIST-PRIOR TO 1989	6/30/1989	$64,478	$64,478	$0	Distribution
10	WTR DIST-PRIOR TO 1990	8/5/1989	$6,021	$6,021	$0	Distribution
11	RIDDLE RD DIST SYSTEM	3/30/1990	$251,127	$251,127	$0	Distribution
12	WTR FILTRATION-PRIOR TO 1991	12/31/1990	$10,201	$10,061	$396	Treatment
13	WTR FILTRATION & TREATMENT	12/31/1990	$1,506,708	$1,485,913	$58,566	Treatment
14	WASHINGTON AVE RELOCATION	9/30/1992	$10,002	$9,289	$1,908	Distribution
15	LAKE BLVD 8 LINE""	12/16/1992	$12,733	$11,747	$2,636	Distribution
16	QUICK CONNECT GENERATOR	6/30/1998	$6,700	$6,700	$0	General
17	WATER RESOURCE STUDY	6/30/1998	$5,988	$5,988	$0	Distribution
18	FRONT ST WATER MAIN INSTALL	6/30/1998	$6,680	$5,066	$3,633	Distribution
19	FRONT ST WATER MAIN INSTALL	6/30/1998	$213,585	$161,988	$116,154	Distribution
20	PAINT WATER TANK #1	6/30/1999	$45,915	$45,915	$0	Distribution
21	SCADA SYSTEM	6/30/1999	$16,707	$16,707	$0	Distribution
22	PAINT WATER TANK #1	6/30/1999	$4,959	$4,959	$0	Distribution
23	PRESSURE VALVE - TOYON	6/30/2002	$26,712	$17,015	$19,765	Distribution
24	REDDING TO S.L. INTERTIE	6/30/2002	$12,449	$7,930	$9,212	Distribution
25	SHASTA PARK/FRONT ST WMAIN	6/30/2002	$14,950	$9,523	$11,062	Distribution
26	PAINT WATER TANKS AT PLANT	6/30/2000	$7,760	$7,760	$0	Distribution
27	1000' OF WATER LINE	6/30/2000	$19,390	$13,529	$12,557	Distribution
28	SOUTH CITY WATER MAIN	6/30/2000	$218,033	$152,121	$141,201	Distribution
29	PAVE ROAD - WATER PLANT	6/30/2001	$31,064	$20,730	$21,712	Distribution
30	WATER PARTICLE STUDY	6/30/2001	$29,090	$29,090	$0	Distribution
31	REDDING TO SL INTERTIE	6/30/2002	$60,322	$38,425	$44,634	Distribution
32	REDDING TO SL INTERTIE	6/30/2002	$122,999	$78,350	$91,012	Distribution
33	WATER TANK - MONTANA	6/30/2006	$1,454,456	$750,003	$1,211,230	Distribution
34	FRONT ST. 10 LINE EXT. 1500""	6/30/2003	$110,214	$66,862	$86,308	Distribution

Line	Asset Description	Acquisition Date	Original Cost	Accum. Depreciation	RCLD	Cost Function
35	DWR - INFRASTRUCTURE GRANT	6/30/2008	$5,578,893	$2,538,432	$4,876,080	Distribution
36	PHASE 2 IMPROVEMENT PROJ.	6/30/2008	$4,948,370	$2,251,540	$4,324,988	Distribution
37	WATER LINE GRAND RIVER	6/30/2013	$195,773	$59,399	$190,369	Distribution
38	REFURBISH TANK II	6/30/2013	$59,409	$29,776	$41,366	Distribution
39	WATER LINE PENSACOLA	6/30/2014	$70,879	$31,975	$52,874	Distribution
40	2013 WATER LINE IMPROVEMENTS	6/30/2014	$218,495	$98,567	$162,991	Distribution
41	TANTALUS UPGRADE	6/30/2014	$24,124	$21,711	$3,279	General
42	SYSTEM SERVER UPGRAD	6/30/2014	$11,096	$9,987	$1,508	General
43	CHLORINE ANALYZER	6/30/2014	$5,954	$2,686	$4,441	General
44	FILTER NO 2 MEDIA REPLACE	6/30/2016	$176,434	$37,485	$179,123	General
45	CHLORINE GAS DETECTOR MONITOR	6/30/2015	$5,730	$4,616	$1,479	General
46	WATER IMPROVEMENTS 2015	6/30/2015	$265,018	$42,441	$295,593	Distribution
47	WATER SYSTEM IMPROVEMENTS	6/30/2016	$7,903	$2,774	$6,612	General
48	MITSUBISHI AIR CONDITIONER	6/30/2016	$5,700	$5,700	$0	General
49	WTP RETAINING WALL	6/30/2016	$6,993	$1,486	$7,099	Treatment
50	DEWATERING CENTERFUGE	7/1/2017	$1,232,478	$224,087	$1,251,637	Treatment
51	RETAINING WALL (PHASE 2)	10/24/2017	$96,598	$16,665	$99,214	Treatment
52	BACKWASH SEPARATION TANK	4/18/2018	$145,999	$23,044	$148,130	Treatment
53	30 HP SCOUR AIR BLOWER	7/1/2017	$17,365	$5,210	$15,088	Treatment
54	VOLUTE SUBMERSIBLE PUMP	9/28/2017	$19,907	$5,746	$17,576	Treatment
55	SCADA UPGRADE	6/30/2018	$10,754	$10,754	$0	General
56	TURBIDITY METER	10/19/2017	$7,923	$7,923	$0	General
57	FILTERED WATER PUMP REBUILD	5/19/2019	$60,811	$25,162	$42,115	Pumping
58	SLUDGE PUMP #2	10/4/2018	$21,766	$5,161	$20,006	Pumping
59	SCADA UPGRADE	11/15/2018	$2,498	$2,329	$203	General
60	STATIC MIXER	6/20/2019	$13,429	$2,713	$12,659	General
61	Bella Vista Intertie Electric Upgrade	9/6/2019	$29,871	$3,470	$31,190	Distribution
62	Filter Electric Panels	6/22/2020	$242,555	$74,788	$194,997	General
63	WTP Pipeline Anchorage Project	3/17/2020	$172,462	$17,420	$180,206	Treatment
64	Particle counters	12/19/2019	$14,965	$2,681	$14,512	General
65	Virginia Ave PRV Replacement Project,	5/18/2021	$89,547	$5,879	$91,901	Distribution
66	Water Portable Office Bldg	8/31/2020	$145,090	$21,159	$144,046	General
67	Water Improvements 2020 - Pancake Hill	7/1/2021	$210,218	$12,740	$216,911	Distribution
68	Water Improvements 2021	8/21/2021	$639,363	$37,135	$661,493	Distribution
69	Onsite Chlorine Generation	9/1/2021	$200,579	$36,773	$179,927	Treatment
70	Tank 5 Security Fence	10/1/2021	$22,595	$1,977	$22,647	Storage
71	Tank 1 Security Fence	10/20/2021	$32,740	$2,865	$32,815	Storage
72	Onsite Chlorine Generatio	9/1/2021	$6,726	$1,233	$6,033	Treatment
73	Backwash Separation Tank #2	5/31/2023	$99,892	$505	$99,387	Treatment
74	PRV Replacement Project	6/30/2023	$27,849	$70	$27,778	Distribution
75	Pine Flat St Water Main Repl Proj	1/17/2023	$89,669	$1,359	$88,310	Distribution

This page intentionally left blank