

CITY OF
LA VERNE

Water and Wastewater Rate Study

Final Report / September 10, 2025



September 10, 2025

Ms. Kristie Sanchez
Senior Management Analyst
City of La Verne Public Works Department
3660 D Street
La Verne, CA 91750

Subject: Cost of Service and Rate Design Study Report

Dear Ms. Sanchez,

Raftelis is pleased to present this water and wastewater cost of service and rate design study report. The primary objective of this study was to develop a fiscally sound, and equitable rate structure that ensures the long-term financial sustainability of your critical water and wastewater services.

The study concludes that the recommended rate revenue adjustments are necessary for both utilities to adequately fund ongoing operations and essential capital improvement projects. These recommended rates are designed to:

- **Maintain Financial Stability:** Provide sufficient revenue for current and future needs, supporting bond ratings and financial health through FY 2029/30.
- **Adhere to Cost-of-Service:** Ensure that rates for each customer class reasonably reflect the specific costs they impose on the utility system.
- **Support Infrastructure Investment:** Provide the necessary funding for vital projects that ensures reliable service, maintains system integrity, and meets evolving regulatory standards.

The report includes a brief Executive Summary summarizing the key results of the study followed by a detailed discussion regarding study assumptions and an in-depth rate discussion of the study.

It was a pleasure working with you and we wish to express our thanks for the support from you and your staff. If you have any questions, please call me at 626.583.1894.

Sincerely,

A blue ink signature of Sudhir Pardiwala.

Sudhir Pardiwala, PE
Senior Principal

A blue ink signature of Jeremy Tamargo.

Jeremy Tamargo
Manager

Table of Contents

1.	EXECUTIVE SUMMARY	1
1.1	BACKGROUND.....	1
1.2	METHODOLOGY.....	1
1.3	KEY RESULTS AND RECOMMENDATIONS	2
1.3.1	Factors Affecting Revenue Adjustments	2
1.4	WATER.....	2
1.4.1	Proposed Water Rates	2
1.4.2	Proposed Fixed Charge	3
1.4.3	Potable Commodity Rate	4
1.5	WASTEWATER.....	4
1.5.1	Proposed Wastewater Rates	4
2.	WATER ENTERPRISE	5
2.1	WATER SYSTEM BACKGROUND	5
2.2	FINANCIAL PLAN ASSUMPTIONS	5
2.2.1	Number of Accounts	5
2.2.2	Account and Water Use Growth Assumptions.....	7
2.2.3	Water Use	7
2.2.4	Inflationary and Water Purchase Cost Assumptions.....	8
2.2.5	Water System Expenses	8
2.2.6	O&M Expenses.....	9
2.2.7	Capital Improvement Plan (CIP)	9
2.2.8	Existing Debt Service	9
2.2.9	Revenue Adjustments	10
2.2.10	Cash Flow Analysis (Financial Plan)	10
2.2.11	Graphical Financial Plan	11
2.2.12	Fund Balances and Reserve Targets.....	12
3.	LEGAL FRAMEWORK AND RATE SETTING METHODOLOGY.....	13
3.1	LEGAL FRAMEWORK.....	13
3.3.1	California Constitution - Article XIII D, Section 6 (Proposition 218).....	13
3.2	COST-BASED RATE-SETTING METHODOLOGY	14
4.	COST-OF-SERVICE ANALYSIS	16
4.1	ALLOCATION OF EXPENSES TO COST COMPONENTS.....	16
4.2	REVENUE REQUIREMENT DETERMINATION	21
4.3	ALLOCATION OF COSTS TO COST COMPONENTS.....	22

4.4	EQUIVALENT METERS	24
4.5	FIRE PROTECTION CAPACITY	25
5.	RATE DERIVATION	27
5.1	EXISTING RATE STRUCTURE AND RATES	27
5.2	PROPOSED RATE STRUCTURE	28
5.3	UNITS OF SERVICE.....	29
5.4	PROPOSED BI-MONTHLY SERVICE CHARGE.....	31
5.4.1	Bi-monthly Service charge Components	31
5.4.2	Capacity Component.....	31
5.4.3	Billing Component.....	31
5.4.4	Total Bi-monthly Service Charge for All Meters	32
5.5	PROPOSED FIRE LINE CHARGES	33
5.6	VOLUMETRIC RATES	34
5.6.1	Total Volumetric Revenue.....	34
5.6.2	Customer Classes	34
5.6.3	Pressure Zones	34
5.6.4	Volumetric Rate Derivation.....	35
5.6.5	Cost Component Definitions	35
5.6.6	Derivation of the Unit Cost by Cost Component	35
5.6.7	5-Year Volumetric Rates	37
5.6.8	Largest 10% of Users	37
6.	BILL IMPACTS	38
6.1	BI-MONTHLY SINGLE FAMILY RESIDENTIAL BILL IMPACTS	38
6.2	MULTI-FAMILY BILL IMPACTS.....	38
6.3	INSTITUTIONAL.....	39
6.4	COMMERCIAL	39
6.5	INDUSTRIAL	40
7.	WASTEWATER	41
7.1	CURRENT WASTEWATER RATES.....	41
7.2	WASTEWATER O&M EXPENSES.....	42
7.3	PROJECTED CAPITAL IMPROVEMENT PROGRAM	43
7.4	PROPOSED FINANCIAL PLAN	43
8.	WASTEWATER ENTERPRISE COST OF SERVICE AND RATE DERIVATION	47
8.1	WASTEWATER COST OF SERVICE ANALYSIS	47
8.1.1	Cost Allocation to Cost Components	47
8.1.2	Revenue Requirement Determination	48

8.1.3	Allocating the Revenue Requirement to Cost Causation Components and Rate Calculation	49
8.1.4	Five Year Proposed Wastewater Service Rates	50
8.1.5	Single Family Residential Wastewater Bill Impacts	50

List of Tables

Table 1-1: Recommended Yearly Revenue Adjustments.....	2
Table 1-2: Current and Proposed Bi-Monthly Fixed Water Charge	3
Table 1-3: Current and Proposed Bi-Monthly Fixed AU Charge	3
Table 1-4: Current and Proposed Bi-Monthly Fixed Fire Line Charge	3
Table 1-5: Current and Proposed Water Commodity Rates for All Customer Classes (\$/KGAL)	4
Table 1-6: Current and Proposed Bi-Monthly Fixed Wastewater Charge	4
Table 1-7: Current and Proposed Bi-Monthly Volumetric Wastewater Charge (\$/KGAL)	4
Table 2-1: Projected Accounts by Meter Size (FY 2026)	6
Table 2-2: Account Growth and Water Use Assumptions	7
Table 2-3: Actual (2024) Water Use in by Pressure Zone.....	7
Table 2-4: Inflationary Assumptions	8
Table 2-5: Projected O&M Expenses.....	9
Table 2-6: Detailed Capital Improvement Plan	9
Table 2-7: Existing Water Debt Service.....	10
Table 2-8: Proposed Water Rate Adjustments	10
Table 2-9: Five-Year Water Operating Cash Flow	11
Table 4-1: System-Wide Peaking Factors and Allocation to Cost Components	17
Table 4-2: Allocation of O&M Expenses to Cost Causation Components.....	18
Table 4-3: Allocation of Assets to Cost Causation Components	20
Table 4-4: Revenue Requirement Determination	21
Table 4-5: Expense Allocation to Cost Components.....	23
Table 4-6- Derivation of Equivalent Meter Units – Water Meters	24
Table 4-7: Number of Added Units (AU).....	24
Table 4-8 : Equivalent Fire Connections.....	25
Table 4-9: Fire Service Share of Peaking Requirements	26
Table 5-1: Existing Service Charge Rate Structure and Rates (Bi-monthly) – Water Meters	27
Table 5-2: Existing Service Charge Rate Structure and Rates (Bi-monthly) – AU’s.....	27
Table 5-3: Existing Service Charge Rate Structure and Rates (Bi-monthly) – Private Fire Lines.....	28
Table 5-4: Existing Volumetric Rates (All Classes)	28
Table 5-5: Rate Revenue Recovery Structure	29
Table 5-6: Derivation of Units of Service	30
Table 5-7: Derivation of Units Cost by Cost Causation Component	30
Table 5-8: Bi-monthly Meter and Customer Charge Derivation – Water Meters	32
Table 5-9: Bi-monthly Meter and Customer Charge Derivation – AUs	32
Table 5-10: Five Year Service Charges – By Meter Size	32
Table 5-11: Five Year Service Charges – Per AU	33
Table 5-12: Derivation of Private Fire Line Equivalent Units.....	33
Table 5-13: Calculation of Private Fire Charges	34
Table 5-14: Bi-Monthly Fixed Fire Line Charges.....	34
Table 5-15: Volumetric Cost of Service by Customer Class and Pressure Zone.....	36
Table 5-16: Water Demand (KGALs) by Zone and Class	36
Table 5-17: Derivation of Volumetric Rates by Zone and Class.....	36
Table 5-18: Five-Year Volumetric Rates.....	37
Table 6-1: Single Family Residential Bi-monthly Bill Impacts.....	38
Table 6-2: Multi-family Residential Bi-monthly Bill Impacts.....	38
Table 6-3: Institutional Bi-monthly Bill Impacts.....	39
Table 6-4: Commercial Bi-monthly Bill Impacts.....	39

Table 6-5: Industrial Bi-monthly Bill Impacts	40
Table 7-1: Current Wastewater Service Charges	41
Table 7-2: Wastewater Accounts and Wastewater Use in Thousand Gallons (kgals).....	42
Table 7-3: Projected Wastewater Revenue	42
Table 7-4: Projected Escalation Factors and Wastewater O&M Expenses.....	43
Table 7-5: Wastewater Capital Improvement Projects	43
Table 7-6: Proposed Wastewater Revenue Adjustments.....	44
Table 7-7: Wastewater Enterprise Proposed Financial Plan Pro-Forma.....	44
Table 8-1: Allocating O&M and Capital Costs to Cost Causation Components.....	47
Table 8-2: Allocating to Cost Components	48
Table 8-3: Wastewater Enterprise Revenue Requirement for FY 2026	49
Table 8-4: Allocation of Fixed and Variable Cost-of-Service Requirements by Customer Class	49
Table 8-5: Revenue Requirement Allocation to Cost Components and Rate Calculation	50
Table 8-6: Proposed Five-Year Fixed and Variable Wastewater Rates	50
Table 8-7: Single Family Residential and Commercial Wastewater Bill Impacts	51

List of Figures

Figure 2-1: Proposed Water Operating Financial Plan.....	11
Figure 2-2: Water Utility Fund Balances and Reserve Targets	12
Figure 7-1: Proposed Wastewater Operating Financial Plan.....	45
Figure 7-2: Wastewater Projected Fund Balances vs. Overall Target Reserve Balances.....	46

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1. Executive Summary

1.1 Background

In July 2024, the City of La Verne (City) engaged Raftelis to conduct a Water and Wastewater Rate Study (Study) including a financial plan, cost-of-service study, and rate calculation for both utilities. This report presents the financial plan and the resulting rates for implementation on January 1, 2026.

This Executive Summary summarizes the proposed water and wastewater rates and contains a description of the assumptions, methodologies, and recommendations associated with the Study. The City's last rate adjustment, which consisted of an inflationary increase, was effective on January 1, 2019. The central goals of this study and rates update include helping the City to establish fair and equitable rates that:

1. Meet the City's fiscal needs in terms of operational expenses, reserve goals, and capital investment to maintain the system
2. Are fair and equitable and therefore proportionately allocate the costs of providing service in accordance with California Constitution Article XIII D, Section 6 (commonly referred to as Proposition 218)
3. Help the City fund needed critical capital improvement projects (CIP)

1.2 Methodology

The water rates presented in this report were developed using cost of service principles set forth by the American Water Works Association (AWWA) publication *Manual of Water Supply Practices M1, Principles of Water Rates, Fees and Charges (AWWA M1 Manual)*. Cost of service principles endeavor to distribute costs to customer classes in accordance with the way each class uses the water system. This methodology is described in detail in Sections 4 and 5. The Base-Extra Capacity Method of the AWWA M1 Manual was used to distribute costs to customer classes and tiers. This method separates costs into four main¹ components: (1) base costs, (2) extra capacity costs, (3) customer costs, and (4) fire protection costs. Base costs are costs associated with meeting average daily demand needs and include operations and maintenance costs and capital costs designed to meet average load conditions. Extra capacity costs are costs (both operating and capital) associated with meeting peak demand. Customer costs are associated with serving customers, such as meter reading, billing and customer service, etc. Fire protection costs are related solely to the fire protection function of a water system and include expenses such as fire hydrants and related mains and valves.

Wastewater rates were derived in accordance with the Water Environment Federation (WEF) publication *Manual of Practice No. 27, Financing and Charges for Wastewater Systems (WEF Manual 27)*. The City's sewer system collects and conveys wastewater to the Los Angeles County Sanitation District's (LACSD) system for treatment. LACSD charges customers directly for sewer treatment service. The City of La Verne charges customers directly for costs associated the City's wastewater collection system.

¹ There can be other cost components such as conservation and supply; however, the four mentioned are almost always used in rate studies.

1.3 Key Results and Recommendations

Table 1-1 shows the revenue adjustments for the water and wastewater enterprise funds as part of the selected Financial Plan. The revenue adjustment is the additional amount of revenue collected for each enterprise compared to the amount collected by rates during the previous fiscal year².

Table 1-1: Recommended Yearly Revenue Adjustments

Line	A Revenue Adjustments	B 1/1/2026	C 7/1/2026	D 7/1/2027	E 7/1/2028	F 7/1/2029
1	Water	50%	25%	15%	10%	10%
2	Wastewater	15%	15%	15%	15%	15%

1.3.1 FACTORS AFFECTING REVENUE ADJUSTMENTS

The following factors impact the City’s revenue requirement (i.e., costs) and thus its rates for each enterprise. The City’s expenses include Operation and Maintenance (O&M) expenses, capital expenses, debt service (for water and wastewater) and reserve funding.

- » **O&M Expenses:** The City’s O&M expenses increase each year, in line with general inflation, purchase water cost increases, and the increasing cost of employee pay and benefits.
- » **Capital Investment:** The City plans to invest millions in each system as discussed in the capital improvement plan (CIP) section for each enterprise fund. Water and wastewater system improvements total \$16.9 million and \$10.5 million over the next five years (FY 2026 through FY 2030) for each system respectively.

The City has not increased its rates since 2019 and that amounts to a 28% increase in CPI inflation. Typically, water and sewer rates rise about 2% more than the general inflation rate measured by CPI, which would add an additional 15%. The cost of treated water purchased from the Metropolitan Water District of Southern California (MWD) has increased by over 50% in the same time frame and is expected to see significant estimated increases for the next two years. The utilities have been depleting their reserves while not adjusting their rates. The increases are therefore necessary to supplement the depleted reserves as well. The City will be intentional in using fund balances, as shown herein, to minimize customer rate impacts.

1.4 Water

1.4.1 PROPOSED WATER RATES

In this report, the terms “fee” and “charge” are often used interchangeably. The City’s base water rate structure includes the following components: (1) a fixed bi-monthly Service Charge that is based on meter size, and (2) a variable Commodity Rate that is charged per 1,000 gallons of water used (kgal). Additionally, if applicable, the City also charges a bi-monthly fixed service charge for those customers with private fire meters and, if applicable, for those customers with additional units (AU’s). Each of these charges is described below. No major changes are proposed to the existing rate structure for the City’s water utility.

² This assumes that the rates are implemented for the full fiscal year.

1.4.2 PROPOSED FIXED CHARGE

The City's proposed bi-monthly fixed charge is the Meter Service Charge, and it is based on the size of the meter serving a property. The Service Charge is calculated to recover the cost to maintain and replace meters as well as a portion of extra-capacity related costs (i.e., costs associated with meeting system capacity beyond that required for average daily demand). This cost is proportional to the size of the meter and goes up with meter size according to standards set forth by the AWWA. The second component is the customer service component. This component recovers costs associated with metering, answering customer calls and billing customers. These costs are not related to the size of the meter and are the same for all meters. Additionally, if applicable, the City also charges a bi-monthly fixed service charge for those customers with private fire meters and, if applicable, for customers with AU's. The full derivation of the total charge is described in Section 5, and the Fixed Service Charges, Fixed AU Charges and Fixed Fire Line Charges are shown in Table 1-2, Table 1-3, and Table 1-4, respectively.

Table 1-2: Current and Proposed Bi-Monthly Fixed Water Charge

Line	A Meter Size	B Current	C 1/1/2026	D 7/1/2026	E 7/1/2027	F 7/1/2028	G 7/1/2029
1	5/8"	\$ 36.40	\$ 48.53	\$ 60.66	\$ 69.76	\$ 76.73	\$ 84.41
2	3/4"	\$ 40.00	\$ 48.53	\$ 60.66	\$ 69.76	\$ 76.73	\$ 84.41
3	1"	\$ 51.00	\$ 72.95	\$ 91.19	\$ 104.86	\$ 115.35	\$ 126.88
4	1 1/2"	\$ 65.60	\$ 134.00	\$ 167.50	\$ 192.62	\$ 211.89	\$ 233.08
5	2"	\$ 106.00	\$ 207.26	\$ 259.08	\$ 297.94	\$ 327.73	\$ 360.50
6	3"	\$ 400.00	\$ 402.62	\$ 503.28	\$ 578.77	\$ 636.65	\$ 700.32
7	4"	\$ 509.60	\$ 622.41	\$ 778.01	\$ 894.71	\$ 984.18	\$ 1,082.60
8	6"	\$ 764.40	\$ 1,232.92	\$ 1,541.15	\$ 1,772.32	\$ 1,949.56	\$ 2,144.51
9	8"	\$ 1,055.60	\$ 1,965.54	\$ 2,456.92	\$ 2,825.46	\$ 3,108.00	\$ 3,418.80
10	10"	\$ 1,456.00	\$ 2,942.35	\$ 3,677.94	\$ 4,229.63	\$ 4,652.60	\$ 5,117.86

Table 1-3: Current and Proposed Bi-Monthly Fixed AU Charge

Line	A All Customers	B Current	C 1/1/2026	D 7/1/2026	E 7/1/2027	F 7/1/2028	G 7/1/2029
1	Per AU	\$ 11.20	\$ 17.86	\$ 22.33	\$ 25.67	\$ 28.24	\$ 31.07

Table 1-4: Current and Proposed Bi-Monthly Fixed Fire Line Charge

Line	A Meter Size	B Current	C 1/1/2026	D 7/1/2026	E 7/1/2027	F 7/1/2028	G 7/1/2029
1	5/8"	\$ -	\$ 12.19	\$ 15.24	\$ 17.53	\$ 19.28	\$ 21.21
2	3/4"	\$ -	\$ 12.38	\$ 15.47	\$ 17.79	\$ 19.57	\$ 21.53
3	1"	\$ -	\$ 12.92	\$ 16.15	\$ 18.57	\$ 20.43	\$ 22.47
4	1 1/2"	\$ -	\$ 14.86	\$ 18.58	\$ 21.36	\$ 23.50	\$ 25.85
5	2"	\$ 46.60	\$ 18.21	\$ 22.77	\$ 26.18	\$ 28.80	\$ 31.68
6	3"	\$ 65.30	\$ 30.25	\$ 37.81	\$ 43.48	\$ 47.83	\$ 52.61
7	4"	\$ 102.60	\$ 51.00	\$ 63.75	\$ 73.32	\$ 80.65	\$ 88.71
8	6"	\$ 130.66	\$ 125.49	\$ 156.87	\$ 180.40	\$ 198.44	\$ 218.28
9	8"	\$ 167.70	\$ 253.98	\$ 317.47	\$ 365.09	\$ 401.60	\$ 441.76
10	10"	\$ 205.10	\$ 447.24	\$ 559.05	\$ 642.91	\$ 707.20	\$ 777.92

1.4.3 POTABLE COMMODITY RATE

Table 1-5 shows the current and proposed uniform commodity rates (also known as volumetric rates) by elevation zones. The rates are designed to recover the costs associated with serving each zone as discussed in Sections 4 and 5 of this report. The City’s current rate structure consists of eight zones, or pricing groups, where each group represents a different pumping zone in the City. Detail of the derivation of the volumetric rates by pumping zones is found in Section 5.6 of this report.

Table 1-5: Current and Proposed Water Commodity Rates for All Customer Classes (\$/KGAL)

Line	A Customer Class	B Current	C 1/1/2026	D 7/1/2026	E 7/1/2027	F 7/1/2028	G 7/1/2029
1	Z1	\$ 3.92	\$ 5.67	\$ 7.09	\$ 8.16	\$ 8.97	\$ 9.87
2	Z2	\$ 4.02	\$ 5.96	\$ 7.45	\$ 8.57	\$ 9.43	\$ 10.37
3	Z3	\$ 4.21	\$ 6.32	\$ 7.90	\$ 9.09	\$ 10.00	\$ 11.00
4	Z4	\$ 4.42	\$ 6.33	\$ 7.92	\$ 9.10	\$ 10.01	\$ 11.02
5	Z5	\$ 4.53	\$ 7.44	\$ 9.30	\$ 10.69	\$ 11.76	\$ 12.94
6	Z6	\$ 4.77	\$ 7.44	\$ 9.30	\$ 10.69	\$ 11.76	\$ 12.94
7	ZP	\$ 5.37	\$ 7.44	\$ 9.30	\$ 10.69	\$ 11.76	\$ 12.94
8	ZL	\$ 2.74	\$ 7.44	\$ 9.30	\$ 10.69	\$ 11.76	\$ 12.94

1.5 Wastewater

1.5.1 PROPOSED WASTEWATER RATES

The City’s current wastewater rates include a fixed charge (for all customers) and a volumetric rate (for non-residential customers). The volumetric rate is based on water consumed through the water meter connection. After discussing the wastewater rate structure with City Staff, Raftelis proposes no major changes to the rate structure—rates were increased based on the cost-of-service analysis to meet the utility’s operational and capital revenue requirements. Tables 1-6 and 1-7 show the current and proposed five-year wastewater rates.

Table 1-6: Current and Proposed Bi-Monthly Fixed Wastewater Charge

Line	A Rate	B Current	C 1/1/2026	D 7/1/2026	E 7/1/2027	F 7/1/2028	G 7/1/2029
1	Fixed Bi-Monthly	\$ 23.43	\$ 26.61	\$ 30.61	\$ 35.21	\$ 40.50	\$ 46.58

Table 1-7: Current and Proposed Bi-Monthly Volumetric Wastewater Charge (\$/KGAL)

Line	A Rate	B Current	C 1/1/2026	D 7/1/2026	E 7/1/2027	F 7/1/2028	G 7/1/2029
1	Volumetric (\$/kgals)	\$ 0.20	\$ 0.29	\$ 0.34	\$ 0.40	\$ 0.46	\$ 0.53

Raftelis developed a ten-year financial plan to ensure that rates do not experience spikes after the five year adjustments. The main body of this report contains the City’s detailed five-year financial plan, rate derivation and customer bill impacts for the water and wastewater utilities.

2. Water Enterprise

This section describes the water enterprise rate study, starting with the water financial plan, followed by the cost-of-service study, rate design, and customer bill impacts.

2.1 Water System Background

The City of La Verne, situated in the eastern San Gabriel Valley region of Los Angeles County, relies on a robust and diverse water supply system to meet the demands of its approximately 31,000 residents and various commercial and industrial customers. Understanding the provenance and management of this vital resource is fundamental to assessing its sustainability, reliability, and future planning.

Geographic Context and Water Demand: La Verne is characterized by its semi-arid climate, typical of Southern California, which necessitates a significant reliance on imported water sources to supplement limited local supplies. The community's water demand fluctuates with seasonal changes, with higher usage generally observed during warmer months for irrigation and outdoor activities.

Water Sources: The City of La Verne's water supply is characterized by a blended approach, drawing from both local groundwater sources and imported surface water.

- **Local Groundwater:** A significant portion of La Verne's water supply (~24%) is extracted from wells tapping into the **Pomona and Live Oak Basins**, a vast and critical regional aquifer. Groundwater production helps to enhance local water independence and provides a measure of supply reliability, particularly during periods of drought affecting imported supplies. The management and pumping rights within the Six Basins are carefully overseen by a court-appointed Watermaster.
- **Imported Surface Water:** Complementing the local groundwater, a substantial and often primary portion of La Verne's water is imported (~76%). This imported water originates from two major sources: the **State Water Project (SWP)**, bringing water from Northern California, and the **Colorado River Aqueduct (CRA)**. This water is conveyed by the **Metropolitan Water District of Southern California (MWD)**, the region's largest water wholesaler. From MWD, water is typically delivered to La Verne via the **Three Valleys Municipal Water District (TVMWD)**, which serves as a sub-regional wholesale supplier.

Historical Development: Like many Southern California communities, La Verne's water system has evolved from an initial reliance on local wells and springs to a sophisticated system incorporating vast imported water infrastructure. This evolution reflects the region's growth, increasing population density, and the necessity of securing diverse and resilient water sources in an arid environment. The integration of local and imported supplies has been critical in supporting the community's development and ensuring a consistent and safe water supply for its residents and businesses.

2.2 Financial Plan Assumptions

2.2.1 NUMBER OF ACCOUNTS

Raftelis created a five-year financial plan that models anticipated revenue and expenses. This report shows the financial plan and assumptions for the next 5 years (FY 2026 to FY 2030) to correspond with the rate development for these years. Estimated rate revenue (without adjustments) was calculated by

multiplying the number of accounts by the bi-monthly (fixed) charge and multiplying the total water use in each zone by the corresponding commodity rate. Table 2-1 shows the projected number of water accounts, including AU accounts by meter size and class for FY 2026. This year is shown because this is the “test year”, or the year used to develop rates. Raftelis projected the number of meters using City-provided FY 2024 meter data. The number of accounts is used to forecast the amount of fixed revenue the City will receive from fixed bi-monthly service charges.

Table 2-1: Projected Accounts by Meter Size (FY 2026)

Line	A Standard Accounts by Meter Size	B Residential	C Institutional	D Commercial	E Industrial	F Lifeline	G Multi-Family	H Agriculture	I TOTAL
1	5/8"	1,979	30	44	3	0	6	0	2,061
2	3/4"	776	8	24	0	0	2	0	810
3	1"	4,622	30	107	28	0	134	1	4,922
4	1 1/2"	14	31	35	26	0	92	0	198
5	2"	8	70	93	42	0	106	1	321
6	3"	0	7	2	1	0	2	0	12
7	4"	0	7	3	0	0	5	0	14
8	6"	0	1	1	0	0	1	0	3
9	8"	0	2	0	0	0	1	0	3
10	10"	0	1	0	0	0	0	0	1
11	12"	0	0	0	0	0	0	0	0
12	Total	7,399	187	309	100	0	349	2	8,345

Line	A AU Accounts by Meter Size	B Residential	C Institutional	D Commercial	E Industrial	F Lifeline	G Multi-Family	H Agriculture	I TOTAL
1	5/8"	60	3	19	3	0	14	0	99
2	3/4"	24	1	7	0	0	0	0	32
3	1"	35	87	66	8	0	319	0	515
4	1 1/2"	4	10	85	0	0	228	0	327
5	2"	1	153	121	64	0	1,734	0	2,073
6	3"	0	137	0	0	0	374	0	511
7	4"	0	160	8	0	0	617	0	785
8	6"	0	0	0	0	0	102	0	102
9	8"	0	4	0	0	0	0	0	4
10	10"	0	0	0	0	0	0	0	0
11	12"	0	0	0	0	0	0	0	0
12	Total	124	555	305	75	0	3,387	0	4,446

Line	A Meter Size	B Standard Accounts	C Added Unit Accounts
1	5/8"	2,061	99
2	3/4"	810	32
3	1"	4,922	515
4	1 1/2"	198	327
5	2"	321	2,073
6	3"	12	511
7	4"	14	785
8	6"	3	102
9	8"	3	4
10	10"	1	0
11	12"	0	0
12	Total	8,345	4,446

2.2.2 ACCOUNT AND WATER USE GROWTH ASSUMPTIONS

The revenue calculated for each fiscal year in the Financial Plan is a function of the number of accounts, account growth, water use trends, and existing rates. Table 2-2 shows the assumed account growth rates and the water demand assumptions. The City of La Verne provided actual growth numbers for FY 2025 and showed at 0.34% increase. Raftelis used this number to predict future use in the residential and multi-family classes, as shown in Table 2-2. Zero to minimal growth is predicted in other classes, as is also shown in Table 2-2. Per direction from City staff, demand from all customer classes is projected to decrease with increasing rates and in alignment with “Making Conservation a California Way of Life Regulations” being implemented over the study period.

Table 2-2: Account Growth and Water Use Assumptions

Line	A Account Growth	B FY 2026	C FY 2027	D FY 2028	E FY 2029	F FY 2030
1	Residential	0.34%	0.34%	0.34%	0.34%	0.34%
2	Institutional	0.00%	0.00%	0.00%	0.00%	0.00%
3	Commercial	0.00%	0.00%	0.00%	0.00%	0.00%
4	Industrial	0.00%	0.00%	0.00%	0.00%	0.00%
5	Lifeline	0.00%	0.00%	0.00%	0.00%	0.00%
6	Multi-Family	0.34%	0.34%	0.34%	0.34%	0.34%
7	Agriculture	0.00%	0.00%	0.00%	0.00%	0.00%

Line	A Demand Forecast	B FY 2026	C FY 2027	D FY 2028	E FY 2029	F FY 2030
1	All Classes	-3.00%	-3.00%	-3.00%	-3.00%	-3.00%

2.2.3 WATER USE

Table 2-3 shows the water use by pressure zone for FY 2024 (actual). Water use shown below was then multiplied by the demand forecast in Table 2-2 above to estimate projected water use by zone during five-year study period.

Table 2-3: Actual (2024) Water Use in by Pressure Zone

Line	A Water Usage (kgals)	B 2024
1	Total Zone Consumption	
2	Z1	726,252
3	Z2	454,909
4	Z3	120,221
5	Z4	233,430
6	Z5	57,372
7	Z6	0
8	ZP	123,580
9	ZL	249
10	Total - Water Usage (kgal)	1,716,013

2.2.4 INFLATIONARY AND WATER PURCHASE COST ASSUMPTIONS

To ensure future O&M costs are reasonably projected, Raftelis has made informed assumptions about inflationary factors, water costs and water use. Table 2-4 shows the inflationary categories that were used to escalate the City’s FY 2026 O&M expense budget, which is part of the Financial Plan. The inflationary factors shown in Table 2-4 reflect long-term averages for general and capital (construction) inflation, as well as energy prices. The City provided the salary (includes 3% payroll annual increase plus 2% annual increase to retirement) and benefit inflationary factors which reflect employee salaries and benefit obligations. The City also provided the water purchase inflationary cost increases based on known increases in FY 2026 and FY 2027, as well as projected cost increases for purchased water in FY 2028 through FY 2030.

Table 2-4: Inflationary Assumptions

	A	B	C	D	E	F
Line	Escalation Factors	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	Expense Inflation					
2	General	3.0%	3.0%	3.0%	3.0%	3.0%
3	Salary	5.0%	5.0%	5.0%	5.0%	5.0%
4	Benefits	7.0%	7.0%	7.0%	7.0%	7.0%
5	Utilities	7.5%	7.5%	7.5%	7.5%	7.5%
6	Capital	4.5%	4.5%	4.5%	4.5%	4.5%
7	Water Purchase	12.0%	12.0%	10.5%	10.5%	10.5%

Raftelis used the assumptions shown in Table 2-4 to develop the City’s Water Financial Plan. The plan uses projected annual operating expenses and revenues at current rates, capital expenditures, reserve fund balances, and annual debt service coverage ratios to estimate the amount of additional rate revenue needed per year. This section of the report provides a discussion of O&M expenses, the Capital Improvement Plan (CIP), reserve funding, projected revenue under existing rates, and the revenue adjustments needed to ensure the fiscal sustainability and solvency of the Water Enterprise.

2.2.5 WATER SYSTEM EXPENSES

The City’s expenses include O&M expenses, capital expenses, and debt service payments. Each of these expense categories is described below.

2.2.6 O&M EXPENSES

The City's O&M budget is shown by fiscal year in Table 2-5. The O&M budget incorporates the inflationary factors discussed in Section 2.2.4 – Inflationary and Water Purchase Cost Assumptions, and are summarized in Table 2-4. Approximately 71% of the O&M budget in FY 2026 is water production costs, over which the City has no control. Significant water production costs include wholesale water purchases, utility costs and materials costs.

Table 2-5: Projected O&M Expenses

Line	A Operating Expenses	B FY 2025	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
1	Water Administration	\$955,340	\$994,529	\$1,035,516	\$1,078,395	\$1,123,262	\$1,170,220
2	Water Production	\$8,960,299	\$9,820,363	\$10,774,232	\$11,721,660	\$12,760,716	\$13,900,625
3	Transmission & Distribution	\$959,015	\$1,002,316	\$1,047,785	\$1,095,541	\$1,145,710	\$1,198,425
4	Customer Service	\$874,312	\$903,753	\$945,178	\$988,697	\$1,034,424	\$1,082,481
5	Pension Obligation Fund	\$0	\$0	\$0	\$0	\$0	\$0
6	Transfers	\$1,151,037	\$1,185,568	\$1,221,135	\$1,257,769	\$1,295,502	\$1,334,367
7	Total - O&M Expenses	\$12,900,003	\$13,906,528	\$15,023,846	\$16,142,062	\$17,359,615	\$18,686,117

2.2.7 CAPITAL IMPROVEMENT PLAN (CIP)

Table 2-6 shows the City's CIP summary. The City is funding capital investment through a mixture of rate revenue and reserve funds (also known as PAY-GO funding), as well as taking on debt by borrowing \$4 million from the sewer fund and paying off that loan with interest (interest rate of 4.5%) in FY 2028 (\$1,092,025), FY 2029 (\$2,282,332) and FY 2030 (\$1,192,519). Note that Projects on Lines 2-4 have already been funded in FY 2025.

Table 2-6: Detailed Capital Improvement Plan

Line	A Capital Projects	B FY 2025	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
1	Capital Improvement Plan - Inflated						
2	Plateau Summit Transmission Line	\$4,000,000	\$0	\$0	\$0	\$0	\$0
3	Ramona Avenue Pressure Reducing Valve	\$225,000	\$0	\$0	\$0	\$0	\$0
4	Booster Pump III to IV	\$400,000	\$0	\$0	\$0	\$0	\$0
5	Pipeline Rehabilitation: Wheeler Avenue (First Street to Second Street)	\$0	\$0	\$0	\$0	\$0	\$207,207
6	AMI Meter Conversion - AMI Water Loss Project	\$0	\$913,952	\$760,408	\$988,530	\$0	\$0
7	SCADA System Upgrade (Phased over 4 years)	\$0	\$0	\$0	\$676,000	\$703,040	\$731,162
8	Pipeline Rehabilitation: Bonita Avenue (Wheeler Avenue to A Street)	\$0	\$0	\$0	\$390,838	\$0	\$0
9	Plateau #1 Reservoir Ladder Replacement	\$0	\$0	\$44,995	\$0	\$0	\$0
10	Well: Repair and Rehabilitation (Mills, LVH3, Lincoln, Beech; \$400k/Well) (Phased over 4 years)	\$0	\$0	\$0	\$449,946	\$467,943	\$486,661
11	Conduct AU study	\$0	\$0	\$0	\$68,833	\$0	\$0
12	Amherst Reservoir - Roof Replacement	\$0	\$0	\$0	\$0	\$0	\$0
13	Pipeline Rehabilitation: 7th Street (E Street to G Street) & (C Street to D Street) and a Segment West of Live Oak	\$0	\$0	\$0	\$834,414	\$0	\$0
14	Pipeline Rehabilitation: Construct 1,280 feet of 16-inch pipe and 1,585 feet of 8-inch pipe on E Street	\$0	\$0	\$0	\$0	\$1,431,721	\$0
15	Pipeline Rehabilitation: Daybreak Drive (Park Crest Drive to Canyon Crest Drive)	\$0	\$0	\$0	\$0	\$575,576	\$0
16	6th and White Treatment Plant Upgrade: VOC Removal	\$0	\$0	\$0	\$0	\$1,896,647	\$0
17	Pipeline Rehabilitation: Construction additional 1,500 gpm Pumping Capacity for Pressure Zone I	\$0	\$0	\$0	\$0	\$0	\$0
18	Pipeline Rehabilitation: Construct 615 linear feet of 8-inch near Los Flores Park	\$0	\$0	\$0	\$0	\$0	\$604,530
19	Pipeline Rehabilitation: Upsize 1,335 linear feet of 8-inch to 12-inch pipe along Foothill Boulevard	\$0	\$0	\$0	\$0	\$0	\$0
20	Pipeline Rehabilitation: Upsize 760 linear feet of 10-inch to 12-inch pipe along Foothill Boulevard	\$0	\$0	\$0	\$0	\$0	\$0
21	6th & White Treatment Plant: Nitrate Removal	\$0	\$929,130	\$1,858,259	\$1,858,259	\$0	\$0
22	Amherst Treatment Plant Upgrade	\$0	\$0	\$0	\$0	\$0	\$0
23	Construct a new well in the Pomona Basin to Replace the Cartwright Well	\$0	\$0	\$0	\$0	\$0	\$0
24	Construct a New Well in the Live Oak Basin to Replace La Verne Heights No.1 Well	\$0	\$0	\$0	\$0	\$0	\$0
25	Amherst Reservoir: Replace 3.5 MG Reservoir	\$0	\$0	\$0	\$0	\$0	\$0
26	Construct 3,900 linear feet of 12-inch pipe from the Old Baldy Plant to the White Avenue Forebay	\$0	\$0	\$0	\$0	\$0	\$0
27	Total Project Costs	\$4,625,000	\$1,843,082	\$2,663,662	\$5,266,821	\$5,074,927	\$2,029,560

2.2.8 EXISTING DEBT SERVICE

Table 2-7 shows the City's existing debt service payments during the five-year study period.

Table 2-7: Existing Water Debt Service

	A	B	C	D	E	F	G
Line	Existing Debt Service	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	Pension Obligation Bonds						
2	Principal	\$103,323	\$107,074	\$111,166	\$115,258	\$119,691	\$124,465
3	Interest	\$130,398	\$126,680	\$122,730	\$118,551	\$114,173	\$109,506
4	Total	\$233,721	\$233,754	\$233,896	\$233,809	\$233,864	\$233,971

2.2.9 REVENUE ADJUSTMENTS

Using the assumed number of accounts and water use shown above in Table 2.3, Raffelis developed a financial plan using projected operating and capital expenses, revenue, and resulting yearly cash balances for the financial plan study period - from FY 2026 to FY 2030. The financial plan determines the overall revenue adjustments required to ensure water enterprise financial stability. Revenue adjustments represent the average increase in rates as a whole; rate changes for individual classes will depend on the cost of service – since a cost-of-service analysis allocates costs to each zone. Therefore, the revenue adjustment may not be the same as the average bill impact for each zone. This study establishes rates from FY 2026 to FY 2030.

The proposed revenue adjustments help ensure adequate revenue to fund operating expenses, capital expenditures, and compliance with bond covenants. Financial Plan modelling assumes the FY 2026 revenue adjustment will occur in January of 2026, with subsequent annual adjustments occurring in July. The proposed revenue adjustments would enable the City to cover operating expenses and execute the CIP shown in Table 2-6 and meet its debt service coverage requirement of 125% in each year beyond FY 2027. Table 2-8 shows the proposed revenue adjustments selected by the City. The rates presented in Section 5 are based on these revenue adjustments.

Table 2-8: Proposed Water Rate Adjustments

	A	B	C	D	E	F
Line	Revenue Adjustments	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	Effective Year	2026	2026	2027	2028	2029
2	Effective Month	January	July	July	July	July
3	% Adjustment	50%	25%	15%	10%	10%

2.2.10 CASH FLOW ANALYSIS (FINANCIAL PLAN)

Table 2-9 shows the City’s cash flow projection over the study period assuming the revenue adjustments shown in Table 2-8.

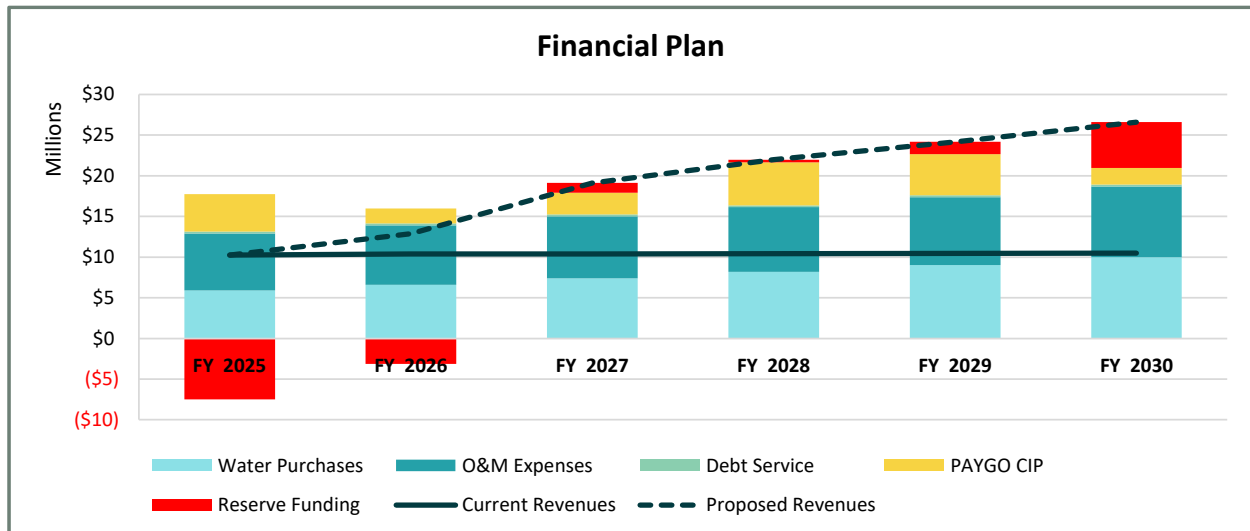
Table 2-9: Five-Year Water Operating Cash Flow

Line	A Financial Plan	B FY 2025	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
1	Revenues						
2	Water Rate Revenue	\$9,974,575	\$9,983,004	\$9,991,463	\$9,999,951	\$10,008,468	\$10,017,014
3	Revenue Adjustments	\$0	\$2,495,751	\$8,742,530	\$11,562,443	\$13,730,367	\$16,118,002
4	Total Non-Rate Revenue	\$279,100	\$388,444	\$391,368	\$419,741	\$440,720	\$463,413
5	Total - Revenues	\$10,253,675	\$12,867,199	\$19,125,361	\$21,982,135	\$24,179,554	\$26,598,429
6							
7	O&M Expenses						
8	Customer Service	\$874,312	\$903,753	\$945,178	\$988,697	\$1,034,424	\$1,082,481
9	Other O&M Expenses	\$10,874,654	\$11,817,207	\$12,857,533	\$13,895,596	\$15,029,689	\$16,269,269
10	Total - O&M Expenses	\$12,900,003	\$13,906,528	\$15,023,846	\$16,142,062	\$17,359,615	\$18,686,117
11							
12	Net Revenue	(\$2,646,328)	(\$1,039,329)	\$4,101,515	\$5,840,073	\$6,819,939	\$7,912,312
13							
14	Existing Debt Service	\$233,721	\$233,754	\$233,896	\$233,809	\$233,864	\$233,971
15							
16	Cash Funded CIP	\$4,625,000	\$1,843,082	\$2,663,662	\$5,266,821	\$5,074,927	\$2,029,560
17							
18	Net Cash Flow	(\$2,880,049)	(\$1,273,083)	\$3,867,619	\$5,606,263	\$6,586,076	\$7,678,341
19							
20	Debt Service Coverage						
21	Calculated Debt Service Coverage	(11.32)	(4.45)	17.54	24.98	29.16	33.82
22	Required Debt Service Coverage	1.25	1.25	1.25	1.25	1.25	1.25
23							
24	Beginning Balance	\$6,562,018	\$6,134,062	\$7,094,995	\$8,423,588	\$7,797,977	\$7,136,164
25	Total Ending	\$6,134,062	\$7,094,995	\$8,423,588	\$7,797,977	\$7,136,164	\$11,735,436
26							
27	Combined Target	\$4,868,628	\$5,801,269	\$5,810,406	\$6,517,891	\$6,310,617	\$6,434,743
28	<i>Variance from Target</i>	<i>\$1,265,434</i>	<i>\$1,293,726</i>	<i>\$2,613,182</i>	<i>\$1,280,086</i>	<i>\$825,547</i>	<i>\$5,300,693</i>

2.2.11 GRAPHICAL FINANCIAL PLAN

Figure 2-1 displays the Financial Plan from Table 2-9 in graphical format.

Figure 2-1: Proposed Water Operating Financial Plan



2.2.12 FUND BALANCES AND RESERVE TARGETS

Water utilities maintain reserve targets for both Operations and Capital needs to ensure financial stability, service reliability, and long-term system integrity.

Operational reserves are critical for working capital needs, managing unforeseen daily challenges such as emergency repairs (e.g., pipe bursts, pump failures), unexpected spikes in material or energy costs, or fluctuations in revenue due to weather patterns or economic downturns, preventing service disruptions and avoiding immediate, reactive rate increases.

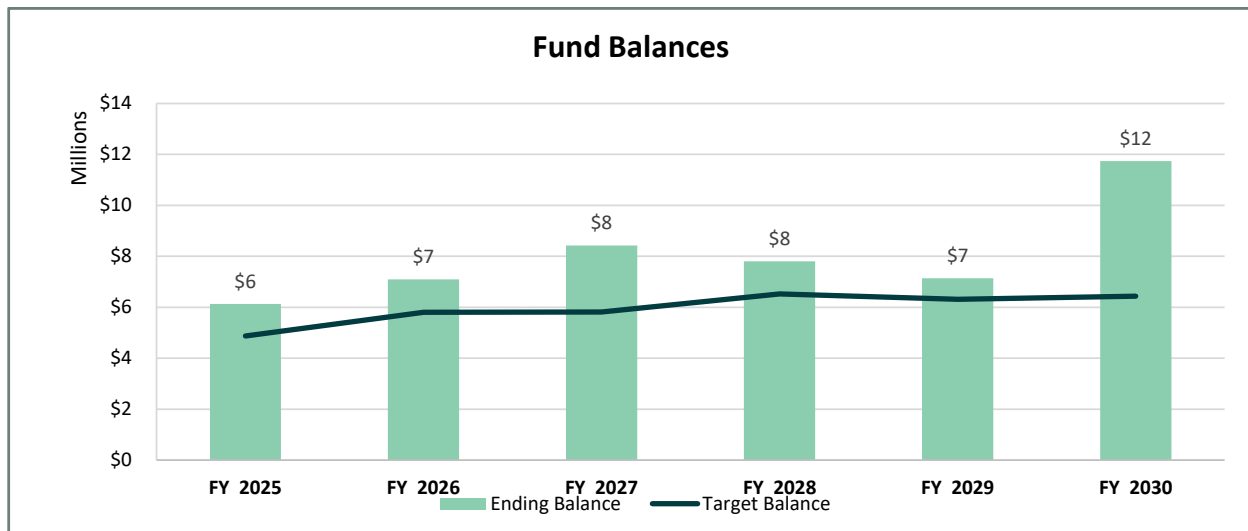
Capital reserves, on the other hand, are vital for addressing capital needs, unpredictable, infrastructure failures, accelerating scheduled replacements due to premature obsolescence, or responding to unforeseen regulatory mandates requiring significant system upgrades, ensuring the utility can maintain its long-term asset health and capacity without excessive borrowing or sudden, large rate surcharges.

The City has the following reserve targets for the water utility:

- **Operations:** 90 days (or 3 months) of Operations and Maintenance expenses, which is in alignment with most municipal water agencies. Maintaining financial resilience is the core function of an operating reserve. This target minimum reserve addresses short-term volatility in revenue streams and operational costs, and furthermore, provides a safeguard against adverse trends in receivables, particularly when facing economic challenges.
- **Capital:** 50% of annual capital expenditures. As the City has significant planned capital investments over the study horizon, this target minimum reserve is intended to be a cash resource set aside to address capital system replacement and rehabilitation needs of the system.

Figure 2-2 displays the City’s Fund Balances compared to the Overall Target Reserve Balances for the water utility in a graphical format over the five-year rate implementation period.

Figure 2-2: Water Utility Fund Balances and Reserve Targets



3. Legal Framework and Rate Setting Methodology

3.1 Legal Framework

This section of the report describes the legal framework surrounding rate setting and calculating cost-of-service rates that provide a fair and equitable cost allocation to customer classes.

3.3.1 CALIFORNIA CONSTITUTION - ARTICLE XIII D, SECTION 6 (PROPOSITION 218)

Proposition 218 was enacted in 1996. It amended the California Constitution by adding Article XIII C and XIII D. Article XIII D, Section 6, established procedural requirements for the imposition of property-related fees and charges and substantive provisions governing the amount that may be imposed and the use of such fees charged by local agencies. The substantive requirements for such fees and charges are as follows:

1. A property-related charge (such as water and wastewater service fees and charges) imposed by a public agency on a parcel shall not exceed the costs required to provide property-related service.
2. Revenues derived by the charge shall not be used for any other purpose other than that for which the charge was imposed.
3. The amount of the charge imposed upon any parcel shall not exceed the proportional cost of service attributable to the parcel.
4. No charge may be imposed for a service unless that service is actually used or immediately available to the owner of the property.
5. No fee or charge may be imposed for general governmental services including, but not limited to, police, fire, ambulance or library services, where the service is available to the public at large in substantially the same manner as it is to property owners.

To preclude costly legal challenges, the legislature has enacted legislation that can be included in the Proposition 218 notices which provides a limited time to challenge rates.

1. Limitation to Rate Challenges

Pursuant to California Government Code Section 53759, there is a 120 day statute of limitations for judicially challenging rates from the date the Council adopts the resolution approving rates.

2. Exhaustion of Administrative Remedies

Pursuant to California Government Code Sections 53759.1 and 53759.2, a person or entity will be prohibited from bringing a judicial action or proceeding alleging that the proposed rates do not comply with Proposition 218 unless that person or entity has submitted a written Objection to the proposed rates in response to the notice. This is known as an Exhaustion of Administrative Remedies requirement and is separate from the Proposition 218 majority Protest process.

3.2 Cost-Based Rate-Setting Methodology

The AWWA M1 Manual states, “the costs of water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers.” To develop utility rates that comply with Proposition 218 and industry standards, while meeting other emerging goals and objectives of the utility, there are four major steps discussed below.

1.) Calculate Revenue Requirement

The rate-making process starts by determining the test year revenue requirement - which for this study is FY 2026. The revenue requirement is the amount a utility needs to sufficiently fund the utility’s O&M, debt service, and capital expenses, and reserve funding.

2.) Cost-of-Service Analysis (COS)

The annual cost of providing water service is distributed among customer classes commensurate with their service requirements. A COS analysis involves the following:

1. *Functionalizing costs.* This process takes each cost item in the City’s budget and organizes them collectively based on their function. Examples of cost functions are supply, treatment, transmission, distribution, storage, meter servicing, and customer billing and collection.
2. *Allocating functionalized costs to cost components.* This process allocates the functionalized costs to cost components. Cost components include base, maximum day, maximum hour³, meter service, customer service and conservation costs.
3. *Distributing the cost components.* This analysis distributes the cost components, using unit costs, to customer classes in proportion to their demands on the water system. This is described in the M1 Manual published by AWWA.

A COS analysis considers both the average quantity of water consumed (base costs) and the peak rate at which it is consumed (peaking or capacity costs as identified by maximum day and maximum hour demands).⁴ Peaking costs are costs that are incurred during peak times of consumption. There are additional costs associated with designing, constructing, and operating and maintaining facilities to meet peak demands. These peak demand costs need to be allocated so that those costs are appropriately passed on to customers.

³ Collectively maximum day and maximum hour costs are known as peaking costs or capacity costs.

⁴ System capacity is the system’s ability to supply water to all delivery points at the time when demanded. Coincident peaking factors are calculated for each customer class at the time of greatest system demand. The time of greatest demand is known as peak demand. Both the operating costs and capital asset related costs incurred to accommodate the peak flows are generally allocated to each customer class based upon the class’s contribution to the peak month, day and hour event. Max Day (Maximum Day Demand): This is the highest total volume of water (e.g., in gallons or cubic feet) that the utility expects to deliver over a continuous 24-hour period. It typically occurs during periods of high demand, like hot summer days when irrigation is prevalent. For a rate study, Max Day is crucial because it dictates the required capacity of the major infrastructure components such as water treatment plants, primary pumping stations, and large transmission mains. The fixed costs associated with building and maintaining this capacity are a significant driver of rates. Max Hour (Maximum Hour Demand): This represents the highest instantaneous flow rate of water (e.g., in gallons per minute) that the system must deliver during any 60-minute period on the Max Day, but focuses on the brief, intense peaks. Max Hour is vital for sizing the localized distribution network, including smaller diameter mains, booster pumps, and elevated storage tanks, to ensure adequate pressure and flow are available to all customers, even during the most extreme short-term demand. The capital costs for these distribution assets, necessary to meet Max Hour, also contribute to the overall rate structure.

3.) Rate Design and Calculations

Rates do more than simply recover costs. Within the legal framework and industry standards, properly designed rates should support and optimize a blend of various utility objectives, such as conservation, affordability for essential needs, and revenue stability, among other objectives. Rates may also act as a public information tool in communicating these objectives to customers.

4.) Rate Adoption

Rate adoption is the last step of the rate-making process to comply with Proposition 218. Raftelis documented the rate study results in this Study Report to help educate the public about the proposed changes, the rationale and justifications behind the changes, and their anticipated financial impacts in lay terms.

4. Cost-of-Service Analysis

A Cost-of-Service (COS) analysis distributes a utility’s revenue requirement (yearly revenue needed) to each customer class or zone. This is done by allocating the City’s revenue requirement to the **cost causation components**. The cost causation components include:

1. Base (average) costs⁵
2. Peaking costs (maximum day and maximum hour)
3. Meter Maintenance
4. Additional Dwelling Unit (AU)
5. Direct Fire Protection
6. Private Fire Protection
7. Customer Service & Meter Reading
8. Administrative and General Costs

Additional cost components include pumping zone costs and supply costs. Peaking costs are further divided into maximum day and maximum hour demand. The maximum day demand is the maximum amount of water used in a single day in a year. The maximum hour demand is the maximum hour usage on the maximum usage day. Both maximum day and maximum hour peaking demand calculations are used to calculate capacity related costs and peaking unit rates to distribute costs to customer classes. Generally, peaking costs are allocated in proportion to how the different customer classes use water during peak day and hour demands. Different facilities, such as distribution and storage facilities, are designed to meet the peak demands of customers. Therefore, extra capacity⁶ costs include the O&M and capital costs associated with meeting peak customer demand. This method is consistent with the AWWA M1 Manual and is widely used in the water industry to perform cost-of-service analyses.

4.1 Allocation of Expenses to Cost Components

In a Cost-of-Service analysis, the City’s expenses are allocated to the cost causation components. To do so it is necessary to identify system-wide peaking factors, which are shown in column B of Table 4-1 and labeled “Peaking Factor.” The system-wide peaking factors are used to derive the cost component allocation bases (i.e., percentages) shown in columns C through E of Table 4-1. Functionalized⁷ expenses are then allocated to the cost components using the allocation bases shown in column A. To understand the interpretation of the percentages shown in columns B through F we must first establish the base use as the average daily demand during the year – which is assigned an allocation basis of 1. If the base allocation basis is used to allocate an expense, it means that the costs associated with that expense are to meet average daily demand (base) related costs.

⁵ The base component can be further divided into supply and base/delivery cost components as discussed in Section 6.3.

⁶ The terms extra capacity, peaking and capacity costs are used interchangeably.

⁷ Functions of a water utility are: supply, treatment, transmission and distribution, storage, meter service, customer service, general & administration and fire protection.

Expenses that are allocated to the cost causation components using the maximum day base percentages (line 2) attribute 65.4% (1/1.53) the demand (and therefore costs) to base (average daily demand) use and the remaining 34.6% to maximum day (peaking) use. Expenses allocated using the maximum hour basis assume 31.7% (1/3.15) of costs are due to base demands, 16.8% ((1.53-1)/3.15) due to max day and 51.5% are due to max hour costs. Collectively the maximum day and hour cost components are known as peaking costs. These allocation bases are used to assign City O&M functions, shown in column A of Table 4-2, to the cost causation components also shown across the top of Table 4-2.

Table 4-1: System-Wide Peaking Factors and Allocation to Cost Components

	A	B	C	D	E	F
Line	System-Wide Peaking Factors	Peaking Factor	Base	Max Day	Max Hour	Total
1	Base	1.00	100.0%			100.0%
2	Max Day	1.53	65.4%	34.6%		100.0%
3	Max Hour	3.15	31.7%	16.8%	51.5%	100.0%
4	Average Max Day/Max Hour		48.6%	25.7%	25.7%	100.0%

Table 4-2: Allocation of O&M Expenses to Cost Causation Components

Line	A System Demand Ratios	B Base	C Max Day	D Max Hour	E Supply	F Meter Maintenance	G Additional Dwelling Unit	H Direct Fire Protection	I Private Fire Protection	J Customer Service & Meter Reading	K Admin & General	L Functional Allocation
1	Supply (Wells, Purchased Water)	0.00%	0.00%	0.00%	100.00%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	\$ 6,608,000
2	Raw & Treated Water Pumping	65.39%	34.61%	0.00%	0.00%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	\$ 105,525
3	Treatment	65.39%	34.61%	0.00%	0.00%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	\$ 2,167,863
4	Distribution Storage	31.75%	16.80%	51.45%	0.00%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	\$ -
5	Trans. & Dist. (Pipelines)	48.57%	25.71%	25.73%	0.00%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	\$ 601,389
6	Direct Fire Protection	0.00%	0.00%	0.00%	0.00%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	\$ -
7	Meter Maintenance	0.00%	0.00%	0.00%	0.00%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	\$ 625,307
8	Additional Dwelling Unit	0.00%	0.00%	0.00%	0.00%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	\$ 145,030
9	Customer Service & Meter Reading	0.00%	0.00%	0.00%	0.00%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	\$ 832,311
10	Private Fire Protection	0.00%	0.00%	0.00%	0.00%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	\$ 99,842
11	Admin & General	0.00%	0.00%	0.00%	0.00%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	\$ 1,782,285
12												
13	Supply (Wells, Purchased Water)	\$ -	\$ -	\$ -	\$ 6,608,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 6,608,000
14	Raw & Treated Water Pumping	\$ 69,004	\$ 36,521	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 105,525
15	Treatment	\$ 1,417,591	\$ 750,272	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,167,863
16	Distribution Storage	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
17	Trans. & Dist. (Pipelines)	\$ 292,086	\$ 154,589	\$ 154,714	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 601,389
18	Direct Fire Protection	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
19	Meter Maintenance	\$ -	\$ -	\$ -	\$ -	\$ 625,307	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 625,307
20	Additional Dwelling Unit	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 145,030	\$ -	\$ -	\$ -	\$ -	\$ 145,030
21	Customer Service & Meter Reading	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 832,311	\$ -	\$ 832,311
22	Private Fire Protection	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 99,842	\$ -	\$ -	\$ 99,842
23	Admin & General	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,782,285	\$ 1,782,285

The allocation bases and percentages shown in the top half of Table 4-2 in lines 1 through 11 are used to allocate the functionalized costs (shown in column L) to each cost causation component (Lines 13-23). For example, the total expense for water treatment (Line 15, column L) is multiplied by the percentages in Line 3 to yield the amounts shown in Line 15, columns C through K.

The allocation bases, in column A, are chosen based on the type of cost for each line item and the proportion of those costs associated with each cost causation component (max day, max hour, general, supply, etc.). For example, distribution storage, line 12, is allocated using the max hour basis since distribution costs are associated with serving average day demands and peak day demands in proportion to max hour allocations identified in Table 4-1. This is because the distribution and storage system must be sized and operated to meet max hour demands. Certain cost bases are identical to the cost causation components – such as supply – and therefore are easily allocated to the cost component with the same name. This resulting allocation is used to allocate the City’s operating revenue requirements (discussed in Section 4.2) to the various cost components.

The City’s capital assets are also allocated to the cost causation components as shown in Table 4-3. The resulting total asset allocation is derived in a similar manner as the O&M allocation in Table 4-2. Raftelis functionalized the City’s assets and then allocated them to the cost causation components in the same manner as O&M expenses. Part of the City’s revenue requirement includes rate funded capital – which is discussed in Section 4.2. The capital portion of the revenue requirement (discussed in Section 4.2) is allocated to the cost causation components using the asset allocation shown in line 21 of Table 4-3.

Costs for pumping are identified separately.

Table 4-3: Allocation of Assets to Cost Causation Components

Line	A Allocated Capital	B Base	C Max Day	D Max Hour	E Supply	F Meter Maintenance	G Additional Dwelling Unit	H Direct Fire Protection	I Private Fire Protection	J Customer Service & Meter Reading	K Admin & General	L Functional Allocation
1	Supply (Wells, Purchased Water)	\$0	\$0	\$0	\$2,905,330	\$0	\$0	\$0	\$0	\$0	\$0	\$2,905,330
2	Raw & Treated Water Pumping	\$544,816	\$288,349	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$833,165
3	Zone 1 Pumping	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
4	Zone 2 Pumping	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
5	Zone 3 Pumping	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	Zone 4 Pumping	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
7	Zone 5 Pumping	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
8	Zone 6 Pumping	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9	Zone P Pumping	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
10	Zone L Pumping	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
11	Treatment	\$2,373,441	\$1,256,164	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$3,629,605
12	Distribution Storage	\$2,716,159	\$1,437,551	\$4,402,191	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,555,900
13	Trans. & Dist. (Pipelines)	\$11,104,781	\$5,877,303	\$5,882,035	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$22,864,118
14	Direct Fire Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$576,598	\$0	\$0	\$0	\$576,598
15	Meter Maintenance	\$0	\$0	\$0	\$0	\$2,044,769	\$0	\$0	\$0	\$0	\$0	\$2,044,769
16	Additional Dwelling Unit	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
17	Customer Service & Meter Read	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
18	Private Fire Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
19	Admin & General	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$2,193,422	\$2,193,422
20	Total	\$16,739,197	\$8,859,367	\$10,284,225	\$2,905,330	\$2,044,769	\$0	\$576,598	\$0	\$0	\$2,193,422	\$43,602,909
21	Capital Allocation	38.4%	20.3%	23.6%	6.7%	4.7%	0.0%	1.3%	0.0%	0.0%	5.0%	100.0%

4.2 Revenue Requirement Determination

Table 4-4 shows the revenue requirement derivation. The total revenue required from water rates is shown on Line 18. The total in Line 18, Column B, is the O&M revenue requirement that is allocated to the cost components using the percentages derived in Table 4-2. The capital revenue requirement in Line 18, Column C, is allocated to the cost components using the percentages derived in Table 4-3.

Raftelis calculated the revenue requirement using budgeted FY 2026 expenses, which include water purchases, O&M expenses, capital expenses and existing debt service as shown in lines 2 – 4.

To arrive at the rate revenue requirement in Line 18, Column D, non-rate revenue offsets are subtracted and adjusted for annual cash balance (lines 6-9). The adjustments, shown as negative values, are subtracted (therefore added as a result of subtracting a negative number) to arrive at the total revenue required from City rates in line 18 column D. To account for the fact that the impending rate adjustment will take place six months into the fiscal year, the revenue increase must be annualized so that the correct rates are calculated. This is the total amount the City’s fixed service charges and volumetric rates are designed to collect in FY 2026 if rates were applied for a full Fiscal Year.

Table 4-4: Revenue Requirement Determination

Line	A Revenue Requirement - FY 2026	B Operating	C Capital	D Total
1	Revenue Requirements			
2	O&M	\$13,906,528	\$0	\$13,906,528
3	Debt Service	\$0	\$233,754	\$233,754
4	Gross Revenue Requirement	\$13,906,528	\$233,754	\$14,140,282
5				
6	Revenue Offsets			
7	Other Revenue	\$279,582	\$0	\$279,582
8	Interest Revenue	\$0	\$108,862	\$108,862
9	Total Revenue Offsets	\$279,582	\$108,862	\$388,444
10				
11	Net Revenue Requirement Before Adjustments	\$13,626,946	\$124,892	\$13,751,838
12				
13	Adjustments			
14	Adjustment for Cash Balance	\$0	(\$1,273,083)	(\$1,273,083)
15	Net Revenue Requirement Before Mid-Year Increase	\$13,626,946	(\$1,148,190)	\$12,478,755
16				
17	Revenue needed to annualize rates	\$2,495,751	\$0	\$2,495,751
18	Net Revenue Req After Adj. for Mid-Year Increase	\$16,122,697	(\$1,148,190)	\$14,974,506

4.3 Allocation of Costs to Cost Components

The next step is to allocate the total revenue requirement in Table 4-4 to the cost components as shown in Table 4-5.

Lines 1-4 provide requirements before any adjustments, based on the O&M revenue requirement (Line 1), Capital Revenue Requirement (Line 2) and the Revenue Offsets (Line 3). Line 8 provides the net revenue requirements after adjustments for allocation of change in cash (Line 6) and the revenue needed to annualize the rates (Line 7).

Line 11 shows the revenue requirements after allocation of general costs to the various cost causation components. This line reallocates general costs to the other cost components in proportion to each component's share of total costs. This reflects the fact that general costs support the other functions in proportion to their share of costs. Line 15 shows the net revenue requirement after allocation of the fire components for public fire (Line 13) and private fire (Line 14).

The final adjustment in Line 17 shows the adjustment of base and peaking costs onto the fixed meter charge component. This reallocation to the meter component is so that the City can collect these costs through a fixed charge – since meter and customer costs are collected through the fixed bi-monthly charge. The final net revenue requirement is shown in Line 18.

Table 4-5: Expense Allocation to Cost Components

Line	A Revenue Requirement	B Base	C Max Day	D Max Hour	E Supply	F Zone 1 Pumping	G Zone 2 Pumping	H Zone 3 Pumping	I Zone 4 Pumping	J Zone 5 Pumping	K Zone 6, Zone P, Zone L Pumping	N Meter Maintenance	O Added Unit	P Direct Fire Protection	Q Private Fire Protection	R Customer Service & Meter Reading	S Admin & General	T Total
1	O&M Revenue Requirement	\$ 1,778,681	\$ 941,382	\$ 154,714	\$ 6,608,000	\$ 315,461	\$ 261,691	\$ 174,705	\$ 4,366	\$ 182,752	\$ -	\$ 625,307	\$ 145,030	\$ -	\$ 99,842	\$ 832,311	\$ 1,782,285	\$ 13,906,528
2	Capital Revenue Requirement	\$ 47,946	\$ 25,376	\$ 29,457	\$ 8,322	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 5,857	\$ -	\$ 1,652	\$ -	\$ -	\$ 6,283	\$ 124,892
3	Revenue Offsets	\$ (63,607)	\$ (33,664)	\$ (5,533)	\$ (236,306)	\$ (11,281)	\$ (9,358)	\$ (6,248)	\$ (156)	\$ (6,535)	\$ -	\$ (22,361)	\$ (5,186)	\$ -	\$ (3,570)	\$ (29,764)	\$ (63,736)	\$ (497,306)
4	Revenue Requirement Before Adjustment	\$ 1,763,020	\$ 933,094	\$ 178,638	\$ 6,380,016	\$ 304,180	\$ 252,333	\$ 168,457	\$ 4,210	\$ 176,217	\$ -	\$ 608,802	\$ 139,843	\$ 1,652	\$ 96,272	\$ 802,547	\$ 1,724,832	\$ 13,534,114
5																		
6	Allocation of Change in Cash	\$ (488,738)	\$ (258,669)	\$ (300,271)	\$ (84,827)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ (59,702)	\$ -	\$ (16,835)	\$ -	\$ -	\$ (64,042)	\$ (1,273,083)
7	Revenue needed to annualize rates	\$ 958,121	\$ 507,094	\$ 588,650	\$ 166,296	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 117,039	\$ -	\$ 33,003	\$ -	\$ -	\$ 125,547	\$ 2,495,751
8	Net Revenue Requirement After Adjustment	\$ 2,232,404	\$ 1,181,519	\$ 467,018	\$ 6,461,484	\$ 304,180	\$ 252,333	\$ 168,457	\$ 4,210	\$ 176,217	\$ -	\$ 666,140	\$ 139,843	\$ 17,820	\$ 96,272	\$ 802,547	\$ 1,786,338	\$ 14,756,783
9																		
10	Allocation of General Costs	\$ 307,455	\$ 162,723	\$ 64,319	\$ 889,900	\$ 41,893	\$ 34,752	\$ 23,201	\$ 580	\$ 24,269	\$ -	\$ 91,743	\$ 19,260	\$ 2,454	\$ 13,259	\$ 110,530	\$ (1,786,338)	\$ -
11	Revenue Requirement After Allocation of General Costs	\$ 2,539,859	\$ 1,344,243	\$ 531,338	\$ 7,351,384	\$ 346,073	\$ 287,085	\$ 191,658	\$ 4,790	\$ 200,486	\$ -	\$ 757,883	\$ 159,103	\$ 20,274	\$ 109,531	\$ 913,077	\$ -	\$ 14,756,783
12																		
13	Allocation of Capacity for Public Fire	\$ -	\$ (273,597)	\$ (20,269)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 314,140	\$ -	\$ (20,274)	\$ -	\$ -	\$ -	\$ -
14	Allocation of Capacity for Private Fire	\$ -	\$ (42,201)	\$ (3,126)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 45,327	\$ -	\$ -	\$ -
15	Net Revenue Requirement After Fire Allocation	\$ 2,539,859	\$ 1,028,445	\$ 507,942	\$ 7,351,384	\$ 346,073	\$ 287,085	\$ 191,658	\$ 4,790	\$ 200,486	\$ -	\$ 1,072,023	\$ 159,103	\$ -	\$ 154,858	\$ 913,077	\$ -	\$ 14,756,783
16																		
17	Peak to Meter Adjustment	\$ (1,269,929)	\$ (514,222)	\$ (253,971)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 2,038,123	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
18	Final Net Revenue Requirement	\$ 1,269,929	\$ 514,222	\$ 253,971	\$ 7,351,384	\$ 346,073	\$ 287,085	\$ 191,658	\$ 4,790	\$ 200,486	\$ -	\$ 3,110,146	\$ 159,103	\$ -	\$ 154,858	\$ 913,077	\$ -	\$ 14,756,783

The next step is to derive the rates for each customer class using the cost components in Table 4-5 to collect the total amount shown in column T. This is discussed in detail in Section 5.

Having identified the costs associated with each cost causation parameter, the next step is to identify the bases for those costs or service demands over which they should be spread to calculate the unit costs of each parameter.

4.4 Equivalent Meters

To allocate meter-related costs appropriately, the concept of equivalent meters needs to be understood. By using equivalent meters instead of a straight meter count, the analysis accounts for the fact that larger meters impose larger demands and are more expensive to install, maintain, and replace than smaller meters. Equivalent meters are used in calculating meter service costs.

The City’s number of meter equivalent units is shown in Table 4-6, which is used to derive the bi-monthly service charge. Equivalent meter units account for the potential flow through larger meters and equate this flow to the total flow through the ¾” meter, which is the standard size for a single family residence. Equivalent meter units are calculated by multiplying the number of meters (column B) by the American Water Works Association (AWWA) capacity ratios in column D to yield equivalent meters in column E. As shown in the table below, the City has a total of 14,151 ¾” meter equivalents in the system.

Table 4-6- Derivation of Equivalent Meter Units – Water Meters

	A	B	C	D	E
Line	Meter Size	No of Meters	Max GPM	Flow Equip Ratio	Equivalent Meters
1	5/8"	2,160	20	1.00	2,061
2	3/4"	842	30	1.00	810
3	1"	5,437	50	1.67	8,203
4	1 1/2"	524	100	3.33	659
5	2"	2,394	160	5.33	1,711
6	3"	522	320	10.67	126
7	4"	799	500	16.67	239
8	6"	105	1,000	33.33	100
9	8"	7	1,600	53.33	160
10	10"	1	2,400	80.00	80
11	Total	12,791			14,151

AUs are part of single family residential, multi-family residential, institutional, commercial, and industrial customers. The total number of AU’s is shown below in Table 4-7.

Table 4-7: Number of Added Units (AU)

A	B
Line	Number of AUs
1	4,446

4.5 Fire Protection Capacity

Water systems provide two types of fire protection: public fire protection for firefighting (i.e., fire hydrants) and private fire protection (i.e., fire lines for private structures with sprinkler systems for fire suppression and private fire hydrants). Raftelis performed a fire demand analysis to determine the share of fire protection costs allocated to public versus private fire protection. The City provided Raftelis with a count of fire hydrants. The number of private fire connections is shown in Table 4-8.

Table 4-8 shows the calculation of equivalent fire demand associated with public hydrants and private fire lines. Each connection size has a fire flow demand factor similar to the hydraulic capacity factor of a water meter. The equivalent capacity ratio (Column C) takes the relative flow capacity factor at each fire line size divided by the 6-inch flow capacity to establish each connection on an equivalent basis. The equivalent capacity ratio is multiplied by the number of hydrants (Column E) or connections (Column B) at each size and summed to calculate the equivalent number of hydrants (Column E, Line 13) and connections (Column D, Line 13). Line 14 shows the proportional share of equivalent fire connections between public (Column E) and private (Column D).

Table 4-8 : Equivalent Fire Connections

Line	A Fire Line Size	B Private Fire Connections	C Relative Flow Capacity	D Private Fire Capacity	E Public Fire Hydrants
1	5/8"	1	0.00	0.00	0
2	3/4"	0	0.00	0.00	0
3	1"	1	0.01	0.01	0
4	1 1/2"	0	0.03	0.00	0
5	2"	2	0.06	0.11	0
6	3"	0	0.16	0.00	0
7	4"	29	0.34	9.98	0
8	6"	82	1.00	82.00	1,473
9	8"	58	2.13	123.60	0
10	10"	3	3.83	11.50	0
11	12"	0	6.19	0.00	0
12	Total	176		227.20	1,473
13	Total All 6" Equiv.			227.20	1473
14	Proportional Share			13%	87%

Table 4-9 shows the max day and max hour extra capacity requirements based on fire flow information provided by the City's engineer. The information in Table 4-8 and Table 4-9 is used to determine the amount of max day and max hour demand due to fire flow. The flow rates (Column A) and durations (Column B) are converted to hcf per day to determine max day and max hour requirements by pressure zone.

Table 4-9: Fire Service Share of Peaking Requirements

Line	Pressure Zone	A	B	C	D
		Max Fire Flow (gpm)	Duration (hours)	Max Day Fire Flow (hcf)	Max Hour Fire Flow (hcf)
1	Zone I	5,000	4	1,200	6,000
2	Zone II	3,000	3	540	3,780
3	Zone III	1,500	2	180	1,980
4	Zone IV	1,500	2	180	1,980
5	Zone V	1,500	2	180	1,980

5. Rate Derivation

5.1 Existing Rate Structure and Rates

The City’s existing rate structure consists of a fixed bi-monthly service charge by meter size, and a set of volumetric rates depending on customer location/zone and amount of usage. The City’s volumetric rate is based on the zone elevation of the customer, as determined by address. There are a total of eight zones in the City – zones one through six, zone P, and zone L. Table 5-1, Table 5-2, Table 5-3, and Table 5-4 show the existing rate structure and rates.

Table 5-1: Existing Service Charge Rate Structure and Rates (Bi-monthly) – Water Meters

A		B
Line	Meter Size	Bi-Monthly Service Charge
1	5/8"	\$36.40
2	5/8"	\$36.40
3	3/4"	\$40.00
4	1"	\$51.00
5	1 1/2"	\$65.60
6	2"	\$106.00
7	3"	\$400.00
8	4"	\$509.60
9	6"	\$764.40
10	8"	\$1,055.60
11	10"	\$1,456.00

Table 5-2: Existing Service Charge Rate Structure and Rates (Bi-monthly) – AU's

A		B
Line	All Customers	Bi-Monthly AU Charge
1	Per AU	\$11.20

Table 5-3: Existing Service Charge Rate Structure and Rates (Bi-monthly) – Private Fire Lines

A		B
Line	Fire Line Diameter	Bi-Monthly Fire Line Charge
1	5/8"	\$0.00
2	3/4"	\$0.00
3	1"	\$0.00
4	1 1/2"	\$0.00
5	2"	\$46.60
6	3"	\$65.30
7	4"	\$102.60
8	6"	\$130.66
9	8"	\$167.70
10	10"	\$205.10
11	12"	\$242.20

Table 5-4: Existing Volumetric Rates (All Classes)

A		B
Line	Customer Class	Volumetric Rate (\$/kgal)
1	All Classes	
2	Z1	\$3.92
3	Z2	\$4.02
4	Z3	\$4.21
5	Z4	\$4.42
6	Z5	\$4.53
7	Z6	\$4.77
8	ZP	\$5.37
9	ZL	\$2.74

5.2 Proposed Rate Structure

In Table 4-5, the City’s revenue requirement was allocated to each cost causation component. Table 5-5 shows how the City will collect revenue for each cost component – through a fixed service charge, a fixed private fire charge, a fixed AU charge and a volumetric charge. Table 5-5 shows that the City will collect approximately 29.4% through the Bi-monthly fixed charges and 70.6% through volumetric rates.

Table 5-5: Rate Revenue Recovery Structure

	A	B	C	D	E	F
Line	Customer Class	Commodity	Meter	AU	Private Fire	Total
1	Residential	\$5,718,218	\$2,846,365	\$13,308	\$0	\$8,577,891
2	Institutional	\$1,656,990	\$227,151	\$59,494	\$0	\$1,943,636
3	Commercial	\$989,812	\$233,307	\$32,685	\$0	\$1,255,804
4	Industrial	\$192,181	\$89,118	\$8,037	\$0	\$289,336
5	Lifeline	\$42,892	\$73	\$0	\$0	\$42,964
6	Multi-Family	\$1,788,229	\$308,133	\$362,973	\$0	\$2,459,335
7	Agriculture	\$31,277	\$1,681	\$0	\$0	\$32,958
8	Private Fire	\$0	\$0	\$0	\$154,858	\$154,858
9	Total	\$10,419,598	\$3,705,828	\$476,498	\$154,858	\$14,756,783
10		70.6%		29.4%		100.0%
11		Variable		Fixed		Total

5.3 Units of Service

Table 5-6 shows the projected FY 2026 customer class units of service for each cost causation component (Lines 1-9) and the total system units of service for each cost causation component (Line 10). The cost of service by cost causation component was previously calculated in Table 4-5 and the units of service calculated in Table 5-6, this information is used to determine the \$/unit cost of service for each cost causation component as shown in Table 5-7. The calculated unit costs are utilized to determine the customer rates discussed below in Sections 5.4 through Section 5.6.

Table 5-6: Derivation of Units of Service

A	B	C	D	E	F	G	H	I	J	K	L	M	O	P	R	S	T	U
Customer Class	Annual Use (ccf)	Average Daily Use (ccf/day)	Peaking Factor	Total Capacity (kgal/day)	Extra Capacity (kgal/day)	Peaking Factor	Total Capacity (kgal/day)	Extra Capacity (kgal/day)	Meter Count	Equivalent Meters	Bills	AU	Bills	Total Meters+ AU	Total Bills	Fire Line Count	Equivalent Fire Lines	Fire Line Bills
Residential	938,990	2,573	1.89	4,874	2,301	3.90	10,039	5,165	7,399	10,548	44,392	124	745	7,523	45,137	0	0	0
Institutional	263,912	723	1.59	1,148	425	3.27	2,365	1,217	187	973	1,119	555	3,331	742	4,450	0	0	0
Commercial	168,001	460	2.12	976	516	4.37	2,011	1,035	309	961	1,852	305	1,830	614	3,682	0	0	0
Industrial	30,801	84	3.11	262	178	6.41	541	278	100	373	600	75	450	175	1,050	0	0	0
Lifeline	7,539	21	1.44	30	9	2.97	61	32	0	0	1	0	0	0	1	0	0	0
Multi-Family	301,897	827	1.54	1,273	446	3.17	2,622	1,349	349	1,289	2,093	3,387	20,322	3,736	22,416	0	0	0
Agriculture	4,873	13	3.44	46	33	7.09	95	49	2	7	12	0	0	2	12	0	0	0
Private Fire	0	0	0.00	0	0	0.00	0	0	0	0	0	0	0	0	0	0	0	0
Public Hydrants	0	0	0.00	0	0	0.00	0	0	0	0	0	0	0	0	0	176	227	1,056
Total	1,716,013	4,701		8,609	3,908		17,734	9,124	8,345	14,151	50,070	4,446	26,678	12,791	76,748	176	227	1,056

Table 5-7: Derivation of Units Cost by Cost Causation Component

Line	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	Q	R	S
Unit Cost of Service	Base	Max Day	Max Hour	Supply	Zone 1 Pumping	Zone 2 Pumping	Zone 3 Pumping	Zone 4 Pumping	Zone 5 Pumping	Zone 6 Pumping	Zone P Pumping	Zone L Pumping	Meter Maintenance	Added Unit	Private Fire Protection	Customer Service & Meter Reading	Total	
1 Cost of Service	\$1,269,929	\$514,222	\$253,971	\$7,351,384	\$346,073	\$287,085	\$191,658	\$4,790	\$200,486	\$0	\$0	\$0	\$3,110,146	\$159,103	\$154,858	\$913,077	\$14,756,783	
2 Units of Service	1,716,013	3,908	9,124	1,716,013	1,716,013	989,761	534,852	414,631	181,201	123,829	123,829	249	14,151	4,446	227	76,748		
3 Unit Cost	\$0.74	\$131.58	\$27.83	\$4.28	\$0.20	\$0.29	\$0.36	\$0.01	\$1.11	\$0.00	\$0.00	\$0.00	\$36.63	\$5.96	\$113.60	\$11.90		
4	The unit cost for Zones 6, P, and L will be the same as Zone 5.																	

5.4 Proposed Bi-Monthly Service Charge

5.4.1 BI-MONTHLY SERVICE CHARGE COMPONENTS

The bi-monthly service charge comprises two cost components: capacity and billing, which are described below. This charge recognizes that the City incurs fixed costs related to reading and maintaining meters as well as billing customers. It also collects a portion of capacity costs through the service charge to attain revenue stability.

5.4.2 CAPACITY COMPONENT

The meter service component recovers two types of costs: 1) costs associated with maintaining and servicing meters as well as billing customers, and 2) capacity (also known as peaking) costs. Capacity costs increase as the meter size increases and are proportional to the AWWA hydraulic capacity ratios shown in column D of Table 4-6. The capacity ratios, which are a function of a meter's safe maximum flow rate, are used to increase the capacity component for larger capacity meters – as shown in column D of Table 4-6. The ratios shown in column D are the ratio of potential flow through each meter size compared to the flow through a 3/4-inch meter. The 3/4 -inch meter is the standard size used for single families and is used as the base. Larger meters have the potential to demand more peak capacity. For example, column D of Table 4-6 shows that the hydraulic capacity of a 2-inch meter is 5.33 times that of a 3/4-inch meter and therefore the meter service component is 5.33 times that of the 3/4-inch meter.

Peaking costs are shown as max day and max hour costs in Table 4-5. A portion of capacity (peaking) related costs was allocated to the meter service component so that it can be collected through the fixed bi-monthly charge and allows the City to reach its fixed revenue goals. Allocating a portion of the extra capacity costs by meter size is a common way to pass a portion of the fixed capacity costs of the system on to meters and provides greater revenue stability, especially in light of decreasing revenues during a drought or other reasons for sales declines. Stated in another way – it is quite common to reallocate peaking or capacity costs (max day and max hour) to be collected through the service charge – this is the basis for the reallocation in line 17 of Table 4-5.

5.4.3 BILLING COMPONENT

The billing (customer component) derivation, shown in the bottom portion of Table 5-8, column C, recovers costs associated with meter reading, customer billing and collection, as well as providing customer service. These costs are the same for all meter sizes as it costs the same to bill a small meter as it does a larger meter.

Table 5-8 shows the derivation of these components for the meter sizes included in the rate table by water meter size.

Table 5-8: Bi-monthly Meter and Customer Charge Derivation – Water Meters

	A	B	C	D
Line	Meter Size	Capacity UCOS	Billing UCOS	Proposed Meter Charge
1	5/8"	\$36.63	\$11.90	\$48.53
2	3/4"	\$36.63	\$11.90	\$48.53
3	1"	\$61.05	\$11.90	\$72.95
4	1 1/2"	\$122.10	\$11.90	\$134.00
5	2"	\$195.36	\$11.90	\$207.26
6	3"	\$390.73	\$11.90	\$402.62
7	4"	\$610.51	\$11.90	\$622.41
8	6"	\$1,221.02	\$11.90	\$1,232.92
9	8"	\$1,953.64	\$11.90	\$1,965.54
10	10"	\$2,930.46	\$11.90	\$2,942.35

Table 5-9 shows the fixed charge derived per AU including the capacity cost from column O, Table 5-7.

Table 5-9: Bi-monthly Meter and Customer Charge Derivation – AUs

	A	B	C	D
Line	Meter Size	Capacity UCOS	Billing UCOS	Proposed AU Charge
1	Per AU	\$5.96	\$11.90	\$17.86

5.4.4 TOTAL BI-MONTHLY SERVICE CHARGE FOR ALL METERS

Table 5-10 and Table 5-11 shows the bi-monthly fixed service charge by meter size and by AU, respectively, for the next five fiscal years. Rates for future years are derived by applying the revenue adjustments shown in Table 2-8 to the service charges for FY 2026 shown in Table 5-8.

Table 5-10: Five Year Service Charges – By Meter Size

Line	A Meter Size	B Current	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
1	5/8"	\$ 36.40	\$ 48.53	\$ 60.66	\$ 69.76	\$ 76.73	\$ 84.41
2	3/4"	\$ 40.00	\$ 48.53	\$ 60.66	\$ 69.76	\$ 76.73	\$ 84.41
3	1"	\$ 51.00	\$ 72.95	\$ 91.19	\$ 104.86	\$ 115.35	\$ 126.88
4	1 1/2"	\$ 65.60	\$ 134.00	\$ 167.50	\$ 192.62	\$ 211.89	\$ 233.08
5	2"	\$ 106.00	\$ 207.26	\$ 259.08	\$ 297.94	\$ 327.73	\$ 360.50
6	3"	\$ 400.00	\$ 402.62	\$ 503.28	\$ 578.77	\$ 636.65	\$ 700.32
7	4"	\$ 509.60	\$ 622.41	\$ 778.01	\$ 894.71	\$ 984.18	\$ 1,082.60
8	6"	\$ 764.40	\$ 1,232.92	\$ 1,541.15	\$ 1,772.32	\$ 1,949.56	\$ 2,144.51
9	8"	\$ 1,055.60	\$ 1,965.54	\$ 2,456.92	\$ 2,825.46	\$ 3,108.00	\$ 3,418.80
10	10"	\$ 1,456.00	\$ 2,942.35	\$ 3,677.94	\$ 4,229.63	\$ 4,652.60	\$ 5,117.86

Table 5-11: Five Year Service Charges – Per AU

Line	A All Customers	B Current	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
1	Per AU	\$ 11.20	\$ 17.86	\$ 22.33	\$ 25.67	\$ 28.24	\$ 31.07

5.5 Proposed Fire Line Charges

The calculation of private fire line equivalent units is a critical method employed by water utilities to quantify the capacity reservation and infrastructure burden imposed by dedicated fire suppression connections on private properties. Unlike standard metered services that primarily incur charges based on volumetric consumption, fire lines require significant main capacity and pressure availability regardless of actual water usage. Therefore, equivalent units are typically derived from the nominal diameter of the fire line, often comparing its theoretical flow capacity or cross-sectional area to that of a standard 6-inch line, which is usually assigned one equivalent unit. Larger fire lines, capable of delivering exponentially greater volumes of water during an emergency, are assigned proportionally higher equivalent unit values, reflecting their demand on the utility's transmission and distribution system. This methodology ensures equitable cost recovery for the fixed infrastructure, maintenance, and readiness costs associated with providing robust fire protection services, even for systems that rarely draw water, and is typically governed by local utility ordinances and established engineering standards. Table 5-12 shows the first step in the derivation of private fire charges, which is the derivation of private fire line equivalent units.

Table 5-12: Derivation of Private Fire Line Equivalent Units

Line	A Private Fire Line Size	B Demand Factor	C Count	D Eq. Demand	E Fire Ratio	F Eq. Units
1	5/8"	0.29	1	0.29	0.00	0.00
2	3/4"	0.47	0	0.00	0.00	0.00
3	1"	1.00	1	1.00	0.01	0.01
4	1 1/2"	2.90	0	0.00	0.03	0.00
5	2"	6.19	2	12.38	0.06	0.11
6	3"	17.98	0	0.00	0.16	0.00
7	4"	38.32	29	1111.26	0.34	9.98
8	6"	111.31	82	9127.50	1.00	82.00
9	8"	237.21	58	13757.98	2.13	123.60
10	10"	426.58	3	1279.74	3.83	11.50
11	12"	689.04	0	0.00	6.19	0.00
12	Total All 6" Equiv.		176			227.20

Table 5-13 shows the next step in the derivation of private fire charges. The total amount associated with private fire charges is the addition of the capacity cost-of-service plus the administrative (billing) component of the cost-of-service. The capacity ratios, which are a function of a line's flow capacity, are used to increase the capacity component for different line sizes as shown in the table below using the 6-inch line as the base.

Table 5-13: Calculation of Private Fire Charges

Line	A Fire Line Diameter	B Count	C Fire Ratio (Flow)	D Capacity UCOS	E Billing UCOS	F Proposed Charge
1	5/8"	1	0.00	\$0.30	\$11.90	\$12.19
2	3/4"	0	0.00	\$0.48	\$11.90	\$12.38
3	1"	1	0.01	\$1.02	\$11.90	\$12.92
4	1 1/2"	0	0.03	\$2.96	\$11.90	\$14.86
5	2"	2	0.06	\$6.32	\$11.90	\$18.21
6	3"	0	0.16	\$18.35	\$11.90	\$30.25
7	4"	29	0.34	\$39.11	\$11.90	\$51.00
8	6"	82	1.00	\$113.60	\$11.90	\$125.49
9	8"	58	2.13	\$242.08	\$11.90	\$253.98
10	10"	3	3.83	\$435.34	\$11.90	\$447.24
11	12"	0	6.19	\$703.20	\$11.90	\$715.10

Rates will increase in subsequent years by the adjustments shown in Table 2-8 in the same manner as the meter charges. Table 5-14 provides a summary of the bi-monthly fixed fire line charges over the five-year study implementation period.

Table 5-14: Bi-Monthly Fixed Fire Line Charges

Line	A Meter Size	B Current	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
1	5/8"	\$ -	\$ 12.19	\$ 15.24	\$ 17.53	\$ 19.28	\$ 21.21
2	3/4"	\$ -	\$ 12.38	\$ 15.47	\$ 17.79	\$ 19.57	\$ 21.53
3	1"	\$ -	\$ 12.92	\$ 16.15	\$ 18.57	\$ 20.43	\$ 22.47
4	1 1/2"	\$ -	\$ 14.86	\$ 18.58	\$ 21.36	\$ 23.50	\$ 25.85
5	2"	\$ 46.60	\$ 18.21	\$ 22.77	\$ 26.18	\$ 28.80	\$ 31.68
6	3"	\$ 65.30	\$ 30.25	\$ 37.81	\$ 43.48	\$ 47.83	\$ 52.61
7	4"	\$ 102.60	\$ 51.00	\$ 63.75	\$ 73.32	\$ 80.65	\$ 88.71
8	6"	\$ 130.66	\$ 125.49	\$ 156.87	\$ 180.40	\$ 198.44	\$ 218.28
9	8"	\$ 167.70	\$ 253.98	\$ 317.47	\$ 365.09	\$ 401.60	\$ 441.76
10	10"	\$ 205.10	\$ 447.24	\$ 559.05	\$ 642.91	\$ 707.20	\$ 777.92

5.6 Volumetric Rates

5.6.1 TOTAL VOLUMETRIC REVENUE

Table 5-5, Column B, shows the total amount of revenue the volumetric rates are designed to collect. The next step is to derive each component of the volumetric rate for each class.

5.6.2 CUSTOMER CLASSES

The City decided to keep the existing customer classes unchanged from the existing water rate structure.

5.6.3 PRESSURE ZONES

The City proposes to keep the same pressure zone classifications unchanged from the existing rate structure.

5.6.4 VOLUMETRIC RATE DERIVATION

The total volumetric rate is the summation of unit rates for each cost component: Supply, Delivery, Peaking (Max day and hour) and Pumping. Each unit rate will be derived and added together to get the total volumetric rate for each zone. Each cost component is defined below.

5.6.5 COST COMPONENT DEFINITIONS

The commodity rates for each class and tier are derived by summing the unit rates (\$/KGALs) for:

1. Water Supply
2. Delivery
3. Peaking
4. Pumping

Water Supply costs are costs associated with obtaining and treating water to make it ready for delivery from each City source:

1. Local water
2. Imported water from Metropolitan Water District through Three Valley Municipal Water District.

Delivery costs are the operating and capital costs associated with delivering water to all customers through the distribution system (pipelines and storage reservoirs) at a constant average rate of use – also known as serving customers under average daily demand conditions. Therefore, delivery costs are spread over all units of water which results in an equal delivery unit cost for all classes and tiers.

Peaking costs, or extra-capacity costs, represent costs incurred to meet customer peak demands in- excess of base use (or in excess of average daily demand). Peaking costs are the sum of the maximum day and maximum hour costs. Some of the peaking costs are collected through the service charge and the remainder through the volumetric rate. The amounts collected through each charge are shown in Table 4-5 shows the max day and max hour amounts that are reallocated to the meter component – so that they can be collected through the service charge. For the portion of peaking costs collected through the volumetric rate, peaking costs are distributed to each tier and class using peaking factors derived from customer use data – discussed later in this section. For the portion of peaking costs collected through the fixed charge, AWWA hydraulic capacity factors are used to distribute peaking costs to the various meter sizes.

Pumping costs represent a significant operational expense for water utility systems, primarily driven by the electricity required to operate pumps that move water from its source, through treatment, into storage tanks, and finally through distribution mains to customer taps, often against gravity or over long distances to maintain adequate pressure and flow. Beyond electricity, these costs also include maintenance, repair, and eventual replacement of pumping equipment. To recover these essential expenditures, pumping costs are integrated into the overall cost structure that determines customer water rates.

5.6.6 DERIVATION OF THE UNIT COST BY COST COMPONENT

Table 5-15 shows volumetric cost of service as calculated by customer class and pressure zone.

Table 5-15: Volumetric Cost of Service by Customer Class and Pressure Zone

Line	A Customer Class	B Zone 1	C Zone 2	D Zone 3	E Zone 4	F Zone 5	G Zone 6	H Zone P	I Zone L	J Total
1	Residential	\$5,353,455	\$183,727	\$125,187	\$2,737	\$53,112	\$0	\$0	\$0	\$5,718,218
2	Institutional	\$1,468,934	\$38,184	\$40,706	\$1,283	\$107,885	\$0	\$0	\$0	\$1,656,990
3	Commercial	\$974,647	\$13,627	\$1,538	\$0	\$0	\$0	\$0	\$0	\$989,812
4	Industrial	\$192,125	\$56	\$0	\$0	\$0	\$0	\$0	\$0	\$192,181
5	Lifeline	\$41,482	\$1,063	\$343	\$4	\$0	\$0	\$0	\$0	\$42,892
6	Multi-Family	\$1,673,826	\$50,354	\$23,793	\$767	\$39,490	\$0	\$0	\$0	\$1,788,229
7	Agriculture	\$31,112	\$74	\$91	\$0	\$0	\$0	\$0	\$0	\$31,277
8	Private Fire	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
9	Total COS	\$9,735,580	\$287,085	\$191,658	\$4,790	\$200,486	\$0	\$0	\$0	\$10,419,598

Table 5-16 shows the projected water demand (kgals) by customer class and pressure zone.

Table 5-16: Water Demand (KGALs) by Zone and Class

Line	A Customer Class	B Zone 1	C Zone 2	D Zone 3	E Zone 4	F Zone 5	G Zone 6	H Zone P	I Zone L
1	Residential	938,990	633,423	349,355	236,887	48,003	1,271	1,271	249
2	Institutional	263,912	131,643	113,596	111,020	97,507	97,205	97,205	0
3	Commercial	168,001	46,980	4,293	0	0	0	0	0
4	Industrial	30,801	194	0	0	0	0	0	0
5	Lifeline	7,539	3,665	956	327	0	0	0	0
6	Multi-Family	301,897	173,601	66,397	66,397	35,691	25,353	25,353	0
7	Agriculture	4,873	255	255	0	0	0	0	0
8	Private Fire	0	0	0	0	0	0	0	0
9	Total Demand	1,716,013	989,761	534,852	414,631	181,201	123,829	123,829	249

Table 5-17 shows the derivation of the volumetric rates by zone and customer class. Volumetric rates for each pressure zone were calculated by dividing the cost of service for each pressure zone by the projected water demand in each pressure zone. The calculated differentials for each zone add to the next lower zone with Zone 1 being the base zone and Zone 5 and beyond being the highest zones. The final volumetric rate for each zone is calculated by added the average rate for Zone 1 (\$5.67 in Column B, Line 9) to the cost average cost differential calculated for each zone (Line 10), as shown in the table below.

Table 5-17: Derivation of Volumetric Rates by Zone and Class

Line	A Customer Class	B Zone 1	C Zone 2	D Zone 3	E Zone 4	F Zone 5	G Zone 6	H Zone P	I Zone L
1	Residential	\$5.70	\$0.29	\$0.36	\$0.01	\$1.11	\$0.00	\$0.00	\$0.00
2	Institutional	\$5.57	\$0.29	\$0.36	\$0.01	\$1.11	\$0.00	\$0.00	\$0.00
3	Commercial	\$5.80	\$0.29	\$0.36	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
4	Industrial	\$6.24	\$0.29	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
5	Lifeline	\$5.50	\$0.29	\$0.36	\$0.01	\$0.00	\$0.00	\$0.00	\$0.00
6	Multi-Family	\$5.54	\$0.29	\$0.36	\$0.01	\$1.11	\$0.00	\$0.00	\$0.00
7	Agriculture	\$6.38	\$0.29	\$0.36	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
8	Private Fire	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
9	Average \$/kgal	\$5.67	\$0.29	\$0.36	\$0.01	\$1.11	\$0.00	\$0.00	\$0.00
10			\$5.96	\$6.32	\$6.33	\$7.44	\$7.44	\$7.44	\$7.44

The City has decided to use the average rates for all classes so that they all pay the same average rate.

5.6.7 5-YEAR VOLUMETRIC RATES

Table 5-18 shows the proposed five-year volumetric rates by escalating the volumetric rates derived in Table 5-15 by the proposed revenue adjustments shown in Table 2-8. Customer bill impacts are discussed in Section 6.

Table 5-18: Five-Year Volumetric Rates

Line	A Customer Class	B Current	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
1	Z1	\$ 3.92	\$ 5.67	\$ 7.09	\$ 8.16	\$ 8.97	\$ 9.87
2	Z2	\$ 4.02	\$ 5.96	\$ 7.45	\$ 8.57	\$ 9.43	\$ 10.37
3	Z3	\$ 4.21	\$ 6.32	\$ 7.90	\$ 9.09	\$ 10.00	\$ 11.00
4	Z4	\$ 4.42	\$ 6.33	\$ 7.92	\$ 9.10	\$ 10.01	\$ 11.02
5	Z5	\$ 4.53	\$ 7.44	\$ 9.30	\$ 10.69	\$ 11.76	\$ 12.94
6	Z6	\$ 4.77	\$ 7.44	\$ 9.30	\$ 10.69	\$ 11.76	\$ 12.94
7	ZP	\$ 5.37	\$ 7.44	\$ 9.30	\$ 10.69	\$ 11.76	\$ 12.94
8	ZL	\$ 2.74	\$ 7.44	\$ 9.30	\$ 10.69	\$ 11.76	\$ 12.94

5.6.8 LARGEST 10% OF USERS

Recent regulatory changes detailed in AB 755 passed in 2023 and codified in Water Code, §§ 390 & 390.1 require us to identify the costs to serve the largest 10 percent of the users in the City. Proposition 218 requires rates that allocate costs of service proportionately, not special rates for the top 10% of consumers regardless of other factors.

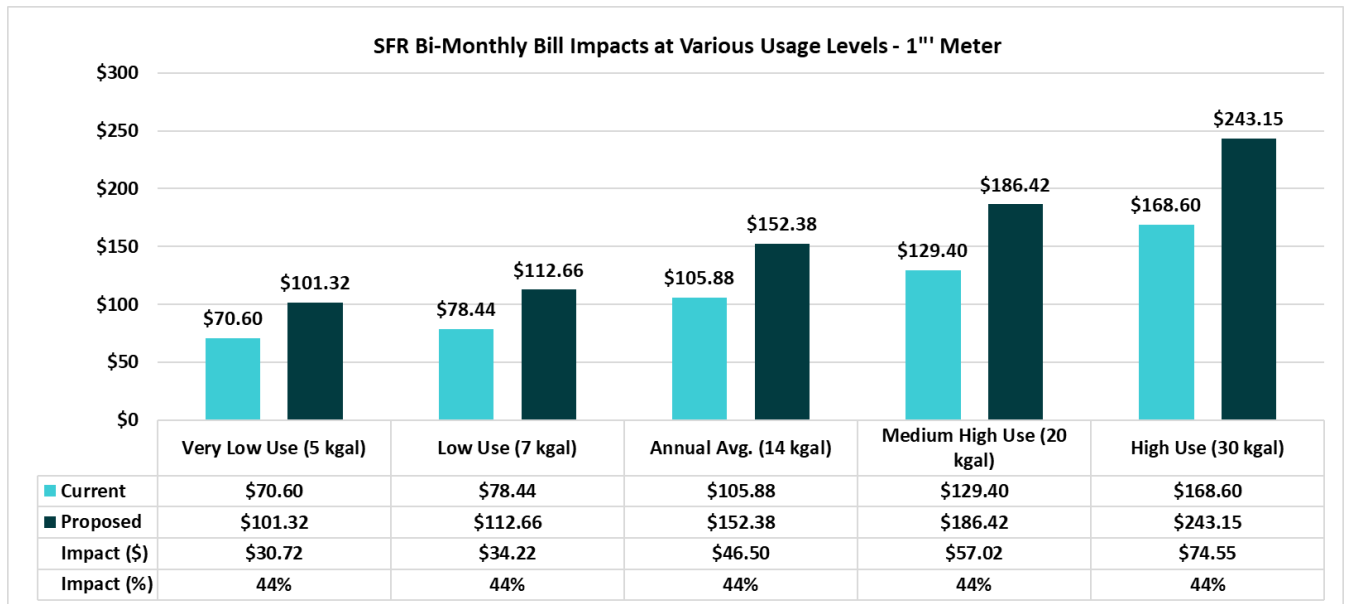
In FY 2024, the City had 8,292 accounts; the top 10% of users represent 829 accounts and approximately 50.0% of total annual water use. These large users are primarily non-residential accounts. As detailed previously in the report, the City sells water from both local sources and purchased water. All users within the City pay a uniform volumetric rate for water consumption based on their respective pressure zone. Based on the uniform rate structure, it is our professional judgement that the existing rate structure is an efficient and fair way to allocate the City’s costs among those who create those costs. All water customers in the City’s system pay rates that allocate costs of service proportionately to the amount of water usage by the customer.

6. Bill Impacts

6.1 Bi-monthly Single Family Residential Bill Impacts

Table 6-1 shows the single family residential (SFR) customer bill impacts for various consumption levels assuming a 1-inch meter, which is the most common meter size for SFR customers.

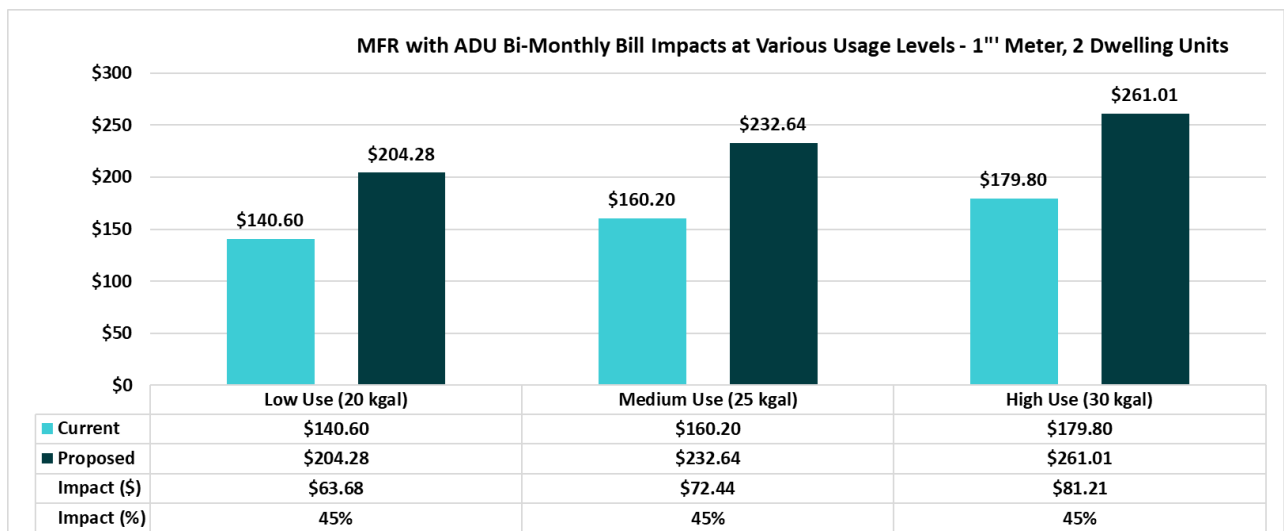
Table 6-1: Single Family Residential Bi-monthly Bill Impacts



6.2 Multi-family Bill Impacts

Table 6-2 shows multi-family residential (MFR) customer (with two dwelling units) bill impacts for various consumption levels, assuming a 1-inch meter, which is the most common meter size for this class.

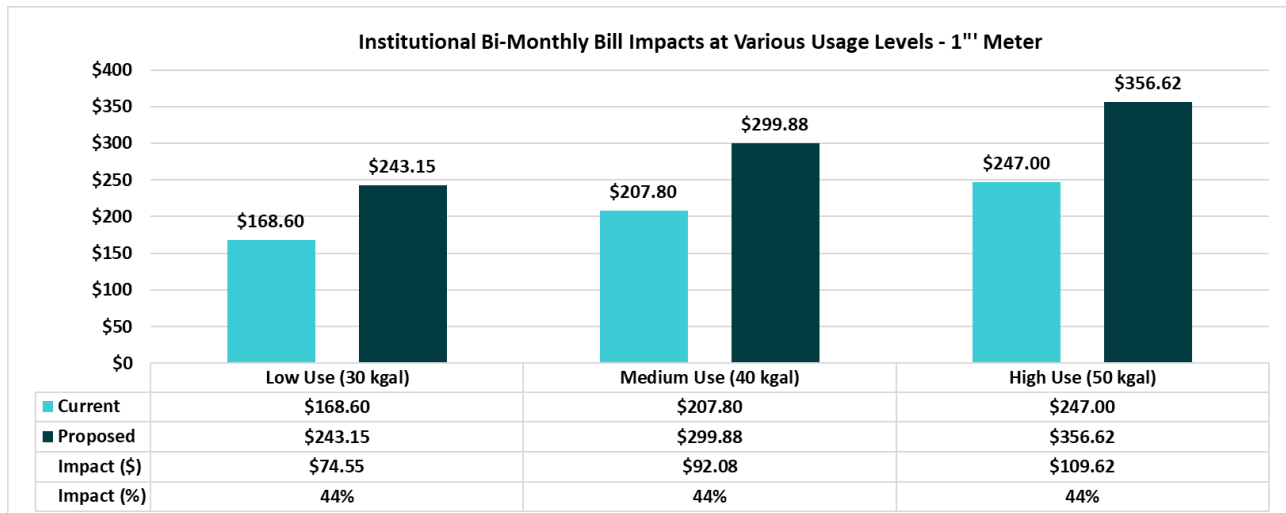
Table 6-2: Multi-family Residential Bi-monthly Bill Impacts



6.3 Institutional

Table 6-3 shows the institutional customer bill impacts for various use points and assuming a 1-inch meter, which is the most common meter size for this class.

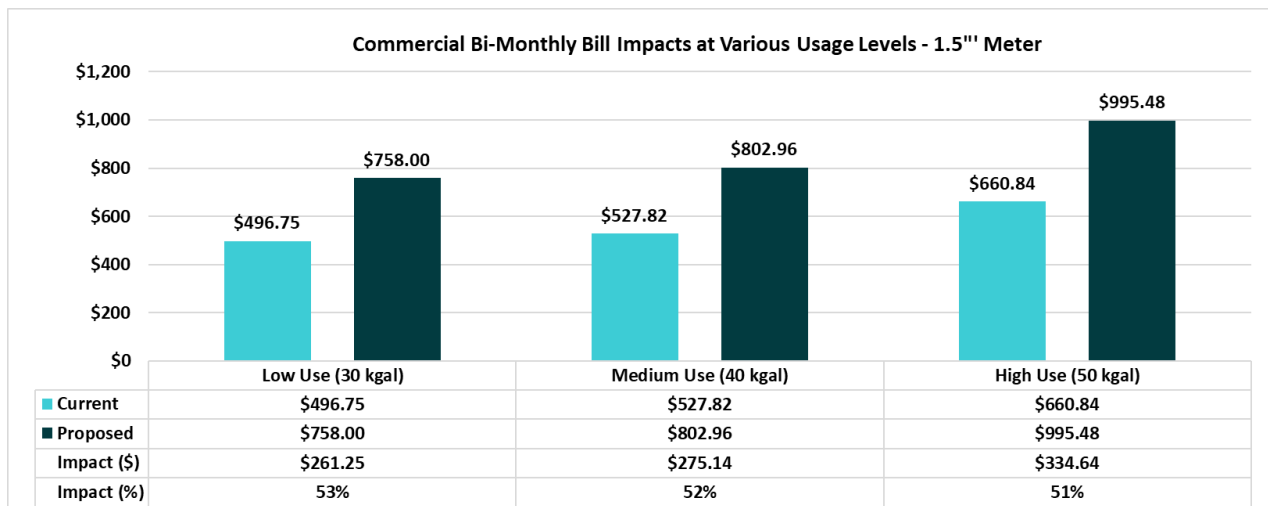
Table 6-3: Institutional Bi-monthly Bill Impacts



6.4 Commercial

Table 6-4 shows the commercial customer bill impacts assuming a 1.5-inch meter, which is the most common meter size for this class.

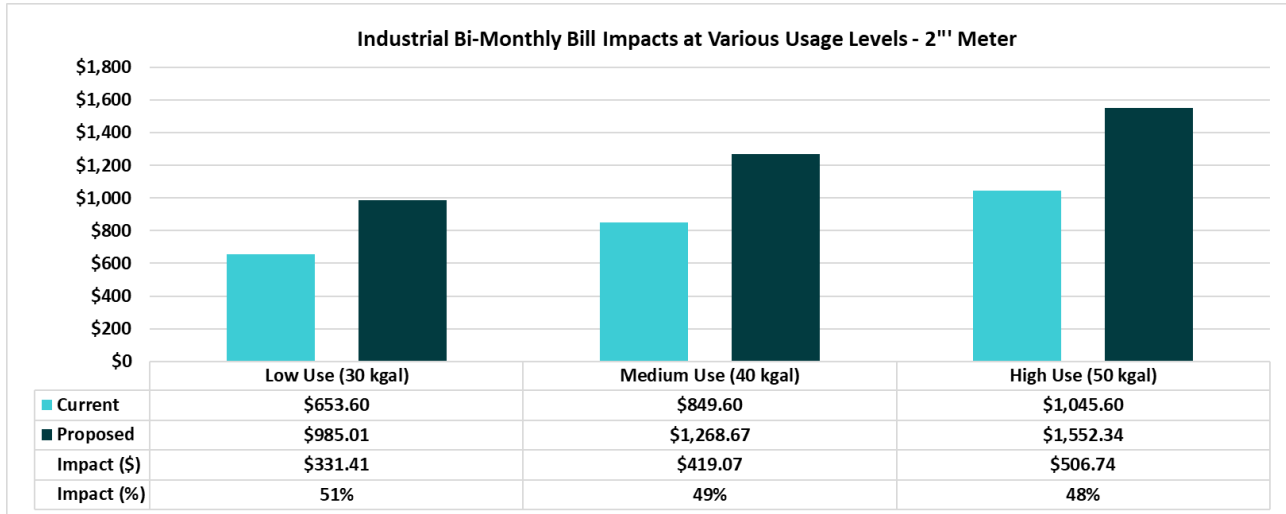
Table 6-4: Commercial Bi-monthly Bill Impacts



6.5 Industrial

Table 6-5 shows the industrial customer bill impacts assuming a 2-inch meter, which is the most common meter size for this class.

Table 6-5: Industrial Bi-monthly Bill Impacts



7. Wastewater

The City of La Verne is responsible for both the operation and maintenance of an extensive wastewater collection and conveyance system. The City of La Verne’s wastewater collection system, managed by its Wastewater Division, consists of approximately 97 miles of gravity wastewater lines, four lift stations, and 2,000 manholes. Wastewater collected by this system from residential, commercial, and industrial properties within La Verne is conveyed to the Los Angeles County Sanitation District (LACSD) treatment plants for treatment and disposal, with the City operating under the jurisdiction of the LACSD for these processes. LACSD bills customers directly for treatment costs.

Raftelis analyzed existing operating wastewater revenues, O&M and capital expenses, and reserve requirements for the wastewater enterprise. This section discusses projected revenues, O&M expenses, reserve funding and the revenue adjustments needed to ensure the fiscal sustainability of the Wastewater Enterprise.

7.1 Current Wastewater Rates

Table 7-1 shows current wastewater rates, which have remained unchanged since 2019. The City’s current wastewater rates include a fixed charge (for all customers) and a volumetric rate (for non-residential customers). The volumetric rate is based on water consumed through the water meter connection. Raftelis proposes no major changes to the wastewater rate structure.

Table 7-1: Current Wastewater Service Charges

A	B
Customer Class	Bi-Monthly Fixed Charge
All Customers	\$23.43

A	B
Customer Class	Volumetric Charge (\$/kgal)
Institutional	\$0.20
Commercial	\$0.20
Manufacturing	\$0.20

Table 7-2 shows the projected number of wastewater accounts for each customer class and the wastewater flow in thousand gallons (kgals) for each non-residential customer class over the study period.

Table 7-2: Wastewater Accounts and Wastewater Use in Thousand Gallons (kgals)

Line	A Customer Accounts	B 2024	C 2025	D 2026	E 2027	F 2028	G 2029	H 2030
1	Residential	7,186	7,211	7,236	7,261	7,286	7,311	7,336
2	Institutional	113	113	113	113	113	113	113
3	Commercial	253	253	253	253	253	253	253
4	Industrial	88	88	88	88	88	88	88
5	Lifeline	0	0	0	0	0	0	0
6	Multi-Family	269	269	270	271	272	273	274
7	Agricultural	0	0	0	0	0	0	0
8	Total - Accounts	7,908	7,934	7,959	7,985	8,011	8,037	8,063

Line	A Customer Effluent Flow (kgals)	B 2024	C 2025	D 2026	E 2027	F 2028	G 2029	H 2030
1	Institutional	263,912	263,912	263,912	263,912	263,912	263,912	263,912
2	Commercial	168,001	168,001	168,001	168,001	168,001	168,001	168,001
3	Industrial	30,801	30,801	30,801	30,801	30,801	30,801	30,801
4	Total - Customer Effluent Flow (kgals)	462,714	462,714	462,714	462,714	462,714	462,714	462,714

Raftelis estimated current wastewater rate revenue by multiplying the current rates by the number of accounts and customer effluent flow (water consumed through the meter was utilized as a proxy for effluent flow) for each fiscal year. The result is shown in Table 7-3. This is the projected amount of revenue if the City does not adjust wastewater rates. Small increases in revenue result from growth.

Table 7-3: Projected Wastewater Revenue

Line	A Calculated Revenues	B FY 2026	C FY 2027	D FY 2028	E FY 2029	F FY 2030
1	Fixed Charge Revenue					
2	Residential	\$1,036,006	\$1,039,575	\$1,043,156	\$1,046,749	\$1,050,355
3	Institutional	\$98,547	\$98,547	\$98,547	\$98,547	\$98,547
4	Commercial	\$79,006	\$79,006	\$79,006	\$79,006	\$79,006
5	Industrial	\$22,774	\$22,774	\$22,774	\$22,774	\$22,774
6	Lifeline	\$0	\$0	\$0	\$0	\$0
7	Multi-Family	\$521,188	\$522,983	\$524,785	\$526,592	\$528,406
8	Agricultural	\$0	\$0	\$0	\$0	\$0
9	Subtotal - Fixed Charge Revenue	\$1,757,520	\$1,762,884	\$1,768,267	\$1,773,668	\$1,779,087
10						
11	Variable Rate Revenue					
12	Institutional	\$52,782	\$52,782	\$52,782	\$52,782	\$52,782
13	Commercial	\$33,600	\$33,600	\$33,600	\$33,600	\$33,600
14	Industrial	\$6,160	\$6,160	\$6,160	\$6,160	\$6,160
15	Subtotal - Variable Rate Revenue	\$92,543	\$92,543	\$92,543	\$92,543	\$92,543
16						
17	Total - Rate Revenue	\$1,850,063	\$1,855,427	\$1,860,809	\$1,866,211	\$1,871,630

7.2 Wastewater O&M Expenses

Raftelis projected wastewater O&M expenses by applying the inflation factors shown in Table 2-4 to the FY 2025 O&M budget. Table 7-4 summarizes the budgeted and projected O&M expenses during the Study period.

Table 7-4: Projected Escalation Factors and Wastewater O&M Expenses

	A	B	C	D	E	F
Line	Escalation Factors	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	Expense Inflation					
2	General	3.0%	3.0%	3.0%	3.0%	3.0%
3	Salary	5.0%	5.0%	5.0%	5.0%	5.0%
4	Benefits	7.0%	7.0%	7.0%	7.0%	7.0%
5	Utilities	7.5%	7.5%	7.5%	7.5%	7.5%
6	Capital	4.5%	4.5%	4.5%	4.5%	4.5%

	A	B	C	D	E	F	G
Line	Operating Expenses	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	Sewer Administration	\$737,761	\$767,099	\$797,754	\$829,793	\$863,287	\$898,309
2	Sewer System Maintenance	\$922,488	\$967,031	\$1,013,947	\$1,063,372	\$1,115,451	\$1,170,339
3	Transfers	\$156,763	\$161,466	\$166,310	\$171,299	\$176,438	\$181,731
4	Total - O&M Expenses	\$1,817,012	\$1,895,596	\$1,978,011	\$2,064,464	\$2,155,176	\$2,250,379

7.3 Projected Capital Improvement Program

The City’s capital improvement program (CIP) through the end of the Study period, as adjusted for inflation, is shown in Table 7-5. The proposed capital improvement program will be funded through rates (PayGo) and is the primary driver for the proposed revenue adjustments. The current plan is to avoid taking on any additional debt to fund the City’s capital improvement program.

Table 7-5: Wastewater Capital Improvement Projects

	A	B	C	D	E	F	G
Line	Capital Projects	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	Sewer Capital Improvement - Fund 531						
2	Purchase: Colina De Oro Lift Station - portable backup generators	\$0	\$93,600	\$0	\$0	\$0	\$0
3	Pipeline Rehabilitation: Bunnelle Avenue	\$0	\$134,446	\$145,417	\$0	\$0	\$0
4	Pipeline Rehabilitation: Golden Hills Road	\$0	\$168,780	\$182,552	\$0	\$0	\$0
5	Pipeline Rehabilitation: Wheeler Avenue	\$0	\$159,166	\$172,154	\$0	\$0	\$0
6	Sewerline Rehabilitation	\$0	\$234,000	\$0	\$0	\$0	\$0
7	Manhole/Cleanout Rehabilitation (10% Over 15 years - 16.86/year)	\$0	\$0	\$522,291	\$543,182	\$564,910	\$587,506
8	Sewer Relining (2.25 miles/year)	\$0	\$0	\$0	\$2,157,100	\$2,283,384	\$2,414,719
9	Purchase: Franklin - portable backup generator	\$0	\$0	\$0	\$0	\$105,287	\$0
10	CONSTRUCTION CONTRACTS	\$150,000	\$0	\$0	\$0	\$0	\$0
11	SURVEILLANCE EQUIPMENT	\$75,000	\$0	\$0	\$0	\$0	\$0
12	Subtotal - Sewer Capital Improvement - Fund 531	\$225,000	\$789,992	\$1,022,414	\$2,700,282	\$2,953,581	\$3,002,225
13							
14	Total - Capital Projects	\$225,000	\$789,992	\$1,022,414	\$2,700,282	\$2,953,581	\$3,002,225

7.4 Proposed Financial Plan

To ensure that the Wastewater Enterprise has adequate revenues to fund operating and capital expenditures, as well as funds for sufficient reserves, Raftelis and City Staff recommend the revenue adjustments shown in Table 7-6. The City has been postponing many much-needed capital improvement projects and funding these projects is a primary driver of the rate revenue adjustments. The first revenue

adjustments are assumed to take effect in January of FY 2026, with subsequent revenue adjustments occurring in July of each year.

Table 7-6: Proposed Wastewater Revenue Adjustments

	A	B	C	D	E	F
Line	Revenue Adjustments	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	Effective Year	2026	2026	2027	2028	2029
2	Effective Month	January	July	July	July	July
3	% Adjustment	15%	15%	15%	15%	15%

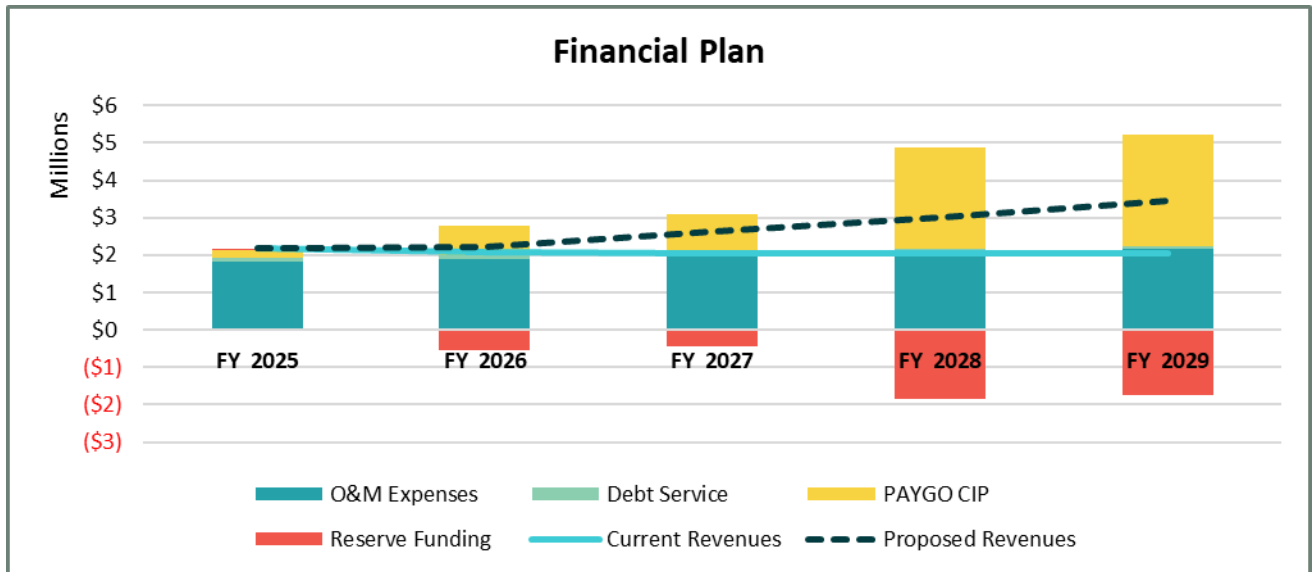
Table 7-7 shows the cash flow projection with the proposed revenue adjustments from Table 7-6. The proposed financial plan meets the City’s financial needs by meeting long-term reserve goals. As indicated by the negative net cash flow, the City plans to use fund balances to minimize customer impacts.

Table 7-7: Wastewater Enterprise Proposed Financial Plan Pro-Forma

Line	A Financial Plan	B FY 2025	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
1	Revenues						
2	Service Charges Subtotal	\$1,844,717	\$1,850,063	\$1,855,427	\$1,860,809	\$1,866,211	\$1,871,630
3	Revenue Adjustments	\$0	\$138,755	\$598,375	\$969,249	\$1,397,803	\$1,892,887
4	Total Non-Rate Revenue	\$322,978	\$241,874	\$193,147	\$182,002	\$180,493	\$184,440
5	Total Non-Rate Revenue	\$2,167,695	\$2,230,691	\$2,646,949	\$3,012,061	\$3,444,507	\$3,948,957
6							
7	O&M Expenses						
8	Sewer Administration	\$737,761	\$767,099	\$797,754	\$829,793	\$863,287	\$898,309
9	Sewer System Maintenance	\$922,488	\$967,031	\$1,013,947	\$1,063,372	\$1,115,451	\$1,170,339
10	Transfers	\$156,763	\$161,466	\$166,310	\$171,299	\$176,438	\$181,731
11	Total - O&M Expenses	\$1,817,012	\$1,895,596	\$1,978,011	\$2,064,464	\$2,155,176	\$2,250,379
12							
13	Net Revenue	\$350,683	\$335,095	\$668,938	\$947,597	\$1,289,331	\$1,698,578
14							
15	Existing Debt Service	\$95,613	\$95,627	\$95,685	\$95,649	\$95,671	\$95,715
16							
17	Cash Funded CIP	\$225,000	\$789,992	\$1,022,414	\$2,700,282	\$2,953,581	\$3,002,225
18							
19	Net Cash Flow	\$255,070	\$239,469	\$573,254	\$851,948	\$1,193,659	\$1,602,863
20							
21	Total Beginning Balance	\$14,998,463	\$8,140,111	\$3,589,587	\$3,140,427	\$2,384,118	\$2,906,528
22	Total Ending Balance	8,140,111.00	3,589,587.32	3,140,427.07	2,384,117.65	2,906,528.13	3,892,203.89
23							
24	Combined Target	\$1,345,536	\$1,595,686	\$1,804,509	\$1,858,109	\$1,646,393	\$1,361,820
25	<i>Variance from Target</i>	<i>\$6,794,575</i>	<i>\$1,993,901</i>	<i>\$1,335,918</i>	<i>\$526,008</i>	<i>\$1,260,135</i>	<i>\$2,530,384</i>

Figure 7-1 shows the financial plan in a graphical format. Status Quo revenue is shown by the teal line. Projected revenue is shown by the dashed line. Annual expenditures are shown by the columns. Red bars above the X-axis show the net cash to build up the reserves and red bars below the X-axis show withdrawals from reserves to fund costs.

Figure 7-1: Proposed Wastewater Operating Financial Plan



Additionally, wastewater utilities maintain reserve targets for both Operations and Capital to ensure financial resilience, continuous service, and environmental compliance.

Operational reserves are vital for meeting working capital requirements, addressing unforeseen daily challenges such as emergency repairs to collection systems (e.g., blockages, force main breaks, pump station failures), unexpected increases in chemical or energy costs, or revenue fluctuations. These reserves enable prompt responses preventing service interruptions while avoiding sudden, reactive rate increases.

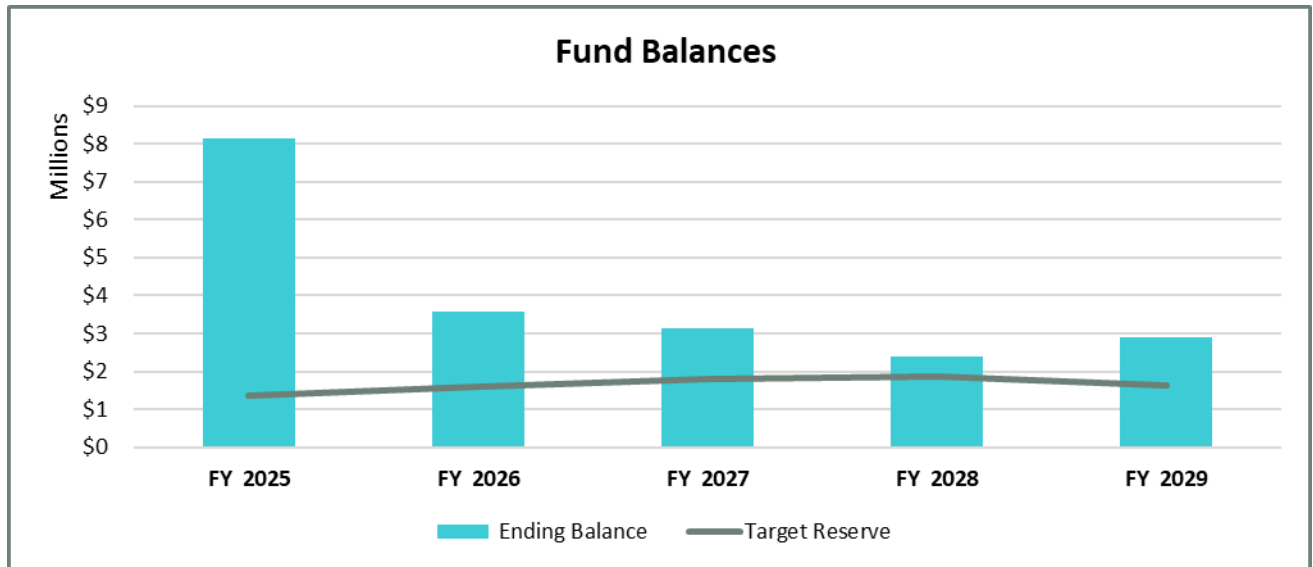
Capital reserves, on the other hand, are essential for funding CIP, funding major, often unpredictable, infrastructure failures like collection component failures, accelerating scheduled replacements due to premature wear, or responding to new, more stringent regulatory mandates. This ensures the utility can maintain long-term asset integrity and meet its environmental obligations without incurring excessive debt or imposing large, abrupt rate surcharges on customers.

The City has the following reserve targets for the wastewater utility:

- **Operations:** 90 days (or 3 months) of Operations and Maintenance expenses, which is in alignment with most municipal sewer agencies. Maintaining financial resilience is the core function of an operating reserve. This target minimum reserve addresses short-term volatility in revenue streams and operational costs, and furthermore, provides a safeguard against adverse trends in receivables, particularly when facing economic challenges.
- **Capital:** 50% of annual capital expenditures. As the City has significant planned capital investments over the study horizon, this target minimum reserve is intended to be a cash resource set aside to address capital system replacement and rehabilitation needs of the system.

Figure 7-2 displays the City’s Fund Balances compared to the Overall Target Reserve Balances for the wastewater utility in a graphical format over the five-year rate implementation period.

Figure 7-2: Wastewater Projected Fund Balances vs. Overall Target Reserve Balances



8. Wastewater Enterprise Cost of Service and Rate Derivation

8.1 Wastewater Cost of Service Analysis

This section discusses the allocation of O&M expenses and capital costs to the wastewater cost components, which is simplified for the City since it operates as a wastewater collection agency and does not operate a wastewater treatment plant. The City collects sewage and sends it to the LACSD treatment plant. LACSD bills customers separately for treatment. Therefore, the City’s cost components consist of Flow, Customer and General components. As discussed in Section 8.1, the City’s rate structure consists of a bi-monthly wastewater service charge and a volumetric rate based on wastewater use for non-residential customers. The City requested to maintain the existing rate structure for sewer service charges.

8.1.1 COST ALLOCATION TO COST COMPONENTS

Table 8-1 shows the percentage allocation of the City’s O&M, capital, and non-rate revenue budgets to the cost components. The total allocation to each cost component is highlighted in bold in the table. The final percentage allocation is used to allocate the wastewater revenue requirement to the cost components. Since the City provides a collection-only system, there are no treatment costs (BOD, TSS) or conveyance to LACSD costs allocated to these categories.

Table 8-1: Allocating O&M and Capital Costs to Cost Causation Components

Line	A Budget Category	B FY 2026	C Treatment	D Collection	E Conveyance	F Lift Stations	G Customer Service & Meter Reading	H Admin & General	I Total
1	Total - Sewer Administration	\$767,099	0%	0%	0%	0%	5%	95%	100%
2	Total - Sewer System Maintenance	\$967,031	0%	71%	0%	19%	0%	10%	100%
3	Total - Transfers	\$161,466	0%	0%	0%	0%	0%	100%	100%
4	Total Operating Expenses	\$1,895,596	0%	36%	0%	10%	2%	52%	100%
5									
6	Total Capital Revenue Requirement	\$95,627	0%	75%	0%	24%	0%	0%	100%
7									
8	Total Non-Rate Revenues	\$241,874	0%	55%	0%	17%	1%	27%	100%

Line	A Cost Causation Components	B Flow	C BOD	D TSS	E Customer Service & Meter Reading	F Admin & General	G Total
1	Treatment	0%	50%	50%	0%	0%	100%
2	Collection	100%	0%	0%	0%	0%	100%
3	Conveyance	100%	0%	0%	0%	0%	100%
4	Lift Stations	100%	0%	0%	0%	0%	100%
5	Customer Service & Meter Reading	0%	0%	0%	100%	0%	100%
6	Admin & General	0%	0%	0%	0%	100%	100%

Table 8-2 shows the allocation of wastewater O&M, capital and non-rate revenues to the cost components. This allocation is used to allocate the City’s budgets to each cost component. The resulting cost component allocations

totals for each category are shown in the table. Since the City provides a collection-only system, there are no treatment costs (BOD, TSS) or conveyance costs allocated to these categories.

Table 8-2: Allocating to Cost Components

Line	A Allocation	B Flow	C BOD	D TSS	E Customer Service & Meter Reading	F Admin & General	G Total
1	O&M Allocation						
2	Treatment		\$0	\$0	\$0	\$0	\$0
3	Collection	\$682,094	\$0	\$0	\$0	\$0	\$682,094
4	Conveyance	\$0	\$0	\$0	\$0	\$0	\$0
5	Lift Stations	\$188,233	\$0	\$0	\$0	\$0	\$188,233
6	Customer Service & Meter Reading	\$0	\$0	\$0	\$38,355	\$0	\$38,355
7	Admin & General	\$0	\$0	\$0	\$0	\$986,913	\$986,913
8	Total - O&M Allocation	\$870,328	\$0	\$0	\$38,355	\$986,913	\$1,895,596
9							
10	Capital Allocation						
11	Treatment	\$0	\$0	\$0	\$0	\$0	\$0
12	Collection	\$72,136	\$0	\$0	\$0	\$0	\$72,136
13	Conveyance	\$0	\$0	\$0	\$0	\$0	\$0
14	Lift Stations	\$23,395	\$0	\$0	\$0	\$0	\$23,395
15	Customer Service & Meter Reading	\$0	\$0	\$0	\$0	\$0	\$0
16	Admin & General	\$0	\$0	\$0	\$0	\$96	\$96
17	Total - Capital Allocation	\$95,531	\$0	\$0	\$0	\$96	\$95,627
18							
19	Non-Rate Revenue Allocation						
20	Treatment	\$0	\$0	\$0	\$0	\$0	\$0
21	Collection	\$132,851	\$0	\$0	\$0	\$0	\$132,851
22	Conveyance	\$0	\$0	\$0	\$0	\$0	\$0
23	Lift Stations	\$40,899	\$0	\$0	\$0	\$0	\$40,899
24	Customer Service & Meter Reading	\$0	\$0	\$0	\$2,544	\$0	\$2,544
25	Admin & General	\$0	\$0	\$0	\$0	\$65,580	\$65,580
26	Total - Non-Rate Revenue Allocation	\$173,750	\$0	\$0	\$2,544	\$65,580	\$241,874

8.1.2 REVENUE REQUIREMENT DETERMINATION

The revenue required from rates is the amount of revenue required to fund all wastewater expenses in the test year (FY 2026). The utility must generate annual revenues adequate to meet its estimated annual O&M expenses, reserve targets, debt service and capital investment. Table 8-3 shows the derivation of the revenue requirement for FY 2026.

The total wastewater revenue requirement includes O&M, debt service and capital expenses shown in the upper portion of the table. Revenue from other sources is subtracted from this total and several other adjustments are made to ensure the adequate revenue collection. A revenue adjustment is made to account for the fact that the proposed rate increase takes place midway through the fiscal year. The final revenue requirements by cost causation component are then utilized to calculate the unit rate (\$/kgal) for volumetric costs (Line 17) as well as the unit rate (\$/account bill) for fixed costs (Line 18) for the wastewater utility.

Table 8-3: Wastewater Enterprise Revenue Requirement for FY 2026

Line	A Revenue Requirement	B Flow	C Customer Service & Meter Reading	D Admin & General	E Total
1	O&M Revenue Requirement	\$870,328	\$38,355	\$986,913	\$1,895,596
2	Capital Revenue Requirement	\$95,531	\$0	\$96	\$95,627
3	Revenue Offsets	(\$173,750)	(\$2,544)	(\$65,580)	(\$241,874)
4	Revenue Requirement Before Adjustment	\$792,109	\$35,811	\$921,429	\$1,749,349
5					
6	Allocation of Change in Cash	\$239,229	\$0	\$240	\$239,469
7	Adjustment for Mid-Year Increase	\$63,707	\$2,808	\$72,241	\$138,755
8	Net Revenue Requirement After Adjustment	\$1,095,045	\$38,618	\$993,909	\$2,127,572
9					
10	Allocation of General Costs	\$0	\$993,909	(\$993,909)	\$2,127,572
11	Revenue Requirement After Allocation of General Costs	\$1,095,045	\$1,032,527	\$0	\$2,127,572
12					
13	Variable to Fixed Adjustment	(\$602,275)	\$602,275	\$0	\$0
14	Final Revenue Requirement After Variable/Fixed Adj.	\$492,770	\$1,634,802	\$0	\$2,127,572
15					
16	Units of Service	1,317,420	75,012		
17	Unit Rate (\$/kgal)	\$0.37			
18	Unit Rate (\$/account bill)		\$21.79		

8.1.3 ALLOCATING THE REVENUE REQUIREMENT TO COST CAUSATION COMPONENTS AND RATE CALCULATION

The revenue requirement in Table 8-3 is then allocated to the cost components to calculate the wastewater bi-monthly service charge and volumetric rate. Table 8-4 shows the allocation of the variable and fixed cost-of-service requirements by customer class. To estimate the wastewater flow by the different classes, we have used winter use for residential customers and annual water use for non-residential customers, assuming that both classes use about 10 percent of the use shown for irrigation. Column B shows the customer usage (per 1,000 gallons of water consumed through the meter) by customer class. Column C provides the calculated unit cost per thousand gallons of usage. The variable cost-of-service requirement is calculated by multiplying the customer class usage in Column B times the unit cost in Column C. Fixed costs by customer class are calculated by multiplying the number of account bills in each customer class (Column E) times the unit fixed costs per account bill of the wastewater utility (Column F) in order to calculate the fixed cost-of-service requirements by customer class in Column G. Column H provides the total cost-of-service requirements by customer class.

Table 8-4: Allocation of Fixed and Variable Cost-of-Service Requirements by Customer Class

Line	A Customer Class	B Customer Usage (kgals)	C Unit Cost (\$/kgal Usage)	D Variable COS Req.	E Account Bills	F Unit Cost (\$/account bill)	G Fixed COS Req.	H Total COS Req.
1	Residential	639,750	\$0.37	\$239,293	44,217	\$21.79	\$963,667	\$1,202,960
2	Institutional	263,912	\$0.37	\$98,714	4,206	\$21.79	\$91,666	\$190,380
3	Commercial	168,001	\$0.37	\$62,839	3,372	\$21.79	\$73,489	\$136,329
4	Industrial	30,801	\$0.37	\$11,521	972	\$21.79	\$21,184	\$32,705
5	Lifeline	0	\$0.37	\$0	0	\$21.79	\$0	\$0
6	Multi-Family	214,956	\$0.37	\$80,403	22,244	\$21.79	\$484,796	\$565,199
7	Agricultural	0	\$0.37	\$0	0	\$21.79	\$0	\$0
8	Total	1,317,420		\$492,770	75,012		\$1,634,802	\$2,127,572

Table 8-5 shows the revenue requirement allocation and the rate calculation. For residential, lifeline, multi-family and agricultural customers, the cost-of-service requirement in Column B is completely recovered by the bi-monthly fixed charge in Column J. For institutional, commercial and industrial customers, the cost-of-service requirement in Column B is collected through a combination of the bi-monthly fixed charge in Column B and the volumetric rate in Column K in order to satisfy the cost-of-service revenue requirements for each customer class.

Table 8-5: Revenue Requirement Allocation to Cost Components and Rate Calculation

Line	A Customer Class	B COS Rev. Req.	C % of COS Rev. Req.	D % Fixed Revenue	E % Variable Revenue	F Estimated Fixed Revenue	G Estimated Variable Revenue	H Billing Units	I Flow (kgal)	J Bi-Monthly Fixed Charge	K Vol. Rate (\$/kgal)
1	Residential	\$1,202,960	56.5%	100%	0%	\$1,176,362	\$0	44,217	NA	\$ 26.60	NA
2	Institutional	\$190,380	8.9%	59%	41%	\$111,897	\$78,482	4,206	263,912	\$ 26.60	\$0.29
3	Commercial	\$136,329	6.4%	66%	34%	\$89,710	\$46,619	3,372	168,001	\$ 26.60	\$0.29
4	Industrial	\$32,705	1.5%	79%	21%	\$25,859	\$6,845	972	30,801	\$ 26.60	\$0.29
5	Lifeline	\$0	0.0%	100%	0%	\$0	\$0	0	NA	\$ 26.60	NA
6	Multi-Family	\$565,199	26.6%	100%	0%	\$591,797	\$0	22,244	NA	\$ 26.60	NA
7	Agricultural	\$0	0.0%	100%	0%	\$0	\$0	0	NA	\$ 26.60	NA
8	Total	\$2,127,572				\$1,995,625	\$131,947	75,012	462,714		

8.1.4 FIVE YEAR PROPOSED WASTEWATER SERVICE RATES

Table 8-6 shows the proposed 5-year rates for all customer classes. The out-year rates are derived by escalating the rates from Table 8-5 by the revenue adjustments from Table 7-6.

Table 8-6: Proposed Five-Year Fixed and Variable Wastewater Rates

Line	A Rate	B Current	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
1	Fixed Bi-Monthly	\$ 23.43	\$ 26.61	\$ 30.61	\$ 35.21	\$ 40.50	\$ 46.58

Line	A Rate	B Current	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
1	Volumetric (\$/kgals)	\$ 0.20	\$ 0.29	\$ 0.34	\$ 0.40	\$ 0.46	\$ 0.53

8.1.5 SINGLE FAMILY RESIDENTIAL WASTEWATER BILL IMPACTS

Table 8-7 shows the estimated wastewater bill impacts for each single-family residential and non-residential customers for FY 2026.

Table 8-7: Single Family Residential and Commercial Wastewater Bill Impacts

