CITY OF ARCADIA

# Water and Wastewater Rate Study

**FINAL REPORT / September 23, 2025**

CITY OF ARCADIA

RAFTELIS

RAFTELIS

September 23, 2025

Mr. Paul Cranmer
Director of Public Works
City of Arcadia
240 West Huntington Drive
Arcadia, CA 91066

**Subject: Water and Wastewater Rate Study Report – FINAL**

Dear Mr. Cranmer:

Raftelis is pleased to provide this Water and Wastewater Rate Study report for the City of Arcadia (City) to develop a financial plan to help the City meet its annual expenses and build reserves in light of potential regulations, as well as to establish water and wastewater rates that are equitable consistent with the cost of providing service.

The major objectives of the study include the following:

- Develop a financial plan for the water and wastewater enterprises to ensure financial sufficiency, meet operation and maintenance costs, ensure sufficient funding for capital replacement and refurbishment (R&R) needs, and improve the financial health of the enterprises
- Develop sound and sufficient reserve fund targets and reserves
- Review the current rate structures for the water and wastewater enterprises and recommend improvements as necessary
- Prepare a five-year schedule of water and wastewater rates

The report summarizes the key findings and recommendations related to the development of the financial plans for the water and wastewater enterprises and the development of the updated water rates and wastewater rates.

It has been a pleasure working with you, and we thank you, Ms. Carmen and the City staff for the support provided during the course of this study.

Sincerely,

**Sudhir Pardiwala, PE (CA)**
*Senior Principal*

**John Wright, CPA (CO)**
*Senior Manager*

**Theresa Jurotich, PE (KS, WA), PMP**
*Manager*

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# 1. Executive Summary

## 1.1. Background

In 2024 the City of Arcadia (City) contracted with Raftelis Financial Consultants (Raftelis) to conduct a Water and Wastewater Rate Study to develop ten-year financial plans, conduct cost-of-service analyses, and develop schedules of water and wastewater rates. This report presents the financial plans, the cost-of-service analyses, and the resulting water and wastewater rates.

This Executive Summary describes the rate study process, methodology, and recommendations for the City's water and wastewater rates. The City wishes to establish fair and equitable rates that:

- Meet the City's water and wastewater enterprise fiscal needs for operation and maintenance costs, capital replacement and refurbishment (R&R) costs to maintain the system, reserve goals, and to improve the financial health of each enterprise, and
- Prepare a five-year schedule of water and wastewater rates consistent with cost of providing service.

The City's water enterprise serves the City of Arcadia. The enterprise provides potable water service to a population of over 56,000 customers in the City through almost 15,000 connections. On an annual basis, the City delivers over 13,000 acre-feet (AF) of potable water. The City also provides wastewater conveyance to its customers including a few hundred sewer-only customers. Wastewater is treated by Los Angeles County Sanitation District, which bills customers directly for its services.

## 1.2. Process

Raftelis developed water and wastewater financial plans for the City. The financial plans set forth the total revenue adjustments needed to meet capital investment, operational expenses, debt service, and build reserves during the five-year rate-setting period. Raftelis worked with City staff to refine inputs and reserve targets. After developing the financial plans, Raftelis performed cost-of-service analyses to determine the water and wastewater rates based on the selected financial plan.

The current water rate consists of a bi-monthly service charge, a tiered volumetric rate for single family customers where the tier blocks change based on meter size and season, a tiered volumetric rate for multifamily with tiers per dwelling unit, and uniform rates for commercial, and other non-residential customers. The bi-monthly service charge is designed to primarily collect costs that are relatively fixed, including such things as billing and customer service costs, meter reading, and meter maintenance. The volumetric rate recovers the remaining costs. The City also charges a private fire service bi-monthly charge for those customers with a dedicated fire service line.

Based on discussions with City Staff, Raftelis has developed an alternative rate structure. The City plans to implement monthly billing starting in January 2026. Therefore, Raftelis has developed a monthly service charge. Additionally, Raftelis has developed a simplified rate structure for the single-family customers. The tiers have been condensed from four to three, the tier breakpoints are the same for all meter sizes, and the seasonal change has been eliminated. The multifamily customer class will continue to have a two-tier rate, but the usage in the first tier is now based on up to 6 dwelling units instead of up to 12 dwelling units. The other customer classes will continue to have uniform rates.

The current wastewater rate structure consists of a per dwelling unit (DU), bi-monthly cost for residential customers, and a separate per DU bi-monthly cost for non-residential customers. Additionally, a volumetric rate is applied to all non-residential customers. The proposed wastewater rate consists of a monthly, per account (per dwelling unit for multi-family) charge for all customers plus a volumetric charge for non-residential customers.

## 1.3. Proposed Water Financial Plan

Raftelis, with the assistance of City staff, conducted a status quo cash flow analysis to evaluate whether existing water rates can adequately fund the City's various water-related expenses over the study period (FY 2026 – FY 2034). The analysis projected annual revenues, operation and maintenance expenses, debt service payments, and capital expenditures through FY 2034. Raftelis projects that with no rate increases over the study period, the City will fully deplete its reserves in FY 2028 and will not meet debt coverage in FY 2027. Raftelis worked with City staff to develop the following proposed revenue adjustments over the five-year rate-setting period (see Table 1-1). The proposed water revenue adjustments were selected to make sure the water operating fund has sufficient funds to cover annual expenses and to build reserves to target levels by the end of the rate-setting period, FY 2030. The operating reserve target is 25 percent of annual operating revenue. The rate stabilization target is 10 percent of the volume revenue. The capital reserve target is the 5-year average of cash-funded capital. The City is also starting a regulatory reserve with the aim to have it reach about $4 million in FY 2030 to cover potential PFAS/PFOS treatment projects.

**Table 1-1: Proposed Water Revenue Adjustments**

| Effective Date | Adjustment |
|---|---|
| January, 2026 | 12.0% |
| January, 2027 | 12.0% |
| January, 2028 | 10.0% |
| January, 2029 | 6.0% |
| January, 2030 | 6.0% |

Figure 1-1 shows the proposed five-year water enterprise financial plan. status quo revenue is shown by the solid line. Projected revenue is shown by the dashed line. Annual expenditures are shown by the columns. The green bars above the X-axis show the net cash used to build up the reserves and the bars below the X-axis show the withdrawals from reserves to fund costs. Current rates are neither sufficient to cover annual operating and maintenance expenses nor capital-related expenditures. Therefore, revenue adjustments are required to generate sufficient revenue to cover annual operating and maintenance costs as well as cash-funded capital projects over the study period.

Figure 1-1: Proposed Water Financial Plan

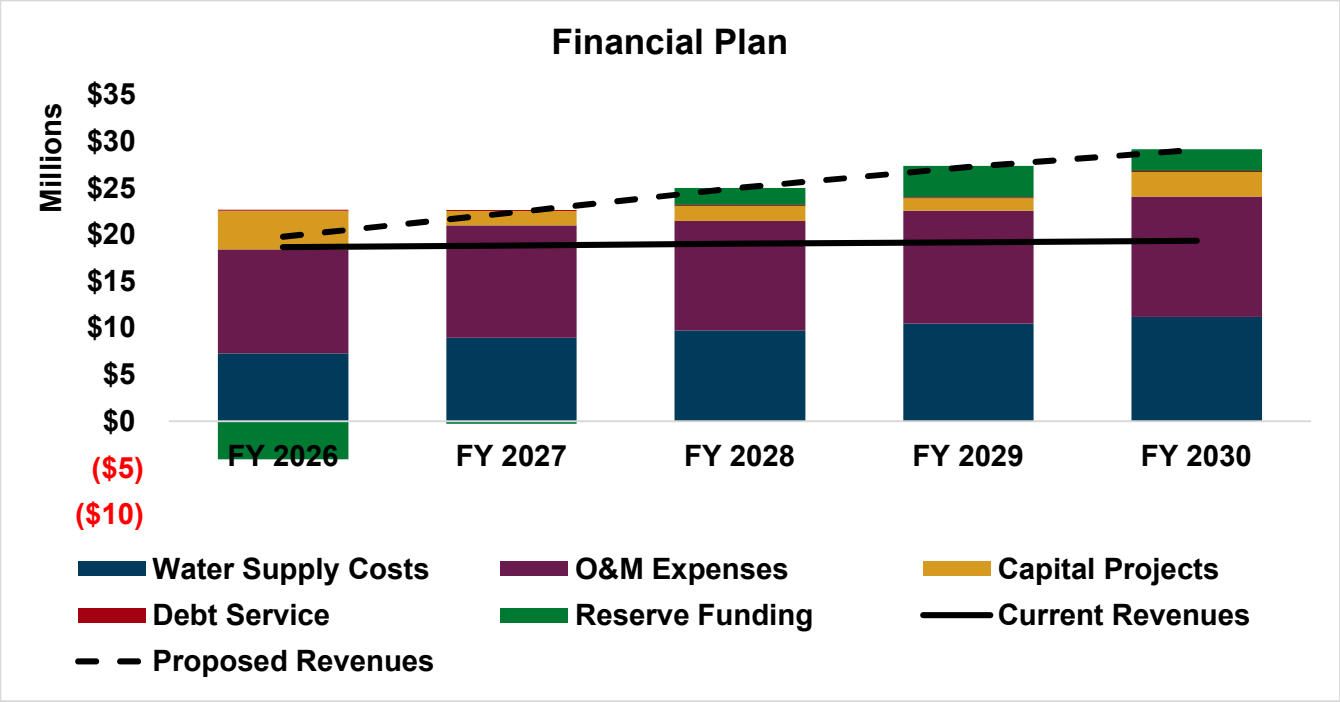



Figure 1-2 shows projected operating and capital ending balances over the study period relative to the City's total reserve targets under the proposed financial plan. Reserves are slowly increased each year initially meeting the operating reserve and eventually meeting all reserve targets.

Figure 1-2: Proposed Water Financial Plan – Projected Ending Balances

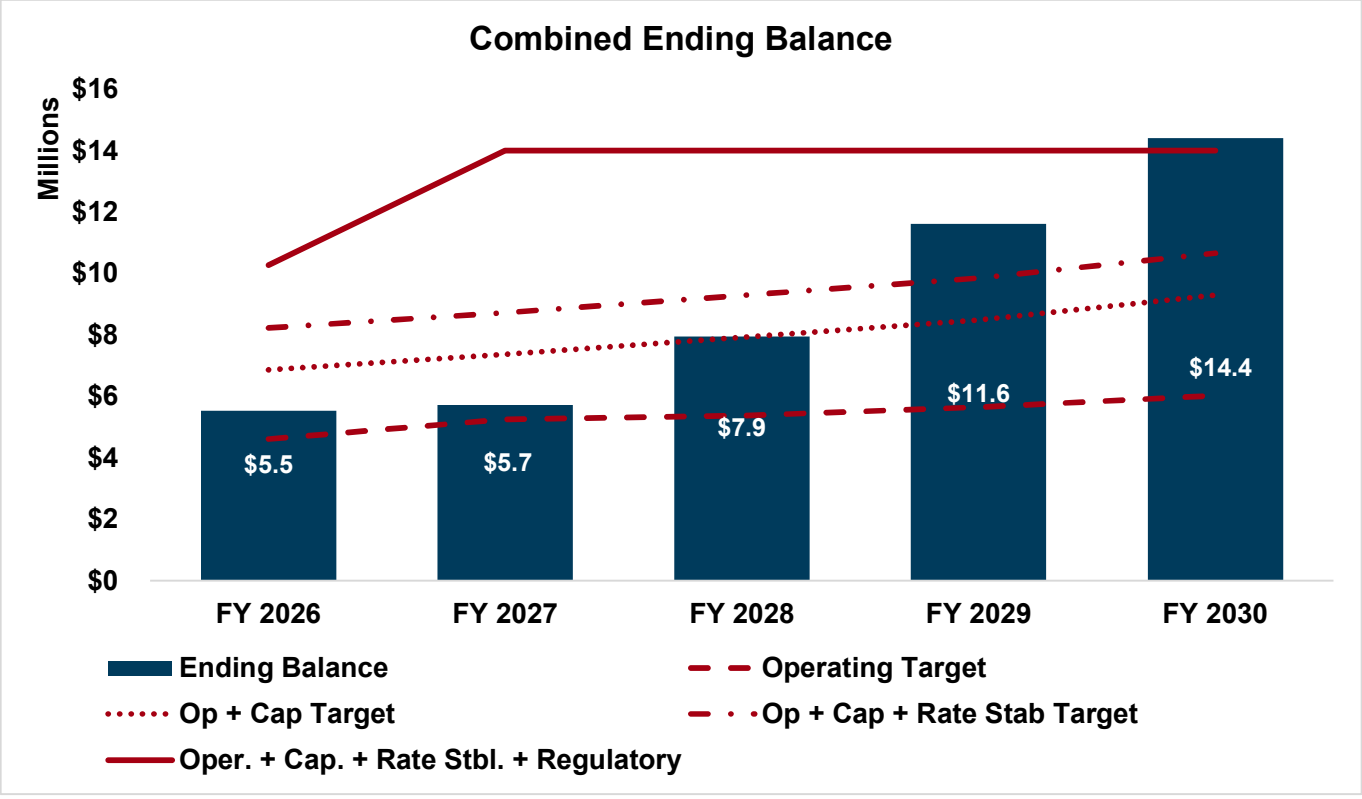
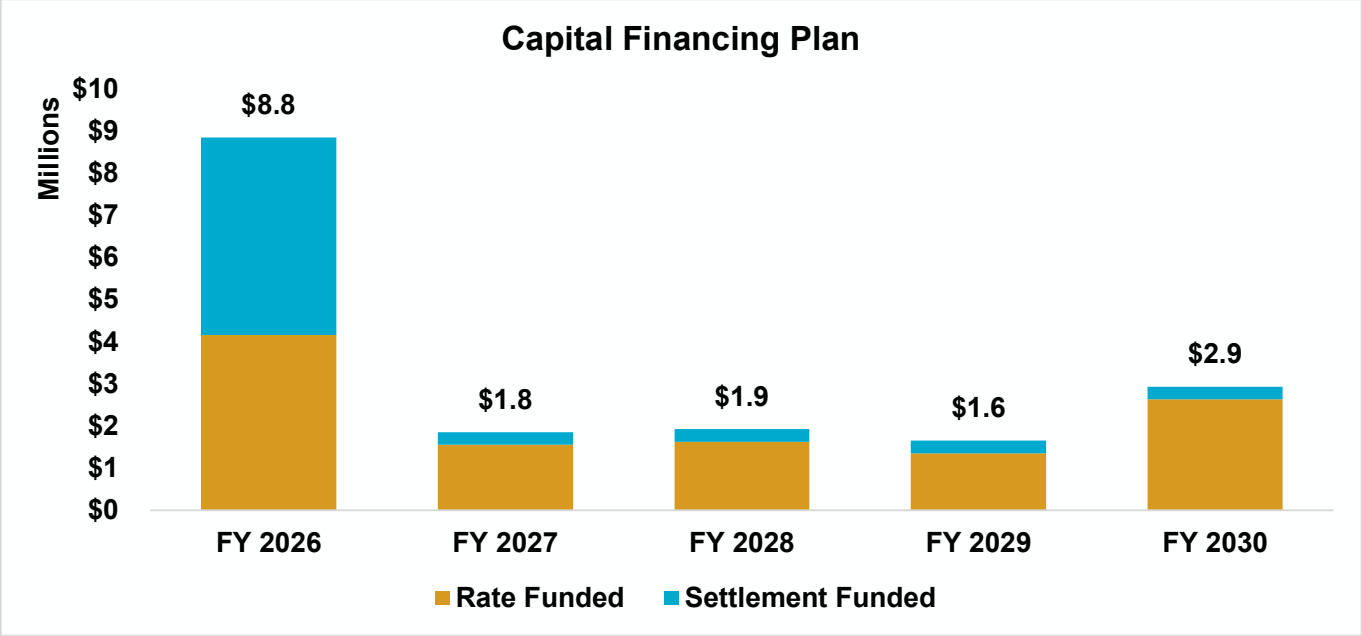


Figure 1-3 shows the proposed capital financing plan over the rate-setting period. The proposed financial plan assumes that all capital projects over the study period will be cash funded through rate revenue and through settlement funds from environmental litigation.

**Figure 1-3: Water Capital Financing Plan**




## 1.4. Proposed Water Rates

Table 1-2 shows the proposed five-year water rate schedule through FY 2030 for the monthly service charge and private fire line charge. Proposed FY 2026 rates are calculated based on the results of the cost-of-service analysis. Overall, FY 2026 rates are designed to collect about 12 percent more rate revenue than current FY 2025 rates in accordance with the proposed FY 2026 revenue adjustment. Proposed rates beginning in FY 2027 are calculated by increasing the prior year's proposed rates by the proposed annual revenue adjustments. Note the rates reflect a change from bi-monthly billing to monthly billing in January 2026. All numbers are rounded up to the nearest cent to ensure adequate revenue recovery. Therefore, any manual reproduction of the calculations shown may not match the precise results displayed in the report

### Table 1-2: Proposed Five-Year Water Rate Schedule, Monthly Service Charge & Private Fireline Charge

| | Current | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|---|
| Effective Date | | Jan 1, 2026 | Jan 1, 2027 | Jan 1, 2028 | Jan 1, 2029 | Jan 1, 2030 |
| Revenue Adjustment | | | 12.0% | 10.0% | 6.0% | 6.0% |
| **Monthly Fixed Charge, $/mo** | | | | | | |
| Meter Size | | | | | | |
| 5/8" | $19.90 | $21.31 | $23.87 | $26.26 | $27.84 | $29.52 |
| 3/4" | $21.26 | $21.31 | $23.87 | $26.26 | $27.84 | $29.52 |
| 1" | $23.98 | $26.54 | $29.73 | $32.71 | $34.68 | $36.77 |
| 1-1/2" | $30.78 | $39.61 | $44.37 | $48.81 | $51.74 | $54.85 |
| 2" | $38.94 | $55.30 | $61.94 | $68.14 | $72.23 | $76.57 |
| 3" | $57.98 | $91.91 | $102.94 | $113.24 | $120.04 | $127.25 |
| 4" | $85.19 | $144.21 | $161.52 | $177.68 | $188.35 | $199.66 |
| 6" | $166.80 | $274.96 | $307.96 | $338.76 | $359.09 | $380.64 |
| 8" | $262.01 | $431.86 | $483.69 | $532.06 | $563.99 | $597.83 |
| 10" | $398.04 | $641.06 | $717.99 | $789.79 | $837.18 | $887.42 |
| **Monthly Private Fireline Charge, $/mo** | | | | | | |
| Fireline Size | | | | | | |
| 5/8" | $5.78 | $7.50 | $8.40 | $9.24 | $9.80 | $10.39 |
| 3/4" | $5.78 | $7.50 | $8.40 | $9.24 | $9.80 | $10.39 |
| 1" | $5.78 | $7.50 | $8.40 | $9.24 | $9.80 | $10.39 |
| 1-1/2" | $5.78 | $7.50 | $8.40 | $9.24 | $9.80 | $10.39 |
| 2" | $5.78 | $7.50 | $8.40 | $9.24 | $9.80 | $10.39 |
| 3" | $0.00 | $16.66 | $18.66 | $20.53 | $21.77 | $23.08 |
| 4" | $11.55 | $32.45 | $36.35 | $39.99 | $42.39 | $44.94 |
| 6" | $17.32 | $89.13 | $99.83 | $109.82 | $116.41 | $123.40 |
| 8" | $23.09 | $186.89 | $209.32 | $230.26 | $244.08 | $258.73 |
| 10" | $28.88 | $333.93 | $374.01 | $411.42 | $436.11 | $462.28 |

Table 1-3 shows the proposed water volumetric rates. Residential rates are tiered, and non-residential rates are uniform. The proposed single family residential (SFR) rate is three-tiered instead of the current four-tiered structure and does not vary with season. The first SFR tier provides basic indoor use, the second tier provides the average summer use in the maximum use month of the year. Multi-family tiers are similarly set to provide basic indoor use in Tier 1 and the remaining in Tier 2.

### Table 1-3: Proposed Five-Year Water Volumetric Rate Schedule, $/hcf

| | Current | Proposed | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|---|---|
| Effective Date | | | Jan 1, 2026 | Jan 1, 2027 | Jan 1, 2028 | Jan 1, 2029 | Jan 1, 2030 |
| Revenue Adjustment | | | | 12.0% | 10.0% | 6.0% | 6.0% |
| Residential | | | | | | | |
| Tier 1 | $2.39 | Tier 1: 0-8 | $2.61 | $2.93 | $3.23 | $3.43 | $3.64 |
| Tier 2 | $2.98 | Tier 2: 9-26 | $3.03 | $3.40 | $3.74 | $3.97 | $4.21 |
| Tier 3 | $3.07 | Tier 3: >26 | $3.53 | $3.96 | $4.36 | $4.63 | $4.91 |
| Tier 4 | $3.83 | | | | | | |
| MultiFamily | | | | | | | |
| 12 hcf/du | $2.18 | 6 hcf/du/mo | $2.59 | $2.91 | $3.21 | $3.41 | $3.62 |
| > 12 hcf/du | $2.43 | > 6 hcf/du/mo | $2.93 | $3.29 | $3.62 | $3.84 | $4.08 |
| Governmental, Institution, & Irrigation Customer | | | | | | | |
| All | $2.83 | All | $3.18 | $3.57 | $3.93 | $4.17 | $4.43 |
| Commercial | | | | | | | |
| All | $2.32 | All | $2.75 | $3.08 | $3.39 | $3.60 | $3.82 |

Figure 1-4 shows a comparison of a ¾" single-family bill at different usage levels for the proposed FY 2026 rates versus the current rates. Note that the current bill is an average of a summer and winter bill at the usage shown on a monthly basis.

### Figure 1-4: Single Family Residential Monthly Bills, FY 2026

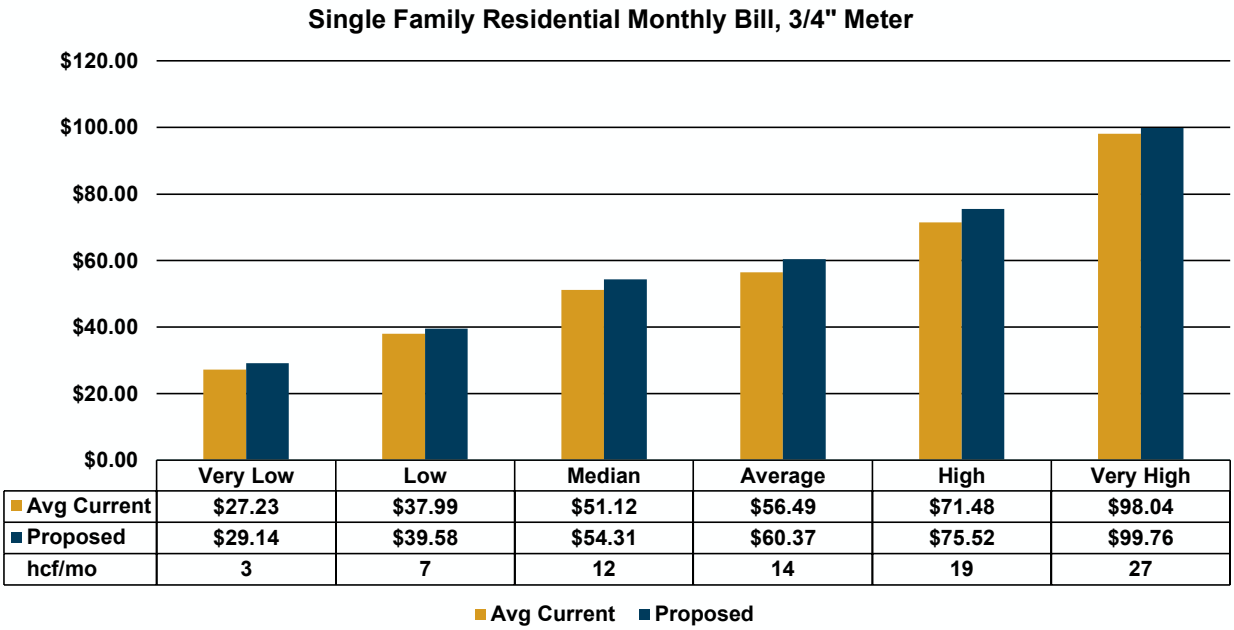



Figure 1-5 shows a comparison of a 1" commercial bill at different usage levels for the proposed FY 2026 rates versus the current rates on a monthly basis.

**Figure 1-5: Commercial Monthly Bills, FY 2026**

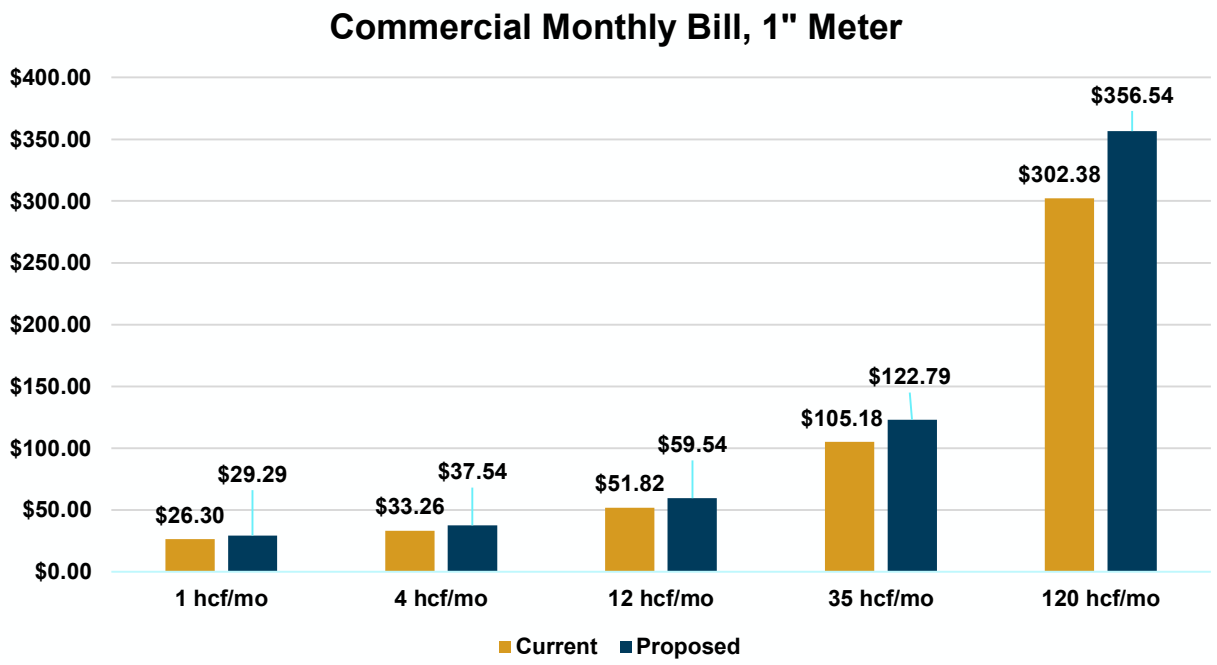



Figure 1-6 shows a comparison of a bill for a typical single-family customer (12 hcf/mo) on a ¾" meter for the City's proposed FY 2026 rates and current rates for neighboring agencies. Arcadia has the second-lowest bill.

**Figure 1-6: Neighborhood Comparison – Monthly Water, Single Family, 3/4" Meter, 12 hcf**

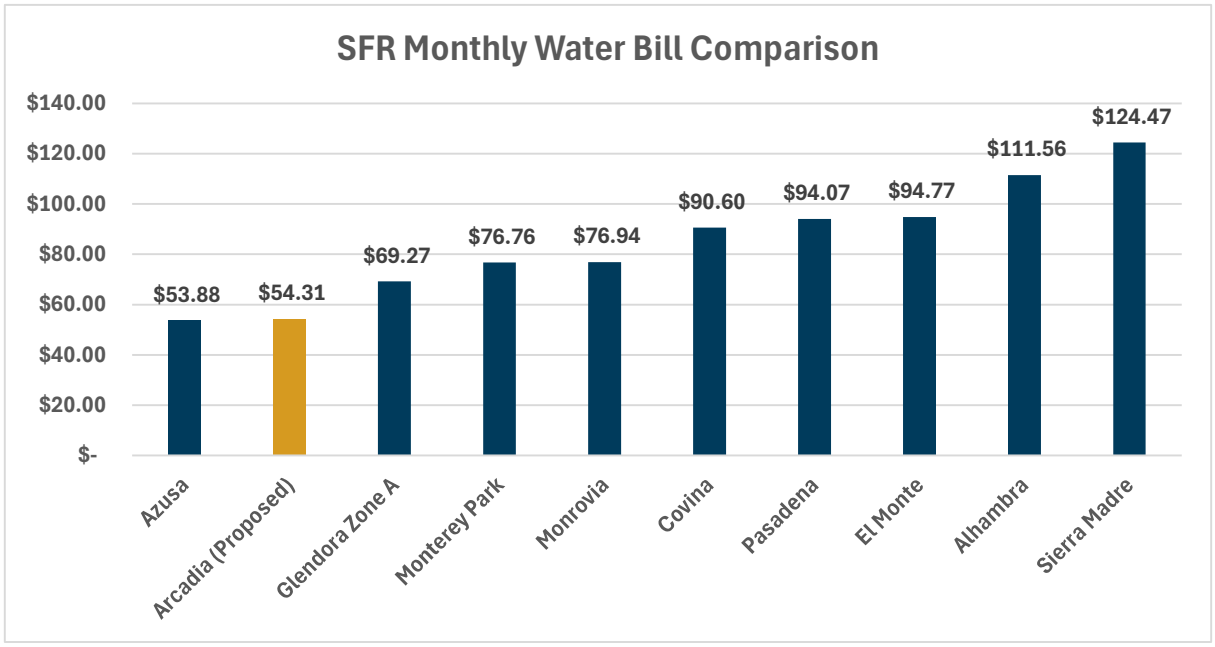
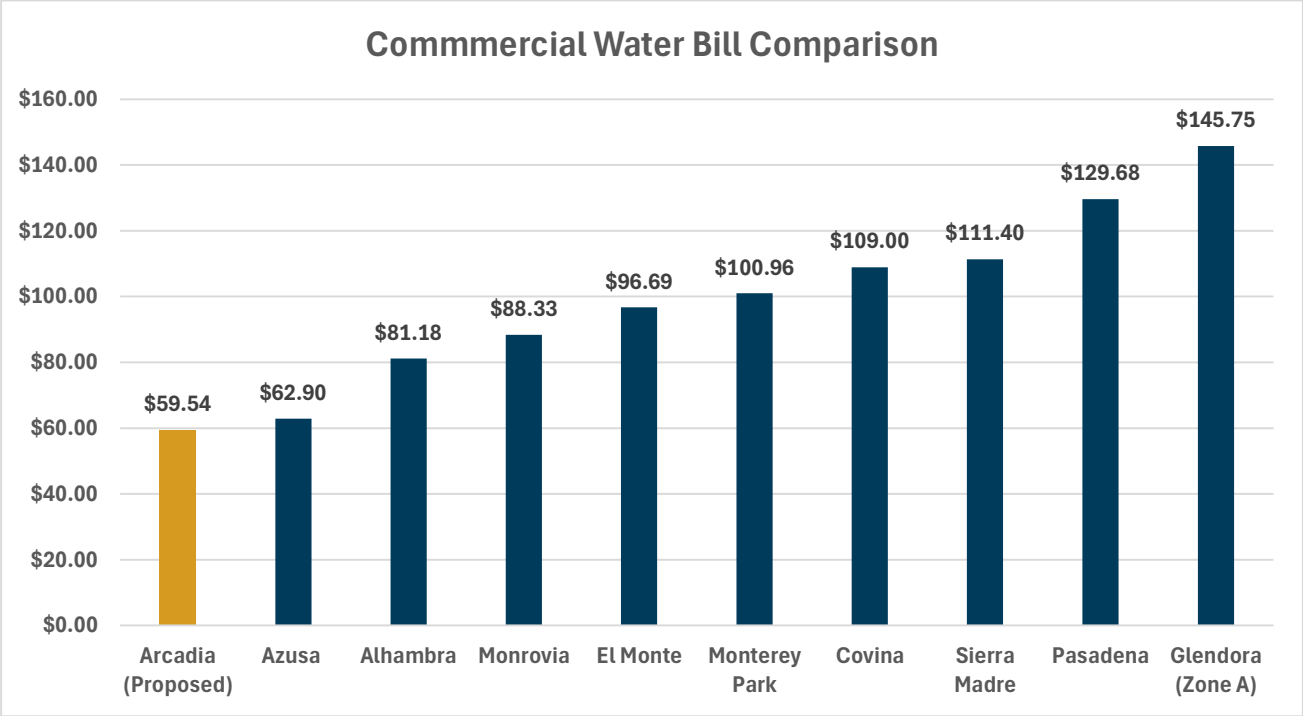



Figure 1-7 shows a comparison of a bill for a typical commercial customer (12 hcf/mo) on a 1" meter for the City's proposed FY 2026 rates and current rates for neighboring agencies.

**Figure 1-7: Neighborhood Comparison – Monthly Water, Commercial, 1" Meter, 12 hcf**




## 1.5. Proposed Wastewater Financial Plan

Raftelis conducted a status quo cash flow analysis to evaluate whether existing wastewater rates can adequately fund the City's collection-system expenses over the study period (FY 2026 – FY 2034). The analysis projected annual revenues, operation and maintenance expenses, debt service payments, and capital expenditures through FY 2034. Raftelis projects that with no rate increases over the study period, the City will fully deplete its wastewater reserves in FY 2032. Raftelis worked with City staff to develop the following proposed wastewater revenue adjustments over the five-year rate-setting period (see Table 1-4). The proposed revenue adjustments were selected to ensure the wastewater operating fund has sufficient funds to cover annual expenses and to maintain reserve levels throughout the study period.

**Table 1-4: Proposed Wastewater Revenue Adjustments**

| Effective Date | Adjustment |
|---|---|
| Jan. 1, 2026 | 6.0% |
| Jan. 1, 2027 | 6.0% |
| Jan. 1, 2028 | 6.0% |
| Jan. 1, 2029 | 6.0% |
| Jan. 1, 2030 | 6.0% |

Figure 1-8 illustrates the Wastewater Financial Plan – it compares existing (solid line) and proposed revenues (dashed line) with projected expenses (stacked columns). The expenses include O&M, capital, debt service, and reserve funding. The green bars above the X-axis show the net cash used to build up the reserves and the bars below the X-axis show the withdrawals from reserves to fund costs. Projected revenue from existing rates, if continued unchanged, would not meet future projected total expenses and illustrates the need for revenue adjustments necessary to maintain operations, accomplish the desired CIP, and to meet reserve targets.

**Figure 1-8: Proposed Wastewater Financial Plan**

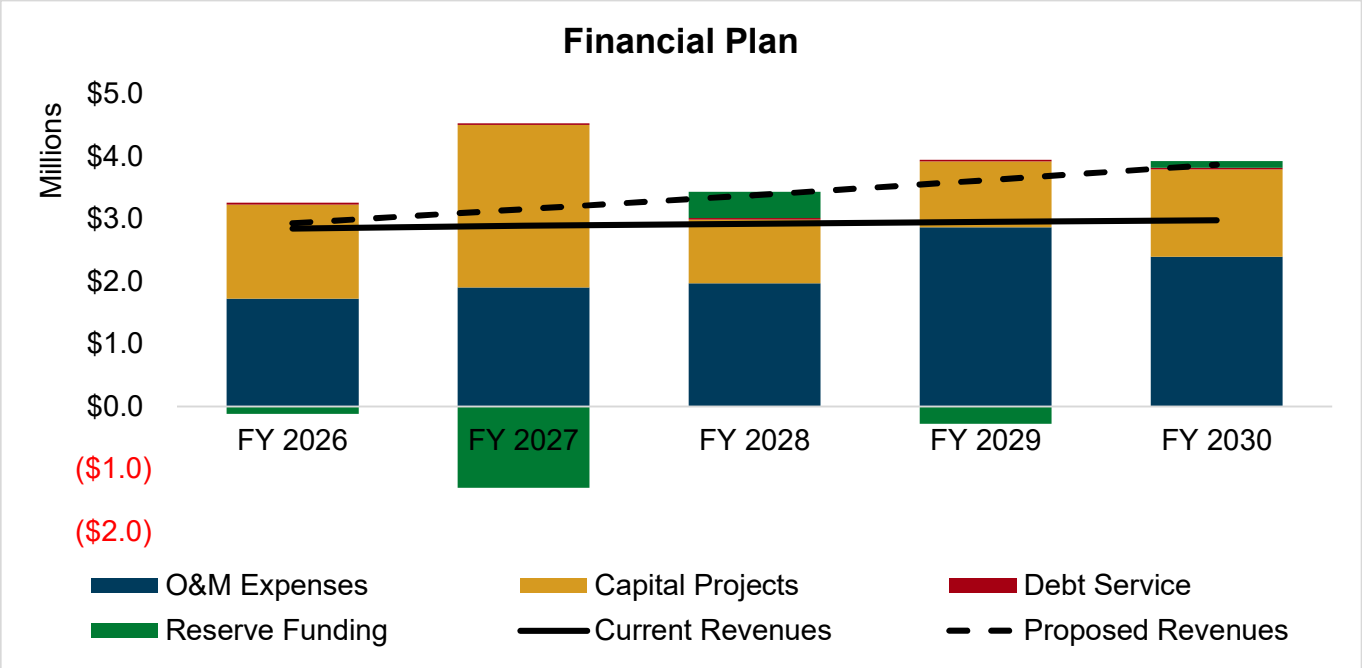



Figure 1-9 summarizes the projected wastewater CIP and that it is funded through rate revenue. As shown, the City does not plan to issue debt to pay for future CIP during the study period.

**Figure 1-9: Wastewater Capital Financing Plan**

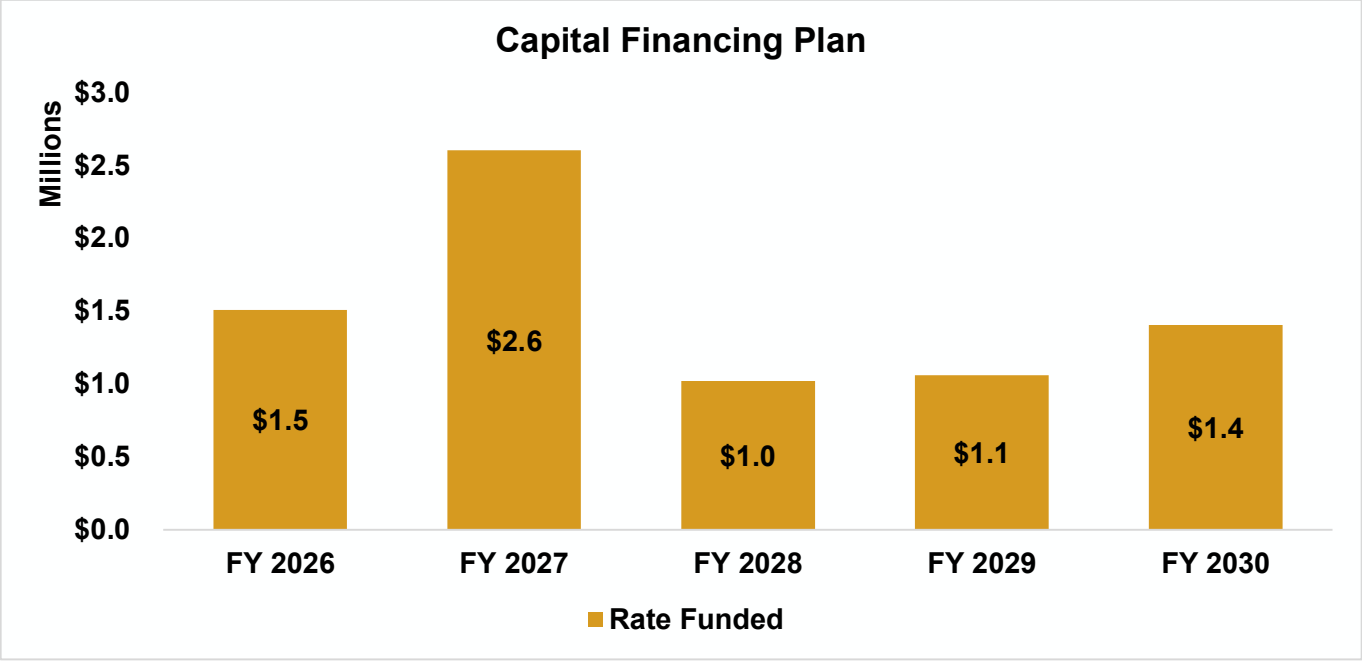
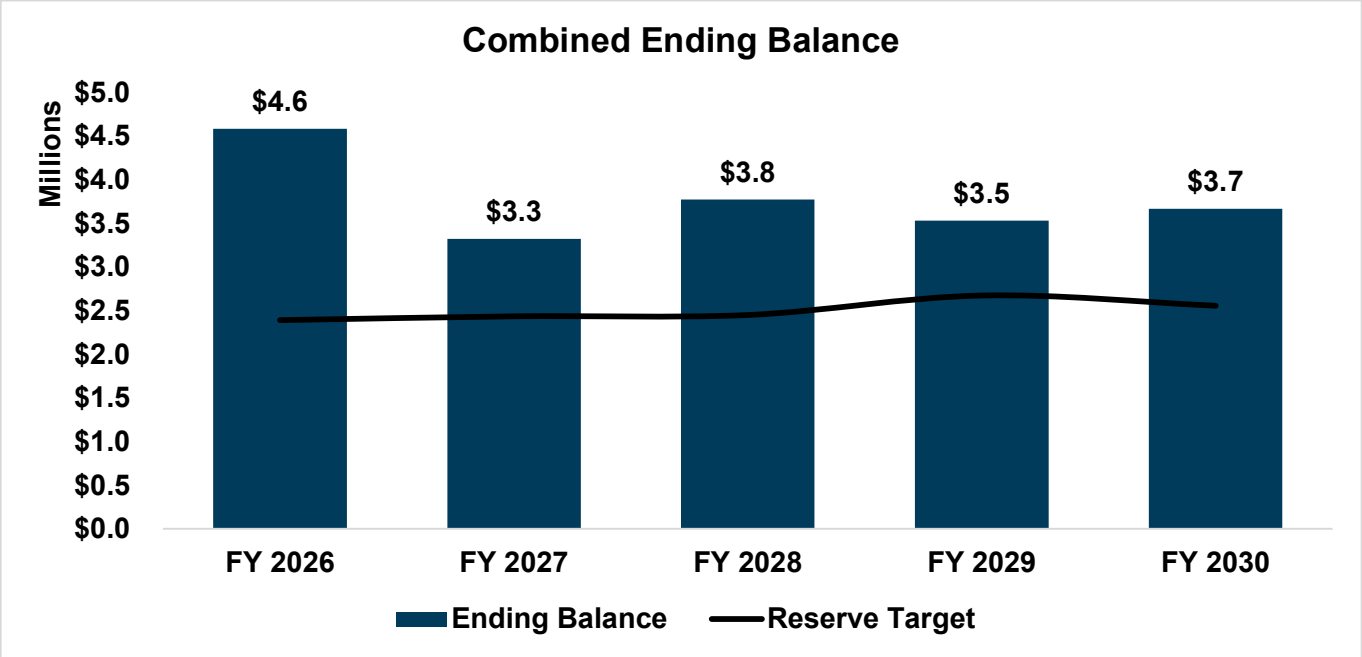



Figure 1-10 displays the projected total wastewater enterprise yearly ending balance (blue bars). The line is the total fund target balance. While the projected fund balance in FY 2030 is above the line, these reserves are projected to help pay for future capital projects identified in the full study period (ending FY 2034).

Figure 1-10: Projected Wastewater Fund Ending Balance




## 1.6. Proposed Wastewater Rates

Table 1-5 shows the proposed 5-year schedule of wastewater rates. Note the rates reflect a change from bi-monthly billing to monthly billing in January 2026. Rates for FY 2026 reflect the cost-of-service analysis. Rates for FY 2027 and beyond equal the prior year rates multiplied by the revenue adjustment. Rates are rounded up to the nearest penny.

Table 1-5: Proposed Five-Year Wastewater Rate Schedule

| Customer Class | Current | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|---|
| Effective Date | | Jan. 1, 2026 | Jan. 1, 2027 | Jan. 1, 2028 | Jan. 1, 2029 | Jan. 1, 2030 |
| Residential | (monthly) | | | | | |
| Single Family, $/mo | $9.39 | $9.05 | $9.60 | $10.18 | $10.80 | $11.45 |
| Multi-Family Dwelling Units, $/mo | $9.39 | $9.05 | $9.60 | $10.18 | $10.80 | $11.45 |
| Residential Sewer Only, $/mo | $9.39 | $9.05 | $9.60 | $10.18 | $10.80 | $11.45 |
| | | | | | | |
| Non-Residential | | | | | | |
| Commercial, $/mo | $28.17 | $9.05 | $9.60 | $10.18 | $10.80 | $11.45 |
| Government, $/mo | $28.17 | $9.05 | $9.60 | $10.18 | $10.80 | $11.45 |
| City Accounts, $/mo | $28.17 | $9.05 | $9.60 | $10.18 | $10.80 | $11.45 |
| | | | | | | |
| Volumetric, $/hcf | $0.31 | $0.67 | $0.72 | $0.77 | $0.82 | $0.87 |

Table 1-6 shows a bill comparison for FY 2026 for residential and non-commercial wastewater customers.

### Table 1-6: Monthly Example Bills, FY 2026 vs Current

| Customer Class | Current | FY 2026 |
|---|---|---|
| Residential | $9.39 | $9.05 |
| Non-Residential, 12 hcf/mo | $31.89 | $17.09 |
| Non-Residential, 114 hcf/mo | $63.51 | $85.43 |

Figure 1-11 shows a comparison of a bill for a typical single-family customer (12 hcf/mo) for the City's proposed FY 2026 rates and current rates for neighboring agencies.

### Figure 1-11: Neighborhood Comparison – Wastewater, Single Family

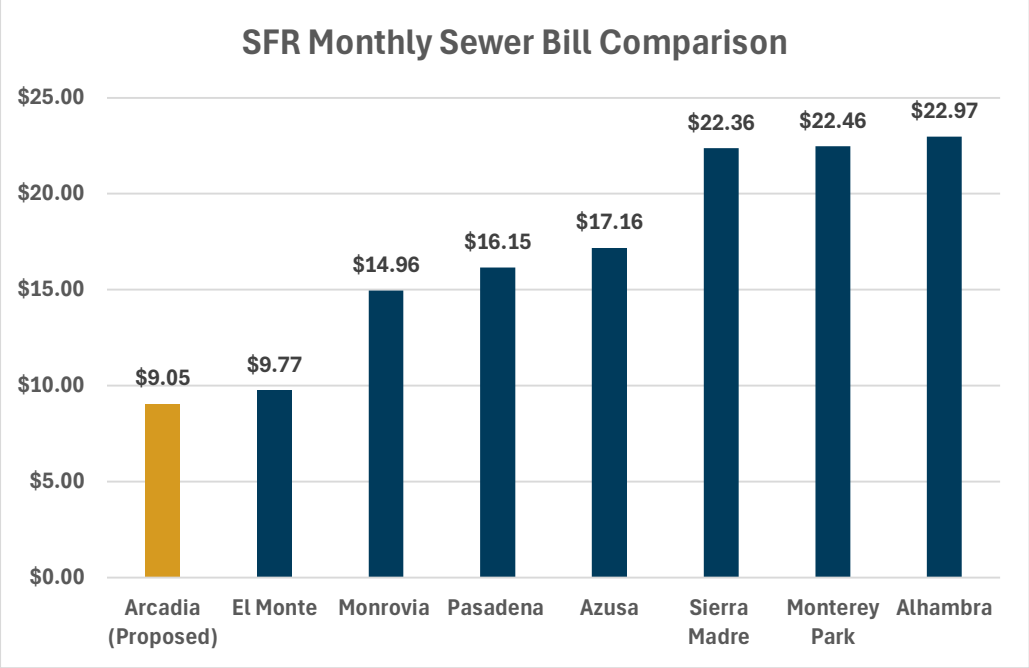
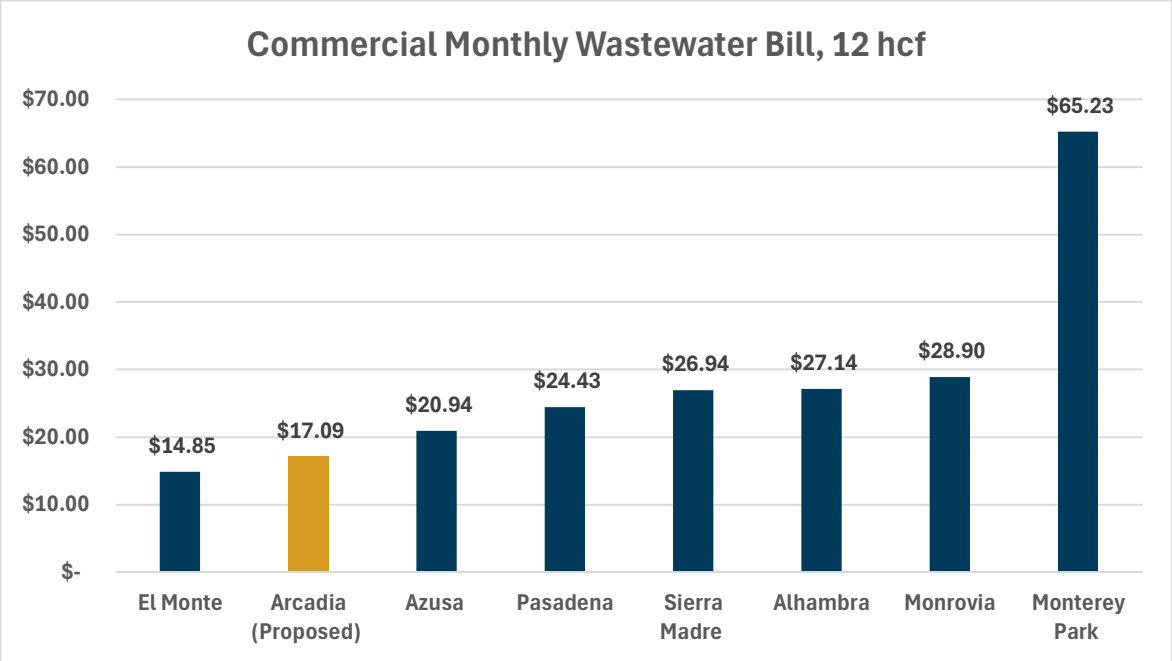



Figure 1-12 shows a comparison of a bill for a typical commercial customer (12 hcf/mo) for the City's proposed FY 2026 rates and current rates for neighboring agencies.

**Figure 1-12: Neighborhood Comparison – Wastewater, Commercial, 1" Meter, 12 hcf**



# 2. Rate Setting Methodology

This study was conducted using industry-standard principles outlined by the American Water Works Association (AWWA) in the publication, Manual of Water Supply Practice M1, Principles of Water Rates, Fees, and Charges and in the Water Environment Federation (WEF) publication, Manual of Practice No. 27, Financing and Charges for Wastewater Systems. The process and approach Raftelis utilized in the study to determine water and wastewater rates is informed by the City's policy objectives, the current water and wastewater systems and rates, and the legal requirements in California (namely, Proposition 218). The resulting financial plans, cost of service analyses, and rate design process follows five key steps, outlined below, to determine proposed rates that fulfill the City's objectives, meet industry standards, and align with relevant regulations.

1. **Financial Plan - Projections:** The first step is to develop a multi-year financial plan that projects the City's revenues, expenses, capital project financing, annual debt service, and reserve funding. The financial plan is used to determine the revenue adjustment, which allows the City to recover adequate revenues to fund expenses and reserves.

2. **Financial Plan - Revenue Requirement Determination:** After completing the financial plan, the rate-making process begins by determining the revenue requirement for the test year, also known as the rate-setting year. The test year for this study is FY 2026. The revenue requirement should sufficiently fund the City's operating costs, annual debt service (including coverage requirements), capital expenditures, and reserve funding as projected based on the annual budget estimates.

3. **Cost-of-Service Analysis:** The annual cost of providing water/wastewater service, or the revenue requirement, is then distributed to customer classes commensurate with their use of and burden on the water/wastewater system. A cost-of-service analysis involves the following steps:
    a. Functionalize costs—The different components of the revenue requirement are categorized into functions such as supply, transmission/collection, storage, customer service for water, and collection customer service, etc., for wastewater.
    b. Allocate to cost causation components – the functionalized costs are then allocated to cost causation components such as supply, base delivery, peaking, etc. for water and collection, customer service, etc. for wastewater.
    c. Develop unit costs – unit costs for each cost causation component are determined using units of service, such as total use, peaking units, equivalent meters, number of customers, etc., for each component.
    d. Distribute cost components – the cost components are allocated to each customer class using the unit costs in proportion to their units of service (demand and burden on the system).

    A water cost-of-service analysis also considers both the average water demand and peak demand. Peaking costs are incurred during periods of peak consumption, most often coinciding with summer water use. There are additional capacity-related costs associated with designing, constructing, operating, maintaining, and replacing facilities to meet peak demand. Peaking imposes additional costs on a water utility and is used to determine the cost burden from peaking-related facilities.

4. **Rate Design**: After allocating the revenue requirement to each customer class, the project team designs and calculates rates. Rates do more than simply recover costs; within the legal framework and industry standards, properly designed rates should support and optimize the City's policy objectives. Rates also act as a public information tool in communicating these policy objectives to customers. This process also includes a rate impact analysis and sample customer bill impacts.

5. **Administrative Record Preparation and Rate Adoption:** The final step in a rate study is to develop the administrative record (report) in conjunction with the rate adoption process. This report serves as the administrative record for this study. The administrative record documents the study results and presents the methodologies, rationale, justifications, and calculations used to determine the proposed rates. A thorough and methodological administrative record serves two important functions: maintaining defensibility in a stringent legal environment and communicating the rationale for revenue adjustments and proposed rates to customers and key stakeholders.

Values shown in report tables and figures are rounded to the digit shown. Therefore, any manual reproduction of the calculations shown may not match the precise results displayed in the report.

# 3. Key Inputs and Assumptions

Raftelis developed water and wastewater rate models in Microsoft Excel to project financial and rate calculations through FY 2034. The City's fiscal year spans from July 1 through June 30. Projections in future years were generally made based on budgeted FY 2025 and FY 2026 data using key assumptions outlined below. All assumptions were discussed with and reviewed by City staff to ensure that the City's unique characteristics were incorporated. Note that most table values shown throughout this report are rounded to the last digit shown and, therefore, may not calculate precisely to the values shown.

## 3.1. Current Water Rates

Table 3-1 shows the current water rate schedule. Customers are currently subject to two charges: 1) bi-monthly Fixed Charges and 2) Volume Charges per hundred cubic feet (hcf) of water delivered. Fixed Service Charges vary based on meter size. Volumetric rates vary based on customer type: a tiered volumetric rate for single family customers where the tier blocks change based on meter size and season, a tiered volumetric rate for multifamily, and uniform rates for commercial, and other non-residential customers. Customers with a private fire service line also pay a bi-monthly private fire service charge.

**Table 3-1: Current Water Rate Structure**

| Bi-Monthly Fixed Charge | | Bi-Monthly Private Fire Service | |
|---|---|---|---|
| Meter Size | $/bi-mo | Fire Line Size | $/bi-mo |
| 5/8" | $39.79 | 2" and smaller | $11.55 |
| 3/4" | $42.51 | 4" | $23.10 |
| 1" | $47.95 | 6" | $34.64 |
| 1-1/2" | $61.55 | 8" | $46.18 |
| 2" | $77.87 | 10" | $57.75 |
| 3" | $115.96 | | |
| 4" | $170.37 | | |
| 6" | $333.59 | | |
| 8" | $524.02 | | |
| 10" | $796.07 | | |

| Volume Charge | | |
|---|---|---|
| Customer Class | | $/hcf |
| Single Family* | | |
| Tier 1 | | $2.39 |
| Tier 2 | | $2.98 |
| Tier 3 | | $3.07 |
| Tier 4 | | $3.83 |
| Multifamily | | |
| Tier 1 | 12 hcf/dwelling unit | $2.18 |
| Tier 2 | > 12 hcf/dwelling unit | $2.43 |
| Commercial | | $2.32 |
| Government, Institution, & Irrigation | | $2.83 |

* tier blocks vary by meter size & season

## 3.2. Current Wastewater Rates

Table 3-2 shows the current adopted wastewater rate schedule. All customer accounts are charged a fixed charge. Non-residential customers are additionally charged based on metered water use.

**Table 3-2: Current Bi-monthly Wastewater Rates**

| Charge Type | Unit Rate |
|---|---|
| Flat Charge, $/EDU | |
| Residential | $18.78 |
| Commercial, Government, Institution | $56.33 |
| Volume, $/hcf | |
| Commercial, Government, Institution | $0.31 |

## 3.3. Projected Service Connections

### 3.3.1. Water

Table 3-3 shows the actual number of potable water accounts by meter size for FY 2025 and the projected number of accounts through the study period. The City provided the projected increase in accounts by meter size. The number of accounts is used to forecast the amount of fixed revenue the City will receive from the bi-monthly service charges and the annual water use.

**Table 3-3: Projected Number of Water Meters**

| Meter Size | FY 2025 | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|---|
| 5/8" | 750 | 750 | 750 | 750 | 750 | 750 |
| 3/4" | 4,280 | 4,280 | 4,280 | 4,280 | 4,280 | 4,280 |
| 1" | 5,482 | 5,569 | 5,656 | 5,743 | 5,830 | 5,918 |
| 1-1/2" | 2,721 | 2,750 | 2,779 | 2,808 | 2,837 | 2,866 |
| 2" | 934 | 934 | 935 | 936 | 937 | 937 |
| 3" | 88 | 91 | 94 | 97 | 100 | 104 |
| 4" | 41 | 42 | 43 | 44 | 44 | 44 |
| 6" | 21 | 25 | 29 | 33 | 37 | 40 |
| 8" | 4 | 4 | 5 | 6 | 6 | 6 |
| 10" | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 14,321 | 14,445 | 14,571 | 14,697 | 14,821 | 14,945 |

Table 3-4 shows the projected number of private fire service lines

**Table 3-4: Projected Number of Private Fire Service Lines**

| Line Size | FY 2025 | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|---|
| 5/8" | 1 | 1 | 1 | 1 | 1 | 1 |
| 3/4" | 0 | 0 | 0 | 0 | 0 | 0 |
| 1" | 2 | 2 | 2 | 2 | 2 | 2 |
| 1-1/2" | 2 | 2 | 2 | 2 | 2 | 2 |
| 2" | 92 | 92 | 92 | 92 | 92 | 92 |
| 3" | 7 | 7 | 7 | 7 | 7 | 7 |
| 4" | 189 | 189 | 189 | 189 | 189 | 189 |
| 6" | 120 | 120 | 120 | 120 | 120 | 120 |
| 8" | 30 | 30 | 30 | 30 | 30 | 30 |
| 10" | 4 | 4 | 4 | 4 | 4 | 4 |
| Total | 447 | 447 | 447 | 447 | 447 | 447 |

### 3.3.2. Wastewater

Table 3-5 shows the current and projected wastewater accounts or dwelling units. The City provided the FY 2025 billing data and the estimated growth in residential and commercial accounts. The City also identified that some government and city accounts had not been billed. The City started billing those accounts during FY 2026. The City also serves some sewer-only customers.

**Table 3-5: Projected Wastewater Accounts or Dwelling Units**

| Customer Class | FY 2025 | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|---|
| Single Family | 10,965 | 11,066 | 11,167 | 11,268 | 11,369 | 11,471 |
| Multifamily | 8,057 | 8,169 | 8,281 | 8,393 | 8,505 | 8,617 |
| Commercial | 775 | 782 | 791 | 800 | 807 | 812 |
| Government | 31 | 36 | 41 | 41 | 41 | 41 |
| City Accounts | 0 | 11 | 21 | 21 | 21 | 21 |
| Sewer Only | 250 | 250 | 250 | 250 | 250 | 250 |
| Total | 20,077 | 20,313 | 20,550 | 20,772 | 20,992 | 21,211 |

## 3.4. Water Use Assumptions

Water use presumes that customers within each customer class continue to use water similarly to FY 2025 water use on an average per account basis. This average use per account for each customer class is applied to the number of accounts for each class to determine the water sales each year. The projected water demand is shown in Table 3-6.

**Table 3-6: Water Use Assumptions, hcf**

| Customer Class | FY 2025 | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|---|
| Single Family | 3,009,317 | 3,035,061 | 3,060,805 | 3,086,549 | 3,112,293 | 3,138,281 |
| Multifamily | 794,096 | 804,836 | 815,576 | 826,316 | 837,056 | 847,796 |
| Commercial | 985,762 | 993,957 | 1,004,494 | 1,015,030 | 1,023,226 | 1,030,250 |
| Government, Institution, & Irrigation | 437,584 | 437,584 | 437,584 | 437,584 | 437,584 | 437,584 |
| Total | 5,226,759 | 5,271,438 | 5,318,459 | 5,365,480 | 5,410,159 | 5,453,912 |

## 3.5. Wastewater Flow Assumptions

Table 3-7 shows the projected wastewater flows for accounts that are or will be billed, at least in part, on metered water data. Flow equals the projected metered water use times the estimated return-to-sewer factors. FY 2025 is based on billed water data. Our experience shows that non-residential accounts will use 10% of the water for irrigation or other uses and that will not be discharged as wastewater. This is also consistent with the prior rate study performed by others.

**Table 3-7: Projected Wastewater Flows for Customers Billed on Flow, hcf**

| Customer Class | Return Factor | FY 2025 | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|---|---|
| Commercial | 90% | 816,281 | 823,655 | 833,137 | 842,618 | 849,993 | 855,260 |
| Government | 90% | 237,979 | 242,285 | 246,591 | 246,591 | 246,591 | 246,591 |
| City Accounts | 90% | 0 | 17,639 | 35,277 | 35,277 | 35,277 | 35,277 |
| Total | | 1,054,260 | 1,083,579 | 1,115,005 | 1,124,486 | 1,131,861 | 1,137,128 |

## 3.6. Water and Wastewater Financial Plan Assumptions

Inflationary assumptions shown in Table 3-8 were used to project O&M expenses beyond FY 2026. To ensure that future costs are reasonably projected, Raftelis worked with the City to generate assumptions regarding inflationary factors including general and salary inflation and water cost inflation as shown in Table 3-8. The inflationary factors shown in Table 3-8 were then applied to the FY 2026 budgeted cost estimates to develop the FY 2027 and subsequent year projections. The inflation rates shown for Main San Grabriel Basin over allotment water supply costs are based on input from the City regarding the current unit rate and reflect a $100/AF/year increase. Supply costs within allotment are based on an estimated cost in FY 2022 escalated at 5 percent per year through FY 2025, then increased at 7 percent for FY 2026 and as shown below for subsequent years.

**Table 3-8: Inflationary Assumptions**

| | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|
| General | 3% | 3% | 3% | 3% |
| Capital | 4% | 4% | 4% | 4% |
| Salary | 5% | 5% | 5% | 5% |
| Benefits | 4% | 4% | 4% | 4% |
| Chemicals | 5% | 5% | 5% | 5% |
| Utilities | 7% | 7% | 5% | 5% |
| Water Supply Base | 7% | 7% | 5% | 5% |
| Water Supply Over Allotment | 8% | 7% | 7% | 6% |
| Other Operating Revenues | 2% | 2% | 2% | 2% |
| Property Tax | 2% | 2% | 2% | 2% |

Interest earnings on cash reserves are projected at 3 percent interest rate for FY 2026 and FY 2027 lowering to a more conservative estimate of 1.5 percent per year thereafter.

# 4. Water Financial Plan

This section describes the assumptions used in projecting water enterprise operating and capital expenses as well as reserve coverage requirements for the study period (FY 2025 – FY 2034). These assumptions determine the overall revenue adjustments and total amount of revenue required from rates. The revenue covers operating and maintenance (O&M) and capital expenses as well as reserve funding. Revenue adjustments represent the average rate increase for the City as a whole; rate changes for individual customers will depend on the cost-of-service analysis described in the following chapter.

Financial plan assumptions were provided by and discussed in detail with City staff. The assumptions shown in Table 3-8 were incorporated into the financial plan. To develop the financial plan, Raftelis projected annual expenses and revenues, modeled reserve balances, and added planned capital expenditures. The City is not anticipating debt financing any capital improvements. This section of the report provides a discussion of projected revenue, O&M expenses, the CIP, and reserve funding under existing rates and the revenue adjustments needed to achieve fiscal sustainability.

## 4.1. Current Rate Revenue

The City's revenues consist of rate revenues, interest earnings on cash reserves, and other miscellaneous revenues. The rate revenue projections shown below assume that January 1, 2025 (Table 3-1) rates are effective throughout the study period and, therefore, represent estimated revenues in the absence of any rate increase. This status quo scenario provides a baseline from which Raftelis evaluates the need for revenue adjustments.

### 4.1.1. Calculated Water Rate Revenues

Raftelis projected water rate revenues from fixed service charges and volume charges for FY 2026 through FY 2030 based on January 1, 2025, water rates, the projected number of water meters, and projected annual water use.

The City collects fixed monthly service charges from its customers based on meter size. Table 4-1 shows projected fixed service charge revenues under current rates over the study period. Fixed charge revenues are calculated by connection size in each year as follows based on current water rates (from Table 3-1) and the projected number of water meters (from Table 3-3)[1].

*Annual Fixed Charge Revenue for ¾" meter = [FY 2026 fixed rate ¾" meter] × [Number of ¾" connections] × [6 Bills per year]*

The small increases in revenues are due to growth.

[1] The example is shown for a ¾" meter. The same formula is applied for each meter size.

**Table 4-1: Projected Fixed Charge Revenues Under Current Rates**

| Meter Size | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|
| 5/8" | $179,055 | $179,055 | $179,055 | $179,055 | $179,055 |
| 3/4" | $1,091,657 | $1,091,657 | $1,091,657 | $1,091,657 | $1,091,657 |
| 1" | $1,602,201 | $1,627,231 | $1,652,261 | $1,677,291 | $1,702,609 |
| 1-1/2" | $1,015,575 | $1,026,285 | $1,036,994 | $1,047,704 | $1,058,414 |
| 2" | $436,383 | $436,851 | $437,318 | $437,785 | $437,785 |
| 3" | $63,314 | $65,401 | $67,489 | $69,576 | $72,359 |
| 4" | $42,933 | $43,955 | $44,978 | $44,978 | $44,978 |
| 6" | $50,039 | $58,045 | $66,051 | $74,057 | $80,062 |
| 8" | $12,576 | $15,721 | $18,865 | $18,865 | $18,865 |
| Total | $4,493,734 | $4,544,201 | $4,594,667 | $4,640,967 | $4,685,782 |

Table 4-2 shows projected volume charge revenues under current rates over the study period. Volume charge revenues are calculated by customer class in each year as follows based on current water rates and projected water use (Table 3-6). This same formula is used at the tier level to calculate the revenue for residential customers.

*Annual Volume Charge Revenue = [FY 2026 rate per hcf] × [Annual Water Use in hcf]*

**Table 4-2: Projected Volume Charge Revenue Under Current Rates**

| Customer Class | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|
| Single Family Residential | | | | | |
| Tier 1 | $3,157,461 | $3,183,416 | $3,209,372 | $3,235,328 | $3,261,538 |
| Tier 2 | $2,640,408 | $2,663,605 | $2,686,801 | $2,709,998 | $2,733,409 |
| Tier 3 | $1,038,630 | $1,047,443 | $1,056,257 | $1,065,070 | $1,073,965 |
| Tier 4 | $1,875,125 | $1,891,322 | $1,907,519 | $1,923,715 | $1,940,063 |
| Subtotal: Single Family | $8,711,624 | $8,785,787 | $8,859,949 | $8,934,112 | $9,008,975 |
| Multifamily | | | | | |
| Tier 1 | $1,155,361 | $1,170,779 | $1,186,197 | $1,201,614 | $1,217,032 |
| Tier 2 | $667,895 | $676,807 | $685,720 | $694,633 | $703,545 |
| Subtotal: Multifamily | $1,823,256 | $1,847,586 | $1,871,917 | $1,896,247 | $1,920,578 |
| Governmental, Institution, & Irrigation Customer | $1,238,363 | $1,238,363 | $1,238,363 | $1,238,363 | $1,238,363 |
| Commercial | $2,305,981 | $2,330,426 | $2,354,871 | $2,373,883 | $2,390,180 |
| Total Volume Revenue | $14,079,223 | $14,202,161 | $14,325,099 | $14,442,605 | $14,558,095 |

### 4.1.2. Other Revenues

Table 4-3 shows all other revenues. All FY 2025 other revenues are based on the City's FY 2025 budget. FY 2026 is also from the City's budget except for interest income. Values in FY 2027 through FY 2030 were projected by Raftelis. Interest revenue is estimated beginning in FY 2026 based on estimated beginning fund

balances, revenues and expenses, and the assumed interest rate. It reflects the status quo case where there are no revenue adjustments. Miscellaneous revenue is forecast to stay flat.

**Table 4-3: Projected Other Water Enterprise Revenues (Status Quo)**

| Customer Class | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|
| Miscellaneous Revenue | | | | | |
| Rent & Royalties | $28,000 | $28,000 | $28,000 | $28,000 | $28,000 |
| PW Inspection Fees | $60,000 | $60,000 | $60,000 | $60,000 | $60,000 |
| Demand Resposne Program | $30,000 | $30,000 | $30,000 | $30,000 | $30,000 |
| Backflow Admin | $160,000 | $160,000 | $160,000 | $160,000 | $160,000 |
| Miscellaneous | $10,000 | $10,000 | $10,000 | $10,000 | $10,000 |
| Subtotal Misc. | $288,000 | $288,000 | $288,000 | $288,000 | $288,000 |
| Interest Income | $159,000 | $22,118 | $0 | $0 | $0 |
| Total | $447,000 | $310,118 | $288,000 | $288,000 | $288,000 |

## 4.2. Annual Expenses

The City's expenses include water supply purchases, operations and maintenance expenses, capital expenses, and debt service. This section discusses the details of each of these expenses.

### 4.2.1. Total Operations and Maintenance Budget

#### 4.2.1.1. Water Purchase Cost

The City obtains about 80 percent of its water from the Main San Gabriel Basin and 20 percent from the Raymond Basin. Occasionally, the City purchases treated, imported surface water from the Metropolitan Water District of Southern California via the Upper San Gabriel Valley Municipal Water District. Additionally, the City experiences about 7.5 percent in water losses, which is added to the projected water sales to determine the total amount of water supply needed. This is shown in the top half of Table 4-4, on the following page.

The middle section of Table 4-4 shows the projected unit costs for the water supply. In FY 2027, the City anticipates that there will be a supplemental RDA charge of $50/AF. The bottom section of the table multiplies the water supply by source by the associated unit rate to calculate the projected water supply costs.

### Table 4-4: Summary of Projected Purchased Water Cost Expenses

| | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|
| Total Water Sales, hcf | 5,271,438 | 5,318,459 | 5,365,480 | 5,410,159 | 5,453,912 |
| Total Water Demand, hcf | 5,698,852 | 5,749,685 | 5,800,519 | 5,848,821 | 5,896,121 |
| Total Water Demand, AF | 13,082 | 13,199 | 13,315 | 13,426 | 13,535 |
| | | | | | |
| Supply Met by Sources (AF) | | | | | |
| East Raymond Basin | 2,300 | 2,300 | 2,300 | 2,300 | 2,338 |
| West Raymond Basin | 600 | 600 | 600 | 600 | 610 |
| Main San Gabriel Basin (within allotment) | 6,770 | 6,346 | 6,346 | 6,346 | 6,346 |
| Main San Gabriel Basin (over allotment) | 3,412 | 3,953 | 4,069 | 4,180 | 4,240 |
| Upper Basin District (MWD) treated | 0 | 0 | 0 | 0 | 0 |
| Leased Water | 0 | 0 | 0 | 0 | 0 |
| Total Supply (AF) | 13,082 | 13,199 | 13,315 | 13,426 | 13,535 |
| | | | | | |
| Supply Costs | | | | | |
| Within Allotment | $328.69 | $351.70 | $369.28 | $387.75 | $407.14 |
| Over Allotment (FY blended rate) | $1,365.00 | $1,465.00 | $1,565.00 | $1,665.00 | $1,765.00 |
| RDA Increase* | $0.00 | $50.00 | $50.00 | $50.00 | $50.00 |
| | | | | | |
| Supply Costs | | | | | |
| East Raymond Basin | $706,531 | $755,988 | $808,907 | $849,353 | $906,695 |
| West Raymond Basin | $184,312 | $197,214 | $211,019 | $221,570 | $236,529 |
| Main San Gabriel Basin (within allotment) | $2,079,529 | $2,085,870 | $2,231,881 | $2,343,475 | $2,460,648 |
| Main San Gabriel Basin (over allotment) | $4,316,551 | $5,395,247 | $5,961,453 | $6,541,903 | $7,060,165 |
| RDA Increase | $0 | $514,928 | $520,763 | $526,306 | $529,317 |
| Upper Basin District (MWD) treated | $0 | $0 | $0 | $0 | $0 |
| Leased Water | $0 | $0 | $0 | $0 | $0 |
| Total | $7,286,924 | $8,949,248 | $9,734,023 | $10,482,607 | $11,193,354 |

* Applies to Main San Gabriel Supply

#### 4.2.1.2. Operating and Maintenance Expenses

The City provided Raftelis with its water budget for FY 2025 and FY 2026. To project the City's O&M expenses in future years, Raftelis used the escalation percentages shown in Table 3-8. A summary of the budgeted and projected O&M is shown in Table 4-5.

### Table 4-5: Summary of Projected Water Operations and Maintenance Expenses

| | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|
| 7201 Water Administration | $3,038,200 | $3,155,248 | $3,276,961 | $3,403,532 | $3,535,159 |
| 7204 Water Main & Replacement | $1,752,600 | $1,824,050 | $1,898,473 | $1,975,996 | $2,056,749 |
| 7205 Water Meter/Customer Service | $973,200 | $1,008,360 | $1,044,839 | $1,082,688 | $1,121,960 |
| 7206 Water Production/Quality | $11,509,524 | $13,410,073 | $14,447,607 | $15,409,394 | $16,343,208 |
| 7208 Water Facility Replacement | $0 | $0 | $0 | $0 | $0 |
| 7209 Water Equipment Replacement | $1,156,828 | $1,590,625 | $814,022 | $706,351 | $1,043,945 |
| Total - O&M Expenses | $18,430,352 | $20,988,355 | $21,481,902 | $22,577,961 | $24,101,021 |

### 4.2.2. Capital Improvement Plan

Table 4-6 shows the City's plan for water capital improvements using the inflation factor listed in Table 3-8.

**Table 4-6: Projected Capital Improvement Projects**

| | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|
| SCADA System Upgrades | $900,000 | $0 | $0 | $0 | $0 |
| Valve Replacement Program | $0 | $250,000 | $150,000 | $150,000 | $150,000 |
| Well Inspection and Rehabilitation Program | $400,000 | $450,000 | $350,000 | $350,000 | $350,000 |
| Water Master Plan Update | $350,000 | $0 | $0 | $0 | $0 |
| Orange Grove Well Treatment - Design and Construction | $6,000,000 | $0 | $0 | $0 | $0 |
| Purchase and Install 800kw Generator at Live Oak Treatment Plant | $850,000 | $0 | $0 | $0 | $0 |
| Public Works Facility Improvements | $0 | $8,000 | $7,500 | $7,500 | $7,500 |
| Canyon Reservoirs Coating | $0 | $800,000 | $0 | $0 | $0 |
| Arcadia Wash Bridge Guard Railing Improvement Program | $0 | $200,000 | $200,000 | $200,000 | $200,000 |
| Water Main Replacement Program | $0 | $0 | $1,000,000 | $700,000 | $700,000 |
| Future Projects | $0 | $0 | $0 | $0 | $1,000,000 |
| Total, Uninflated | $8,500,000 | $1,708,000 | $1,707,500 | $1,407,500 | $2,407,500 |
| Total, Inflated | $8,840,000 | $1,847,373 | $1,920,705 | $1,646,576 | $2,929,092 |

### 4.2.3. Existing and Proposed Debt Service

The water fund currently pays about $94,400 per year on the 2020 Pension Obligation Bonds. The City plans to use cash to fund capital projects over the study period. Therefore, no additional debt is proposed.

## 4.3. Reserve Targets

The City maintains several water enterprise reserve funds.

***Operating Reserve*** – The Operating Reserve is used primarily to meet ongoing cash flow requirements. The City's minimum reserve target is set at 25 percent (three months) of water revenues.

***Capital Reserve*** – The Capital Reserve is used to cover capital costs and any unexpected and unplanned infrastructure repairs and replacements not included in the budget as well as to set aside money for future capital projects. Therefore, the City has set a target equal to the 5-year average of cash-funded capital projects. When a future multimillion-dollar capital project such as a water storage tank is needed, the capital reserve fund can be drawn upon to help pay for that project. Then the reserves would build back over time.

***Rate Stabilization Reserve*** – The Rate Stabilization is used primarily to help reduce an annual revenue adjustment due to a short-term spike in costs or decrease in revenues from droughts. The City's reserve target is set at 10 percent of the commodity rate revenues.

***Regulatory Reserve*** – A Regulatory reserve helps build and keep funds on hand for projects needed for potential regulatory-driven projects. The City is targeting a desired total reserve across all funds of $14 million. The balance after setting aside the targets amounts in the other reserves will be placed in the regulatory reserve.

## 4.4. Proposed Financial Plan and Revenue Adjustments

The proposed revenue adjustments help ensure adequate revenue to fund operating expenses, capital expenditures, and meet reserve targets. The Financial Plan modeling assumes the first revenue adjustment occurs on January 1, 2026. The proposed revenue adjustments would enable the City to meet operating costs and to execute the CIP shown in Table 4-6, and meet all reserve targets by the end of FY 2030. Table 4-7 shows the proposed revenue adjustments for the rate-setting period.

**Table 4-7: Proposed Revenue Adjustments**

| Effective Date | Adjustment |
|---|---|
| January, 2026 | 12.0% |
| January, 2027 | 12.0% |
| January, 2028 | 10.0% |
| January, 2029 | 6.0% |
| January, 2030 | 6.0% |

Table 4-8, on the following page, shows the operating fund cash flow detail over the study period assuming the revenue adjustments shown above. Line 1 shows the projected rate-revenue under existing rates. Line 8 shows the total forecast adjusted revenue from the proposed revenue adjustments plus revenue under existing rates. Line 11 shows the total other revenues. Line 12 shows total water fund revenue including miscellaneous revenues and interest. Line 19 shows total O&M expenses. Lines 20 – 22 show debt service, capital outlays, and net cashflow, respectively. Line 23 shows the enterprise's operating balance at the start of the fiscal year. The ending operating fund balance in Line 24 is the beginning balance (Line 23) plus the net cashflow (Line 22). Line 25 shows the target operating reserve level. The operating reserve is expected to be below the total target (operating, plus rate stabilization, plus regulatory), it is expected to be at or above target in FY 2030.

Table 4-9 shows the capital sources and uses. Sources include the Settlement fund as well as transfers into capital fund from operations. The ending balance is projected to meet the capital reserve target by FY 2027.

## Table 4-8: Water Operating Cashflow

| | | | | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|---|---|---|
| 1 | Revenue Under Existing Rates | | | $18,662,606 | $18,836,010 | $19,009,415 | $19,173,221 | $19,333,526 |
| | Revenue Adjustments | | | | | | | |
| 2 | | # Mo First Year | Adjustment | | | | | |
| 3 | FY 2026 | 6 | 12.0% | $1,119,756 | $2,260,321 | $2,281,130 | $2,300,787 | $2,320,023 |
| 4 | FY 2027 | 6 | 12.0% | | $1,265,780 | $2,554,865 | $2,576,881 | $2,598,426 |
| 5 | FY 2028 | 6 | 10.0% | | | $1,192,271 | $2,405,089 | $2,425,197 |
| 6 | FY 2029 | 6 | 6.0% | | | | $793,679 | $1,600,630 |
| 7 | FY 2030 | 6 | 6.0% | | | | | $848,334 |
| 8 | Total Rate-Based Revenue | | | $19,782,362 | $22,362,112 | $25,037,681 | $27,249,657 | $29,126,137 |
| | Other Revenue | | | | | | | |
| 9 | Miscellaneous | | | $288,000 | $288,000 | $288,000 | $288,000 | $288,000 |
| 10 | Interest Income | | | $176,052 | $110,438 | $66,767 | $105,683 | $148,577 |
| 11 | Total Other Revenue | | | $464,052 | $398,438 | $354,767 | $393,683 | $436,577 |
| 12 | Total Revenue | | | $20,246,415 | $22,760,550 | $25,392,448 | $27,643,340 | $29,562,714 |
| | O&M Expenses | | | | | | | |
| 13 | 7201 Water Administration | | | $3,038,200 | $3,155,248 | $3,276,961 | $3,403,532 | $3,535,159 |
| 14 | 7204 Water Main & Replacement | | | $1,752,600 | $1,824,050 | $1,898,473 | $1,975,996 | $2,056,749 |
| 15 | 7205 Water Meter/Customer Service | | | $973,200 | $1,008,360 | $1,044,839 | $1,082,688 | $1,121,960 |
| 16 | 7206 Water Production/Quality | | | $11,509,524 | $13,410,073 | $14,447,607 | $15,409,394 | $16,343,208 |
| 17 | 7208 Water Facility Replacement | | | $0 | $0 | $0 | $0 | $0 |
| 18 | 7209 Water Equipment Replacement | | | $1,156,828 | $1,590,625 | $814,022 | $706,351 | $1,043,945 |
| 19 | Total - O&M Expenses | | | $18,430,352 | $20,988,355 | $21,481,902 | $22,577,961 | $24,101,021 |
| 20 | Debt Service | | | $94,418 | $94,454 | $94,408 | $94,384 | $94,491 |
| 21 | Capital Outlay | | | $4,155,000 | $1,547,373 | $1,620,705 | $1,346,576 | $2,629,092 |
| 22 | Net Cashflow | | | -$2,433,355 | $130,368 | $2,195,433 | $3,624,419 | $2,738,110 |
| 23 | Beginning Balance | | | $7,916,498 | $3,820,333 | $3,542,226 | $5,360,065 | $8,731,031 |
| 24 | Ending Balance | | | $3,820,333 | $3,542,226 | $5,360,065 | $8,731,031 | $11,079,236 |
| 25 | Target Operating Reserves | | | $4,607,588 | $5,247,089 | $5,370,475 | $5,644,490 | $6,025,255 |
| 26 | Target Rate Stabilization Reserve | | | $1,407,922 | $1,420,216 | $1,432,510 | $1,444,261 | $1,455,810 |
| 27 | Target Regulatory Reserve | | | $2,000,000 | $5,214,877 | $4,643,321 | $4,068,361 | $3,245,092 |
| 28 | Over/Under Total Target | | | -$4,195,177 | -$8,339,956 | -$6,086,242 | -$2,426,081 | $353,079 |

### Table 4-9: Capital Fund Cashflow

| | | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|---|
| 1 | Beginning Balance | $596,939 | $1,709,343 | $2,176,100 | $2,589,435 | $2,883,939 |
| | Sources | | | | | |
| 2 | Debt Proceeds | $0 | $0 | $0 | $0 | $0 |
| 3 | Settlement Payments | $4,100,000 | $300,000 | $300,000 | $300,000 | $300,000 |
| 4 | Rate Funded CIP | $4,155,000 | $1,547,373 | $1,620,705 | $1,346,576 | $2,629,092 |
| 5 | Transfer into Reserves | $1,662,810 | $408,475 | $377,594 | $253,453 | $389,904 |
| 6 | Interest | $34,594 | $58,282 | $35,742 | $41,050 | $46,532 |
| 7 | Total Sources | $9,952,405 | $2,314,129 | $2,334,041 | $1,941,080 | $3,365,528 |
| 8 | Less CIP | $8,840,000 | $1,847,373 | $1,920,705 | $1,646,576 | $2,929,092 |
| 9 | Ending Balance | $1,709,343 | $2,176,100 | $2,589,435 | $2,883,939 | $3,320,375 |
| 10 | Capital Reserve Target | $2,259,749 | $2,117,818 | $2,553,694 | $2,842,889 | $3,273,843 |
| 11 | Above/Below Target | -$550,406 | $58,282 | $35,742 | $41,050 | $46,532 |

Figure 4-1 through Figure 4-3 display the FY 2026 through FY 2030 Financial Plan in graphical form. Figure 4-1 illustrates the Financial Plan – it compares existing (solid black line) and proposed revenues (dashed black line) with projected expenses (stacked columns). The green bars above the X-axis show the net cash used to build up the reserves. The expenses include O&M, purchased water, debt service, and reserve funding. Projected revenue from existing rates if continued unchanged would not meet future projected total expenses and illustrates the need for revenue adjustments necessary to maintain operations, accomplish the desired CIP, and to eventually meet reserve targets.

### Figure 4-1: Proposed Financial Plan

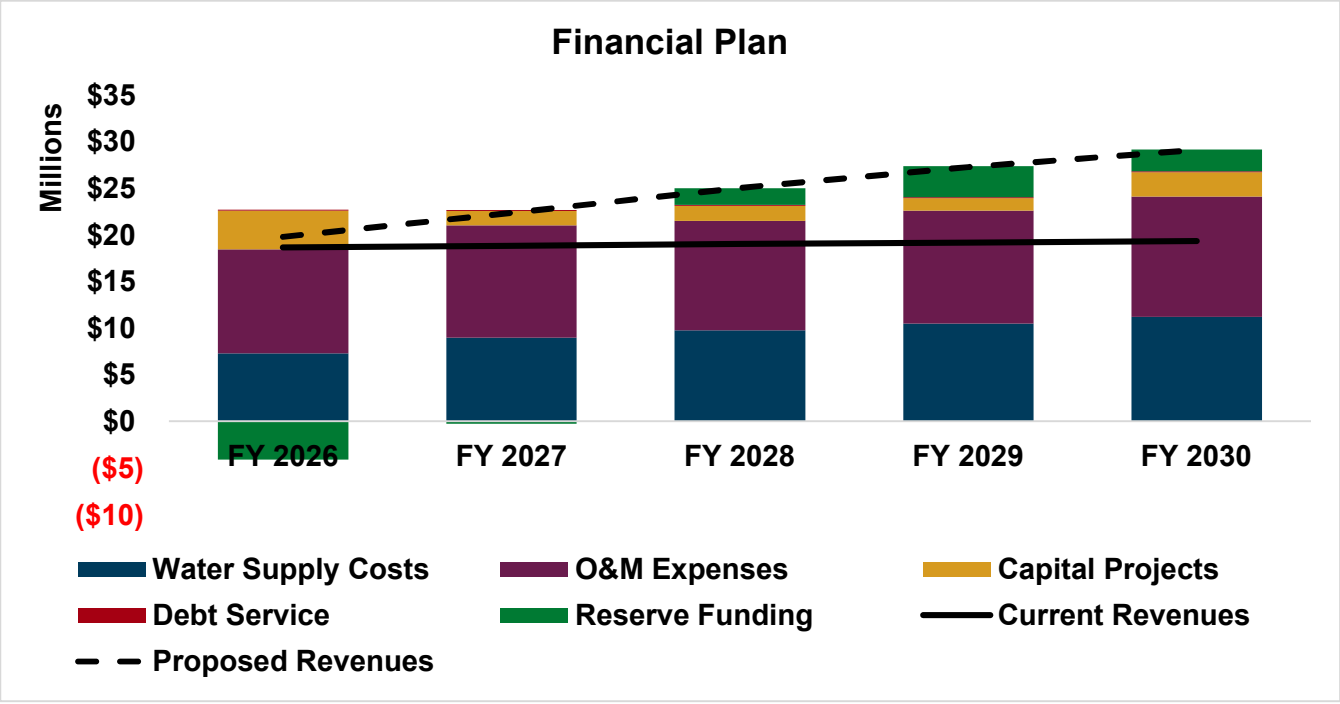


Figure 4-2 summarizes the projected CIP and its funding sources: rates and Settlement funds from environmental litigation. The City does not plan to issue debt to pay for future CIP during the study period.

**Figure 4-2: Projected Capital Plan and Funding Sources**

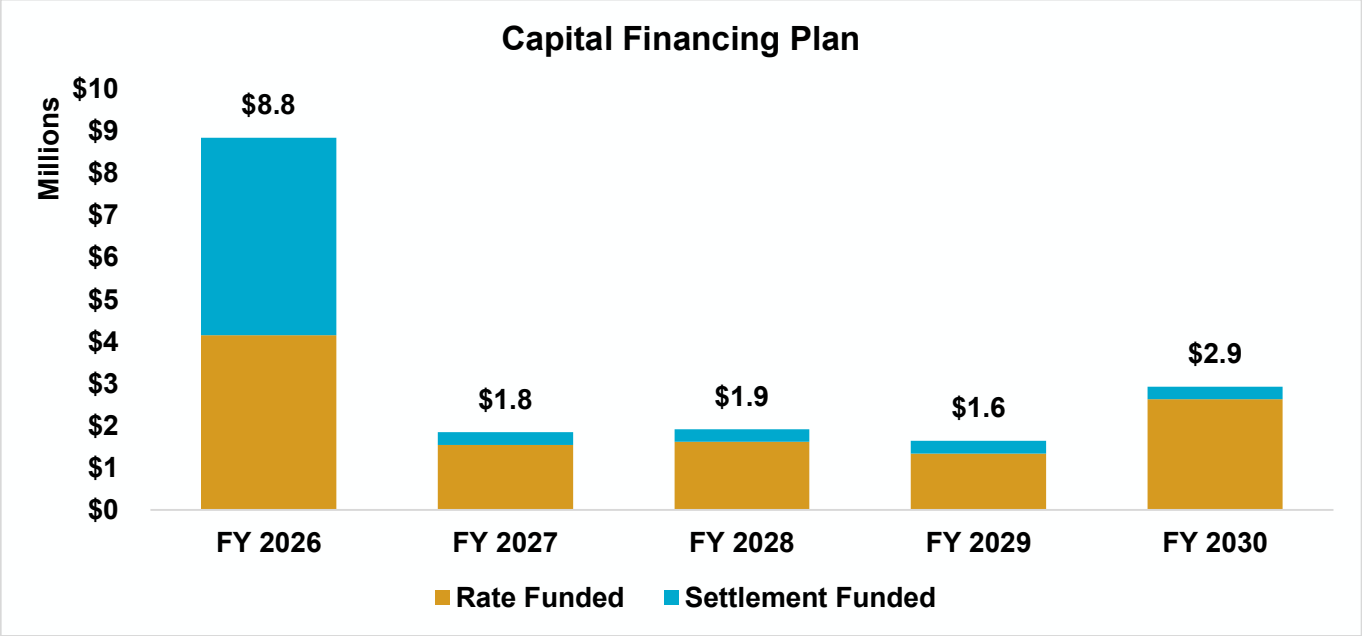
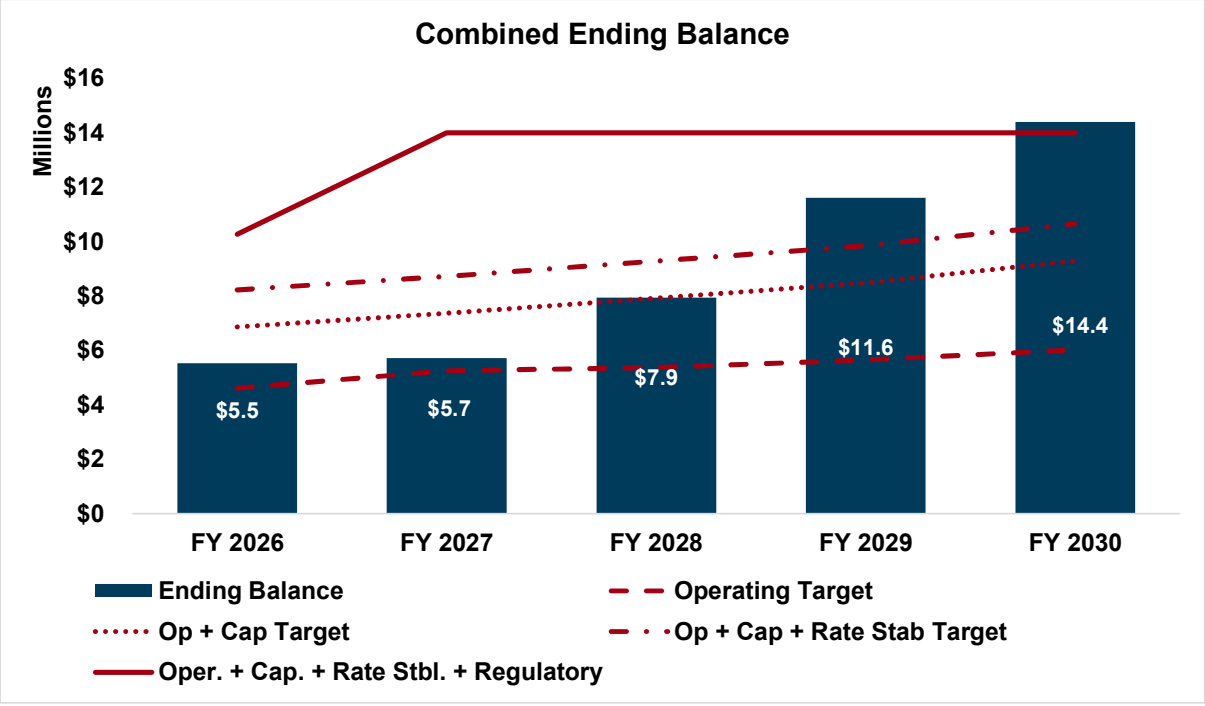



Figure 4-3 displays the projected total yearly ending balance (blue bars). The different targets, cumulatively increasing from operating reserve, to operating plus capital, to operating plus capital plus rate stabilization, to the total reserve are shown by the different red lines. By FY 2028, the operating reserve target is met. By FY 2029, the operating, capital, and rate stabilization reserves are met. By FY 2030, the total reserve target is met.

**Figure 4-3: Projected Operating Fund Ending Balance**



# 5. Water Cost-of-Service Analysis

A cost-of-service analysis distributes a utility's revenue requirement (costs) to each customer class proportionally to the service received. This section explains the details of the cost-of-service analysis conducted for the City of Arcadia for providing water services to customers.

After determining a utility's revenue requirement, the next step in a cost-of-service analysis is to functionalize its O&M costs to the following functions:

- **Supply** – cost of pumping groundwater
- **Treatment** – cost of treating water
- **Pumping** – cost of pumping water through the system
- **Distribution** – cost associated with pipes, pumps, mains, etc.
- **Distribution Storage** – cost associated with storing treated water
- **Meter Maintenance** – costs associated with meter maintenance and replacement
- **Customer Service** – costs associated with meter reading, billing, and customer service
- **General and Administration (G&A)** – general and administrative costs incurred by the City
- **Fire protection** – costs associated with public fire hydrants

The functionalization of costs allows us to better allocate the costs to the rate components: monthly service charge, monthly CIP component charge, and volumetric charge.

## 5.1. Revenue Requirement Determination

Table 5-1 shows the net revenue requirement from rates for FY 2026, the test year. The total revenue requirement shown in Line 4 is equal to operating expenses and capital-related expenses (cash-funded capital plus debt service). Other operating revenues, totaled in Line 7, comprise miscellaneous revenues and interest income and reduce the total revenue required from rates. The adjustment transfers out of reserves (Line 8) and reduced the revenue requirement. The mid-year increase (Line 9) reflects that the FY 2026 revenue adjustment occurs part way through the fiscal year and adds to the revenue requirement.[2] The net revenue required from rates (Line 11) is equal to Line 4 plus Line 7 plus Line 10.

[2] This rate adjustment is proposed to be adopted in January; thus, the revenue requirement calculation has to be adjusted to incorporate this timing. Not adjusting these rates would result in only 6/12 of the rate adjustment being implemented due to the six "missed" months.

**Table 5-1: Revenue Requirement Determination, FY 2026**

| No. | Line Item | Operating | Capital-Related | Total |
|---|---|---|---|---|
| | Revenue Requirements | | | |
| 1 | O&M | $18,430,352 | $0 | $18,430,352 |
| 2 | Debt Service | $0 | $94,418 | $94,418 |
| 3 | Cash Funded Capital | $0 | $4,155,000 | $4,155,000 |
| 4 | Total Revenue Requirements | $18,430,352 | $4,249,418 | $22,679,770 |
| | | | | |
| | Revenue Offsets | | | |
| 5 | Miscellaneous Revenue | -$288,000 | $0 | -$288,000 |
| 6 | Interest Income | -$176,052 | $0 | -$176,052 |
| 7 | Total Other Revenue | -$464,052 | $0 | -$464,052 |
| | | | | |
| | Adjustments | | | |
| 8 | To (from) Reserves | -$2,433,355 | $0 | -$2,433,355 |
| 9 | Add Revenue for Mid-Year Adjustment | $1,119,756 | $0 | $1,119,756 |
| 10 | Total Adjustments | -$1,313,599 | $0 | -$1,313,599 |
| | | | | |
| 11 | Net Revenue Requirement | $16,652,701 | $4,249,418 | $20,902,119 |

## 5.2. Functionalization of Net Revenue Requirement

Functionalizing expenses allows Raftelis to follow the principles of rate setting theory in which the end goal is to allocate the City's revenue requirements to cost causation components. Table 5-2 shows the resulting functionalization of the City's O&M expenses (Line 4, Table 5-1) and capital-related costs (Line 4, Table 5-1). Raftelis worked with City staff to functionalize the test year O&M line items to the functions listed at the beginning of Section 5. The capital-related net revenue requirements are allocated based on the asset value on a replacement cost less depreciation basis.

**Table 5-2: Functionalization of Net Revenue Requirements**

| Function | O&M Cost | O&M Allocation | Asset Value | Capital Allocation |
|---|---|---|---|---|
| Supply | $7,286,924 | 39.5% | $8,401,654 | 11.3% |
| Treatment | $4,222,600 | 22.9% | $227,390 | 0.3% |
| Pumping | $0 | 0.0% | $7,500,106 | 10.1% |
| Distribution Storage | $0 | 0.0% | $11,672,205 | 15.7% |
| Distribution | $1,752,600 | 9.5% | $43,411,091 | 58.4% |
| Meter Maintenance | $0 | 0.0% | $473,271 | 0.6% |
| Customer Service and Meter Reading | $973,200 | 5.3% | $0 | 0.0% |
| General & Admin | $4,195,028 | 22.8% | $2,200,344 | 3.0% |
| Direct Fire Protection | $0 | 0.0% | $412,802 | 0.6% |
| Total | $18,430,352 | 100.0% | $74,298,862 | 100.0% |

## 5.3. Allocation of Functionalized Net Revenue Requirements to Cost Components

After functionalizing the net revenue requirements, the next step is to allocate the functionalized net revenue requirements to the following cost components.

- Supply– variable costs associated with providing water supplies for all customers
- Base–fixed costs associated with providing service under average demand conditions
- Peaking (Max Day and Peak Hour) – costs associated with meeting demand in excess of average use
- Customer Service– the costs associated with meter reading, billing, and customer service
- Equivalent Meters– costs associated with meter capacity, maintenance, and replacement
- Capital – capital-related costs

### 5.3.1. System Peaking Factors

Water demands vary by season and by time of day. Demands are very high in the summertime because of irrigation demands, and on particularly hot days, the demand shoots up even further. Water systems have to be designed to meet these peak requirements. Components of the water system are therefore oversized compared to the requirement for average demands. For example, reservoirs are designed to meet maximum day requirements, and distribution lines are designed to meet instantaneous peak demands or peak hour demands. Therefore, peaking plays a significant part in the costs of operating and constructing a water system. Demonstrating that rates are proportional to the demands and associated costs that customer classes place on the utility system is critical to ensure that rates are aligned with the intent of Proposition 218. The capital and operating costs of the system must then be allocated to customer classes in proportion to the demands they place on the system. For costs recovered through a water utility's fixed meter charge, costs are allocated either over all accounts or by meter size, depending on the type of expense. Variable costs are allocated among customer classes based on the demands they place on the water system and the cost of water supplies.

Peaking costs are computed for a maximum day and peak hour. The maximum day (max day) demand is the maximum amount of water used in a single day in a year. The peak hour demand is the maximum amount of water used in a single hour on the maximum day. Therefore, extra capacity[3] costs include the O&M and capital costs associated with meeting peak customer demand. To identify system costs associated with peaking, it is first required to identify the system max day and max hour requirements, and then the costs associated with peaking are distributed amongst the different classes based on their individual peaking characteristics. This method is consistent with the AWWA Manual M1 and is widely used in the water industry to perform cost-of-service analyses.

Table 5-3 shows the system-wide peaking factors used to derive the cost component allocation bases for base and peaking costs. Base costs represent average daily demand during the year, which is normalized to a factor of 1.00 (Column B, Line 1). The max day factor comes from the City's FY 2025 billing data information, which shows total billed usage of 11,999 AF (or approximately 33 AF/day on average) and City provided information that the max day usage in FY 2025 was 59.35 AF. The calculated max day factor is the same as in the prior study. The max hour factor is then retained from the prior rate study. The allocation bases (Columns C, D, and E) are calculated using the equations outlined below the table.

[3] The terms extra capacity, peaking and capacity costs are used interchangeably.

### Table 5-3: Water System Peaking Factors

| No | Cost Component (A) | Demand Factor (B) | Base (C) | Max Day (D) | Max Hour (E) |
|---|---|---|---|---|---|
| 1 | Base | 1.00 | 100.0% | | |
| 2 | Max Day | 1.81 | 55.2% | 44.8% | |
| 3 | Peak Hour | 2.48 | 40.3% | 32.7% | 27.0% |

The max day allocations are calculated as follows:

- Base Delivery: B1 / B2 x 100% = C2
- Max Day: 100% - C2 = D2

The peak hour allocations are calculated as follows:

- Base Delivery: B1 / B3 x 100% = C3
- Max Day: (B2 – B1) / B3 x 100% = D3
- Peak Hour: 100% - C3 – D3 = E3

## 5.3.2. Operating and Capital Allocation

Table 5-4 shows the system functions, the rationale for allocating each function to the various cost components, and the percentage allocation to each component. Most functions have a one-to-one relationship with a cost component.

### Table 5-4: Allocation of Functions to Cost Components

| Functional Allocation | Rationale | Supply | Base-Delivery | Max Day | Max Hour | Meters | Public Fire | Billing | G&A | Total |
|---|---|---|---|---|---|---|---|---|---|---|
| Supply | Supply | 100.0% | | | | | | | | 100.0% |
| Treatment | Max Day | | 55.2% | 44.8% | | | | | | 100.0% |
| Pumping | Max Day | | 55.2% | 44.8% | | | | | | 100.0% |
| Distribution Storage | Max Day | | 55.2% | 44.8% | | | | | | 100.0% |
| Distribution | Max Hour | | 40.3% | 32.7% | 27.0% | | | | | 100.0% |
| Meter Maintenance | Meter | | | | | 100.0% | | | | 100.0% |
| Customer Service & Meter Reading | Billing | | | | | 0.0% | | 100.0% | | 100.0% |
| General & Admin | G&A | 5.0% | | | | | | 25.0% | 70.0% | 100.0% |
| Direct Fire Protection | Public Fire | | | | | | 100.0% | | | 100.0% |

Table 5-5 shows the operating costs by functional component (Table 5-2) allocated to the cost components using the allocations shown in Table 5-4.

### Table 5-5: Allocation of Operation & Maintenance to Cost Components

| Functional Allocation | O&M | Supply | Base-Delivery | Max Day | Max Hour | Billing | G&A |
|---|---|---|---|---|---|---|---|
| Supply | $7,286,924 | $7,286,924 | $0 | $0 | $0 | $0 | $0 |
| Treatment | $4,222,600 | $0 | $2,332,928 | $1,889,672 | $0 | $0 | $0 |
| Pumping | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Distribution Storage | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Distribution | $1,752,600 | $0 | $706,694 | $572,422 | $473,485 | $0 | $0 |
| Meter Maintenance | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Customer Service & Meter Reading | $973,200 | $0 | $0 | $0 | $0 | $973,200 | $0 |
| General & Admin | $4,195,028 | $209,751 | $0 | $0 | $0 | $1,048,757 | $2,936,520 |
| Direct Fire Protection | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Total | $18,430,352 | $7,496,675 | $3,039,622 | $2,462,094 | $473,485 | $2,021,957 | $2,936,520 |
| Allocation | 100.0% | 40.7% | 16.5% | 13.4% | 2.6% | 11.0% | 15.9% |

Table 5-6 shows the allocation of asset value by function to the cost components using the allocations shown in Table 5-4.

### Table 5-6: Allocation of Asset Value to Cost Components

| Functional Allocation | Asset Value | Supply | Base-Delivery | Max Day | Max Hour | Meters | Public Fire | Billing | G&A |
|---|---|---|---|---|---|---|---|---|---|
| Supply | $8,401,654 | $8,401,654 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| Treatment | $227,390 | $0 | $125,630 | $101,760 | $0 | $0 | $0 | $0 | $0 |
| Pumping | $7,500,106 | $0 | $4,143,705 | $3,356,401 | $0 | $0 | $0 | $0 | $0 |
| Distribution Storage | $11,672,205 | $0 | $6,448,732 | $5,223,473 | $0 | $0 | $0 | $0 | $0 |
| Distribution | $43,411,091 | $0 | $17,504,472 | $14,178,622 | $11,727,996 | $0 | $0 | $0 | $0 |
| Meter Maintenance | $473,271 | $0 | $0 | $0 | $0 | $473,271 | $0 | $0 | $0 |
| Customer Service & Meter Reading | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 | $0 |
| General & Admin | $2,200,344 | $110,017 | $0 | $0 | $0 | $0 | $0 | $550,086 | $1,540,241 |
| Direct Fire Protection | $412,802 | $0 | $0 | $0 | $0 | $0 | $412,802 | $0 | $0 |
| Total | $74,298,862 | $8,511,671 | $28,222,539 | $22,860,256 | $11,727,996 | $473,271 | $412,802 | $550,086 | $1,540,241 |
| Allocation | 100.0% | 11.5% | 38.0% | 30.8% | 15.8% | 0.6% | 0.6% | 0.7% | 2.1% |

Table 5-7 shows the net revenue requirement allocated to the cost components. Operating costs on Line 1 are the same as shown on the last line in Table 5-5. Line 2 applies the allocations from Table 5-6 to the capital-related costs in Table 5-1. The Revenue offsets (Line 4) and adjustments (Line 5) are allocated to the cost centers based on the allocation of operating costs excluding supply costs. The resulting net revenue requirement allocation is shown in Line 6. This allocation is further adjusted to reallocate General and Administration (G&A) costs. Operating G&A is allocated like total operating (Line 1, Line 4, and Line 5) except supply and Capital G&A is allocated like capital (Line 2) except supply. This results in an adjusted net revenue requirement allocation, as shown in Line 9.

### Table 5-7: Net Revenue Requirement

| No | Revenue Requirement | Total | Supply | Base-Delivery | Max Day | Max Hour | Meters | Public Fire | Billing | G&A |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Operating | $18,430,352 | $7,496,675 | $3,039,622 | $2,462,094 | $473,485 | $0 | $0 | $2,021,957 | $2,936,520 |
| 2 | Capital | $4,249,418 | $486,813 | $1,614,148 | $1,307,460 | $670,766 | $27,068 | $23,610 | $31,461 | $88,092 |
| 3 | Revenue Requirement | $22,679,770 | $7,983,488 | $4,653,770 | $3,769,554 | $1,144,251 | $27,068 | $23,610 | $2,053,418 | $3,024,611 |
| 4 | Revenue Offsets-Operating | ($464,052) | $0 | ($129,009) | ($104,497) | ($20,096) | $0 | $0 | ($85,817) | ($124,633) |
| 5 | Adjustments-Operating | ($1,313,599) | $0 | ($365,188) | ($295,802) | ($56,886) | $0 | $0 | ($242,923) | ($352,801) |
| 6 | Net Revenue Requirement | $20,902,119 | $7,983,488 | $4,159,573 | $3,369,254 | $1,067,269 | $27,068 | $23,610 | $1,724,679 | $2,547,178 |
| 7 | Reallocation G&A - Op | $0 | $0 | $934,668 | $757,081 | $145,594 | $0 | $0 | $621,742 | ($2,459,086) |
| 8 | Reallocation G&A - Cap | $0 | $0 | $38,697 | $31,345 | $16,081 | $649 | $566 | $754 | ($88,092) |
| 9 | Adjusted Net Rev Req | $20,902,119 | $7,983,488 | $5,132,939 | $4,157,680 | $1,228,944 | $27,717 | $24,176 | $2,347,175 | $0 |

## 5.4. Derivation of Units of Service

### 5.4.1. Equivalent Meters

Equivalent meters (EMs) are used to allocate meter-related costs. Larger meters can impose greater demands on the system and are more expensive to install, maintain, and replace than smaller meters. Typically hydraulic capacity (capacity) ratio is used to calculate equivalent meters. The capacity ratio is based on meter hydraulic capacity and is calculated to represent the potential demand on the water system compared to the base meter size. A ratio of hydraulic capacity is calculated by dividing the capacity of a meter at a given size by the base meter capacity using the maximum safe operating flow rates in gallons per minute (gpm). The base meter used in the study is the 3/4" meter.

Table 5-8 shows the meter capacity and capacity ratio for each meter size. The capacity in gpm is based on the safe operating flow rates provided in the AWWA Manual M1. The capacity ratios (Column C) are calculated by dividing the capacity in gpm (Column B) for each meter size (Column A) by the capacity in gpm for the 3/4" meter (Column B, Line 2). Five-eighths inch meters are presumed to have the same ratio as 3/4" meters. Meter counts (Column D) at each size are multiplied by the capacity ratio (Column C) to arrive at the total number of equivalent meters, shown in Column E.

**Table 5-8: Equivalent Meters**

| No | Meter Size (A) | Capacity (gpm) (B) | AWWA Ratio (C) | No. of Meters (D) | Equivalent Meters (E) |
|---|---|---|---|---|---|
| 1 | 5/8" | 20 | 1.00 | 750 | 750 |
| 2 | 3/4" | 30 | 1.00 | 4,280 | 4,280 |
| 3 | 1" | 50 | 1.67 | 5,569 | 9,282 |
| 4 | 1-1/2" | 100 | 3.33 | 2,750 | 9,167 |
| 5 | 2" | 160 | 5.33 | 934 | 4,981 |
| 6 | 3" | 300 | 10.00 | 91 | 910 |
| 7 | 4" | 500 | 16.67 | 42 | 700 |
| 8 | 6" | 1000 | 33.33 | 25 | 833 |
| 9 | 8" | 1600 | 53.33 | 4 | 213 |
| 10 | 10" | 2400 | 80.00 | 0 | 0 |
| 11 | Total | | | 14,445 | 31,116 |

## 5.4.2. 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 3-4.

Table 5-9 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 diameter of the connection (in inches) is raised to the 2.63 power to determine the relative fire flow capacity factor (Column A). The equivalent capacity ratio (Column B) takes the relative flow capacity factor at each fire line size divided by the 2-inch flow capacity (Line 1, Column A) to establish each connection on an equivalent basis. The equivalent capacity ratio is multiplied by the number of hydrants (Column C) or connections (Column D) at each size and summed to calculate the equivalent capacity of hydrants (Column C, Line 14) and connections (Column D, Line 14). Line 9 shows the proportional share of equivalent fire connections between public (Column C) and private (Column D).

**Table 5-9: Equivalent Fire Connections**

| No | Fire Line Size | Relative Flow Capacity (A) | Equivalent Capacity Ratio (B) | Public Fire Hydrants (C) | Private Fire Connections (D) |
|---|---|---|---|---|---|
| 1 | 5/8" | 1.00 | 1.00 | 0 | 1 |
| 2 | 3/4" | 1.00 | 1.00 | 0 | 0 |
| 3 | 1" | 1.00 | 1.00 | 0 | 2 |
| 4 | 1-1/2" | 1.00 | 1.00 | 0 | 2 |
| 5 | 2" | 1.00 | 1.00 | 0 | 92 |
| 6 | 3" | 2.90 | 2.90 | 0 | 7 |
| 7 | 4" | 6.19 | 6.19 | 0 | 189 |
| 8 | 6" | 17.98 | 17.98 | 0 | 120 |
| 9 | 8" | 38.32 | 38.32 | 0 | 30 |
| 10 | 10" | 68.91 | 68.91 | 0 | 4 |
| 11 | Hydrants-4" | 6.19 | 6.19 | 472 | 0 |
| 12 | Hydrants-6" | 17.98 | 17.98 | 1,056 | 0 |
| 13 | Total | | | 1,528 | 447 |
| 14 | Equivalent Connections | | | 21,910 | 4,870 |
| 15 | Proportional Share | | | 82% | 18% |

Table 5-10 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 5-9 and Table 5-10 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.

**Table 5-10: Fire Service Share of Peaking Requirements**

| | Max. Fire Flow (gpm) (A) | Duration (hours) (B) | Max DayFire Flow (hcf) (C) | Max HourFire Flow (hcf) (D) |
|---|---|---|---|---|
| Residential | 1,500 | 2 | 241 | 2,888 |
| Commercial | 3,500 | 3 | 842 | 6,738 |
| Total | | | 1,083 | 9,626 |

## 5.4.3. Unit Costs of Service

Customer class demands vary depending on their respective usage characteristics. For example, the demand characteristics of a single-family residential customer will differ from the demand characteristics of an irrigation customer. Peak demands are a key difference in usage characteristics of customer classes. The concept of proportionality requires that cost allocations consider both the average quantity of water consumed (base demand) and the peak rate at which it is consumed (peak demands). The use of peak demands in the cost allocation process is consistent with cost-of-service principles because a water system is designed, constructed, and operated to meet peak demands. These additional costs must be allocated to customer classes in proportion to their peak usage characteristics.

In allocating the costs of service, the industry standard, as promulgated by AWWA's M1 Manual, is to group customers with similar system needs and demands into customer classes. Rates are then developed for each customer class. A customer class consists of a group of customers with common characteristics who share responsibility for certain costs incurred by the utility. Joint costs are proportionately shared among all customers in the system based on their service requirements. Residential customers are homogeneous with similar usage characteristics compared to non-residential customers that vary significantly in size and overall demand. Therefore, it is typical to bill residential customers based on tiers and have uniform rates for non-residential customers.

To define the peaking for customers we need to review their use patterns and identify the tiers so the appropriate peaking factors for those tiers can be determined and used to calculate rates. The revised residential tiers are defined based on essential indoor water use for Tier 1. The Tier 1 is based on the California water efficiency target of 50 gallons per capita day (gpcd). Tier 2 is intended to provide for reasonable outdoor water use and is based on the average use per account in the highest summer month. Tier 3 captures use over this amount.

The residential density for single-family residential customers in the City is just over 3; however, typical families with two adults and two kids represent a family of four. Using the standard 50 gpcd gives 8 hcf per mo of internal usage. Similarly, multi-family density in the City is just over 2.5 persons per household, using a density of 3 ensures adequate use and results in a first tier of 6 hcf/mo. Since multi-family does not have irrigation use, we only set up multi-family for two tiers. The tiers for single-family residential customers are shown in Table 5-11.

### Table 5-11: Proposed Single Family Tier Definitions

| Tier | Definition | Basis |
|---|---|---|
| Tier 1 | 0 - 8 hcf/mo | Reflects the California State water efficiency target of 50 gpcd and approximately 4 persons per household. |
| Tier 2 | 9 - 26 hcf/mo | Captures use between Tiers 1 and 3. |
| Tier 3 | > 26 hcf/mo | Captures use above the highest average summer month. |

The max day peaking factors for these two classes, along with the peaking factors for the other classes in the City based on their average and peak monthly use, are shown below in Table 5-12. It should be noted that, in the absence of daily data, we are using monthly data as a proxy for the max day data for different classes. In our opinion, it is better to use this data than not use any peaking data at all to allocate costs. Peaking allocates costs more in proportion to the cost of providing service.

### Table 5-12: Calculation of Max Day Factor

| | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun | Total | Max | Avg | MM/AM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Residential** | | | | | | | | | | | | | | | | |
| Tier 1: 0-8 | 86,039 | 86,022 | 85,011 | 84,871 | 83,377 | 81,425 | 77,641 | 72,026 | 75,180 | 79,810 | 83,852 | 85,833 | 981,087 | 86,039 | 81,757 | 1.05 |
| Tier 2: 9-26 | 119,469 | 117,463 | 108,304 | 105,335 | 91,155 | 77,446 | 57,882 | 42,855 | 53,073 | 68,645 | 95,289 | 113,211 | 1,050,127 | 119,469 | 87,511 | 1.37 |
| Tier 3: >26 | 90,161 | 91,077 | 72,882 | 70,737 | 47,336 | 38,559 | 21,952 | 15,922 | 22,640 | 27,527 | 55,510 | 71,866 | 626,169 | 91,077 | 52,181 | 1.75 |
| **MultiFamily** | | | | | | | | | | | | | | | | |
| 6 hcf/du | 44,792 | 45,367 | 45,046 | 45,154 | 44,139 | 43,259 | 42,818 | 40,479 | 41,804 | 42,689 | 43,859 | 44,955 | 524,361 | 45,367 | 43,697 | 1.04 |
| > 6 hcf/du | 26,163 | 28,115 | 25,337 | 25,362 | 22,272 | 20,322 | 18,226 | 13,061 | 15,582 | 17,821 | 21,378 | 25,720 | 259,359 | 28,115 | 21,613 | 1.30 |
| **Governmental, Institution, & Irrigation Customer** | | | | | | | | | | | | | | | | |
| All | 40,528 | 42,969 | 38,999 | 36,410 | 28,047 | 23,377 | 18,049 | 12,499 | 14,521 | 19,091 | 31,724 | 40,153 | 346,367 | 42,969 | 28,864 | 1.49 |
| **Commercial** | | | | | | | | | | | | | | | | |
| All | 86,401 | 90,374 | 86,929 | 87,917 | 74,992 | 67,567 | 63,143 | 53,587 | 73,402 | 78,774 | 87,613 | 87,312 | 938,011 | 90,374 | 78,168 | 1.16 |

Table 5-7 shows the costs associated with different cost causation parameters such as supply, peaking, meters, customer service, etc. To assign these costs appropriately, we need to identify the units of service associated with each customer class. The units of service are the average demand, peak demand, and number of customers. The end goal of a cost-of-service analysis is to proportionately distribute the revenue requirement to each customer class. Raftelis calculated unit costs for each cost component by assessing the total water demand, meter count, or equivalent service units. Table 5-13 shows the units of service for each customer class and tier.

Column A shows the projected test year annual usage by customer class and tier. Column B shows the average daily use, which is the annual use divided by 365 days.

Max day and max hour extra capacity requirements for different customer classes are derived from the use data provided by the City and are used to allocate peaking costs based on customer class-specific water use patterns during peak demand periods. Max Day Total Capacity (Column D) is the Average Daily Use (Column B) multiplied by the Max Day Capacity Factor (Column C). Max Day Extra Capacity (Column E) is the difference between the Max Day Total Capacity (Column D) and the Average Daily Use (Column B). Max Hour Total Capacity (Column G) is the Average Daily Use (Column B) multiplied by the Max Hour Capacity Factor (Column F). Max Hour Extra Capacity (Column H) is the difference between the Max Hour Total Capacity (Column G) and the Max Day Total Capacity (Column D).

Line 11 in Table 5-13, shows public fire. Public fire Max Day Total Capacity is equal to Max Day Fire Flow (Table 5-10, Column C) multiplied by public fire's proportional share of fire connections (Table 5-9, Column C, Line 15). Public fire Max Day Extra Capacity is the same as its total capacity. Public fire Max Hour Total Capacity is equal to Max Hour Fire Flow (Table 5-10, Column D) multiplied by public fire's proportional share of fire connections (Table 5-9, Column C, Line 15). Public fire Max Hour Extra Capacity is its Max Hour Total Capacity less its Max Day Total Capacity. Max day and max hour factors for private fire are calculated similarly using its proportional share of connections (Table 5-9, Column D, Line 15). Line 13 shows the total extra capacity without fire. Line 13, Column K shows the total number of customers by assigning only 20% of the private accounts to cover some billing costs to this class for customer service but not the full cost since the private fire line is not issued a separate bill.

## Table 5-13: Units of Service

| No | Customer Class | Annual Use (hcf) (A) | Average Daily Use (hcf/day) (B) | Max Day Peaking Factor (C) | Max Day Total Capacity (hcf/day) (D) | Max Day Extra Capacity (hcf/day) (E) | Max Hour Peaking Factor (F) | Max Hour Total Capacity (hcf/day) (G) | Max Hour Extra Capacity (hcf/day) (H) | Number of Equiv. Meters (I) | Equiv. Fire Lines / Devices (J) | Number of Customers (K) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | **Residential** | 3,035,061 | 8,315 | | 11,154 | 2,839 | | 15,283 | 4,129 | 22,756 | | 12,016 |
| 2 | Tier 1: 0-8 | 1,120,523 | 3,070 | 1.05 | 3,223 | 153 | 1.44 | 4,417 | 1,193 | | | |
| 3 | Tier 2: 9-26 | 1,199,375 | 3,286 | 1.37 | 4,502 | 1,216 | 1.88 | 6,168 | 1,666 | | | |
| 4 | Tier 3: >26 | 715,163 | 1,959 | 1.75 | 3,429 | 1,470 | 2.40 | 4,698 | 1,269 | | | |
| 5 | **MultiFamily** | 804,836 | | | | | | | | 3,835 | | 1,199 |
| 6 | 6 hcf/du | 538,489 | 1,475 | 1.04 | 1,534 | 59 | 1.42 | 2,102 | 568 | | | |
| 7 | > 6 hcf/du | 266,347 | 730 | 1.30 | 949 | 219 | 1.78 | 1,300 | 351 | | | |
| | **Governmental, Institution, & Irrigation Customer** | | | | | | | | | 1,566 | | 381 |
| 8 | All | 437,584 | 1,199 | 1.49 | 1,786 | 588 | 2.04 | 2,448 | 661 | | | |
| | **Commercial** | | | | | | | | | 2,960 | | 849 |
| 9 | All | 993,957 | 2,723 | 1.16 | 3,148 | 425 | 1.58 | 4,314 | 1,165 | | | |
| 10 | **Private Fire** | | | | 197 | 197 | | 1,751 | 1,554 | | 4,870 | 447 |
| 11 | **Public Fire** | | | | 886 | 886 | | 7,875 | 6,989 | | | |
| 12 | **Total** | 5,271,438 | 14,442 | | | 5,212 | | 35,072 | 15,417 | 31,116 | 4,870 | 14,892 |
| 13 | Total w/o Fire | | | | | 4,129 | | | 6,875 | | | 14,534 |

Table 5-14 shows the total adjusted cost of service. The adjusted net revenue requirements (Table 5-7, Line 9) are further adjusted for public and private fire peaking impacts and for base-delivery costs. Note that the reallocation results in a shifting of costs between cost causation components but does not change the total rate revenue requirement.

### Table 5-14: Total Adjusted Cost-of-Service

| No | | Total | Supply | Base-Delivery | Max Day | Max Hour | Meters | Public Fire | Private Fire | Billing |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | Adjusted Net Rev Req | $20,902,119 | $7,983,488 | $5,132,939 | $4,157,680 | $1,228,944 | $27,717 | $24,176 | $0 | $2,347,175 |
| 2 | Reallocate Public Fire | $0 | $0 | $0 | ($706,686) | ($557,119) | $1,287,981 | ($24,176) | $0 | $0 |
| 3 | Reallocate Private Fire | $0 | $0 | $0 | ($157,084) | ($123,838) | $0 | $0 | $280,923 | $0 |
| 4 | Subtotal After Fire Reallocation | $20,902,119 | $7,983,488 | $5,132,939 | $3,293,910 | $547,987 | $1,315,698 | $0 | $280,923 | $2,347,175 |
| 5 | Reallocation - Max Day | $0 | $0 | $0 | ($1,383,442) | $0 | $1,383,442 | $0 | $0 | $0 |
| 6 | Reallocation - Max Hour | $0 | $0 | $0 | $0 | ($230,155) | $230,155 | $0 | $0 | $0 |
| 7 | Adjusted Cost of Service | $20,902,119 | $7,983,488 | $5,132,939 | $1,910,468 | $317,833 | $2,929,294 | $0 | $280,923 | $2,347,175 |

- **Reallocation of Public Fire Costs:** Public fire protection represents a common benefit. Therefore, all public fire protection costs are reallocated to the Meters cost causation component to be recovered from all metered connections. Public fire's proportion of total max day costs are determined based on the ratio of public fire Max Day Extra Capacity (Table 5-13, Column E, Line 10) to Total System Extra Capacity (Table 5-13, Column E, Line 12). Public fire's proportion of max hour costs are determined based on the ratio of public fire Max Hour Extra Capacity (Table 5-13, Column H, Line 10) to Total System Extra Capacity (Table 5-13, Column H, Line 12). Line 2 of Table 5-14 shows that public fire max day and max hour costs, as well as direct public fire costs, are allocated to the meter component since public fire protection is a fixed cost of the system.
- **Reallocation of Private Fire Costs:** Private fire's share of max day and max hour demand are calculated similarly to public fire. Line 3 of Table 5-14 shows the allocation of peaking costs to the private fire component.
- **Reallocation of Peaking Costs:** Peaking costs represent the capacity of the system to meet peak demands. A portion of the peaking costs are assigned to meters to pass on capacity costs to meters. To maintain the current level of revenue stability 42 percent of Max Day and Max Hour costs are assigned to the Meter cost center.

The total adjusted cost of service for the test year is shown in Line 7 of Table 5-14, and is the sum of Lines 4 through 6. This represents the amount that must be recovered by the City's fixed charges and volumetric rates in the test year. The adjusted cost-of-service allocations to each cost-causation component are used to calculate the City's FY 2026 proposed water rates.

Table 5-15 divides the adjusted cost-of-service (Table 5-14, Line 7) by the respective units of service (Table 5-13) for each cost component to determine the unit cost for each component

## Table 5-15: Unit Costs of Service

| | Total | Supply | Base-Delivery | Max Day | Max Hour | Meters | Billing | Private Fire |
|---|---|---|---|---|---|---|---|---|
| Cost of Service | $20,902,119 | $7,983,488 | $5,132,939 | $1,910,468 | $317,833 | $2,929,294 | $2,347,175 | $280,923 |
| Units of Service | | 5,271,438 | 5,271,438 | 4,129 | 6,875 | 31,116 | 14,534 | 4,870 |
| | | hcf | hcf | hcf/day | hcf/hr | Eq Mtrs | Acts | Eq lines |
| **Unit Cost** | | **$1.51** | **$0.97** | **$462.64** | **$46.23** | **$94.14** | **$161.49** | **$57.68** |
| | | $/hcf | $/hcf | $/hcf/day | $/hcf/day | $/EM-yr | $/yr/act | $/EL-yr |

# 6. Proposed Water Rates and Charges

The City's water service fees are comprised of two parts: a bi-monthly service charge and a volumetric charge. The bi-monthly service charge is a fixed charge based on the size of meter serving a property. The service charge has been calculated to recover the City's fixed costs, such as the costs of billing and collection, customer service, meter reading, meter maintenance, as well as a portion of the fixed capacity costs associated with meeting peak demands. The volumetric charge has been calculated to recover the balance of remaining costs.

## 6.1. Proposed Rate Structure Change

Raftelis worked closely with City staff to evaluate potential changes to the existing rate structure. Different rate structures promote varying policy objectives. Therefore, it is critical for a public water utility to implement a rate structure that advances its agency-specific policy priorities.

The City will be switching to monthly billing beginning in January 2026, which will provide more timely consumption and associated billed amounts information. This may help customers adjust water use patterns. Therefore, the proposed service charge is calculated on a monthly basis.

Additionally, the City sought to simplify its volumetric rate structure for single family customers. The current structure has different tier breakpoints based on meter size and season. The proposed structure uses the same tier structure for all single-family customers. Additionally, the multifamily tier breakpoints have been adjusted to reflect monthly billing.

The revised residential tiers were discussed in 5.4.3. Multifamily customer tiers are based on use per dwelling unit. Currently, the first tier captures use up to 12 hcf bi-monthly per dwelling unit (or 6 hcf monthly per dwelling unit). The proposed first tier remains unchanged.

## 6.2. Proposed Monthly Service Charge

From the unit costs in Table 5-15, the proposed fixed monthly service charges are determined for each meter size. Table 6-1 shows the derivation of the monthly service charge. The Billing component (Column B) is equal to the Billing unit rate shown in Table 5-15, divided by 12 bills per year. As the cost of issuing a bill does not vary by meter size, it remains constant for all meter sizes. The Meter component (Column C) is the Equivalent Meters unit rate shown in Table 5-15, divided by 12. For meters larger than 3/4", this unit rate is multiplied by the meter ratio (Table 5-8, Column C) to derive the meter capacity cost associated with those larger meter sizes. The total proposed monthly service charge (Column D) is the sum of Columns B and C. The current charge, on a monthly basis, is shown in Column E for comparison.

**Table 6-1: Monthly Service Charge Derivation**

| No | Meter Size (A) | Billing $/bill (B) | Meter $/mtr/mo (C) | Total $/mo (D) | Current $/mo (E) |
|---|---|---|---|---|---|
| 1 | 5/8" | $13.46 | $7.85 | **$21.31** | $19.90 |
| 2 | 3/4" | $13.46 | $7.85 | **$21.31** | $21.26 |
| 3 | 1" | $13.46 | $13.08 | **$26.54** | $23.98 |
| 4 | 1-1/2" | $13.46 | $26.15 | **$39.61** | $30.78 |
| 5 | 2" | $13.46 | $41.84 | **$55.30** | $38.94 |
| 6 | 3" | $13.46 | $78.45 | **$91.91** | $57.98 |
| 7 | 4" | $13.46 | $130.75 | **$144.21** | $85.19 |
| 8 | 6" | $13.46 | $261.50 | **$274.96** | $166.80 |
| 9 | 8" | $13.46 | $418.40 | **$431.86** | $262.01 |
| 10 | 10" | $13.46 | $627.60 | **$641.06** | $398.04 |

Table 6-2 shows the derivation of the monthly private fire line charge. The Billing component (Column B) reflects that the City incurs some customer service costs related to private fire lines. The Fireline component (Column C) is the Private Fire unit rate shown in Table 5-15, divided by 12. For fire lines larger than 2", this unit rate is multiplied by the fire capacity ratio (Table 5-9, Column B) to derive the fireline capacity cost associated with those larger lines. The total proposed monthly private fire charge (Column D) is the sum of Columns B and C. The current charge, on a monthly basis, is shown in Column E for comparison.

**Table 6-2: Monthly Private Fire Line Charge Derivation**

| No | Line Size (A) | Billing $/bill (B) | Fireline $/line/mo (C) | Total $/mo (D) | Current $/mo (E) |
|---|---|---|---|---|---|
| 1 | 5/8" | $2.69 | $4.81 | **$7.50** | $5.78 |
| 2 | 3/4" | $2.69 | $4.81 | **$7.50** | $5.78 |
| 3 | 1" | $2.69 | $4.81 | **$7.50** | $5.78 |
| 4 | 1-1/2" | $2.69 | $4.81 | **$7.50** | $5.78 |
| 5 | 2" | $2.69 | $4.81 | **$7.50** | $5.78 |
| 6 | 3" | $2.69 | $13.96 | **$16.66** | $0.00 |
| 7 | 4" | $2.69 | $29.75 | **$32.45** | $11.55 |
| 8 | 6" | $2.69 | $86.43 | **$89.13** | $17.32 |
| 9 | 8" | $2.69 | $184.19 | **$186.89** | $23.09 |
| 10 | 10" | $2.69 | $331.24 | **$333.93** | $28.88 |

## 6.3. Commodity Rates

The following subsection describes the derivation of volumetric rates for each customer class and tier. The volumetric rates are designed to recover the revenue requirements for the following cost causation components, Supply, Base, and Max Day and Max Hour (collectively referred to as Peaking). These three cost-causation components generally vary with the amount of water used and are recovered by dollar per hcf rates. The revenue requirement and units of service in FY 2026 for each are shown in Table 5-15. Note that the Peaking revenue requirement is the sum of the Max Day and Max Hour revenue requirements. The remainder of this subsection

details the derivation of unit costs by customer class and tier and then the summation of the unit costs of the three cost causation components to determine the proposed volumetric rates.

### 6.3.1. Supply Unit Cost

Supply costs are costs related to the cost of producing water. While the City incurs higher unit costs for water use over the allotment, based on discussions with City staff, we are using the average supply unit cost from Table 5-15 for all tiers and classes.

### 6.3.2. Base-Delivery Unit Cost

The base-delivery cost-causation component pertains to the costs to treat and deliver water under average daily demand conditions. Since the base cost-causation component is designed to recover costs incurred to meet average day demands, the base-delivery unit cost is uniform for all units of water, regardless of customer class or tier. The Base-Delivery unit cost is shown in Table 5-15.

### 6.3.3. Peaking Unit Cost

The peaking cost-causation component is designed to recover costs incurred to meet customer peak demands in excess of average daily demand. Total peaking costs are comprised of max day and max hour costs. The peaking costs are distributed to each tier or class using peaking factors derived for each class and tier based on the City's customer class use data.

Table 6-3 shows the derivation of peaking unit costs for each customer class and tier. The peaking costs (Column D) are the sum of the max day costs (Column B) and max hour costs (Column D). Max Day costs by tier or class are the max day unit cost from Table 5-15 multiplied by the extra-capacity costs (Column E) of Table 5-13 for each tier or class. The Max Hour costs by tier or class are the max hour unit cost from Table 5-15 multiplied by the extra-capacity costs (Column H) of Table 5-13 for each tier or class. The annual use (Column A) comes from Table 5-13, Column A. The unit cost for each class and tier is the Peaking Cost (Column D) divided by the annual use (Column A). The total max day and max hour peaking costs match the totals shown for max day and max hour in Table 5-15.

**Table 6-3: Derivation of Peaking Unit Costs**

| Customer Class | Hcf/yr (A) | Max Day (B) | Max Hour (C) | Total (D) | Unit Cost (E) |
|---|---|---|---|---|---|
| Residential | | | | | |
| Tier 1: 0-8 | 1,120,523 | $71,013 | $55,165 | $126,178 | $0.11 |
| Tier 2: 9-26 | 1,199,375 | $562,480 | $77,042 | $639,522 | $0.53 |
| Tier 3: >26 | 715,163 | $679,855 | $58,681 | $738,535 | $1.03 |
| MultiFamily | | | | | |
| 6 hcf/du/mo | 538,489 | $27,302 | $26,258 | $53,560 | $0.10 |
| > 6 hcf/du/mo | 266,347 | $101,279 | $16,235 | $117,514 | $0.44 |
| Governmental, Institution, & Irrigation Customer | | | | | |
| All | 437,584 | $271,805 | $30,571 | $302,377 | $0.69 |
| Commercial | | | | | |
| All | 993,957 | $196,734 | $53,881 | $250,615 | $0.25 |
| Total | 5,271,438 | $1,910,468 | $317,833 | $2,228,300 | |

### 6.3.4. Derivation of Proposed FY 2026 Volumetric Charge Rates

To determine proposed FY 2026 volumetric charge rates, the Supply, Base, and Peaking unit costs are summed for each customer class and tier. The calculation of FY 2026 volumetric charge rates is shown below in Table 6-4. The total proposed volumetric charge is the sum of the components and is rounded up to the nearest penny to ensure adequate cost recovery.

**Table 6-4: Derivation of FY 2026 Volumetric Charge Rates ($/hcf)**

| Customer Class | Supply | Base | Peaking | Total | Current* |
|---|---|---|---|---|---|
| Residential | | | | | |
| Tier 1: 0-8 | $1.51 | $0.97 | $0.11 | $2.61 | $2.39 |
| Tier 2: 9-26 | $1.51 | $0.97 | $0.53 | $3.03 | $2.98 |
| Tier 3: >26 | $1.51 | $0.97 | $1.03 | $3.53 | $3.07 |
| | | | | | $3.83 |
| MultiFamily | | | | | |
| 6 hcf/du | $1.51 | $0.97 | $0.10 | $2.59 | $2.18 |
| > 6 hcf/du | $1.51 | $0.97 | $0.44 | $2.93 | $2.43 |
| Governmental, Institution, & Irrigation Customer | | | | | |
| All | $1.51 | $0.97 | $0.69 | $3.18 | $2.83 |
| Commercial | | | | | |
| All | $1.51 | $0.97 | $0.25 | $2.75 | $2.32 |

* Tier breakpoints for residential vary by meter size and season.

## 6.4. Proposed 5-Year Water Rate Schedule

Table 6-5 shows the proposed 5-year schedule of fixed water charges. Table 6-6 shows the proposed 5-year schedule of volumetric water rates. The FY 2026 column reflects the cost-of-service analysis. Rates for FY 2027 and beyond equal the prior year rates multiplied by the revenue adjustment. Rates are rounded up to the nearest penny to ensure revenue sufficiency.

**Table 6-5: Proposed 5-Year Fixed Water Charges Schedule, $/mo.**

| | Current | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|---|
| Effective Date | | Jan 1, 2026 | Jan 1, 2027 | Jan 1, 2028 | Jan 1, 2029 | Jan 1, 2030 |
| Revenue Adjustment | | | 12.0% | 10.0% | 6.0% | 6.0% |
| **Monthly Fixed Charge, $/mo** | | | | | | |
| Meter Size | | | | | | |
| 5/8" | $19.90 | $21.31 | $23.87 | $26.26 | $27.84 | $29.52 |
| 3/4" | $21.26 | $21.31 | $23.87 | $26.26 | $27.84 | $29.52 |
| 1" | $23.98 | $26.54 | $29.73 | $32.71 | $34.68 | $36.77 |
| 1-1/2" | $30.78 | $39.61 | $44.37 | $48.81 | $51.74 | $54.85 |
| 2" | $38.94 | $55.30 | $61.94 | $68.14 | $72.23 | $76.57 |
| 3" | $57.98 | $91.91 | $102.94 | $113.24 | $120.04 | $127.25 |
| 4" | $85.19 | $144.21 | $161.52 | $177.68 | $188.35 | $199.66 |
| 6" | $166.80 | $274.96 | $307.96 | $338.76 | $359.09 | $380.64 |
| 8" | $262.01 | $431.86 | $483.69 | $532.06 | $563.99 | $597.83 |
| 10" | $398.04 | $641.06 | $717.99 | $789.79 | $837.18 | $887.42 |
| **Monthly Private Fireline Charge, $/mo** | | | | | | |
| Fireline Size | | | | | | |
| 5/8" | $5.78 | $7.50 | $8.40 | $9.24 | $9.80 | $10.39 |
| 3/4" | $5.78 | $7.50 | $8.40 | $9.24 | $9.80 | $10.39 |
| 1" | $5.78 | $7.50 | $8.40 | $9.24 | $9.80 | $10.39 |
| 1-1/2" | $5.78 | $7.50 | $8.40 | $9.24 | $9.80 | $10.39 |
| 2" | $5.78 | $7.50 | $8.40 | $9.24 | $9.80 | $10.39 |
| 3" | $0.00 | $16.66 | $18.66 | $20.53 | $21.77 | $23.08 |
| 4" | $11.55 | $32.45 | $36.35 | $39.99 | $42.39 | $44.94 |
| 6" | $17.32 | $89.13 | $99.83 | $109.82 | $116.41 | $123.40 |
| 8" | $23.09 | $186.89 | $209.32 | $230.26 | $244.08 | $258.73 |
| 10" | $28.88 | $333.93 | $374.01 | $411.42 | $436.11 | $462.28 |

**Table 6-6: Proposed 5-Year Volumetric Water Rate Schedule, $/hcf**

| | Current | Proposed | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|---|---|
| Effective Date | | | Jan 1, 2026 | Jan 1, 2027 | Jan 1, 2028 | Jan 1, 2029 | Jan 1, 2030 |
| Revenue Adjustment | | | | 12.0% | 10.0% | 6.0% | 6.0% |
| Residential | | | | | | | |
| Tier 1 | $2.39 | Tier 1: 0-8 | $2.61 | $2.93 | $3.23 | $3.43 | $3.64 |
| Tier 2 | $2.98 | Tier 2: 9-26 | $3.03 | $3.40 | $3.74 | $3.97 | $4.21 |
| Tier 3 | $3.07 | Tier 3: >26 | $3.53 | $3.96 | $4.36 | $4.63 | $4.91 |
| Tier 4 | $3.83 | | | | | | |
| MultiFamily | | | | | | | |
| 12 hcf/du | $2.18 | 6 hcf/du/mo | $2.59 | $2.91 | $3.21 | $3.41 | $3.62 |
| > 12 hcf/du | $2.43 | > 6 hcf/du/mo | $2.93 | $3.29 | $3.62 | $3.84 | $4.08 |
| Governmental, Institution, & Irrigation Customer | | | | | | | |
| All | $2.83 | All | $3.18 | $3.57 | $3.93 | $4.17 | $4.43 |
| Commercial | | | | | | | |
| All | $2.32 | All | $2.75 | $3.08 | $3.39 | $3.60 | $3.82 |

## 6.5. 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 2025, the City had 14,321 accounts; the top 10% of users represent 1,432 accounts and approximately 49.2% of total annual water use. These large users are primarily non-residential and multi-family 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 volumetric rate based on their water consumption. 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, resulting in larger bills for higher use.

# 7. Drought Rates

As part of the study, Raftelis calculated a demand reduction surcharge (i.e., drought rate or drought surcharge) to recover the revenue shortfall that occurs because of demand reduction during water shortage situations.

A drought surcharge may be imposed during times of a declared drought when a certain level of reduction from the base usage has been mandated. A drought surcharge is charged on each unit of water used and is calculated to recover costs resulting from a loss of volumetric revenue due to reduced water use. The amount of the drought surcharge at different levels of usage reduction is based upon the City's projected revenue shortfall, adjusted for changes in costs.

To determine the demand reduction surcharge, the first step is to project the water demand reduction for each customer class under different levels of shortage. Table 7-1 shows the projected water demand for each customer class and tier at different levels of reduction. Raftelis analyzed individual customer usage data, assuming that customers using more water are expected to reduce more since they have more discretionary water use. The analysis calculates the increase in commodity rates that need to be applied to all usage, including the tiers, at each percentage reduction in usage. Note that the reduction achieved under each drought stage is lower than the maximum targeted at each level but falls near or within each range.

**Table 7-1: Project Water Demand by Percent Usage Reduction**

| Usage Data (kgal) | Monthly Tier | Proposed Rates | FY 2026 | % Reduction | 0 - 10% Reduction | % Reduction | 10 - 20% Reduction | % Reduction | 20 - 30% Reduction | % Reduction | 30 - 40% Reduction | % Reduction | 40 - 50% Reduction |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Residential | | | | | | | | | | | | | |
| Tier 1 | 8 | $2.61 | 1,120,523 | -4.0% | 1,075,702 | -7.0% | 1,042,086 | -10.0% | 1,008,471 | -15.0% | 952,445 | -24.0% | 851,598 |
| Tier 2 | 18 | $3.03 | 1,199,375 | -10.0% | 1,079,438 | -18.0% | 983,488 | -30.0% | 839,563 | -40.0% | 719,625 | -50.0% | 599,688 |
| Tier 3 | > 26 | $3.53 | 715,163 | -18.0% | 586,433 | -40.0% | 429,098 | -60.0% | 286,065 | -80.0% | 143,033 | -90.0% | 71,516 |
| **Subtotal Residential** | | | **3,035,061** | **-9.7%** | **2,741,573** | **-19.1%** | **2,454,672** | **-29.7%** | **2,134,099** | **-40.2%** | **1,815,102** | **-49.8%** | **1,522,801** |
| Multi-Family | | | | | | | | | | | | | |
| Tier 1 | 6 hcf/du | $2.59 | 538,489 | -4.0% | 516,950 | -5.0% | 511,565 | -7.0% | 500,795 | -10.0% | 484,640 | -10.0% | 851,598 |
| Tier 2 | > 6 hcf/du | $2.93 | 266,347 | -10.0% | 239,712 | -12.0% | 234,385 | -25.0% | 199,760 | -40.0% | 159,808 | -50.0% | 599,688 |
| Governmental, Institution, & Irrigation Customer | | $3.18 | 437,584 | -5.0% | 415,705 | -10.0% | 393,826 | -15.0% | 371,946 | -20.0% | 350,067 | -25.0% | 851,598 |
| Commercial | | $2.75 | 993,957 | -5.0% | 944,259 | -10.0% | 894,561 | -15.0% | 844,864 | -20.0% | 795,166 | -25.0% | 851,598 |
| **Total Non-Single Family** | | | **2,236,377** | **-5.4%** | **2,116,626** | **-9.0%** | **2,034,337** | **-14.3%** | **1,917,365** | **-20.0%** | **1,789,681** | **-24.4%** | **1,691,470** |
| **Total Potable Water (hcf)** | | | **5,271,438** | | **4,858,199** | | **4,489,009** | | **4,051,464** | | **3,604,784** | | **3,214,271** |
| % Total Reduction | | | | | -7.8% | | -14.8% | | -23.1% | | -31.6% | | -39.0% |

The next step is to estimate the water supply cost savings that result when there is a reduction in demand. For this study, Raftelis presumed that the safe yield for the basin would be reduced starting in drought stage 2 and that City's allocated portions would reduce by the same percentage amount. The variable costs associated with each supply are used to determine the cost savings. Almost all other costs are fixed; therefore, no other costs are included in the analysis. Table 7-2 shows the estimated cost savings in the water supply costs for each stage due to the reduction in usage. The total supply assumes a 7.5 percent water loss from the water usage shown in Table 7-1.

### Table 7-2: Estimated Cost Savings by Percent Usage Reduction

| | FY 2026 | 0 - 10% Reduction | 10 - 20% Reduction | 20 - 30% Reduction | 30 - 40% Reduction | 40 - 50% Reduction |
|---|---|---|---|---|---|---|
| **Safe Yield Drought Presumption (AF)** | 160,000 | 160,000 | 150,000 | 140,000 | 140,000 | 130,000 |
| **SUPPLY (hcf)** | | | | | | |
| Raymond Basin | 1,263,240 | 1,263,240 | 1,192,946 | 1,113,416 | 1,113,416 | 1,033,886 |
| Main San Gabriel Basin (within allotment) | 2,949,032 | 2,949,032 | 2,764,718 | 2,580,403 | 2,580,403 | 2,396,089 |
| Main San Gabriel Basin (over allotment) | 1,486,497 | 1,039,835 | 895,319 | 686,142 | 203,244 | 44,913 |
| Total Potable Supply | 5,698,769 | 5,252,107 | 4,852,983 | 4,379,961 | 3,897,063 | 3,474,888 |
| | | | | | | |
| **SUPPLY (AF)** | | | | | | |
| Raymond Basin | 2,900 | 2,900 | 2,738 | 2,556 | 2,556 | 2,373 |
| Main San Gabriel Basin (within allotment) | 6,770 | 6,770 | 6,346 | 5,923 | 5,923 | 5,500 |
| Main San Gabriel Basin (over allotment) | 3,412 | 2,387 | 2,055 | 1,575 | 467 | 103 |
| Total Potable Supply | 13,082 | 12,056 | 11,140 | 10,054 | 8,946 | 7,977 |
| Variable Cost ($/AF) | | | | | | |
| Raymond Basin | $307.19 | $307.19 | $307.19 | $307.19 | $307.19 | $307.19 |
| Main San Gabriel Basin (within allotment) | $307.19 | $307.19 | $307.19 | $307.19 | $307.19 | $307.19 |
| Main San Gabriel Basin (over allotment) | $1,265.00 | $1,265.00 | $1,265.00 | $1,265.00 | $1,265.00 | $1,265.00 |
| TOTAL VARIABLE COSTS | $7,286,924 | $5,989,831 | $5,390,641 | $4,597,170 | $3,194,913 | $2,549,091 |
| Cost Savings | | $1,297,092 | $1,896,283 | $2,689,753 | $4,092,011 | $4,737,833 |

The final step is to calculate the drought surcharge, shown in Table 7-3. First, the projected potable water revenue is calculated by multiplying the demand projections from Table 7-1 for each level of reduction in use and the proposed water rates in FY 2026. The revenue shortfall is determined by comparing this revenue for each reduction level with the FY 2026 revenues. Next, we add the estimated cost savings from Table 7-2 for each reduction level. The net revenue is the sum of the revenue shortfall and cost savings. The percent revenue shortfall is then shortfall divided by the projected variable revenue. The percentages shown will be applied to all water usage rates in place through the duration of the shortage.

### Table 7-3: Drought Surcharge by Percent Usage Reduction

| | 2026 | 0 - 10% Reduction | 10 - 20% Reduction | 20 - 30% Reduction | 30 - 40% Reduction | 40 - 50% Reduction |
|---|---|---|---|---|---|---|
| Projected Variable Revenue | $15,383,179 | $14,108,300 | $12,938,639 | $11,574,314 | $10,194,625 | $9,031,266 |
| Revenue Shortfall | | ($1,274,880) | ($2,444,540) | ($3,808,865) | ($5,188,554) | ($6,351,913) |
| Cost Savings | | $1,297,092 | $1,896,283 | $2,689,753 | $4,092,011 | $4,737,833 |
| Net Revenue to be Recovered | | $22,213 | ($548,258) | ($1,119,112) | ($1,096,543) | ($1,614,080) |
| % Revenue Shortfall | | 0% | 4% | 10% | 11% | 18% |

# 8. Wastewater Financial Plan

This section describes the assumptions used in projecting wastewater enterprise operating and capital expenses as well as reserve and debt coverage requirements for the period FY 2026 – FY 2034. These assumptions determine the overall revenue adjustments and total amount of revenue required from rates. The revenue covers operating and maintenance (O&M) and capital expenses as well as reserve funding. Revenue adjustments represent the average rate increase for the City as a whole; rate changes for individual customers will depend on the cost-of-service analysis described in the following chapter.

Financial plan assumptions were provided by and discussed in detail with City staff. The assumptions shown in Table 3-8 were incorporated into the financial plan. To develop the financial plan, Raftelis projected annual expenses and revenues, modeled reserve balances, and added planned capital expenditures. The City is not anticipating financing any capital improvements. This section of the report provides a discussion of projected revenue, O&M expenses, the CIP, existing debt, and reserve funding under existing rates and the revenue adjustments needed to maintain fiscal sustainability.

## 8.1. Current Rate Revenue

The City's revenues consist of rate revenues, interest earnings on cash reserves, and other miscellaneous revenues. The rate revenue projections shown below assume that current (Table 3-2) rates are effective throughout the study period and, therefore, represent estimated revenues in the absence of any rate adjustments. This status quo scenario provides a baseline from which Raftelis evaluates the need for revenue adjustments.

### 8.1.1. Calculated Wastewater Rate Revenues

Raftelis projected wastewater rate revenues from fixed monthly charges and volumetric charges for FY 2026 through FY 2034 based on current wastewater rates, the projected number of DUs, and projected annual commercial, government, and city account metered water.

The City collects fixed monthly charges from its customers based on the number of DUs. Table 8-1 shows projected fixed charge revenues under current rates over the first five years of the study period. Fixed charge revenues are calculated by the number of DUs in each year as follows based on current wastewater rates (from Table 3-2) and the projected number of DUs (from Table 3-5).

*Annual Fixed Charge Revenue = [fixed monthly rate per DU] × [Number of DUs] × [6 Bills per year]*

**Table 8-1: Projected Fixed Charge Revenues Under Current Wastewater Rates**

| Customer Class | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|
| Single Family | $1,246,874 | $1,258,255 | $1,269,636 | $1,281,016 | $1,292,510 |
| Multi-Family Dwelling Units | $920,446 | $933,066 | $945,686 | $958,307 | $970,927 |
| Residential Sewer Only | $28,170 | $28,170 | $28,170 | $28,170 | $28,170 |
| Commercial | $264,246 | $267,288 | $270,330 | $272,696 | $274,385 |
| Government | $12,167 | $13,857 | $13,857 | $13,857 | $13,857 |
| City Accounts | $3,549 | $7,098 | $7,098 | $7,098 | $7,098 |
| Total Fixed | $2,475,452 | $2,507,734 | $2,534,776 | $2,561,143 | $2,586,947 |

Table 8-2 shows projected Volume charge revenues under current rates over the study period. Volume charge revenues are calculated for the non-residential customer class in each year as follows based on current wastewater rates (Table 3-2) and projected water use (Table 3-6).

*Annual Volume Charge Revenue = [rate per hcf] × [Annual Water Use in hcf]*

**Table 8-2: Projected Volume Charge Revenue Under Current Wastewater Rates**

| Customer Class | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|
| Commercial | $283,704 | $286,969 | $290,235 | $292,775 | $294,590 |
| Government | $83,454 | $84,937 | $84,937 | $84,937 | $84,937 |
| City Accounts | $6,076 | $12,151 | $12,151 | $12,151 | $12,151 |
| Total Variable | $373,233 | $384,057 | $387,323 | $389,863 | $391,678 |

### 8.1.2. Other Revenues

Table 8-3 shows all other revenues. All FY 2026 other revenues are based on the City's FY 2026 budget. Additional revenues from FY 2027 and beyond were projected by Raftelis or provided by City staff. Interest revenue is estimated beginning in FY 2026 based on estimated beginning fund balances, revenues and expenses, and the assumed interest rate.

**Table 8-3: Projected Other Wastewater Enterprise Revenues, Status Quo**

| Line Item | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|
| Miscellaneous | $152,600 | $33,000 | $33,000 | $33,000 | $33,000 |
| Interest Income | $52,870 | $74,687 | $44,398 | $37,284 | $31,136 |
| Total | $205,470 | $107,687 | $77,398 | $70,284 | $64,136 |

## 8.2. Annual Expenses - Wastewater

The City's expenses include operations and maintenance expenses, capital expenses, and transfers to the general fund to pay a share of debt service payments for shared facilities. This section discusses the details of each of these expenses.

### 8.2.1. Total Operations and Maintenance Budget

The City provided Raftelis with its wastewater enterprise budget for FY 2026. To project the City's O&M expenses in future years, Raftelis used the escalation percentages shown in Table 3-8. A summary of the budgeted and projected O&M is shown in Table 8-4.

**Table 8-4: Summary of Projected Wastewater Operations and Maintenance Expenses**

| Line Item | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|
| Maintenance | $1,694,600 | $1,761,531 | $1,831,181 | $1,903,663 | $1,979,095 |
| Capital Outlay | $30,000 | $142,200 | $140,600 | $964,400 | $414,067 |
| Total | $1,724,600 | $1,903,731 | $1,971,781 | $2,868,063 | $2,393,162 |

### 8.2.2. Capital Improvement Plan

Table 8-5 shows the City's plan for waste capital improvements through FY 2030. The plan averages $1.5 million per year.

**Table 8-5: Projected Wastewater Capital Improvement Projects**

| Project | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|
| SCADA System Upgrades | $104,000 | $0 | $0 | $0 | $0 |
| Sewer Main Replacement Program | $1,404,000 | $1,460,160 | $843,648 | $877,394 | $1,216,653 |
| Public Works Facility Improvements | $0 | $5,408 | $5,062 | $5,264 | $5,475 |
| Miscellaneous Sewer Main Repair | $0 | $162,240 | $168,730 | $175,479 | $0 |
| Sewer Easement Access Along 210 Freeway | $0 | $162,240 | $0 | $0 | $0 |
| Arboretum Sewer Project | $0 | $811,200 | $0 | $0 | $0 |
| Arcadia Wash Bridge Gurad Railing Improvement Program | $0 | $0 | $0 | $0 | $182,498 |
| Sewer Main CIPP Lining | $0 | $0 | $0 | $0 | $0 |
| Total | $1,508,000 | $2,601,248 | $1,017,439 | $1,058,137 | $1,404,626 |

### 8.2.3. Existing and Proposed Debt Service

Table 8-6 shows the City's existing sewer bond. The City does not plan to issue additional debt to fund its capital program at this time.

**Table 8-6: Existing Annual Debt Service**

| Line Item | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|
| 2020 Pension Obligation Bonds | $26,858 | $26,912 | $26,915 | $26,867 | $26,870 |

## 8.3. Reserve Targets

The City maintains a wastewater operating reserve fund and a wastewater capital reserve fund.

***Operating Reserve*** – The Operating Reserve is used primarily to meet ongoing cash flow requirements and unexpected increases to budgeted costs. The City's minimum reserve target is set at 25 percent (three months) of wastewater revenues.

***Capital Reserve*** – The Capital Reserve is used to provide funds for capital projects, cover any unexpected and unplanned infrastructure repairs and replacements not included in the budget as well as to set aside money for future capital projects. Therefore, the City has set a target equal to the 5-year average of cash-funded capital projects. When a future multimillion-dollar capital project is needed, the capital reserve fund can be drawn upon to help pay for that project. Then the reserves would build back over time.

## 8.4. Proposed Financial Plan and Revenue Adjustments

The proposed revenue adjustments help ensure adequate revenue to fund operating expenses, capital expenditures, and meet reserve targets. The Financial Plan modeling assumes the first revenue adjustment occurs on January 1, 2026. The proposed revenue adjustments would enable the City to meet operating costs, reserve targets, and to execute the CIP shown in Table 4-6. Table 8-7 shows the proposed wastewater revenue adjustments for the rate-setting period.

### Table 8-7: Proposed Revenue Adjustments

| Effective Date | Adjustment |
|---|---|
| Jan. 1, 2026 | 6.0% |
| Jan. 1, 2027 | 6.0% |
| Jan. 1, 2028 | 6.0% |
| Jan. 1, 2029 | 6.0% |
| Jan. 1, 2030 | 6.0% |

Table 8-8, on the following page, shows the cash flow detail over the study period for the wastewater fund assuming the revenue adjustments shown above. Line 1 shows the projected wastewater rate-revenue under existing rates. Line 2 shows the forecast adjusted revenue from the proposed revenue adjustments. Line 7 shows total wastewater fund revenue including miscellaneous revenues and interest. Line 10 shows total O&M expenses. Line 11 shows net operating revenues, or revenues less expenses, which is the result of subtracting Line 10 from Line 7. Line 12 shows the City's annual debt service payments. Line 13 shows the cash-funded capital expenses. Line 14 shows the annual surplus or deficit, which is Line 11 less Line 12 less Line 13. Line 15 shows the enterprise's balance at the start of the fiscal year. The ending fund balance in Line 16 is the beginning balance (Line 15) plus the annual surplus or deficit (Line 14). Line 17 shows the total target reserve level.

### Table 8-8: Wastewater Cashflow

| No | Line Item | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|---|
| 1 | Revenue Under Existing Rates | $2,848,685 | $2,891,791 | $2,922,100 | $2,951,006 | $2,978,624 |
| 2 | Revenue Adjustments | $85,461 | $265,466 | $459,670 | $669,130 | $894,634 |
| 3 | Total Rate-Based Revenue | $2,934,146 | $3,157,258 | $3,381,769 | $3,620,137 | $3,873,258 |
| | Other Revenue | | | | | |
| 4 | Miscellaneous | $152,600 | $33,000 | $33,000 | $33,000 | $33,000 |
| 5 | Interest Income | $53,734 | $79,113 | $53,255 | $54,805 | $53,984 |
| 6 | Total Other Revenue | $206,334 | $112,113 | $86,255 | $87,805 | $86,984 |
| 7 | Total Revenues | $3,140,479 | $3,269,370 | $3,468,024 | $3,707,942 | $3,960,242 |
| | O&M Expenses | | | | | |
| 8 | Maintenance | $1,694,600 | $1,761,531 | $1,831,181 | $1,903,663 | $1,979,095 |
| 9 | Capital Outlay | $30,000 | $142,200 | $140,600 | $964,400 | $414,067 |
| 10 | Total O&M | $1,724,600 | $1,903,731 | $1,971,781 | $2,868,063 | $2,393,162 |
| 11 | Net Operating Revenues | $1,415,879 | $1,365,639 | $1,496,243 | $839,879 | $1,567,080 |
| 12 | Debt Service | $26,858 | $26,912 | $26,915 | $26,867 | $26,870 |
| 13 | Cash Funded Capital | $1,508,000 | $2,601,248 | $1,017,439 | $1,058,137 | $1,404,626 |
| 14 | Annual Surplus/(Deficit) | ($118,979) | ($1,262,521) | $451,888 | ($245,125) | $135,584 |
| 15 | Beginning Balance | $4,705,871 | $4,586,892 | $3,324,371 | $3,776,260 | $3,531,134 |
| 16 | Ending Balance | $4,586,892 | $3,324,371 | $3,776,260 | $3,531,134 | $3,666,718 |
| 17 | Total Target Reserves | $2,390,854 | $2,435,637 | $2,452,649 | $2,676,720 | $2,557,994 |

Figure 8-1 through Figure 8-3 display the FY 2026 through FY 2030 Financial Plan in graphical form. Figure 8-1 illustrates the Wastewater Financial Plan – it compares existing (solid line) and proposed revenues (dashed line) with projected expenses (stacked columns). The expenses include O&M, capital, debt service, and reserve funding. The green bars above the X-axis show the net cash used to build up the reserves and the bars below the X-axis show the withdrawals from reserves to fund costs. Projected revenue from existing rates, if continued unchanged, would not meet future projected total expenses and illustrates the need for revenue adjustments necessary to maintain operations, accomplish the desired CIP, and to meet reserve targets.

**Figure 8-1: Proposed Wastewater Financial Plan**

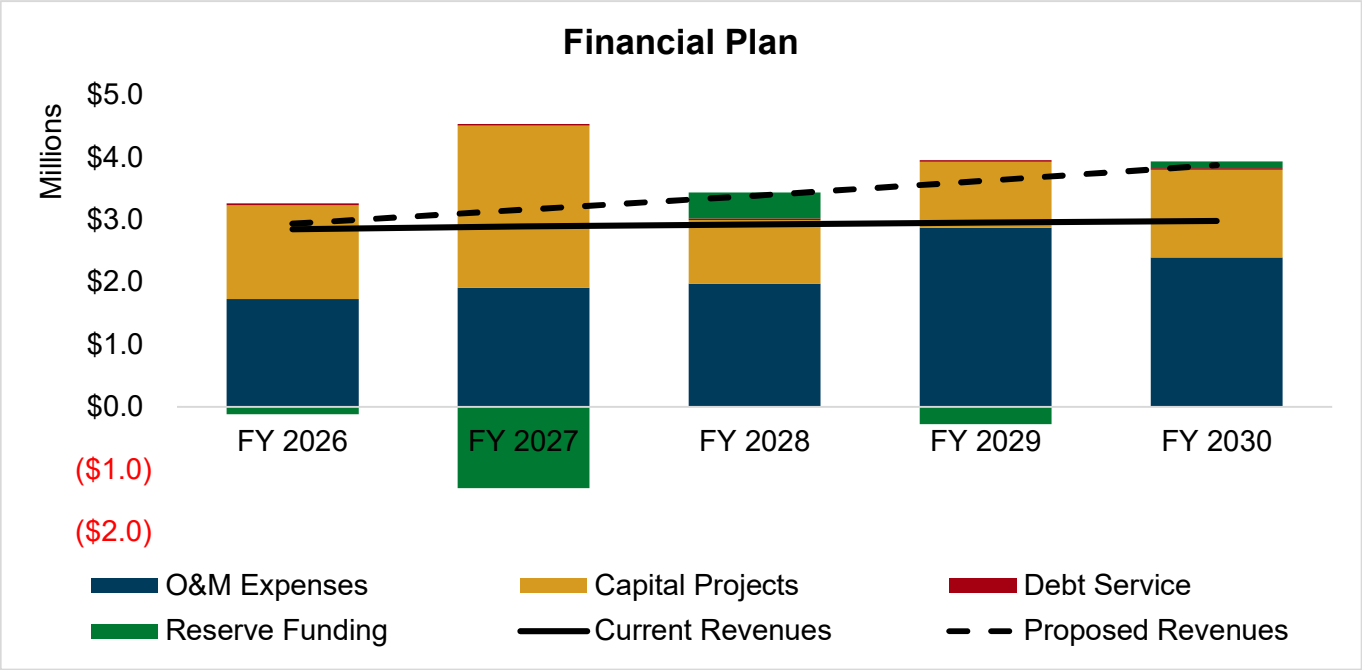



Figure 8-2 summarizes the projected wastewater CIP and that it is funded through rate revenue. As shown, the City does not plan to issue debt to pay for future CIP during the study period.

**Figure 8-2: Projected Wastewater Capital Plan and Funding Sources**

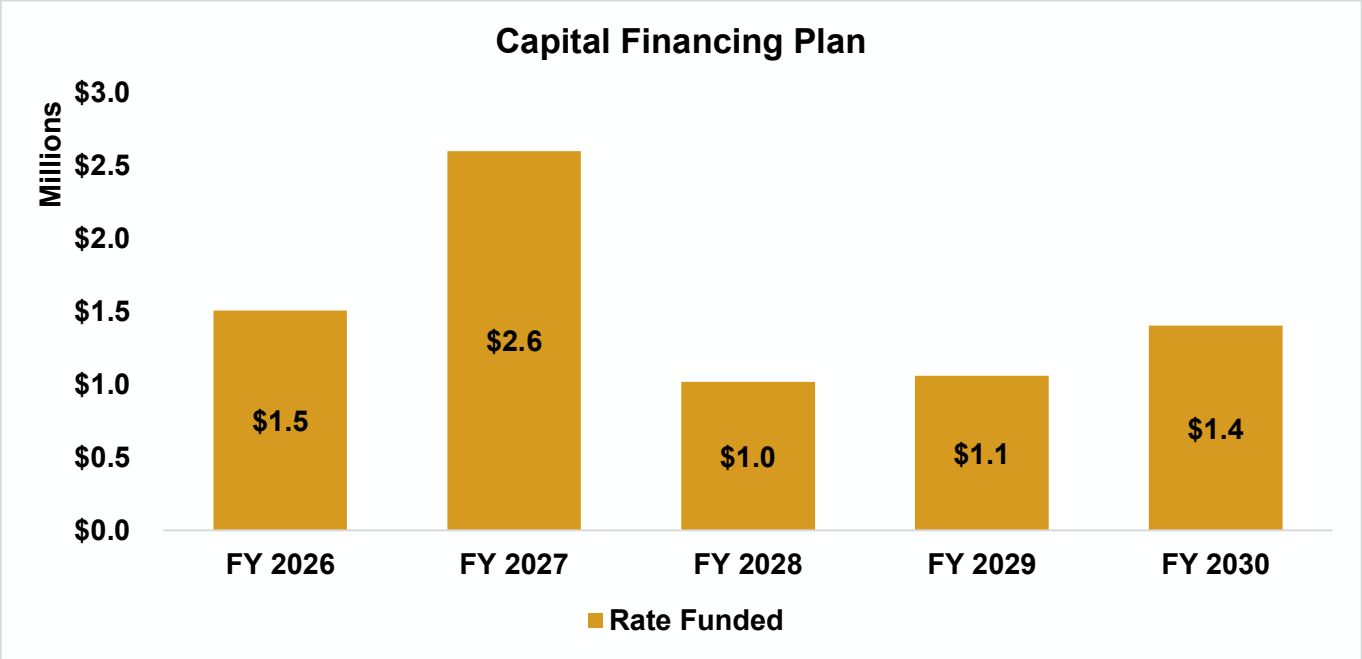
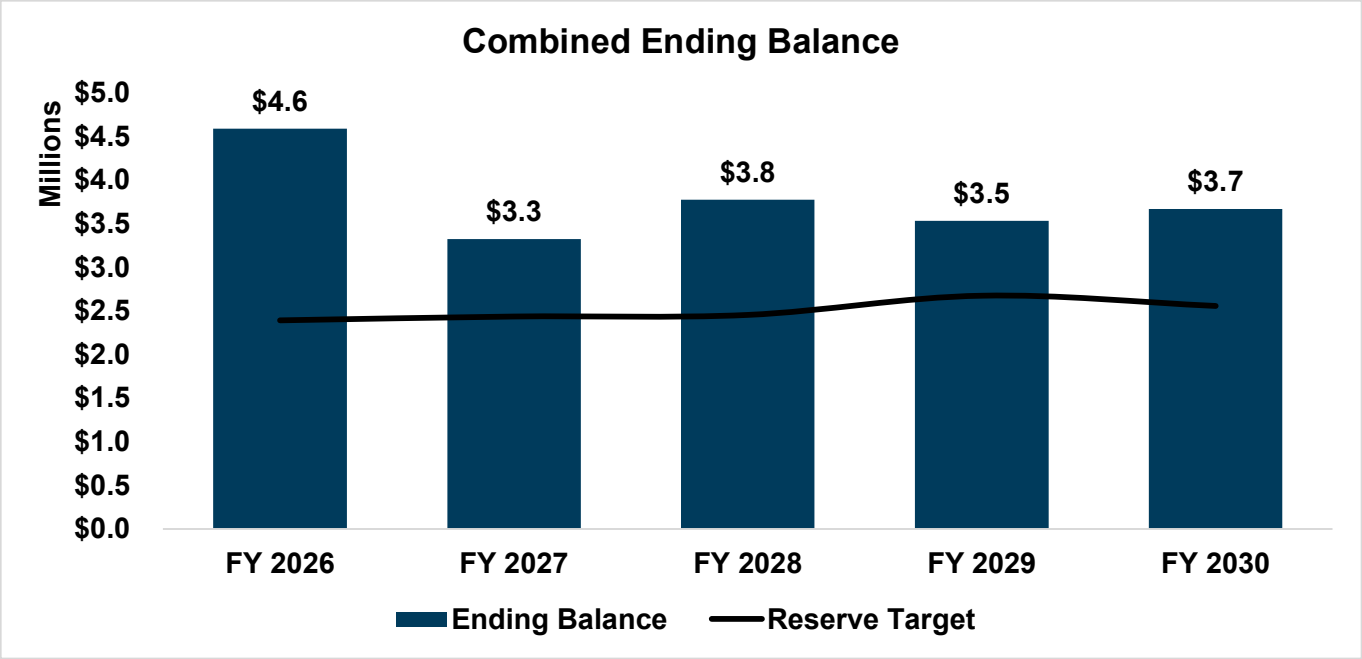



Figure 8-3 displays the projected total wastewater enterprise yearly ending balance (blue bars). The line is the total fund target balance. While the projected fund balance in FY 2030 is above the line, these reserves are projected to help pay for future capital projects identified in the full study period (ending FY 2034).

**Figure 8-3: Projected Wastewater Fund Ending Balance**



# 9. Wastewater Cost-of-Service Analysis

A cost-of-service analysis distributes a utility's revenue requirement (costs) to each customer class. This section explains the details of the cost-of-service analysis conducted for the City of Arcadia for its wastewater collection-system services to customers.

After determining a utility's revenue requirement, the next step in a cost-of-service analysis is to functionalize its O&M costs to the following functions:

- Collection – cost of collecting wastewater and transporting it to the wastewater treatment plant
- Customer – costs associated with billing and customer service

The functionalization of costs allows us to better allocate the functionalized costs to the rate components.

## 9.1. Revenue Requirement Determination

Table 9-1 shows the net revenue requirement from rates for FY 2026, the test year. The total revenue requirement shown in Line 4 is equal to operating expenses (Table 8-4), debt service (Table 8-6), and capital expenses (Table 8-5). Other operating revenues, totaled in Line 7, comprise miscellaneous revenues and interest income (Table 8-8) and reduce the total revenue required from rates. The adjustment for cash (Line 8) is subtracted to account for the draw from reserves. The mid-year increase (Line 9) reflects that the FY 2026 revenue adjustment occurs part way through the fiscal year.[4] The revenue required from rates is equal to Lines 4 plus 7 plus 10.

**Table 9-1: Revenue Requirement Determination**

| No | Line item | Operating | Capital | Total |
|---|---|---|---|---|
| 1 | Operating | $1,724,600 | | $1,724,600 |
| 2 | Debt Service | | $26,858 | $26,858 |
| 3 | Cash Funded Capital | | $1,508,000 | $1,508,000 |
| 4 | Subtotal | $1,724,600 | $1,534,858 | $3,259,458 |
| | Other Operating Revenue | | | |
| 5 | Miscellaneous Revenue | -$152,600 | | -$152,600 |
| 6 | Interest Income | -$53,734 | | -$53,734 |
| 7 | Subtotal | -$206,334 | $0 | -$206,334 |
| | Adjustments | | | |
| 8 | To (From) Reserves | | -$118,979 | -$118,979 |
| 9 | Rev Reqd for Mid-year Increase | $85,461 | | $85,461 |
| 10 | Subtotal | $85,461 | -$118,979 | -$33,518 |
| 11 | Net Revenue Requirements | $1,603,727 | $1,415,879 | $3,019,606 |

[4] This rate adjustment is proposed to be adopted in January; thus, the revenue requirement calculation has to be adjusted to incorporate this timing. Not adjusting these rates would result in only 6/12 of the rate adjustment being implemented due to the six "missed" months.

## 9.2. Functionalization of Net Revenue Requirement

Functionalizing expenses allows Raftelis to follow the principles of rate setting theory in which the end goal is to allocate the City's revenue requirements to cost causation components. Table 9-2 shows the functionalization of the City's wastewater assets. The resulting allocation of these assets is applied to capital-related costs. Collection sewers are generally oversized for ease of maintenance and therefore charged partly to flow (collection) and partly to customer.

**Table 9-2: Functionalization of Asset Database**

| Asset Class | RCLD | Collection | Customer |
|---|---|---|---|
| BUILDINGS | $13,733 | 0% | 100% |
| SEWERS | $3,174,828 | 60% | 40% |
| TRUCKS/PICKUPS | $206,186 | 0% | 100% |
| VEHICLE EQUIPMENT | $806,753 | 0% | 100% |
| OTHER MOBILE EQUIPMENT | $20,938 | 0% | 100% |
| DUPLICATORS AND COPIERS | $4,621 | 0% | 100% |
| OTHER EQUIPMENT | $10,923 | 0% | 100% |
| SEWER PIPE | $17,481,636 | 60% | 40% |
| Total | $21,719,618 | $12,393,878 | $9,325,739 |
| Allocation | 100% | 57% | 43% |

Table 9-3 shows the functionalization of test year O&M expenses. Capital outlay is allocated like the resulting asset allocation.

**Table 9-3: Functionalization of O&M Expenses**

| Line Item | Test Year | Collection | Customer |
|---|---|---|---|
| Sewer Maintenance | $1,694,600 | 60% | 40% |
| Capital Outlay | $30,000 | 57% | 43% |
| Total | $1,724,600 | $1,033,879 | $690,721 |
| Allocation | 100% | 60% | 40% |

## 9.3. Allocation of Functionalized Net Revenue Requirements to Cost Components

After functionalizing the assets and operating and maintenance expenses, the next step is to allocate the net operating and capital-related revenue requirements to the cost components. Table 9-4 shows the net revenue requirements (Table 9-1, Line 11) allocated to the cost components. Net O&M is allocated like Table 9-3 and the net capital revenue requirements are allocated like Table 9-2.

**Table 9-4: Allocation of Net Revenue Requirements to Cost Components**

| Line Item | Total | Collection | Customer |
|---|---|---|---|
| Net O&M | $1,603,727 | $961,417 | $642,310 |
| Net Capital | $1,415,879 | $807,944 | $607,935 |
| Total | $3,019,606 | $1,769,361 | $1,250,245 |

# 9.4. Derivation of Units of Service

## 9.4.1. Unit Costs of Service

Raftelis calculated unit costs for each cost component by assessing the total accounts or dwelling units, annual metered water use, and estimated annual wastewater flows. Table 9-5 shows the units of service for the wastewater collection system. The estimated wastewater flow is the projected water use times the return-to-sewer factor. Single family has a lower return-to-sewer factor because of landscaping and lawn irrigation use, which does not return to the wastewater collection system. The estimated wastewater flow for sewer-only accounts is based on the estimated wastewater flow per single family account. Government and City Accounts reflect all accounts being billed during the test year so that a full annual rate is calculated.

**Table 9-5: Units of Service, Test Year**

| Customer Class | Water (hcf) | Return to Sewer | WW Flow (hcf) | Accounts or Dwellings |
|---|---|---|---|---|
| Residential | | | | |
| Single Family | 3,035,061 | 60% | 1,821,037 | 11,066 |
| Multi-Family Dwelling Units | 804,536 | 90% | 724,082 | 8,169 |
| Residential Sewer Only | 0 | | 41,142 | 250 |
| Total Residential | 3,839,597 | | 2,586,261 | 19,484 |
| Non-Residential | | | | |
| Commercial | 915,173 | 90% | 823,655 | 782 |
| Government | 273,990 | 90% | 246,591 | 41 |
| City Accounts | 39,197 | 90% | 35,277 | 21 |
| Total Non-Residential | 1,228,360 | | 1,105,524 | 844 |
| Total | 5,067,957 | | 3,691,784 | 20,328 |

Table 9-6 shows the total unit cost of service on a volumetric basis. The Net Revenue Requirements shown in the first line matches the total allocated to Flow and Customer from Table 9-4. The WW flow line repeats the wastewater flow Table 9-5. Dividing the first line by these units results in the Unit Cost on a volumetric basis.

**Table 9-6: Total Wastewater Unit Cost of Service**

| Line Item | |
|---|---|
| Net Revenue Requirements | $3,019,606 |
| WW Flow (hcf) | 3,691,784 |
| Unit Rate, $/WW hcf | $0.82 |

# 10. Wastewater Rates

## 10.1. Wastewater Test Year Rate Derivation

Raftelis has calculated updated wastewater rates for the test year. First, the estimated wastewater flow for residential and non-residential customers was multiplied by the unit rate from Table 9-6 to determine the allocation of the net revenue requirement between residential and non-residential customers, as shown in Table 10-1.

**Table 10-1: Revenue Requirements Allocated to Customer Classes**

| Customer Class | WW Flow (hcf) | Unit Rate ($/hcf) | Total |
|---|---|---|---|
| Residential | 2,586,261 | $0.82 | $2,115,370 |
| Non-Residential | 1,105,524 | $0.82 | $904,237 |
| Total | 3,691,784 | | $3,019,606 |

Since residential customers are billed only a flat charge, their information is used to determine the monthly fixed charge, as shown in Table 10-2. The revenue requirement is divided by the number of residential accounts and by 12 months in a year to determine the test year monthly charge. Note the current monthly charge is billed bi-monthly. The City is moving to monthly billing starting in January 2026.

**Table 10-2: Derivation of Monthly Charge**

| Customer Class | Total | Accounts | $/act/mo |
|---|---|---|---|
| Residential | $2,115,370 | 19,484 | $9.05 |

Table 10-3 shows the derivation of the volumetric rate applied to non-residential customers. First the revenue from the fixed charge is determined by multiplying the unit rate from Table 10-2 by the number of accounts times by 12 billing periods per year. Next that fixed charge revenue is subtracted from the non-residential revenue requirement (Table 10-1) to determine the remaining portion to be recovered from volumetric rates. The volumetric rate is the remaining revenue divided by the metered water use.

**Table 10-3: Derivation of Volumetric Charge**

| Line Item | |
|---|---|
| Accounts | 844 |
| Fixed Charge, $/mo | $9.05 |
| Fixed Revenue | $91,614 |
| | |
| Non-Residential Rev. Req. | $904,237 |
| Less Fixed Revenue | $91,614 |
| Remainder from Volume | $812,623 |
| | |
| Water (hcf) | 1,228,360 |
| Volume Charge, $/hcf | $0.67 |

## 10.2. Proposed 5-Year Wastewater Rate Schedule

Table 10-4 shows the proposed 5-year schedule of wastewater rates. Rates for FY 2026 reflect the cost-of-service analysis. Rates for FY 2027 and beyond equal the prior year rates multiplied by the revenue adjustment. Rates are rounded up to the nearest penny.

**Table 10-4: Proposed 5-Year Wastewater Rate Schedule**

| Customer Class | Current | FY 2026 | FY 2027 | FY 2028 | FY 2029 | FY 2030 |
|---|---|---|---|---|---|---|
| Effective Date | | Jan. 1, 2026 | Jan. 1, 2027 | Jan. 1, 2028 | Jan. 1, 2029 | Jan. 1, 2030 |
| Residential | (monthly) | | | | | |
| Single Family, $/mo | $9.39 | $9.05 | $9.60 | $10.18 | $10.80 | $11.45 |
| Multi-Family Dwelling Units, $/mo | $9.39 | $9.05 | $9.60 | $10.18 | $10.80 | $11.45 |
| Residential Sewer Only, $/mo | $9.39 | $9.05 | $9.60 | $10.18 | $10.80 | $11.45 |
| | | | | | | |
| Non-Residential | | | | | | |
| Commercial, $/mo | $28.17 | $9.05 | $9.60 | $10.18 | $10.80 | $11.45 |
| Government, $/mo | $28.17 | $9.05 | $9.60 | $10.18 | $10.80 | $11.45 |
| City Accounts, $/mo | $28.17 | $9.05 | $9.60 | $10.18 | $10.80 | $11.45 |
| | | | | | | |
| Volumetric, $/hcf | $0.31 | $0.67 | $0.72 | $0.77 | $0.82 | $0.87 |

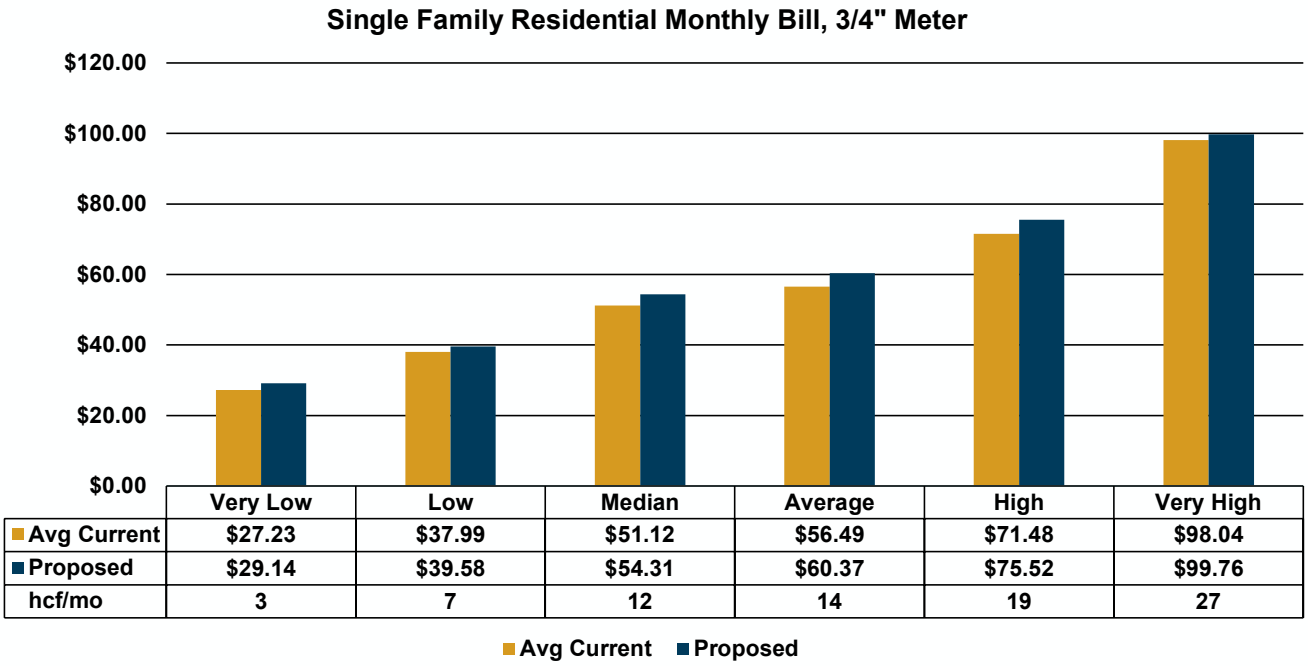
# 11. Customer Impact Analysis & Neighboring Agency Comparison

## 11.1. Typical Bill Comparison

### 11.1.1. Water

Figure 11-1 shows a comparison of a ¾" meter single-family bill at different usage levels for the proposed FY 2026 rates versus the current rates. Note that the current bill is an average of a summer and winter bill at the usage shown on a monthly basis.

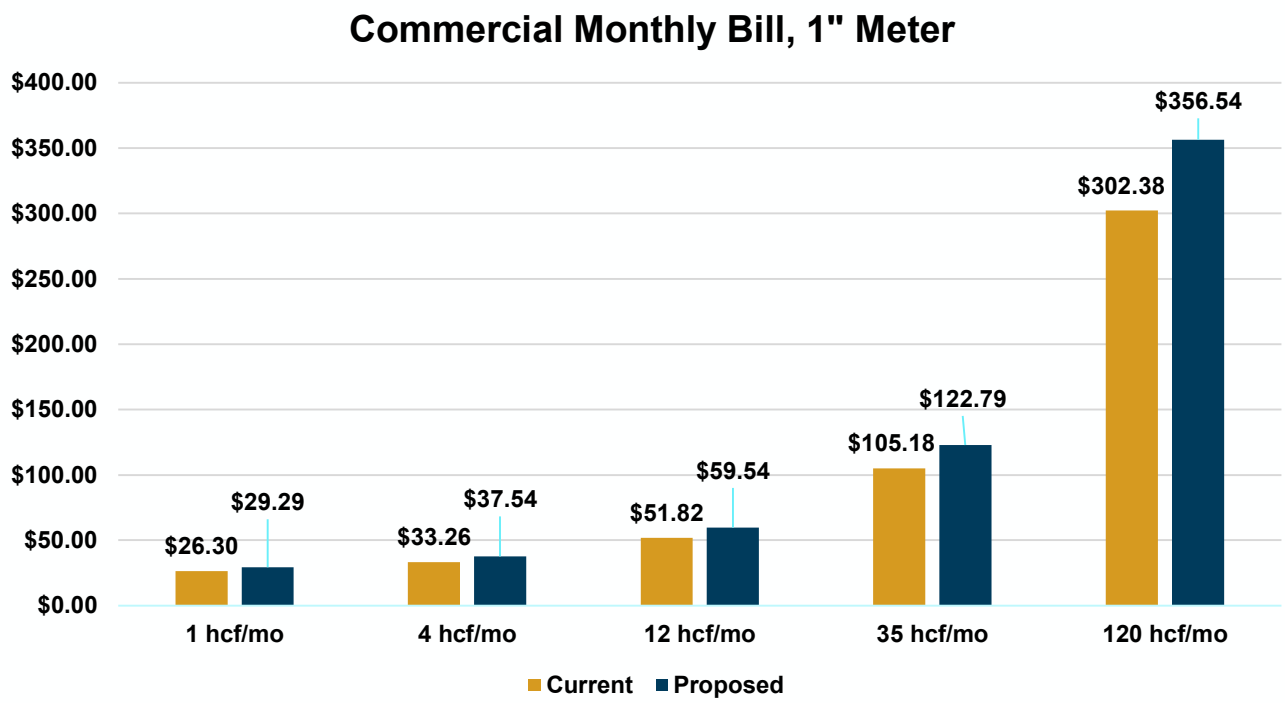
**Figure 11-1: Single Family Residential Monthly Bills, FY 2026**




| | Very Low | Low | Median | Average | High | Very High |
|---|---|---|---|---|---|---|
| Avg Current | $27.23 | $37.99 | $51.12 | $56.49 | $71.48 | $98.04 |
| Proposed | $29.14 | $39.58 | $54.31 | $60.37 | $75.52 | $99.76 |
| hcf/mo | 3 | 7 | 12 | 14 | 19 | 27 |

Figure 11-2 shows a comparison of a 1-inch commercial bill at different usage levels for the proposed FY 2026 rates versus the current rates on a monthly basis.

Figure 11-2: Commercial Monthly Bills, FY 2026




### 11.1.2. Wastewater

Table 11-1 shows a bill comparison for FY 2026 for residential and non-residential wastewater customers.

Table 11-1: Monthly Example Bills, FY 2026 vs Current

| Customer Class | Current | FY 2026 |
|---|---|---|
| Residential | $9.39 | $9.05 |
| Non-Residential, 12 hcf/mo | $31.89 | $17.09 |
| Non-Residential, 114 hcf/mo | $63.51 | $85.43 |

## 11.2. Neighboring Comparison

### 11.2.1. Water

Figure 11-3 shows a comparison of a bill for a typical single family customer (12 hcf/mo) on a ¾" meter for the City's proposed FY 2026 rates and current rates for neighboring agencies. Many of these agencies will be updating their rates for FY 2026.

Figure 11-3: Neighborhood Comparison – Water, Single Family, 3/4" Meter, 12 hcf

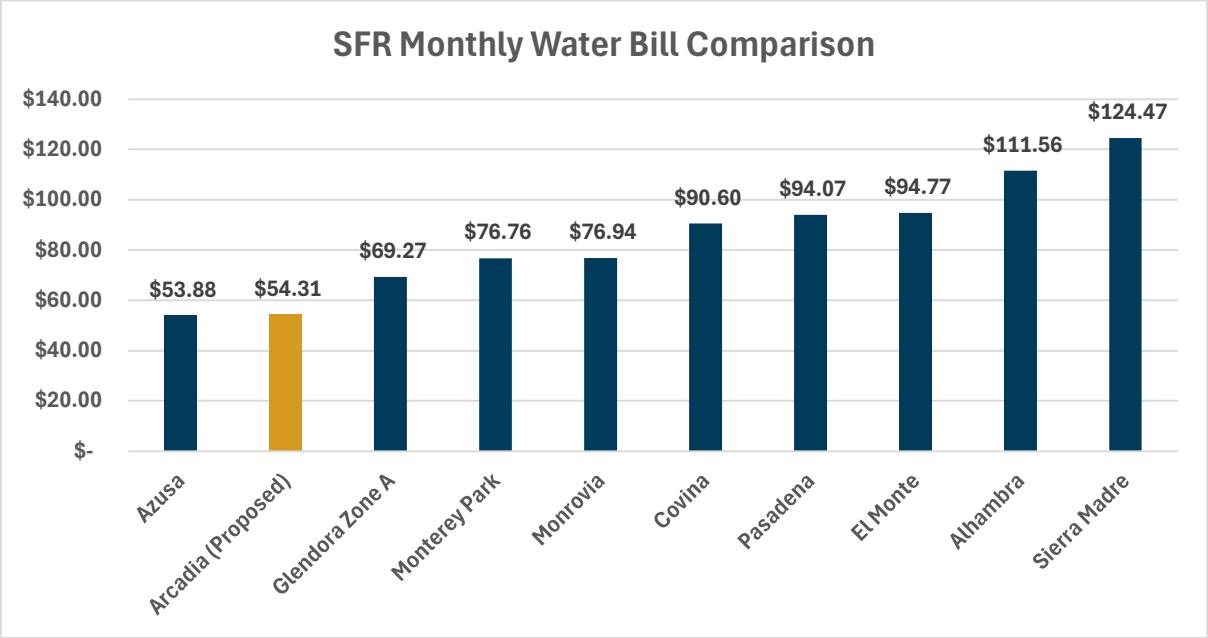
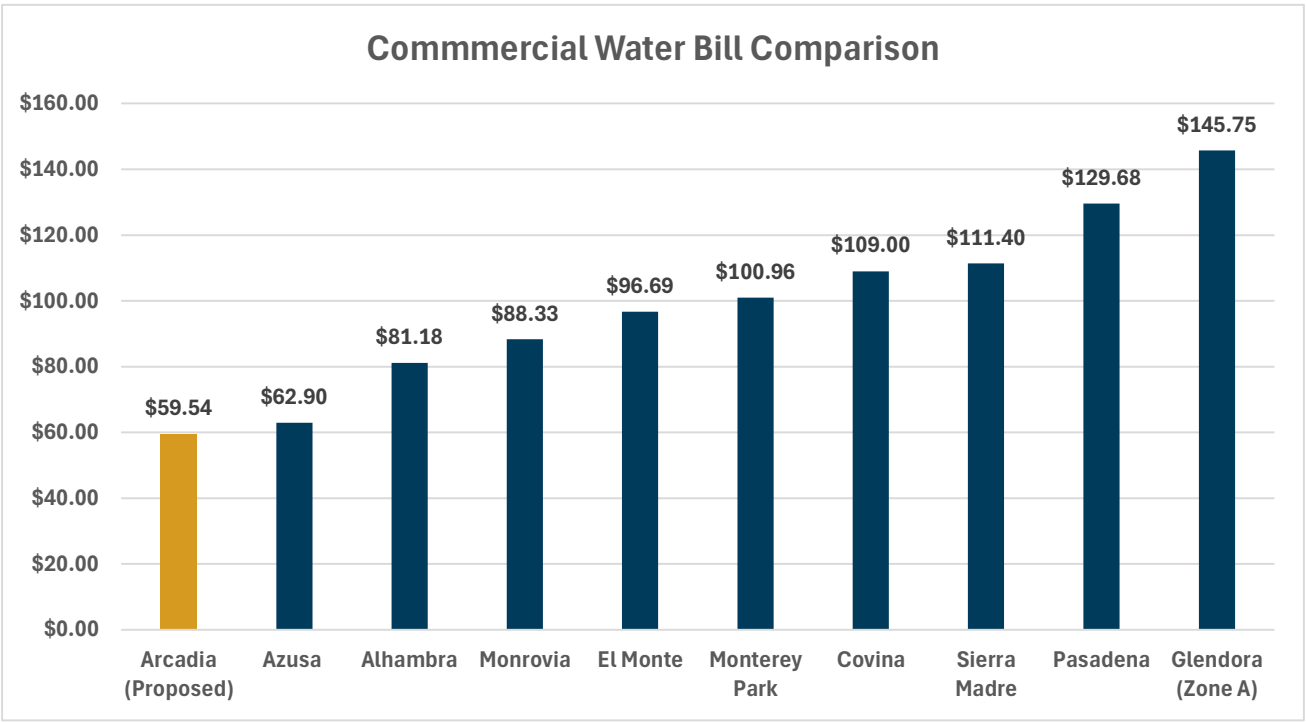



Figure 11-4 shows a comparison of a bill for a typical commercial customer (12 hcf/mo) on a 1" meter for the City's proposed FY 2026 rates and current rates for neighboring agencies.

Figure 11-4: Neighborhood Comparison – Water, Commercial, 1" Meter, 12 hcf




## 11.2.2. Wastewater

Figure 11-5 shows a comparison of a bill for a typical single family customer (12 hcf/mo) on a ¾" meter for the City's proposed FY 2026 rates and current rates for neighboring agencies.

**Figure 11-5: Neighborhood Comparison – Wastewater, Single Family**

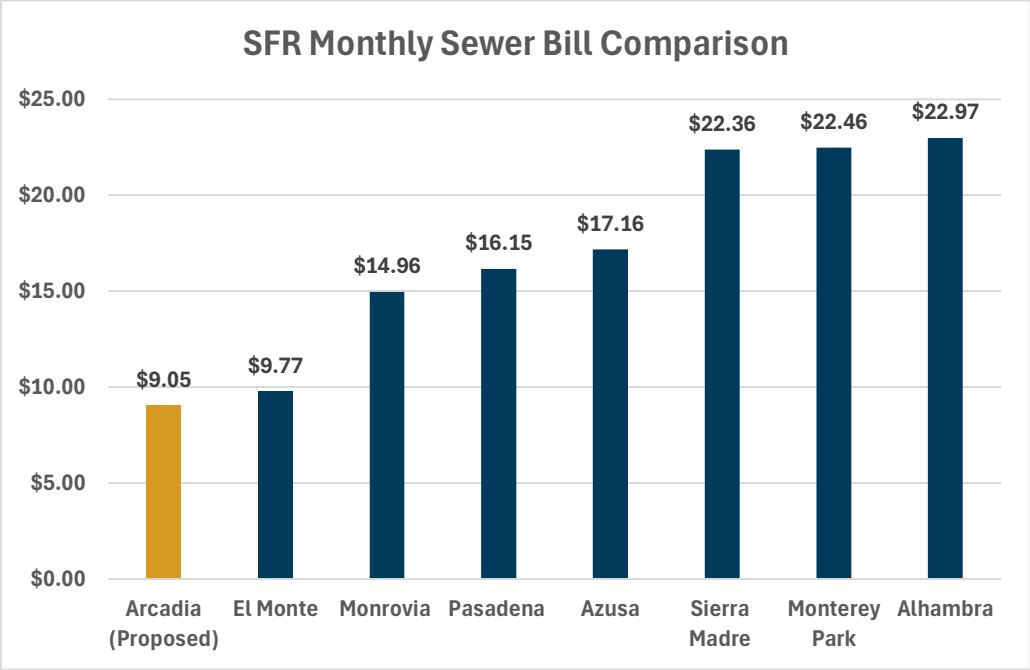



Figure 11-6 shows a comparison of a bill for a typical commercial customer (12 hcf/mo) for the City's proposed FY 2026 rates and current rates for neighboring agencies.

**Figure 11-6: Neighborhood Comparison – Wastewater, Commercial, 1" Meter, 12 hcf**