

CITY OF **Ontario**

Water, Recycled Water, and Wastewater Financial Plan and Rate Study

Draft Report / April 30, 2025

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May 5, 2025

Mr. Mike Sigsbee
Utilities Assistant General Manager
City of Ontario
303 East B Street
Ontario, CA 91764

Subject: Water, Recycled Water, and Wastewater Financial Plan and Rate Study

Dear Mr. Sigsbee,

Raftelis Financial Consultants, Inc. (Raftelis) is pleased to provide this report to the City of Ontario (City) for the Water, Recycled Water, and Wastewater Financial Plan and Rate Study (Study). This report presents the analyses, rationales, and methodologies utilized to determine utility rates that are informed by California Constitution Article XIII D, Section 6 (commonly referred to as Proposition 218).

The study involved a comprehensive review of the City's current water, recycled water, and wastewater cost requirements to determine rates that meet the City's objectives. The main objectives that informed the study include:

- » Adequately recovering costs to ensure the financial sufficiency of the City's utilities
- » Determining feasible capital financing plans
- » Developing long-term financial plans
- » Calculating cost of service-based rates for all utilities
- » Minimizing customer impacts from changes to the rate structures

We are confident that the proposed rates developed during this study are fair and equitable for the City's customers. It was a pleasure working with you and your team, and we wish to express our gratitude for the support you and other City staff provided us during the study. If you have any questions, please do not hesitate to call me at 213-262-9308.

Sincerely,
Raftelis Financial Consultants, Inc.

A handwritten signature in blue ink that reads 'Steve Gagnon'.

Steve Gagnon, PE
Vice President

A handwritten signature in blue ink that reads 'Brian Bass'.

Brian Bass
Manager

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1. Executive Summary

1.1. Study Background

In 2024, the City of Ontario (City) contracted Raftelis to conduct a Water, Recycled Water, and Wastewater Rate Study, which included developing long-term financial plans and cost of service rates. This report presents the three financial plans for each utility for a five-year study period and resulting rates for the water, recycled water, and wastewater utilities for fiscal year (FY) 2026.

This Executive Summary outlines the proposed financial plans and resulting rates and contains a description of the rate study methodology and recommendations. The main objectives that informed the Study include:

- » Adequately recovering all costs to ensure the financial sufficiency of the City's utilities
- » Determining feasible capital financing plans
- » Developing long-term financial plans
- » Calculating cost of service-based rates for all utilities
- » Minimizing customer impacts from changes to the rate structures

1.2. Current Rates

The City's current water rates were last updated on July 1, 2024. The monthly water service charges consist of a fixed monthly service charge and a variable monthly water usage charge. Single Family Residential (SFR) customers are charged per 100 cubic feet (hcf) of water, subject to a three-tiered inclining block rate structure. Non-SFR customers are charged at a uniform rate per hcf of water. All recycled water is charged at a uniform rate per hcf of water. The fire service charge is imposed on parcels with a private fire service line serving the parcel, and is a fixed charge based on the size of the private fire meter. **Table 1-1** shows the current monthly service charges and **Table 1-2** shows the water usage rates by customer class.

Table 1-1: Current Monthly Water Service Charges (\$/meter size)

	A	B	C	D
Line	Meter Size	Potable Water Service Charge	Recycled Water Service Charge	Fire Service Charge
1	5/8"	\$30.65	\$14.88	
2	3/4"	\$41.01	\$17.20	
3	1"	\$61.84	\$21.85	
4	1 1/2"	\$113.82	\$33.46	
5	2"	\$176.20	\$47.40	\$11.87
6	3"	\$373.73	\$91.53	
7	4"	\$664.84	\$156.56	\$22.36
8	6"	\$1,361.40	\$312.18	\$46.17
9	8"	\$2,505.02	\$567.67	\$87.25
10	10"	\$3,960.54	\$892.93	\$149.03
11	12"			\$234.66
12	16"			\$488.93

Table 1-2: Current Variable Water Usage Charges (\$/hcf of water)

	A	B	C
Line	Customer Class	Monthly Tiers (hcf)	Usage Rate
1	SFR		
2	Tier 1	1-10	\$2.40
3	Tier 2	11-18	\$3.82
4	Tier 3	Above 18	\$4.59
5	Non-SFR	Uniform	\$3.07
6	Recycled Water	Uniform	\$2.40

The City's current wastewater rates were last updated on July 1, 2024. The current wastewater rate structure includes a charge from the City of Ontario to operate the local wastewater facilities and a charge to directly pass through costs to treat wastewater by Inland Empire Utilities Agency (IEUA). Rates for residential customers are based on equivalent dwelling units (EDU), while non-residential customers are charged at a uniform rate per hcf of billed water usage. **Table 1-3** shows the current rate structure effective July 1, 2024.

Table 1-3: Current Wastewater Rates

	A	B	C
Line	Customer Class	Ontario	IEUA
	Residential (per EDU)		
1	Single Family	\$14.18	\$24.79
2	Multi-Family	\$11.40	\$17.35
3	Non-Residential	\$1.41/hcf	\$24.79

1.3. Process and Approach

The City's rate-setting process involved the participation of and feedback from City staff. During the study, City staff and Raftelis conducted a series of meetings to discuss and understand the challenges the City's utilities face and to provide guidance to finalize the rate recommendations, which are detailed in this report.

During these meetings, Raftelis presented the various assumptions, inputs, and scenario analyses that were utilized to determine the water, recycled water, and wastewater financial plans. City staff discussed the upcoming capital project requirements, which are main drivers for the revenue adjustments in the final recommendations presented in this report. Raftelis designed and presented the financial planning and rate models to analyze various scenarios, such as those related to debt issuances, revenue adjustments, and capital funding.

The proposed financial plans detailed in this report followed industry standard practices for long-term financial planning and utilize commonly accepted assumptions in the absence of specified assumptions from the City, such as general inflation based on the Consumer Price Index (CPI). Raftelis worked closely with City staff to determine the most accurate methodology to project future revenues and expenses to reinforce sound fiscal management practices.

The cost-of-service analysis utilized to develop the water and wastewater rates followed the guidelines for allocating costs outlined in the American Water Works Association (AWWA) *Principles of Water Rates, Fees, and*

Charges, Manual M1 and in the Water Environment Federation (WEF) Manual of Practice No. 27, Financing and Charges for Wastewater (2018).

The financial plans for the three utilities include the five-year study period from fiscal year¹ (FY) 2026 to FY 2030. The proposed rates were developed for implementation on July 1, 2025 (in FY 2026) and in July of every year thereafter until 2030.

1.4. Results and Recommendations

Raftelis worked closely with City staff to define the results and recommendations of the water, recycled water, and wastewater rate study. The recommendations presented in this report will ensure the financial sufficiency and stability of the City's utilities to fund all necessary operating and capital costs and to maintain sufficient cash balances. To maximize the equity of the rate structures, which is a key objective that informed the study approach, Raftelis recommends that the City retain the current rate structures for the water, recycled water, and wastewater systems.

Water Utility

- » The water O&M expenses are expected to increase, on average, by 3.8 percent each year of the study based on the City's FY 2025 budget and inflationary assumptions.
- » The City plans to spend approximately \$256 million on capital projects from FY 2026 to FY 2030.
- » The City plans to issue debt of \$80 million to fund capital expenditures in FY 2028.
- » The Study team proposes the annual revenue adjustments shown in **Table 1-4** from FY 2026 to FY 2030 to fund capital project spending and to maintain sufficient cash balances.

Recycled Water Utility

- » The recycled O&M expenses are expected to increase, on average, by 6.2 percent each year of the study based on the City's FY 2025 budget and inflationary assumptions. This is primarily due to increases in the cost and volume of purchased water.
- » The Study team recommends the annual revenue adjustments shown in **Table 1-4**.

Wastewater Utility

- » The wastewater O&M expenses are expected to increase, on average, by 2.4 percent each year of the study based on the City's FY 2025 budget and inflationary assumptions.
- » The City plans to spend approximately \$100 million on capital projects from FY 2026 to FY 2030.
- » The Study team recommends the annual revenue adjustments shown in **Table 1-4**.

¹ A fiscal year is the year starting on July 1 and ending on June 30. For example, FY 2026 begins on July 1, 2025 and ends on June 30, 2026.

Table 1-4: Proposed Rate Increases

A	B	C	D	E	F
Rate Revenue Increases	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Water	5%	5%	9%	9%	9%
Recycled Water	5%	5%	9%	9%	9%
Wastewater	5%	5%	5%	5%	5%

1.5. Proposed Rates

Table 1-5 and **Table 1-6** show the proposed monthly water service charges and water usage rates for the City's water and recycled water customers based on the above recommendations. The FY 2026 rates were determined through cost-of-service calculations and FY 2027 through FY 2030 rates were determined by increasing FY 2026 rates by the recommended revenue adjustments.

Table 1-5: Proposed Monthly Water Service Charges (\$/meter size)

	A	B	C	D	E	F	G
Line	Service Charges	FY 2025 (Current)	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Potable Water							
1	5/8"	\$30.65	\$29.87	\$31.36	\$32.93	\$35.89	\$39.12
2	3/4"	\$41.01	\$39.30	\$41.26	\$43.33	\$47.22	\$51.48
3	1"	\$61.84	\$58.16	\$61.07	\$64.12	\$69.89	\$76.18
4	1 1/2"	\$113.82	\$105.32	\$110.59	\$116.12	\$126.57	\$137.96
5	2"	\$176.20	\$161.91	\$170.01	\$178.51	\$194.57	\$212.08
6	3"	\$373.73	\$341.11	\$358.17	\$376.08	\$409.93	\$446.82
7	4"	\$664.84	\$605.20	\$635.46	\$667.24	\$727.29	\$792.74
8	6"	\$1,361.40	\$1,237.13	\$1,298.99	\$1,363.94	\$1,486.69	\$1,620.50
9	8"	\$2,505.02	\$2,274.63	\$2,388.36	\$2,507.78	\$2,733.48	\$2,979.49
10	10"	\$3,960.54	\$3,595.08	\$3,774.83	\$3,963.57	\$4,320.29	\$4,709.12
Recycled Water							
11	5/8"	\$14.88	\$15.10	\$15.85	\$16.64	\$18.14	\$19.77
12	3/4"	\$17.20	\$18.35	\$19.26	\$20.23	\$22.05	\$24.03
13	1"	\$21.85	\$24.85	\$26.09	\$27.40	\$29.86	\$32.55
14	1 1/2"	\$33.46	\$41.11	\$43.16	\$45.32	\$49.40	\$53.85
15	2"	\$47.40	\$60.62	\$63.65	\$66.83	\$72.85	\$79.40
16	3"	\$91.53	\$122.40	\$128.52	\$134.95	\$147.09	\$160.33
17	4"	\$156.56	\$213.45	\$224.12	\$235.33	\$256.51	\$279.59
18	6"	\$312.18	\$431.31	\$452.88	\$475.52	\$518.32	\$564.97
19	8"	\$567.67	\$789.00	\$828.45	\$869.87	\$948.16	\$1,033.49
20	10"	\$892.93	\$1,244.24	\$1,306.45	\$1,371.77	\$1,495.23	\$1,629.80
Fire Service							
21	2"	\$11.87	\$12.78	\$13.42	\$14.09	\$15.36	\$16.74
22	4"	\$22.36	\$22.01	\$23.11	\$24.27	\$26.45	\$28.83
23	6"	\$46.17	\$42.99	\$45.14	\$47.39	\$51.66	\$56.31
24	8"	\$87.25	\$79.16	\$83.12	\$87.27	\$95.13	\$103.69
25	10"	\$149.03	\$133.57	\$140.25	\$147.27	\$160.52	\$174.97
26	12"	\$234.66	\$208.99	\$219.44	\$230.41	\$251.15	\$273.75
27	16"	\$488.93	\$432.92	\$454.57	\$477.29	\$520.25	\$567.07

Table 1-6: Proposed Water Usage Rates (\$/hcf of water)

	A	B	C	D	E	F	G	H
Line	Customer Class	Monthly Tiers (hcf)	FY 2025 (Current)	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
	SFR Potable							
1	Tier 1	1-10	\$2.40	\$2.50	\$2.62	\$2.76	\$3.00	\$3.27
2	Tier 2	11-18	\$3.82	\$4.60	\$4.83	\$5.08	\$5.53	\$6.03
3	Tier 3	Above 18	\$4.59	\$5.47	\$5.74	\$6.03	\$6.57	\$7.16
4	Non-SFR Potable	Uniform	\$3.07	\$3.44	\$3.62	\$3.80	\$4.14	\$4.51
5	Recycled	Uniform	\$2.40	\$2.49	\$2.61	\$2.74	\$2.99	\$3.26

Table 1-7 presents the proposed City of Ontario wastewater rates. Treatment costs from IEUA will continue to be directly passed through to customers via a charge per EDU.

Table 1-7: Proposed Wastewater Rates

	A	B	C	D	E	F	G
Line	Customer Class	FY 2025 (Current)	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
	Residential (per EDU)						
1	Single Family	\$14.18	\$14.66	\$15.39	\$16.16	\$16.97	\$17.82
2	Multi-Family	\$11.40	\$12.17	\$12.78	\$13.42	\$14.09	\$14.79
	Non-Residential (per hcf)						
3	All Non-residential classes	\$1.41	\$1.50	\$1.58	\$1.65	\$1.74	\$1.82

1.6. Customer Bill Impacts

Table 1-8 outlines the proposed customer monthly water bill impacts for a Single Family Residential customer with a 5/8" meter using various amounts of water each billing period. The table compares a bill under the current rate structure to one under the proposed FY 2026 rates. The monthly impact for an average customer using 14 hcf per month will increase by \$3.34.

Table 1-8: Proposed Single Family Customer Monthly Water Bill Impacts (5/8" meter, varying hcf)

	A	B	C	D	E
Line	Single Family Impacts	Water Use (hcf)	Current Monthly Bill	Proposed Monthly Bill	Difference (\$)
1	Very Low Use	8	\$49.85	\$49.86	\$0.01
2	Low Use	12	\$62.29	\$64.07	\$1.78
3	Average Use	14	\$69.93	\$73.27	\$3.34
4	High Use	23	\$108.16	\$119.03	\$10.87
5	Very High Use	30	\$140.29	\$157.32	\$17.03

Table 1-9 outlines the proposed customer monthly wastewater bill impacts for Residential customers. The current and proposed monthly bills exclude the IEUA pass-through charge per EDU. The bills for Single Family and Multi-Family customers will increase as shown in column E.

Table 1-9: Proposed Residential Customer Monthly Wastewater Bill Impacts

	A	B	C	D	E
Line	Residential Customer	Number of Units	Current Monthly Bill	Proposed Monthly Bill	Difference (\$)
1	Single Family	1	\$14.18	\$14.66	\$0.48
2	Multi-Family	5	\$57.00	\$60.85	\$3.85
3	Multi-Family	15	\$171.00	\$182.55	\$11.55
4	Multi-Family	20	\$228.00	\$243.40	\$15.40
5	Multi-Family	150	\$1,710.00	\$1,825.50	\$115.50
6	Multi-Family	175	\$1,995.00	\$2,129.75	\$134.75

2. Assumptions

The assumptions outlined in this report section are assumptions utilized to project the number of customer accounts, revenues, and expenses for future years. City staff provided data on customer accounts and usage for FY 2024, actual revenues and expenses for FY 2023 to FY 2024, and budget revenue and expenses for FY 2025. The remaining years of the study, from FY 2026 to FY 2030, were projected based on the assumptions shown in this section.

2.1. Customer Growth

Table 2-1 shows the customer growth projections for each customer class based on data provided by the City's planning department. Growth factors are applied to the previous year's estimate of accounts. Recycled water growth rates are based on the City's anticipated recycled water customer connections over the forecast period.

Table 2-1: Customer Growth Projections

	A	B	C	D	E	F
Line	Growth Assumptions	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
	Account Growth					
1	Single Family	2%	2%	2%	2%	2%
2	Multi-Family	2%	2%	2%	2%	2%
3	Commercial	2%	2%	2%	2%	2%
4	Industrial	0%	0%	0%	0%	0%
5	City	0%	0%	0%	0%	0%
6	Irrigation	0%	0%	0%	0%	0%
7	Private Fire	0%	0%	0%	0%	0%
8	Recycled Water	0%	7%	7%	5%	5%

2.2. Revenue Inflation Factors

Table 2-2 shows the revenue inflation factors used to project future revenues and calculate investment income. Projections assume modest increases in miscellaneous, non-rate revenues throughout the study period because the City is not planning to increase these charges by the same magnitude as rate revenues. The reserve interest rate is used to calculate the investment income based on projected fund balances and is based on conservative estimates in a low-interest financial environment.

Table 2-2: Revenue Inflation Factors

	A	B	C	D	E	F
Line	Revenue Escalation Assumptions	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	Miscellaneous Revenues	2.0%	2.0%	2.0%	2.0%	2.0%
2	Reserve Interest Rate	0.5%	0.5%	0.5%	0.5%	0.5%

2.3. Expense Inflation Factors

Table 2-3 shows the expense inflation factors used to project future operating and capital project expenses for the study period. These factors were determined with input from City staff. The general inflation factor starts at 7% to

reflect the current inflationary environment and decreases to the long-term change in the CPI (inflation). Salary inflation is set to the long-term change in the CPI. Chemical costs follow general inflation and water purchase costs reflect the long-term trend for the City's various water sources. The capital costs provided by the City already accounted for inflation, so the costs were not escalated by Raftelis.

Table 2-3: Expense Inflation Factors

	A	B	C	D	E	F
Line	Expense Inflation Assumptions	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	General	7.0%	5.0%	4.0%	3.0%	3.0%
2	Salary	3.0%	3.0%	3.0%	3.0%	3.0%
3	Benefits	3.0%	3.0%	3.0%	3.0%	3.0%
4	Chemicals	7.0%	7.0%	5.0%	4.0%	3.0%
5	Utilities	5.0%	5.0%	5.0%	5.0%	5.0%
6	Water Costs	5.0%	5.0%	5.0%	5.0%	5.0%

3. Water Financial Plan

This section of the report details the water enterprise's long-term financial plan, based on the projected revenues, expenses, debt service, and capital project costs. Raftelis modeled the financial plan without revenue adjustments (status quo) and with proposed revenue adjustments to ensure the financial sustainability and solvency of the water utility.

3.1. Projected Demand

City staff provided a count of accounts served and volumes sold for FY 2023 and FY 2024. Raftelis forecasted future accounts using the growth factors presented in **Table 2-1**. **Table 3-1** shows the assumed growth in the number of accounts and consumption.

Table 3-1: Projected Water Accounts and Consumption

Line	A Accounts and Usage	B FY 2025	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
SFR Accounts							
1	5/8"	24,642	25,135	25,638	26,150	26,673	27,207
2	3/4"	5,404	5,512	5,622	5,735	5,849	5,966
3	1"	1,160	1,183	1,207	1,231	1,255	1,280
4	1 1/2"	34	34	35	36	36	37
5	2"	10	10	11	11	11	11
6	3"	0	0	0	0	0	0
7	4"	0	0	0	0	0	0
8	6"	0	0	0	0	0	0
9	8"	0	0	0	0	0	0
10	10"	0	0	0	0	0	0
11	Total	31,250	31,875	32,512	33,162	33,826	34,502
Non-SFR Accounts							
12	5/8"	1,441	1,468	1,496	1,524	1,553	1,583
13	3/4"	25	25	26	26	26	27
14	1"	1,213	1,234	1,255	1,276	1,298	1,320
15	1 1/2"	1,195	1,211	1,228	1,245	1,262	1,279
16	2"	2,065	2,091	2,118	2,145	2,173	2,202
17	3"	159	161	163	165	167	169
18	4"	90	91	93	94	95	96
19	6"	43	43	44	45	46	47
20	8"	58	59	60	62	63	64
21	10"	2	2	2	2	2	2
22	Total	6,291	6,387	6,484	6,584	6,685	6,789
Fire Protection Accounts							
23	2"	10	10	10	10	10	10
24	4"	204	204	204	204	204	204
25	6"	439	439	439	439	439	439
26	8"	865	865	865	865	865	865
27	10"	372	372	372	372	372	372
28	12"	11	11	11	11	11	11
29	16"	0	0	0	0	0	0
30	Total	1,901	1,901	1,901	1,901	1,901	1,901
Water Use (hcf)							
31	SFR	5,131,119	5,233,741	5,338,416	5,445,184	5,554,088	5,665,170
32	Non-SFR	7,302,516	7,387,123	7,473,421	7,561,446	7,651,230	7,742,811
33	Total	12,433,635	12,620,864	12,811,837	13,006,630	13,205,318	13,407,981

3.2. Projected Revenues

City staff provided the actual FY 2023 and 2024 revenues and budgeted FY 2025 revenues for the water utility, which were used to confirm calculated rate revenues and project miscellaneous revenues for the remainder of the study period. Rate revenues on Line 1 were calculated using the units of service shown in **Table 3-1** and the rates shown in **Table 1-1** and **Table 1-2**. **Table 3-2** shows the projected water revenues under the status quo.

The City expects increases in water rate revenues for all years of the study as a result of increases in customer accounts and consumption. The interest income (Line 2) is calculated using the reserve interest rate (**Table 2-2**,

Line 2). For the status quo scenario, interest income calculations reflect lower fund balances since there are no revenue adjustments and is \$0 beginning in FY 2030 because the ending cash balance is negative. The remaining revenues are inflated using the non-rate revenue inflation factor (**Table 2-2**, Line 1).

Table 3-2: Projected Water Revenues (Status Quo)

Line	A Revenue	B FY 2025	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
1	Rate Revenue	\$63,552,478	\$65,184,643	\$66,203,014	\$67,241,753	\$68,301,266	\$69,381,970
	Other Revenue						
2	Interest Income	\$317,028	\$283,966	\$191,091	\$95,151	\$11,182	\$0
3	Other Revenues	\$2,679,189	\$2,679,189	\$2,679,189	\$2,679,189	\$2,679,189	\$2,679,189
4	Total Revenue	\$66,548,695	\$68,147,798	\$69,073,294	\$70,016,092	\$70,991,637	\$72,061,159

3.3. Projected Purchased Water Expenses

The City obtains potable water from four sources: Chino Basin Desalter Authority (CDA), Water Facilities Authority (WFA), San Antonio Water Company (SAWC), and groundwater. CDA, WFA, and SAWC charge a rate per acre-foot (AF). There are also annual fixed charges based on an escalating schedule associated with water from WFA, San Antonio, and groundwater extraction.

Table 3-3 shows the calculation of the purchased water cost to meet the demand forecasted in **Table 3-1**, plus an allowance for water losses based on historic trends. The amount purchased from CDA is equivalent to the contractual minimum purchase required. Purchases from SAWC are based on shares owned, and water from WFA is based on City estimates. Groundwater extractions account for the remainder of the water required. The projected fixed and volumetric costs for purchasing and producing water are inflated based on estimated water costs (**Table 2-3**, Line 6) and demand. The volumetric rates (**Table 3-3**, Lines 16-21) are applied to the volumes purchased (**Table 3-3**, Lines 4-11); the resulting cost is added to the total fixed charges for water (**Table 3-3**, Lines 12-15). The total water purchase costs are shown in line 30 of **Table 3-3**.

Table 3-3: Projected Purchased Water Expenses

	A	B	C	D	E	F
Line	Water Purchase Cost	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	Water Demand (hcf)	12,620,864	12,811,837	13,006,630	13,205,318	13,407,981
2	Water Produced (hcf) with 4% Loss	13,146,733	13,345,664	13,548,573	13,755,540	13,966,646
3	Water Produced/Purchased (AF)	30,181	30,637	31,103	31,578	32,063
	Potable Water Sources (AF)					
4	CDA	8,533	8,533	8,533	8,533	8,533
5	WFA (Tier 1)	6,000	6,000	6,000	6,000	6,000
6	San Antonio	600	600	600	600	600
7	Groundwater	15,048	15,504	15,970	16,445	16,930
8	Total	30,181	30,637	31,103	31,578	32,063
	Recycled and Recharge Water (AF)					
9	Recycled Water	11,730	11,965	12,204	12,448	12,448
10	Recharge Water – Ontario’s Share	4,000	4,000	4,000	4,000	4,000
11	Recharge Water – Fontana’s Share	0	0	3,000	0	0
	Purchased Water Rate – Fixed (\$/year)					
12	San Antonio	\$28,344	\$28,344	\$28,344	\$28,344	\$28,344
13	IEUA RW	\$1,223,424	\$1,288,320	\$1,359,288	\$1,430,520	\$1,573,572
14	IEUA MEU	\$1,223,424	\$1,288,320	\$1,359,288	\$1,430,520	\$1,573,572
15	Groundwater Assessments	\$2,310,000	\$2,425,500	\$2,546,775	\$2,674,114	\$2,754,337
	Purchased Water Rate – Variable (\$/AF)					
16	CDA	\$1,155	\$1,213	\$1,274	\$1,338	\$1,471
17	WFA	\$1,425	\$1,471	\$1,518	\$1,566	\$1,717
18	San Antonio	\$296	\$296	\$296	\$296	\$296
19	IEUA RW	\$485	\$520	\$538	\$557	\$613
	Water Storage Rate – Variable (\$/AF)					
20	Recharge Water – Ontario’s Share	\$692	\$733	\$755	\$778	\$855
21	Recharge Water – Fontana’s Share	\$741	\$785	\$809	\$833	\$916
	Purchased Water Cost					
22	CDA	\$9,859,199	\$10,352,159	\$10,869,767	\$11,413,255	\$12,554,581
23	WFA	\$8,551,320	\$8,823,667	\$9,105,363	\$9,396,767	\$10,301,899
24	San Antonio	\$206,068	\$206,068	\$206,068	\$206,068	\$206,068
25	IEUA RW	\$7,779,050	\$8,361,592	\$8,668,135	\$9,183,980	\$9,877,378
26	IEUA MEU	\$1,223,424	\$1,288,320	\$1,359,288	\$1,430,520	\$1,573,572
27	WM GW Assessments	\$2,310,000	\$2,425,500	\$2,546,775	\$2,674,114	\$2,754,337
28	Total	\$29,929,061	\$31,457,306	\$32,755,396	\$34,304,704	\$37,267,835
	Water Storage Costs					
29	Recharged Recycled Water	\$2,768,000	\$2,932,000	\$5,446,930	\$3,110,559	\$3,421,615
30	Total Water Purchase Costs	\$32,697,061	\$34,389,306	\$38,202,326	\$37,415,263	\$40,689,450

3.4. Projected O&M Expenses

City staff provided the actual FY 2023 and FY 2024 O&M expenses and budgeted FY 2025 O&M expenses for the water utility by department. **Table 3-4** shows a summary of the projected O&M expenses for the study period. The expenses for the departments in column A include several categories such as salary, benefits, maintenance, etc., and each line item within that department's budget is escalated based on the expense inflation factors (**Table 2-3**). The expenses in the Water Purchase Costs (Line 5) are equal to the amount calculated in **Table 3-3** less the amount allocated to recycled water later in this report.

Table 3-4: Projected Water O&M Expenses

Line	A O&M Expenses	B FY 2025	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
	Department						
1	Water Administration	\$5,602,002	\$5,946,693	\$6,220,013	\$6,456,899	\$6,651,555	\$6,852,098
2	Pumping	\$8,021,940	\$8,461,436	\$8,860,521	\$9,242,041	\$9,603,215	\$9,978,213
3	Water Line Maintenance	\$9,540,487	\$10,025,478	\$10,432,736	\$10,801,785	\$11,126,170	\$11,460,303
4	Environmental Engr.	\$2,407,553	\$2,531,674	\$2,635,388	\$2,729,025	\$2,810,896	\$2,895,223
5	Water Purchase Costs	\$25,988,958	\$24,918,011	\$26,027,714	\$29,534,191	\$28,231,283	\$30,812,072
6	Water Resources	\$2,068,197	\$2,194,422	\$2,294,591	\$2,381,455	\$2,452,898	\$2,526,485
7	Customer Services	\$2,969,793	\$3,081,913	\$3,186,690	\$3,288,758	\$3,387,420	\$3,489,043
8	Total	\$56,598,930	\$57,159,628	\$59,657,652	\$64,434,153	\$64,263,437	\$68,013,437

3.5. Debt Service

The City currently has two existing debt issues for the water utility. **Table 3-5** shows the annual payments for the Series 2021 Water Revenue Refunding Bonds and the Series 2024 Water Revenue Refunding Bond.

Table 3-5: Existing Water Debt Service

Line	A Existing Debt Service	B FY 2025	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
1	2021 Water Rev Refund Bond	\$4,087,378	\$4,093,709	\$4,090,549	\$4,086,274	\$4,085,888	\$4,082,997
2	2024 Water Rev Refund Bond	\$2,945,653	\$3,124,250	\$3,120,750	\$3,125,000	\$3,121,500	\$3,120,500
3	Total	\$7,033,031	\$7,217,959	\$7,211,299	\$7,211,274	\$7,207,388	\$7,203,497

To fund the capital program, Raftelis recommends one new debt issuance in FY 2028. The terms for this debt issuance are assumed to be a 30-year bond at 5.0 percent interest with a 2.0 percent issuance cost. It is assumed an additional reserve fund would not need to be created for the debt. Future debt will be included in the debt service coverage requirement as shown in the financial planning sections. The proposed annual debt service for this bond issue is shown in **Table 3-6**.

Table 3-6: Proposed Water Debt Service

Line	A Proposed Debt Service	B FY 2025	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
1	Proposed Bond Issue	\$0	\$0	\$0	\$80,000,000	\$0	\$0
2	Bond Proceeds	\$0	\$0	\$0	\$78,400,000	\$0	\$0
3	Annual Debt Service	\$0	\$0	\$0	\$5,204,115	\$5,204,115	\$5,204,115

3.6. Capital Projects

City staff provided the capital improvement plan (CIP) for the water utility for the study period. **Table 3-7** shows the CIP costs for the study period (all CIP numbers from City staff included inflation). The water utility CIP includes two projects related to recycled water (Lines 11-12) and are funded by grants. Projects are funded through a combination of water rate revenues, development impact fees (DIF), cash reserves, grants, and bond proceeds.

Table 3-7: Inflated Water Capital Projects

Line	A	B	C	D	E	F	G
	Capital Improvement Plan	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	Municipal Service Projects	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000	\$300,000
2	Streets and Engineering Projects	\$350,000	\$350,000	\$150,000	\$150,000	\$150,000	\$150,000
3	Facility Site Security Improvements	\$1,501,264	\$650,000	\$650,000	\$250,000	\$250,000	\$250,000
4	Water Resources Consulting	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
5	Water System Evaluation Enhancements	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
6	Water System Planning	\$300,000	\$200,000	\$200,000	\$200,000	\$200,000	\$200,000
7	Water Meter Replacement	\$1,751,000	\$1,803,530	\$1,857,636	\$1,913,365	\$2,009,033	\$2,109,485
8	New Meter Install	\$700,000	\$742,630	\$764,909	\$787,856	\$827,249	\$868,611
9	13th Street Structural Retrofit	\$1,000,000	\$0	\$0	\$0	\$9,000,000	\$0
10	Water Rights Purchase	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000	\$50,000
11	Euclid Avenue Recycled Water System (multi grant)	\$0	\$5,000,000	\$0	\$10,000,000	\$10,000,000	\$0
12	Euclid Avenue Recycled Water System (multi grant)	\$292,113	\$0	\$0	\$0	\$0	\$0
13	AMI Antenna Tower	\$275,000	\$1,125,000	\$0	\$0	\$0	\$0
14	Pressure Reducing Stations Rehab	\$0	\$2,000,000	\$0	\$0	\$0	\$0
15	Risk and Resiliency	\$200,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
16	Onsite Chlorine Generators	\$2,000,000	\$4,000,000	\$0	\$0	\$0	\$0
17	Groundwater Wellhead Treatment Well 50	\$0	\$0	\$0	\$1,000,000	\$1,000,000	\$0
18	WM Transit/Emporia/Palm/Laurel	\$5,223,176	\$0	\$0	\$0	\$0	\$0
19	Potable Well No. 53	\$1,500,000	\$3,000,000	\$2,500,000	\$0	\$0	\$0
20	Wells Maintenance and Repairs	\$1,700,000	\$840,000	\$850,000	\$850,000	\$850,000	\$850,000
21	Downtown Water Main Improvements	\$2,438,576	\$0	\$0	\$0	\$0	\$0
22	Relocation of Water Mains (I-10 Corridor Express Lanes)	\$4,089,900	\$0	\$0	\$0	\$0	\$0
23	Bon View Main Improvements (South of Francis Street)	\$1,107,194	\$381,194	\$0	\$0	\$0	\$0
24	Citywide Water Main Improvements	\$10,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000	\$5,000,000
25	OMSC Bioswale Drainage Imp.	\$75,000	\$0	\$0	\$0	\$0	\$0
26	State Street, Campus, Avenue, Bonview Water Main Imp.	\$889,624	\$0	\$0	\$0	\$0	\$0
27	Advanced Water Purification Facility	\$500,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000
28	Reservoir 925 1-A	\$339,597	\$15,000,000	\$15,000,000	\$0	\$0	\$0
29	John Galvin Treatment Plant Improvements	\$350,000	\$0	\$0	\$1,000,000	\$0	\$0
30	New Groundwater Wellhead Treatment Plant	\$0	\$0	\$0	\$1,000,000	\$16,250,000	\$0
31	OMUC Customer Information System	\$225,000	\$75,000	\$75,000	\$75,000	\$0	\$0
32	CDA Booster Station Upgrade	\$200,000	\$1,500,000	\$1,500,000	\$0	\$0	\$0
33	G Street 18" Potable Water Main	\$281,000	\$0	\$0	\$0	\$0	\$0
34	Municipal Service Center Relocation	\$800,000	\$800,000	\$0	\$20,400,000	\$19,800,000	\$0
35	Sports Complex Offsite Utilities Projects Water Imp.	\$4,000,000	\$7,360,000	\$4,000,000	\$0	\$0	\$0
36	Ontario Ranch Phase 2B Water Main	\$5,477,935	\$7,385,939	\$7,385,939	\$0	\$0	\$0
37	Edison and Bonview Water Main Imp	\$500,000	\$0	\$2,000,000	\$0	\$0	\$0
38	New Well XX	\$0	\$500,000	\$2,500,000	\$700,000	\$0	\$0
39	Future 1212 PZ Resv&Main Rochestor TK 31.5	\$0	\$1,500,000	\$18,000,000	\$12,000,000	\$0	\$0
46	Total Capital Projects	\$48,566,379	\$60,063,293	\$63,283,484	\$56,176,221	\$66,186,282	\$10,278,096
47	Total Potable	\$48,566,379	\$60,063,293	\$63,283,484	\$56,176,221	\$66,186,282	\$10,278,096
48	Total Recycled	\$0	\$0	\$0	\$0	\$0	\$0

Table 3-8 shows the proposed capital financing plan for the water utility. The City plans to fund all of its water CIP (Line 3). Capital expenses (Line 5) include utilities and other expenses that are appropriate to capitalize. The bond proceeds are from the proposed debt issuances (**Table 3-6**, Line 2). The remainder will be funded through rates, capacity fees, grants, sales of existing land, general fund transfers, and DIF reimbursements.

Table 3-8: Proposed Water Capital Financing Plan

Line	A Capital Financing	B FY 2025	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
Potable Water							
1	Inflated CIP Costs	\$48,566,379	\$60,063,293	\$63,283,484	\$56,176,221	\$66,186,282	\$10,278,096
2	Capital Spending Factor	100%	100%	100%	100%	100%	100%
3	Total Funded CIP	\$48,566,379	\$60,063,293	\$63,283,484	\$56,176,221	\$66,186,282	\$10,278,096
4	Capital Expenses	\$8,002,744	\$8,339,944	\$8,641,129	\$8,900,363	\$9,167,374	\$9,442,395
5	Total Capital Costs	\$56,569,123	\$68,403,237	\$71,924,613	\$65,076,584	\$75,353,656	\$19,720,491
Capital Financing Plan							
6	Grant Funded	\$0	\$5,000,000	\$0	\$10,000,000	\$10,000,000	\$0
7	DIF Reimbursement	\$7,175,156	\$15,436,238	\$19,385,939	\$6,040,000	\$2,980,000	\$0
8	Sales of Existing PW Land	\$0	\$0	\$0	\$8,160,000	\$7,920,000	\$0
9	General Fund Transfer for Sports Complex	\$4,000,000	\$7,360,000	\$4,000,000	\$0	\$0	\$0
10	Capacity Fees	\$250,000	\$255,000	\$260,100	\$265,302	\$270,608	\$276,020
11	Proposed Debt Funded	\$0	\$0	\$0	\$40,611,282	\$37,788,718	\$0
12	Potable Pay-Go	\$45,143,967	\$40,352,000	\$48,278,574	\$0	\$16,394,330	\$19,444,471
13	Recycled Pay-Go	\$0	\$0	\$0	\$0	\$0	\$0
14	Total	\$56,569,123	\$68,403,237	\$71,924,613	\$65,076,584	\$75,353,656	\$19,720,491

3.7. Current Financial Plan – Status Quo

Table 3-9 shows the projected water financial plan without revenue adjustments or proposed bond proceeds (also referred to as status quo). Rate revenues and other revenues are derived from projected revenues (**Table 3-2**). O&M expenses are derived from projected O&M expenses (**Table 3-4**), and existing debt service is from the annual debt service payments for outstanding debt (**Table 3-5**). The status quo scenario assumes no bond proceeds and thus all capital projects are rate funded.

The net cash flow (Line 19) is calculated by subtracting O&M expenses (Line 12) and debt service and capital costs (Line 17) from the total revenues (Line 4). Net operating revenue (Line 20) is equal to total revenues less O&M expenses. Debt coverage (Line 21) is calculated by dividing the net operating revenue by the total debt service (Lines 13-14) and falls below the required debt coverage (Line 22) beginning in FY 2028. Net cash flow is negative for all years of the study, which means that the water utility does not have enough revenues from rates to fund its operating expenses, debt, and capital costs. If there are no revenue adjustments and new debt for the water utility, the fund cash balance (Line 24) will be depleted by FY 2028. Please note that the fund balance for water includes only the Water Operating funds. The reserve target (Line 25) is equal to 25 percent of O&M expenses.

Table 3-9: Projected Water Financial Plan (Status Quo)

	A	B	C	D	E	F	G
Line	Financial Plan	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
	Revenues						
1	Rate Revenues	\$63,552,478	\$65,184,643	\$66,203,014	\$67,241,753	\$68,301,266	\$69,381,970
2	Revenue Adjustments	\$0	\$0	\$0	\$0	\$0	\$0
3	Other Revenues	\$2,996,217	\$2,963,155	\$2,870,280	\$2,774,340	\$2,690,371	\$2,679,189
4	Total Revenues	\$66,548,695	\$68,147,798	\$69,073,294	\$70,016,092	\$70,991,637	\$72,061,159
	O&M Expenses						
5	Water Administration	\$5,602,002	\$5,946,693	\$6,220,013	\$6,456,899	\$6,651,555	\$6,852,098
6	Pumping	\$8,021,940	\$8,461,436	\$8,860,521	\$9,242,041	\$9,603,215	\$9,978,213
7	Water Line Maintenance	\$9,540,487	\$10,025,478	\$10,432,736	\$10,801,785	\$11,126,170	\$11,460,303
8	Environmental Engr.	\$2,407,553	\$2,531,674	\$2,635,388	\$2,729,025	\$2,810,896	\$2,895,223
9	Water Purchase Costs	\$25,988,958	\$24,918,011	\$26,027,714	\$29,534,191	\$28,231,283	\$30,812,072
10	Water Resources	\$2,068,197	\$2,194,422	\$2,294,591	\$2,381,455	\$2,452,898	\$2,526,485
11	Customer Services	\$2,969,793	\$3,081,913	\$3,186,690	\$3,288,758	\$3,387,420	\$3,489,043
12	Total	\$56,598,930	\$57,159,628	\$59,657,652	\$64,434,153	\$64,263,437	\$68,013,437
	Debt Service and Capital						
13	Existing Debt Service	\$7,033,031	\$7,217,959	\$7,211,299	\$7,211,274	\$7,207,388	\$7,203,497
14	Proposed Debt Service	\$0	\$0	\$0	\$0	\$0	\$0
15	Rate Funded Capital	\$2,599,706	\$9,925,431	\$25,684,772	\$38,952,502	\$52,672,184	\$18,230,224
16	Transfer to Recycled Water	\$3,141,560	\$3,803,752	\$4,079,044	\$4,049,655	\$4,311,741	\$4,737,950
17	Total	\$12,774,297	\$20,947,141	\$36,975,116	\$50,213,430	\$64,191,314	\$30,171,670
18	Total Revenue Required	\$69,373,227	\$78,106,769	\$96,632,768	\$114,647,583	\$128,454,750	\$98,185,107
19	Net Cash Flow	(\$2,824,532)	(\$9,958,971)	(\$27,559,474)	(\$44,715,862)	(\$57,474,295)	(\$26,123,949)
20	Net Operating Revenue	\$9,949,765	\$10,988,170	\$9,415,642	\$5,497,568	\$6,717,018	\$4,047,721
21	Calculated Debt Coverage	1.41	1.52	1.31	0.76	0.93	0.56
22	Required Debt Coverage	1.25	1.25	1.25	1.25	1.25	1.25
23	Beginning Fund Balance	\$62,837,402	\$60,012,870	\$50,053,899	\$22,494,425	(\$22,221,437)	(\$79,695,732)
24	Ending Fund Balance	\$60,012,870	\$50,053,899	\$22,494,425	(\$22,221,437)	(\$79,695,732)	(\$105,819,681)
25	Reserve Target	\$13,955,900	\$14,094,155	\$14,710,106	\$15,887,873	\$15,845,779	\$16,770,437

Figure 3-1 shows the projected water financial plan under the status quo scenario in graphical format. The stacked bars represent the O&M expenses (brown), debt service (teal), and capital projects (dark blue). The light gray bars show the changes to cash balances: if the gray bars are below the \$0.0 on the axis, then the City will be **drawing from cash reserves**, and vice versa. Since the red dashed line, which represents current revenues, is below the stacked bars, this means that the City’s current water revenues are not sufficient to fund its costs.

Figure 3-1: Projected Water Financial Plan (Status Quo)

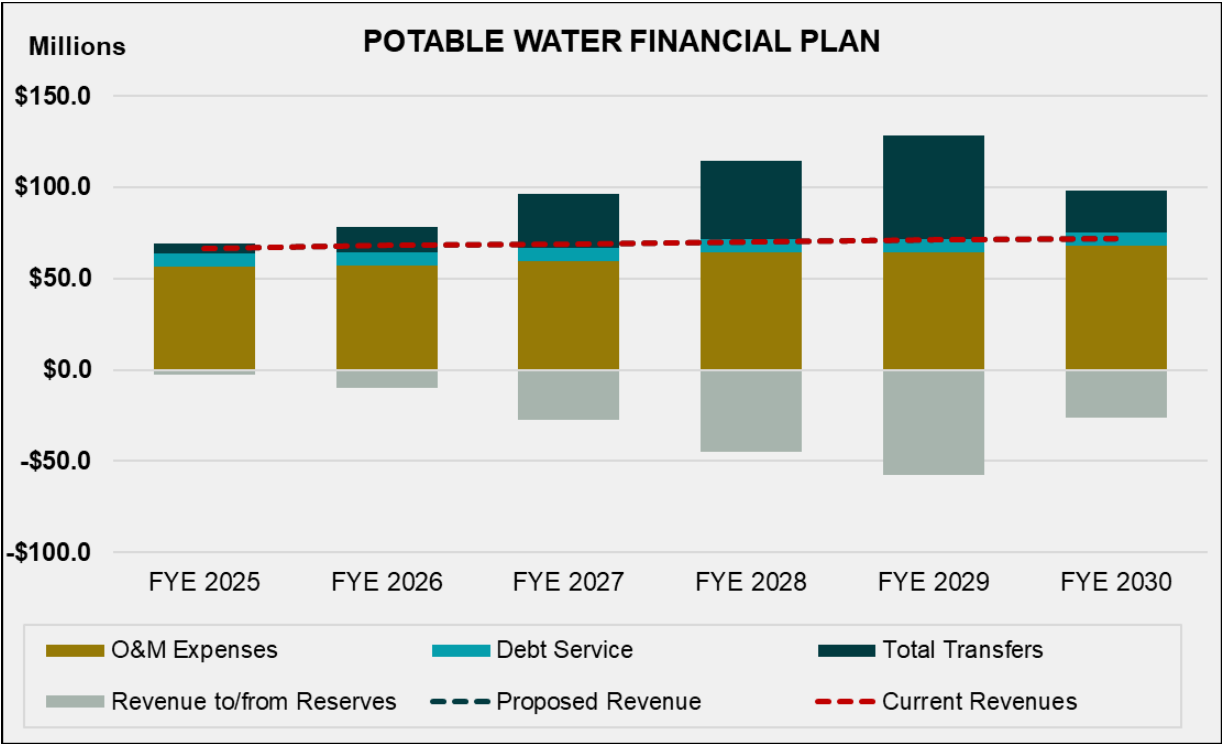
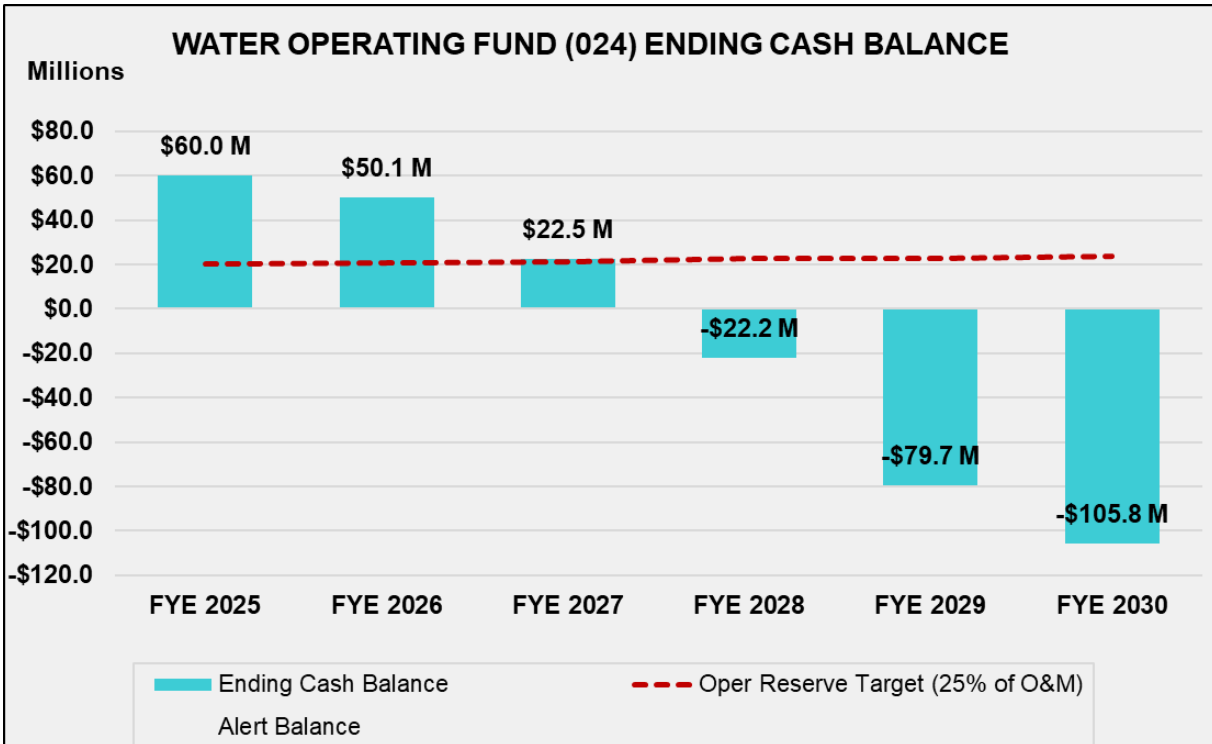


Figure 3-2 shows the projected total water fund cash balance under the status quo scenario in graphical format. Without revenue adjustments and additional debt, the cash balances (shown as blue bars) will be significantly drawn down over the study period and will be depleted in FY 2028 and continue to be negative for the planning period.

Figure 3-2: Projected Water Fund Balances (Status Quo)



3.8. Proposed Financial Plan

The projected financial plan under the status quo scenario in **Table 3-9** shows that the City's current water rate revenues are not sufficient to sustain the water utility beginning in FY 2028.

Table 3-10 shows the proposed revenue adjustments for the study period, effective on July 1 of each fiscal year. The proposed revenue adjustments and bond issuance were developed to allow the City to fully fund the operating and capital costs of the water utility and to maintain adequate cash balances throughout the planning period.

Table 3-10: Proposed Water Revenue Adjustments and Bond Issuance

	A	B	C	D
Line	Fiscal Year	Revenue Adjustment	Month Effective	Proposed Bonds
1	2026	5.0%	July	\$0
2	2027	5.0%	July	\$0
3	2028	9.0%	July	\$80,000,000
4	2029	9.0%	July	\$0
5	2030	9.0%	July	\$0

Table 3-11 shows the projected water financial plan with the proposed revenue adjustments from

Table 3-10. The net cash flow (Line 19) is negative for three years (including the current year) of the study, which means that the City will be funding its capital costs in those years through cash reserves to minimize rate impacts.

Table 3-11: Projected Water Financial Plan (Proposed Revenue Adjustments)

	A	B	C	D	E	F	G
Line	Financial Plan	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
	Revenues						
1	Rate Revenues	\$63,552,478	\$65,184,643	\$66,203,014	\$67,241,753	\$68,301,266	\$69,381,970
2	Revenue Adjustments	\$0	\$3,259,232	\$6,785,809	\$13,564,343	\$21,165,213	\$29,679,489
3	Other Revenues	\$2,996,217	\$2,971,303	\$2,906,966	\$2,867,024	\$2,884,240	\$2,902,092
4	Total Revenues	\$66,548,695	\$71,415,178	\$75,895,789	\$83,673,119	\$92,350,719	\$101,963,551
	O&M Expenses						
5	Water Administration	\$5,602,002	\$5,946,693	\$6,220,013	\$6,456,899	\$6,651,555	\$6,852,098
6	Pumping	\$8,021,940	\$8,461,436	\$8,860,521	\$9,242,041	\$9,603,215	\$9,978,213
7	Water Line Maintenance	\$9,540,487	\$10,025,478	\$10,432,736	\$10,801,785	\$11,126,170	\$11,460,303
8	Environmental Engr.	\$2,407,553	\$2,531,674	\$2,635,388	\$2,729,025	\$2,810,896	\$2,895,223
9	Water Purchase Costs	\$25,988,958	\$24,918,011	\$26,027,714	\$29,534,191	\$28,231,283	\$30,812,072
10	Water Resources	\$2,068,197	\$2,194,422	\$2,294,591	\$2,381,455	\$2,452,898	\$2,526,485
11	Customer Services	\$2,969,793	\$3,081,913	\$3,186,690	\$3,288,758	\$3,387,420	\$3,489,043
12	Total	\$56,598,930	\$57,159,628	\$59,657,652	\$64,434,153	\$64,263,437	\$68,013,437
	Debt Service and Capital						
13	Existing Debt Service	\$7,033,031	\$7,217,959	\$7,211,299	\$7,211,274	\$7,207,388	\$7,203,497
14	Proposed Debt Service	\$0	\$0	\$0	\$5,204,115	\$5,204,115	\$5,204,115
15	Rate Funded Capital	\$2,599,706	\$9,925,431	\$24,852,057	\$0	\$9,900,518	\$15,412,967
16	Transfer to Recycled Water	\$3,141,560	\$3,543,035	\$3,507,698	\$2,847,630	\$2,372,924	\$1,927,719
17	Total	\$12,774,297	\$20,686,425	\$35,571,054	\$15,263,019	\$24,684,945	\$29,748,297
18	Total Revenue Required	\$69,373,227	\$77,846,053	\$95,228,706	\$79,697,172	\$88,948,382	\$97,761,735
19	Net Cash Flow	(\$2,824,532)	(\$6,430,874)	(\$19,332,917)	\$3,975,947	\$3,402,337	\$4,201,816
20	Net Operating Revenue	\$9,949,765	\$14,255,551	\$16,238,137	\$19,238,966	\$28,087,282	\$33,950,113
21	Calculated Debt Coverage	1.41	1.98	2.25	1.55	2.26	2.74
22	Required Debt Coverage	1.25	1.25	1.25	1.25	1.25	1.25
23	Beginning Fund Balance	\$62,837,402	\$60,012,870	\$53,581,996	\$34,249,079	\$38,225,026	\$41,627,363
24	Ending Fund Balance	\$60,012,870	\$53,581,996	\$34,249,079	\$38,225,026	\$41,627,363	\$45,829,178
25	Reserve Target	\$13,955,900	\$14,094,155	\$14,710,106	\$15,887,873	\$15,845,779	\$16,770,437

Figure 3-3 shows the proposed water capital financing plan in graphical format, based on the capital financial plan shown in **Table 3-8**.

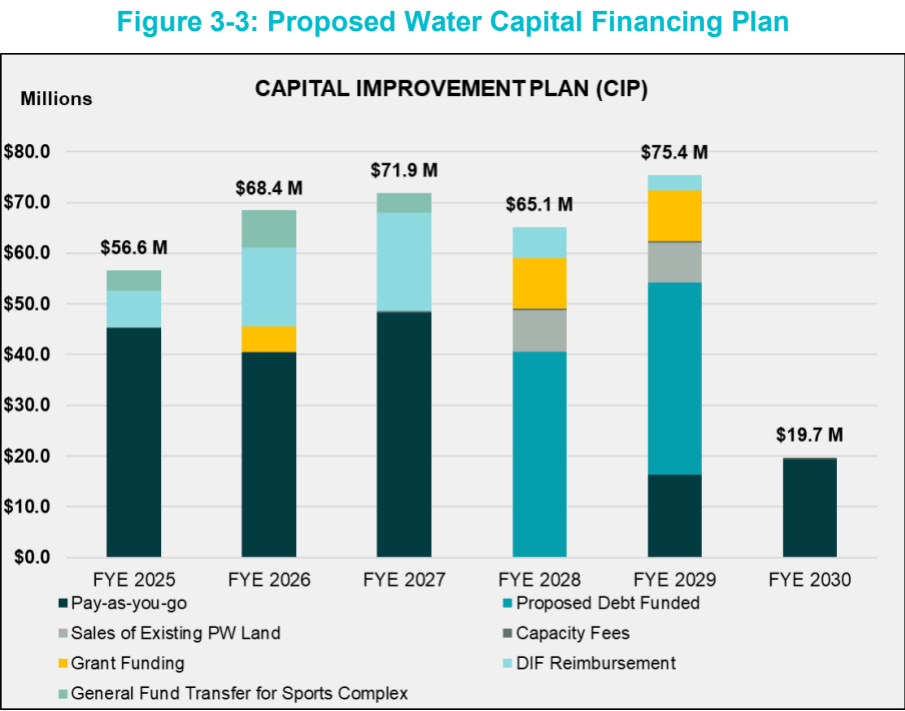


Figure 3-4 shows the proposed financial plan in graphical format with the revenue adjustments in

Table 3-10. The proposed revenues, shown as the dotted dark blue line, allow the City to fund its operating and capital costs for the study period. As shown in **Figure 3-4**, the City will use reserves for the first three years of the study.

Figure 3-4: Projected Water Financial Plan (Proposed Revenue Adjustments)

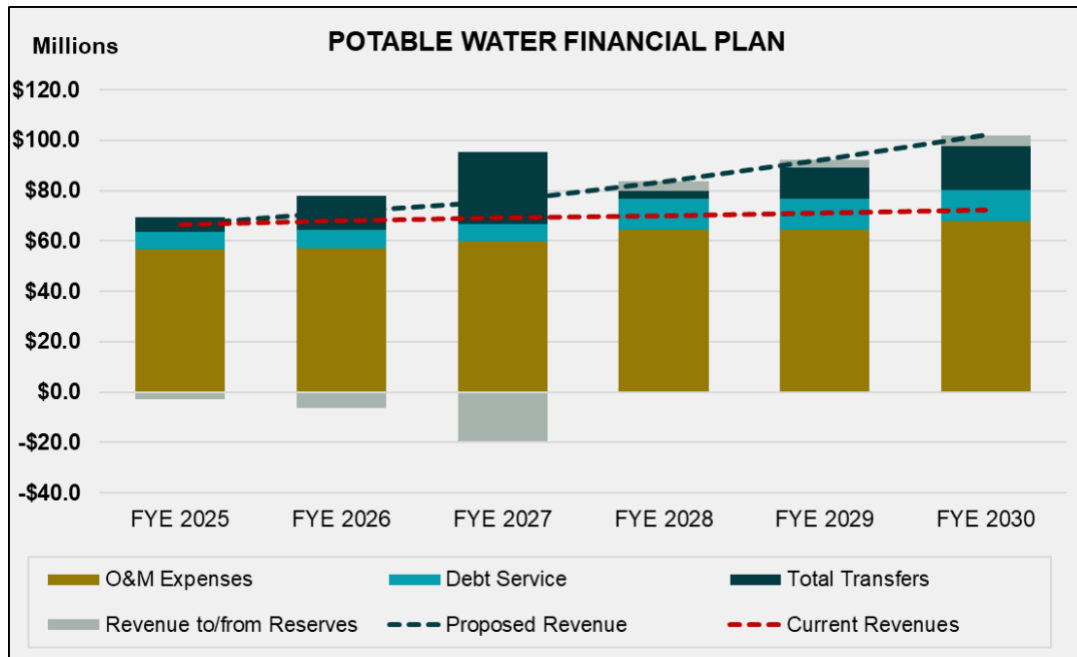
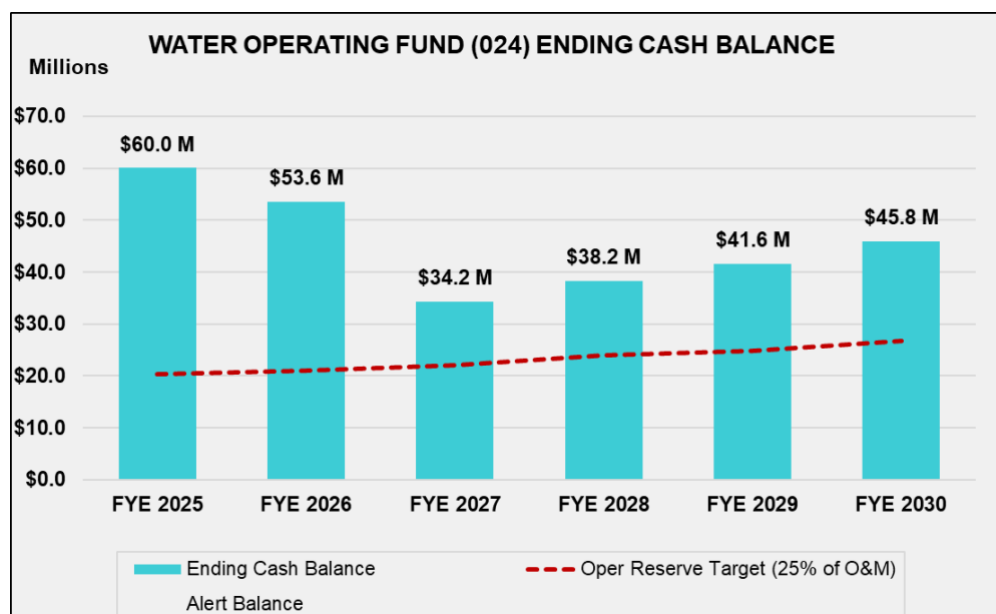


Figure 3-5 shows the projected water fund balances with the proposed revenue adjustments in

Table 3-10. The light blue bars represent the unrestricted cash balance available to finance operating expenses and capital projects. The water operating fund has an adequate ending cash balance in each fiscal year throughout the forecast period.

Figure 3-5: Projected Water Fund Balances (Proposed Revenue Adjustments)



4. Water Cost of Service

A cost-of-service analysis distributes a utility's revenue requirement (yearly revenues needed from rates) to each customer class by allocating the City's revenue requirement to the cost causation components, which include:

1. Water supply
2. Base delivery (average) costs
3. Peaking costs (maximum day and maximum hour)
4. Meter service
5. Billing and customer service
6. Fire protection
7. General and administrative costs (legal, office supplies, minor equipment purchases, miscellaneous materials and supplies, training, uniforms, etc.)

Peaking costs are further divided into maximum day and maximum hour demand. The maximum day demand is the maximum amount of water used on a single day in a year. The maximum hour demand is the maximum hour use on the maximum use day. Both maximum day and maximum hour peaking demand are used to calculate peaking unit rates to distribute costs to customer classes. Peaking costs are allocated in proportion to how the different customer classes use water during peak day and hour demands. Different facilities, such as distribution and storage facilities, are designed to meet the peaking demands of customers. Therefore, extra capacity² costs include the O&M and capital costs associated with meeting peak customer demand. This method is consistent with the AWWA M1 Manual and is widely used in the water industry to perform cost-of-service analyses.

4.1. Revenue Requirement Determination

Table 4-1 shows the test year revenue requirement derivation, which results in the total revenue required from water rates (Line 19). The revenue requirement is comprised of the Operating (Column B, Line 19) and Capital (Column C, Line 19) revenue requirements, which are allocated to the cost causation components based on the proportion of O&M expense and capital asset functions, respectively. The adjustment for cash balance (Line 17) is equal to the net cash flow for FY 2026 (**Table 3-11**, Column C, Line 19).

² The terms extra capacity, peaking and capacity costs are used interchangeably.

Table 4-1: FY 2026 Potable Revenue Requirements

	A	B	C	D
Line	Potable Water FY 2024 Requirements	Operating	Capital	Total
	Revenue Requirements			
1	O&M Expenses			
2	Water Administration	\$5,946,693		\$5,946,693
3	Pumping	\$8,461,436		\$8,461,436
4	Water Line Maintenance	\$10,025,478		\$10,025,478
5	Environmental Engineering	\$2,531,674		\$2,531,674
6	Water Purchase Costs	\$24,918,011		\$24,918,011
7	Water Resources	\$2,194,422		\$2,194,422
8	Customer Services	\$3,081,913		\$3,081,913
9	Existing Debt Service		\$7,217,959	\$7,217,959
10	Proposed Debt Service		\$0	\$0
11	Transfers			
	Rate Funded Capital Projects		\$9,925,431	\$9,925,431
12	Recycled Water	\$3,543,035		\$3,543,035
13	Total Revenue Requirements	\$60,702,663	\$17,143,390	\$77,846,053
	Less: Revenue Offsets			
14	Miscellaneous Revenues	\$2,679,189		\$2,679,189
15	Interest Income	\$292,114		\$292,114
16	Total Revenue Offsets	\$2,971,303	\$0	\$2,971,303
	Less: Adjustments			
17	Adjustment for Cash Balance		\$6,430,874	\$6,430,874
18	Total Adjustments	\$0	\$6,430,874	\$6,430,874
19	Revenue Requirement from Rates	\$57,731,360	\$10,712,515	\$68,443,875

4.2. Allocation of Expenses to Cost Causation Components

In a cost-of-service analysis, the City's expenses are allocated to the cost causation components. To do so, it is necessary to identify the system-wide peaking factors shown in **Table 4-2**. The system-wide peaking factors (Column B) are used to derive the cost component allocation bases/percentages (Columns C through E). These peaking factors are from Section 4 of the City's Water Master Plan. Maximum day peaking factors are observed, and maximum hour peaking factors are estimated as stated on page 4-8 of the plan. As a water purveyor, the City must construct its water system with sufficient capacity to serve peak demands from high water users. This means, for example, that the City must build, operate and maintain sufficient system storage to serve peak demand. Peaking factors help to correlate the specific costs associated with accommodating peak demand, with the drivers of those costs. Water systems are designed for average day (Average Day), maximum day (Max Day) and maximum hour (Max Hour) peaks. Average Day, Max Day, and Average Day ratio calculations are calculated using the guideline provided in AWWA's *Principles of Water Rates, Fees, and Charges, Manual M1*. Average day use represents the average annual use expressed as a daily demand. The Max Day peaking factor is expressed as a percentage or multiple of Average Day demand and represents the maximum demand on any day of the year. Typically, because of irrigation demands, the Max Day demand will occur in summer. Reservoirs and transmission lines are designed for Max Day demand. Max Hour demand is the peak demand of one hour on the Max Day, expressed as a percentage or multiple of the Average Day demand. Distribution lines are designed for Max Hour plus fire flow demand.

The significance of peaking factors and cost allocation is best explained by looking at the City's infrastructure investments. The extra capacity costs to build and maintain infrastructure to serve Max Day and Hour demands are significantly higher than the costs associated with Average Day demand. Larger pipelines, storage tanks, and pumps used to serve peak demands are more expensive and add to the City's costs to provide water service.

To understand the interpretation of the percentages, we must first establish the base use as the average daily demand during the year, which is assigned an allocation basis of 100 percent. If the base allocation basis is used to allocate an expense, it means that the costs associated with that expense are incurred to meet average daily demand (Base) related costs.

Expenses that are allocated to the cost causation components using the maximum day basis are those attributed to ensuring the water system can accommodate the maximum expected daily demand. The Max Day allocation (Line 2) attributes 64.5 percent ($1.00/1.55$) of the demand (and therefore costs) to Base use (average daily demand) and the remainder to maximum day use (peaking). Expenses allocated using the Maximum Hour base (Line 3) assume 50.5 percent ($1.00/1.98$) of costs are due to Base demands, 27.8 percent due to Max Day ($(1.55-1.00)/1.98$) and the remaining 21.7 percent are due to Max Hour costs.

Table 4-2: System Peaking Factors, Conversions, and Cost Component Allocations

	A	B	C	D	E	F
Line	Description	Factor	Base Delivery	Max Day	Max Hour	Total
1	Base	1.00	100%	0%	0%	100%
2	Max Day	1.55	64.5%	35.5%	0%	100%
3	Max Hour	1.98	50.5%	27.8%	21.7%	100%

The allocation basis for each expense is chosen based on the type of cost for each line item and the proportion of those costs associated with each cost causation component (Base or average demand, Max Day, Max Hour, General, etc.). The allocation is based on the design basis of the different components of the water system. For example, pumps on wells are often designed to meet Max Day demands and costs are allocated 64.5 percent to Base and 35.5 percent to Max Day as shown in **Table 4-3**.

Actual O&M expenses are then allocated to the cost components, as shown in **Table 4-4**. The O&M allocation percentages (Line 11) are then used to allocate the Operating revenue requirement (**Table 4-1**, Column B, Line 19) in a later section.

Assets are allocated in a similar process, as shown in **Table 4-5** and **Table 4-6**. The capital allocation percentages (**Table 4-6**, Line 11) are then used to allocate the Capital revenue requirement (**Table 4-1**, Column C, Line 19) in a later section. Annual capital project costs are not used to allocate the Capital revenue requirement because they tend to vary from year to year, and so Capital assets are often used to allocate the Capital revenue requirement to reduce rate fluctuations. Assets represent the utility's long-term investments in its capital infrastructure and do not fluctuate as much each year. The asset list as of June 30, 2022 was provided by the City.

Table 4-3: Potable O&M Allocation Factors

	A	B	C	D	E	F	G	H	I	J
Line	Potable O&M Allocation	Supply	Base Delivery	Max Day	Max Hour	Meters	Customer	Fire	General	Total
1	Supply	100%								100%
2	Pumping		64.5%	35.5%						100%
3	Treatment		100%							100%
4	Storage		64.5%	35.5%						100%
5	T&D		50.5%	27.8%	21.7%					100%
6	Meters					100%				100%
7	Customer Service						100%			100%
8	Fire Protection							100%		100%
9	General								100%	100%

Note: T&D - Transmission and Distribution

Table 4-4: Potable O&M Allocations

	A	B	C	D	E	F	G	H	I	J
Line	Potable O&M Cost	Supply	Base Delivery	Max Day	Max Hour	Meters	Customer	Fire	General	Total
1	Supply	\$25,341,083	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$25,341,083
2	Pumping	\$0	\$3,548,344	\$1,951,589	\$0	\$0	\$0	\$0	\$0	\$5,499,934
3	Treatment	\$0	\$2,325,206	\$0	\$0	\$0	\$0	\$0	\$0	\$2,325,206
4	Storage	\$0	\$545,899	\$300,245	\$0	\$0	\$0	\$0	\$0	\$846,144
5	T&D	\$0	\$3,490,654	\$1,919,860	\$1,500,981	\$0	\$0	\$0	\$0	\$6,911,495
6	Meters	\$0	\$0	\$0	\$0	\$3,007,644	\$0	\$0	\$0	\$3,007,644
7	Customer Service	\$0	\$0	\$0	\$0	\$0	\$4,585,735	\$0	\$0	\$4,585,735
8	Fire Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$501,274	\$0	\$501,274
9	General	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,141,115	\$8,141,115
10	Total O&M Expenses	\$25,341,083	\$9,910,103	\$4,171,694	\$1,500,981	\$3,007,644	\$4,585,735	\$501,274	\$8,141,115	\$57,159,628
11	O&M Allocation	44.3%	17.3%	7.3%	2.6%	5.3%	8.0%	0.9%	14.2%	100.0%

Table 4-5: Potable Asset Allocation Factors

	A	B	C	D	E	F	G	H	I	J
Line	Potable O&M Allocation	Supply	Base Delivery	Max Day	Max Hour	Meters	Customer	Fire	General	Total
1	Supply	100%								100%
2	Pumping		64.5%	35.5%						100%
3	Treatment		100%							100%
4	Storage		64.5%	35.5%						100%
5	T&D		50.5%	27.8%	21.7%					100%
6	Meters					100%				100%
7	Customer Service						100%			100%
8	Fire Protection							100%		100%
9	General								100%	100%

Table 4-6: Potable Asset Allocations

	A	B	C	D	E	F	G	H	I	J
Line	Potable Assets	Supply	Base Delivery	Max Day	Max Hour	Fire	Meter	Customer	General	Total
1	Supply	\$57,940,320	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$57,940,320
2	Pumping	\$0	\$2,893,928	\$1,591,660	\$0	\$0	\$0	\$0	\$0	\$4,485,588
3	Treatment	\$0	\$24,724,396	\$0	\$0	\$0	\$0	\$0	\$0	\$24,724,396
4	Storage	\$0	\$46,590,131	\$25,624,572	\$0	\$0	\$0	\$0	\$0	\$72,214,702
5	T&D	\$0	\$179,900,226	\$98,945,124	\$77,357,097	\$0	\$0	\$0	\$0	\$356,202,447
6	Meters	\$0	\$0	\$0	\$0	\$19,031,079	\$0	\$0	\$0	\$19,031,079
7	Customer Service	\$0	\$0	\$0	\$0	\$0	\$1,137,294	\$0	\$0	\$1,137,294
8	Fire Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$15,092,890	\$0	\$15,092,890
9	General	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$8,115,007	\$8,115,007
10	TOTAL ASSETS	\$57,940,320	\$254,108,680	\$126,161,356	\$77,357,097	\$19,031,079	\$1,137,294	\$15,092,890	\$8,115,007	\$558,943,723
11	<i>Capital Allocation</i>	10.4%	45.5%	22.6%	13.8%	3.4%	0.2%	2.7%	1.5%	100.0%

4.3. Units of Service

Once all expenses have been allocated to the appropriate cost components, the next step is to determine the units of service from which the costs will be recovered. The units are the number of customers, equivalent meter units (EMUs), annual water use, and extra capacity units. Private fire connections and city hydrants are also used in the calculation of private fire charges.

4.3.1. CUSTOMER AND METER EQUIVALENTS

Table 4-7 summarizes customer and equivalent meter units. Meter counts (Columns D, F, and H) can also be found in **Table 3-1**. EMUs represent the potential demand that meters can place on the system. The AWWA M1 Manual provides data about the potential demand that each standard meter size can place on the system. For this study, the base meter is the 5/8-inch meter, which is the most common meter size. The AWWA ratio (Column C) is calculated by dividing the capacity in gallons per minute (gpm) (Column B) for each meter size by the capacity of a 5/8-inch meter (Column B, Line 1). EMUs for each class are derived by multiplying the AWWA ratio (Column C) by the number of accounts at a given meter size. The numbers shown in the tables of this section are rounded. Therefore, hand calculations based on the displayed numbers, such as summing or multiplying, may not equal the exact results shown.

Table 4-7: Customer and Equivalent Meter Units

Line	A Meter Size	B Capacity (gpm)	C AWWA Ratio	D SFR Meters	E SFR EMUs	F Non-SFR Meters	G Non-SFR EMUs	H All Meters	I EMUs
1	5/8"	20	1.00	25,135	25,135	1,468	1,468	26,603	26,603
2	3/4"	30	1.50	5,512	8,268	25	38	5,538	8,306
3	1"	50	2.50	1,183	2,957	1,234	3,084	2,417	6,042
4	1 1/2"	100	5.00	34	172	1,211	6,056	1,245	6,227
5	2"	160	8.00	10	83	2,091	16,729	2,102	16,812
6	3"	350	17.50	0	0	161	2,815	161	2,815
7	4"	630	31.50	0	0	91	2,879	91	2,879
8	6"	1,300	65.00	0	0	43	2,827	43	2,827
9	8"	2,400	120.00	0	0	59	7,107	59	7,107
10	10"	3,800	190.00	0	0	2	395	2	395
11	Total			31,875	36,615	6,387	43,398	38,261	80,014

Equivalent fire accounts are treated similarly, using the Hazen Williams equation for pipe flow³, demonstrated in **Table 4-8**. The fire ratios (Column B) are applied to the number of private fire connections to determine the number of 6-inch fire line equivalents; the same is applied to fire hydrants (Column E), which assumes a 6-inch diameter line. The proportion of equivalent fire lines allocated to private and public fire protection (Line 10) are used in **Table 4-11** to calculate the cost of providing private fire protection service.

³ The potential flow is the diameter of the connection raised to the 2.63 power – the Hazen Williams equation for pipe flow. For a 2" pipe the 6" equivalent demand factor would be $(2/6)^{2.63} = .056$.

Table 4-8: Equivalent Fire Line Units

	A	B	C	D	E	F
Line	Line Size	Fire Ratio	Lines	Eq. Lines	Hydrants	Eq. Hydrants
1	2"	0.06	10	1		
2	4"	0.34	204	70		
3	6"	1.00	439	439		
4	8"	2.13	865	1843		
5	10"	3.83	372	1426		
6	12"	6.19	11	68		
7	16"	13.19	0	0		
8	6"	1.00			7,886	7,886
9	Total		1,901	3,847	7,886	7,886
10	<i>% of Equiv. Lines</i>			<i>32.8%</i>		<i>67.2%</i>

4.3.2. WATER USAGE AND PEAKING

The service units also include annual water use and peaking units. **Table 4-9** shows the peaking factors (Columns C and D) for each customer class and tier. Raftelis received detailed billing data from City staff, which was then analyzed to determine each one. The Single Family Residential (SFR) tier definitions (Column B) are discussed in detail in a later section.

Table 4-9: Class Peaking Factors

	A	B	C	D
Line	Customer Class	Proposed Tiers (hcf)	Max Month	Max Day
SFR				
1	Tier 1	10	1.08	1.18
2	Tier 2	18	1.48	1.62
3	Tier 3	18+	1.90	2.07
Non-SFR				
4	Multi-Family		1.14	1.24
5	Commercial		1.14	1.24
6	Industrial		1.14	1.24
7	Government		1.57	1.71
8	City		1.18	1.29
9	Irrigation		1.57	1.71

Table 4-10 shows the calculation of extra capacity units for each class. Annual usage (Column C) is the total amount of water each class is forecasted to use in the test year, which is also shown in **Table 3-1**. Average day (Column D) is equal to annual use divided by 365 days.

The Max Day peaking factor (Column E) was derived in **Table 4-9**. It represents the relationship between a forecasted average month and the single highest month of use (maximum month) for a given class. The Max Day peaking factor is multiplied by the average day use to determine the Max Day total capacity (Column F). The extra capacity required to serve water under Max Day conditions (Column G) is the difference between the Max Day total capacity and the average day use. These extra capacity units are used to distribute peaking costs between the classes.

The Max Hour peaking factor (Column H) is calculated by multiplying the Max Day factor by the ratio of the system Max Day and Max Hour factors in **Table 4-2**. The same steps as described above are applied to calculate

Max Hour total capacity (Column I). The extra capacity for Max Hour use is calculated by subtracting Max Day total capacity from Max Hour total capacity.

EMUs and accounts (Columns K and L) are obtained from **Table 4-7**.

4.3.3. COST DISTRIBUTIONS TO THE COST CAUSATION COMPONENTS

Table 4-11 summarizes the results of the cost allocation to the cost causation components and the final unit costs for each cost causation component. The operating revenue requirement (Column J, Line 1) is from **Table 4-1** and is allocated based on the operating allocation percentages from **Table 4-4**. The capital revenue requirement (Column J, Line 2) is also from **Table 4-1** and is allocated based on the capital allocation percentages from **Table 4-6**. Note that the total revenue requirement (**Table 4-11**, Column J, Line 3) is equal to the total revenue required from rates (**Table 4-1**, Column D, Line 19).

General costs (Column I) are reallocated back to all other components based on the proportion of costs within each cost component in the total cost of service (Line 3). Public fire protection costs (Line 5) are reallocated based on the percentage of equivalent fire lines for public fire hydrants (**Table 4-8**, Line 10); these costs are recovered from rate payers in their fixed meter charge. Finally, the City chooses to reallocate 65 percent of extra capacity and 35 percent of base capacity peaking costs to the equivalent meter basis in order to reach revenue stability goals. Peaking costs can be recovered in proportion to meter size. Total adjusted costs (Line 8), fully allocated to the appropriate cost causation components, are used to determine the final unit costs.

The unit costs (Line 11) are the result of dividing the adjusted cost of service (Line 8) for each cost causation component by the units of service (Line 9), which were summarized in **Table 4-10**. Unit costs on Line 11 for meters, customers, and fire protection are monthly costs.

Table 4-12 presents the results of the cost-of-service analysis. Using the unit costs calculated in **Table 4-11** and the detailed units of service in **Table 4-10**, the costs are distributed to each customer class. Supply and Base Delivery are distributed to each customer class and tier based on annual water use (**Table 4-10**, Column C). Max Day and Max Hour costs are distributed based on extra capacity units for each component (**Table 4-10**, Columns G and J, respectively). Fire costs are distributed based on equivalent fire lines (**Table 4-10**, Column M, Line 5). Meter costs are distributed based on EMUs (**Table 4-10**, Column K). Finally, Customer costs are distributed based on the number of bills (**Table 4-10**, Column L multiplied by 12).

For example, the Supply costs for SFR Tier 1 (Column B, Line 2) are calculated using the following formula:

$$\text{Supply unit cost [Table 4-11, Column B, Line 11]} \times \text{SFR Tier 1 annual use [Table 4-10, Column C, Line 1]}$$

Table 4-10: Units of Service

Line	A Customer Class	B Monthly Tiers (hcf)	C Annual Use (hcf)	D Average Daily Use	E MD Capacity Factor	F MD Total Capacity	G MD Extra Capacity	H MH Capacity Factor	I MH Total Capacity	J MH Extra Capacity	K EMUs	L Accounts	M Eq. Lines
	SFR										36,615	31,875	
1	Tier 1	10	3,212,086	8,800	1.18	10,374	1,574	1.51	13,252	2,878			
2	Tier 2	18	1,131,759	3,101	1.62	5,009	1,908	2.06	6,399	1,390			
3	Tier 3	18+	889,896	2,438	2.07	5,056	2,618	2.65	6,459	1,403			
4	Non-SFR		7,387,123	20,239	1.39	28,109	7,871	1.77	35,907	7,798	43,398	6,387	
5	Private Fire Service											1,901	3,847
6	Total		12,620,864			48,549	13,972		62,018	13,469	80,014	40,642	3,847

Table 4-11: Unit Cost of Service

Line	A Cost of Service	B Supply	C Base Delivery	D Max Day	E Max Hour	F Meters	G Customer	H Fire	I General	J Total
1	Operating Expenses	\$25,594,554	\$10,009,228	\$4,213,420	\$1,515,995	\$3,037,727	\$4,631,603	\$506,288	\$8,222,545	\$57,731,360
2	Capital Expenses	\$1,110,463	\$4,870,156	\$2,417,963	\$1,482,598	\$364,743	\$21,797	\$289,265	\$155,529	\$10,712,515
3	Total Cost of Service	\$26,705,017	\$14,879,384	\$6,631,384	\$2,998,593	\$3,402,470	\$4,653,400	\$795,553	\$8,378,075	\$68,443,875
4	Allocation of General Cost	\$3,724,859	\$2,075,400	\$924,956	\$418,249	\$474,582	\$649,064	\$110,965	-\$8,378,075	\$0
5	Allocation of Public Fire Cost			(\$427,263)	(\$741,070)	\$1,168,333				\$0
6	Allocation of Private Fire Cost			(\$208,422)	(\$361,498)			\$375,401		\$0
7	Allocation of Peaking Cost to Meter		(\$5,934,174)	(\$4,911,621)	(\$2,220,947)	\$13,066,742				\$0
8	Total Adjusted Cost of Service	\$30,429,876	\$11,020,610	\$2,009,034	\$93,326	\$18,112,127	\$5,302,464	\$1,476,438	\$0	\$68,443,875
9	Unit of Service	12,620,864	12,620,864	13,972	13,469	80,014	481,947	3,847		
10	<i>Unit</i>	<i>hcf</i>	<i>hcf</i>	<i>hcf/day</i>	<i>hcf/day</i>	<i>equiv. meter</i>	<i>annual bills</i>	<i>equiv. lines</i>		
11	Unit Cost	\$2.41	\$0.87	\$143.79	\$6.93	\$18.86	\$11.00	\$31.98		

Table 4-12: Class Cost of Service

	A	B	C	D	E	F	G	H	I
Line	Potable Cost of Service by Class	Supply	Base Delivery	Max Day	Max Hour	Meters	Customer	Fire	Total
1	SFR					\$8,288,339	\$4,208,296		\$12,628,563
2	Tier 1	\$7,744,587	\$2,804,812	\$226,350	\$19,943				\$10,228,809
3	Tier 2	\$2,728,757	\$988,258	\$274,426	\$9,629				\$5,023,138
4	Tier 3	\$2,145,609	\$777,063	\$376,504	\$9,720				\$1,734,038
5	Non-SFR	\$17,810,923	\$6,450,477	\$1,131,753	\$54,035	\$9,823,789	\$843,187		\$37,186,421
6	Private Fire Service						\$250,982	\$1,476,438	\$1,626,165
7	Total	\$30,429,876	\$11,020,610	\$2,009,034	\$93,326	\$18,112,127	\$5,302,464	\$1,476,438	\$68,443,875

5. Water Rate Design

While the cost-of-service analysis determines how much revenue should be recovered from each customer class, the rate design process determines how and on what basis. Costs are allocated to the fixed and volume charges of each class in order to recover costs in a manner that is equitable and meets the City's goals.

5.1. Proposed Monthly Service Charge

The monthly service charge recovers two types of costs:

1. costs associated with maintaining and servicing meters and
2. capacity (also known as peaking) costs.

Both costs increase as the meter size increases and are proportional to the AWWA hydraulic capacity ratios shown in **Table 4-7**. The AWWA capacity ratios, which are a function of a meter's safe maximum flow rate, are used to increase the meter service component for larger capacity meters which impose a greater demand on the system and require larger systems and therefore are responsible for higher costs. This assumes that the potential capacity (peaking) demand is proportional to the potential flow through each meter size as established by the AWWA capacity ratios. The meter service component for a 5/8-inch meter (**Table 4-11**, Column F, Line 11) minus the unit cost for watermaster assessment, IEUA and the Metropolitan Water District of Southern California (MWD) is multiplied by the AWWA ratio for each meter size (Column B) to determine the Meter cost by size (Column C). The meter cost causation component includes fixed charges for watermaster assessment, IEUA and MWD. Those costs spread on all the EMUs results in the 5/8" equivalent unit rates of \$2.41, \$1.27 and \$0.66, respectively, and are shown separately in **Table 5-1** (Columns F, G, and H).

The Customer component (**Table 4-11**, Column G, Line 11) recovers costs associated with meter reading, customer billing and collection, as well as answering customer calls. These costs are the same for all meter sizes as it costs the same to bill a small meter as it does a larger meter. Customer costs (Column D) are the same for all meter sizes.

Table 5-1: Monthly Fixed Charge Derivation by Meter Size

Line	A Meter Size	B AWWA Ratio	C Meter	D Customer	E Proposed City Charge	F Watermaster Assessment	G IEUA MEU	H MWD RTS	I Proposed Total Charge
1	5/8"	1.00	\$14.53	\$11.00	\$25.53	\$2.41	\$1.27	\$0.66	\$29.87
2	3/4"	1.50	\$21.79	\$11.00	\$32.79	\$3.61	\$1.91	\$0.99	\$39.30
3	1"	2.50	\$36.31	\$11.00	\$47.31	\$6.01	\$3.19	\$1.65	\$58.16
4	1 1/2"	5.00	\$72.63	\$11.00	\$83.63	\$12.03	\$6.37	\$3.29	\$105.32
5	2"	8.00	\$116.20	\$11.00	\$127.20	\$19.25	\$10.19	\$5.27	\$161.91
6	3"	17.50	\$254.19	\$11.00	\$265.19	\$42.10	\$22.30	\$11.52	\$341.11
7	4"	31.50	\$457.54	\$11.00	\$468.54	\$75.78	\$40.14	\$20.74	\$605.20
8	6"	65.00	\$944.13	\$11.00	\$955.13	\$156.38	\$82.82	\$42.80	\$1,237.13
9	8"	120.00	\$1,743.00	\$11.00	\$1,754.01	\$288.70	\$152.90	\$79.02	\$2,274.63
10	10"	190.00	\$2,759.76	\$11.00	\$2,770.76	\$457.11	\$242.09	\$125.11	\$3,595.08

Note: E = C + D and I = E + F + G + H

5.2. Proposed Monthly Private Fire Protection Charge

Table 5-2 shows the derivation of the monthly private fire charge (Column E). The fire cost in Column C is calculated for each line size by multiplying the unit cost of fire protection (**Table 4-11**, Column H, Line 11) by the flow ratios in Column B. The proposed private fire charge is calculated by adding the scaled fire cost (Column C) to the customer billing charge (Column D). The proposed private fire charges are proportional to the potential flow through each private fire connection.

Table 5-2: Monthly Private Fire Charge Derivation by Meter Size

	A	B	C	D	E
Line	Line Size	Flow Ratio	Fire	Customer	Proposed Charge
1	2"	0.06	\$1.78	\$11.00	\$12.78
2	4"	0.34	\$11.01	\$11.00	\$22.01
3	6"	1.00	\$31.98	\$11.00	\$42.99
4	8"	2.13	\$68.16	\$11.00	\$79.16
5	10"	3.83	\$122.57	\$11.00	\$133.57
6	12"	6.19	\$197.99	\$11.00	\$208.99
7	16"	13.19	\$421.92	\$11.00	\$432.92

5.3. Volumetric Rates

5.3.1. CUSTOMER CLASSES

Raftelis does not recommend changes to volumetric rate structures. Single Family class customers are more homogenous and conservation rate structures with inclining tiers are common for this class based on customer usage patterns. Specifically, Single Family customers are more likely to have predictable peaking patterns based on seasonality: water use during the summer months tends to peak more due to increased irrigation needs. The City incurs costs specific to accommodating such peak demand with infrastructure sized to provide capacity. To ensure that customers with higher use due to peaking cover the costs proportionally, tiered rates are proposed for Single Family Residential customers. The remaining customers vary significantly in size and use and generally are subject to uniform rates.

5.3.2. TIER DEFINITIONS

Table 5-3 shows the current tier definitions for customer classes.

Table 5-3: Current Volumetric Tiers

	A	B
Line	Tier	Current
	SFR	
1	Tier 1	1-10
2	Tier 2	11-18
3	Tier 3	Above 18
	Non-SFR	
4	All Non-SFR	Uniform

A uniform rate for all other customer classes is appropriate because of smaller peaking requirements. Commercial customers tend to be much less homogenous and their individual water needs vary significantly. Such customers do not place peak demand on the system in the same way as single-family residential customers. For example, a large commercial customer, such as a hospital, may use large volumes of water consistently. It may be inequitable to charge most of its use at Tier 3 rates; therefore uniform rates are common for industrial customers.

5.3.3. COMMODITY COST COMPONENT DEFINITIONS

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

1. Water Supply
2. Base Delivery
3. Peaking

Water Supply costs are costs associated with purchasing water from each of the four sources discussed in **Section 3**. When determining unit supply costs for each class and tier, Raftelis and City staff chose to allocate the lowest cost purchased water to the lower tiers because the City would not have to purchase more expensive water if all customers used water like Tier 1 customers. All residential users will benefit from the most affordable water used by the City and larger residential users will pay their proportionate share of the more expensive sources. **Table 5-4** shows the ranking of the water cost per hcf from each supplier. The demand from each source in AF (Line 1) corresponds to **Table 3-3** before accounting for water loss.

Table 5-4: Water Supply Unit Costs

Line	A Water Source	B San Antonio	C Groundwater	D CDA	E WFA	F Total
1	Water Demand (AF)	576	14,446	8,192	5,760	28,974
2	Water Demand (hcf)	250,906	6,292,606	3,568,296	2,509,056	12,620,864
3	Total Cost	\$251,651	\$7,695,299	\$12,040,054	\$10,442,872	\$30,429,876
4	Unit Cost per hcf	\$1.00	\$1.22	\$3.37	\$4.16	\$2.41

The total supply available from each source is allocated to SFR and Non-SFR customers in **Table 5-5** proportionally according to the water used (Lines 1-2). Water is allocated to each SFR tier in order of lowest to highest cost (Lines 3-5). For example, Tier 1 (Line 3) receives the entire SFR allocation of San Antonio water, the entire allocation of groundwater, and a portion of CDA water sufficient to meet SFR needs. The remainder of CDA water is allocated to Tier 2 (Line 4). The unit cost (Column G) is the result of multiplying the volumes from each source by the unit cost for each source divided by the total volume for each line (**Table 5-4**, Line 4). It represents a weighted supply cost of all water sources used by the class or tier.

Table 5-5: Water Supply Unit Rates

	A	B	C	D	E	F	G
Line	Class	San Antonio	Groundwater	CDA	WFA	Total	Unit Cost
1	SFR	104,048	2,609,478	1,479,735	1,040,479	5,233,741	\$2.41
2	Non-SFR	146,858	3,683,128	2,088,561	1,468,577	7,387,123	\$2.41
SFR							
3	Tier 1	104,048	2,609,478	498,560	0	3,212,086	\$1.55
4	Tier 2	0	0	981,176	150,583	1,131,759	\$3.48
5	Tier 3	0	0	0	889,896	889,896	\$4.16
6	Non-SFR	146,858	3,683,128	2,088,561	1,468,577	7,387,123	\$2.41
7	Total	250,906	6,292,606	3,568,296	2,509,056	12,620,864	\$2.41

Base delivery costs are the operating and capital costs associated with delivering water to all customers through the distribution system (pipelines and storage reservoirs) at a constant average rate of use – also known as serving customers under average daily demand conditions. Therefore, delivery costs are spread over all units of water which results in a uniform delivery unit cost for all classes and tiers. The delivery unit rate for all customers was developed in the cost-of-service analysis and includes an adjustment for recycled water capital costs discussed below.

Peaking costs, or extra-capacity costs, represent costs incurred to meet customer peak demands that exceed average daily demand. These costs are calculated in **Table 5-6**. The Max Day and Max Hour costs represent capital and operating costs associated with system oversizing to meet peak demands. The cost for each class is divided by the forecasted use for the class as shown in Columns F and H.

Table 5-6: Delivery and Peaking Unit Rates

	A	B	C	D	E	F	G	H
Line	Class	Usage (hcf)	Base Cost	Base Unit Rate	Max Day Cost	Max Day Unit Rate	Max Hour Cost	Max Hour Unit Rate
SFR								
1	Tier 1	3,212,086	\$3,706,536	\$1.15	\$226,350	\$0.07	\$19,943	\$0.01
2	Tier 2	1,131,759	\$1,305,975	\$1.15	\$274,426	\$0.24	\$9,629	\$0.01
3	Tier 3	889,896	\$1,026,882	\$1.15	\$376,504	\$0.42	\$9,720	\$0.01
4	Non-SFR	7,387,123	\$8,524,253	\$1.15	\$1,131,753	\$0.15	\$54,035	\$0.01

Table 5-7 combines each of the volumetric rate components derived in **Table 5-5** and **Table 5-6**.

Table 5-7: Volumetric Rate Calculation

	A	B	C	D	E	F	G	H
Line	Class	Tiers	Usage (hcf)	Supply	Base Delivery	Max Day	Max Hour	Total Rate
SFR								
1	Tier 1	10	3,212,086	\$1.55	\$1.15	\$0.07	\$0.01	\$2.50
2	Tier 2	18	1,131,759	\$3.48	\$1.15	\$0.24	\$0.01	\$4.60
3	Tier 3	18+	889,896	\$4.16	\$1.15	\$0.42	\$0.01	\$5.47
4	Non-SFR		7,387,123	\$2.41	\$1.15	\$0.15	\$0.01	\$3.44

5.4. 5-Year Rate Schedule

Table 5-8 shows the five-year rate schedule. These rates are developed by applying the revenue increases determined in Table 3-10 to the cost of service rates in Table 5-1, Table 5-2, and Table 5-7.

Table 5-8: 5-Year Rate Schedule

	A	B	C	D	E	F	G
Line	Service Charges	FY 2025 (Current)	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Potable Water							
1	5/8"	\$30.65	\$29.87	\$31.36	\$32.93	\$35.89	\$39.12
2	3/4"	\$41.01	\$39.30	\$41.26	\$43.33	\$47.22	\$51.48
3	1"	\$61.84	\$58.16	\$61.07	\$64.12	\$69.89	\$76.18
4	1 1/2"	\$113.82	\$105.32	\$110.59	\$116.12	\$126.57	\$137.96
5	2"	\$176.20	\$161.91	\$170.01	\$178.51	\$194.57	\$212.08
6	3"	\$373.73	\$341.11	\$358.17	\$376.08	\$409.93	\$446.82
7	4"	\$664.84	\$605.20	\$635.46	\$667.24	\$727.29	\$792.74
8	6"	\$1,361.40	\$1,237.13	\$1,298.99	\$1,363.94	\$1,486.69	\$1,620.50
9	8"	\$2,505.02	\$2,274.63	\$2,388.36	\$2,507.78	\$2,733.48	\$2,979.49
10	10"	\$3,960.54	\$3,595.08	\$3,774.83	\$3,963.57	\$4,320.29	\$4,709.12
Fire Service							
11	2"	\$11.87	\$12.78	\$13.42	\$14.09	\$15.36	\$16.74
12	4"	\$22.36	\$22.01	\$23.11	\$24.27	\$26.45	\$28.83
13	6"	\$46.17	\$42.99	\$45.14	\$47.39	\$51.66	\$56.31
14	8"	\$87.25	\$79.16	\$83.12	\$87.27	\$95.13	\$103.69
15	10"	\$149.03	\$133.57	\$140.25	\$147.27	\$160.52	\$174.97
16	12"	\$234.66	\$208.99	\$219.44	\$230.41	\$251.15	\$273.75
17	16"	\$488.93	\$432.92	\$454.57	\$477.29	\$520.25	\$567.07

	A	B	C	D	E	F	G	H
Line	Customer Class	Monthly Tiers (hcf)	FY 2025 (Current)	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
	SFR							
1	Tier 1	1-10	\$2.40	\$2.50	\$2.62	\$2.76	\$3.00	\$3.27
2	Tier 2	11-18	\$3.82	\$4.60	\$4.83	\$5.08	\$5.53	\$6.03
3	Tier 3	Above 18	\$4.59	\$5.47	\$5.74	\$6.03	\$6.57	\$7.16
4	Non-SFR	Uniform	\$3.07	\$3.44	\$3.62	\$3.80	\$4.14	\$4.51

5.5. Customer Bill Impacts

Table 5-9 outlines the proposed customer monthly bill impacts for Single Family residential customers with a 5/8" meter using various amounts of water. The table compares a bill under the current rate structure to one under the proposed FY 2026 rates and includes the fixed charges from the Watermaster Assessment, IEUA and MWD.

Table 5-9: Proposed Single Family Customer Monthly Bill Impacts (5/8" meter, varying ccf)

	A	B	C	D	E
Line	Single Family Impacts	Water Use (hcf)	Current Monthly Bill	Proposed Monthly Bill	Difference (\$)
1	Very Low Use	8	\$49.85	\$49.86	\$0.01
2	Low Use	12	\$62.29	\$64.07	\$1.78
3	Average Use	14	\$69.93	\$73.27	\$3.34
4	High Use	23	\$108.16	\$119.03	\$10.87
5	Very High Use	30	\$140.29	\$157.32	\$17.03

6. Recycled Water Financial Plan

This report section details the recycled water enterprise's long-term financial plan, based on the projected revenues, expenses, debt service, and capital project costs. Raftelis modeled the financial plan without revenue adjustments (status quo) and with proposed revenue adjustments to ensure the financial sustainability and solvency of the recycled water utility.

6.1. Projected Demand

City staff provided the actual accounts served and volumes sold for FY 2024. Raftelis forecasted these using the growth factors presented in **Table 2-1**. **Table 6-1** shows a summary of the results of the forecast.

Table 6-1: Projected Recycled Water Demand

Line	A Accounts and Usage	B FY 2025	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
	Recycled Water Accounts						
1	5/8"	0	0	0	0	0	0
2	3/4"	1	1	1	1	1	1
3	1"	35	35	37	40	42	44
4	1 1/2"	87	87	93	99	104	110
5	2"	305	305	326	349	366	384
6	3"	35	35	37	40	42	44
7	4"	14	14	15	16	17	18
8	6"	2	2	2	2	2	3
9	8"	1	1	1	1	1	1
10	10"	0	0	0	0	0	0
11	Total	480	480	513	549	576	605
12	Recycled Water Use (hcf)	2,048,949	2,048,949	2,190,326	2,341,459	2,458,532	2,581,459

6.2. Projected Revenues

City staff provided the actual FY 2024 revenues and budgeted FY 2025 revenues for the recycled water utility, which were used to project revenues for the remainder of the study period. **Table 6-2** shows the projected water recycled revenues based on the demand in **Table 6-1** and the current rates in **Table 1-1** and **Table 1-2**.

The City expects increases in recycled water rate revenues for all years of the study based on growth in accounts. The investment income (Line 2) is calculated using the reserve interest rate (**Table 2-2**, Line 2). Investment income is \$0 because the ending cash balance is negative.

Table 6-2: Projected Recycled Water Revenues

	A	B	C	D	E	F	G
Line	Revenue	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	Rate Revenue	\$5,214,326	\$5,214,326	\$5,574,115	\$5,958,729	\$6,256,665	\$6,569,498
	Other Revenue						
2	Interest Income	\$0	\$0	\$0	\$0	\$0	\$0
3	Total Revenue	\$5,214,326	\$5,214,326	\$5,574,115	\$5,958,729	\$6,256,665	\$6,569,498

6.3. Projected Recycled Water Purchase Expenses

The City purchases all of its recycled water from Inland Empire Utilities Agency. Purchases must be sufficient to provide all recycled water sold including a loss factor as well as an amount used for groundwater storage exchange.

Table 6-3 shows the calculation of purchased recycled water costs, which is derived from the IEUA rate per AF (Line 4) multiplied by the required volume of water purchased (Line 3) plus the fixed purchased water cost (Line 5).

Table 6-3: Projected Purchased Recycled Water Expenses

	A	B	C	D	E	F
Line	Water Purchase Cost	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	Water Demand (hcf)	2,048,949	2,190,326	2,341,459	2,458,532	2,581,459
2	Water Produced (hcf) with 4% Loss	2,134,322	2,281,590	2,439,020	2,560,971	2,689,019
3	Total Water Purchased (AF)	11,730	11,965	12,204	12,448	12,448
4	IEUA Purchased Water Cost (\$/AF)	\$485	\$520	\$538	\$557	\$613
5	IEUA Purchased Water Cost (\$/year), Fixed Cost	\$2,090,000	\$2,140,000	\$2,100,000	\$2,250,000	\$2,250,000
6	Total Water Purchase Costs	\$7,779,050	\$8,361,592	\$8,668,135	\$9,183,980	\$9,877,378

6.4. Projected O&M Expenses

City staff provided the actual FY 2023 and FY 2024 O&M expenses and budgeted FY 2025 O&M expenses for the recycled water utility. **Table 6-4** shows the projected O&M expenses for the study period, inflated for FY 2026 and beyond using the expense inflation factors (**Table 2-3**).

Table 6-4: Projected Recycled Water O&M Expenses

	A	B	C	D	E	F	G
Line	O&M Expenses	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
	Department						
1	Water Administration	\$0	\$0	\$0	\$0	\$0	\$0
2	Pumping	\$377,997	\$398,706	\$417,511	\$435,489	\$452,507	\$470,178
3	Water Line Maintenance	\$449,552	\$472,405	\$491,595	\$508,985	\$524,270	\$540,014
4	Environmental Engr.	\$113,445	\$119,294	\$124,181	\$128,593	\$132,451	\$136,424
5	Non-Potable Wtr. Purch.	\$7,177,500	\$7,779,050	\$8,361,592	\$8,668,135	\$9,183,980	\$9,877,378
6	Water Resources	\$97,454	\$103,402	\$108,122	\$112,215	\$115,582	\$119,049
7	Customer Service	\$139,938	\$145,221	\$150,158	\$154,968	\$159,617	\$164,405
8	Total	\$8,355,886	\$9,018,078	\$9,653,159	\$10,008,384	\$10,568,406	\$11,307,448

6.5. Debt Service

The City currently has no existing debt for the recycled water enterprise. The financial plan does not propose any new issuances in the study period.

6.6. Capital Projects

The recycled water utility does not have any capital projects financed from recycled revenues. The projects shown in **Table 3-7** (Lines 11-12) are recycled water projects funded by grants.

6.7. Current Financial Plan – Status Quo

Table 6-5 shows the projected recycled water financial plan without revenue adjustments (also referred to as status quo). Rate revenues and other revenues are derived from projected revenues (**Table 6-2**). O&M expenses are derived from projected O&M expenses (**Table 6-4**).

The net cash flow (Line 14) is calculated by subtracting O&M expenses (Line 12) and transfers from the Water Operating Fund (Line 13) to the total revenues (Line 4).

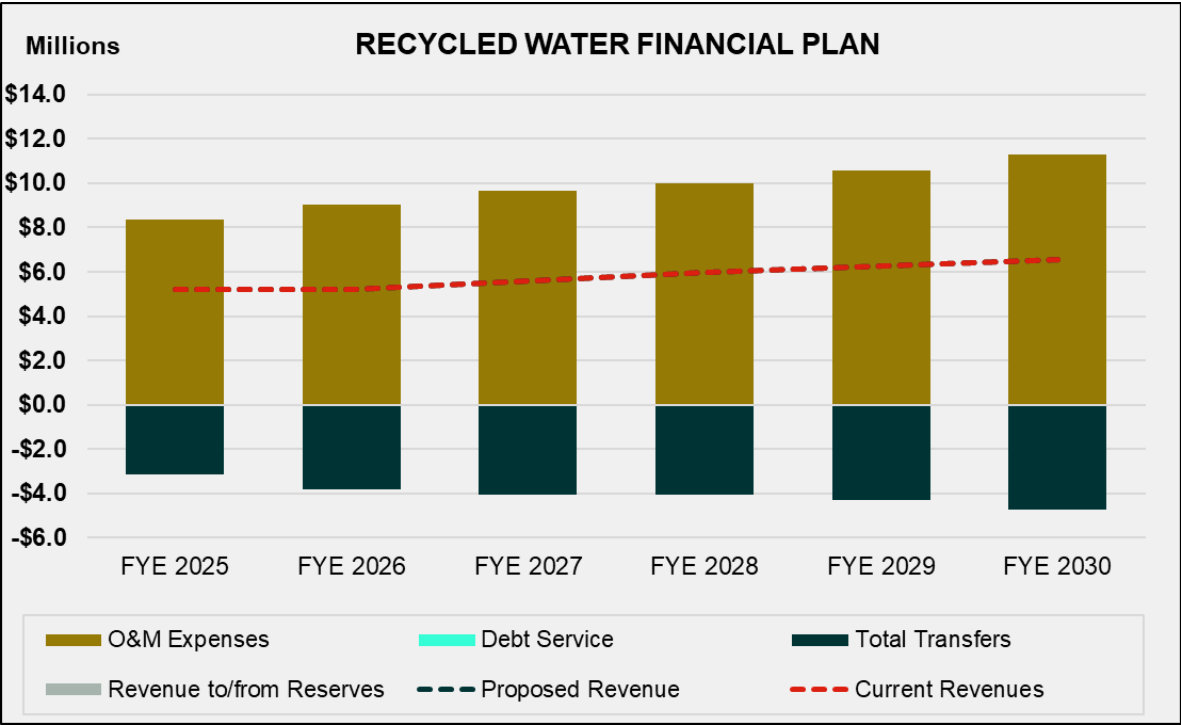
Net cash flow would be negative for all years of the study without the transfer from the water operating fund, which means that the recycled water utility does not have enough revenues from rates to fund its operating costs. If there are no revenue adjustments for the recycled water utility, the net cash flow and fund cash balance (Line 16) would remain negative for the entire planning period without transfers from the operating fund.

Table 6-5: Projected Recycled Water Financial Plan (Status Quo)

Line	A Financial Plan	B FY 2025	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
	Revenues						
1	Rate Revenues	\$5,214,326	\$5,214,326	\$5,574,115	\$5,958,729	\$6,256,665	\$6,569,498
2	Revenue Adjustments	\$0	\$0	\$0	\$0	\$0	\$0
3	Other Revenues	\$0	\$0	\$0	\$0	\$0	\$0
4	Total Revenues	\$5,214,326	\$5,214,326	\$5,574,115	\$5,958,729	\$6,256,665	\$6,569,498
	O&M Expenses						
5	Water Administration	\$0	\$0	\$0	\$0	\$0	\$0
6	Pumping	\$377,997	\$398,706	\$417,511	\$435,489	\$452,507	\$470,178
7	Water Line Maintenance	\$449,552	\$472,405	\$491,595	\$508,985	\$524,270	\$540,014
8	Environmental Engr.	\$113,445	\$119,294	\$124,181	\$128,593	\$132,451	\$136,424
9	Non-Potable Wtr. Purch.	\$7,177,500	\$7,779,050	\$8,361,592	\$8,668,135	\$9,183,980	\$9,877,378
10	Water Resources	\$97,454	\$103,402	\$108,122	\$112,215	\$115,582	\$119,049
11	Customer Service	\$139,938	\$145,221	\$150,158	\$154,968	\$159,617	\$164,405
12	Total	\$8,355,886	\$9,018,078	\$9,653,159	\$10,008,384	\$10,568,406	\$11,307,448
13	Transfer from Water Operating	(\$3,141,560)	(\$3,803,752)	(\$4,079,044)	(\$4,049,655)	(\$4,311,741)	(\$4,737,950)
14	Net Cash Flow	\$0	\$0	\$0	\$0	\$0	\$0
15	Beginning Fund Balance	\$0	\$0	\$0	\$0	\$0	\$0
16	Ending Fund Balance	\$0	\$0	\$0	\$0	\$0	\$0

Figure 6-1 shows the projected recycled water financial plan under the status quo scenario in graphical format. The stacked bars represent the O&M expenses (brown). The black bars show the transfer from the water operating fund required to balance annual expenses. Since the red dashed line, which represents current revenues, is below the stacked bars, this means that the City’s current recycled water revenues are not sufficient to fund its costs.

Figure 6-1: Projected Recycled Water Financial Plan (Status Quo)



6.8. Proposed Financial Plan

The projected financial plan under the status quo scenario in **Table 6-5** shows that the City’s current rate revenues are not sufficient to sustain the recycled water utility. **Table 6-6** shows the proposed revenue adjustments for the study period, effective in July of each fiscal year. The proposed revenue adjustments were developed to allow the City to decrease the recycled water utility’s dependence on the water utility over the long term and to fully fund recycled water operating costs.

Table 6-6: Proposed Recycled Water Revenue Adjustments

	A	B	C
Line	Fiscal Year	Revenue Adjustment	Month Effective
1	2026	5.0%	July
2	2027	5.0%	July
3	2028	9.0%	July
4	2029	9.0%	July
5	2030	9.0%	July

Table 6-7 shows the projected recycled water financial plan with the proposed revenue adjustments from **Table 6-6**. Though transfers from the Water Operating Fund (Line 13) are required in all years of the study to avoid a

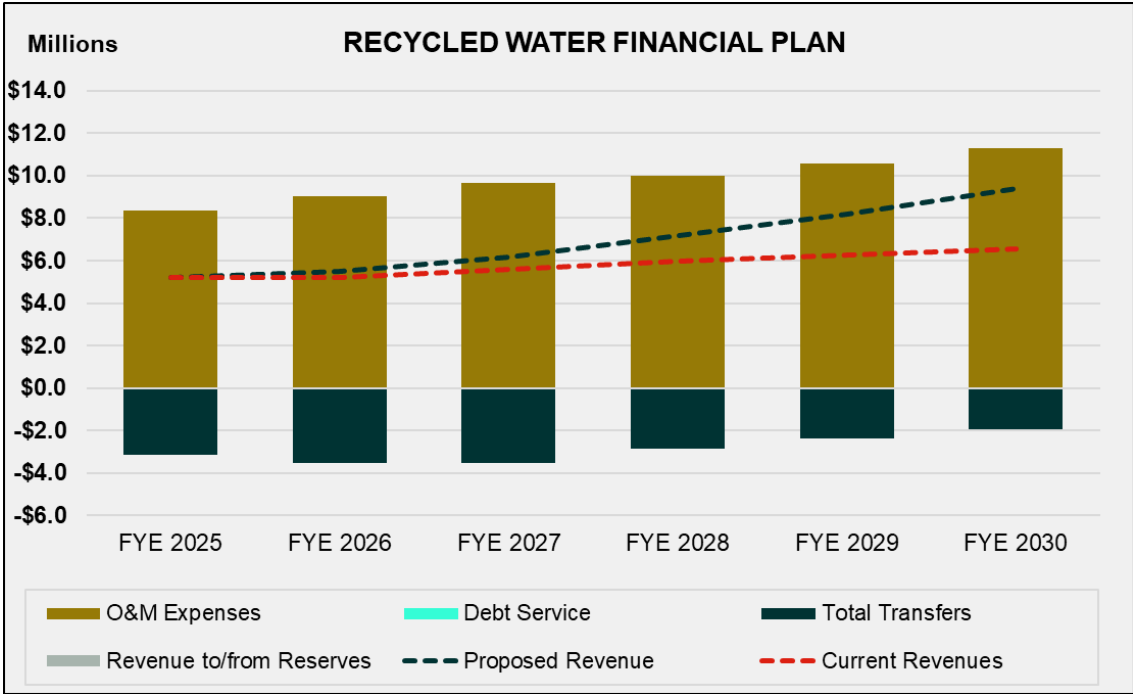
negative cash flow in the fund, the projections show that the magnitude of the required transfer will decrease throughout the forecast. With the proposed revenue adjustments, the recycled water fund will require \$6.7 million less in transfers from the Water Operating Fund to remain solvent over the forecast.

Table 6-7: Projected Recycled Water Financial Plan (Proposed Revenue Adjustments)

	A	B	C	D	E	F	G
Line	Financial Plan	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
	Revenues						
1	Rate Revenues	\$5,214,326	\$5,214,326	\$5,574,115	\$5,958,729	\$6,256,665	\$6,569,498
2	Revenue Adjustments	\$0	\$260,716	\$571,347	\$1,202,025	\$1,938,817	\$2,810,231
3	Other Revenues	\$0	\$0	\$0	\$0	\$0	\$0
4	Total Revenues	\$5,214,326	\$5,475,043	\$6,145,462	\$7,160,753	\$8,195,482	\$9,379,729
	O&M Expenses						
5	Water Administration	\$0	\$0	\$0	\$0	\$0	\$0
6	Pumping	\$377,997	\$398,706	\$417,511	\$435,489	\$452,507	\$470,178
7	Water Line Maintenance	\$449,552	\$472,405	\$491,595	\$508,985	\$524,270	\$540,014
8	Environmental Engr.	\$113,445	\$119,294	\$124,181	\$128,593	\$132,451	\$136,424
9	Non-Potable Wtr. Purch.	\$7,177,500	\$7,779,050	\$8,361,592	\$8,668,135	\$9,183,980	\$9,877,378
10	Water Resources	\$97,454	\$103,402	\$108,122	\$112,215	\$115,582	\$119,049
11	Customer Service	\$139,938	\$145,221	\$150,158	\$154,968	\$159,617	\$164,405
12	Total	\$8,355,886	\$9,018,078	\$9,653,159	\$10,008,384	\$10,568,406	\$11,307,448
13	Transfer from Water Capital	(\$3,141,560)	(\$3,543,035)	(\$3,507,698)	(\$2,847,630)	(\$2,372,924)	(\$1,927,719)
14	Net Cash Flow	\$0	\$0	\$0	\$0	\$0	\$0
15	Beginning Fund Balance	\$0	\$0	\$0	\$0	\$0	\$0
16	Ending Fund Balance	\$0	\$0	\$0	\$0	\$0	\$0

Figure 6-2 shows the proposed financial plan in graphical format with the revenue adjustments in **Table 6-6**. The proposed revenues, shown as the dotted dark blue line, allow the City to decrease the required transfers (black stacked bars) from the Water Operating Fund over the course of the forecast.

Figure 6-2: Projected Water Financial Plan (Proposed Revenue Adjustments)



7. Recycled Water Cost of Service

The cost-of-service analysis for the recycled water enterprise follows the same methodology as for the potable water operations.

7.1. Revenue Requirement Determination

Table 7-1 shows the revenue requirement derivation for FY 2026. The revenue requirement is comprised of the Operating (Column B, Line 12) and Capital (Column C, Line 12) revenue requirements. The adjustment for cash balance (Line 10) is equal to the net cash flow for FY 2026 (**Table 6-7**, Column C, Line 13).

Table 7-1: Recycled Water Revenue Requirement

Line	A Recycled Water FY 2026 Requirements	B Operating	C Capital	D Total
	Revenue Requirements			
1	O&M Expenses			
2	Pumping	\$398,706		\$398,706
3	Water Line Maintenance	\$472,405		\$472,405
4	Environmental Engr.	\$119,294		\$119,294
5	Non-Potable Wtr. Purch.	\$7,779,050		\$7,779,050
6	Water Resources	\$103,402		\$103,402
7	Customer Service	\$145,221		\$145,221
8	Transfer from Water Operating		(\$3,543,035)	(\$3,543,035)
9	Total Revenue Requirements	\$9,018,078	-\$3,543,035	\$5,475,043
	Less: Adjustments			
10	Adjustment for Cash Balance	\$0		\$0
11	Total Adjustments	\$0		\$0
12	Revenue Requirement from Rates	\$9,018,078	-\$3,543,035	\$5,475,043

7.2. Allocation of Expenses to Cost Components

Expenses for the recycled water enterprise are allocated in the same manner as expenses for the potable water operation. The allocation basis for each expense is chosen based on the type of cost for each line item and the proportion of those costs associated with each cost causation component (Base or average demand, Max Day, Max Hour, General, etc.). The allocation is based on the design basis of the different components of the recycled water system and is as shown in **Table 7-2**.

Actual O&M expenses are then allocated to the cost components, as shown in **Table 7-3**. The O&M allocation percentages (Line 8) are then used to allocate the Operating revenue requirement (**Table 7-1**, Column B, Line 10) in a later section.

Table 7-2: Recycled Water O&M Allocation Factors

	A	B	C	D	E	F	G	H	I
Line	RW O&M Allocation	Supply	Base Delivery	Max Day	Max Hour	Meters	Customer	General	Total
1	Supply	100%							100%
2	Treatment		100%						100%
3	T&D		50.5%	27.8%	21.7%				100%
4	Meters					100%			100%
5	Customer Service						100%		100%
6	General							100%	100%

Table 7-3: Recycled Water O&M Allocations

	A	B	C	D	E	F	G	H	I
Line	RW O&M Cost	Supply	Base Delivery	Max Day	Max Hour	Meters	Customer	General	Total
1	Supply	\$8,177,756	\$0	\$0	\$0	\$0	\$0	\$0	\$8,177,756
2	Treatment	\$0	\$29,823	\$0	\$0	\$0	\$0	\$0	\$29,823
3	T&D	\$0	\$164,481	\$90,465	\$70,727	\$0	\$0	\$0	\$325,673
4	Meters	\$0	\$0	\$0	\$0	\$188,962	\$0	\$0	\$188,962
5	Customer Service	\$0	\$0	\$0	\$0	\$0	\$47,240	\$0	\$47,240
6	General	\$0	\$0	\$0	\$0	\$0	\$0	\$248,623	\$248,623
7	Total O&M Expenses	\$8,177,756	\$194,304	\$90,465	\$70,727	\$188,962	\$47,240	\$248,623	\$9,018,078
8	O&M Allocation	90.7%	2.2%	1.0%	0.8%	2.1%	0.5%	2.8%	100.0%

7.3. Units of Service

Once all expenses have been allocated to the appropriate cost components, the next step is to determine the units of service from which the costs will be recovered. The standard units are number of customers, EMUs, annual water use, and extra capacity units. The numbers shown in the tables of this section are rounded. Therefore, hand calculations based on the displayed numbers, such as summing or multiplying, may not equal the exact results shown.

7.3.1. CUSTOMER AND METER EQUIVALENTS

Table 7-4 summarizes customer and meter units. The number of recycled water accounts (Column D) can also be found in **Table 6-1**. EMUs account for the potential demand that larger meters place on the system compared to demand from the smallest meter, which for this study is the 5/8-inch meter. EMUs are derived by multiplying the AWWA ratio (Column C) by the number of accounts at a given meter size. The rationale for this approach was described in Section 4 – Customer and Meter Equivalents.

Table 7-4: Customer and Equivalent Meter Units

	A	B	C	D	E
Line	Meter Size	Capacity (gpm)	AWWA Ratio	RW Meters	RW EMUs
1	5/8"	20	1.00	0	0
2	3/4"	30	1.50	1	2
3	1"	50	2.50	35	88
4	1 1/2"	100	5.00	87	435
5	2"	160	8.00	305	2,440
6	3"	350	17.50	35	613
7	4"	630	31.50	14	441
8	6"	1,300	65.00	2	130
9	8"	2,400	120.00	1	120
10	10"	3,800	190.00	0	0
11	Total			480	4,268

7.3.2. RECYCLED COST OF SERVICE

Since the recycled enterprise customers are mainly irrigation customers with similar characteristics, it is unnecessary to calculate peaking factors and extra capacity units. It is common to implement a uniform rate for recycled water use. All supply, base, and peaking costs will be allocated and recovered on the basis of recycled water used. **Table 7-5** summarizes the recycled water cost-of-service analysis. The operating (Line 1), capital (Line 2), and total revenue requirements (Line 3) are from **Table 7-1**. The operating revenue requirement (Column I, Line 1) is allocated based on the operating allocation percentages (**Table 7-3**, Line 8).

Table 7-5: Recycled Water Cost of Service

	A	B	C	D	E	F	G	H	I
Line	Recycled Cost of Service	Supply	Base Delivery	Max Day	Max Hour	Meter	Customer	General	Total
1	Operating Expenses	\$8,177,756	\$194,304	\$90,465	\$70,727	\$188,962	\$47,240	\$248,623	\$9,018,078
2	Capital Expenses	(\$3,543,035)	\$0	\$0	\$0	\$0	\$0	\$0	(\$3,543,035)
3	Total Cost of Service	\$4,634,721	\$194,304	\$90,465	\$70,727	\$188,962	\$47,240	\$248,623	\$5,475,043
4	Allocation of General Cost	\$220,476	\$9,243	\$4,303	\$3,365	\$8,989	\$2,247	(\$248,623)	\$0
5	Allocation of Peaking Cost to Meter			(\$75,814)	(\$59,273)	\$135,088			\$0
6	Total Adjusted Cost of Service	\$4,855,197	\$203,548	\$18,954	\$14,818	\$333,038	\$49,488	\$0	\$5,475,043
7	Unit of Service	2,048,949	2,048,949	2,048,949	2,048,949	4,268	5,760		
8	<i>Unit</i>	<i>hcf</i>	<i>hcf</i>	<i>hcf</i>	<i>hcf</i>	<i>equiv. meter</i>	<i>annual bills</i>		
9	Unit Cost	\$2.37	\$0.10	\$0.009	\$0.007	\$6.50	\$8.59		

7.3.3. RECYCLED WATER RATES

As with the potable rates, recycled rates include a fixed monthly meter charge and a volumetric rate. As shown in **Table 7-6**, the fixed charge includes a Meter component (**Table 7-5**, Column F, Line 9), that scales with size of the meter using the AWWA capacity ratios (Column B). The Customer component (**Table 7-5**, Column G, Line 9) is the same for all meter sizes. The sum of these two components is the total proposed charge (Column E).

Table 7-6: Recycled Water Meter Charges

	A	B	C	D	E
Line	Meter Size	AWWA Ratio	Meter	Customer	Proposed Charge
1	5/8"	1.00	\$6.50	\$8.59	\$15.10
2	3/4"	1.50	\$9.76	\$8.59	\$18.35
3	1"	2.50	\$16.26	\$8.59	\$24.85
4	1 1/2"	5.00	\$32.52	\$8.59	\$41.11
5	2"	8.00	\$52.03	\$8.59	\$60.62
6	3"	17.50	\$113.81	\$8.59	\$122.40
7	4"	31.50	\$204.86	\$8.59	\$213.45
8	6"	65.00	\$422.72	\$8.59	\$431.31
9	8"	120.00	\$780.41	\$8.59	\$789.00
10	10"	190.00	\$1,235.64	\$8.59	\$1,244.24

Table 7-7 show the proposed recycled water volumetric charge, which is equal to the rounded total of the unit rates calculated in **Table 7-5** for the Base and peaking components.

Table 7-7: Recycled Water Volumetric Charge (\$/hcf)

	A	B	C	D
Line	Supply	Base Delivery	Max Day and Max Hour	Proposed Rate
1	\$2.37	\$0.10	\$0.016	\$2.49

Table 7-8 and **Table 7-9** show the proposed recycled water rates for the study period.

Table 7-8: Proposed Recycled Water Service Charge (\$/meter size)

	A	B	C	D	E	F	G
Line	Service Charges	FY 2025 (Current)	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Recycled Water							
1	5/8"	\$14.88	\$15.10	\$15.85	\$16.64	\$18.14	\$19.77
2	3/4"	\$17.20	\$18.35	\$19.26	\$20.23	\$22.05	\$24.03
3	1"	\$21.85	\$24.85	\$26.09	\$27.40	\$29.86	\$32.55
4	1 1/2"	\$33.46	\$41.11	\$43.16	\$45.32	\$49.40	\$53.85
5	2"	\$47.40	\$60.62	\$63.65	\$66.83	\$72.85	\$79.40
6	3"	\$91.53	\$122.40	\$128.52	\$134.95	\$147.09	\$160.33
7	4"	\$156.56	\$213.45	\$224.12	\$235.33	\$256.51	\$279.59
8	6"	\$312.18	\$431.31	\$452.88	\$475.52	\$518.32	\$564.97
9	8"	\$567.67	\$789.00	\$828.45	\$869.87	\$948.16	\$1,033.49
10	10"	\$892.93	\$1,244.24	\$1,306.45	\$1,371.77	\$1,495.23	\$1,629.80

Table 7-9: Proposed Recycled Water Usage Rates (\$/hcf of water)

	A	B	C	D	E	F	G	H
Line	Customer Class	Monthly Tiers (hcf)	FY 2025 (Current)	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	Recycled	Uniform	\$2.40	\$2.49	\$2.61	\$2.74	\$2.99	\$3.26

8. Wastewater Financial Plan

This report section details the wastewater enterprise's long-term financial plan, based on the projected revenues, expenses, debt service, and capital project costs. Raftelis modeled the financial plan without revenue adjustments (status quo) and with proposed revenue adjustments to ensure the financial sustainability and solvency of the wastewater utility.

8.1. Projection of Customer Data

City staff provided the actual units for residential customers and billed usage for non-residential customers for FY 2024. Raftelis forecasted these using a growth factor of 2 percent for each customer class. **Table 8-1** shows a summary of the results of the forecast.

Table 8-1: Projected Wastewater Units and Usage (HCF)

Line	A Customer Class	B FY 2025	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
	Units						
1	Single Family	33,051	33,712	34,386	35,074	35,776	36,491
2	Multi-Family	22,118	22,560	23,011	23,471	23,941	24,420
3	Total Units	55,169	56,272	57,398	58,546	59,716	60,911
	Billed Usage (hcf)						
4	Commercial	1,922,256	1,960,701	1,999,915	2,039,914	2,080,712	2,163,941
5	Industrial	778,668	794,241	810,126	826,329	842,855	876,569
6	Government	208,023	212,183	216,427	220,756	225,171	234,177
7	City	20,458	20,867	21,285	21,710	22,145	23,030
8	Total Billed Usage	2,929,405	2,987,993	3,047,753	3,108,708	3,170,883	3,297,718

8.2. Projected Revenues

City staff provided the actual FY 2023 and FY 2024 revenues and budgeted FY 2025 revenues for the wastewater utility, which were used to project revenues for the remainder of the study period. **Table 8-2** shows the projected wastewater revenues based on the demand in **Table 8-1** and the current rates in **Table 1-3**.

If the City continues with existing rates, the City expects modest increases in wastewater rate revenues for all years of the study based on account growth. The investment income (Line 3) is calculated using the reserve interest rate (**Table 2-2**, Line 2). Miscellaneous revenues include interdepartmental transfers and customer late charges.

Table 8-2: Projected Wastewater Revenues

Line	A Revenue	B FY 2025	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
1	City Rate Revenue	\$12,780,128	\$13,035,731	\$13,296,446	\$13,562,375	\$13,833,622	\$14,199,713
	Other Revenue						
2	IEUA Revenue	\$19,812,465	\$20,208,714	\$20,612,889	\$21,025,147	\$21,445,649	\$21,874,562
3	Interest Income	\$218,678	\$54,152	\$57,128	\$57,111	\$60,567	\$64,600
4	Misc	\$434,832	\$438,609	\$442,461	\$446,390	\$450,398	\$454,486
5	Total	\$33,246,103	\$33,735,251	\$34,404,834	\$35,084,609	\$35,781,292	\$36,581,592

8.3. Projected O&M Expenses

City staff provided the actual FY 2024 O&M expenses and budgeted FY 2025 O&M expenses for the wastewater utility. **Table 8-3** shows the projected O&M expenses for the study period, inflated for FY 2026 and beyond using the expense inflation factors (**Table 2-3**).

Table 8-3: Projected Wastewater O&M Expenses

	A	B	C	D	E	F	G
Line	O&M Expenses	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
	Department						
1	Sewer Administration	\$2,508,690	\$2,621,620	\$2,720,045	\$2,801,646	\$2,885,696	\$2,972,266
2	Sewer Maintenance	\$3,688,268	\$3,832,055	\$3,964,414	\$4,083,347	\$4,205,847	\$4,332,023
3	Environmental Engr.	\$1,654,413	\$1,713,751	\$1,770,259	\$1,823,367	\$1,878,068	\$1,934,410
4	Sewer Resources	\$1,021,946	\$1,052,856	\$1,084,573	\$1,117,110	\$1,150,623	\$1,185,142
5	Customer Service	\$1,347,229	\$1,393,835	\$1,438,899	\$1,482,066	\$1,526,528	\$1,572,324
6	IEUA Treatment	\$19,812,465	\$20,208,714	\$20,612,889	\$21,025,147	\$21,445,649	\$21,874,562
7	Total	\$30,033,011	\$30,822,831	\$31,591,079	\$32,332,683	\$33,092,412	\$33,870,728

8.4. Debt Service

The City currently has no existing debt for the wastewater enterprise. To fund the capital program, Raftelis recommends one new debt issuance in FY 2028. The terms for this debt issuance are assumed to be a 30-year bond at 5.0 percent interest with a 2.0 percent issuance cost. It is assumed an additional reserve fund would not need to be created for the debt. Future debt will be included in the debt service coverage requirement as shown in the financial planning sections. The proposed annual debt service for this bond issue is shown in **Table 8-4**.

Table 8-4: Projected Wastewater Debt Issuance

	A	B	C	D	E	F	G
Line	Proposed Debt Service	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	Proposed Bond Issue	\$0	\$0	\$0	\$20,000,000	\$0	\$0
2	Bond Proceeds	\$0	\$0	\$0	\$19,600,000	\$0	\$0
3	Annual Debt Service	\$0	\$0	\$0	\$1,301,029	\$1,301,029	\$1,301,029

8.5. Capital Projects

City staff provided the CIP for the wastewater utility for the study period. **Table 8-5** presents the forecasted CIP for the five-year period in inflated future dollars (in years after 2025) (Line 11) using the inflation factors (**Table 2-3**, Line 7).

Table 8-5: Projected Wastewater Capital Projects

	A	B	C	D	E	F	G
Line	Capital Projects	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
1	Municipal Service Projects	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
2	Sewer System Evaluations and Enhancements	\$150,000	\$150,000	\$75,000	\$75,000	\$75,000	\$75,000
3	Sewer Master Plan Updates	\$200,000	\$150,000	\$150,000	\$150,000	\$150,000	\$150,000
4	Archibald Avenue Sewer Diversion	\$2,840,231	\$0	\$0	\$0	\$0	\$0
5	Laurel Avenue (G Street to Holt Blvd) Sewer Main Imp.	\$2,040,000	\$0	\$0	\$0	\$0	\$0
6	Piemonte Overlay Sewer Imp.	\$2,541,910	\$0	\$0	\$0	\$0	\$0
7	Edison Avenue and Bon View Avenue Sewer Main Imp.	\$2,000,000	\$0	\$0	\$0	\$0	\$0
8	Nocta Street and Allyn Avenue Sewer Imp.	\$1,222,268	\$0	\$0	\$0	\$0	\$0
9	Nocta Street and Allyn Avenue Sewer Imp.	\$1,142,000	\$0	\$0	\$0	\$0	\$0
10	Sultana Avenue and Cherry Avenue Sewer Imp.	\$1,320,000	\$0	\$0	\$0	\$0	\$0
11	Nocta Street Sewer Service Laterals	\$880,000	\$0	\$0	\$0	\$0	\$0
12	Customer Service CIS Billing System Upgrade	\$115,000	\$35,000	\$35,000	\$35,000	\$0	\$0
13	G Street Sanitary Sewer Main (DIF Revenues)	\$880,000	\$0	\$0	\$0	\$0	\$0
14	N. Vineyard Sanitary Sewer Project (DIF Revenues)	\$8,500,000	\$1,500,000	\$7,805,973	\$0	\$0	\$0
15	FY 2024-25 Sewer Main lining Imp.	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000	\$3,000,000
16	OMSC BioSwale	\$75,000	\$0	\$0	\$0	\$0	\$0
17	**Advanced Water Purification Facility	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000	\$250,000
18	Sewer Imp. (10 Freeway)	\$0	\$6,000,000	\$0	\$0	\$0	\$0
19	*Municipal Service Center Relocation	\$800,000	\$800,000	\$0	\$20,400,000	\$19,800,000	\$0
20	Sports Complex Offsite Utilities	\$28,242,500	\$25,654,883	\$0	\$0	\$0	\$0
	Projects and Sewer Imp at Vineyard						
12	Total Inflated CIP	\$56,348,909	\$37,689,883	\$11,465,973	\$24,060,000	\$23,425,000	\$3,625,000
13	Capital Expenses	\$5,530,410	\$5,776,550	\$5,991,966	\$6,171,725	\$6,356,876	\$6,547,583
14	Total Capital Expenses	\$61,879,319	\$43,466,433	\$17,457,939	\$30,231,725	\$29,781,876	\$10,172,583

Table 8-6 shows the proposed capital financing plan for the wastewater utility. The City plans to fully fund its wastewater CIP for all years of the study (Line 2). The inflated project costs (Line 1) are shown because the CIP provided to Raftelis accounted for inflation. Expenses (Line 4) include utilities and other expenses that are appropriate to capitalize. The CIP will be funded from a mix of sources. There is an expected general fund transfer to cover the costs of the sports complex in FY 2025 and FY 2026 and expected proceeds from sales of public works land in FY 2027 and FY 2028. Raftelis recommends a \$20,000,000 debt issuance in FY 2028. Rate revenue will cover all necessary CIP spending that remains.

Table 8-6: Wastewater Capital Financing Plan

Line	A Capital Financing Plan	B FY 2025	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
1	Inflated CIP Costs	\$3,675,965	\$4,115,769	\$6,240,255	\$11,222,996	\$2,088,201	\$2,038,578
2	Spending Factor	100%	100%	100%	100%	100%	100%
3	CIP to Spend	\$56,348,909	\$37,689,883	\$11,465,973	\$24,060,000	\$23,425,000	\$3,625,000
4	Capital Expenses	\$5,530,410	\$5,776,550	\$5,991,966	\$6,171,725	\$6,356,876	\$6,547,583
5	Total CIP	\$61,879,319	\$43,466,433	\$17,457,939	\$30,231,725	\$29,781,876	\$10,172,583
	Capital Financing						
6	Rate Funded	\$23,881,887	\$16,811,550	\$16,457,939	\$431,725	\$19,881,876	\$10,172,583
7	Debt Funded	\$0	\$0	\$0	\$19,600,000	\$0	\$0
	Proceeds from PW			\$8,160,000	\$7,920,000		
8	Land Sales						
	General Fund Transfer	\$28,242,500	\$25,654,883				
9	for Sports Complex						
10	DIF Funded	\$9,754,932	\$1,000,000	\$1,000,000	\$2,040,000	\$1,980,000	\$0
11	Total	\$61,879,319	\$43,466,433	\$17,457,939	\$30,231,725	\$29,781,876	\$10,172,583

8.6. Current Financial Plan – Status Quo

Table 8-7 shows the projected wastewater financial plan without revenue adjustments (also referred to as status quo). Rate revenues and other revenues are derived from projected revenues (**Table 8-2**). O&M expenses are derived from projected O&M expenses (**Table 8-3**).

The net cash flow (Line 17) is calculated by subtracting O&M expenses (Line 13) and debt service and capital costs (Line 15) from the total revenues (Line 6). Net operating revenue (Line 18) is equal to total revenues (Line 6) less O&M expenses (Line 13). Please note that **Table 8-7** only shows the financial plan for the operating fund. In the model, the operating fund is prevented from transferring additional revenue to the capital fund if such a transfer would drop the operating reserve below its reserve requirements. As a result, the net cash flow is positive in years FY 2026-FY 2030. However, this does not show the results for the capital fund, which would become negative in such a scenario.

Figure 8-2 shows the results when both funds are included.

Table 8-7: Projected Wastewater Financial Plan (Status Quo)

	A	B	C	D	E	F	G
Line	Financial Plan	FY 2025	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
	Revenues						
1	Rate Revenues	\$12,780,128	\$13,035,731	\$13,296,446	\$13,562,375	\$13,833,622	\$14,199,713
2	Revenue Adjustments	\$0	\$0	\$0	\$0	\$0	\$0
3	IEUA Revenue	\$19,812,465	\$20,208,714	\$20,612,889	\$21,025,147	\$21,445,649	\$21,874,562
4	Interest Income	\$218,678	\$54,152	\$57,128	\$57,111	\$60,567	\$64,600
5	Other Revenues	\$434,832	\$438,609	\$442,461	\$446,390	\$450,398	\$454,486
6	Total Revenues	\$33,246,103	\$33,735,251	\$34,404,834	\$35,084,609	\$35,781,292	\$36,581,592
	O&M Expenses						
7	Sewer Administration	\$2,508,690	\$2,621,620	\$2,720,045	\$2,801,646	\$2,885,696	\$2,972,266
8	Sewer Maintenance	\$3,688,268	\$3,832,055	\$3,964,414	\$4,083,347	\$4,205,847	\$4,332,023
9	Environmental Engr.	\$1,654,413	\$1,713,751	\$1,770,259	\$1,823,367	\$1,878,068	\$1,934,410
10	Sewer Resources	\$1,021,946	\$1,052,856	\$1,084,573	\$1,117,110	\$1,150,623	\$1,185,142
11	Customer Service	\$1,347,229	\$1,393,835	\$1,438,899	\$1,482,066	\$1,526,528	\$1,572,324
12	IEUA Treatment	\$19,812,465	\$20,208,714	\$20,612,889	\$21,025,147	\$21,445,649	\$21,874,562
13	Total	\$30,033,011	\$30,822,831	\$31,591,079	\$32,332,683	\$33,092,412	\$33,870,728
	Debt Service and Capital						
14	Transfer to Capital Fund	\$36,442,105	\$2,694,287	\$2,601,761	\$2,538,122	\$2,460,945	\$2,477,074
15	Total	\$36,442,105	\$2,694,287	\$2,601,761	\$2,538,122	\$2,460,945	\$2,477,074
16	Total Revenue Required	\$66,475,116	\$33,517,118	\$34,192,840	\$34,870,804	\$35,553,357	\$36,347,802
17	Net Cash Flow	(\$33,229,013)	\$218,134	\$211,994	\$217,057	\$231,188	\$237,043
18	Net Operating Revenue	\$3,213,092	\$2,912,420	\$2,813,755	\$2,755,179	\$2,692,133	\$2,714,117
19	Beginning Fund Balance	\$42,238,294	\$9,009,281	\$9,227,414	\$9,439,408	\$9,656,465	\$9,887,653
20	Ending Fund Balance	\$9,009,281	\$9,227,414	\$9,439,408	\$9,656,465	\$9,887,653	\$10,124,696
21	Reserve Target	\$7,508,253	\$7,705,708	\$7,897,770	\$8,083,171	\$8,273,103	\$8,467,682

Figure 8-1 shows the projected wastewater financial plan under the status quo scenario in graphical format. The stacked bars represent the O&M expenses (brown) and capital costs (black). The light gray bars show the changes to cash balances: if the gray bars are below the stacked bars, then the City will be drawing from cash reserves, and vice versa. There are no debt service costs in the status quo scenario. The proposed revenue line and the current revenue line are also superimposed on each other in this status quo scenario, since there are no rate adjustments. The dark blue line, which represents current revenues, shows that the City’s current wastewater revenues are sufficient to fund its operating costs (brown bars) and a very small amount of capital. However, the full impact of the planned capital spending can be seen in

Figure 8-2, which includes the combined ending balances of the water and capital reserve funds. Without rate adjustments or debt issuances, the combined operating and capital reserve funds would drop below target requirements in FY 2028 and would become insolvent by FY 2029.

Figure 8-1: Projected Wastewater Financial Plan (Status Quo)

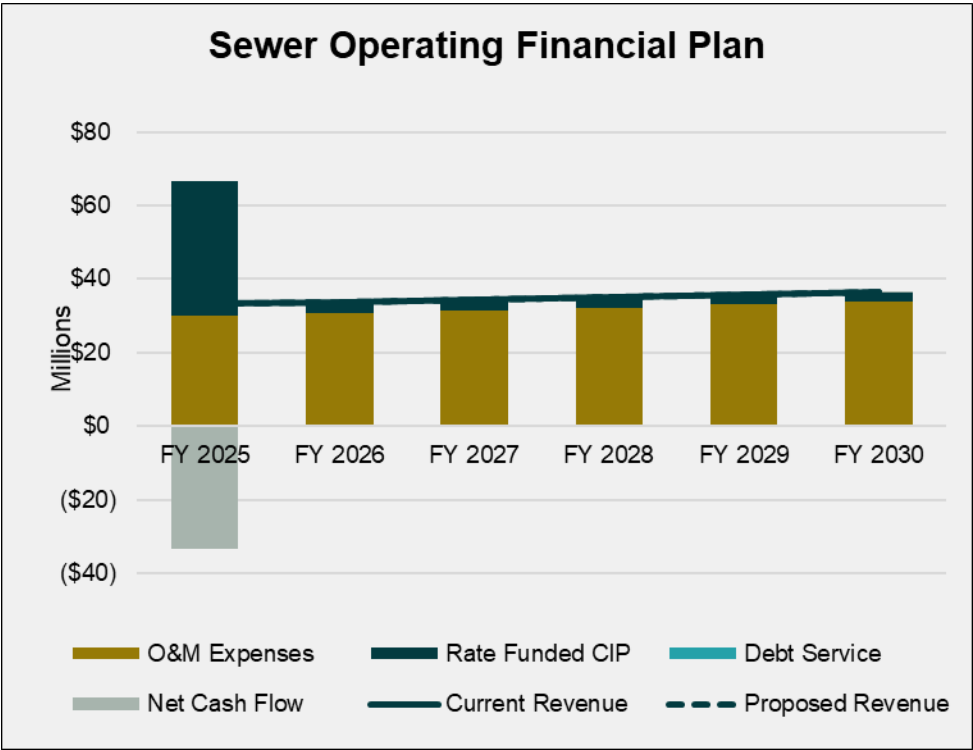
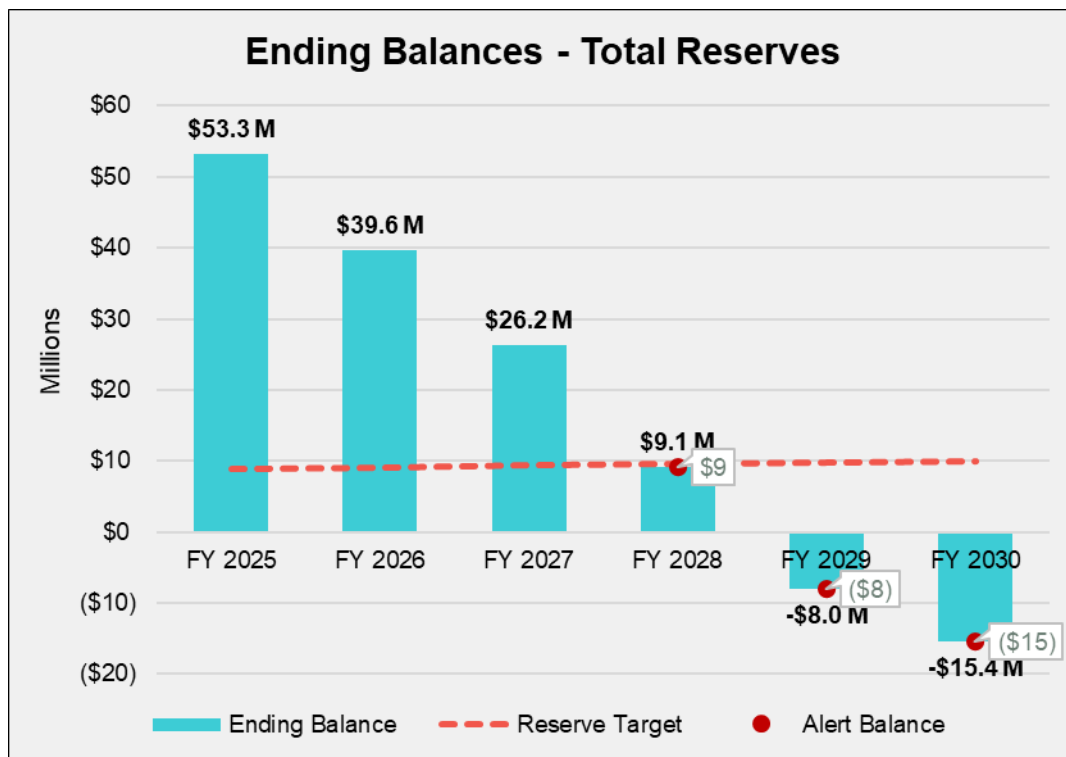


Figure 8-2: Wastewater Reserves (Status Quo)



8.7. Proposed Financial Plan

The projected financial plan under the status quo scenario in **Table 8-7**, combined with **Figure 8-2**, show that the City's wastewater utility would quickly draw down reserves and threaten to become insolvent. **Table 8-8** shows the proposed revenue adjustments for the study period, effective in July of each year. The City proposes to implement similar increases overtime to avoid the need for large increases in the later years of the forecast.

Table 8-8: Proposed Wastewater Revenue Adjustments

	A	B	C
Line	Fiscal Year	Revenue Adjustment	Month Effective

1	2026	5%	July
2	2027	5%	July
3	2028	5%	July
4	2029	5%	July
5	2030	5%	July

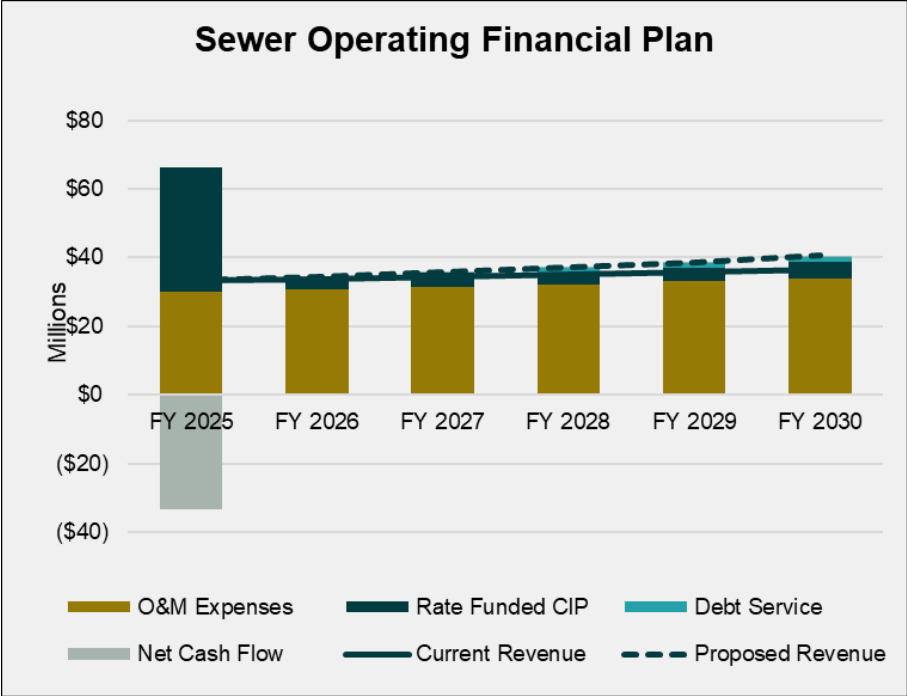
Table 8-9 shows the projected wastewater financial plan with the proposed revenue adjustments from **Table 8-8**. The net cash flow (Line 17) is significantly negative in the current year, when the City plans to cash finance a significant amount of capital spending from reserves. In all future years, the net cash flow is positive as a result of the proposed wastewater revenue adjustments. The proposed revenue adjustments also allow the utility to finance all planned capital spending without dropping below combined operating and reserve fund reserve requirements, as seen in **Figure 8-4**.

Table 8-9: Projected Wastewater Financial Plan (Proposed Revenue Adjustments)

Line	A Financial Plan	B FY 2025	C FY 2026	D FY 2027	E FY 2028	F FY 2029	G FY 2030
	Revenues						
1	Rate Revenues	\$12,780,128	\$13,035,731	\$13,296,446	\$13,562,375	\$13,833,622	\$14,199,713
2	Revenue Adjustments	\$0	\$651,787	\$1,362,886	\$2,137,769	\$2,981,232	\$3,923,119
3	IEUA Revenue	\$19,812,465	\$20,208,714	\$20,612,889	\$21,025,147	\$21,445,649	\$21,874,562
4	Interest Income	\$218,678	\$54,152	\$57,128	\$57,111	\$60,567	\$64,600
5	Other Revenues	\$434,832	\$438,609	\$442,461	\$446,390	\$450,398	\$454,486
6	Total Revenues	\$30,547,518	\$31,675,692	\$32,528,936	\$33,251,385	\$34,153,913	\$35,129,669
	O&M Expenses						
7	Sewer Administration	\$2,508,690	\$2,621,620	\$2,720,045	\$2,801,646	\$2,885,696	\$2,972,266
8	Sewer Maintenance	\$3,688,268	\$3,832,055	\$3,964,414	\$4,083,347	\$4,205,847	\$4,332,023
9	Environmental Engr.	\$1,654,413	\$1,713,751	\$1,770,259	\$1,823,367	\$1,878,068	\$1,934,410
10	Sewer Resources	\$1,021,946	\$1,052,856	\$1,084,573	\$1,117,110	\$1,150,623	\$1,185,142
11	Customer Service	\$1,347,229	\$1,393,835	\$1,438,899	\$1,482,066	\$1,526,528	\$1,572,324
12	IEUA Treatment	\$19,812,465	\$20,208,714	\$20,612,889	\$21,025,147	\$21,445,649	\$21,874,562
13	Total	\$30,033,011	\$30,822,831	\$31,591,079	\$32,332,683	\$33,092,412	\$33,870,728
	Debt Service and Capital						
14	Transfer to Capital Fund	\$36,376,926	\$3,276,919	\$3,891,247	\$3,293,677	\$4,052,651	\$5,004,246
15	Total	\$36,376,926	\$3,276,919	\$3,891,247	\$3,293,677	\$4,052,651	\$5,004,246
16	Total Revenue Required	\$66,409,938	\$34,099,750	\$35,482,326	\$36,927,388	\$38,446,091	\$40,176,002
17	Net Cash Flow	(\$33,163,834)	\$289,243	\$289,482	\$301,403	\$325,377	\$340,478
18	Net Operating Revenue	\$3,213,092	\$3,566,162	\$4,180,729	\$4,896,109	\$5,679,056	\$6,645,753
19	Beginning Fund Balance	\$42,238,294	\$9,074,459	\$9,363,703	\$9,653,185	\$9,954,588	\$10,279,965
20	Ending Fund Balance	\$9,074,459	\$9,363,703	\$9,653,185	\$9,954,588	\$10,279,965	\$10,620,444
21	Reserve Target	\$7,508,253	\$7,705,708	\$7,897,770	\$8,083,171	\$8,273,103	\$8,467,682

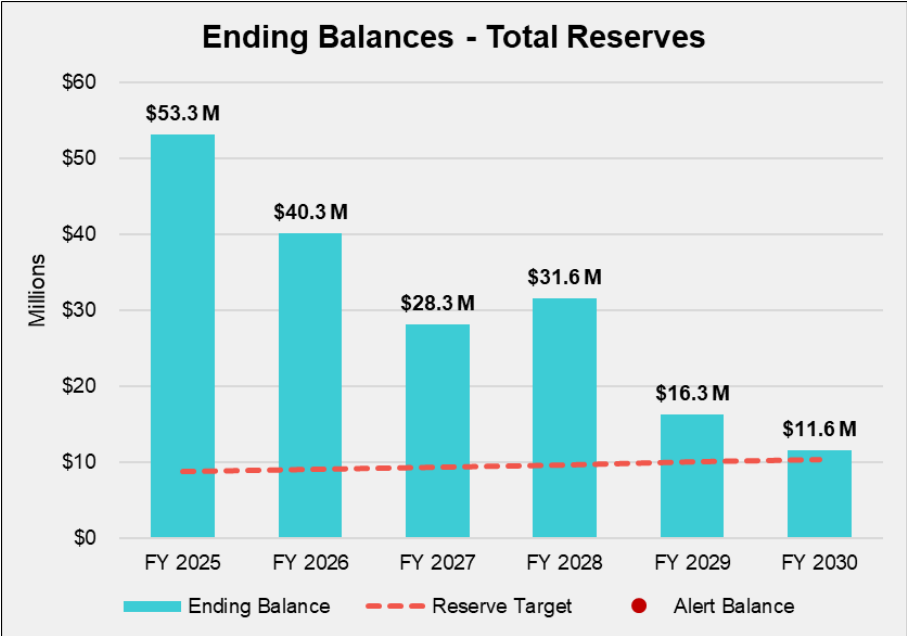
Figure 8-3 shows the proposed financial plan in graphical format with the revenue adjustments in **Table 8-8**. The proposed revenues, shown as the dotted dark blue line, allow the City to fund its operating costs for the study period. The current and proposed revenue lines are below the height of the bars in FY 2025 because the City plans to lower its cash reserves in order to fund wastewater capital spending.

Figure 8-3: Projected Wastewater Financial Plan (Proposed Revenue Adjustments)



Projected reserves are shown in **Figure 8-4**.

Figure 8-4: Projected Reserves (Proposed Revenue Adjustments)



9. Wastewater Cost of Service and Rates

This section of the report details the cost-of-service analysis and rate calculation process to determine the proposed wastewater rates. The goal of this process is to determine the cost of providing wastewater service to each of the City's wastewater customer classes and to ensure equity and fairness among the various classes.

9.1. Process and Approach

The cost-of-service analysis utilized to develop the wastewater rates followed the guidelines for allocating costs outlined in the WEF Manual No. 27. The cost-of-service analysis and rate design process consists of six major steps, as outlined below:

1. Determine the revenue requirement, equal to the revenue to be recovered from rates.
2. Functionalize O&M expenses and capital assets into functional categories such as flow, customer, general, and treatment.
3. Develop customer class characteristics and units of service by cost causation component.
4. Calculate the cost causation component unit rates by dividing the total cost in each cost causation component by the total units of service for that component.
5. Calculate the cost for each customer class by multiplying the unit cost by the units of service for each customer class.
6. Design rates to meet the City's objectives.

9.2. Revenue Requirement Determination

Table 9-1 shows the revenue requirement derivation for FY 2026. The revenue requirement is comprised of the Operating (Column B, Line 9) and Capital (Column C, Line 9) revenue requirements. The adjustment for cash balance (Line 7) is equal to the net cash flow for FY 2026 (**Table 8-9**, Column C, Line 17).

Table 9-1: Wastewater Revenue Requirement

	A	B	C	D
Line	Wastewater FY 2024 Revenue Requirements	Operating	Capital	Total
	Revenue Requirements			
1	O&M Expenses	\$30,822,831		\$30,822,831
2	Transfer to Capital Fund		\$3,276,919	\$3,276,919
3	Subtotal	\$30,822,831	\$3,276,919	\$34,099,750
	Other Revenue			
4	Other Revenue	\$20,647,323		\$20,647,323
5	Interest Income	\$54,152		\$54,152
6	Subtotal	\$20,701,475	\$0	\$20,701,475
	Adjustments			
7	Adjustments for Annual Cash Balance		(\$289,243)	(\$289,243)
8	Subtotal	\$0	(\$289,243)	(\$289,243)
9	Revenue to be Recovered from Rates	\$10,121,355	\$3,566,162	\$13,687,518

9.3. Allocation of Expenses to Cost Components

Wastewater Expenses are allocated in a similar manner as in the water cost of service described above. O&M is allocated in **Table 9-2** and **Table 9-3**. Collection costs are allocated entirely to flow, and treatment costs are a pass-through under IEUA. Administration and Interfund Transfers are allocated to General because they are not specifically tied to collection or treatment. Capital costs are entirely based on the collection system and are therefore allocated to flow.

Table 9-2: Wastewater O&M Allocation Factors to Cost Components

	A	B	C	D	E	F
Line	O&M Allocation	Flow	Customer	General	IEUA Treatment	Total
1	Sewer Administration	0%	0%	100%	0%	100%
2	Sewer Maintenance	100%	0%	0%	0%	100%
3	Environmental Engineering	100%	0%	0%	0%	100%
4	Sewer Resources	0%	0%	100%	0%	100%
5	Customer Service	0%	100%	0%	0%	100%
6	IEUA Treatment	0%	0%	0%	100%	100%
7	Interfund Transfers	0%	0%	100%	0%	100%

Table 9-3: Wastewater O&M Allocation to Cost Components

	A	B	C	D	E	F
Line	Allocation	Flow	Customer	General	IEUA Treatment	Total
1	Sewer Administration	\$0	\$0	\$2,621,620	\$0	\$2,621,620
2	Sewer Maintenance	\$3,832,055	\$0	\$0	\$0	\$3,832,055
3	Environmental Engineering	\$1,713,751	\$0	\$0	\$0	\$1,713,751
4	Sewer Resources	\$0	\$0	\$1,052,856	\$0	\$1,052,856
5	IT Applications	\$0	\$1,393,835	\$0	\$0	\$1,393,835
6	IEUA Treatment	\$0	\$0	\$0	\$20,208,714	\$20,208,714
7	Interfund Transfers	\$0	\$0	\$0	\$0	\$0
8	Total O&M Expenses	\$5,545,806	\$1,393,835	\$3,674,475	\$20,208,714	\$30,822,831
9	O&M Allocation	52%	13%	35%		100%

9.4. Units of Service

Once all expenses have been allocated to the appropriate cost components, the next step is to determine the units of service from which the costs will be recovered. The units used in this study are hcf of wastewater flow and annual bills. These are presented in **Table 9-4**.

Units for residential customers (Column B) and billed use for non-residential customers (Column E) can be found in **Table 8-1** for FY 2026. Estimated wastewater flow (Column G) was calculated using several standard assumptions. To estimate wastewater flow for residential customers we used census data for average household size for both Single Family and Multi-Family customers. The standard indoor use for customers in California is 55 gallons per day per California Water Code Section 10608.20 (b) (2) (A). For Single Family customers, flow is based on an average household size of 3.83 people each using 55 gallons per day. Applying these estimates to the number of households (Column B) and converting to hcf results in the estimated wastewater flow (Column F, Line 1). Multi-Family flow was estimated using the same methodology with 3.08 people per household. The Multi-Family dwelling unit represents 3.08/3.83 EDU or 80 percent of a Single Family unit. The return factor (Column E) represents the proportion of water used that each class returns to the wastewater system based on the estimated flow and water usage. The return factor for Single Family customers is 66 percent and for Multi-Family it is 82%. This is calculated by dividing column G by column E, where column G is estimated as described above and column G is obtained from City water use data. Typically, Single Family customers have a lower return factor because of higher irrigation demands.

To estimate the contributed flows of commercial customers, Raftelis applied a standard return factor to each class's actual annual water usage. It is common to assume a 90 percent return to sewer for commercial customers to recognize some outdoor irrigation use. The return to sewer factor is an estimate of the amount of water usage that enters the wastewater system.

Table 9-4: Wastewater Units of Service

	A	B	C	D	E	F	G	H
Line	Customer Class	Units	# of Accounts	IEUA EDUs	Water Usage (HCF)	Return Factor	Estimated Flow	% of Flow
Residential								
1	Single Family	33,712	33,712	401,375	5,233,741	66%	3,465,280	43%
2	Multi-Family	22,560	22,560	266,831	2,278,005	82%	1,864,852	23%
Non-Residential								
3	Commercial	13,962	13,962	156,508	1,960,701	90%	1,764,631	22%
4	Industrial	2,938	2,938	34,796	794,241	90%	714,817	9%
5	Government	2,282	2,282	25,085	212,183	90%	190,965	2%
6	City	1,047	1,047	10,683	20,867	90%	18,781	0.23%
7	Total	76,502	76,502	895,278	10,499,739		8,019,326	100%

9.4.1. WASTEWATER COST OF SERVICE

As shown in **Table 9-5**, the cost-of-service calculation allocates the operating revenue requirement (Column E, Line 1) based on the operating allocation percentages (**Table 9-3**, Line 9) and the capital revenue requirement (Column E, Line 2) to flow since these costs are all for the City's collection system. The City total (Column E) is the total revenue required in **Table 9-1**. The unit costs (Line 8) are the result of dividing the total adjusted costs (Line 5) by the units of service (Line 6), which were developed in **Table 9-4**. Treatment costs (Column F) represent a direct pass-through cost from IEUA; the City will continue to pass-through increasing IEUA costs per EDU.

Table 9-5: Wastewater Cost of Service

	A	B	C	D	E	F
Line	Cost of Service	Flow	Customer	General	Total	IEUA Treatment
1	Operating Expenses	\$5,288,342	\$1,329,126	\$3,503,888	\$10,121,355	\$20,208,714
2	Capital Expenses	\$3,566,162	\$0	\$0	\$3,566,162	\$0
3	Subtotal	\$8,854,504	\$1,329,126	\$3,503,888	\$13,687,518	\$20,208,714
4	Allocation of General Costs	\$3,046,575	\$457,313	(\$3,503,888)		
5	Total Adjusted COS	\$11,901,079	\$1,786,439	\$0	\$13,687,518	\$20,208,714
6	Units of Service	8,019,326	918,023			
7	<i>Units</i>	<i>hcf</i>	<i>bills</i>			
8	Unit Cost	\$1.48	\$1.95			

9.4.2. WASTEWATER CLASS COST OF SERVICE

The next step is to allocate these costs to each customer class. The unit costs in **Table 9-5** are applied to each class' units of service in **Table 9-4**. **Table 9-6** presents the derivation of the cost to collect wastewater from each class. IEUA costs are a direct passthrough and do not impact the cost-of-service analysis.

Table 9-6: Wastewater Class Cost of Service

	A	B	C	D
Line	Customer Class	Flow	Customer	Total
Residential				
1	Single Family	\$5,142,647	\$787,230	\$5,929,877
2	Multi-Family	\$2,767,533	\$526,812	\$3,294,346
Non-Residential				
3	Commercial	\$2,618,801	\$326,045	\$2,944,846
4	Industrial	\$1,060,824	\$68,608	\$1,129,433
5	Government	\$283,402	\$53,286	\$336,688
6	City	\$27,871	\$24,457	\$52,329
7	Total	\$11,901,079	\$1,786,439	\$13,687,518

9.4.3. WASTEWATER RATES AND CUSTOMER BILL IMPACTS

Table 9-7 presents the rate calculation for all classes. The total cost of service (Column B) is divided by the relevant units of service (Column C) to determine the rate (Column E). In **Table 9-8**, the rates are forecasted using the required cost of service revenues increases from **Table 8-8** and exclude the IEUA rates which will be passed through.

Table 9-7: Wastewater Rate Calculation

	A	B	C	D	E
Line	Customer Class	Cost of Service	Units of Service	Unit	Wastewater Rate
Residential					
1	Single Family	\$5,929,877	33,712	dwelling units	\$14.66
2	Multi-Family	\$3,294,346	22,560	dwelling units	\$12.17
3	Non-Residential	\$4,463,295	2,987,993	hcf of water	\$1.50

Table 9-8: Wastewater Rate Forecast Excluding IEUA Rates

	A	B	C	D	E	F	G
Line	Customer Class	FY 2025 (Curent)	FY 2026	FY 2027	FY 2028	FY 2029	FY 2030
Residential (per EDU)							
1	Single Family	\$14.18	\$14.66	\$15.39	\$16.16	\$16.97	\$17.82
2	Multi-Family	\$11.40	\$12.17	\$12.78	\$13.42	\$14.09	\$14.79
3	Non-Residential	\$1.41	\$1.50	\$1.58	\$1.65	\$1.74	\$1.82

Table 9-9 presents a series of typical bills for various customer classes. The monthly bills shown exclude the pass-through costs for IEUA treatment. The tables compare the bill at different levels of usage under the current rates and the proposed rates.

Table 9-9: Wastewater Bill Impacts without IEUA Passthrough

	A	B	C	D	E
Line	Residential Customer	Number of Units	Current Monthly Bill	Proposed Monthly Bill	Difference (\$)
1	Single Family	1	\$14.18	\$14.66	\$0.48
2	Multi-Family	5	\$57.00	\$60.85	\$3.85
3	Multi-Family	15	\$171.00	\$182.55	\$11.55
4	Multi-Family	20	\$228.00	\$243.40	\$15.40
5	Multi-Family	150	\$1,710.00	\$1,825.50	\$115.50
6	Multi-Family	175	\$1,995.00	\$2,129.75	\$134.75

	A	B	C	D	E
Line	Non-Residential Customers	Water Usage (ccf)	Current Monthly Bill	Proposed Monthly Bill	Difference (\$)
1	Commercial	56	\$77.28	\$84.00	\$6.72
2	Commercial	100	\$138.00	\$150.00	\$12.00
3	Commercial	125	\$172.50	\$187.50	\$15.00
4	Commercial	150	\$207.00	\$225.00	\$18.00
5	Commercial	175	\$241.50	\$262.50	\$21.00
6	Industrial	200	\$276.00	\$300.00	\$24.00
7	Industrial	500	\$690.00	\$750.00	\$60.00
8	Industrial	1,000	\$1,380.00	\$1,500.00	\$120.00
9	Industrial	5,000	\$6,900.00	\$7,500.00	\$600.00
10	Industrial	10,000	\$13,800.00	\$15,000.00	\$1,200.00