

**SPECIAL MEETING OF THE
FLORIN RESOURCE CONSERVATION DISTRICT
BOARD OF DIRECTORS**

Thursday, May 25, 2023

6:30PM

**9829 Waterman Road
Elk Grove, CA 95624**

Join the Meeting via Zoom Link:
<https://us02web.zoom.us/j/84167076645>
Meeting ID: 841 6707 6645
Dial: 1-669-900-6833

Note: Director Sophia Scherman will be attending the meeting via Zoom pursuant to AB 2449.

Instructions for Public Comment

The electronic submission of written comments shall be sent in advance to the Board Secretary (stefani@egwd.org). Those comments will be read into the record for a maximum of three (3) minutes per comment. If attending via video conference, use the “raise hand” feature at the bottom center of the screen. If listening by phone, press Star+9 (*9) to raise your hand.

CALL TO ORDER, ROLL CALL AND PLEDGE OF ALLEGIANCE

1. Proclamations and Announcements

- a. Board member vacancy.

Associate Director Comment

Public Comment

2. 2024-2028 Water Rate Study and Connection Fee Study

(Bruce Kamilos, General Manager)

Associate Director Comment

Public Comment

- Recommended Action/Information:**
- 1. Approve the 2024-2028 Water Rate Study subject to the receipt and consideration of any protests and comments received before and during the public hearing conducted in compliance with Proposition 218;**
 - 2. Approve the 2024 Capacity Fee Study Report subject to the receipt and consideration of comments received during a public hearing;**
 - 3. Direct staff to initiate the Proposition 218 compliance process for the 2024-2028 Water Rate Study, including the mailing of a notice of the public hearing for the consideration of the proposed water rates to the record owners of property to be subject to the water service fees and any tenants who are directly liable for the payment of water service fees.**

Adjourn to Regular Meeting – June 20, 2023

May 25, 2023

TO: Chair and Directors of the Florin Resource Conservation District
FROM: Bruce Kamilos, General Manager
SUBJECT: **2024-2028 WATER RATE STUDY AND CONNECTION FEE STUDY**

RECOMMENDATION

It is recommended that the Florin Resource Conservation District Board of Directors:

1. Approve the 2024-2028 Water Rate Study subject to the receipt and consideration of any protests and comments received before and during the public hearing conducted in compliance with Proposition 218;
2. Approve the 2024 Capacity Fee Study Report subject to the receipt and consideration of comments received during a public hearing;
3. Direct staff to initiate the Proposition 218 compliance process for the 2024-2028 Water Rate Study, including the mailing of a notice of the public hearing for the consideration of the proposed water rates to the record owners of property to be subject to the water service fees and any tenants who are directly liable for the payment of the water service fees.

SUMMARY

It was recently determined that a member of the Florin Resource Conservation District (District) Board of Directors (Board) is no longer eligible to serve on the Board and, therefore, her vote on this item on May 16, 2023 cannot be counted. Accordingly, staff is bringing this item back to the Board for another vote and formal ratification of this item.

The District has retained the consulting firm Raftelis to complete the 2024-2028 Water Rate Study and the 2024 Connection Fee Study (Studies) for the Elk Grove Water District (EGWD). At the February 21, 2023 regular board meeting, the Board directed staff to have Raftelis proceed with the 2024-2028 Water Rate Study utilizing a financial model reflecting a 4.5% annual revenue adjustment for the calendar years 2024-2028.

The recommended water service rates and recommended connection fee rates were presented to the Board at the March 21, 2023 regular board meeting. At that meeting, the Board directed staff to proceed with drafting the Proposition 218 public hearing notice for the 2024-2028 Water Rate Study and to have Raftelis move forward with finalizing the Studies. The Proposition 218 public hearing notice was presented to the Board at the

2024-2028 WATER RATE STUDY AND CONNECTION FEE STUDY

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April 18, 2023 regular board meeting and the comments received have been incorporated into a final draft.

If acted upon, the Board will approve the 2024-2028 Water Rate Study subject to the receipt and consideration of any protests and comments received before and during the public hearing conducted in compliance with Proposition 2018. The Board will also approve the 2024 Capacity Fee Study subject to the receipt and consideration of comments received during a public hearing.

The District is legally required to comply with the requirements of Proposition 218 before a water rate adjustment can be approved. By this action, the Board will also direct staff to proceed with the Proposition 218 public hearing and notice process which will provide an opportunity for EGWD rate payers to protest any rate adjustments considered by the Board of Directors.

DISCUSSION

Background

As part of the Florin Resource Conservation District 2020-2025 Strategic Plan, the District is due to conduct a review of the Elk Grove Water District water rates to ensure revenues will be sufficient to cover operational costs, debt service costs and capital costs while adhering to the District's reserve policy and complying with major bond covenants for the years 2024-2028. The last water rate study was completed and adopted by the Board in June 2018. A new water rate study was identified by the Board as a key objective for fiscal year 2022-2023.

In October 2022 the Board retained Raftelis to conduct an extensive review of the EGWD's revenue requirements and prepare a new water rate study which would include a financial plan, a cost-of-service analysis, and a rate design plan. A separate study was also conducted to review the EGWD's connection fees (i.e., capacity charges).

A Community Advisory Committee (CAC), comprising of ten (10) EGWD rate payers, was formed to provide the EGWD with input regarding the 2024-2028 Water Rate Study. There have been four meetings where the CAC and public has had an opportunity to provide comments and input on the study. The CAC and public have contributed valuable assistance and input to ensure that the information and work products are accurate and equitable.

2024-2028 WATER RATE STUDY AND CONNECTION FEE STUDY

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The following is a timeline of the meetings and discussions that took place on the development of the 2024-2028 Water Rate Study and the 2024 Capacity Fee Study.

At a public meeting on December 13, 2022, staff met with the CAC and the Board to conduct a Water Rate Study 101 presentation to go over water rate setting principles and expectations.

At a public meeting on January 17, 2023, staff met again with the CAC and the Board to review the first draft of the 10-year financial plan developed by Raftelis based on projected inflation, projected customer growth, projected demand growth, projected capital spending needs and projected operating expense escalations as developed through discussions with District staff. Raftelis developed three (3) different financial plan scenarios which were presented to both the CAC and the Board showing the effect on the District's future minimum reserve requirements as described below:

- Scenario 1: A do-nothing case (0%, 0%, 0%, 0%, 0%) resulting in negative minimum reserve cash balances by fiscal year end (FYE) 2027 and beyond and the District falling out of compliance with its debt covenant ratio by FYE 2027.
- Scenario 2: Revenue adjustments of 4%, 4%, 3%, 2.5%, 2.5% over five (5) years assuming water demand and customer growth of 1.5% per year resulting in the District projecting to barely meet its minimum reserve cash balances in FYE 2028 and FYE 2029.
- Scenario 3: Revenue adjustments of 4%, 4%, 4%, 2.5%, 2.5% over five (5) years assuming water demand and customer growth of 1.5% per year resulting in the District projecting to have a slightly positive minimum reserve cash balance in FYE 2028 and positive reserve cash balances in other years.

Both the CAC and the Board requested that Raftelis run an additional scenario where water demand is based on the FYE 2022 water demand volume and held constant for all future years. The CAC felt that this scenario would provide a conservative approach to manage the District's fiscal needs in the case of mandated water conservation efforts related to drought conditions, and as water conservation increasingly becomes a California way of life.

District staff worked with Raftelis to 1) run a 0% growth water demand scenario (Scenario 4); and 2) an additional scenario (Scenario 5) where 5-year revenue adjustments were held to 4% for all five (5) years. The results of the 2 additional scenarios were presented to both the CAC and the Board during public meetings on February 21, 2023 and were as follows:

2024-2028 WATER RATE STUDY AND CONNECTION FEE STUDY

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- Scenario 4: Water demand growth held at 0% resulted in revenue adjustments of 4.5%, 4.5%, 4.5%, 4.5%, 4.5%. This scenario yielded a slightly positive minimum reserve cash balance in FYE 2028 and positive reserve cash balances in other years. This conservative approach allows the District the greatest flexibility to manage required rate increases based on actual inflation, operating results and projected budgets.
- Scenario 5: Revenue adjustments held at 4%, 4%, 4%, 4%, 4% required a water demand growth of 0.9% (Scenarios 1-3 assumed 1.5% and Scenario 4 assumed 0%) per year to meet projected cash balance needs. This scenario resulted in a zero minimum reserve cash balance in FYE 2028 and positive reserve cash balances in other years. Scenario 5 also provides the District with a higher level of flexibility to manage required rate increases based on actual inflation, operating results and projected budgets.

Staff received direction from the Board to have Raftelis proceed with a cost-of-service analysis utilizing a financial plan with the recommended adjustments from scenario 4, reflecting a 4.5% revenue adjustment in developing the rate design for calendar years 2024-2028.

Raftelis completed a cost-of-service analysis which involves going through the District's total cost to operate the water system and functionalizing those costs based on whether they are supply and delivery related costs, conservation related costs, extra capacity related costs, meter maintenance related costs or customer service-related costs. These functionalized costs are then categorized as volumetric or fixed, with supply and delivery, conservation and a portion of extra capacity categorized as volumetric and meter maintenance, customer service and the remaining portion of extra capacity categorized as fixed. These costs are then further allocated to customer classes based on customer usage characteristics and meter sizes.

Using this exercise, along with the utilization of American Water Works Association (AWWA) hydraulic capacity ratios by meter type and size, Raftelis developed an updated water rate structure with recommended volumetric and fixed rates for all customer classes and meter sizes.

In addition to the cost of service and water rate design that was completed, Raftelis also completed the preliminary analysis on the connection/capacity fee study. Capacity fees are fees paid to the District as a one-time charge for all new development requiring water from the District for the purpose of reimbursing existing customers for their investment in the water system.

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The results of the rate design set forth the recommended revenue rate increases for the next five (5) calendar years. The water rate design and preliminary results of the connection/capacity fee study were presented to the CAC and Board during a public meeting on March 21, 2023. At that board meeting, staff received direction from the Board to proceed with drafting the Proposition 218 public hearing notice and to have Raftelis move forward with finalizing both the water rate study and the connection/capacity fee study.

Prior to the adoption of any adjustments in water rates, the District must comply with several procedural requirements, including those established by Proposition 218. Proposition 218 was passed by voters in 1996 and, for water rate adjustments, established a specific process for giving notice and receiving protests. Before considering any water rate adjustments, the District must follow the procedure required by Proposition 218.

Proposition 218 requires that the public agency proposing to impose a new or increase to an existing property-related fee or charge, such as water service fees, hold a public hearing and provide written notice by mail of the public hearing. The written notice must be mailed to the record owner of each parcel upon which the fee or charge will be imposed and any tenant who is directly liable for the payment of the fee or charge (i.e., a customer of record). The notice must contain the following information:

- The amount of the fees proposed to be imposed;
- The basis upon which the fees were calculated;
- A statement regarding the reason for the imposition of the new, or increase to the existing fees; and
- The date, time and location of the public hearing at which the legislative body will consider the new fees or proposed increases to the existing fees.

The draft Proposition 218 public hearing notice was reviewed with Raftelis and District legal counsel to ensure compliance with the required noticing components for Proposition 218. At the April 18, 2023 regular board meeting, staff presented to the Board the draft Proposition 218 public hearing notice for review and discussion. Board input has been incorporated into a final draft of the notice for distribution to EGWD customers and property owners in accordance with the minimum 45-day notice period.

Present Situation

Raftelis has completed the final drafts of the 2024-2028 Water Rate Study (Attachment 1) and the 2024 Capacity Fee Study (Attachment 2) and staff is bringing the reports to the

2024-2028 WATER RATE STUDY AND CONNECTION FEE STUDY

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Board for approval. If acted upon, the Board will approve the 2024-2028 Water Rate Study subject to the receipt and consideration of any protests and comments received before and during the public hearing conducted in compliance with Proposition 2018. The Board will also approve the 2024 Capacity Fee Study subject to the receipt and consideration of comments received during a public hearing.

The next step in the process is the public hearing to consider the adoption of the proposed rate adjustments to the water service fees. The public hearing must be conducted on the date and time stated in the notice, but in any event shall not be held less than 45 days after the notice of the proposed fees and public hearing is mailed. At the public hearing, the District must hear and consider all public comments regarding the fees, but only written protests submitted prior to the close of the public hearing may be considered when determining whether a majority protest against the imposition of the fees exists. Upon the conclusion of the public hearing, if a majority protest doesn't exist, the Board may proceed with imposing the proposed rate increases to the water service fees.

California Government Code section 53755(b) dictates the process for determining whether a majority protest exists. It provides that one protest per parcel, filed by an owner or a tenant of a parcel subject to the fee or charge, "shall be counted in calculating a majority protest to a proposed new or increased fee or charge subject to the requirements of "Article XIII D, section 6."

Proposition 218 further requires that the proposed fee or increase may not be imposed or increased if a majority of owners of identified parcels and customers of record submit written protests against the proposed rate increases. In determining whether a majority protest exists, only one protest per parcel, filed by an owner or a customer of record of a parcel subject to the proposed fees, shall be counted.

The recommendations made in this report are supported by the members of the Community Advisory Committee.

ENVIRONMENTAL CONSIDERATIONS

There are no environmental considerations associated with this report.

May 25, 2023

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STRATEGIC PLAN CONFORMITY

The recommendations made in this report conform to Strategic Goal 2 – Fiscal Responsibility of the District’s Fiscal Year 2020-2025 Strategic Plan to conduct the 2024-2028 Water Rate and Connection Fee Study.

FINANCIAL SUMMARY

Because the final adoption of the 2024-2028 Water Rate Study and the 2024 Capacity Fee Study are not being requested at this time, there is no financial impact associated with this item.

If approved, there will be an approximate cost of \$16,000 for the Proposition 218 public hearing notice printing and mailing, and \$1,500 for the public hearing notice to be published in the local newspaper.

Respectfully submitted,



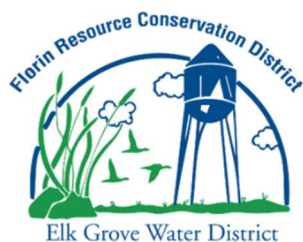
BRUCE KAMILOS
GENERAL MANAGER

Attachments

**FLORIN RESOURCE CONSERVATION
DISTRICT / ELK GROVE WATER DISTRICT**

Water Rate Study

FINAL REPORT / MAY 2, 2023



May 2, 2023

Mr. Bruce Kamilos, PE
General Manager
Florin Resource Conservation District / Elk Grove Water District
9829 Waterman Rd.
Elk Grove, CA 95624

Subject: Water Rate Study - Draft

Dear Mr. Kamilos:

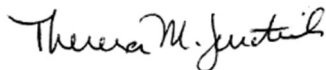
Raftelis Financial Consultants, Inc. (Raftelis) is pleased to provide this Water Rate Study report for the Florin Resource Conservation District / Elk Grove Water District (District). This report explains the methodologies and rationale used to develop the financial plan and rates for water service within the District's service areas that align with the requirements of Proposition 218.

The major study objectives include the following:

- Develop a financial plan for the water enterprise to ensure financial sufficiency, meet operational and maintenance (O&M) costs, maintain sufficient funding for capital refurbishment and replacement (R&R) needs, and meeting debt service requirements and bond covenant ratio;
- Conduct a cost-of-service analysis for water services;
- Develop fair and equitable water rates over a five-year period; and
- Conduct a customer impact analysis for the proposed water rates.

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

Sincerely,



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



Charles Diamond
Analyst

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1. Executive Summary

1.1. Background

In 2022, the Florin Resource Conservation District / Elk Grove Water District (District) engaged Raftelis to conduct a water rate study to update rates and charges for water for the fiscal years ending (FYE) 2024 – FYE 2028 that align with Proposition 218. While the District’s fiscal year is July 1 through June 30, District rates are typically effective January 1 of each fiscal year.

The major study objectives include the following:

- Develop a financial plan for the water enterprise to ensure financial sufficiency, meet operational and maintenance (O&M) costs, maintain sufficient funding for capital refurbishment and replacement (R&R) needs, and meet debt service and bond covenant ratio requirements;
- Conduct a cost-of-service analysis for water services;
- Develop fair and equitable water rates over a five-year period; and
- Conduct a customer impact analysis for the proposed water rates.

1.2. Process and Approach

The study is informed by the District's policy objectives, the current water system rates, and the legal requirements in California (namely, Proposition 218). The resulting cost-of-service analysis and rate design process considers all these factors and follows four key steps, outlined below, to derive proposed rates that fulfill the District's policy objectives, meet industry standards, and align with Proposition 218.

1.2.1. Step 1: Financial Plan and Revenue Requirement Calculation

The rate-making process begins by developing a multi-year financial plan, which is used to determine the revenue adjustment and for determining the revenue requirement for the base year, also known as the test year or rate-setting year. The base year for this study is FYE 2024 (July 1, 2023 to June 30, 2024). The revenue requirement should sufficiently fund the utility's O&M costs, annual debt service, capital project expenses, and reserve funding as projected in the District's budgets.

1.2.2. Step 2: Cost-of-Service Analysis

The annual cost of providing the utility service, or the revenue requirement, is then distributed among customer classes commensurate with their use and burden on the system. A cost-of-service analysis involves the following steps:

- Functionalize costs – the O&M expense budget is categorized into functions such as supply, treatment, pumping, transmission and distribution (T&D), etc.
- Allocate to cost components – the functionalized costs are then allocated to system cost components such as supply, delivery, peaking, conservation, etc.
- Develop unit costs – unit costs for each cost component are determined using appropriate units-of-service for each.
- Distribute cost components – the cost components are allocated to each customer class using the unit costs in proportion to their demand and burden on the system.

A cost-of-service analysis considers both the average water demand and peak demand. Peaking costs are incurred during maximum consumption periods, most often coinciding with summertime irrigation use. Additional capacity-related costs are associated with designing, constructing, operating, maintaining, replacing, and refurbishing facilities to meet peak demand. These peaking costs must be allocated to the customer classes whose water demand patterns generate additional costs for the utility, proportionate to their burden on the peaking-related facilities.

1.2.3. Step 3: Rate Design and Calculation

After allocating the revenue requirement for each cost component to its corresponding customer classes, the rate design and calculation process can begin. Rates do more than simply recover costs; within the legal framework and industry standards, properly designed rates should support the District's policy objectives while adhering to cost-of-service principles. Rates are not only a financial instrument but act as a public information tool in communicating policy objectives to customers. The rate design process also includes a rate impact analysis for all customer classes and a sample customer bill impact analysis.

1.2.4. Step 4: Report Preparation and Rate Adoption

The final step in a cost-of-service and rate study is to develop the report in preparation for the rate adoption process. The report documents the rate study results and presents the methodologies, rationale, justifications, and calculations utilized to derive the proposed rates. A thorough and methodical report serves three important functions: fully deriving the rates, showing the nexus to costs, and communicating the rate adoption process to customers and other important stakeholders.

1.3. Water Summary

1.3.1. Financial Plan

Table 1-1 displays the proposed water revenue adjustments over the study period (FYE 2024 to FYE 2028). The current financial plan shows that revenue adjustments are required to adequately fund all operating expenses, debt coverage requirements, and achieve reserve policy targets.

Table 1-1: Proposed Retail Water Revenue Adjustments

Fiscal Year	Effective Month	Proposed Revenue Adjustment
2024	January	4.5%
2025	January	4.5%
2026	January	4.5%
2027	January	4.5%
2028	January	4.5%

Figure 1-1 illustrates the water operating financial plan for FYE 2023 – FYE 2028. Revenues from proposed rates are sufficient to recover O&M costs (including water supply), capital improvements, and debt service while maintaining reserves that will be drawn by the District to fund future capital improvement needs.

Figure 1-1: Water Operating Financial Plan

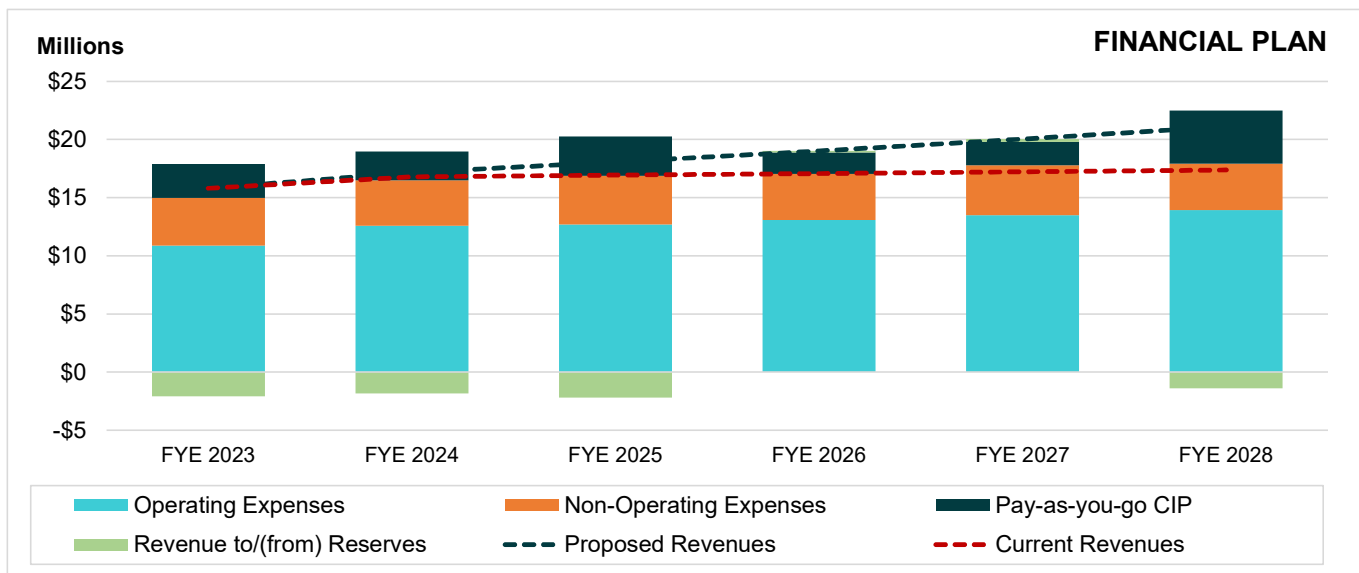


Figure 1-2 illustrates the ending reserve balances and targeted balances for FYE 2023 – FYE 2028. Ending reserve balances show a planned draw upon reserves to accomplish planned capital improvements.

Figure 1-2: Estimated Water Ending Fund Balances

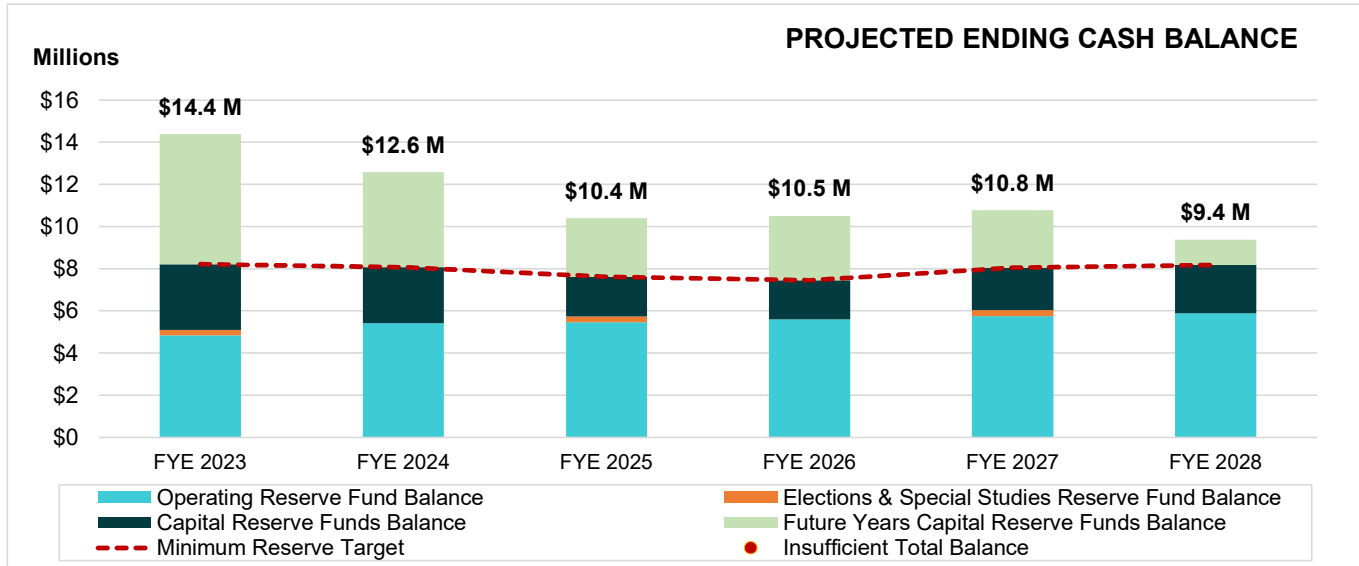


Figure 1-3 illustrates the Water Enterprise’s scheduled capital improvement project expenses and funding sources. The District anticipates funding capital projects in the study period with a combination of grant proceeds and rate-based revenues (i.e., pay-as-you-go).

Figure 1-3: Water Capital Improvement Program Funding

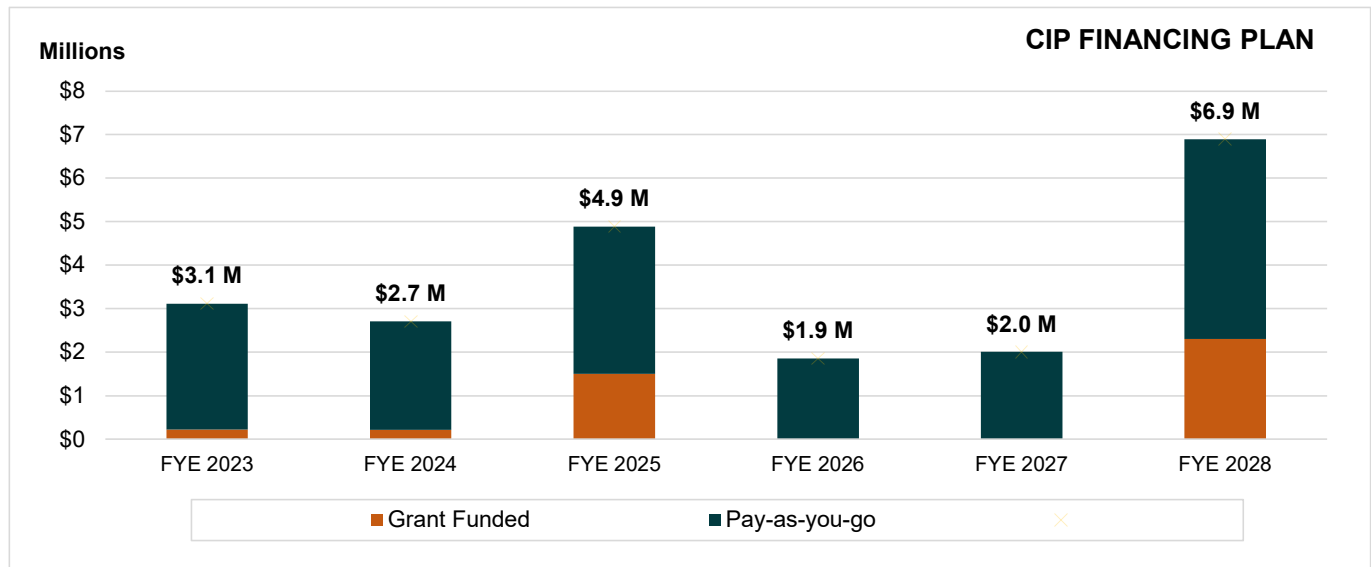
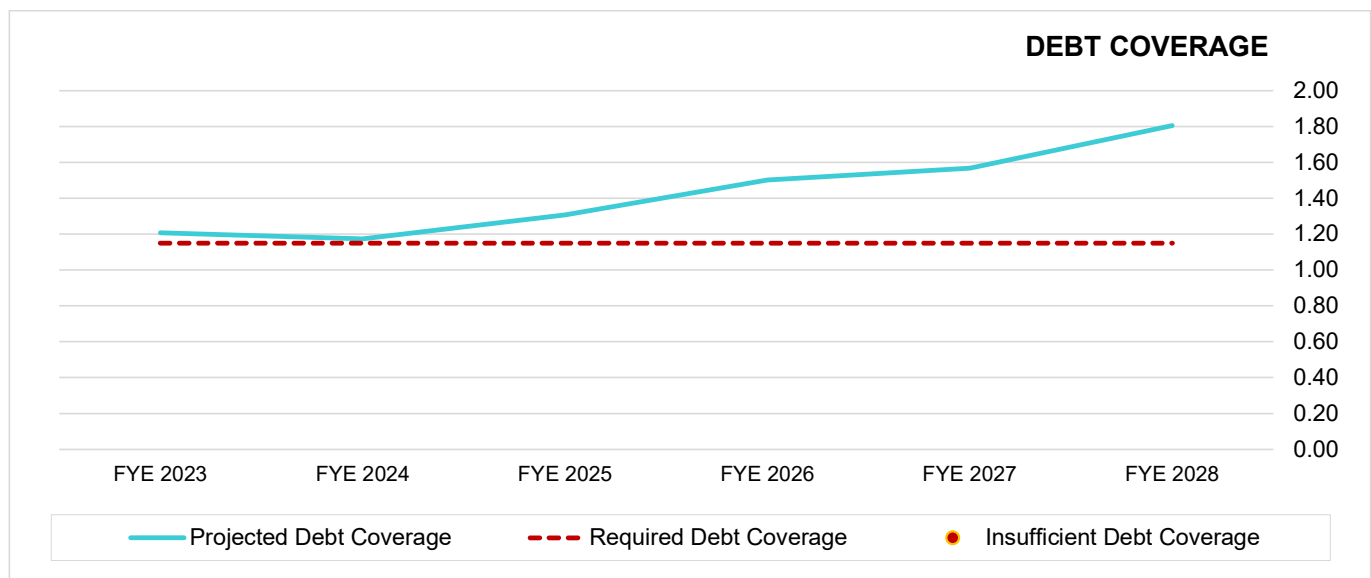


Figure 1-4 shows the projected debt service coverage ratio versus the required ratio. The proposed financial plan is projected to keep the ratio above the required level.

Figure 1-4: Debt Service Coverage Ratio



1.3.2. Proposed Water Rates

Table 1-2 shows the current and proposed monthly service charge, commodity rate, and monthly capital charge. The rates shown in FYE 2024 are set using a cost-of-service analysis and overall, recover 4.5% more revenue than the prior year. Future years are escalated by the revenue adjustments shown.

Table 1-2: Current and Proposed Water Rates and Charges

Proposed Rates	Current	Proposed	Proposed	Proposed	Proposed	Proposed
Proposed Water Rate Schedule	2023	2024	2025	2026	2027	2028
Proposed Revenue Adjustment	N/A	cost-of-service	4.5%	4.5%	4.5%	4.5%
Monthly Fixed Charges (by Meter Size)						
1"	\$62.37	\$61.49	\$64.26	\$67.16	\$70.19	\$73.35
1.5"	\$87.79	\$111.92	\$116.96	\$122.23	\$127.74	\$133.49
2"	\$118.29	\$172.44	\$180.20	\$188.31	\$196.79	\$205.65
3"	\$189.48	\$364.08	\$380.47	\$397.60	\$415.50	\$434.20
4"	\$291.14	\$616.23	\$643.97	\$672.95	\$703.24	\$734.89
6"	\$545.33	\$1,372.69	\$1,434.47	\$1,499.03	\$1,566.49	\$1,636.99
8"	\$850.36	\$1,624.85	\$1,697.97	\$1,774.38	\$1,854.23	\$1,937.68
10"	\$1,206.22	\$4,247.24	\$4,438.37	\$4,638.10	\$4,846.82	\$5,064.93
Commodity Charges (per CCF)						
Residential						
Tier 1 (0-30 ccf/mo)	\$1.96	\$2.15	\$2.25	\$2.36	\$2.47	\$2.59
Tier 2 (30.01+ ccf/mo)	\$4.12	\$3.19	\$3.34	\$3.50	\$3.66	\$3.83
Non-Residential	\$1.83	\$2.14	\$2.24	\$2.35	\$2.46	\$2.58
Irrigation	\$2.32	\$2.97	\$3.11	\$3.25	\$3.40	\$3.56
Private Fire Protection Service Monthly Fixed Charges (by Connection Size)						
2"	\$3.08	\$3.72	\$3.89	\$4.07	\$4.26	\$4.46
3"	\$8.96	\$10.79	\$11.28	\$11.79	\$12.33	\$12.89
4"	\$19.08	\$22.99	\$24.03	\$25.12	\$26.26	\$27.45
6"	\$55.43	\$66.77	\$69.78	\$72.93	\$76.22	\$79.65
8"	\$118.12	\$142.29	\$148.70	\$155.40	\$162.40	\$169.71
10"	\$212.42	\$255.89	\$267.41	\$279.45	\$292.03	\$305.18
12"	\$343.10	\$413.32	\$431.92	\$451.36	\$471.68	\$492.91

2. Legal Requirements and Rate Setting Methodology

2.1. Legal Requirements¹

2.1.1. California Constitution – Article XIII D, Section 6 (Proposition 218)

Proposition 218, reflected in the California Constitution as Article XIII D, was enacted in 1996 to ensure that rates and fees are reasonable and proportional to the cost of providing service. The principal requirements, as they relate to public water service, are as follows:

1. A property-related charge (such as water rates) imposed by a public agency on a parcel shall not exceed the costs required to provide the property-related service.
2. Revenues derived by the charge shall not be used for any purpose other than that for which the charge was imposed.
3. The amount of the charge imposed upon any parcel shall not exceed the proportional cost of service attributable to the parcel.
4. No charge may be imposed for a service unless that service is actually used or immediately available to the owner of the property.
5. A written notice of the proposed charge shall be mailed to both the customer of record and owner of record of each parcel at least 45 days prior to the public hearing, when the agency considers all written protests against the charge.

As stated in the American Water Works Association's (AWWA) *Principles of Water Rates, Fees, and Charges: Manual of Water Supply Practices - M1 Seventh Edition* (Manual M1), "water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers." Raftelis follows industry-standard rate-setting methodologies set forth by the AWWA Manual M1 to ensure this study meets Proposition 218 requirements and establishes rates that do not exceed the proportionate cost of providing water services on a parcel basis. The methodology in the Manual M1 is a nationally recognized industry rate-making standard that courts have recognized as consistent with Proposition 218.

2.1.2. California Constitution Article X, Section 2

California Constitution Article X, Section 2 mandates that water resources be put to beneficial use and that the waste or unreasonable use of water be prevented through conservation. Section 106 of the Water Code declares that the highest priority use of water is for domestic purposes, with irrigation secondary. Thus, the management of water resources is part of the property-related service provided by public water suppliers to ensure the resource is available over time.

Raftelis does not practice law, nor does it provide legal advice. The above discussion means to provide a general review of apparent state institutional constraints and is labeled "legal framework" for literary convenience only. The District should consult with its counsel for clarification and/or specific review of any of the above or other matters.

Two Constitutional provisions govern and impact water rates — Article X, Section 2 (“Article X”) and Article XIII D, Section 6 (“Article XIII D”). Article X was added to the California Constitution in 1928 as former Article XIV, Section 3, and amended in 1976. Article X provides that:

“It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.”

In November 1996, California voters approved Proposition 218, which amended the California Constitution by adding Article XIII C and Article XIII D. Article XIII D placed substantive limitations on the use of the revenue collected from property-related fees and on the amount of the fee that may be imposed on each parcel. Additionally, it established procedural requirements for imposing new, or increasing existing, property-related fees. Water service fees are property-related fees.

In accordance with these provisions, a property-related fee must meet all of the following requirements: (1) revenues derived from the fee must not exceed the funds required to provide the property-related service; (2) revenues from the fee must not be used for any purpose other than that for which the fee is imposed; (3) the amount of a fee imposed upon any parcel or person as an incident of property ownership must not exceed the proportional cost of the service attributable to the parcel; (4) the fee may not be imposed for a service, unless the service is actually used by, or immediately available to, the owner of the property subject to the fee. A fee based on potential or future use of a service is not permitted, and stand-by charges must be classified as assessments subject to the ballot protest and proportionality requirements for assessments; (5) no fee may be imposed for general governmental services, such as police, fire, ambulance, or libraries, where the service is available to the public in substantially the same manner as it is to property owners. The five substantive requirements in Article XIII D are structured to place limitations on (1) the use of the revenue collected from property-related fees and (2) the allocation of costs recovered by such fees to ensure that they are proportionate to the cost of providing the service attributable to each parcel.

2.2. Rate Setting Methodology

This study was conducted using industry-standard principles outlined by the AWWA Manual M1. The process and approach Raftelis utilized in the study to determine water rates is informed by the District’s policy objectives, the current water system and rates, and the legal requirements in California (namely, Proposition 218). The resulting financial plan, cost-of-service analyses, and rate design processes follow four key steps, outlined below, to determine proposed rates that fulfill the District’s objectives, meet industry standards, and align with relevant regulations.

1. **Financial Plan and Revenue Requirement Determination:** The first study step is to develop a multi-year financial plan that projects the District’s revenues, expenses, capital project financing, annual debt service, and reserve funding. The financial plan is used to determine 1) the revenue adjustment, which allows the District to recover adequate revenues to fund expenses and reserves, and 2) the revenue requirement for the test year, also known as the rate-setting year. The test year for this study is FYE 2024. The revenue requirement should sufficiently fund the District’s operating costs, annual debt service (including coverage requirements), capital expenditures, and reserve funding as projected based on the annual budget estimates.

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

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

3. **Rate Design:** After allocating the revenue requirement to each customer class, the project team designs and calculates rates. Rates do more than simply recover costs; within the legal framework and industry standards, properly designed rates should support and optimize the District's policy objectives. Rates also act as a public information tool in communicating these policy objectives to customers. This process also includes a rate impact analysis and sample customer bill impacts.
4. **Administrative Record Preparation and Rate Adoption:** The final step in a rate study is to develop the administrative record in conjunction with the rate adoption process. This report serves as the administrative record for this study. The administrative record documents the study results and presents the methodologies, rationale, justifications, and calculations used to determine the proposed rates. A thorough and methodological administrative record serves two important functions: maintaining defensibility in a stringent legal environment and communicating the rationale for revenue adjustments and proposed rates to customers and key stakeholders.

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

3. Financial Plan Assumptions

3.1. Key Financial Information

During the study, Raftelis and District staff completed a detailed review of projected revenues, operating expenses, and capital expenditures over the study period. The financial plan is a comprehensive spreadsheet model of the District's revenues, O&M expenses, capital expenditures, and reserves for the study period.

This study utilized the following financial documents:

- Operating Budget for Fiscal Year (FYE) 2023
- Reserve Policy provided by District Staff
- Capital Improvement Plan for the study period provided by the District
- Financial Information (e.g., outstanding debt, reserve levels, etc.) as of June 30, 2022 provided by the District

3.2. Inflation

Various types of assumptions and inputs are incorporated into this study based on discussions and direction from District staff. These include the projected number of accounts and annual growth rates in water consumption for different customer classes, inflation factors, and other assumptions that are incorporated into the financial plan. The inflation factor assumptions discussed with District staff and used for cost escalation are presented in Table 3-1.

Table 3-1: Assumed Cost Escalation Factors

Key Factors	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
General	5.0%	4.0%	3.0%	3.0%	3.0%
Salary	5.0%	4.0%	3.0%	3.0%	3.0%
Benefits	5.0%	4.0%	3.0%	3.0%	3.0%
Water Supply	5.0%	4.0%	3.0%	3.0%	3.0%
Utilities	5.0%	4.0%	3.0%	3.0%	3.0%
Chemicals	5.0%	4.0%	3.0%	3.0%	3.0%

Interest income is estimated to be 0.75 percent. A conservative interest rate is used in the study to project interest earnings on reserve funds.

3.3. Projected Growth

The District assumes that there is 1.5 percent per year growth in accounts for the study period, but that customers will continue to conserve water, resulting in a decrease in average demand per account. Table 3-2 shows the number of water connections used in the analysis. Table 3-3 shows the projected number of private fire connections over the study period. Table 3-4 show projected water use in hundred cubic feet (ccf) and acre-feet (AF).

Table 3-2: Number of Water Connections

Meter Size	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
1"	12,676	12,866	13,060	13,256	13,455
1.5"	102	104	106	108	110
2"	264	268	272	276	280
3"	22	22	22	22	22
4"	17	17	17	17	17
6"	5	5	5	5	5
8"	0	0	0	0	0
10"	0	0	0	0	0
Total	13,086	13,282	13,482	13,684	13,889

Table 3-3: Number of Private Fire Connections

Connection Size	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
2"	2	2	2	2	2
3"	2	2	2	2	2
4"	34	34	34	34	34
6"	156	156	156	156	156
8"	24	24	24	24	24
10"	12	12	12	12	12
12"	0	0	0	0	0
Total	230	230	230	230	230

Table 3-4: Projected Water Use (ccf)

Customer Class/Tier	FYE 2023	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
Residential Water Use						
Tier 1 (0-30 ccf/mo)	1,732,438	1,952,603	1,952,529	1,952,457	1,952,387	1,952,320
Tier 2 (30.01+ ccf/mo)	192,493	216,956	216,948	216,940	216,932	216,924
Subtotal Residential	1,924,931	2,169,559	2,169,476	2,169,397	2,169,319	2,169,245
Non-Residential Water Use	300,062	322,176	322,216	322,255	322,294	322,330
Irrigation Water Use	308,643	331,389	331,431	331,471	331,511	331,549
Total (CCF)	2,533,635	2,823,124	2,823,124	2,823,124	2,823,124	2,823,124
Total (AF)	5,816	6,481	6,481	6,481	6,481	6,481

3.4. Water Enterprise Reserve Policy

The District currently has an adopted reserve policy for its water enterprise. The operating reserve is currently set to a minimum of 120 days of budgeted operating expenses including debt service. Capital reserves are set at 100 percent of the annual capital improvement program. Additionally, an elections and special studies reserve is funded based on Board action in accordance with the annual budget. For the purposes of the financial plan, the elections and special studies reserve target is set equal to annual elections costs.

3.5. Required Debt Coverage Ratio

The District's current bonds have a debt coverage requirement of 115 percent of the net revenues (i.e., revenues less operating and maintenance costs). This means that net revenues must be at least 1.15 times the annual debt service.

4. Water Financial Plan

4.1. Revenue Requirements

This section discusses projected revenues, O&M expenses, and revenue adjustments to ensure the fiscal sustainability and solvency of the water enterprise.

4.1.1. Revenues

The District’s current water rates were last updated in January 2023. The rates consist of two distinct components: a Monthly Service Charge that varies by meter size and a Commodity Rate. The commodity rate for residential customers has two tiers while the commodity rates are uniform for non-residential and irrigation customers². Table 4-1 shows the District’s current water rates.

Table 4-1: Current Water Rates

Effective Date	Jan. 1, 2023
Fixed Charge, \$/mo	
1"	\$62.37
1.5"	\$87.79
2"	\$118.29
3"	\$189.48
4"	\$291.14
6"	\$545.33
8"	\$850.36
10"	\$1,206.22
Commodity Charge, \$/ccf	
Residential	
Tier 1, 0 - 30 ccf	1.96
Tier 2, > 30 ccf	4.12
Non-Residential	1.83
Irrigation	2.32
Private Fire Protection Service	
Connection Size	
2"	\$3.08
3"	\$8.96
4"	\$19.08
6"	\$55.43
8"	\$118.12
10"	\$212.42
12"	\$343.10

² The commodity rate is shown on a \$/ccf basis. 1 ccf = 100 cubic feet = 748 gallons of water.

The fixed charge revenue for each meter is calculated by multiplying the fixed charge for a meter size with the number of connections for that meter size and then multiplying by 12 monthly billing periods per year. The residential commodity rate revenue is calculated by multiplying total use, up to 30 ccf, by the Tier 1 commodity rate and any use over 30 ccf in a month by the Tier 2 commodity rate. The non-residential and irrigation commodity rate revenue is calculated by multiplying total usage by the respective commodity rate. The monthly private fire protection revenue for each connection size is calculated by multiplying the private fire protection charge for a connection size by the number of connections at that size and then multiplying by 12 monthly billing periods per year. The projected and calculated revenues are shown in Table 4-2.

Table 4-2: Projected Revenue from Current Charges

	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
Fixed	\$10,111,558	\$10,261,547	\$10,414,529	\$10,569,008	\$10,725,732
Commodity	\$6,079,364	\$6,079,356	\$6,079,348	\$6,079,341	\$6,079,334
Private Fire	\$176,446	\$176,446	\$176,446	\$176,446	\$176,446
Total	\$16,367,368	\$16,517,349	\$16,670,323	\$16,824,795	\$16,981,512

In addition to revenues produced by water rates, the enterprise receives other revenues from different sources such as interest income, miscellaneous fees, and other sources. Table 4-3 outlines the other miscellaneous revenues for District over the study period.

Table 4-3: Projected Other Revenue

	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
Misc. Fees	\$319,000	\$319,000	\$319,000	\$319,000	\$319,000
Other	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000
Interest	\$100,771	\$85,813	\$78,097	\$79,513	\$75,279
Total	\$428,771	\$413,813	\$406,097	\$407,513	\$403,279

4.1.2. Operating Expenses

4.1.2.1. Water Supply Costs

The District has two sources of water supply – (1) local groundwater and (2) treated wholesale water from the Sacramento County Water Agency (SCWA). Groundwater meets about 60 percent of the District’s needs. Purchased water costs are estimated to range from \$4.0 million to \$4.6 million per year between FYE 2024 and FYE 2028.

4.1.2.2. Water Operating Expenses

The inflation factors from Table 3-1 were used to inflate the District’s FYE 2023 budget to project future operating costs. Raftelis worked closely with District staff to identify any non-recurring costs and other anticipated expenses for the study period. Table 4-4 summarizes the budgeted and projected operating expenses for the water enterprise during the study period.

Table 4-4: Budgeted and Projected Operating Expenses

	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
Salaries & Benefits	\$5,296,924	\$5,508,801	\$5,674,065	\$5,844,286	\$6,019,615
Seminars, Conventions and Travel	\$42,413	\$44,109	\$45,432	\$46,795	\$48,199
Office & Operational	\$1,979,034	\$1,642,196	\$1,691,462	\$1,742,205	\$1,794,472
Purchased Water	\$4,042,555	\$4,204,257	\$4,330,384	\$4,460,296	\$4,594,105
Outside Services	\$1,130,884	\$1,176,119	\$1,211,403	\$1,247,745	\$1,285,177
Equipment, Rent, Taxes and Utilities	\$567,570	\$590,273	\$607,981	\$626,220	\$645,007
Less Capitalized Labor	(\$459,089)	(\$459,089)	(\$459,089)	(\$459,089)	(\$459,089)
Total	\$12,600,289	\$12,706,665	\$13,101,637	\$13,508,459	\$13,927,485

4.1.3. Non-Operating Expenses

Table 4-5 summarizes the budgeted and projected non-operating expenses for the water enterprise during the study period. Non-operating expenses include existing debt service (principal and interest) associated with the District's outstanding 2014 Series A Bonds and 2016 Series A Bonds, as well as election costs incurred every other year during District elections.

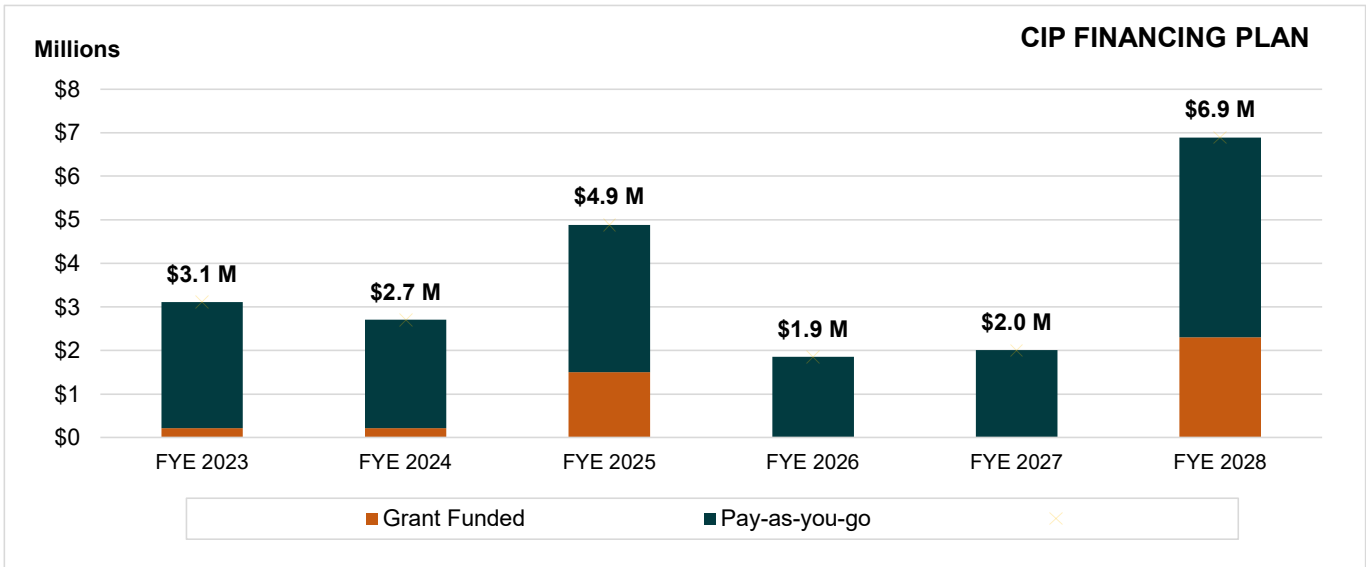
Table 4-5: Budgeted and Projected Non-Operating Expenses

	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
Debt Service	\$3,886,994	\$3,888,029	\$3,941,503	\$3,981,047	\$3,977,210
Election Costs	\$0	\$273,000	\$0	\$289,626	\$0
Total	\$3,886,994	\$4,161,029	\$3,941,503	\$4,270,673	\$3,977,210

4.1.4. Projected Capital Improvement Projects

Figure 4-1 shows the District's water system capital projects (a full list of projects and costs can be found in Appendix A). The capital project costs for future years are determined by using the programmed/budgeted costs and inflating the value by the capital cost inflation factor shown in Table 3-1. The District plans to fund projects with a mix of grant funding and pay-as-you-go from rates and reserves. Capital project costs and available American Rescue Plan Act grant funding are based on the Districts' adopted Capital Improvement Program for FYE 2023 – FYE 2027. However, additional project costs for SCADA upgrades, advanced metering infrastructure (AMI), and well replacement were added per direction from District staff to account for anticipated capital needs in addition to the adopted Capital Improvement Program. It is assumed that 50 percent of AMI and well replacement costs will be grant funded.

Figure 4-1: Projected Capital Expenditures

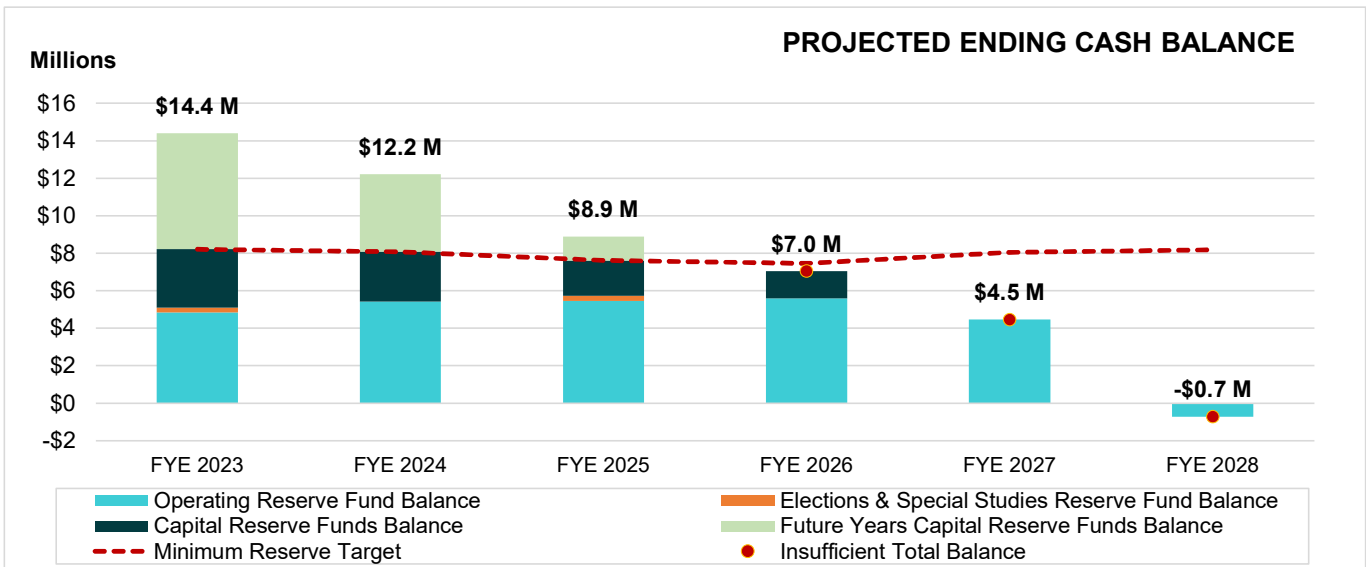


4.2. Water Financial Plan

4.2.1. Status Quo Financial Plan

Figure 4-2 displays the projected ending balances of the District’s water enterprise’s cash balance under current rates for FYE 2023 – FYE 2028. All projections are based upon the District’s current rate structure and do not include rate adjustments. The figure incorporates the data shown in Table 4-2 through Table 4-6 and Figure 4-1. Under the “status-quo” scenario, revenues generated from current rates and other miscellaneous revenues are inadequate to sufficiently recover operating and capital expenses of the utility, as shown by decreasing fund balances. By the end of FYE 2028, the ending balance is projected to be negative. In short, the District is unable to maintain fiscal sustainability under the current rates.

Figure 4-2: Status Quo Water Enterprise Ending Balances (No Revenue Adjustments)



4.2.2. Proposed Financial Plan

Table 4-6 shows the proposed revenue adjustments to meet the target reserve requirement and maintain financial sufficiency. These revenue adjustments were based on discussions with District Staff, the Community Advisory Committee (consisting of ten District customers), and the Board.

Table 4-6: Proposed Retail Zone Revenue Adjustments

Fiscal Year	Effective Month	Proposed Revenue Adjustment
2024	January	4.5%
2025	January	4.5%
2026	January	4.5%
2027	January	4.5%
2028	January	4.5%

Table 4-7 shows the financial plan with the proposed revenue adjustments shown above. The District’s reserves are projected to remain above the minimum operating reserve target.

Table 4-7: Proposed Financial Plan

Description	FYE 2023	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
REVENUE						
Operating Revenue						
Rate Revenue from Current Rates	\$15,452,528	\$16,367,368	\$16,517,349	\$16,670,323	\$16,824,795	\$16,981,512
Proposed Revenue Adjustments						
	Revenue	Month	Months			
Fiscal Year	Adjustment	Effective	Effective			
FYE 2024	4.50%	January	6	\$368,266	\$743,281	\$750,165
FYE 2025	4.50%	January	6		\$783,922	\$791,186
FYE 2026	4.50%	January	6		\$409,599	\$826,789
FYE 2027	4.50%	January	6			\$431,997
FYE 2028	4.50%	January	6			\$455,642
Total Revenue Adjustments	\$0	\$368,266	\$1,131,645	\$1,943,686	\$2,807,088	\$3,724,899
Rate Revenue (including Revenue Adjustments)	\$15,452,528	\$16,735,634	\$17,648,993	\$18,614,009	\$19,631,883	\$20,706,411
Miscellaneous Fees	\$319,000	\$319,000	\$319,000	\$319,000	\$319,000	\$319,000
Other	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000
Total Operating Revenue	\$15,780,528	\$17,063,634	\$17,976,993	\$18,942,009	\$19,959,883	\$21,034,411
Non-Operating Revenue						
Capital Grants	\$221,000	\$215,000	\$1,500,000	\$0	\$0	\$2,300,000
Interest Earned	\$25,000	\$100,771	\$85,813	\$78,097	\$79,513	\$75,279
Total Non-Operating Revenue	\$246,000	\$315,771	\$1,585,813	\$78,097	\$79,513	\$2,375,279
TOTAL REVENUE	\$16,026,528	\$17,379,405	\$19,562,806	\$19,020,105	\$20,039,396	\$23,409,690
OPERATING & NON-OPERATING EXPENSES						
Operating Expenses						
Salaries & Benefits	\$4,847,546	\$5,296,924	\$5,508,801	\$5,674,065	\$5,844,286	\$6,019,615
Seminars, Conventions and Travel	\$40,393	\$42,413	\$44,109	\$45,432	\$46,795	\$48,199
Office & Operational	\$1,402,320	\$1,979,034	\$1,642,196	\$1,691,462	\$1,742,205	\$1,794,472
Purchased Water	\$3,455,261	\$4,042,555	\$4,204,257	\$4,330,384	\$4,460,296	\$4,594,105
Outside Services	\$1,077,032	\$1,130,884	\$1,176,119	\$1,211,403	\$1,247,745	\$1,285,177
Equipment, Rent, Taxes and Utilities	\$499,674	\$567,570	\$590,273	\$607,981	\$626,220	\$645,007
Less Capitalized Labor	(\$459,089)	(\$459,089)	(\$459,089)	(\$459,089)	(\$459,089)	(\$459,089)
Total Operating Expenses	\$10,863,137	\$12,600,289	\$12,706,665	\$13,101,637	\$13,508,459	\$13,927,485
Non-Operating Expenses						
Debt Service (Principal + Interest Payments)	\$3,883,204	\$3,886,994	\$3,888,029	\$3,941,503	\$3,981,047	\$3,977,210
Election Costs	\$250,000	\$0	\$273,000	\$0	\$289,626	\$0
Total Non-Operating Expenses	\$4,133,204	\$3,886,994	\$4,161,029	\$3,941,503	\$4,270,673	\$3,977,210
TOTAL OPERATING & NON-OPERATING EXPENSES	\$14,996,340	\$16,487,283	\$16,867,693	\$17,043,140	\$17,779,132	\$17,904,695
NET CASH FLOW (excl. CIP)	\$1,030,188	\$892,121	\$2,695,113	\$1,976,966	\$2,260,265	\$5,504,995
CIP EXPENDITURES						
Grant Funded	\$221,000	\$215,000	\$1,500,000	\$0	\$0	\$2,300,000
Pay-as-you-go	\$2,893,000	\$2,490,450	\$3,385,481	\$1,852,000	\$2,006,000	\$4,592,557
TOTAL CIP EXPENDITURES	\$3,114,000	\$2,705,450	\$4,885,481	\$1,852,000	\$2,006,000	\$6,892,557
NET CASH FLOW	(\$2,083,812)	(\$1,813,329)	(\$2,190,368)	\$124,966	\$254,265	(\$1,387,563)
DEBT COVERAGE						
Projected Debt Coverage	1.21	1.17	1.31	1.50	1.57	1.81
Required Debt Coverage	1.15	1.15	1.15	1.15	1.15	1.15
CASH BALANCE						
Beginning Balance	\$16,476,954	\$14,393,142	\$12,579,813	\$10,389,445	\$10,514,410	\$10,768,675
Net Cash Change	(\$2,083,812)	(\$1,813,329)	(\$2,190,368)	\$124,966	\$254,265	(\$1,387,563)
ENDING BALANCE	\$14,393,142	\$12,579,813	\$10,389,445	\$10,514,410	\$10,768,675	\$9,381,113
TARGET MINIMUM RESERVE	\$8,212,112	\$8,075,927	\$7,614,271	\$7,455,224	\$8,045,600	\$8,179,033

Figure 4-3 and Figure 4-4 show the District’s financial plan and reserve balances in graphical format. The proposed financial plan demonstrates a plan to maintain sufficient reserve levels to meet or exceed the minimum target in through FYE 2028.

Figure 4-3: Water Operating Financial Plan

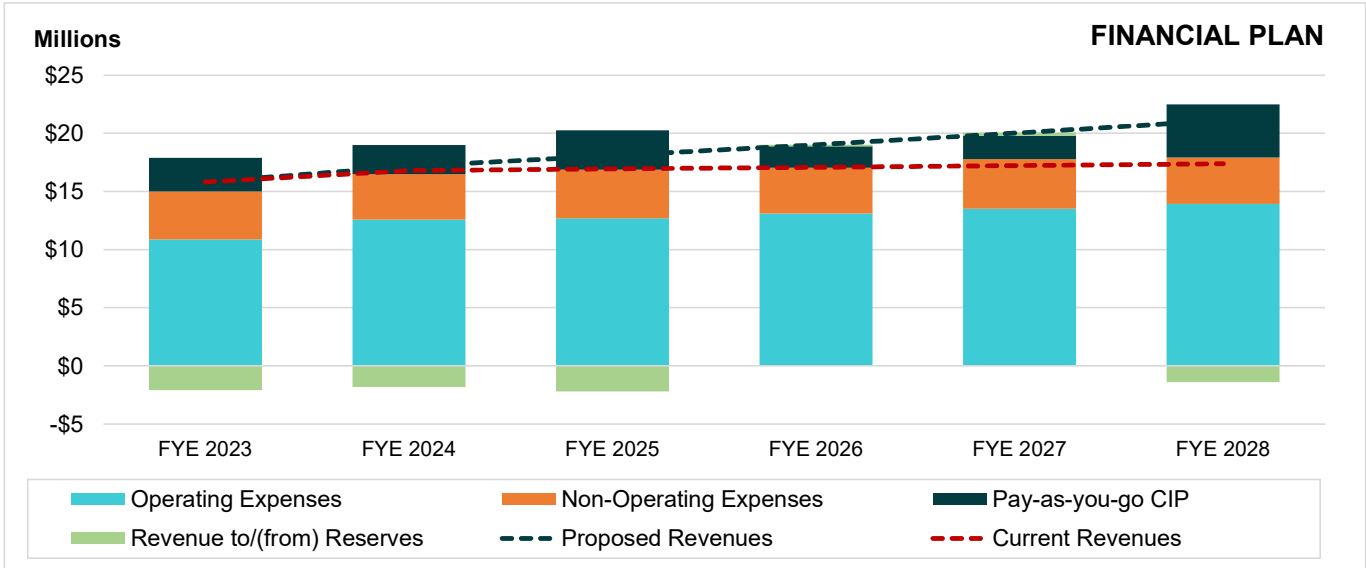


Figure 4-4: Projected Water Reserve Ending Balances

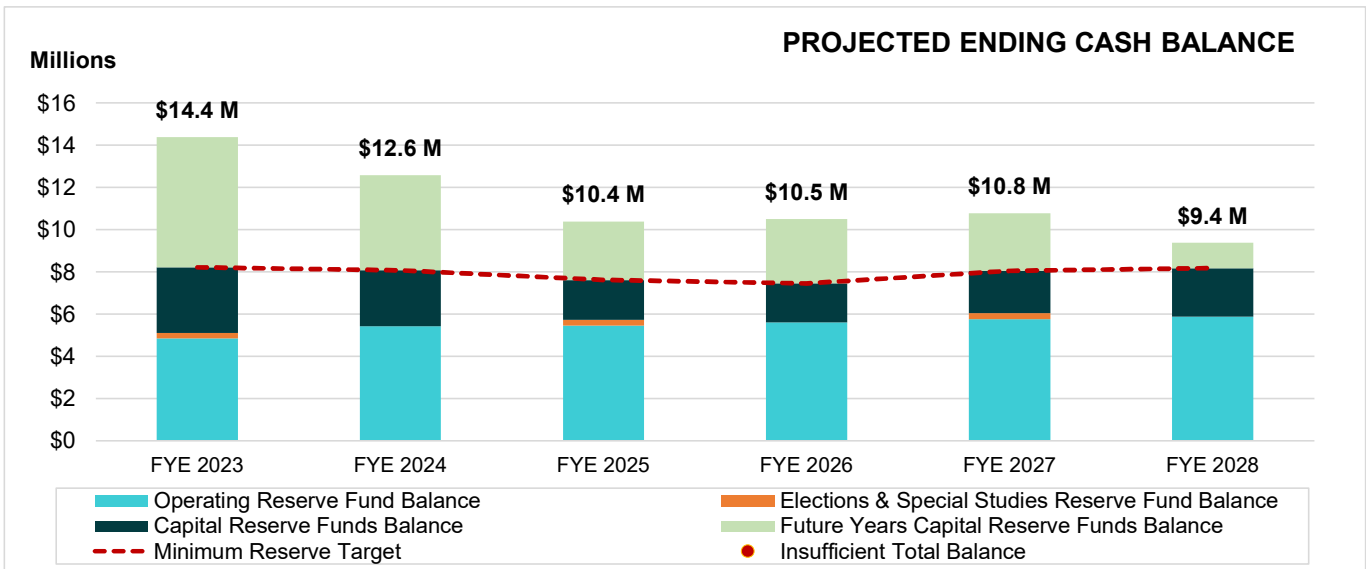
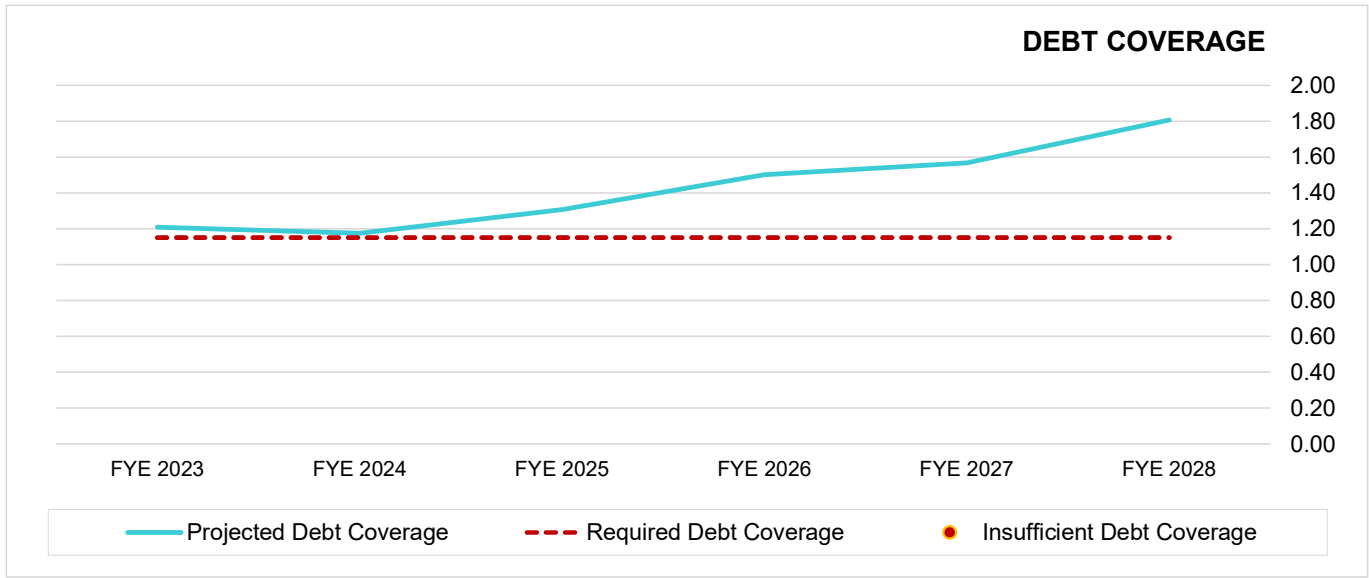


Figure 4-5 shows the projected debt service coverage ratio versus the required ratio. The proposed financial plan is projected to keep the ratio above the required level.

Figure 4-5: Debt Service Coverage Ratio



5. Water Cost-of-Service and Proposed Water Rates

5.1. Process and Approach

This section describes the methodology of allocating costs equitably to customers. This is intended to ensure that customers pay their fair share, proportional to the cost of serving them.

As stated in the AWWA Manual M1, “the costs of water rates and charges should be recovered from classes of customers in proportion to the cost of serving those customers.” To develop utility rates that align with Proposition 218 and industry standards while meeting other emerging goals and objectives of the District, we follow the cost-of-service methodology discussed below.

5.1.1. Calculate Revenue Requirement

The rate-making process starts by determining the revenue requirement. In this study the “test year” is FYE 2024. The revenue requirement should sufficiently fund the District’s O&M, debt service, capital expenses, and reserve requirements.

5.1.2. Cost-of-Service Analysis

After determining the District’s revenue requirements, the next step in a cost-of-service analysis is to distribute the annual cost of providing water service among customer classes commensurate with their service requirements. A cost-of-service analysis involves the following:

- **Cost functionalization** – O&M expenses and capital expenses are categorized by their function in the system. Functions include supply, storage, distribution, customer service, etc.
- **Cost component allocation** – the functionalized costs are then allocated to cost components based on their burden on the system. The cost components include supply and base delivery, extra-capacity, meter, billing & customer service, etc. The revenue requirement is allocated accordingly to the cost components and results in the total revenue requirement for each cost component.
- **Unit cost development** – the revenue requirement for each cost component is divided by the appropriate units of service such as total water demand, peak water demand, equivalent meters, number of customers, etc. for each customer class.
- **Revenue requirement distribution** – the unit costs are utilized to distribute the revenue requirement for each cost component to customer classes and tiers based on their individual service units.

The functions are:

- **Water Supply** – water supply costs associated with groundwater
- **Treatment** – the cost of treating water
- **Storage** – represents the cost associated with storing treated water
- **Transmission & Distribution** – the cost associated with pipes, pumps, mains, etc.
- **Conservation** – costs associated with water conservation and efficiency efforts
- **Billing & Customer Service** – represents the costs associated with meter reading, billing, and customer service
- **Meters** - represents the costs associated with meter maintenance and replacement

- **Fire Hydrants**– costs associated with public fire hydrants
- **Private Fire Protection**– costs associated with private fire protection connections associated with private fire hydrants, fire sprinklers, etc.
- **General**– general and administrative costs incurred by the District
- **Purchased Water** – the cost of wholesale water purchases from SCWA

The functionalization of costs allows us to better allocate the functionalized costs to the cost components. Some cost components correspond directly with one of the above functions. The cost components include:

- **Supply & Base Delivery**– variable costs associated with providing water supplies for all customers and fixed costs associated with providing service under average demand conditions
- **Max Day** (peaking) – costs associated with meeting demand in excess of average use
- **Conservation** - costs associated with water conservation and efficiency efforts
- **Billing & Customer Service**– the costs associated with meter reading, billing, and customer service
- **Meters**– costs associated with meter maintenance and replacement
- **Private Fire Protection**– costs associated with providing private fire protection capacity
- **Revenue Offsets** – non-rate revenues (i.e., other miscellaneous revenues) used to offset the total revenue required from water rates
- **General** – costs that cannot be allocated directly to any one cost component

Peaking costs are computed for a maximum day. The maximum day demand is the maximum amount of water used in a single day in a year. Different facilities, such as distribution and storage facilities (and the O&M costs associated with those facilities), are designed to meet the peaking demands of customers. Therefore, extra capacity³ costs include the O&M and capital costs associated with meeting peak customer demand. This method is consistent with the AWWA Manual M1 and is widely used in the water industry to perform cost-of-service analyses.

5.1.3. Rate Design and Calculations

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

5.1.4. Rate Adoption

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

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

5.2. Cost-of-Service Calculations

5.2.1. Revenue Requirement Determination

Table 5-1 shows the net revenue required from rates for FYE 2024. The total revenue requirement shown is equal to operating expenses, non-operating expenses, and capital expenses and come from Table 4-4, Table 4-5, and Figure 4-1. The revenue offsets come from Table 4-3 and Table 4-7 and reduce the total revenue required from rates. The adjustment for cash is subtracted to account for the withdrawal from reserves to help cover revenue requirements. The mid-year increase reflects that the District adjusts rates part-way through the fiscal year and adds to the revenue requirement. The revenue required from rates is equal to the total revenue requirements less revenue offsets and adjustments. The revenue requirement is divided into Operating and Capital components and is allocated to the cost components based on the functionalization of the O&M expenses and capital assets, respectively.

Table 5-1: Annualized Revenue Requirements for FYE 2024

Description	Operating	Capital	Revenue Offsets	Total
Revenue Requirements				
Operating Expenses	\$12,600,289	\$0	\$0	\$12,600,289
Debt Service	\$0	\$3,886,994	\$0	\$3,886,994
Other Non-Operating Expenses	\$0	\$0	\$0	\$0
CIP Expenditures	\$0	\$2,705,450	\$0	\$2,705,450
Total Revenue Requirements	\$12,600,289	\$6,592,444	\$0	\$19,192,733
Revenue Offsets				
Miscellaneous Fees	\$0	\$0	(\$319,000)	(\$319,000)
Other Operating Revenue	\$0	\$0	(\$9,000)	(\$9,000)
Capital Grants	\$0	(\$215,000)	\$0	(\$215,000)
Interest Earned	\$0	(\$100,771)	\$0	(\$100,771)
Other Non-Operating Revenue	\$0	\$0	\$0	\$0
Total Revenue Offsets	\$0	(\$315,771)	(\$328,000)	(\$643,771)
Adjustments				
Cash Balance	\$0	(\$1,813,329)	\$0	(\$1,813,329)
Mid-Year Increase	\$0	\$368,266	\$0	\$368,266
Total Adjustments	\$0	(\$1,445,063)	\$0	(\$1,445,063)
Net Revenue to be Recovered from Rates	\$12,600,289	\$4,831,610	(\$328,000)	\$17,103,900

5.2.2. Peaking Factors

Peaking factors are used to allocate peaking costs (max day costs) to customer classes. Table 5-2 shows the system-wide peaking factors used to derive the cost component allocation bases for Base Delivery and Max Day costs. Base costs represent average daily demand during the year, which is normalized to a factor of 1.00 (Column B, Line 1). The max month factor (Column B, Line 2) is the maximum month usage divided by the average monthly usage. The District provided daily well production data for FYE 2022 to determine the system max day factor. The system-wide max day peaking factor (Column B, Line 3) is 1.7 times greater than the average daily demand. The allocation bases (Columns C and D) are calculated using the equations

outlined in this section. Columns are represented in these equations as letters and rows are represented as numbers. For example, Column C, Line 2 is shown as C2.

Table 5-2: Water System Peaking Factors

Line No.	System Peaking Factors (A)	Factors (B)	Base (C)	Max Day (D)	Total (E)
1	Base	1.00	100%		100.0%
2	Max Month	1.59			
3	Max Day	1.70	59%	41%	100.0%

The Max Day allocations are calculated as follows:

- Base Delivery: $B1 / B3 \times 100\% = C3$
- Max Day: $(B3 - B1) / B3 \times 100\% = D3$

The system-wide max month peaking factor is used to translate monthly-to-average month peaking factors for each customer class into a max day factor for each customer class, as shown in Table 5-3. The monthly peaking factor (Column D) is multiplied by the ratio of the system-wide max day factor to the system-wide max month factor (1.70/1.59) from Table 5-2 to determine the max day capacity factor (Column E). The peaking analysis was based on account-level billing data for FYE 2022.

Table 5-3: Max Day Capacity Factor

Line No.	Customer Class (A)	Average Monthly Usage (B)	Max Month Usage (C)	Max Month (D)	Max Day (E)
1	Single Family Tier 1	164,140	230,143	1.40	1.51
2	Single Family Tier 2	18,330	45,606	2.49	2.67
3	Non-Residential	27,318	38,049	1.39	1.50
4	Irrigation	28,099	63,408	2.26	2.42

5.2.3. Operating and Capital Allocation

The next step in the cost-of-service analysis is to allocate the functionalized costs to the cost components. Table 5-4 (on the following page) shows the system functions, the rationale for allocating each function to the various cost components, and the percentage allocation to each component. Most functions have a one-to-one relationship with a cost component.

Table 5-5 (on the following page) shows the operating costs by cost component based on the corresponding functional allocations by cost component (Table 5-4). O&M expenses were allocated to the functional categories based on staff input and are shown in Appendix B. O&M expenses are used in the cost-of-service analysis to allocate the operating revenue requirement (Table 5-1, Operating column) to the relative share of costs in each water system cost component.

Table 5-6 (on the following page) shows the District’s water assets grouped by functional categories and then allocated to each cost component by the factors in Table 5-4. Asset values, on a replacement cost less depreciation basis, are used in the cost-of-service analysis to allocate the capital-related revenue requirement (Table 5-1, Capital column) to the relative share of costs in each water system cost component.

Table 5-4: Allocation of Functions to Cost Components

Functional Categories	Notes	Supply &		Conservation	Billing & Customer Service		Private Fire		Total
		Base Delivery	Max Day		Meters	Protection	General		
Water Supply	Max Day	58.7%	41.3%						100.0%
Treatment	Max Day	58.7%	41.3%						100.0%
Storage	Max Day	58.7%	41.3%						100.0%
Transmission & Distribution	Max Day	58.7%	41.3%						100.0%
Conservation	Conservation			100.0%					100.0%
Billing & Customer Service	Billing & Customer Service				100.0%				100.0%
Meters	Meters					100.0%			100.0%
Fire Hydrants	Fire Hydrants					100.0%			100.0%
Private Fire Protection	PFP						100.0%		100.0%
General	General							100.0%	100.0%
Purchased Water	Base	100.0%							100.0%

Table 5-5: Allocation of Operating Expenses to Cost Components

Functional Categories	Supply & Base		Conservation	Billing & Customer Service		Private Fire		Total O&M Expenses
	Delivery	Max Day		Meters	Protection	General		
Water Supply	\$525,196	\$368,950	\$0	\$0	\$0	\$0	\$0	\$894,147
Treatment	\$554,485	\$389,526	\$0	\$0	\$0	\$0	\$0	\$944,011
Storage	\$164,996	\$115,910	\$0	\$0	\$0	\$0	\$0	\$280,906
Transmission & Distribution	\$781,451	\$548,969	\$0	\$0	\$0	\$0	\$0	\$1,330,420
Conservation	\$0	\$0	\$70,437	\$0	\$0	\$0	\$0	\$70,437
Billing & Customer Service	\$0	\$0	\$0	\$1,470,520	\$0	\$0	\$0	\$1,470,520
Meters	\$0	\$0	\$0	\$0	\$636,301	\$0	\$0	\$636,301
Fire Hydrants	\$0	\$0	\$0	\$0	\$158,262	\$0	\$0	\$158,262
Private Fire Protection	\$0	\$0	\$0	\$0	\$0	\$139,343	\$0	\$139,343
General	\$0	\$0	\$0	\$0	\$0	\$0	\$2,633,388	\$2,633,388
Purchased Water	\$4,042,555	\$0	\$0	\$0	\$0	\$0	\$0	\$4,042,555
Total Operating Expenses	\$6,068,683	\$1,423,355	\$70,437	\$1,470,520	\$794,563	\$139,343	\$2,633,388	\$12,600,289
O&M Allocation	48.2%	11.3%	0.6%	11.7%	6.3%	1.1%	20.9%	100.0%

Table 5-6: Allocation of Water Assets to Cost Components

Functional Categories	Supply & Base		Conservation	Billing & Customer Service		Private Fire Protection	General	Total O&M Expenses
	Delivery	Max Day		Meters				
Water Supply	\$2,738,328	\$1,923,675	\$0	\$0	\$0	\$0	\$0	\$4,662,002
Treatment	\$6,324,600	\$4,443,031	\$0	\$0	\$0	\$0	\$0	\$10,767,631
Storage	\$548,892	\$385,596	\$0	\$0	\$0	\$0	\$0	\$934,488
Transmission & Distribution	\$77,568,478	\$54,491,841	\$0	\$0	\$0	\$0	\$0	\$132,060,319
Conservation	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Billing & Customer Service	\$0	\$0	\$0	\$14,378	\$0	\$0	\$0	\$14,378
Meters	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Fire Hydrants	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Private Fire Protection	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
General	\$0	\$0	\$0	\$0	\$0	\$0	\$978,267	\$978,267
Purchased Water	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Total Asset Value	\$87,180,298	\$61,244,143	\$0	\$14,378	\$0	\$0	\$978,267	\$149,417,085
Capital Allocation	58.3%	41.0%	0.0%	0.0%	0.0%	0.0%	0.7%	100.0%

5.2.4. Equivalent Meters

Equivalent meters (EMs) are used to allocate meter-related costs. Larger meters can impose greater demands on the system and are more expensive to install, maintain, and replace than smaller meters. This study uses a hydraulic capacity (capacity) ratio to calculate equivalent meters. The capacity ratio is based on meter hydraulic capacity and is calculated to represent the potential demand on the water system compared to the base meter size. A ratio of hydraulic capacity is calculated by dividing the capacity of a meter at a given size by the base meter capacity using the maximum safe operating flow rates in gallons per minute (gpm). The base meter used in the study is the 1" meter, which is the most common meter size in the District's water system.

Table 5-7 shows the meter capacity and capacity ratio for each meter size. The capacity in gpm is based on the safe operating flow rates provided in the AWWA Manual M1 for the most common meter types used by the District. These ratios reflect an update to the ratios used in prior studies. The capacity ratios (Column C) are calculated by dividing the capacity in gpm (Column B) for each meter size (Column A) by the capacity in gpm for the 1" meter (Column B, Line 1). Column E shows the estimated equivalent meters based on the capacity ratio. Meter counts (Column D) at each size are multiplied by the capacity ratio (Column C) to arrive at the total number of equivalent meters.

Table 5-7: Equivalent Meters

Line No	Meter Size (A)	Capacity (gpm) (B)	AWWA Ratio (C)	Number of Meters (D)	Equivalent Meters (E)
1	1"	50	1.00	12,676	12,676
2	1.5"	100	2.00	102	204
3	2"	160	3.20	264	845
4	3"	350	7.00	22	154
5	4"	600	12.00	17	204
6	6"	1350	27.00	5	135
7	8"	1600	32.00	0	0
8	10"	4200	84.00	0	0
9	Total			13,086	14,218

5.2.5. Allocation of Public and Private Fire Protection Costs

Water systems provide two types of fire protection: public fire protection for firefighting (i.e., fire hydrants) and private fire protection (i.e., fire lines for private structures with sprinkler systems for fire suppression and private fire hydrants). Raftelis performed a fire demand analysis to determine the share of fire protection costs allocated to public versus private fire protection. The District provided Raftelis with a count of fire hydrants. The number of private fire lines is shown in Table 3-3.

Table 5-8 shows the calculation of equivalent fire demand associated with public hydrants and private fire lines. Each connection size has a fire flow demand factor similar to the hydraulic capacity factor of a water meter. The diameter of the connection (in inches) is raised to the 2.63 power to determine the fire demand

factor (Column B).⁴ The fire demand factor is multiplied by the number of connections or hydrants by size (Column A) to calculate equivalent fire demand (Column C). Total equivalent fire demand is shown for public hydrants in Line 8 and for private fire lines in Line 16. Column D shows the proportional share of equivalent fire demand between public (Line 8) and private (Line 16).

Table 5-8: Equivalent Fire Meters

Line No	Fire Protection Peaking Requirements	Number of Connections (A)	Fire Demand Factor (B)	Equivalent Fire Demand Units (C)	Equivalent Fire Demand (%) (D)
Public Fire Hydrants					
1	2"		6.19		0.0%
2	3"		17.98		0.0%
3	4"		38.32		0.0%
4	6"	1,680	111.31	187,002	86.4%
5	8"		237.21		0.0%
6	10"		426.58		0.0%
7	12"		689.04		0.0%
8	Subtotal	1,680		187,002	86.4%
Private Fire Protection Service Connections					
9	2"	2	6.19	12	0.0%
10	3"	2	17.98	36	0.0%
11	4"	34	38.32	1,303	0.6%
12	6"	156	111.31	17,365	8.0%
13	8"	24	237.21	5,693	2.6%
14	10"	12	426.58	5,119	2.4%
15	12"	0	689.04		0.0%
16	Subtotal	230		29,528	13.6%
17	Total	1,910		216,530	100.0%

5.2.6. Unit Costs of Service

The end goal of a cost-of-service analysis is to distribute the revenue requirement to each customer class. Raftelis calculated unit costs for each cost component by assessing the total water demand, meter count, or equivalent service units. Table 5-9 shows the units-of-service for each customer class. Average Daily Use (Column C) is the Annual Use (Column B) divided by 365 days per year. The Max Day Peaking Factor (Column D) is the capacity factors derived in Table 5-3. The Max Day Demand (Column E) is the Average Daily Use (Column C) multiplied by the Max Day Peaking Factor (Column D). The Max Day Extra Capacity (Column F) is the difference between the Max Day Demand (Column E) and the Average Daily Use (Column C).

⁴ Hazen-Williams equation and AWWA Manual M1

Table 5-9: Units-of-Service

Line No	Customer Class/Tier (A)	Annual Water Use (CCF) (B)	Average Daily Usage (CCF) (C)	Max Day Peaking Factor (D)	Max Day Demand (CCF/Day) (E)	Max Day Extra Capacity (CCF/Day) (F)	Number of EMs (G)	Number of Meters (H)
1	Residential Tier 1 (0-30 ccf/mo)	1,952,603	5,346	1.51	8,048	2,702		
2	Residential Tier 2 (30.01+ ccf/mo)	216,956	594	2.67	1,587	993		
3	Non-Residential	322,176	882	1.50	1,319	437		
4	Irrigation	331,389	907	2.42	2,199	1,291		
5	Total	2,823,124	7,729		13,153	5,423	14,218	13,086

Table 5-10 shows the max day extra capacity requirements for fire service and for the residential, non-residential, and irrigation customers. The value shown for residential, non-residential, and irrigation comes from Table 5-9. This information is used to determine the percent of max day demand that comes from fire and from customer usage.

Table 5-10: Fire Service Share of Max Day Requirements

	Duration (Hours)	Demand (gpm)	Max Day (ccf/day)	Max Day %
Residential Fire	1	1,500	120	
Non-Residential Fire	2	2,500	401	
Total Fire			521	9%
Residential, Non-Res., Irrigation			5,423	91%

Table 5-11 shows the operating and capital revenue requirements allocated to the cost components. The operating expenses match the totals shown in Table 5-5. Capital-related expenses (Table 5-1, Capital column) are allocated based on the asset allocation (Table 5-6). Revenue offsets are allocated to the Revenue Offsets column. Line 5 reallocates general costs to the other cost components based on Line 4 excluding revenue offsets because general costs support all cost components. Line 6 reallocates public fire max day costs to meters because it is common to recover public fire protection costs through a fixed charge in proportion to meter size. This allocation is based on the percent of total fire service’s max day impact (Table 5-10) split between public fire and private fire based on the split shown in Table 5-8. Line 7 does a similar reallocation as Line 6 for private fire service, moving those max day costs to the private fire component. To keep the percentage of rate-based revenue from fixed

charges similar to current levels, a portion of max day and base delivery costs are also allocated to the meter component, as shown in Lines 8 and 9. The total adjusted cost-of-service is shown in Line 11.

Table 5-11: Revenue Requirement Allocation and Unit Cost Derivation

Line No.	Preliminary Cost of Service	Supply & Base Delivery	Max Day	Conservation	Billing & Customer Service	Meters	Private Fire Protection	Revenue Offsets	General	Total
Revenue Requirements										
1	Operating Revenue Requirement	\$6,068,683	\$1,423,355	\$70,437	\$1,470,520	\$794,563	\$139,343	\$0	\$2,633,388	\$12,600,289
2	Capital Revenue Requirement	\$2,819,097	\$1,980,415	\$0	\$465	\$0	\$0	\$0	\$31,634	\$4,831,610
3	Revenue Offsets							(\$328,000)		(\$328,000)
4	Subtotal	\$8,887,780	\$3,403,770	\$70,437	\$1,470,985	\$794,563	\$139,343	(\$328,000)	\$2,665,021	\$17,103,900
Reallocations										
5	Reallocation of General Costs	\$1,604,003	\$614,288	\$12,712	\$265,473	\$143,397	\$25,148		(\$2,665,021)	\$0
6	Reallocation of Public Fire Costs		(\$304,326)			\$304,326				\$0
7	Reallocation of Private Fire Costs		(\$48,053)				\$48,053			\$0
8	Reallocation of Max Day		(\$1,906,153)			\$1,906,153				\$0
9	Reallocation of Base Delivery	(\$5,455,727)				\$5,455,727				\$0
10	Subtotal	(\$3,851,724)	(\$1,644,244)	\$12,712	\$265,473	\$7,809,603	\$73,201	\$0	(\$2,665,021)	\$0
11	Adjusted Cost-of-Service	\$5,036,056	\$1,759,526	\$83,149	\$1,736,458	\$8,604,167	\$212,543	(\$328,000)	\$0	\$17,103,900

Table 5-12 divides the adjusted cost-of-service (Table 5-11, Line 11) by the respective units-of-service for each cost component, to determine the unit cost for each component.

Table 5-12: Unit Costs-of-Service

	Supply & Base Delivery	Max Day	Conservation	Billing & Customer Service	Meters	Private Fire Protection	Revenue Offsets
	ccf	ccf/day	ccf	meters	EMs	Equivalent Fire	ccf
Adjusted Cost-of-Service	\$5,036,056	\$1,759,526	\$83,149	\$1,736,458	\$8,604,167	\$212,543	(\$328,000)
Units	2,823,124	5,423	2,823,124	13,086	14,218	29,528	2,823,124
Unit Cost, \$/unit	\$1.784	\$324.43	\$0.029	\$11.06	\$50.43	\$0.60	(\$0.116)

The max day unit cost from Table 5-12 is applied to the customer classes and tiers based on their respective max day peaking requirements to determine the peaking unit cost at the class/tier level. Table 5-13 shows the derivation of the peaking cost at the class/tier level. The Max Day costs from Table 5-11, Line 11 are allocated to the class/tiers based on the Max Day Requirements (Column B). These costs are divided by the water used by each class/tier (Column D) to derive the peaking unit rate (Column E).

Table 5-13: Peaking Unit Rate Calculation

Line No.	Customer Class/Tier (A)	Max Day Requirements (CCF/Day) (B)	Allocated		
			Max Day Costs (C)	Water Use (CCF) (D)	Peaking Unit Rate (\$/CCF) (E)
1	Residential Tier 1 (0-30 ccf/mo)	2,702	\$876,642	1,952,603	\$0.449
2	Residential Tier 2 (30.01+ ccf/mo)	993	\$322,065	216,956	\$1.484
3	Non-Residential	437	\$141,864	322,176	\$0.440
4	Irrigation	1,291	\$418,955	331,389	\$1.264
5	Total	5,423	\$1,759,526	2,823,124	

5.3. Proposed Water Rates and Charges

From the calculations in Table 5-12, the proposed fixed charges are determined for each meter size. Table 5-14 shows the derivation of the Monthly Service Charge. The Billing & Customer Service component (Column D) is equal to the unit rate from Table 5-12. As the cost of issuing a bill does not vary by meter size, it remains constant for all meter sizes. The Meters component (Column E) is the Meters unit cost from Table 5-12 for the 1” meter. For meters larger than 1”, this unit rate is multiplied by the meter ratio (Column C) to derive the meter capacity cost associated with those larger meter sizes. The Proposed Monthly Service Charge (Column F) is the sum of Columns D and E. The Current Charge is shown in Column G for comparison.

Table 5-14: Monthly Service Charge Derivation

Line No.	Meter Size (A)	Number of Meters (B)	Meter Ratio (C)	Billing & Customer Service (D)	Meters (E)	Proposed Monthly Charge (F)	Current Monthly Charge (G)
1	1"	12676	1.00	\$11.06	\$50.43	\$61.49	\$62.37
2	1.5"	102	2.00	\$11.06	\$100.86	\$111.92	\$87.79
3	2"	264	3.20	\$11.06	\$161.38	\$172.44	\$118.29
4	3"	22	7.00	\$11.06	\$353.02	\$364.08	\$189.48
5	4"	17	12.00	\$11.06	\$605.17	\$616.23	\$291.14
6	6"	5	27.00	\$11.06	\$1,361.63	\$1,372.69	\$545.33
7	8"	0	32.00	\$11.06	\$1,613.78	\$1,624.85	\$850.36
8	10"	0	84.00	\$11.06	\$4,236.18	\$4,247.24	\$1,206.22

Table 5-15 shows the derivation of the Private Fire Protection Service Charge. Since private fire charges are on the same water bill, no additional billing component is charged. The charge shown in Column C is the unit rate shown for Private Fire Protection in Table 5-12 multiplied by the Fire Demand Factor (Column B). The current monthly charge is shown in Column D for comparison.

Table 5-15: Private Fire Protection Service Charge Derivation

Connection Size	Number of Connections (A)	Fire Demand Factor (B)	Proposed Monthly Charge (C)	Current Monthly Charge (D)
2"	2	6.19	\$3.72	\$3.08
3"	2	17.98	\$10.79	\$8.96
4"	34	38.32	\$22.99	\$19.08
6"	156	111.31	\$66.77	\$55.43
8"	24	237.21	\$142.29	\$118.12
10"	12	426.58	\$255.89	\$212.42
12"	0	689.04	\$413.32	\$343.10

The Commodity Rate incorporates the balance of the Base Delivery and Max Day components not captured in the fixed charge plus Conservation and Revenue Offsets, as shown in Table 5-16. The Base Delivery, Conservation, and Revenue Offsets costs match those shown in Table 5-12. The Max Day cost (Column C) matches that shown in Table 5-13. The sum of Columns B, C, D, and E result in the proposed total unit rate in Column F. The proposed rate for Tier 2 is lower than the current commodity rate due to a dampening in the Tier 2 demand since the last rate study. This unit rate includes all water purchase costs.

Table 5-16: Proposed Water Commodity Rate

Customer Class/Tier	Supply & Conservation				Revenue Offsets (E)	Proposed Rate (\$/CCF) (F)	Current Rate (\$/CCF) (G)
	Water Use (CCF) (A)	Base Delivery (B)	Max Day (C)	Conservation (D)			
Residential Tier 1 (0-30 ccf/mo)	1,952,603	\$1.784	\$0.449	\$0.029	(\$0.116)	\$2.15	\$1.96
Residential Tier 2 (30.01+ ccf/mo)	216,956	\$1.784	\$1.484	\$0.029	(\$0.116)	\$3.19	\$4.12
Non-Residential	322,176	\$1.784	\$0.440	\$0.029	(\$0.116)	\$2.14	\$1.83
Irrigation	331,389	\$1.784	\$1.264	\$0.029	(\$0.116)	\$2.97	\$2.32

The proposed five-year water rates are shown in Table 5-17. The rates for FYE 2024 are derived from the cost-of-service analysis and the proposed revenue adjustments from Table 4-6 are used to determine the proposed water rates and charges for FYE 2025 to FYE 2028 by escalating the rates shown in FYE 2024.

Table 5-17: Proposed 5-Year Water Rates and Charges

Proposed Rates	Current	Proposed	Proposed	Proposed	Proposed	Proposed
Proposed Water Rate Schedule	2023	2024	2025	2026	2027	2028
Proposed Revenue Adjustment	N/A	cost-of-service	4.5%	4.5%	4.5%	4.5%
Monthly Fixed Charges (by Meter Size)						
1"	\$62.37	\$61.49	\$64.26	\$67.16	\$70.19	\$73.35
1.5"	\$87.79	\$111.92	\$116.96	\$122.23	\$127.74	\$133.49
2"	\$118.29	\$172.44	\$180.20	\$188.31	\$196.79	\$205.65
3"	\$189.48	\$364.08	\$380.47	\$397.60	\$415.50	\$434.20
4"	\$291.14	\$616.23	\$643.97	\$672.95	\$703.24	\$734.89
6"	\$545.33	\$1,372.69	\$1,434.47	\$1,499.03	\$1,566.49	\$1,636.99
8"	\$850.36	\$1,624.85	\$1,697.97	\$1,774.38	\$1,854.23	\$1,937.68
10"	\$1,206.22	\$4,247.24	\$4,438.37	\$4,638.10	\$4,846.82	\$5,064.93
Commodity Charges (per CCF)						
Residential						
Tier 1 (0-30 ccf/mo)	\$1.96	\$2.15	\$2.25	\$2.36	\$2.47	\$2.59
Tier 2 (30.01+ ccf/mo)	\$4.12	\$3.19	\$3.34	\$3.50	\$3.66	\$3.83
Non-Residential	\$1.83	\$2.14	\$2.24	\$2.35	\$2.46	\$2.58
Irrigation	\$2.32	\$2.97	\$3.11	\$3.25	\$3.40	\$3.56
Private Fire Protection Service Monthly Fixed Charges (by Connection Size)						
2"	\$3.08	\$3.72	\$3.89	\$4.07	\$4.26	\$4.46
3"	\$8.96	\$10.79	\$11.28	\$11.79	\$12.33	\$12.89
4"	\$19.08	\$22.99	\$24.03	\$25.12	\$26.26	\$27.45
6"	\$55.43	\$66.77	\$69.78	\$72.93	\$76.22	\$79.65
8"	\$118.12	\$142.29	\$148.70	\$155.40	\$162.40	\$169.71
10"	\$212.42	\$255.89	\$267.41	\$279.45	\$292.03	\$305.18
12"	\$343.10	\$413.32	\$431.92	\$451.36	\$471.68	\$492.91

6. Customer Impact Analysis

The proposed revenue adjustments are different from customer bill impacts in FYE 2024 due to the distributional impacts of the cost-of-service analysis. Figure 6-1 shows the bill impacts for a single family residential customer on a 1” meter (most common size for this customer class) at different levels of usage in a month.

Figure 6-1: Sample Single Family Residential Monthly Water Bill Comparison, FYE 2024

Single Family Residential Monthly Bill Impacts for 1" Meter, 11 ccf = Median

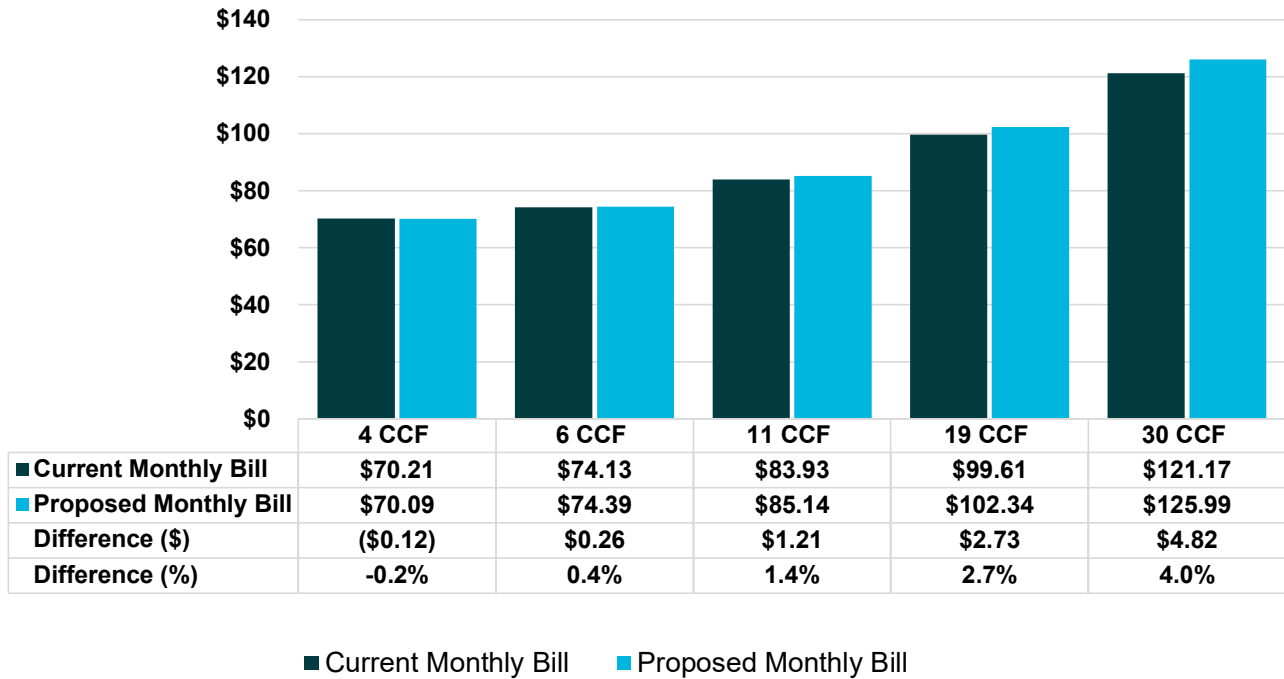


Figure 6-2 shows a comparison of FYE 2024 non-residential bills based on a 2” meter for different monthly usage. Figure 6-3 shows a comparison of FYE 2024 irrigation bills based on a 2” meter for different monthly usage. The 2” meter is the most common meter size for these two customer classes.

Figure 6-2: Sample Non- Residential Bill Comparison, FYE 2024

Non-Residential Monthly Bill Impacts for 2" Meter, 26 ccf = Median

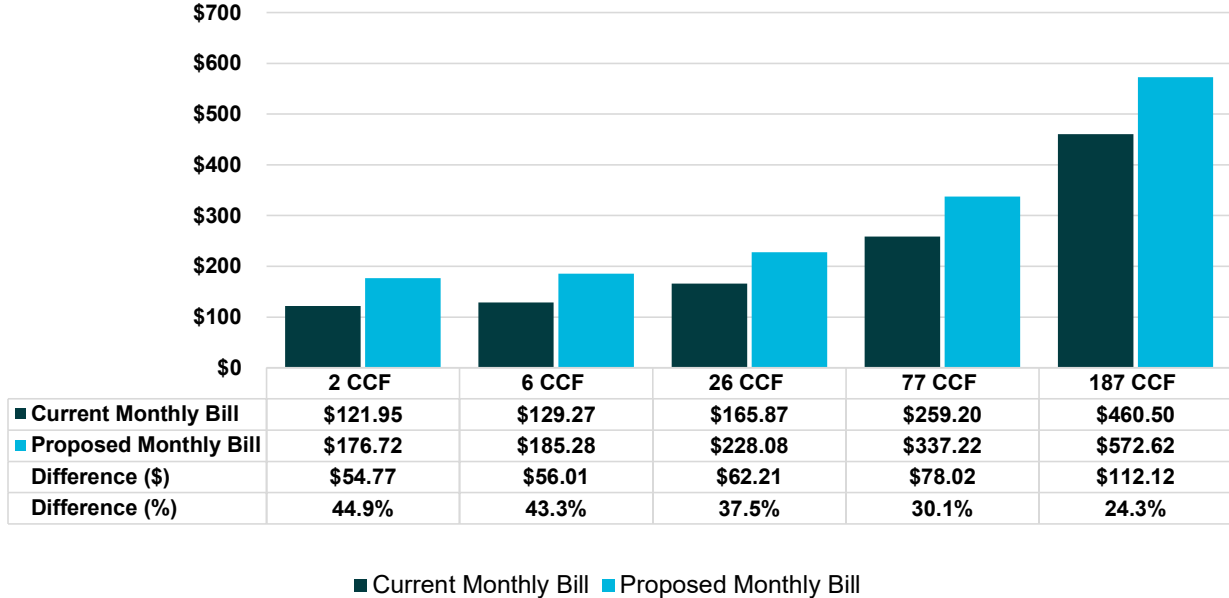
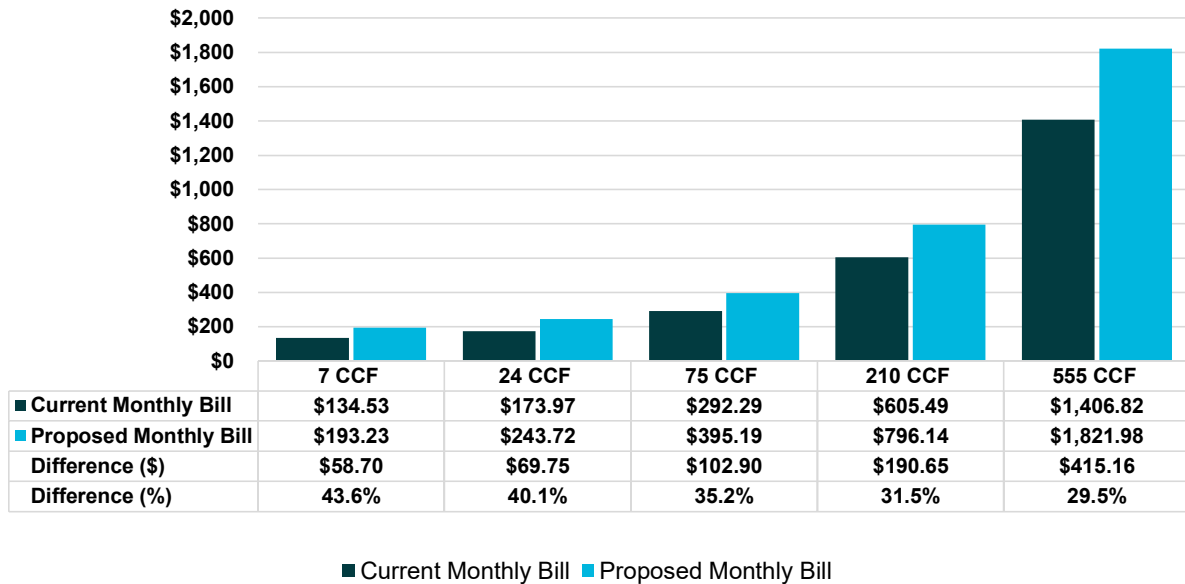


Figure 6-3: Sample Irrigation Bill Comparison, FYE 2024

Irrigation Monthly Bill Impacts for 2" Meter, 75 ccf = Median



APPENDIX A:
Water Capital Projects



Project	FYE 2023	FYE 2024	FYE 2025	FYE 2026	FYE 2027	FYE 2028
Supply/ Distribution Improvements						
Well Rehabilitation Program pg. 10	\$0	\$82,400	\$0	\$0	\$0	\$0
Derr St. Water Main Looping pg. 12	\$0	\$60,000	\$0	\$0	\$0	\$0
School St./Locust Water Main pg.14	\$0	\$298,000	\$0	\$0	\$0	\$0
Service Line Replacements Pavement Repairs pg. 16	\$85,000	\$0	\$0	\$0	\$0	\$0
Locust/Summit Alley Water Main pg. 18	\$635,000	\$0	\$0	\$0	\$0	\$0
Elk Grove Blvd./Grove St. Alley Water Main pg. 20*	\$376,000	\$0	\$0	\$0	\$0	\$0
Locust St. Elk Grove Blvd Alley/Derr St. Water Main pg. 22**	\$0	\$377,000	\$0	\$0	\$0	\$0
Locust St. Elk Grove Blvd. Main pg. 24	\$0	\$140,000	\$0	\$0	\$0	\$0
2nd Ave./Mazatlan Way Water Main pg. 26	\$0	\$0	\$0	\$441,000	\$0	\$0
Adams St. Water Main pg. 28	\$129,000	\$0	\$0	\$0	\$0	\$0
Grove St. Water Main pg. 30	\$0	\$431,000	\$0	\$0	\$0	\$0
Elk Grove Florin-Frontage Rd. Water Main pg. 32	\$0	\$669,500	\$0	\$0	\$0	\$0
Kilkenny Ct. Water Main pg. 34	\$0	\$0	\$0	\$223,000	\$0	\$0
Leo Virgo Ct. Water Main pg. 36	\$0	\$0	\$0	\$223,000	\$0	\$0
Plaza Park Dr. Water Main pg. 38	\$0	\$0	\$753,000	\$0	\$0	\$0
Durango Way Water Main pg. 40	\$0	\$0	\$363,000	\$0	\$0	\$0
Sierra St. Service Line Replacements pg. 42	\$0	\$87,550	\$0	\$0	\$0	\$0
Lark St. Water Main pg. 44	\$0	\$0	\$369,000	\$0	\$0	\$0
Mazatlan Way Water Main pg. 46	\$0	\$0	\$0	\$321,000	\$0	\$0
Webb St. Water Main pg. 48	\$0	\$0	\$0	\$0	\$428,000	\$0
2nd Ave. Water Main pg. 50	\$188,000	\$0	\$0	\$0	\$0	\$0
Grove St./Elk Grove Blvd Water Main pg. 52	\$0	\$0	\$0	\$0	\$446,000	\$0
Halverson Dr. Water Main pg. 54	\$0	\$0	\$0	\$0	\$654,000	\$0
Railroad Corridor Water Line pg. 56	\$0	\$0	\$0	\$145,000	\$0	\$0
Cadura Circle Water Main Looping pg. 58	\$0	\$0	\$0	\$0	\$60,000	\$0
Aizenberg Cir. Water Main Looping pg. 60	\$0	\$0	\$0	\$0	\$103,000	\$0
Transmission Main Brinkman Ct. (Cost Share) pg. 62	\$50,000	\$0	\$0	\$0	\$0	\$0
Elk Grove Shopping Center Water Main pg. 64	\$0	\$0	\$0	\$0	\$70,000	\$0
Glorieta Ct. Water Main pg. 66	\$0	\$0	\$0	\$53,000	\$0	\$0
La Diana Ct. Water Main pg. 68	\$0	\$0	\$0	\$56,000	\$0	\$0
Aquarius Ct. Water Main pg. 70	\$0	\$0	\$0	\$140,000	\$0	\$0
Five-Year Plan Annual Average (with inflationary adjustments)	\$0	\$0	\$0	\$0	\$0	\$1,691,290
Subtotal - Supply/ Distribution Improvements	\$1,463,000	\$2,145,450	\$1,485,000	\$1,602,000	\$1,761,000	\$1,691,290
Treatment Improvements						
Storage Tank Coating Repairs pg. 72	\$0	\$0	\$0	\$20,000	\$0	\$0
Storage Tank Interior Repairs pg. 74	\$0	\$30,000	\$0	\$0	\$0	\$0
Media Replacement - RRWTP Filter Vessels pg. 76	\$90,000	\$0	\$0	\$0	\$0	\$0
Media Replacement - HVWTP Filter Vessels pg. 78	\$0	\$0	\$95,481	\$0	\$0	\$0
PLC - RRWTP Main & Filter Panel pg. 80	\$0	\$0	\$60,000	\$0	\$0	\$0
ChlorTec System Replacements pg. 82	\$150,000	\$0	\$0	\$0	\$0	\$0
Chlorine Analyzers Shallow Wells pg. 84	\$0	\$70,000	\$0	\$0	\$0	\$0
Five-Year Plan Annual Average (with inflationary adjustments)	\$0	\$0	\$0	\$0	\$0	\$103,096
Subtotal - Treatment Improvements	\$240,000	\$100,000	\$155,481	\$20,000	\$0	\$103,096
Building & Site Improvements/ Vehicles						
Administration Building Tentative Improvements pg. 86	\$1,281,000	\$0	\$0	\$0	\$0	\$0
Back-Up I.T. Server Replacement pg. 88	\$30,000	\$0	\$0	\$0	\$0	\$0
Backhoe Loader pg. 90	\$0	\$160,000	\$0	\$0	\$0	\$0
Truck Replacements pg. 92	\$0	\$150,000	\$120,000	\$130,000	\$145,000	\$109,000
Pavement Repair & Seal Coat - RRWTP pg.94	\$0	\$0	\$25,000	\$0	\$0	\$0
Estimated CIP beyond Five-Year Plan	\$0	\$0	\$0	\$0	\$0	\$100,000
Subtotal - Building & Site Improvements/ Vehicles	\$1,311,000	\$310,000	\$145,000	\$130,000	\$145,000	\$209,000
Additional Capital Projects						
Unforeseen Capital Projects	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
SCADA Software Upgrade	\$0	\$50,000	\$0	\$0	\$0	\$0
Well Replacement	\$0	\$0	\$0	\$0	\$0	\$4,600,000
Advanced Metering Infrastructure (AMI)	\$0	\$0	\$3,000,000	\$0	\$0	\$0
Subtotal - Additional Capital Projects	\$100,000	\$150,000	\$3,100,000	\$100,000	\$100,000	\$4,700,000
Total CIP	\$3,114,000	\$2,705,450	\$4,885,481	\$1,852,000	\$2,006,000	\$6,703,386

APPENDIX B:

O&M Line-Item Allocations



Description	Transmission					Billing &		Fire		Private Fire		Purchased Water	Total
	Water Supply	Treatment	Storage	& Distribution	Conservation	Customer Service	Meters	Hydrants	Protection	General			
Salaries & Benefits													
Executive Salary	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
Exempt Salaries	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
Non-Exempt Salaries	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
Overtime Compensation	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
On Call Pay	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
Holiday Pay	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
Vacation Pay	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
Personal Time Pay	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
Medical Benefits	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
EAP	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
EGWD Contribution H.S.A	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
Dental/Vision/Life Insurance	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
Retirement Benefits	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
Retirement Benefits - Post Employment	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
Medical Tax, Social Security and SUI	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
Worker's Compensation Insurance	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
Education Assistance	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
Employee Training	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
Employee Recognition	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
Meetings	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
Additional FYE 2024 Salary Expenses	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%	
Seminars, Conventions and Travel													
Airfare	9.4%	8.8%	1.3%	12.2%	2.0%	7.9%	2.7%	1.2%	0.6%	53.8%	0.0%	100.0%	
Hotels	9.4%	8.8%	1.3%	12.2%	2.0%	7.9%	2.7%	1.2%	0.6%	53.8%	0.0%	100.0%	
Meals	9.4%	8.8%	1.3%	12.2%	2.0%	7.9%	2.7%	1.2%	0.6%	53.8%	0.0%	100.0%	
Auto Rental	9.4%	8.8%	1.3%	12.2%	2.0%	7.9%	2.7%	1.2%	0.6%	53.8%	0.0%	100.0%	
Seminars & Conferences	9.4%	8.8%	1.3%	12.2%	2.0%	7.9%	2.7%	1.2%	0.6%	53.8%	0.0%	100.0%	
Seminars & Conferences - Board	9.4%	8.8%	1.3%	12.2%	2.0%	7.9%	2.7%	1.2%	0.6%	53.8%	0.0%	100.0%	
Mileage Reimbursement, Parking, Tolls	9.4%	8.8%	1.3%	12.2%	2.0%	7.9%	2.7%	1.2%	0.6%	53.8%	0.0%	100.0%	
Auto/Telephone Allowance	9.4%	8.8%	1.3%	12.2%	2.0%	7.9%	2.7%	1.2%	0.6%	53.8%	0.0%	100.0%	
Office & Operational													
Advertising	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
Association Dues	9.4%	10.7%	5.0%	17.5%	0.5%	8.6%	8.6%	2.8%	2.5%	34.4%	0.0%	100.0%	
Insurance	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	
Licenses, Certifications, Fees	9.4%	10.7%	5.0%	17.5%	0.5%	8.6%	8.6%	2.8%	2.5%	34.4%	0.0%	100.0%	
Repairs & Maintenance - Automotive	3.1%	7.2%	0.6%	88.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	100.0%	
Repairs & Maintenance - Building	3.1%	7.2%	0.6%	88.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	100.0%	
Repairs & Maintenance - Computers	3.1%	7.2%	0.6%	88.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	100.0%	
Repairs & Maintenance - Equipment	3.1%	7.2%	0.6%	88.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	100.0%	
Fuel	9.4%	10.7%	5.0%	17.5%	0.5%	8.6%	8.6%	2.8%	2.5%	34.4%	0.0%	100.0%	
Materials	9.4%	10.7%	5.0%	17.5%	0.5%	8.6%	8.6%	2.8%	2.5%	34.4%	0.0%	100.0%	
Chemicals	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
Meter Repairs	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
Permits	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%	
Postage	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
Printing	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
Safety Equipment	9.4%	10.7%	5.0%	17.5%	0.5%	8.6%	8.6%	2.8%	2.5%	34.4%	0.0%	100.0%	
Software Programs & Updates	9.4%	10.7%	5.0%	17.5%	0.5%	8.6%	8.6%	2.8%	2.5%	34.4%	0.0%	100.0%	
Supplies	9.4%	10.7%	5.0%	17.5%	0.5%	8.6%	8.6%	2.8%	2.5%	34.4%	0.0%	100.0%	
Telephone	9.4%	10.7%	5.0%	17.5%	0.5%	8.6%	8.6%	2.8%	2.5%	34.4%	0.0%	100.0%	
Tools	9.4%	10.7%	5.0%	17.5%	0.5%	8.6%	8.6%	2.8%	2.5%	34.4%	0.0%	100.0%	
Clothing Allowance	9.4%	10.7%	5.0%	17.5%	0.5%	8.6%	8.6%	2.8%	2.5%	34.4%	0.0%	100.0%	
EGWD Other Clothing	9.4%	10.7%	5.0%	17.5%	0.5%	8.6%	8.6%	2.8%	2.5%	34.4%	0.0%	100.0%	
Water Conservation Materials	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
ERP Billing System Upgrade	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	
Purchased Water													
Purchased Water	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%	

Description						Billing & Customer Service		Fire Hydrants	Private Fire Protection	Purchased Water		Total
	Water Supply	Treatment	Storage	Transmission & Distribution	Conservation	Meters		General				
Outside Services												
Administration Services	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Bank Charges	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Billing Services	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Contracted Services	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Water Conservation Services	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Accounting Services	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Engineering	3.1%	7.2%	0.6%	88.4%	0.0%	0.0%	0.0%	0.0%	0.0%	0.7%	0.0%	100.0%
Special Projects	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Legal Services	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Financial Consultants	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Community Relations	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Misc. Medical	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Pre-employment	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Janitorial	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Bond Administration	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Security	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Sampling	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Board Secretary/Treasurer	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Equipment, Rent, Taxes and Utilities												
Occupancy	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Equipment Rental	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Property Taxes	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Electricity	65.0%	35.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Natural Gas	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Sewer & Garbage	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	100.0%
Less Capitalized Labor												
Less Capitalized Labor	10.6%	11.5%	5.1%	18.7%	1.0%	11.6%	9.1%	2.9%	2.6%	26.9%	0.0%	100.0%

**FLORIN RESOURCE CONSERVATION
DISTRICT / ELK GROVE WATER DISTRICT**

Capacity Fee Study

FINAL REPORT / MAY 2, 2023



May 2, 2023

Mr. Bruce Kamilos, PE
General Manager
Florin Resource Conservation District / Elk Grove Water District
9829 Waterman Rd.
Elk Grove, CA 95624

Subject: Capacity Fee Study – Final Draft

Dear Mr. Kamilos:

Raftelis Financial Consultants, Inc. (Raftelis) is pleased to provide this Capacity Fee Study report for the Florin Resource Conservation District / Elk Grove Water District (District). This report explains the methodologies and rationale used to develop the capacity fee for the District's Service Area 1.

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

Sincerely,



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



Charles Diamond
Senior Consultant

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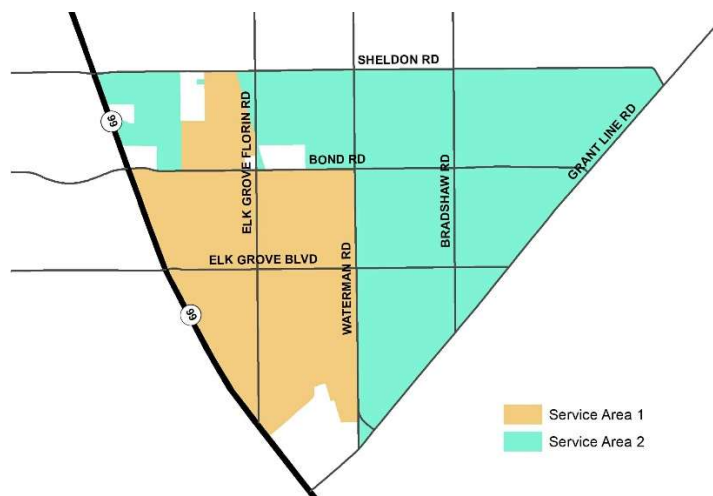
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1. Executive Summary

In 2022, the Florin Resource Conservation District / Elk Grove Water District (District) engaged Raftelis to conduct a capacity fee study to update water capacity fees. The study is informed by the legal requirements in California.

The District has two services areas as shown in Figure 1-1. The District owns and operates a water supply, transmission, and distribution system within Service Area 1. In Service Area 2, the District owns the distribution system while the Sacramento County Water Agency owns and operates the transmission and water supply system. Therefore, the District calculates a water capacity fee for Service Area 1. Capacity fees for Service Area 2 are developed by, and paid to, the Sacramento County Water Agency.

Figure 1-1: Elk Grove Water District Service Areas Map



Given the District has available water system capacity, Raftelis used the equity buy-in method to calculate updated capacity fees for Service Area 1. The asset value as replacement cost less depreciation was determined and divided by the existing equivalent meters to determine the updated fees. Table 1-1 presents the projected capacity fees.

Table 1-1: Proposed and Existing Water Capacity Fees¹

Meter Size	EM	Proposed	Current
	Capacity Ratio	\$/EM	\$/EDU (\$/EM)
1"	1.0	\$4,292	\$4,479
1 1/2"	2.0	\$8,584	\$8,958
2"	3.2	\$13,734	\$14,333
3"	7.0	\$30,044	\$26,874
4"	12.0	\$51,504	\$44,790
6"	27.0	\$115,884	\$89,580

¹ Capacity ratios are based on safe operating capacities for the most common meter types used by the District as listed in the American Water Works Association, *Principles of Water Rates, Fees, and Charges*, M1, Seventh Edition

2. Legal Requirements and Fee Setting Methodology

The philosophy that utility services should be paid for by those that receive the service is often referred to as “growth-pays-for-growth.” The principal is summarized in the American Water Works Association (AWWA) Manual M26: Water Rates and Related Charges:

“The purpose of designing customer-contributed-capital system charges is to prevent or reduce the inequity to existing customers that results when these customers must pay the increase in water rates that are needed to pay for added plant costs for new customers. Contributed capital reduces the need for new outside sources of capital, which ordinarily has been serviced from the revenue stream. Under a system of contributed capital, many water utilities are able to finance required facilities by use of a ‘growth-pays-for-growth’ policy.”

This principle, in general, applies to water, wastewater, and storm drainage systems. In the excerpt above, customer-contributed-capital system charges are equivalent to capacity fees.

2.1. Capacity Fees Legal Framework and California Requirements

In establishing capacity fees, it is important to understand and comply with local laws and regulations governing the establishment, calculation, and implementation of capacity fees. The following sections summarize the regulations applicable to the development of capacity fees for the District.

Capacity fees must be established based on a reasonable relationship to the needs and benefits brought about by the development or expansion. Courts have long used a standard of reasonableness to evaluate the legality of development charges. The basic statutory standards governing capacity fees are embodied by California Government Code Sections 66013, 66016, 66022 and 66023. Government Code Section 66013 contains requirements specific to determining utility development charges:

“Notwithstanding any other provision of law, when a local agency imposes fees for water connections or sewer connections, or imposes capacity charges, those fees or charges shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed, unless a question regarding the amount the fee or charge in excess of the estimated reasonable cost of providing the services or materials is submitted to, and approved by, a popular vote of two-thirds of those electors voting on the issue.”

Section 66013 also includes the following general requirements:

- Local agencies must follow a process set forth in the law, making certain determinations regarding the purpose and use of the charge; they must establish a nexus or relationship between a development project and the public improvement being financed with the charge.
- The capacity charge revenue must be segregated from the General Fund in order to avoid commingling of capacity fees and the General Fund.

2.2. Capacity Fees Methodology

Capacity fees are also commonly known as developer fees, development impact fees, connection fees, tap fees, and system development charges, among others. All are one-time capital charges, assessed against a new development (or intensified redevelopment), to recover the proportional share of capacity investment, previously constructed by a utility (or will be constructed), to accommodate growth. Capacity fees are codified in the California Government Code Sections 66000-60025. Capacity fees must reflect the link between the fee imposed on, and the benefit received by, a new connection to the system. The fee charged may not exceed the reasonable share of costs associated with providing the service.

Three different methodologies to calculate capacity fees exist: **buy-in, incremental, and hybrid**; with variations of each dictated by local community and system characteristics, as well as policy objectives. Utilities have broad latitude in the method and approach used to calculate fees provided the fees reflect the benefit of, and do not exceed the costs for, providing service to the connection. These fees are designed to be proportional to the burden placed on the system by new connections. The project team, which includes Raftelis and District staff, decided to use the buy-in approach given the system still has capacity to meet demand.

The “buy-in method” is based on the premise that new customers are entitled to service at the same price as existing customers. Under this approach, new customers pay only an amount equal to the current system value, either using the original cost, replacement cost, original cost less depreciation, or replacement cost less depreciation as the valuation basis. This net investment, or value of the system, is then divided by the current capacity of the system to determine the buy-in cost per unit. For example, if the existing system has 100 units of average use and the new connector uses an equivalent unit, then the new customer would pay 1/100 of the total value of the existing system. By contributing this capacity fee, the new connector has bought into the existing system. The user has effectively acquired a financial position on par with existing customers and will face future capital re-investment on equal financial footing with those customers. This approach is suitable when: (1) agencies have built most of their facilities and only a small portion of future facilities are needed for build-out, (2) agencies do not have a detailed adopted long-term capital improvement plan, or (3) the “build-out” date is so far out in the future that it is difficult to accurately project growth and required facilities with precision.

To estimate the asset value of existing facilities, Raftelis recommends the replacement cost less depreciation (RCLD) method. The current value of water facilities is materially affected by the effects of age. All assets have estimated useful lives, which vary by type. For example, pumps may have a 20-year life, buildings 50 years, and pipelines 80 years. Each year an asset is devalued by the fraction of its useful life to original cost. This is referred to as straight line or linear depreciation. At the end of an asset’s useful life, it is worth zero dollars on paper, though it may still be in service. Depreciation accounts for estimated devaluation in system assets caused by wear and tear, decay, inadequacy, and obsolescence. To provide appropriate recognition of the effects of depreciation on existing water systems, the original cost valuation can be inflated to today’s dollars rather than the value of the dollar when the asset was placed in service. Original cost and depreciation are inflated using historical indices to reflect today’s dollars. Replacement cost depreciation is then subtracted from the replacement cost of the asset to yield replacement cost less depreciation. RCLD allows for an accounting of system assets in present value while also accounting for proportional devaluation via depreciation.

3. Capacity Fees

This section discusses the review and development of an updated water capacity fee for the District.

3.1. Methodology

In California, the basic statutory standards governing water connection, or capacity, fees are embodied in Government Code Sections 66013 et seq. (The Mitigation Fee Act). An important requirement in designing capacity fees is enumerated in Government Code 66013, which requires that capacity fees must be based on an estimate of the reasonable cost of providing capacity. Thus, the primary objectives of establishing full cost recovery capacity fees are to achieve equity in distributing costs and to provide a mechanism by which new users can pay for the cost of the facilities required to serve them, without burdening existing users. In short, the goal of full cost recovery capacity fees is to ensure that growth pays its own way.

Several methods exist to calculate capacity fees. Three main computational approaches are discussed below.

3.1.1. Equity Buy-in Method

The buy-in concept is based on the premise that new users buy into the system and achieve a financial position that is on par with other existing users of the system. In publicly owned systems, most of the assets used to provide service are paid for by users through a system of rates, charges, and taxes. In service areas that experience growth in customers and in quantity of service provided, it is generally true that facilities used by previous customers now serve existing customers. Thus, it is the existing customers who have made the “up-front” investment in the existing system capacity including the unused or “surplus” capacity that is available to serve newly connecting customers.

To foster equity between existing and new users, the new users pay for the cost or value associated with equity of the existing user. If the existing system has 100 units of use and the new user requires one unit of use, then the new user would pay for 1/100 of the value of the existing system. This approach is termed the “equity buy-in” method because by paying for the required capacity, the new user buys into the existing system and thereby achieves financial parity with other existing users. Together, the new and existing users will face future capital challenges on equal footing since equivalent investments have been made. This method is applicable in situations where the existing system has adequate surplus capacity and does not require major upgrades or improvements.

3.1.2. Incremental Cost Method

The incremental method is based on the premise that new development (new users) should pay for the additional capacity and expansions necessary to serve the new development. This method is typically used where there is little or no capacity available to accommodate growth and expansion is needed to service the new development. Under the incremental method, growth-related capital improvements are allocated to new development based on their estimated usage or capacity requirements, irrespective of the value of past investments made by existing customers.

For instance, if it costs X dollars (\$X) to provide 100 additional equivalent units of capacity for average usage and a new connector uses one of those equivalent units, then the new user would pay \$X/100 to connect to the system. In other words, new customers pay the incremental cost of capacity. As with the equity buy-in

approach, new connectors will effectively acquire a financial position that is on par with existing customers. Use of this method is generally considered to be most appropriate when a significant portion of the capacity required to serve new customers must be provided by the construction of new facilities.

3.1.3. Hybrid

The hybrid approach is typically used where some capacity is available to serve new growth but additional expansion is still necessary to accommodate new development. Under the hybrid approach the capacity fee is based on the summation of the existing capacity and any necessary expansions. In utilizing this methodology, it is important that system capacity costs are not double counted when combining costs of the existing system with future costs from the capital improvement program. Capital costs associated with repair and replacement of the existing system should not be included in the calculation, unless specific existing facilities that will be replaced through the capital improvement program can be isolated and removed from the existing asset inventory and cost basis. In this case, the rehabilitative costs of the capital projects essentially replace the cost of the relevant existing assets in the existing cost basis. Capital improvements that expand system capacity to serve future customers may be included proportionally to the percentage of the cost specifically required for expansion of the system.

3.1.4. Proposed Approach

The approach used in determining capacity fees needs to reflect the system characteristics in addition to meeting regulatory requirements and policy considerations. In determining the District's capacity fees, we recommend the equity buy-in method as the District has no growth projects planned and still has sufficient existing capacity to meet additional demands from new customers.

For the equity buy-in approach, we used the replacement cost less depreciation (RCLD) method to determine the value of the system. This method considers the cost to build new facilities but recognizes that capacity available in existing facilities is not new and is adjusted for depreciation.

3.2. Water Capacity Fee

The District only assesses a capacity fee on new development in Service Area 1 as it owns and operates a water supply, transmission, and distribution system within this area. Within Service Area 2, the Sacramento County Water Agency owns and operates the transmission and supply system, the backbone assets of that system. The District owns the distribution system. Therefore, the District does not assess a capacity fee for new customers in Service Area 2; that is done by the Sacramento County Water Agency.

To determine the water system capacity cost (fee), Raftelis calculated the replacement cost of the Service Area 1 backbone system as of December 2022 by inflating historical costs using the annual average Engineering News Record (ENR) Construction Cost Index (CCI) for San Francisco. The backbone system represents those assets such as water supply, treatment, and transmission that are for the benefit of all customers. Assets that serve a portion of the customers are considered non-backbone and are not included in the calculation. To recognize that Service Area 1 is not new, Raftelis subtracted the accumulated depreciation of its backbone assets from the replacement cost to determine the value of the RCLD of Service Area 1 assets. The RCLD of Service Area 1 for the mid-point of FYE 2022 is shown in Line 1 of Table 3-1. Outstanding debt principal is subtracted from this value because the bond or loan holders "own" that portion of the asset value. Additionally, when new users join Service Area 1, they will be responsible for debt payments through the regular fees and charges. New users also benefit from the District's cash reserves, which represent equity

existing users have added to the system. Therefore we subtract outstanding debt (Line 2) and add in cash reserves (Line 3). The resulting value in Line 4 is the adjusted system value.

Table 3-1: Water Capacity Fee Calculation

Line No.	Basis of Proposed Water Capital Fee	Equity Buy-in
	Existing Equity Buy-In Component	RCLD-Total
1	SA1 Backbone System Value	\$ 48,877,117
2	Less SA 1 Outstanding Debt Principal (1)	\$ 21,488,535
3	SA1 Cash on Hand (1)	\$ 10,067,262
4	Adjusted System Value	\$ 37,455,844
5	Number of Equivalent Meters (EM) in Service Area 1	8,725
6	Buy-in Unit Charge @ 1" Meter, \$/EM	\$ 4,292

(1) Allocated to SA1 based on RCLD asset valuation.

We divide the adjusted system value by the number of existing equivalent meters (Line 5) in Service Area 1 to determine the capacity fee for an equivalent meter. The resultant fee for an equivalent 1-inch meter is shown in Table 3-1, Line 6.

Equivalent meters shown in Line 5 of Table 3-1 are calculated using a hydraulic capacity (capacity) ratio. The capacity ratio is based on meter hydraulic capacity and is calculated to represent the potential demand on the water system compared to the base meter size. A ratio of hydraulic capacity is calculated by dividing the capacity of a meter at a given size by the base meter capacity using the maximum safe operating flow rates in gallons per minute (gpm). The base meter used in the study is the 1" meter, which is the most common meter size in the District's water system.

Table 3-2 shows the meter capacity and capacity ratio for each meter size. The capacity in gpm is based on the safe operating flow rates provided in the AWWA Manual M1 for the most common meter types used by the District. These ratios reflect an update to the ratios used in prior studies. The capacity ratios (Column C) are calculated by dividing the capacity in gpm (Column B) for each meter size (Column A) by the capacity in gpm for the 1" meter (Column B, Line 1). Column E shows the estimated equivalent meters for Service Area 1 based on the capacity ratio. Meter counts (Column D) at each size are multiplied by the capacity ratio (Column C) to arrive at the total number of equivalent meters. The total number of equivalent meters (Column E, Line 7) matches the number shown in Line 5 of Table 3-1.

Table 3-2: Equivalent Meters

Line No.	Meter (A)	Capacity (gpm) (B)	AWWA Ratio (C)	Service Area 1 Meters (D)	Equivalent Meter (E)
1	1"	50	1.0	7,686	7686
2	1 1/2"	100	2.0	43	86
3	2"	160	3.2	221	707
4	3"	350	7.0	18	126
5	4"	600	12.0	10	120
6	6"	1350	27.0	0	0
7	Total			7,978	8,725

Table 3-3 presents the proposed and existing capacity fees for new water customers in Service Area 1. The proposed fee for each meter size is calculated by multiplying the 1” fee by the corresponding capacity ratio.

Table 3-3: Proposed and Existing Water Capacity Fees

Meter Size	EM	Proposed	Current
	Capacity Ratio	\$/EM	\$/EDU (\$/EM)
1"	1.0	\$4,292	\$4,479
1 1/2"	2.0	\$8,584	\$8,958
2"	3.2	\$13,734	\$14,333
3"	7.0	\$30,044	\$26,874
4"	12.0	\$51,504	\$44,790
6"	27.0	\$115,884	\$89,580