



Water Rate Study for the Lake County County Service Area Number 2 (Spring Valley)

**FINAL REPORT
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SECTION 1: INTRODUCTION AND EXECUTIVE SUMMARY

1.1 Background

The Lake County Service Area Number 2 (CSA#2 or District) was established in 1982 to provide water service and road maintenance to a population of 1,200 residents in the Spring Valley Lakes subdivision. This study focuses only on the cost of service for water service. With approximately 320 connections, the regulatory jurisdiction was transferred to the State Department of Health Services (now the Division of Drinking Water). Since then, the treatment plant has been upgraded and portions of the distribution system have been replaced. The original water system was constructed for a much smaller community than presently exists, with inadequate materials and design, during a time well before District staff had any role or oversight of the system. Maintenance continues to be a challenge. The water treatment and distribution systems are currently operating as efficiently as possible and providing water to customers in compliance with all applicable water quality standards.

Treatment plant improvements were completed in 2014 with grant funding. Projects included the replacement of clear well number 2, the installation of continuous flow meters in each of the four sand filter units, the installation of a backup generator, variable frequency drive at the raw water pump station, connection piping, and ancillary facilities to support these improvements.

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The CSA#2 last increased rates in 2011 and bills on a bimonthly (every two months) basis. The water rate structure consists of a base meter charge which includes the first 12 hundred cubic feet (ccf) of bimonthly water use. One ccf is equal to 748 gallons of water. The charges for water usage are based on a tiered rate structure where the price per unit of water is higher as more water is used. In addition to the water rates, customers pay a separate Capital Improvement Program (CIP) charge to pay for infrastructure improvements. The CIP charge is not evaluated in this study and will not increase over the study term.

In recent years, the CSA#2 spent down its existing reserves and is not collecting sufficient revenue to fund annual operating expenses. The primary goal of this study is to determine a rate plan to cover the CSA#2's cost of service for the next five years. The cost of service includes operations, maintenance, capital improvements, and accumulation of reserves. An additional objective of this rate study is to adjust the current tiered water rates to recover costs more fairly from customers. The proposed rate structure consolidates the consumption rates into two tiers that reflect up to date usage patterns and actual costs to provide water at higher levels of use.

1.2 Requirements of Proposition 218

The implementation of public agency utility rates in California is governed by the substantive and procedural requirements of Proposition 218 the "Right to Vote on Taxes Act" which is codified as Articles XIII C and XIII D of the California Constitution. The District must follow the procedural requirements of Proposition 218 for all utility rate increases. These requirements include:

1. **Noticing Requirement** – The District must mail a notice of the proposed rate increases to all affected property owners or ratepayers. The notice must specify the amount of the fees, the basis upon which they were calculated, the reason for the fees, and the date/time/location of a public rate hearing at which the proposed rates will be considered/adopted.
2. **Public Hearing** – The District must hold a public hearing prior to adopting the proposed rate increases. The public hearing must be held not less than 45 days after the required notices are mailed.
3. **Rate Increases Subject to Majority Protest** – At the public hearing, the proposed rate increases are subject to majority protest. If more than 50% of affected property owners or ratepayers submit written protests against the proposed rate increases, the increases cannot be adopted.

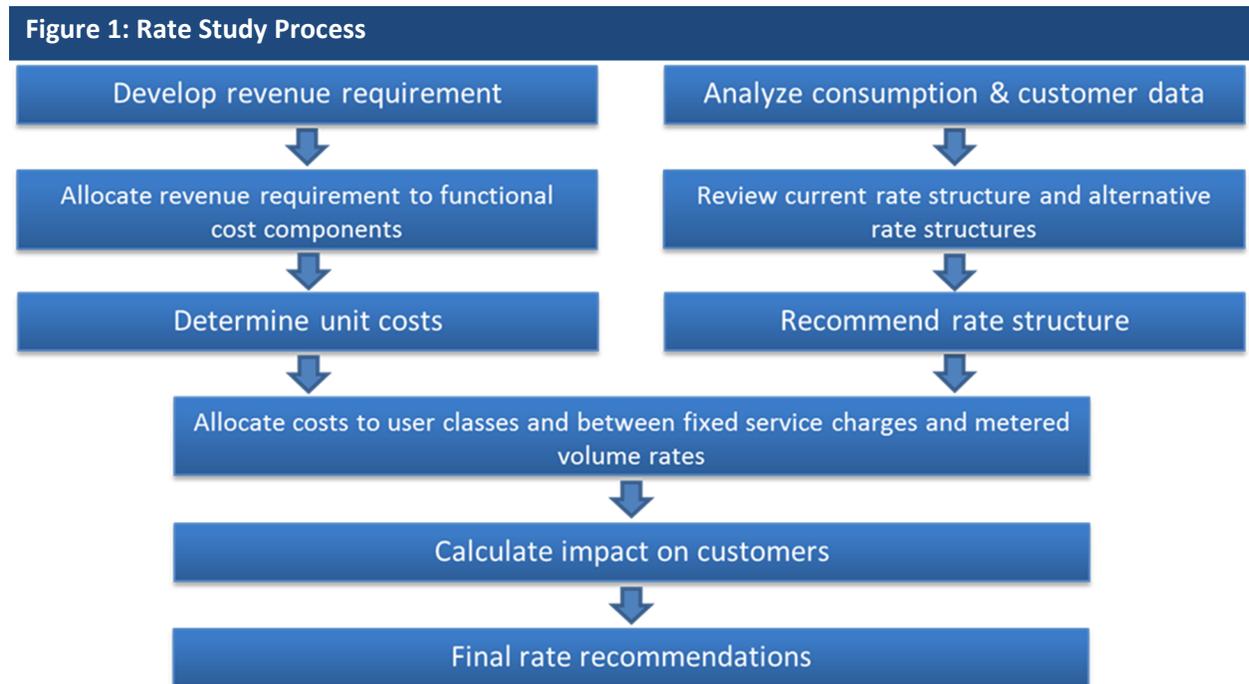
Proposition 218 also established substantive requirements that apply to water rates and charges, including:

1. **Cost of Service** – Revenues derived from the fee or charge cannot exceed the funds required to provide the service. In essence, fees cannot exceed the “cost of service”.
2. **Intended Purpose** – Revenues derived from the fee or charge can only be used for the purpose for which the fee was imposed.
3. **Proportional Cost Recovery** – The amount of the fee or charge levied on any customer shall not exceed the proportional cost of service attributable to that customer.
4. **Availability of Service** – No fee or charge may be imposed for a service unless that service is used by, or immediately available to, the owner of the property.
5. **General Government Services** – No fee or charge may be imposed for general governmental services where the service is available to the public at large.

Charges for water service are exempt from additional voting requirements of Proposition 218, provided the charges do not exceed the cost of providing service and are adopted pursuant to the procedural requirements of Proposition 218.

1.3 Rate Study Process

A summary of the rate study process is provided in .



The following is a brief description of the rate study process:

- **Revenue Requirement** – Revenue requirements are analyzed via a cash flow projection based on the best information currently available such as the District’s historical operating results, budgets, audits, and an interview with County staff. The cash flow serves as a roadmap for funding future operating costs and capital expenditures while maintaining long-term fiscal stability.
- **Cost of Service Allocation** - The cost of service process builds on the revenue requirement analysis and assigns water costs to functional cost components: *metering and customer service*, *base demand*, and *extra demand*.
- **Rate Design** - Rate design involves developing a rate structure that fairly recovers costs from customers. Final rate recommendations are designed to fund the District’s short- and long-term costs of providing service and fairly allocate costs to all customers.

The rates developed in this report are based on the best available information gathered from District budgets, audits, and input from staff at the time of this study. The cost allocations proposed herein are based on American Water Works Association methodologies and industry standard practice. The

proposed rates are based on the reasonable cost of providing service and are proportional to the benefits received by each customer.

1.4 Proposed Rates

The proposed rates are provided in Table 1 with the first rate adjustment going into effect November 15, 2024. Subsequent rate adjustments are proposed to be effective July 1 of each year for the following four years beginning in 2025 through 2028. The proposed water base fee has 4 ccf of usage included, and the tiered usage rates will be applied to all metered water consumption above 4 ccf.

Table 1: Proposed Bimonthly Water Rates

	CURRENT		PROPOSED				
			FY24-25	FY25-26	FY26-27	FY27-28	FY28-29
		Effective Date	Nov 15, 2024	July 1, 2025	July 1, 2026	July 1, 2027	July 1, 2028
FIXED METER CHARGE		FIXED METER CHARGE					
<u>Meter Sizes</u>		<u>Meter Sizes</u>					
5/8", 3/4", 1" (includes 12 ccf)	\$50.00	5/8", 3/4", 1" (includes 4 ccf)	\$77.30	\$91.12	\$104.95	\$120.81	\$139.03
Capital Improvement Fee	\$14.40	Capital Improvement Fee	\$14.40	\$14.40	\$14.40	\$14.40	\$14.40
VOLUME RATES (per ccf)		VOLUME RATES (per ccf)					
<u>All Customers</u>		<u>All Customers</u>					
Included 0-12 ccf		Included 0-4 ccf					
Tier 1: 12-20 ccf	\$2.75	Tier 1: 5-9 ccf	\$3.23	\$3.81	\$4.39	\$5.05	\$5.81
Tier 2: 20-40 ccf	\$5.50	Tier 2: 9+ ccf	\$4.12	\$4.86	\$5.60	\$6.44	\$7.41
Tier 3: 40+ ccf	\$8.00						

* One hundred cubic feet (ccf) = 748 gallons

FY – fiscal year

SECTION 2: CUSTOMER BASE AND CURRENT RATE REVENUES

2.1 Current Rates and Revenues

The District's current water rates as shown in Table 2 were last increased in 2011. The District bills customers bimonthly meaning that each bill represents two months of service. Customers are billed a Fixed Meter Charge of \$50.00 that includes up to the first 12 ccf of usage. For consumption above 12 ccf, the Volume Rates are based on a four-tiered rate structure as shown below. In addition to the water rates, customers pay a separate Capital Improvement Program (CIP) charge in the amount of \$14.40 to pay for infrastructure improvements. The CIP charge is not evaluated in this study and will not increase over the study term.

Table 2: Current Bimonthly Water Rates

	Current Bimonthly Rate
FIXED METER CHARGE (per account)	
Residential (BA)	\$50.00
Outside District (BO)	\$100.00
VOLUME RATES (per ccf)*	
Included (0 to 12 ccf)	\$0.00
Tier 1 (12 to 20 ccf)	\$2.75
Tier 2 (20 to 40 ccf)	\$5.50
Tier 3 (40+)	\$8.00
CAPITAL IMPROVEMENT CHARGE (per account)	\$14.40

* One hundred cubic feet (ccf) = 748 gallons

2.2 Rate Revenues

The District currently serves roughly 420 single family residential customers and one customer that lives outside of the District boundaries. Table 3 provides historic customer counts, water usage data, and annual water rate revenues for fiscal years 2020/21 through 2022/23. Water rates currently generate about \$204,000 annually. However, based on past actuals, the CSA#2 has a delinquency rate of approximately 10.0%, which results in actual revenues closer to \$195,000. For 2022/23, the revenues from the Fixed Meter Charge totaled \$123,300, representing roughly 63.0% of total water rate revenues. The Volume Rates generated about \$71,000, equating to 37.0% of total water rate revenues.

Table 3: Historical Water Rate Revenues

Rate Code	Bimonthly Rate	FY2021			FY2022			FY2023		
		Units	Annual Revenue	% of Revenue	Units	Annual Revenue	% of Revenue	Units	Annual Revenue	% of Revenue
		No. of Customers			No. of Customers			No. of Customers		
BA	Residential \$50.00	427	\$128,100	51.6%	416	\$124,800	53.7%	409	\$122,700	63.1%
BO	Outside District \$100.00	<u>1</u>	<u>\$600</u>	<u>0.2%</u>	<u>1</u>	<u>\$600</u>	<u>0.3%</u>	<u>1</u>	<u>\$600</u>	<u>0.3%</u>
	Total Fixed Charges	428	\$128,700	51.8%	417	\$125,400	54.0%	410	\$123,300	63.4%
		Usage (ccf)			Usage (ccf)			Usage (ccf)		
	Included (0 to 12 ccf) \$0.00	21,417	\$0	0.0%	20,223	\$0	0.0%	18,716	\$0	0.0%
	Tier 1 (12 to 20 ccf) \$2.75	7,752	\$21,318	8.6%	6,833	\$18,791	8.1%	5,391	\$14,825	7.6%
	Tier 2 (20 to 40 ccf) \$5.50	8,594	\$47,267	19.0%	7,422	\$40,821	17.6%	5,025	\$27,638	14.2%
	Tier 3 (40+) \$8.00	<u>6,398</u>	<u>\$51,184</u>	<u>20.6%</u>	<u>5,918</u>	<u>\$47,344</u>	<u>20.4%</u>	<u>3,603</u>	<u>\$28,824</u>	<u>14.8%</u>
	Total Volume Rates	44,161	\$119,769	48.2%	40,396	\$106,956	46.0%	32,735	\$71,287	36.6%
	Total Water Rate Revenue		\$248,469	100.0%		\$232,356	100.0%		\$194,587	100.0%

2.3 Typical Utility Bills

Table 4 provides example bimonthly utility bills that also include the CIP charge. Over the six annual bimonthly billing periods, the average customer uses 13 ccf of which 12 ccf is fully included in the base fee of \$50. The total bimonthly average bill is \$67.15. The typical winter usage is 9 ccf which results in a bill of \$64.40. Typical summer usage is 21 ccf gallons and results in a bill of \$91.90.

Table 4: Typical Bills Under Current Rates

AVERAGE BIMONTHLY BILL – 13 CCF				
Category	Bimonthly Rate	Count	Units	Total Bimonthly Charges
Fixed Charge (BA)	\$50.00	1	per account	\$50.00
Water CIP	\$14.40	1	per account	\$14.40
Volume Rates				
Included (0 to 12 ccf)	\$0.00	12	ccf	\$0.00
Tier 1 (12 to 20 ccf)	\$2.75	1	ccf	\$2.75
Tier 2 (20 to 40 ccf)	\$5.50	0	ccf	\$0.00
Tier 3 (40+)	\$8.00	<u>0</u>	ccf	<u>\$0.00</u>
Total Bill		13		\$67.15

TYPICAL WINTER BIMONTHLY BILL – 9 CCF				
Category	Bimonthly Rate	Count	Units	Total Bimonthly Charges
Fixed Charge (BA)	\$50.00	1	per account	\$50.00
Water CIP	\$14.40	1	per account	\$14.40
Volume Rates				
Included (0 to 12 ccf)	\$0.00	9	ccf	\$0.00
Tier 1 (12 to 20 ccf)	\$2.75	0	ccf	\$0.00
Tier 2 (20 to 40 ccf)	\$5.50	0	ccf	\$0.00
Tier 3 (40+)	\$8.00	<u>0</u>	ccf	<u>\$0.00</u>
Total Bill		9		\$64.40

TYPICAL SUMMER BIMONTHLY BILL – 21 CCF				
Category	Bimonthly Rate	Count	Units	Total Bimonthly Charges
Fixed Charge (BA)	\$50.00	1	per account	\$50.00
Water CIP	\$14.40	1	per account	\$14.40
Volume Rates				
Included (0 to 12 ccf)	\$0.00	12	ccf	\$0.00
Tier 1 (12 to 20 ccf)	\$2.75	8	ccf	\$22.00
Tier 2 (20 to 40 ccf)	\$5.50	1	ccf	\$5.50
Tier 3 (40+)	\$8.00	<u>0</u>	ccf	<u>\$0.00</u>
Total Bill		21		\$91.90

SECTION 3: WATER REVENUE REQUIREMENT

Proposition 218 requires that utility rates be based on the reasonable cost of providing service to customers. The cost of service includes annual operating expenses, debt service payments, capital projects, and the accumulation of appropriate reserves. The water utility cost of service was developed based on the fiscal year FY2023/24 adopted budget, capital project list developed by staff, and reserve recommendations based on District policies.

3.1 Reserves

The water fund maintains two reserve funds: 1) an Operating (O&M) Reserve and 2) a Capital Improvement Reserve. As shown on Table 5, total water reserves as of July 1, 2023 was \$223,808.

Table 5: Water Reserve Funds

Reserve Fund	Total Proposed for FY 23/24 [1]
Water Reserves	
Capital Improvement	\$206,626
<u>Water System Replacement</u>	<u>\$17,182</u>
Total Water Reserves	\$223,808
Reserves Not Included in Study	
Roads Bridges Dams Res	\$506,948
Total Fund 262 Reserves	\$730,756

Estimated Balance as of 6/30/23 (i.e. beginning balance FY 23/24)
1 - Form #7 - Budget Request Summary, October 26, 2023

The accumulation of reasonable reserves is another factor to consider when determining the cost of service. Adequate fund reserves protect the District when faced with unforeseen financial challenges such as emergency expenses or revenue deficits. Fund reserves allow the District to maintain its financial health and positive credit ratings, especially during emergencies. Moreover, funding can be drawn from reserves to supplement rate revenues lost during drought conditions or other unexpected situations. The District can also choose to use reserves to smooth cash flows and mitigate impacts to ratepayers. It is acceptable if reserves dip below the target on a temporary basis, provided the District takes action to attain the target over the longer run.

The recommended reserve fund targets are as follows:

- Operating Reserve: The recommended fund balance target is equal to 50% (or six months) of annual O&M expenses. This is in line with industry standards that

recommend an operating reserve target of at least 25% of annual expenses to account for the time (at least 4 months) that it would take an agency to approve new rate increases and to comply with Proposition 218. For 2023/24, this equates to an operating reserve target of \$189,000.

- Capital Reserve: The recommended fund balance target is \$100,000 which is the estimated high-end cost of an emergency repair plus engineering expenses.

3.2 Revenues

The primary sources of revenues for the District are *Sales and Services* (or water rate revenues) and *Property Taxes*. Other revenue sources include *Water Collections* and *Reconnections*. In 2023/24, the District expects to collect about \$195,000 from water rates and \$16,000 from other sources, which equals a total of \$211,000.

Total property tax revenues are estimated at \$150,000 each year. The District decides how to allocate the property tax revenues between water services and road maintenance. The goal is to gradually eliminate the reliance of property taxes to fund water services over the next five years. To help mitigate water rate increases, the Advisory Board evaluated various options for phasing out property tax contributions. For 2024/25 and 2025/26 (years 1 and 2), \$120,000 of annual property tax revenues will be allocated to the water fund. For 2026/27 (year 3), the property tax contribution will be reduced to \$80,000. For 2027/28 (year 4), the property tax contribution will be \$40,000. In 2028/29 (year 5), the water fund will receive \$0 property tax revenues.

To be fiscally conservative, it is assumed that the District will experience no growth over the next five years and tax revenue will remain the same.

3.3 Expenses

3.3.1 Operating Costs

The District's water operating costs are provided in Table 6. For 2023/24, operating expenses total approximately \$378,000. Major line-items include *Admin & Overhead*, *Professional Services*, *Maintenance*, *Chemicals*, and *Utilities*. All operating expenses are projected to increase by 3.0% per year due to inflation.

Table 6: Water Operating Costs

	Budget 2023/24	Escalation Factor	PROJECTED				
			2024/25	2025/26	2026/27	2027/28	2028/29
Admin & Overhead	\$75,000	3.0%	\$77,000	\$79,000	\$81,000	\$83,000	\$85,000
Staffing	\$131,000	3.0%	\$135,000	\$139,000	\$143,000	\$147,000	\$151,000
Professional Services	\$20,000	3.0%	\$21,000	\$22,000	\$23,000	\$24,000	\$25,000
Maintenance	\$68,000	3.0%	\$70,000	\$72,000	\$74,000	\$76,000	\$78,000
Chemicals	\$20,000	3.0%	\$21,000	\$22,000	\$23,000	\$24,000	\$25,000
Utilities	\$64,000	3.0%	\$66,000	\$68,000	\$70,000	\$72,000	\$74,000
Total Operating Expenses	\$378,000		\$390,000	\$402,000	\$414,000	\$426,000	\$438,000

3.3.2 Capital Improvement Plan

As detailed on Table 7, water capital improvement projects total \$2 million. The majority of projects will be grant funded. Water rates will fund a portion of the Water Treatment Plant Generator 250KW. The District’s share of the project is \$22,212 with the remainder paid for with grant funding.

Table 7: Water Capital Improvement Plan

Project	Amount Requested	Funding Source	Grant Funded	Rate Funded
Spring Valley Distribution System Study	\$500,000	SWRCB 453.54-90 (100%)	\$500,000	\$0
Lakebed Recovery Project	\$469,480	IRWM 453.54-90 (100%)	\$469,480	\$0
Quail Trail Water Line Replacement	\$108,205	IRWM 453.54-90 (100%)	\$108,205	\$0
Water Treatment Plant Generator 250KW	\$88,845	HMGP 455.55-40 (75%); Rate Funded (25%)	\$66,633	\$22,212
New Well	\$880,500	DWR 453.54-90 (100%)	\$880,500	\$0
Meter Replacement	\$0	Rate Funded (100%)	\$0	\$0
Total	\$2,047,030		\$2,024,818	\$22,212
% of Total	100.0%		98.9%	1.1%

Source: Form #6 - Capital Asset Detail, October 26, 2023

3.4 Cash Flow Projection

The cash flow for the five-year period beginning in 2024/25 through 2028/29 is provided in Table 8. Rate adjustments are needed to fund operating and capital costs over the next five years. The proposed rate increases are as follows: 35% for 2024/25, 18% for 2025/26, and 15% annual rate increases for 2026/27, 2027/28, and 2028/29. It should be noted that this level of increase is applied to the District’s total water rate revenues and does not necessarily reflect the level of increase for individual customers. Each customer’s water bill depends on their actual water usage.

Table 8: Water Cash Flow

	BUDGET	PROP 218				
	FY23-24	PROJECTED	PROJECTED	PROJECTED	PROJECTED	PROJECTED
		FY24-25	FY25-26	FY26-27	FY27-28	FY28-29
WATER OPERATING FUND						
Effective Date		Nov 15, 2024	Jul 1, 2025	Jul 1, 2026	Jul 1, 2027	Jul 1, 2028
Rate Revenue Increase		35%	18%	15%	15%	15%
6 Billing Periods at new rate		\$263,000	\$310,000	\$357,000	\$411,000	\$473,000
5 Billing periods at new rate		\$252,000	\$302,000	\$349,000	\$402,000	\$463,000
3 Billing periods at new rate		\$229,000	\$270,000	\$330,000	\$380,000	\$438,000
Beginning Operating Fund Balance [1]	\$17,000	(\$150,000)	(\$175,000)	(\$139,000)	(\$108,000)	(\$76,000)
Revenues						
Sales and Services [2]	\$195,000	\$229,000	\$302,000	\$349,000	\$402,000	\$463,000
Water Collections	\$11,000	\$11,000	\$11,000	\$11,000	\$11,000	\$11,000
Reconnections	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000	\$5,000
<u>Property Taxes</u>	<u>\$0</u>	<u>\$120,000</u>	<u>\$120,000</u>	<u>\$80,000</u>	<u>\$40,000</u>	<u>\$0</u>
Total Revenues	\$211,000	\$365,000	\$438,000	\$445,000	\$458,000	\$479,000
Operating Expenses						
Admin & Overhead	\$75,000	\$77,000	\$79,000	\$81,000	\$83,000	\$85,000
Staffing	\$131,000	\$135,000	\$139,000	\$143,000	\$147,000	\$151,000
Professional Services	\$20,000	\$21,000	\$22,000	\$23,000	\$24,000	\$25,000
Maintenance	\$68,000	\$70,000	\$72,000	\$74,000	\$76,000	\$78,000
Chemicals	\$20,000	\$21,000	\$22,000	\$23,000	\$24,000	\$25,000
<u>Utilities</u>	<u>\$64,000</u>	<u>\$66,000</u>	<u>\$68,000</u>	<u>\$70,000</u>	<u>\$72,000</u>	<u>\$74,000</u>
Total Operating Expenses	\$378,000	\$390,000	\$402,000	\$414,000	\$426,000	\$438,000
Net Operating Revenues	(\$167,000)	(\$25,000)	\$36,000	\$31,000	\$32,000	\$41,000
Ending Fund Balance	(\$150,000)	(\$175,000)	(\$139,000)	(\$108,000)	(\$76,000)	(\$35,000)
Operating Fund Target						
(50% of O&M Exps)	\$189,000	\$195,000	\$201,000	\$207,000	\$213,000	\$219,000
Target Met?	No	No	No	No	No	No

		PROP 218				
	BUDGET FY23-24	PROJECTED FY24-25	PROJECTED FY25-26	PROJECTED FY26-27	PROJECTED FY27-28	PROJECTED FY28-29
WATER CAPITAL FUND						
Beginning Capital Fund Balance [3]	\$207,000	\$215,000	\$255,000	\$295,000	\$335,000	\$375,000
Capital Revenues						
Capital Improvement - Water [4]	<u>\$40,000</u>	<u>\$40,000</u>	<u>\$40,000</u>	<u>\$40,000</u>	<u>\$40,000</u>	<u>\$40,000</u>
Total Capital Revenues	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
Capital Expenses (Rate Funded)						
Water Treatment Plant Generator	\$22,000	\$0	\$0	\$0	\$0	\$0
Rate Study	\$10,000	\$0	\$0	\$0	\$0	\$10,000
<u>Meter Replacement</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
Total Capital Expenses	\$32,000	\$0	\$0	\$0	\$0	\$10,000
Net Capital Revenues	\$8,000	\$40,000	\$40,000	\$40,000	\$40,000	\$30,000
Ending Capital Reserves	\$215,000	\$255,000	\$295,000	\$335,000	\$375,000	\$405,000
Capital Fund Target [5]	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Target Met?	Yes	Yes	Yes	Yes	Yes	Yes
Combined Operating & Capital Fund Balance						
Combined Reserve Fund Target	\$65,000	\$80,000	\$156,000	\$227,000	\$299,000	\$370,000
Combined Reserve Fund Target	\$289,000	\$295,000	\$301,000	\$307,000	\$313,000	\$319,000
Target Met?	No	No	No	No	No	Yes
1 - Fund 262 Budget, Form #7, Water System Replacement (Oct. 26, 2023) 2 - Calculated from billing data, assumed 10% delinquency 3 - Fund 262 Budget, Form #7, Capital Improvement (Oct. 26, 2023) 4 - Calculated using CIP rate code, assumed 10% delinquency 5 - Proposed fund target						

SECTION 4: WATER COST ALLOCATION

The water revenue requirement detailed in the previous section determined the total cost of providing service to customers. In this section, the cost of service is allocated to rates to fairly recover costs based on how customers use the system. Proposition 218 requires that agencies providing “property-related services” (including water utility service) set rates and charges that are based on the cost of providing those services and are proportional to how customers use the system.

4.1 Methodology

The American Water Works Association (AWWA) recommends methods to classify costs among various customers. Using the Base-Extra Capacity Method as recommended by the AWWA, water operating expenses are allocated to the following categories: (a) Base, (b) Extra, (c) Meters and Services, and (d) Customer Service. The Base and Extra categories are intended to recover the costs to deliver water to customers, while the Customer Service and Meters and Services categories are intended to recover expenses related to maintaining infrastructure and standby capacity in the system to supply water at all times. A summary of the cost allocation categories is provided below:

- *Base*: Base costs include the expenses related to providing water during average or “base” demand conditions.
- *Extra*: The extra category includes costs related to providing water above the system average demand (ie. related to peak, “extra” usage).
- *Meters and Services*: These include costs related to maintaining infrastructure and standby operating capacity to provide service at any time.
- *Customer Service*: This category contains costs associated with serving customers, such as billing and answering customer inquiries.

4.2 Proposed Cost Allocation

Table 9 allocates the District’s 2024/25 expenses to the *Base*, *Extra*, *Meters and Services*, and *Customer Service* categories. Costs are allocated according to how they are incurred by the District. As the District’s customer base is solely made up of single family residences, each with the same fixed cost of service, it is proposed that the *Meters and Services* and *Customer Service* categories be combined into a single Fixed Meter Charge. In total, it is recommended the District recover about 61.5% of costs via the Fixed Meter Charge and about 38.5% of costs from the Volume Rates. This is in line with the current revenue recovery ratio which is in line with the current split (63.0% from Fixed Charges / 37.0% from Volume Rates from Table 3).

Table 9: Cost Allocation

Expense	2024/25 Budget	FIXED METER CHARGE		VOLUME CHARGES		Total	Notes
		Meters & Services	Customer Service	Base	Extra		
Operating Expenses							
Admin & Overhead	\$77,000	80%	20%	0%	0%	100%	Meters & Cust. Serv
Staffing [1]	\$135,000	50%	50%	0%	0%	100%	System operations + peaking
Professional Services	\$21,000	75%	25%	0%	0%	100%	Meters & Cust. Serv
Maintenance [1]	\$70,000	10%	0%	38%	52%	100%	Meters & Peaking
Chemicals [2]	\$21,000	0%	0%	49%	51%	100%	Supply
<u>Utilities [1]</u>	<u>\$66,000</u>	<u>0%</u>	<u>0%</u>	<u>42%</u>	<u>58%</u>	100%	Peaking
Subtotal Oper Expenses	\$390,000	\$151,850	\$88,150	\$64,732	\$85,268		
Non-Operating Expenses							
<u>Capital Expenses</u>	<u>\$0</u>	<u>100%</u>	<u>0%</u>	<u>0%</u>	<u>0%</u>	100%	Meters
Subtotal Non-Oper Expenses	\$0	\$0	\$0	\$0	\$0		
Total Water Expenses	\$390,000	\$151,850	\$88,150	\$64,732	\$85,268	\$390,000	
Total Allocation %		38.9%	22.6%	16.6%	21.9%	100.0%	

1 – Allocation between base and extra is based on the peaking factor

2 – Allocation between base and extra is based on total water use in each category

4.3 Annual Revenue Requirement Allocation

Table 10 shows the annual water revenue requirements from the cash flow on Table 8 and the allocation percentages from Table 9. The Fixed Meter Charge revenue requirement is the total of the *Meters & Service* and *Customer Service Charge* categories. The Volume Rates revenue requirement is comprised of the *Base* and *Extra* categories. For 2024/25, the Total Revenue Requirement from the cash flow is \$263,000. Based on the allocations in Table 9, 61.5% or \$161,850 will be recovered from the Fixed Meter Charges while the remaining 38.5% or \$101,150 will be recovered from the Volume Rates.

Table 10: Revenue Requirement Allocation

	Cost Allocation %	PROJECTED				
		2024/25	2025/26	2026/27	2027/28	2028/29
Total Revenue Requirement [1]		\$263,000	\$310,000	\$357,000	\$411,000	\$473,000
FIXED METER CHARGE						
Meters & Services	38.9%	\$102,412	\$120,714	\$139,016	\$160,043	\$184,186
<u>Customer Service Charge</u>	<u>22.6%</u>	<u>\$59,438</u>	<u>\$70,060</u>	<u>\$80,682</u>	<u>\$92,886</u>	<u>\$106,898</u>
Total Fixed Charges	61.5%	\$161,850	\$190,774	\$219,698	\$252,929	\$291,084
VOLUME RATES						
Base	16.6%	\$43,711	\$51,522	\$59,333	\$68,308	\$78,613
<u>Extra</u>	<u>21.8%</u>	<u>\$57,439</u>	<u>\$67,704</u>	<u>\$77,969</u>	<u>\$89,762</u>	<u>\$103,303</u>
Total Volume Rates	38.5%	\$101,150	\$119,226	\$137,302	\$158,071	\$181,916
TOTAL	100.0%	\$263,000	\$310,000	\$357,000	\$411,000	\$473,000

1 – Cash flow from Table 8, 6 Billing Periods at new rate

SECTION 5: RATE DESIGN

Following the allocation of costs, the next step is to calculate unit costs of service for each cost function and then assign those costs to the customers based on the respective service requirements of each rate component.

5.1 Proposed New Tiers

The District's current rate structure includes essentially 3 tiers. The first 12 ccf of water that is included in the Fixed Meter Charge. To comply with Proposition 218, each water rate tier breakpoint (i.e. the consumption used in each tier) and the price of each tier must be individually cost-justified. Higher use must be directly tied to specific costs such as imported water, higher electricity costs associated with peak pumping, increased maintenance, and/or conservation programs. Tiers can no longer be assigned to customers solely based on conservation objectives. For example, public agencies may not arbitrarily raise the price of higher use tiers in order to offer a discount to lower water users.

Based on an analysis of the District's water consumption patterns and input from the Advisory Board, this study recommends transitioning to a two-tiered rate structure. The proposed bimonthly Volume Rate tiers are:

- Tier 1: 5 - 9 ccf
- Tier 2: Over 9 ccf

After reviewing various tier options, the Advisory Board recommends reducing the water allotment included in the Fixed Meter Charge from 12 ccf to 4 ccf to minimize the impact on customers. Tier 1 includes usage between 5 and 9 ccf. The average bimonthly winter water consumption for the District is 9 ccf. With the 4 ccf allotment and usage up to 9 ccf in Tier 1, the first tier is intended to provide sufficient indoor water use for a typical household over a 2-month period. Tier 2 includes all consumption over 9 ccf.

5.2 Volume Rate Calculation

Table 11 shows the Volume Rate calculation for Tiers 1 and 2. The *Base* revenue requirement represents Tier 1 and the expenses related to providing water during average or "base" demand conditions. The *Extra* category represents Tier 2 and the costs related to providing water above the system average demand (ie. related to peak, "extra" usage). To calculate the rate per ccf for each tier, the total revenue requirements from Table 10 are divided by the projected total water consumption for each tier. The consumption estimates are based upon an analysis of the District's usage patterns as detailed on Table 3. The proposed 2024/25 rate for Tier 1 is \$3.23 per ccf, and the proposed Tier 2 rate is \$4.12 per ccf.

Table 11: Volume Rate Derivation

	Cost Allocation %	PROJECTED				
		2024/25	2025/26	2026/27	2027/28	2028/29
REVENUE REQUIREMENT						
Base	16.6%	\$43,711	\$51,522	\$59,333	\$68,308	\$78,613
Extra	<u>21.8%</u>	<u>\$57,439</u>	<u>\$67,704</u>	<u>\$77,969</u>	<u>\$89,762</u>	<u>\$103,303</u>
Total Volume Rate	38.5%	\$101,150	\$119,226	\$137,302	\$158,071	\$181,916
VOLUME RATE DERIVATION						
Tier 1 Revenue Requirement		\$43,711	\$51,522	\$59,333	\$68,308	\$78,613
<u>Tier 1: 5 - 9 ccf Consumption (ccf)</u>		<u>13,525</u>	<u>13,525</u>	<u>13,525</u>	<u>13,525</u>	<u>13,525</u>
Tier 1 Rate per ccf		\$3.23	\$3.81	\$4.39	\$5.05	\$5.81
Tier 2 Revenue Requirement		\$57,439	\$67,704	\$77,969	\$89,762	\$103,303
<u>Tier 2: 9+ ccf Consumption (ccf)</u>		<u>13,933</u>	<u>13,933</u>	<u>13,933</u>	<u>13,933</u>	<u>13,933</u>
Tier 2 Rate per ccf		\$4.12	\$4.86	\$5.60	\$6.44	\$7.41

5.3 Fixed Meter Charge Rate Calculation

The rate derivation for the Fixed Charges is shown on Table 12. The total revenue requirement for *Meters and Services* and the *Customer Service Charge* is divided by the *Number of Customers*. For 2024/25, the *Total Fixed Charge Revenue Requirement* of \$161,850 is divided by 419 customers to derive a *Subtotal Fixed Meter Charge* of \$64.38. To account for the 4 ccf water allotment, 4 ccf is multiplied by the *Tier 1 Volume Rate* of \$3.23 from Table 11 totaling \$12.92. To calculate the *Total Bimonthly Fixed Meter Charge*, the *Subtotal Fixed Meter Charge* (\$64.38) is added to the *4 ccf Water Allotment* (\$12.92) for a total of \$77.30.

It should be noted that the District currently has one customer that lives outside of the District boundaries and pays double the standard fixed meter charge per billing period. It is proposed that the Outside District fixed charge be eliminated. The customer that lives outside of the District boundaries is proposed to be charged the same bimonthly fixed charge as all other customers.

Table 12: Fixed Charge Rate Derivation

	PROJECTED				
	2024/25	2025/26	2026/27	2027/28	2028/29
REVENUE REQUIREMENT					
Meters & Services	\$102,412	\$120,714	\$139,016	\$160,043	\$184,186
<u>Customer Service Charge</u>	<u>\$59,438</u>	<u>\$70,060</u>	<u>\$80,682</u>	<u>\$92,886</u>	<u>\$106,898</u>
Total Fixed Charge	\$161,850	\$190,774	\$219,698	\$252,929	\$291,084
Number of Customers	419	419	419	419	419
Subtotal Fixed Meter Charge	\$64.38	\$75.88	\$87.39	\$100.61	\$115.79
4 ccf Water Allotment Included	\$12.92	\$15.24	\$17.56	\$20.20	\$23.24
TOTAL BIMONTHLY FIXED METER CHARGE	\$77.30	\$91.12	\$104.95	\$120.81	\$139.03

5.4 Proposed Bimonthly Water Rates

Table 13 summarizes the proposed bimonthly water rates. All customers are proposed to be charged according to the proposed rate schedule shown. The first rate change is proposed to take effect on November 15, 2024, with subsequent rate increases effective each July 1 beginning in 2025 through 2028.

Table 13: Proposed Bimonthly Water Rates

	PROJECTED - RATE STUDY PERIOD				
	2024/25	2025/26	2026/27	2027/28	2028/29
	Effective Date	Nov 15, 2024	July 1, 2025	July 1, 2026	July 1, 2027
FIXED METER CHARGE					
<u>Meter Sizes</u>					
5/8", 3/4", 1" (includes 4 ccf)	\$77.30	\$91.12	\$104.95	\$120.81	\$139.03
VOLUME RATES (per ccf)*					
<u>All Customers</u>					
Tier 1: 5 - 9 ccf	\$3.23	\$3.81	\$4.39	\$5.05	\$5.81
Tier 2: 9+ ccf	\$4.12	\$4.86	\$5.60	\$6.44	\$7.41

* One hundred cubic feet (ccf) = 748 gallons

5.5 Bill Impacts

Table 14 provides sample bill impacts for the typical low water user, average quarterly bill, winter bill, and summer bill under the proposed 2024/25 rates. The total bimonthly bill includes the Fixed Meter Charge, Volume Rates and Capital Improvement Charge (CIP Charge). The CIP Charge is not evaluated in this study and is not proposed to increase over the next five years.

For 2024/25, the proposed 35.0% total revenue adjustment in the cash flow does not directly correlate to a 35.0% increase in rates due to the cost of service reallocation. As required by Proposition 218, the study assigns costs to customers in proportion to the benefit they receive from the water system which has resulted in modifications to the Volume Rates. As a result, the bill impacts to customers for the first year will vary based on actual consumption. Moreover, water consumption, particularly for single family customers, typically varies due to seasonal variations in weather and/or other factors. Hence, a single customer could face a range of impacts throughout the year.

Table 15 includes the proposed bimonthly bill impacts for 2024/25 for each level of consumption through 50 ccf.

Table 14: Sample Water Bill Impacts

Current				Proposed				
	Rate or Charge	Number of Units	Total Charge		Rate or Charge	Number of Units	Total Charge	% Increase
Fixed Charge	\$50.00	1	\$50.00	Fixed Charge	\$77.30	1	\$77.30	
CIP Charge	\$14.40	1	\$14.40	CIP Charge	\$14.40	1	\$14.40	
Volume Rates				Volume Rates				
Included (0-12 ccf)	\$0.00	4	\$0.00	Included (0-4 ccf)	\$0.00	4	\$0.00	
Tier 1 (12-20 ccf)	\$2.75	0	\$0.00	Tier 1 (5-9 ccf)	\$3.23	0	\$0.00	
Tier 2 (20-40 ccf)	\$5.50	0	\$0.00	Tier 2 (9+ ccf)	\$4.12	<u>0</u>	<u>\$0.00</u>	
<u>Tier 3 (40+ccf)</u>	\$8.00	<u>0</u>	<u>\$0.00</u>	Total Volume		4	\$0.00	
Total Volume		4	\$0.00					
Total Bill			\$64.40	Total Bill			\$91.70	42%
Current				Proposed				
	Rate or Charge	Number of Units	Total Charge		Rate or Charge	Number of Units	Total Charge	% Increase
Fixed Charge	\$50.00	1	\$50.00	Fixed Charge	\$77.30	1	\$77.30	
CIP Charge	\$14.40	1	\$14.40	CIP Charge	\$14.40	1	\$14.40	
Volume Rates				Volume Rates				
Included (0-12 ccf)	\$0.00	9	\$0.00	Included (0-4 ccf)	\$0.00	4	\$0.00	
Tier 1 (12-20 ccf)	\$2.75	0	\$0.00	Tier 1 (5-9 ccf)	\$3.23	5	\$16.15	
Tier 2 (20-40 ccf)	\$5.50	0	\$0.00	Tier 2 (9+ ccf)	\$4.12	<u>0</u>	<u>\$0.00</u>	
<u>Tier 3 (40+ccf)</u>	\$8.00	<u>0</u>	<u>\$0.00</u>	Total Volume		9	\$16.15	
Total Volume		9	\$0.00					
Total Bill			\$64.40	Total Bill			\$107.85	67%
Current				Proposed				
	Rate or Charge	Number of Units	Total Charge		Rate or Charge	Number of Units	Total Charge	% Increase
Fixed Charge	\$50.00	1	\$50.00	Fixed Charge	\$77.30	1	\$77.30	
CIP Charge	\$14.40	1	\$14.40	CIP Charge	\$14.40	1	\$14.40	
Volume Rates				Volume Rates				
Included (0-12 ccf)	\$0.00	12	\$0.00	Included (0-4 ccf)	\$0.00	4	\$0.00	
Tier 1 (12-20 ccf)	\$2.75	1	\$2.75	Tier 1 (5-9 ccf)	\$3.23	5	\$16.15	
Tier 2 (20-40 ccf)	\$5.50	0	\$0.00	Tier 2 (9+ ccf)	\$4.12	<u>4</u>	<u>\$16.48</u>	
<u>Tier 3 (40+ccf)</u>	\$8.00	<u>0</u>	<u>\$0.00</u>	Total Volume		13	\$32.63	
Total Volume		13	\$2.75					
Total Bill			\$67.15	Total Bill			\$124.33	85%

Current				Proposed				
	Rate or Charge	Number of Units	Total Charge		Rate or Charge	Number of Units	Total Charge	% Increase
Fixed Charge	\$50.00	1	\$50.00	Fixed Charge	\$77.30	1	\$77.30	
CIP Charge	\$14.40	1	\$14.40	CIP Charge	\$14.40	1	\$14.40	
Volume Rates				Volume Rates				
Included (0-12 ccf)	\$0.00	12	\$0.00	Included (0-4 ccf)	\$0.00	4	\$0.00	
Tier 1 (12-20 ccf)	\$2.75	8	\$22.00	Tier 1 (5-9 ccf)	\$3.23	5	\$16.15	
Tier 2 (20-40 ccf)	\$5.50	1	\$5.50	Tier 2 (9+ ccf)	\$4.12	<u>12</u>	<u>\$49.44</u>	
Tier 3 (40+ccf)	\$8.00	<u>0</u>	<u>\$0.00</u>	Total Volume		21	\$65.59	
Total Volume		21	\$27.50					
Total Bill			\$91.90	Total Bill			\$157.29	71%

Table 15: Bimonthly Bills at Various Levels of Use for FY2024/25

Total Bimonthly Use (ccf)	Current Bill	Proposed Bill	% Increase
0	\$64.40	\$91.70	42%
1	\$64.40	\$91.70	42%
2	\$64.40	\$91.70	42%
3	\$64.40	\$91.70	42%
4	\$64.40	\$91.70	42%
5	\$64.40	\$94.93	47%
6	\$64.40	\$98.16	52%
7	\$64.40	\$101.39	57%
8	\$64.40	\$104.62	62%
9	\$64.40	\$107.85	67%
10	\$64.40	\$111.97	74%
11	\$64.40	\$116.09	80%
12	\$64.40	\$120.21	87%
13	\$67.15	\$124.33	85%
14	\$69.90	\$128.45	84%
15	\$72.65	\$132.57	82%
16	\$75.40	\$136.69	81%
17	\$78.15	\$140.81	80%
18	\$80.90	\$144.93	79%
19	\$83.65	\$149.05	78%
20	\$86.40	\$153.17	77%
21	\$91.90	\$157.29	71%
22	\$97.40	\$161.41	66%
23	\$102.90	\$165.53	61%
24	\$108.40	\$169.65	57%
25	\$113.90	\$173.77	53%
26	\$119.40	\$177.89	49%
27	\$124.90	\$182.01	46%
28	\$130.40	\$186.13	43%
29	\$135.90	\$190.25	40%
30	\$141.40	\$194.37	37%
31	\$146.90	\$198.49	35%
32	\$152.40	\$202.61	33%
33	\$157.90	\$206.73	31%
34	\$163.40	\$210.85	29%
35	\$168.90	\$214.97	27%
36	\$174.40	\$219.09	26%
37	\$179.90	\$223.21	24%
38	\$185.40	\$227.33	23%
39	\$190.90	\$231.45	21%
40	\$196.40	\$235.57	20%
41	\$204.40	\$239.69	17%
42	\$212.40	\$243.81	15%
43	\$220.40	\$247.93	12%
44	\$228.40	\$252.05	10%
45	\$236.40	\$256.17	8%
46	\$244.40	\$260.29	7%
47	\$252.40	\$264.41	5%
48	\$260.40	\$268.53	3%
49	\$268.40	\$272.65	2%
50	\$276.40	\$276.77	0%