

# **Water Rate Study for the Calaveras Public Utility District**

**FINAL Report  
March 24, 2023**



**LECHOWICZ + TSENG**  
MUNICIPAL CONSULTANTS

909 Marina Village Parkway #135

Alameda, CA 94501

(510) 545-3182

[www.LTmuniconsultants.com](http://www.LTmuniconsultants.com)



## TABLE OF CONTENTS

---

SECTION 1: INTRODUCTION AND EXECUTIVE SUMMARY .....	1
1.1 Background .....	1
1.2 Requirements of Proposition 218 .....	1
1.3 Rate Study Process .....	2
1.4 Current and Proposed Water Rates .....	4
SECTION 2: CUSTOMER BASE AND CURRENT RATE REVENUES.....	7
2.1 Current Rates .....	7
2.2 Typical Bills .....	9
2.3 Customer Base .....	10
2.4 Service Charge Revenues .....	11
2.5 Water Usage Statistics .....	13
SECTION 3: COST OF SERVICE .....	15
3.1 Revenues.....	15
3.2 Expenses.....	15
3.3 Reserves .....	18
3.4 Water Cash Flow .....	19
SECTION 4: RATE DESIGN .....	22
4.1 Rate Design Considerations .....	22
4.2 Cost Allocation Methodology .....	22
4.3 Meter Equivalents.....	24
4.4 Rate Calculation .....	24
4.5 Drought Rates .....	25
4.6 Proposed 5-Year Rate Plan.....	27
4.7 Bill Impacts .....	29

## LIST OF TABLES

Table 1: Executive Summary - Current and Proposed Water Rates .....	5
Table 2: Historic and Current Monthly Water Rates .....	8
Table 3: Typical Bills Under Current Rates .....	9
Table 4: Number of Accounts .....	10
Table 5: Water Service Revenue Summary .....	11
Table 6: Projected Service Charge Revenues FY2022/23 .....	12
Table 7: Water Consumption by Customer Class (Gallons) .....	13
Table 8: Capital Outlay Fiscal Year 2022/2023 .....	17
Table 9: Current Reserve Policies .....	18
Table 10: Cash Flow Projection .....	20
Table 11: Cost Allocation .....	23
Table 12: Number of Meter Equivalents.....	24
Table 13: FY2023/24 Rate Calculation .....	25
Table 14: FY2023/24 Base Rates for Larger Meter Sizes .....	25
Table 15: Base & Extra Cost Allocation Under Various Water Cutback Scenarios.....	26
Table 16: FY2023/24 Drought Rates .....	27
Table 17: Current and Proposed Water Rates .....	28
Table 18: Comparison of Current and Proposed Single Family Residential Bills .....	29

## LIST OF FIGURES

Figure 1: Rate Study Process.....	3
Figure 2: Typical Bill Survey.....	6
Figure 3: Historical Districtwide Total Monthly Water Use .....	14
Figure 4: Cash Flows.....	19
Figure 5: Bill Impact Analysis for Single Family Customers with 5/8" Meters.....	30

## SECTION 1: INTRODUCTION AND EXECUTIVE SUMMARY

---

### 1.1 Background

The Calaveras Public Utility District (CPUD or District) was established on January 19, 1934 as a public owned utility. The District is located approximately 60 miles southeast of Sacramento and provides water services to the communities of Railroad Flat, Glencoe, Paloma, Mokelumne Hill, and San Andreas, California. The District serves a population of roughly 6,350 people within its over 35 square mile area. The District’s customer base includes both rural areas and the more densely populated areas of San Andreas and Mokelumne Hill which include residential customers, offices, schools, and businesses. The vast majority of customers receive treated water, though CPUD provides limited raw water service to four accounts in the Railroad Flat area. The District also generates hydroelectric power which can be sold to Pacific Gas & Electric at three small generating stations along the main transmission pipeline and a fourth at Schaads Reservoir.

The goal of this rate study is to determine a rate plan to cover the District’s cost of service for the next five years. The cost of service includes operations, maintenance, capital improvements, and debt service. The last rate study was conducted in 2019, and rates were last increased July 1, 2022. Since the prior rate study, the District has issued new debt to finance the Clearwell Water Tank Replacement project which was not anticipated. An update to the rates is needed to ensure that the District can meet its debt coverage ratio in subsequent years. Without a rate increase, the District will fail to meet its coverage ratio due to insufficient operating revenues.

Additionally, this rate study is intended to update the current rate structure and bring rates more into alignment with American Water Works Association (AWWA) methodologies and recommendations. The District’s current rate structure includes a base amount of water in the fixed monthly fee and higher levels of consumption are charged less per unit of water. Due to State water conservation requirements, this type of rate structure is no longer commonly used. This study proposes to simplify and update the District’s rates.

### 1.2 Requirements of Proposition 218

The implementation of utility rates in California are governed by the substantive and procedural requirements of Proposition 218 the “Right to Vote on Taxes Act” which is codified as Articles XIIC and XIID 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 fee, the basis upon which it was calculated, the reason for the fee, 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:

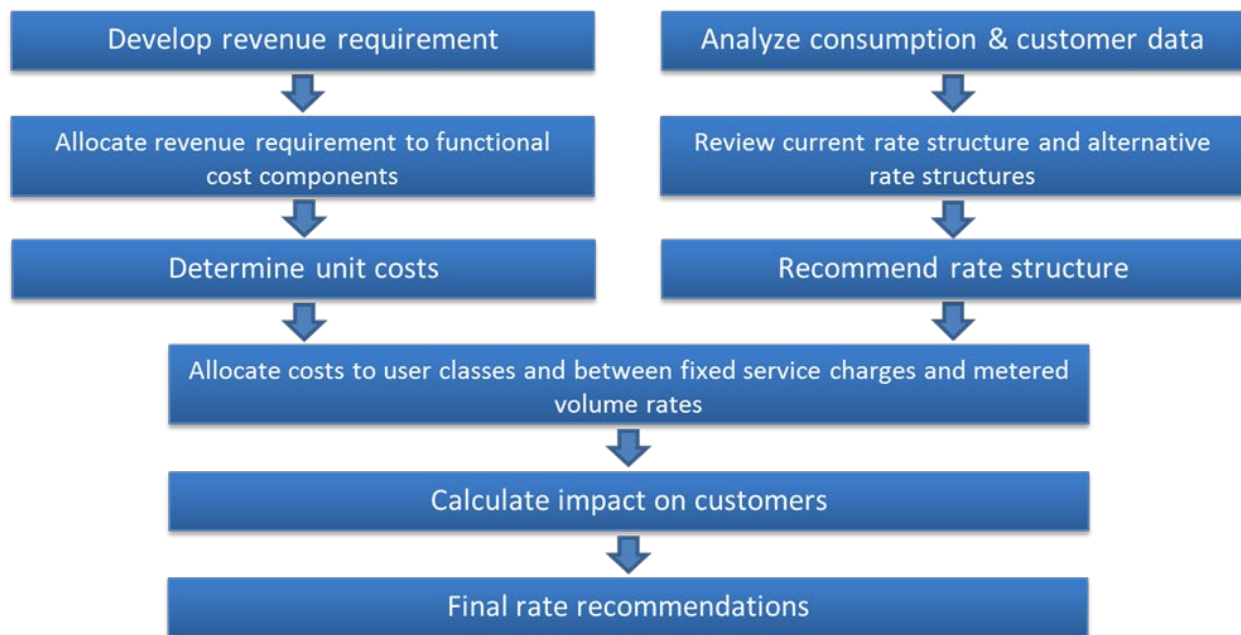
1. **Cost of Service** – Revenues derived from the fee or charge cannot exceed the funds required to provide the service. In essence, fees cannot exceed the “cost of service”.
2. **Intended Purpose** – Revenues derived from the fee or charge can only be used for the purpose for which the fee was imposed.
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**

The American Water Works Association recommends that utilities set rates based on the actual cost of providing service and assign rates to customers based on how they use the system. A summary of the rate study process is provided in Figure 1.

**Figure 1: Rate Study Process**



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, and audits. 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 and customer classes.

The rates developed in this report are based on the best available information gathered from District budgets, audits, and input from staff. 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 Current and Proposed Water Rates

The District's current rate structure includes a fixed fee based on meter size and customer class that includes a base allotment of water plus volume rates for consumption over the base. The amount of water included in the base allotment varies with meter size such that larger meters are provided with more water in their base allotments. Water usage over the base is charged volume rates using a tiered structure. Multiple unit customers (including multi family and some commercial accounts) have a base allotment of 3,000 gallons per dwelling unit and can take advantage of the District's lower usage tier applicable to usage from 3,000 to 5,000 gallons per dwelling unit per month. The next tier covers usage from 5,001 to 20,000 gallons. This tier is applicable to multiple unit customers as well as 5/8" meter customers. 5/8" meter customers receive 5,000 gallons in their base allotment. The final tier encompasses usage above 20,000 gallons and is applicable to larger treated water customers and industrial customers. Agricultural customers are billed for usage above 60,000 gallons per month.

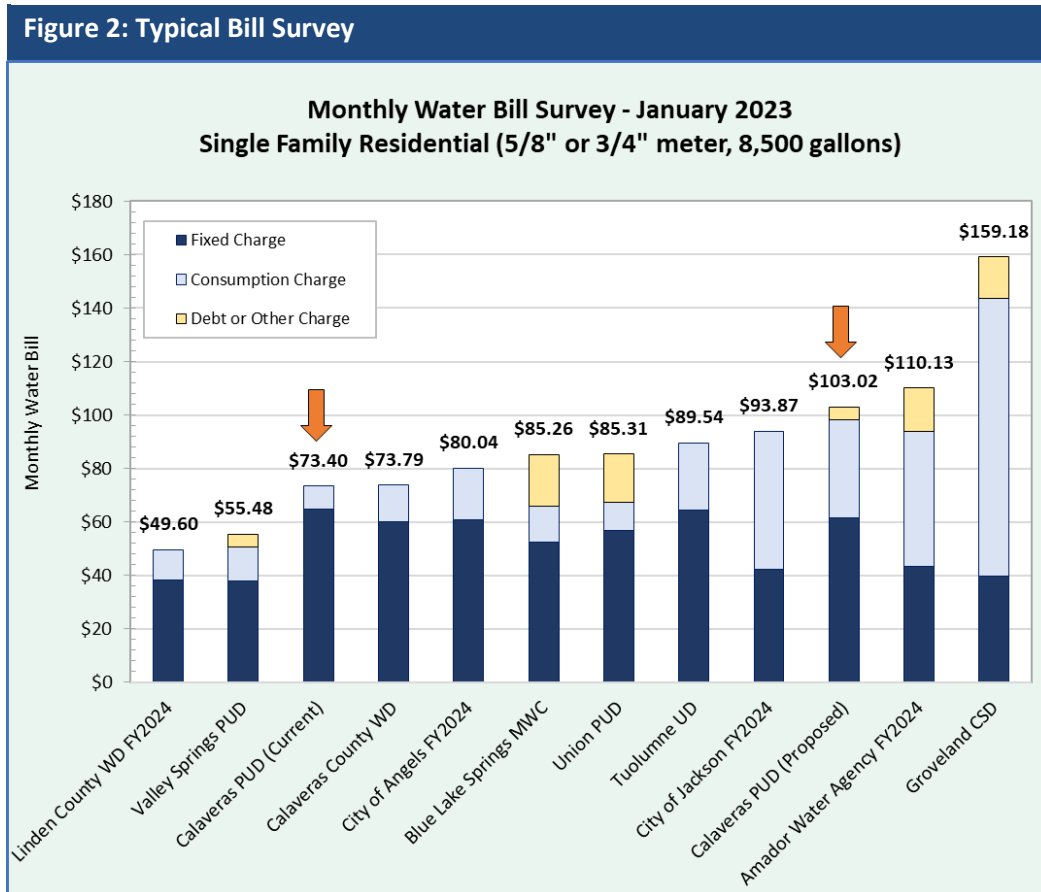
CPUD's water rates are proposed to be adjusted to cover the increased cost of service, simplify the rate categories, and better promote equity among customers. Current and proposed rates are provided in Table 1. It is proposed that new rates become effective July 1 of each year for the next five years. The base allotments are proposed to be eliminated such that the meter fees have no water usage included. Added to the meter fee is a debt service fee to recoup \$133,000 annually for the Clearwell Project's debt service repayment cost. The debt service fee is recommended to sunset in 2041 when the current debt obligation is fully repaid. The tiered rate structure is also eliminated. All treated usage is proposed to be charged a single rate and all untreated usage is also proposed to be charged a single rate for all levels of consumption. As shown, the proposed rate structure also includes drought rates that could be implemented during a water shortage emergency. The meter fees would remain the same, but the volume rates would increase.



**Table 1: Executive Summary - Current and Proposed Water Rates**  
**Calaveras Public Utility District**  
**Water Rate Study**

CURRENT			PROPOSED										
Meter Size	BASE RATE	Usage	July 1, 2023		July 1, 2024		July 1, 2025		July 1, 2026		July 1, 2027		
		Covered by Minimum (Gallons)	Meter	+Debt	Meter	+Debt	Meter	+Debt	Meter	+Debt	Meter	+Debt	
Meter Size - All customers; no water use is included in the base rate													
			BASE RATE	Fee	Fee	Fee	Fee	Fee	Fee	Fee	Fee	Fee	
5/8" x 3/4"	\$64.75	5,000	5/8" x 3/4"	\$61.57	\$4.73	\$70.85	\$4.73	\$74.63	\$4.73	\$78.60	\$4.73	\$82.77	\$4.73
1"	\$103.75	20,000	1"	\$102.62	\$7.88	\$118.09	\$7.88	\$124.39	\$7.88	\$131.00	\$7.88	\$137.94	\$7.88
1-1/2"	\$188.46	40,000	1-1/2"	\$205.23	\$15.77	\$236.17	\$15.77	\$248.77	\$15.77	\$262.00	\$15.77	\$275.89	\$15.77
2"	\$357.83	80,000	2"	\$328.37	\$25.23	\$377.87	\$25.23	\$398.03	\$25.23	\$419.19	\$25.23	\$441.41	\$25.23
4"	\$654.24	150,000	4"	\$1,026.17	\$78.83	\$1,180.87	\$78.83	\$1,243.86	\$78.83	\$1,309.99	\$78.83	\$1,379.43	\$78.83
6"	\$865.97	200,000	6"	\$2,052.33	\$157.67	\$2,361.73	\$157.67	\$2,487.70	\$157.67	\$2,619.97	\$157.67	\$2,758.85	\$157.67
8"	\$1,077.70	250,000	8"	\$3,283.73	\$252.27	\$3,778.77	\$252.27	\$3,980.32	\$252.27	\$4,191.95	\$252.27	\$4,414.16	\$252.27
Multi Unit*	\$38.68	3,000											
Agricultural	\$273.14	60,000											
Industrial	\$865.97	200,000											
*Multi unit usage 3,000 gallons or less/month avg/unit													
VOLUME RATES			VOLUME RATES (\$/thousand gallons applied to all use) - Normal Water Year										
Treated Water (gallons) - Use over Minimum													
3,001 to 5,000	\$1.24	\$/hundred gal.											
5,001 to 20,000	\$2.47	\$/thousand gal.											
> 20,000	\$2.21	\$/thousand gal.											
Agricultural													
> 60,000	\$1.70	\$/thousand gal.											
DROUGHT MANAGEMENT PLAN SURCHARGE:			VOLUME RATES (\$/thousand gallons applied to all use) - Drought Conditions										
Water Supply													
Conservation													
Usage													
Shortage	Level	Surcharge											
Stage 1	20%	11%											
Stage 2	40%	21%											
Stage 3	75%	41%											
			20% Cutback										
			Treated water										
			Agricultural water										
			30% Cutback										
			Treated water										
			Agricultural water										
			40% Cutback										
			Treated water										
			Agricultural water										
			50% Cutback										
			Treated water										
			Agricultural water										

A survey comparing CPUD’s typical water bill with other local agency bills is provided in Figure 2. The typical single family customer in the District’s service area uses 8,500 gallons of water per month and is served by a 5/8” meter. Under the current rates, the typical customer pays \$73.40 per month which is at the low end of bills surveyed. Under the proposed rates, the typical customer’s bill would increase to \$103.02 per month which is at the higher end of bills surveyed.



## **SECTION 2: CUSTOMER BASE AND CURRENT RATE REVENUES**

---

This section provides a description of the District's current rate structure, customer base, and rate revenues.

### **2.1 Current Rates**

The District's current rate structure includes monthly base rates and usage (volume) rates. In addition, the District has a schedule of Drought Management Surcharges that can be implemented during water shortage emergencies.

#### **2.1.1 Base Rate**

All customers are charged a base rate that is dependent on their customer class (multiple unit, residential/commercial, agricultural, or industrial). Residential and commercial fixed charges are further subdivided based on meter size. The base rate for each customer includes a base allotment of water. The amount of water in the allotment varies based on customer class and meter size. All customers are charged the base fee regardless of water consumption; i.e. if a customer uses less than their allotted amount of water during the monthly billing period, they are still charged the full base rate. Untreated customers are only billed during months of the year when untreated water is available.

#### **2.1.2 Usage Rate**

In addition to the base rate, customers who exceed their water usage allotment pay a usage rate per thousand gallons of water consumption over the minimum. Multiple unit customers (including multi family and some commercial accounts) have a base allotment of 3,000 gallons per unit and have a lower usage tier applicable to usage from 3,000 to 5,000 gallons per dwelling unit per month. All other customers have base allotments of 5,000 gallons or greater and thus cannot utilize the lower tier. The next tier covers usage from 5,001 to 20,000 gallons. This tier is applicable to multiple unit customers as well as 5/8" meter customers. 5/8" meter customers receive 5,000 gallons in their base allotment. The final tier encompasses usage above 20,000 gallons and is applicable to larger treated water customers and industrial customers. Agricultural customers are billed for usage above 60,000 gallons per month.

#### **2.1.3 Drought Management Surcharge**

The Drought Management Surcharges can only be implemented after notification to the District's customers and after mandatory restriction declarations by the Board of Directors in accordance with District Resolution 2015-6. The Drought Management Surcharge is a percent increase levied upon water consumption that applies to the Usage Rates only. The surcharges are designed to recover revenue shortfalls in the event of a drought.

#### **2.1.4 Rate Summary**

A listing of the District's rates over the past four years is provided in Table 2. July 1, 2022, the District implemented increases to the base rates but did not increase the volume rates.

**Table 2: Historic and Current Monthly Water Rates  
Calaveras Public Utility District  
Water Rate Study**

<b>Fiscal Year</b> <i>Effective Date</i>	<b>2019/20</b> <i>August 19, 2019</i>	<b>2020/21</b> <i>July 1, 2020</i>	<b>2021/22</b> <i>July 1, 2021</i>	<b>2022/23</b> <i>July 1, 2022</i>	
<b>BASE RATE</b>					
<b>Residential, Commercial, and Untreated</b>					<u>Usage Covered by Minimum (Gallons)</u>
<u>Meter Size</u>					
5/8" x 3/4"	\$55.68	\$58.55	\$61.57	\$64.75	5,000
1"	\$89.22	\$93.81	\$98.66	\$103.75	20,000
1-1/2"	\$162.05	\$170.40	\$179.19	\$188.46	40,000
2"	\$307.68	\$323.54	\$340.24	\$357.83	80,000
4"	\$562.56	\$591.56	\$622.09	\$654.24	150,000
6"	\$744.62	\$783.00	\$823.41	\$865.97	200,000
8"	\$926.68	\$974.44	\$1,024.74	\$1,077.70	250,000
<b>Residential and Commercial Multiple Units</b>					
Usage 3,000 Gallons or less/month avg/unit	\$33.26	\$34.97	\$36.77	\$38.68	
<b>Agricultural</b>					
First 60,000 Gallons	\$234.87	\$246.97	\$259.72	\$273.14	
<b>Industrial</b>					
First 200,000 Gallons	\$744.62	\$783.00	\$823.41	\$865.97	
<b>USAGE CHARGE - OVER MINIMUM</b>					
<b>Residential, Commercial, and Untreated</b>					
5,001 to 20,000 gallons	\$2.24	\$2.35	\$2.47	\$2.47	\$/1,000 gal
> 20,000 gallons	\$2.00	\$2.10	\$2.21	\$2.21	\$/1,000 gal
<b>Residential and Commercial Multiple Units</b>					
Usage below 5,000 gallons that is not included in base rate	\$1.12	\$1.18	\$1.24	\$1.24	\$/100 gal
5,001 to 20,000 gallons	\$2.24	\$2.35	\$2.47	\$2.47	\$/1,000 gal
> 20,000 gallons	\$2.00	\$2.10	\$2.21	\$2.21	\$/1,000 gal
<b>Agricultural</b>					
> 60,000 gallons	\$1.54	\$1.62	\$1.70	\$1.70	\$/1,000 gal
<b>Industrial</b>					
> 200,000 gallons	\$2.00	\$2.10	\$2.21	\$2.21	\$/1,000 gal
<b>DROUGHT MANAGEMENT PLAN SURCHARGE:</b>					
	<u>Conservation</u>	<u>Usage</u>			
<u>Water Supply Shortage</u>	<u>Level</u>	<u>Surcharge</u>			
Stage 1	20%	11%			
Stage 2	40%	21%			
Stage 3	75%	41%			

## 2.2 Typical Bills

Water service bill calculations for a typical customer based on current rates are provided in Table 3. Based on CPUD billing records, the typical single family residential customer uses 8,500 gallons per month and has a 5/8" meter. Given that the monthly base volume for customers with 5/8" meters is 5,000 gallons, the typical customer pays \$73.40 each month. Typical winter water usage is 4,300 gallons which would not exceed the base allotment of 5,000 gallons. Thus, the average winter bill equals the base rate of \$64.75. Typical summer usage is 14,500 gallons resulting in a monthly bill of \$88.22.

<b>Table 3: Typical Bills Under Current Rates</b>				
<b>Calaveras Public Utility District</b>				
<b>Water Rate Study</b>				
<b>Average Bill – 8,500 gallons of usage</b>				
	Fee		# of Units	Total Charges
Base Rate	\$64.75	x	1	\$64.75
Usage (thousand gallons)				
0 to 5 units	\$0.00	x	5.0	\$0.00
5 to 20 units	\$2.47	x	3.5	<u>\$8.65</u>
Total Monthly Bill				\$73.40
<b>Winter Bill – 4,300 gallons of usage</b>				
	Fee		# of Units	Total Charges
Base Rate	\$64.75	x	1	\$64.75
Usage (thousand gallons)				
0 to 5 units	\$0.00	x	4.3	\$0.00
5 to 20 units	\$2.47	x	0.0	<u>\$0.00</u>
Total Monthly Bill				\$64.75
<b>Summer Bill – 14,500 gallons of usage</b>				
	Fee		# of Units	Total Charges
Base Rate	\$64.75	x	1	\$64.75
Usage (thousand gallons)				
0 to 5 units	\$0.00	x	5.0	\$0.00
5 to 20 units	\$2.47	x	9.5	<u>\$23.47</u>
Total Monthly Bill				\$88.22

### 2.3 Customer Base

The water utility has about 1,900 active accounts and 150 turned off accounts, as shown in Table 4. The 5/8" meter size makes up the majority of the District's customer base.

<b>Table 4: Number of Accounts Calaveras Public Utility District Water Rate Study</b>		
<b>Customer Class</b>	<b>No. of Accts</b>	<b>% of Total</b>
<b>Residential and Commercial</b>		
<u>Meter Size</u>		
5/8" x 3/4"	1,677	81.1%
1"	180	8.7%
1-1/2"	12	0.6%
2"	31	1.5%
4"	6	0.3%
6"	0	0.0%
8"	1	0.0%
MU 40 Residential (1.5")	1	0.0%
<b>Agricultural</b>	1	0.0%
<b>Untreated</b>		
5/8" x 3/4"	3	0.1%
1"	1	0.0%
<b>Fire Hydrant Meter</b>	6	0.3%
<b>Turned off Accounts</b>	148	7.2%
<b>TOTAL</b>	<b>2,067</b>	<b>100.0%</b>

## 2.4 Service Charge Revenues

A summary of the District’s service charge revenues over the past three fiscal years (FY) is provided in Table 5. Base rates have historically made up about 80% of service charge revenues with about 20% generated from usage charges.

<b>Table 5: Water Service Revenue Summary Calaveras Public Utility District Water Rate Study</b>				
	<b>FY2019/20</b>	<b>FY2020/21</b>	<b>FY2021/22</b>	<b>Three-Year Average</b>
Base Rate	\$1,637,453	\$1,723,111	\$1,811,935	
Usage Charges	<u>\$360,390</u>	<u>\$438,908</u>	<u>\$413,473</u>	
Total Service Charges	\$1,997,843	\$2,162,019	\$2,225,408	
Base Rate	82.0%	79.7%	81.4%	81.0%
Usage Charges	<u>18.0%</u>	<u>20.3%</u>	<u>18.6%</u>	<u>19.0%</u>
Total Water Sales	100.0%	100.0%	100.0%	100.0%

Estimated FY2022/23 service charge revenues are provided in Table 6. Base rates are projected to generate about \$1.9 million in revenue (about 82%) and usage charges are projected to generate about \$0.4 million (about 18%).

**Table 6: Projected Service Charge Revenues FY2022/23**  
**Calaveras Public Utility District**  
**Water Rate Study**

<b>BASE RATE</b>				
<b>Residential and Commercial</b>	<b>Base Rate</b>	<b>Count</b>	<b>Fixed Revenue</b>	<b>% of Total</b>
5/8" x 3/4"	\$64.75	1,592	\$1,236,984	53.3%
1"	\$103.75	140	\$174,300	7.5%
1-1/2"	\$188.46	5	\$11,308	0.5%
2"	\$357.83	25	\$107,349	4.6%
4"	\$654.24	5	\$39,254	1.7%
6"	\$865.97	0	\$0	0.0%
8"	\$1,077.70	1	\$12,932	0.6%
<b>Residential and Commercial, Multiple Units</b>	\$38.68	686	\$318,414	13.7%
<b>Agricultural</b>	\$273.14	1	\$3,278	0.1%
<b>Untreated [1]</b>				
5/8" x 3/4"	\$64.75	3	\$1,166	0.1%
1"	\$103.75	1	\$623	0.0%
Subtotal Fixed Revenue			\$1,905,607	82.2%
<b>USAGE CHARGE</b>				
<b>Residential and Commercial</b>	<b>Usage Charge</b>	<b>Usage Above Base (gal)</b>	<b>Usage Charge Revenue</b>	<b>% of Total</b>
5,001 to 20,000 gallons	\$2.47	60,548,947	\$149,556	6.4%
> 20,000 gallons	\$2.21	69,890,255	\$154,457	6.7%
<b>Residential and Commercial, Multiple Units</b>				
Usage below 5,000 gallons that is not included in base rate *per				
100 gallons	\$1.24	6,068,121	\$75,245	3.2%
5,001 to 20,000 gallons	\$2.47	11,422,291	\$28,213	1.2%
> 20,000 gallons	\$2.21	1,350,706	\$2,985	0.1%
<b>Agricultural</b>				
> 60,000 gallons	\$1.70	791,200	\$1,345	0.1%
<b>Untreated</b>				
5,001 to 20,000 gallons	\$2.47	100,950	\$249	0.0%
> 20,000 gallons	\$2.21	643,640	\$1,422	0.1%
Subtotal Consumption Revenue		150,816,110	\$413,473	17.8%
<b>Total Water Sales Revenue</b>			<b>\$2,319,080</b>	<b>100.0%</b>
1 - Untreated customers are only billed during portions of the year when untreated water is available. They are estimated to be charged 6 months out of the year.				

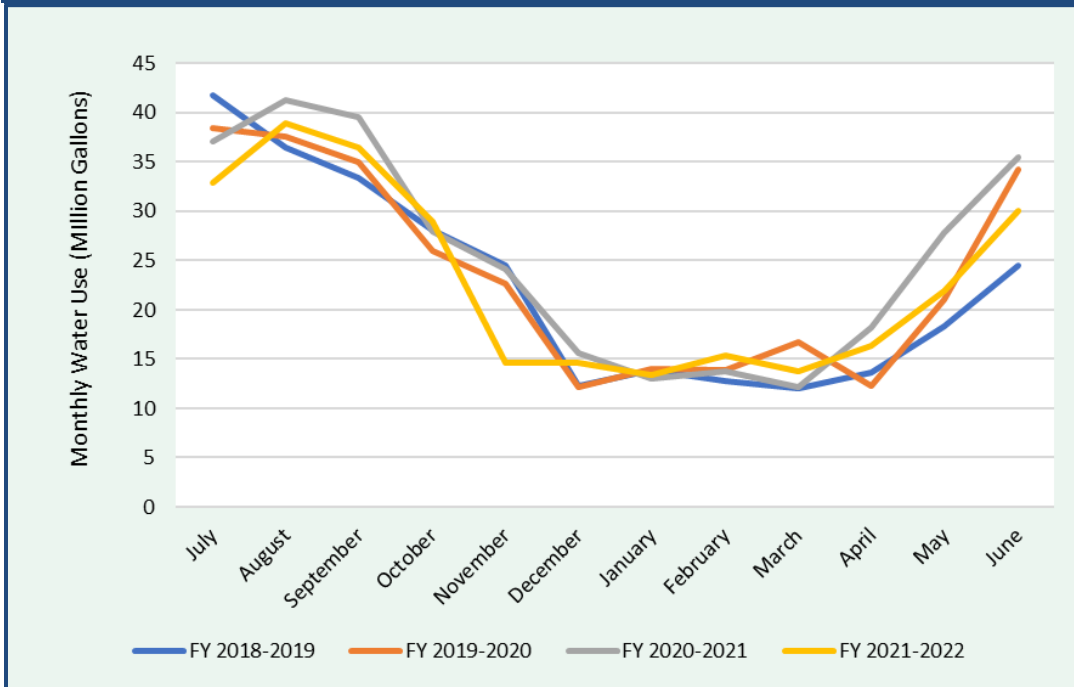


## 2.5 Water Usage Statistics

The District's water usage over the past three years is provided in Table 7 below. Residential and commercial customers are responsible for the largest share of water use, representing about 86.8% of total use over the past three years. About 46% of water use falls within the base water allotments and about 54% falls above the base water allotments and is billed the volume rates. Total water use over the past four years is illustrated in Figure 3. As shown, the District has high summer peak usage compared to winter usage.

Table 7: Water Consumption by Customer Class (Gallons) Calaveras Public Utility District Water Rate Study					
Customer Class	2019/20	2020/21	2021/22	Three-Year Average	% of Total
<i>Consumption Below Base</i>					
Residential and Commercial	110,805,112	118,048,730	112,800,770	113,884,871	39.6%
Multiunit Residential	14,353,240	14,525,485	14,413,628	14,430,784	5.0%
Agricultural	609,300	540,100	509,600	553,000	0.2%
Untreated	182,220	160,690	58,980	133,963	0.0%
Fire Hydrant Meter	902,340	2,397,740	2,558,310	1,952,797	0.7%
<u>Turned Off Accounts</u>	<u>1,376,150</u>	<u>340,849</u>	<u>1,652,362</u>	<u>1,123,120</u>	<u>0.4%</u>
Subtotal Below Base	128,228,362	136,013,594	131,993,650	132,078,535	45.9%
<i>Consumption Above Base</i>					
Residential and Commercial	128,808,160	147,672,391	130,439,202	135,639,918	47.2%
Multiunit Residential	16,866,957	20,671,699	18,841,118	18,793,258	6.5%
Agricultural	469,900	739,600	791,200	666,900	0.2%
Untreated	53,440	140,470	744,590	312,833	0.1%
Fire Hydrant Meter	0	0	0	0	0.0%
<u>Turned Off Accounts</u>	<u>0</u>	<u>0</u>	<u>2,642</u>	<u>881</u>	<u>0.0%</u>
Subtotal Above Base	146,198,457	169,224,160	150,818,752	155,413,790	54.1%
<b>TOTAL WATER CONSUMPTION</b>	<b>274,426,819</b>	<b>305,237,754</b>	<b>282,812,402</b>	<b>287,492,325</b>	<b>100.0%</b>

Figure 3: Historical Districtwide Total Monthly Water Use



## SECTION 3: COST OF SERVICE

---

Proposition 218 requires that utility rates be based on the reasonable cost of providing service to customers. This section provides an analysis of revenues and expenses to determine the total cost of service to be recovered via rates. The cost of service is expressed in a cash flow table that illustrates revenue increases needed to keep up with expenses and maintain the financial health of the enterprise.

### 3.1 Revenues

In FY2022/23, the District expects to collect about \$2.6 million in total revenues, of which about 89% will be collected from water sales. Other revenue sources include fees, hydroelectric generation revenues, taxes, cell tower leases, and Mokelumne Hill Sanitation District (MHSD) revenue.

### 3.2 Expenses

#### 3.2.1 Operating Costs

Major expenses include salaries, benefits, administration, operations, equipment, outside services, and utilities. Expenses are based on the District's forecast included in the FY2022/23 Budget, except for electricity expenses, which are increased by 35% in FY2022/23 per direction from the District. Salaries and benefit expenses are escalated according to the District's MOU dated September 2022.

#### 3.2.2 Debt Service Costs

The District has one outstanding debt obligation – an installment purchase agreement issued in 2021 to finance the Clearwell Water Tank Replacement project. Annual debt service is about \$133,000 per year and the obligation will be paid off in 2041. The amount financed was \$2.035 million consisting of \$2 million in debt proceeds and \$35,000 in issuance costs. The loan agreement requires that the District maintain a debt service coverage ratio of 1.20. Debt coverage is calculated as:

$$(Revenue - Operating Expenses) / (Debt Service)$$

A debt service coverage ratio is a financial measure of an agency's ability to repay outstanding debt. Most forms of debt available to utilities, such as bonds, bank loans, and SRF loans, have legal requirements that obligate the borrower to maintain a debt coverage ratio typically ranging from 1.1 to 1.25. Essentially, this means that the borrower has a 10% to 25% financial buffer in excess of the debt payment amount. The 10% to 25% debt service buffer can be used to fund capital improvements or be added to reserves.

In FY2022/23, the District anticipates operating at a deficit meaning that it will need to use reserves to cover costs and it will not have sufficient operating revenues to meet its debt coverage requirement. Without a rate increase, the District will fail to meet its coverage ratio of 1.20 in subsequent years due to insufficient operating revenues. Thus, rates and fees must be set to meet this legal requirement. The

rates proposed in this report are projected to generate operating revenues needed to allow CPUD to meet and exceed its current debt coverage requirement.

### **3.2.3 Capital Costs**

Table 8 provides the District's capital improvement plan for 2022/23. The majority of capital improvement spending will be toward the Clearwell Project. Additional capital costs include new equipment, meter reading software, office furniture, and transmission and distribution improvements. Capital improvement costs in FY2023/24 are projected at \$100,000 and at \$350,000 per year thereafter. These amounts are intended to cover repairs for wear and tear on the system and any unexpected or emergency expenses. To fund specific future projects, the District intends to secure grant funding so as to not burden the ratepayers.

**Table 8: Capital Outlay Fiscal Year 2022/2023  
Calaveras Public Utility District  
Water Rate Study**

<b>Category</b>	<b>Budgeted</b>
<u>Water Treatment Improvements - Clearwell Project</u>	
Environmental	16,536
Design (Eng., Geotech, Survey, SCADA/ELEC)	188,076
Phase 1 - Construction	16,300
Phase 2 - Construction	1,725,449
Phase 2 - SCADA Integration (TSI Inc)	125,100
Phase 2 - Construction Management	391,035
Phase 2 - 5% Unforeseen Contingency	<u>47,834</u>
Total Water Treatment Improvements	2,510,329
<u>Equipment/Vehicles</u>	
New Equipment: Backhoe Lease (5year option \$2450/Month)	29,400
Auction Vehicles: F350 - Estimate \$3500 Proceeds	(3,500)
Old Backhoe - Estimate \$2500 Proceeds	<u>(2,500)</u>
Total Equipment/Vehicles	23,400
<u>Software</u>	
Meter Reading	
Software/Devices - Needs to be completed with CUSI	<u>25,000</u>
Total Software	25,000
<u>Building Improvements</u>	
Office Furniture	45,000
Business Server	
Board Room Improvements	<u>10,000</u>
Total Office Improvements	55,000
<u>Water Distribution Improvements</u>	
Rich Gulch Transmission Main Replacement - Design	38,293
Unforeseen Transmission and Distribution Projects	<u>250,000</u>
Total Water Distribution Improvements	300,000
<b>Total Capital Overlay</b>	<b>\$2,913,729</b>
Source: Budget FY 2023	

### 3.3 Reserves

The accumulation of reasonable reserves is another factor to consider when determining the cost of service. Utilities should maintain reserves to fund issues such as unexpected costs and emergency repairs, to provide cash flow in case of customer billing or revenue collection issues, and to provide financial stability in case of lower water sales due to drought. Fund reserves also allow the District to maintain its financial health and positive credit ratings, especially during emergencies.

The District maintains several reserve funds, including an Operating Reserve, Capital Reserve, Self-Insurance Reserve, Rate Stabilization Reserve, Vehicle Fleet Reserve, Equipment Reserve, Technology Reserve, and Designated Project/Special Use Reserve. As of July 2022, CPUD had \$4.7 million in total available reserves. In FY2021/22, the District spent down some of its Capital, Equipment, and Designated Project/Special Use reserves to fund capital projects. In FY2022/23, the District anticipates spending down additional capital reserves and a portion of its Rate Stabilization Reserve.

A summary of the District’s current reserve funds and fund targets are provided in Table 9. The District has an existing Reserve Policy adopted by the Board of Directors. In addition to establishing the fund targets provided in Table 9, this Policy outlines the specific purposes for which each reserve can be used. For instance, the Operating and Self-Insurance reserves can be used at any time to meet cash flow requirements. The Board typically authorizes use of the Capital Reserve for specific items in the Capital Improvement Plan during the budget process, though reserves can be used to fund unforeseen capital replacements if needed. The Rate Stabilization Reserve is used to supplement annual operating revenues if they are five percent or more below projected revenues. The Vehicle Fleet, Equipment, and Technology reserves are used exclusively for the purchase of vehicles, equipment, and computer hardware and software. Projects funded by the Designated Project/Special Use Reserve are evaluated on a case-by-case basis and approved by the Board.

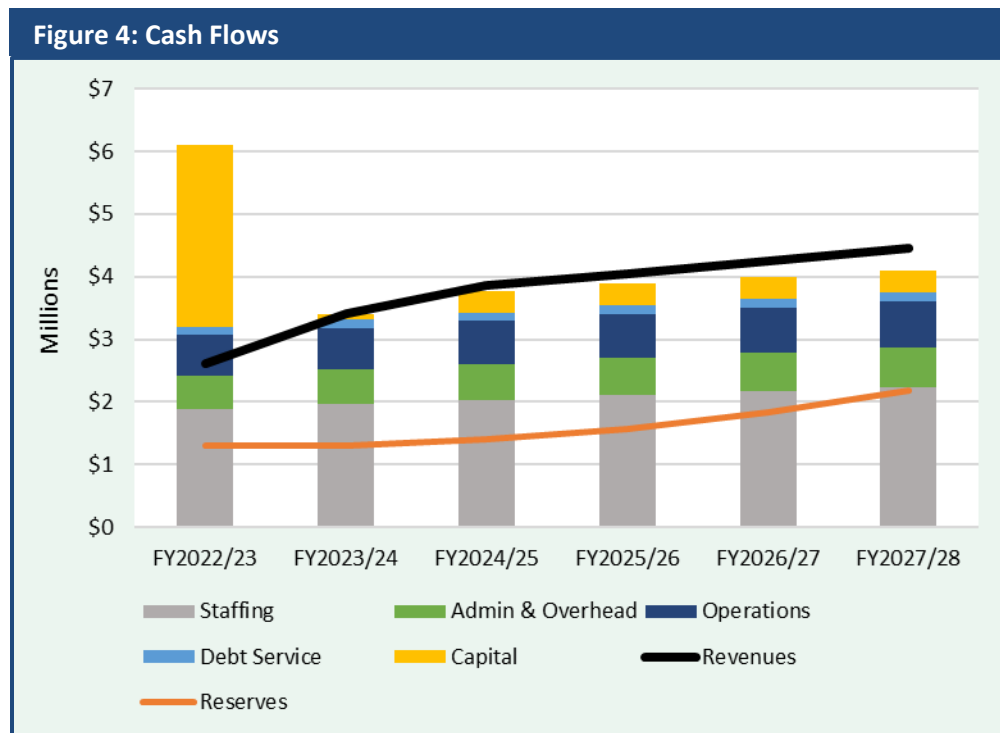
<b>Table 9: Current Reserve Policies Calaveras Public Utility District Water Rate Study</b>	
<b>Reserve Category</b>	<b>Target</b>
Operating Reserve	6 months O&M
Capital Reserve	1 year’s costs
Self-Insurance Reserve	\$200,000
Rate Stabilization Fund	1 year’s water consumption revenue
Vehicle Fleet Reserve	Accumulate \$10,000 per year up to \$50,000
Equipment Reserve	Accumulate \$10,000 per year up to \$100,000
Technology Reserve	Accumulate \$4,000 per year up to \$40,000
Designated Project/Special Use Reserve	Accumulate \$20,000 per year up to \$100,000

### 3.4 Water Cash Flow

Figure 4 and Table 10 provides the water fund cash flow projection for FY2022/23 to FY2027/28. The cash flow is based on the FY2022/23 Budget and includes revenue increases such that the District covers costs and rebuilds its reserves over the next five years.

In FY2022/23 the District is projected to end the year with an operating deficit meaning that operating expenses are greater than revenues and the District will need to use reserves to meet costs. Due to the deficit, the District is not expected to meet its debt coverage requirement. Moreover, due to large capital spending this fiscal year, the District’s total reserve balance is projected to be drawn down to about \$1.3 million. This is less than the target of 50% of operating costs (about \$1.53 million in FY2022/23).

With the proposed rate increase in FY2023/24, the District’s financial health is projected to improve significantly. The operating deficit is reversed, the District is projected to exceed its debt coverage requirement, and the District can fund \$100,000 in capital improvements. With further proposed rates increases, capital funding is increased to \$350,000 in future years, and the District rebuilds its reserves.



**Table 10: Cash Flow Projection  
Calaveras Public Utility District  
Water Rate Study**

		Years 1 -5: Proposition 218					
		Budget 2022/23	FY2023/24	FY2024/25	FY2025/26	FY2026/27	FY2027/28
1	Overall Revenue Adjustment		33.0%	14.0%	5.0%	5.0%	5.0%
2	Rate Increase Effective		Jul 1, 2023	Jul 1, 2024	Jul 1, 2025	Jul 1, 2026	Jul 1, 2027
3							
4							
5	<b>BEGINNING FUND BALANCE [1]</b>	\$4,800,700	\$1,300,800	\$1,306,000	\$1,399,200	\$1,568,400	\$1,828,600
6							
7	<b>REVENUES</b>						
8	Water Service Charges	2,319,100	3,084,000	3,516,000	3,692,000	3,877,000	4,071,000
9	Fees	37,900	50,000	57,000	60,000	63,000	66,000
10	Hydro Revenue	76,400	102,000	116,000	122,000	128,000	134,000
11	Taxes	120,000	120,000	120,000	120,000	120,000	120,000
12	Interest (investments)	7,000	7,000	7,000	7,000	7,000	7,000
13	Cell Tower Leases	29,000	29,000	29,000	29,000	29,000	29,000
14	MHSD Revenue	18,200	18,200	18,200	18,200	18,200	18,200
15	Grant Revenue	0	0	0	0	0	0
16	Other Income	<u>5,000</u>	<u>5,000</u>	<u>5,000</u>	<u>5,000</u>	<u>5,000</u>	<u>5,000</u>
17	<b>Total Revenue</b>	2,612,600	3,415,200	3,868,200	4,053,200	4,247,200	4,450,200
18							
19	<b>EXPENSES</b>						
20	<i>Operational Expenses</i>						
21	Salaries [2]	999,600	1,040,000	1,082,000	1,120,000	1,154,000	1,189,000
22	Benefits [2]	881,500	917,000	954,000	987,000	1,017,000	1,048,000
23	Conferences, Meetings, & Training	36,000	37,000	38,000	39,000	40,000	41,000
24	Administration Expenses	297,100	306,000	315,000	325,000	334,000	344,000
25	Operations Expense	313,300	323,000	332,000	342,000	353,000	364,000
26	Outside Services	206,100	212,000	219,000	225,000	232,000	239,000
27	Equipment Rent, Taxes, & Utilities	<u>332,200</u>	<u>342,000</u>	<u>352,000</u>	<u>363,000</u>	<u>374,000</u>	<u>385,000</u>
28	Subtotal O&M	3,065,800	3,177,000	3,292,000	3,401,000	3,504,000	3,610,000
29							
30	Net Operating Revenue	(453,200)	238,200	576,200	652,200	743,200	840,200
31							
32	<b>Debt Service</b>	133,000	133,000	133,000	133,000	133,000	133,000
33							
34	<b>Capital Projects</b>	2,913,700	100,000	350,000	350,000	350,000	350,000
35							
36	<b>Total Expenses</b>	6,112,500	3,410,000	3,775,000	3,884,000	3,987,000	4,093,000
37							
38	<b>Total Net Revenues</b>	(3,499,900)	5,200	93,200	169,200	260,200	357,200
39							
40	<b>ENDING FUND BALANCE</b>	1,300,800	1,306,000	1,399,200	1,568,400	1,828,600	2,185,800
41							



	Budget 2022/23	Years 1 -5: Proposition 218					
		FY2023/24	FY2024/25	FY2025/26	FY2026/27	FY2027/28	
42							
43	<i>Reserve Fund Targets [3]</i>						
44	Operating Reserves	1,533,000	1,589,000	1,646,000	1,701,000	1,752,000	1,805,000
45	Capital Reserves	0	350,000	375,000	400,000	450,000	500,000
46	Self-Insurance Reserves	200,000	200,000	200,000	200,000	200,000	200,000
47	Rate Stabilization Reserve	547,000	657,000	716,000	748,000	778,000	809,000
48	Vehicle Fleet Reserve	10,000	10,000	10,000	10,000	10,000	10,000
49	Equipment Reserve	10,000	10,000	10,000	10,000	10,000	10,000
50	Technology Reserve	4,000	4,000	4,000	4,000	4,000	4,000
	<u>Designated Project/Special Use</u>						
51	<u>Reserve</u>	<u>20,000</u>	<u>20,000</u>	<u>20,000</u>	<u>20,000</u>	<u>20,000</u>	<u>20,000</u>
52	Total Water Reserve Target	2,324,000	2,840,000	2,981,000	3,093,000	3,224,000	3,358,000
53	Total Reserve Target Met?	no	no	no	no	no	no
54							
55	Debt Service Coverage Target - 1.20x [4]	-3.41	1.79	4.33	4.90	5.59	6.32
56	Target Met?	no	yes	yes	yes	yes	yes
57							
1 - Source: Beginning Net Position from FY 2022-2023 Operational Budget							
2 - Salaries and Benefits expenses are escalated according to the District's MOU dated September 2022 rather than the District's Operating Budget Forecast							
3 - District's budgeted reserve targets							
4 - Net Operating Revenue divided by Total Debt Service							

## SECTION 4: RATE DESIGN

---

The prior section determined the total cost of providing service to customers. In this section, the cost of service is assigned to fixed and volume rates to fairly recover costs based on how customers use the system.

### 4.1 Rate Design Considerations

The proposed rate structure described in this report eliminates the water allotment included in the monthly fixed fees and eliminates tiered rates such that all water use is billed a uniform rate per unit. The goal of updating the water rate structure is to simplify the existing rate categories and promote equity among customers, particularly those that use lower volumes of water. Currently, the fixed fee per month includes a water allotment. For customers with a 5/8" meter, the base allotment is 5,000 gallons per month. However, the average customer only uses approximately 4,300 gallons per month during the winter months, meaning that the average customer is paying for water which they are not using throughout the winter. By eliminating the base allotment, customers would only pay for water they actually used and would have greater control over their bills. Additionally, per new State mandated water conservation regulations, non-billed water including water allotments may be subject to audits in the future.

Untreated water customers will continue to be billed the same fixed fees as treated water customers according to meter size. The untreated volume rate will continue to be calculated as the treated rate discounted for treatment expenses which do not apply to untreated (raw) water customers.

### 4.2 Cost Allocation Methodology

The American Water Works Association (AWWA) recommends methods to classify costs among various customers. The base-extra capacity method was selected for this study. Costs are allocated to the following categories: (a) base, (b) extra, and (c) metering and customer service. The base category is intended to encompass expenses related to providing water under average conditions ("base"). The extra category includes costs related to providing water above the system average (i.e. related to peak or "extra" usage). The metering and customer service category encompasses costs related to overhead, administration, meter repairs, debt services, and the annual capital improvement cost.

FY2023/24 was selected as the test year for cost allocation, see Table 11. The base and extra categories are combined into one category for cost allocation purposes and represent about 40% of total costs. The District intends to recover base and extra costs through uniform volume rates. This is in contrast to the District's current rate plan, which recovers slightly less than 20% of rate revenues from volume rates. As shown in Table 11, some of the base & extra category costs are noted as treatment expenses such as lab and sampling costs, treatment electric, chemicals, etc. These expenses will be excluded from the untreated water rate. The metering and customer service category makes up about 60% of total costs that will be recovered through base rates. The allocation percentages determined in Table 11 are

multiplied by the cost of service determined via the cash flow in Table 10 to calculate the total amount of revenue to be recovered from fixed and volume rates.

**Table 11: Cost Allocation  
Calaveras Public Utility District  
Water Rate Study**

<b>Budgeted Expenses</b>	<b>Budget 2023/24</b>	<b>Base &amp; Extra (usage rate)</b>	<b>Meters &amp; Customer Service (meter fee)</b>	<b>Notes</b>
<i><u>Operating Expenses</u></i>				
Salaries	1,040,000	33.33%	66.67%	33/67
Benefits	917,000	33.33%	66.67%	33/67
Conferences, Meetings, & Training	37,000	0.00%	100.00%	Meters and services
Administration Expenses	306,000	0.00%	100.00%	Meters and services
Operations Expense				
Treatment Expenses	189,666	100.00%	0.00%	Supply (Treatment)
Chemicals	14,600	100.00%	0.00%	Supply (Treatment)
Meter Repairs	32,445	0.00%	100.00%	Meters and services
All Other Operations Expense	86,288	100.00%	0.00%	Supply
Outside Services				
Lab & Sampling	9,666	100.00%	0.00%	Supply (Treatment)
Engineering & Dam Consultants	59,225	100.00%	0.00%	Supply
All Other Outside Services	143,109	0.00%	100.00%	Meters and services
Equipment Rent, Taxes, & Utilities				
Treatment Electric	22,801	100.00%	0.00%	Supply (Treatment)
Office Electric	5,587	0.00%	100.00%	Meters and services
All Other Expenses	<u>313,612</u>	<u>100.00%</u>	<u>0.00%</u>	Supply
Subtotal O&M	3,177,000	1,348,000	1,829,000	
<i><u>Non-Operating Expenses</u></i>				
Debt Service	133,000	0.00%	100.00%	Meters and services
Capital Projects	<u>100,000</u>	<u>0.00%</u>	<u>100.00%</u>	Meters and services
Subtotal Non-Operating	233,000	0	233,000	
Total Expenses (for Allocation)	3,410,000	1,348,000	2,062,000	
<b>Proposed Cost Allocation %</b>	<b>100.00%</b>	<b>39.54%</b>	<b>60.46%</b>	

### 4.3 Meter Equivalents

For the metering and customer service revenue requirement, AWWA guidelines recommend using meter equivalents to assign capacity-related costs to larger meter sizes. Utility infrastructure is typically designed to meet peak demands associated with the maximum flow rate of each meter. The flow of larger meters compared to the base meter size of 5/8" determines the meter equivalents, see Table 12.

<b>Table 12: Number of Meter Equivalents Calaveras Public Utility District Water Rate Study</b>				
<b>Meter Size</b>	<b>No. of Meters</b>	<b>Flow Rate (gpm)</b>	<b>Meter Ratio</b>	<b>No. of Meter Equivalents</b>
5/8" x 3/4"	1,680	30	1.00	1,680
1"	181	50	1.67	302
1-1/2"	13	100	3.33	43
2"	31	160	5.33	165
4"	6	500	16.67	100
6"	0	1,000	33.33	0
8"	<u>1</u>	1,600	53.33	<u>53</u>
<b>TOTAL [1]</b>	<b>1,912</b>			<b>2,344</b>
gpm – gallons per minute				
1 - Excludes turned off accounts and fire hydrant meters				

### 4.4 Rate Calculation

CPUD’s FY2023/24 rate calculation is provided in Table 13. The total cost to be recovered from the base & extra category from volume rates is \$1.22 million based on the FY2023/24 revenue requirement of \$3,084,000 multiplied by the allocation percentage of 39.54%. \$237,000 is attributable to treatment expenses and about \$983,000 is attributable to other supply costs. Treatment expenses are divided by estimated treated water consumption to calculate a rate of \$0.84 per thousand gallons. All other supply costs are divided by total water consumption (treated and raw water usage) to calculate a rate of \$3.48 per thousand gallons. The total treated water rate is \$4.32 per thousand gallons which is made up of the treatment rate plus the supply rate.

The meters & customer service fee is calculated as the total FY2023/24 revenue requirement of \$3,084,000 multiplied by the allocation percentage of 60.46% and divided by the number of meter equivalents. This cost is further subdivided between debt service expenses and non-debt service expenses. The cost per meter equivalent is \$66.30 (debt service fee of \$4.73 plus the meter fee of \$61.57). In Table 14, the cost per meter equivalent is multiplied by the number of equivalents for larger meters to determine the full schedule of monthly base rates. As described, no water use is proposed to be included in the base rate.

Table 13: FY2023/24 Rate Calculation Calaveras Public Utility District Water Rate Study					
	Total	Base & Extra (usage rate)		Meters & Customer Service	
		Treatment Expenses	All Other Supply Expenses	Debt Service	Meter Fee
2023/24 Revenue Req.	\$3,084,000	\$236,733	\$982,583	\$133,000	\$1,731,697
Cost Allocation %	100.00%	7.68%	31.86%	4.31%	56.15%
2023/24 Units of Service (estimated)		280,981 Usage (thousand gallons)	282,281	2,344 # of Meter Equivalents	2,344 # of Meter Equivalents
2023/24 Rate		\$0.84 \$/thousand gal	\$3.48 \$/ thousand gal	\$4.73 \$/meter equivalent	\$61.57 \$/meter equivalent

Table 14: FY2023/24 Base Rates for Larger Meter Sizes Calaveras Public Utility District Water Rate Study			
Meter Size	Ratio	Debt Service	Meter Fee
5/8" x 3/4"	1.00	\$4.73	\$61.57
1"	1.67	\$7.88	\$102.62
1-1/2"	3.33	\$15.77	\$205.23
2"	5.33	\$25.23	\$328.37
4"	16.67	\$78.83	\$1,026.17
6"	33.33	\$157.67	\$2,052.33
8"	53.33	\$252.27	\$3,283.73

### 4.5 Drought Rates

Table 15 provides the cost allocation for the base & extra category under various water cutback scenarios. The 0% column is the volume rate allocation under normal water year conditions (i.e. 0% cutback) and matches the allocation in Table 11. Columns noted as 20% to 50% represent potential water shortage scenarios. During drought conditions, water consumption will decrease and some of the District’s expenses will also decrease proportionally. These expenses are highlighted grey in Table 15. Other expenses such as staffing, rental of equipment, and safety supplies for the operators will remain the same. The bottom row of Table 15 provides percentages which illustrate how supply related

expenses are expected to vary under the cutback scenarios. Under a 50% water cutback, non-treatment base & extra costs are expected to total about 85.9% of the normal water year costs.

<b>Table 15: Base &amp; Extra Cost Allocation Under Various Water Cutback Scenarios</b>						
<b>Calaveras Public Utility District</b>						
<b>Water Rate Study</b>						
<b>Budgeted Expenses</b>	<b>Budget FY2023/24</b>	<b>Base &amp; Extra Costs Under Water Cutback Scenarios</b>				
		<b>0%</b>	<b>20%</b>	<b>30%</b>	<b>40%</b>	<b>50%</b>
<i>Operating Expenses</i>						
Salaries	1,040,000	346,667	346,667	346,667	346,667	346,667
Benefits	917,000	305,667	305,667	305,667	305,667	305,667
Conferences, Meetings, & Training	37,000	0	0	0	0	0
Administration Expenses	306,000	0	0	0	0	0
Operations Expense		0	0	0	0	0
Treatment Expenses	189,666	189,666	151,733	132,766	113,800	94,833
Chemicals	14,600	14,600	11,680	10,220	8,760	7,300
Meter Repairs	32,445	0	0	0	0	0
All Other Operations Expense	86,288	86,288	86,288	86,288	86,288	86,288
Outside Services	0	0	0	0	0	0
Lab & Sampling	9,666	9,666	9,666	9,666	9,666	9,666
Engineering & Dam Consultants	59,225	59,225	59,225	59,225	59,225	59,225
All Other Outside Services	143,109	0	0	0	0	0
Equipment Rent, Taxes, & Utilities		0	0	0	0	0
Treatment Electric	22,801	22,801	18,241	15,961	13,681	11,400
Office Electric	5,587	0	0	0	0	0
All Other Expenses	<u>313,612</u>	<u>313,612</u>	<u>250,889</u>	<u>219,528</u>	<u>188,167</u>	<u>156,806</u>
Subtotal O&M	3,177,000	1,348,192	1,240,056	1,185,988	1,131,920	1,077,852
<i>Non-Operating Expenses</i>						
Debt Service	133,000	0	0	0	0	0
Capital Projects	<u>100,000</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Subtotal Non-Operating	233,000	0	0	0	0	0
Total Expenses	3,410,000	1,348,192	1,240,056	1,185,988	1,131,920	1,077,852
Treatment Expenses		236,733	191,320	168,613	145,906	123,199
All Other Supply Expenses		1,111,458	1,048,736	1,017,375	986,014	954,653
Ratio of All Other Supply Expenses relative to Normal Water Year			94.36%	91.54%	88.71%	85.89%

Table 16 provides drought rate calculations. Treatment expenses under each cutback scenario are divided by treated water usage. For all other supply costs, the ratios shown at the bottom of Table 15 are multiplied by the supply revenue requirement shown in Table 13 (\$983,000). This determines the revenue requirement which is then divided by estimated total usage.

**Table 16: FY2023/24 Drought Rates  
Calaveras Public Utility District  
Water Rate Study**

Category	Treatment Expenses	All Other Supply Expenses	Total
<b>20% Water Cutback</b>			
Revenue Requirement	\$191,320	\$927,121	\$1,118,440
Units of Service (thousand gal)	224,784	225,825	
Unit Cost (\$/thousand gal)	\$0.85	\$4.11	\$4.96
<b>30% Water Cutback</b>			
Revenue Requirement	\$168,613	\$899,396	\$1,068,009
Units of Service (thousand gal)	196,686	197,597	
Unit Cost (\$/thousand gal)	\$0.86	\$4.55	\$5.41
<b>40% Water Cutback</b>			
Revenue Requirement	\$145,906	\$871,672	\$1,017,578
Units of Service (thousand gal)	168,588	169,369	
Unit Cost (\$/thousand gal)	\$0.87	\$5.15	\$6.02
<b>50% Water Cutback</b>			
Revenue Requirement	\$123,199	\$843,948	\$967,147
Units of Service (thousand gal)	140,490	141,141	
Unit Cost (\$/thousand gal)	\$0.88	\$5.98	\$6.86

#### **4.6 Proposed 5-Year Rate Plan**

The District’s 5-year rate plan is provided in Table 17. The rates are proposed to be effective July 1 of each year beginning in 2023 to correspond to the District’s fiscal year. The FY2023/24 rates are calculated in the preceding tables. Rates for FY2024/25 and beyond are calculated as the FY2023/24 rates increased by the percents shown in the cash flow in Table 10. FY2024/25 rates are increased by 14% and the rates for FY2025/26 through FY2027/28 are increased by 5% annually. It should be noted that the total base rates (debt service fee plus meter fee) are increased by the percentages shown in Table 10 while the debt service portion is proposed to remain the same over the 5-year rate study period.

**Table 17: Current and Proposed Water Rates**  
**Calaveras Public Utility District**  
**Water Rate Study**

CURRENT			PROPOSED										
Meter Size	Usage Covered by Minimum (Gallons)		July 1, 2023		July 1, 2024		July 1, 2025		July 1, 2026		July 1, 2027		
			BASE RATE	Meter Fee	+Debt Fee	Meter Fee	+Debt Fee	Meter Fee	+Debt Fee	Meter Fee	+Debt Fee	Meter Fee	+Debt Fee
<b>Meter Size - All customers; no water use is included in the base rate</b>													
5/8" x 3/4"	\$64.75	5,000	5/8" x 3/4"	\$61.57	\$4.73	\$70.85	\$4.73	\$74.63	\$4.73	\$78.60	\$4.73	\$82.77	\$4.73
1"	\$103.75	20,000	1"	\$102.62	\$7.88	\$118.09	\$7.88	\$124.39	\$7.88	\$131.00	\$7.88	\$137.94	\$7.88
1-1/2"	\$188.46	40,000	1-1/2"	\$205.23	\$15.77	\$236.17	\$15.77	\$248.77	\$15.77	\$262.00	\$15.77	\$275.89	\$15.77
2"	\$357.83	80,000	2"	\$328.37	\$25.23	\$377.87	\$25.23	\$398.03	\$25.23	\$419.19	\$25.23	\$441.41	\$25.23
4"	\$654.24	150,000	4"	\$1,026.17	\$78.83	\$1,180.87	\$78.83	\$1,243.86	\$78.83	\$1,309.99	\$78.83	\$1,379.43	\$78.83
6"	\$865.97	200,000	6"	\$2,052.33	\$157.67	\$2,361.73	\$157.67	\$2,487.70	\$157.67	\$2,619.97	\$157.67	\$2,758.85	\$157.67
8"	\$1,077.70	250,000	8"	\$3,283.73	\$252.27	\$3,778.77	\$252.27	\$3,980.32	\$252.27	\$4,191.95	\$252.27	\$4,414.16	\$252.27
Multi Unit*	\$38.68	3,000											
Agricultural	\$273.14	60,000											
Industrial	\$865.97	200,000											
*Multi unit usage 3,000 gallons or less/month avg/unit													
<b>VOLUME RATES</b>			<b>VOLUME RATES (\$/thousand gallons applied to all use) - Normal Water Year</b>										
Treated Water (gallons) - Use over Minimum			July 1, 2023		July 1, 2024		July 1, 2025		July 1, 2026		July 1, 2027		
3,001 to 5,000	\$1.24	\$/hundred gal.	Treated Water	\$4.32	\$4.92	\$5.17	\$5.43	\$5.70					
5,001 to 20,000	\$2.47	\$/thousand gal.	Agricultural/Untreated	\$3.48	\$3.97	\$4.17	\$4.38	\$4.60					
> 20,000	\$2.21	\$/thousand gal.											
<b>VOLUME RATES (\$/thousand gallons applied to all use) - Drought Conditions</b>													
20% Cutback													
3,001 to 5,000	\$1.24	\$/hundred gal.	Treated water	\$4.96	\$5.65	\$5.93	\$6.23	\$6.54					
5,001 to 20,000	\$2.47	\$/thousand gal.	Agricultural water	\$4.11	\$4.69	\$4.92	\$5.17	\$5.43					
> 20,000	\$2.21	\$/thousand gal.											
30% Cutback													
Agricultural			Treated water	\$5.41	\$6.17	\$6.48	\$6.80	\$7.14					
> 60,000	\$1.70	\$/thousand gal.	Agricultural water	\$4.55	\$5.19	\$5.45	\$5.72	\$6.01					
40% Cutback													
<b>DROUGHT MANAGEMENT PLAN SURCHARGE:</b>													
Treated water			Treated water	\$6.02	\$6.86	\$7.20	\$7.56	\$7.94					
Agricultural water			Agricultural water	\$5.15	\$5.87	\$6.16	\$6.47	\$6.79					
50% Cutback													
Treated water			Treated water	\$6.86	\$7.82	\$8.21	\$8.62	\$9.05					
Agricultural water			Agricultural water	\$5.98	\$6.82	\$7.16	\$7.52	\$7.90					



## 4.7 Bill Impacts

Table 18 provides impacts to a typical customer's bill based on average monthly usage, winter usage, and summer usage under the proposed rates. The typical summer bill is proposed to increase to a greater extent than the typical winter bill which reflects a higher percent of District revenue recovered through volume rates.

<b>Table 18: Comparison of Current and Proposed Single Family Residential Bills</b>									
<b>Calaveras Public Utility District</b>									
<b>Water Rate Study</b>									
<b>Average Bill</b>		<b>Current</b>			<b>Proposed</b>				
	Fee	# of Units	Total Charges		Fee	# of Units	Total Charges		% Increase
Base Rate	\$64.75	x 1	\$64.75	Meter Fee	\$61.57	x 1	\$61.57		
				Debt Fee	\$4.73	x 1	\$4.73		
Usage (thousand gallons)				Usage (all use)	\$4.32	x 8.5	<u>\$36.72</u>		
0 to 5 units	\$0.00	x 5	\$0.00						
5 to 20 units	\$2.47	x 3.5	<u>\$8.65</u>						
<b>Total Monthly Bill</b>			<b>\$73.40</b>	<b>Total Monthly Bill</b>			<b>\$103.02</b>		<b>40%</b>
<b>Winter Bill</b>		<b>Current</b>			<b>Proposed</b>				
	Fee	# of Units	Total Charges		Fee	# of Units	Total Charges		% Increase
Base Rate	\$64.75	x 1	\$64.75	Meter Fee	\$61.57	x 1	\$61.57		
				Debt Fee	\$4.73	x 1	\$4.73		
Usage (thousand gallons)				Usage (all use)	\$4.32	x 4.3	<u>\$18.58</u>		
0 to 5 units	\$0.00	x 4.3	\$0.00						
5 to 20 units	\$2.47	x 0	<u>\$0.00</u>						
<b>Total Monthly Bill</b>			<b>\$64.75</b>	<b>Total Monthly Bill</b>			<b>\$84.88</b>		<b>31%</b>
<b>Summer Bill</b>		<b>Current</b>			<b>Proposed</b>				
	Fee	# of Units	Total Charges		Fee	# of Units	Total Charges		% Increase
Base Rate	\$64.75	x 1	\$64.75	Meter Fee	\$61.57	x 1	\$61.57		
				Debt Fee	\$4.73	x 1	\$4.73		
Usage (thousand gallons)				Usage (all use)	\$4.32	x 14.5	<u>\$62.64</u>		
0 to 5 units	\$0.00	x 5	\$0.00						
5 to 20 units	\$2.47	x 9.5	<u>\$23.47</u>						
<b>Total Monthly Bill</b>			<b>\$88.22</b>	<b>Total Monthly Bill</b>			<b>\$128.94</b>		<b>46%</b>

Figure 5 provides the distribution of bill impacts under the proposed rates for single family customers served on 5/8” meters. About 1/3 of monthly bills will receive increases of \$15 or less.

