



# **KELSEYVILLE COUNTY WATERWORKS DISTRICT No. 3**

## **Water and Sewer Rate Study 2024**

**FINAL REPORT  
July 30, 2024**



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## SECTION 1: EXECUTIVE SUMMARY

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### 1.1 Background

The community of Kelseyville is a census-designated place located near the western shore of Clear Lake in Lake County, California. Water and sewer (wastewater) service is provided by Kelseyville County Waterworks District No. 3 (District), which is administered by Lake County. The utility systems were originally constructed in the 1960s and currently serve about 1,100 connections. Water is supplied by four wells, which are treated to drinking water standards by disinfection with sodium hypochlorite injection before entering the distribution system and storage tanks. Raw wastewater is conveyed through the collection system and treated at the Gaddy Lane treatment facility and pumped to the evaporation percolation ponds facility on Mt. Konocti for final disposal.

In recent years, the District has implemented minimal, inflationary cost increases, the most recent of which occurred January 1, 2024. Despite these increases, the utility revenues have fallen behind the cost of service and rate adjustments are recommended. This rate study also proposes changes to the District's water rate structure to better align with industry standard practice and more fairly recover costs from customers. Fixed water fees are proposed to be billed based on meter size rather than dwelling units and the tiered usage blocks are adjusted to reflect recent consumption patterns and the cost of water. Sewer rate adjustments are proposed to better reflect current flows and pollutant loading of customers. In particular, it is recommended that the domestic strength sewer category be split into three subgroups: single family, multifamily, and commercial. The multifamily sewer rate is proposed to be a lower charge than the single family rate due to lower average flows. It is also proposed that the sewer capital improvement fee decrease while other fee categories increase.

### 1.2 Requirements of Proposition 218

The implementation of 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 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 and sewer rates and charges, including:

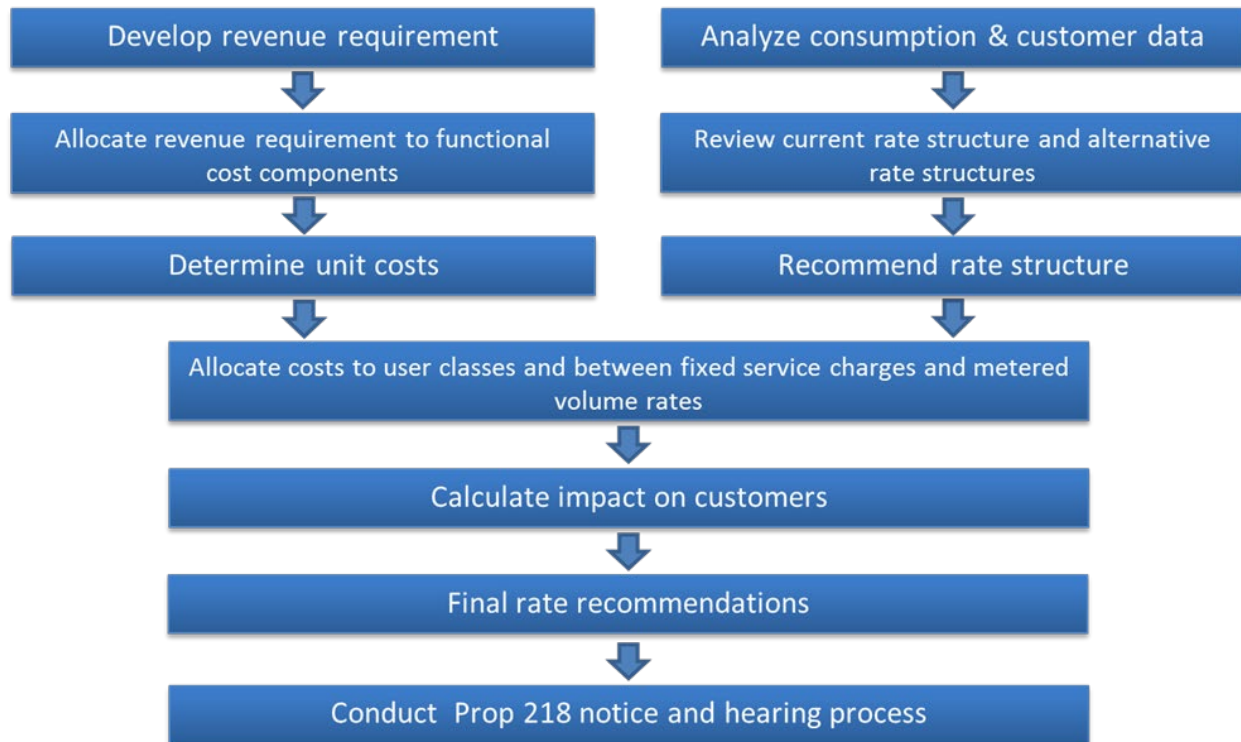
1. **Cost of Service** – Revenues derived from the fee or charge cannot exceed the funds required to provide the service. In essence, fees cannot exceed the “cost of service”.
2. **Intended Purpose** – Revenues derived from the fee or charge can only be used for the purpose for which the fee was imposed.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

This section details the development of the District’s water and sewer rates via the Proposition 218 process as shown in the following figure.

**Figure 1: Comprehensive Cost of Service Study Process**



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

- **Revenue Requirements** - Revenue requirements are analyzed via financial plans developed from the Water and Sewer Fund budgets. Based on the best information currently available, the financial plans incorporate projected operation and maintenance costs, capital expenditures, and growth to estimate annual revenue requirements. The plans serve as a roadmap for funding the District’s future operating and capital programs while maintaining long-term fiscal stability.
- **Cost of Service Allocation** - The cost of service process builds on the financial plan analysis and assigns water and sewer system costs to functional cost components: *metering and customer service, base, and extra* for water, and *flow, BOD, and TSS* for sewer.
- **Rate Design** - Rate design involves developing a rate structure that proportionately recovers costs from customers. Final rate recommendations are designed to (a) fund the utilities’ short- and long-term costs of providing service; (b) proportionately allocate costs to all customers and customer classes; and (c) comply with the substantive requirements of Proposition 218.

The rates developed in this report were 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 Summary of Proposed Rates and Bill Impacts**

The updated water and sewer proposed rates were developed to fairly recover costs, adhere to California statute, and be affordable to customers. Current and proposed bimonthly water rates are provided in Table 1 , and current and proposed bimonthly sewer rates are provided in Table 2. The first rate increase is proposed to go into effect November 2024, and future rate adjustments are proposed to go into effect July 1 each year thereafter.

It is proposed that customers be charged for water service based on meter size instead of number of dwelling units, motel rooms, or RV spaces. It is also proposed that the amount of water in each tier be adjusted. For single family residential customers, Tier 1 is proposed to be expanded from the first 15 hundred cubic feet (ccf) of bimonthly usage to the first 18 ccf of usage. 18 ccf is the average or “base” level of bimonthly demand. Use over the first 18 ccf will be charged the higher Tier 2 rates. All other customers are proposed to pay one rate for all levels of water use. The price of the uniform rate falls between the single family Tier 1 and Tier 2 rates.

For the sewer utility, the rate structure is proposed to remain the same except for the addition of a new multifamily rate category. Rates will continue to be charged as fixed fees and the sewer capital improvement fee is proposed to decrease from \$20.44 (current) to \$3.00. This change reflects the District’s lower capital improvement costs while other sewer fees must increase to cover increased operating costs.

The typical monthly water use of a single family customer is 18 ccf per billing period. Based on these parameters, the District’s current total combined water and sewer bill for a typical single family home with a 5/8” meter is \$152.69. After the proposed November 2024 increase, the typical combined residential bill would increase to \$192.71, an increase of about 26.2%, see Table 3.



**Table 1: Current and Proposed Bimonthly Water Rates**

CURRENT			PROPOSED					
			FY24-25	FY25-26	FY26-27	FY27-28	FY28-29	
			Nov 15, 2024	Jul 1, 2025	Jul 1, 2026	Jul 1, 2027	Jul 1, 2028	
<b>FIXED CHARGES</b>			<b>FIXED CHARGES</b>					
<u>Code</u>	<u>Customer Class</u>		<u>Meter Size</u>					
WA	Residential	\$37.95	5/8"	\$53.52	\$61.51	\$63.37	\$65.24	\$67.20
WC	Extra Unit	\$21.72	3/4"	\$53.52	\$61.51	\$63.37	\$65.24	\$67.20
WD	Out of District	\$75.90	1"	\$53.52	\$61.51	\$63.37	\$65.24	\$67.20
WF	Motel - per room	\$10.86	1-1/2"	\$90.49	\$104.02	\$107.17	\$110.33	\$113.64
WG	RV - per space	\$7.23	2"	\$134.86	\$155.02	\$159.72	\$164.42	\$169.36
CN	Fire Protection, 4-in. Pipe	\$33.26	3"	\$253.18	\$291.03	\$299.85	\$308.69	\$317.95
CL	Fire Protection, 8-in. Pipe	\$66.60	4" - Fire protection	\$46.12	\$53.01	\$54.61	\$56.23	\$57.92
			6" - Fire protection	\$75.70	\$87.01	\$89.65	\$92.29	\$95.06
			8" - Fire protection	\$111.20	\$127.82	\$131.69	\$135.57	\$139.64
LK	Loan Fee – all customers	\$15.32	Loan Fee – all customers	\$15.32	\$15.32	\$15.32	\$15.32	\$15.32
<b>VOLUME RATES (per ccf)</b>			<b>VOLUME RATES (per ccf)</b>					
<u>Code</u>	<u>All Customers</u>		<u>Single Family Residential Customers</u>					
WB/C Tier 1	Tier 1: 0 - 15 ccf	\$1.10	Tier 1: 0 - 18 ccf	\$1.41	\$1.62	\$1.67	\$1.72	\$1.77
WB Tier 2	Tier 2: Over 15 ccf	\$1.48	Tier 2: Over 18 ccf	\$1.96	\$2.25	\$2.32	\$2.39	\$2.46
WE Tier 1	Out of District Tier 1: 0 - 15 ccf	\$2.20						
WE Tier 2	Out of District Tier 2: Over 15 ccf	\$2.96	<u>All Other Customers</u>					
			All Use	\$1.75	\$2.01	\$2.07	\$2.13	\$2.19

Note: Under the proposed rates, Out of District customers are proposed to be charged the same rates as In-District customers.

Ccf – hundred cubic feet; one ccf = 748 gallons

**Table 2: Current and Proposed Bimonthly Sewer Rates**

CURRENT			PROPOSED				
			FY24-25	FY25-26	FY26-27	FY27-28	FY28-29
CODE	FIXED CHARGES		Nov 15, 2024	Jul 1, 2025	Jul 1, 2026	Jul 1, 2027	Jul 1, 2028
MM	Domestic Strength - SF Residential	\$44.04	\$81.49	\$97.79	\$100.72	\$103.74	\$106.85
MM	Domestic Strength - Multi-Fam	\$44.04	\$59.55	\$71.46	\$73.60	\$75.81	\$78.08
MM	Domestic Strength - Commercial	\$44.04	\$81.49	\$97.79	\$100.72	\$103.74	\$106.85
DM	Convalescent care per bed	\$17.60	\$31.34	\$37.61	\$38.74	\$39.90	\$41.10
DL	School w/caf per student	\$2.65	\$5.01	\$6.01	\$6.19	\$6.38	\$6.57
MC	Per restaurant seat over 33	\$2.65	\$5.25	\$6.30	\$6.49	\$6.68	\$6.88
ME	Motel add'tl unit w/o kitchen	\$12.35	\$22.37	\$26.84	\$27.65	\$28.48	\$29.33
MG	Motel add'tl unit w/kitchen	\$14.53	\$31.34	\$37.61	\$38.74	\$39.90	\$41.10
MD	Commercial	\$88.07	\$130.08	\$156.10	\$160.78	\$165.60	\$170.57
MO	School Basic Charge	\$88.07	\$137.15	\$164.58	\$169.52	\$174.61	\$179.85
MH	Professional Building	\$44.04	\$58.01	\$69.61	\$71.70	\$73.85	\$76.07
MQ	School add'tl building	\$44.06	\$58.01	\$69.61	\$71.70	\$73.85	\$76.07
MS	Laundry per machine	\$31.69	\$36.92	\$44.30	\$45.63	\$47.00	\$48.41
MA	Travel trailer w/o hookup; campsite	\$4.41	\$5.27	\$6.32	\$6.51	\$6.71	\$6.91
MB	Travel trailer w/hookup	\$8.80	\$12.54	\$15.05	\$15.50	\$15.97	\$16.45
<b>CODE</b>	<b>ADDITIONAL CHARGES – ALL CUSTOMERS</b>						
LL	Loan Fee	\$14.00	\$14.00	\$14.00	\$14.00	\$14.00	\$14.00
MK	Capital Improvement Fee	\$20.44	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00

**Table 3: Average Residential Bimonthly Bill Impacts (18 ccf of Usage)**

CURRENT			PROPOSED						
			FY24-25	FY25-26	FY26-27	FY27-28	FY28-29		
<u>Water Charges</u>									
Base Fee		\$37.95	5/8" Fee	\$53.52	\$61.51	\$63.37	\$65.24	\$67.20	
Volume Rates			Volume Rates						
Tier 1: 0 - 15 ccf	15 ccf	\$16.50	Tier 1: 0 - 18 ccf	18 ccf	\$25.38	\$29.16	\$30.06	\$30.96	\$31.86
Tier 2: Over 15 ccf	3 ccf	\$4.44	Tier 2: Over 18 ccf	0 ccf	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Water Loan Fee		<u>\$15.32</u>	Water Loan Fee		<u>\$15.32</u>	<u>\$15.32</u>	<u>\$15.32</u>	<u>\$15.32</u>	<u>\$15.32</u>
<b>Subtotal Water</b>		<b>\$74.21</b>			<b>\$94.22</b>	<b>\$105.99</b>	<b>\$108.75</b>	<b>\$111.52</b>	<b>\$114.38</b>
			Increase		27.0%	12.5%	2.6%	2.5%	2.6%
<u>Sewer Charges</u>									
Domestic Strength Fee		\$44.04		\$81.49	\$97.79	\$100.72	\$103.74	\$106.85	
Sewer Loan Fee		\$14.00		\$14.00	\$14.00	\$14.00	\$14.00	\$14.00	
Sewer Capital Improvement Fee		<u>\$20.44</u>		<u>\$3.00</u>	<u>\$3.00</u>	<u>\$3.00</u>	<u>\$3.00</u>	<u>\$3.00</u>	
<b>Subtotal Sewer</b>		<b>\$78.48</b>		<b>\$98.49</b>	<b>\$114.79</b>	<b>\$117.72</b>	<b>\$120.74</b>	<b>\$123.85</b>	
			Increase		25.5%	16.5%	2.6%	2.6%	2.6%
<b>Total Bimonthly Bill</b>		<b>\$152.69</b>		<b>\$192.71</b>	<b>\$220.78</b>	<b>\$226.47</b>	<b>\$232.26</b>	<b>\$238.23</b>	
			% Increase		26.2%	14.6%	2.6%	2.6%	2.6%

**SECTION 2: CURRENT RATES AND CUSTOMER BASE**

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This section provides an overview of the Kelseyville County Waterworks District No. 3’s current water and sewer rates, customer base, water usage statistics, and current rate revenues. The District bills customers for utility service on a bimonthly basis such that each billing period covers two months of service. Historically, rates have been increased each year on January 1 by the annual change in the Consumer Price Index (CPI). A summary of the past four years is provided below.

**Table 4: Historical CPI Rate Increases**

Year	2021	2022	2023	2024
CPI Increase	1.7%	3.2%	5.6%	3.7%

**2.1 Current Water Rates**

The schedule of current bimonthly water rates that went into effect on January 1, 2024 is provided in Table 4. The District’s current rate structure includes two components: (1) Fixed Charges and (2) Volume Rates.

**2.1.1 Fixed Charges**

All customers are billed bimonthly fixed charges based on number of dwelling units, extra dwelling units, motel rooms, or RV sites. Out of District customers pay a rate that is double the base residential fee. Fire protection lines are also charged fixed fees. The fixed charge is levied regardless of water consumption and recognizes that even when a customer does not use any water, the District incurs fixed costs associated with maintaining the ability or readiness to serve each connection. In addition, all water customers pay a bimonthly loan fee of \$15.32 to debt service costs for the District’s USDA loan. The loan fee is not proposed to be adjusted.

**2.1.2 Volume Rates**

In addition to fixed charges, all customers pay volume rates per hundred feet (ccf) of water consumption. One ccf is equal to 748 gallons of water. The charges for water usage are based on a 2-tiered rate structure where the price per unit of water is higher as more water is used.

**Table 5: Current Bimonthly Water Rates**

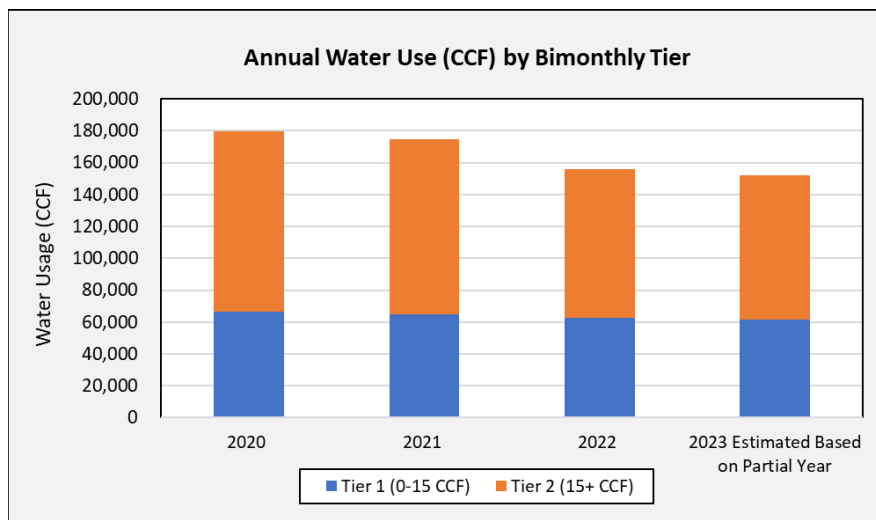
<b>FIXED CHARGES</b>		January 1, 2024
<u>Code</u>	<u>Customer Class</u>	
WA	Residential	\$37.95
WC	Extra Unit	\$21.72
WD	Out of District	\$75.90
WF	Motel - per room	\$10.86
WG	RV - per space	\$7.23
CN	Fire Protection, 4-in. Pipe	\$33.26
CL	Fire Protection, 8-in. Pipe	\$66.60
LK	Loan Fee – all customers	\$15.32
<b>VOLUME RATES (per ccf)</b>		
<u>Code</u>	<u>All Customers</u>	
WB/C Tier 1	Tier 1: 0 - 15 ccf	\$1.10
WB Tier 2	Tier 2: Over 15 ccf	\$1.48
WE Tier 1	Out of District Tier 1: 0 - 15 ccf	\$2.20
WE Tier 2	Out of District Tier 2: Over 15 ccf	\$2.96

## 2.2 Water Usage, Customer Base, and Current Rate Revenues

Figure 2 provides a summary of total annual water usage by tier over the past four years. Tier 1 consumption has decreased slightly while Tier 2 consumption has decreased significantly. 2023 water consumption is used in this report to calculate proposed rates.

Table 5 provides a five year history of customer counts, consumption, and annual rate revenues (excluding the loan fee). Although rates increased from 2021 to 2022, total revenues decreased due to declining water usage. As shown in the table, current rates generate about \$500,000 in annual revenue. fixed charges make up about 60% of rate revenues and volume charges make up about 40%.

**Figure 2: Historical Water Use**



**Table 6: Water Utility Historical Customer Counts, Usage, and Rate Revenues**

		Calendar Year 2020				Calendar Year 2021 (+1.7% rate increase)			
		Bimonthly Rate	Units	Annual Revenue	% of Rate Revenue	Bimonthly Rate	Units [1]	Annual Revenue	% of Rate Revenue
		No. of Customers				No. of Customers			
<b>FIXED CHARGES</b>									
<u>Code</u>	<u>Customer Class</u>								
WA	Base	\$33.02	991	\$196,337	42.36%	\$33.58	993	\$200,070	42.36%
WC	Extra Unit	\$18.89	481	\$54,517	11.76%	\$19.22	534	\$61,581	13.04%
WD	Out of District	\$66.04	2	\$792	0.17%	\$67.16	2	\$806	0.17%
WF	Motel - per room	\$9.45	32	\$1,814	0.39%	\$9.61	32	\$1,845	0.39%
WG	RV - per space	\$6.29	3	\$113	0.02%	\$6.39	3	\$115	0.02%
CL	Fire Protection, 8-in. Pipe	\$57.96	2	\$696	0.15%	\$58.94	2	\$707	0.15%
CN	Fire Protection, 4-in. Pipe	\$28.94	1	\$174	0.04%	\$29.44	1	\$177	0.04%
Total Fixed Charges				\$254,443	54.89%			\$265,301	56.17%
<b>VOLUME RATES (per ccf)</b>		CCF				CCF			
<u>Code</u>	<u>All Customers</u>								
WB/C	Tier 1 (0 to 15 CCF)	\$0.95	66,502	\$63,410	13.68%	\$0.97	64,846	\$62,901	13.32%
WB/C	Tier 2 (15+ CCF)	\$1.29	112,890	\$145,372	31.36%	\$1.31	109,769	\$143,797	30.45%
WE	Out of District Tier 1 (0 to 15 CCF)	\$1.92	73	\$140	0.03%	\$1.95	73	\$142	0.03%
WE	Out of District Tier 2 (15+ CCF)	\$2.58	56	\$144	0.03%	\$2.62	56	\$147	0.03%
Total Volume Rates			179,521	\$209,066	45.11%		174,744	\$206,987	43.83%
<b>Total Water Rate Revenues</b>				<b>\$463,509</b>	<b>100.00%</b>			<b>\$472,288</b>	<b>100.00%</b>

1 - 54 unit apartment complex came online (rate code WC)

		Calendar Year 2022 (+3.2% rate increase)				Calendar Year 2023 - ESTIMATE (+5.6% rate increase)			
		Bimonthly Rate	Units	Annual Revenue	% of Rate Revenue	Bimonthly Rate	Units	Annual Revenue	% of Rate Revenue
		No. of Customers				No. of Customers			
<b>FIXED CHARGES</b>									
<u>Code</u>	<u>Customer Class</u>								
WA	Base	\$34.66	994	\$206,712	44.68%	\$36.60	994	\$218,282	45.04%
WC	Extra Unit	\$19.83	535	\$63,654	13.76%	\$20.94	535	\$67,217	13.87%
WD	Out of District	\$69.32	2	\$832	0.18%	\$73.20	2	\$878	0.18%
WF	Motel - per room	\$9.92	32	\$1,905	0.41%	\$10.48	32	\$2,012	0.42%
WG	RV - per space	\$6.60	3	\$119	0.03%	\$6.97	3	\$125	0.03%
CL	Fire Protection, 8-in. Pipe	\$60.84	2	\$730	0.16%	\$64.24	2	\$771	0.16%
CN	Fire Protection, 4-in. Pipe	\$30.38	1	<u>\$182</u>	<u>0.04%</u>	\$32.08	1	<u>\$192</u>	<u>0.04%</u>
Total Fixed Charges				\$274,134	59.25%			\$289,479	59.73%
<b>VOLUME RATES (per ccf)</b>		CCF				CCF [2]			
<u>Code</u>	<u>All Customers</u>								
WB/C	Tier 1 (0 to 15 CCF)	\$1.00	62,402	\$62,402	13.49%	\$1.06	61,312	\$64,991	13.41%
WB/C	Tier 2 (15+ CCF)	\$1.35	93,303	\$125,959	27.23%	\$1.43	90,940	\$130,044	26.83%
WE	Out of District Tier 1 (0 to 15 CCF)	\$2.01	69	\$139	0.03%	\$2.12	66	\$139	0.03%
WE	Out of District Tier 2 (15+ CCF)	\$2.71	<u>2</u>	<u>\$5</u>	<u>0.00%</u>	\$2.86	<u>2</u>	<u>\$5</u>	<u>0.00%</u>
Total Volume Rates			155,776	\$188,505	40.75%		152,319	\$195,179	40.27%
<b>Total Water Rate Revenues</b>				<b>\$462,639</b>	<b>100.00%</b>			<b>\$484,659</b>	<b>100.00%</b>

2 - Based on water usage data from August 2022 to July 2023

PROJECTED REVENUES UNDER CURRENT RATES		Calendar Year 2024 (+3.7% rate increase)			
		Bimonthly Rate	Units	Annual Revenue	% of Rate Revenue
<b>FIXED CHARGES</b>			No. of Customers		
<u>Code</u>	<u>Customer Class</u>				
WA	Base	\$37.95	994	\$226,334	45.05%
WC	Extra Unit	\$21.72	535	\$69,721	13.88%
WD	Out of District	\$75.90	2	\$911	0.18%
WF	Motel - per room	\$10.86	32	\$2,085	0.42%
WG	RV - per space	\$7.23	3	\$130	0.03%
CL	Fire Protection, 8-in. Pipe	\$66.60	2	\$799	0.16%
CN	Fire Protection, 4-in. Pipe	\$33.26	1	\$200	0.04%
	Total Fixed Charges			\$300,180	59.75%
<b>VOLUME RATES (per ccf)</b>			CCF		
<u>Code</u>	<u>All Customers</u>				
WB/C	Tier 1 (0 to 15 CCF)	\$1.10	61,312	\$67,443	13.43%
WB/C	Tier 2 (15+ CCF)	\$1.48	90,940	\$134,591	26.79%
WE	Out of District Tier 1 (0 to 15 CCF)	\$2.20	66	\$144	0.03%
WE	Out of District Tier 2 (15+ CCF)	\$2.96	2	\$6	0.00%
	Total Volume Rates		152,319	\$202,184	40.25%
<b>Total Water Rate Revenues</b>				<b>\$502,364</b>	<b>100.00%</b>



## 2.3 Current Sewer Rates

The schedule of the current bimonthly sewer rates that went into effect on January 1, 2024 is provided in Table 7. The District’s current rate structure includes two components: (1) Fixed Charges and (2) Capital Improvement Fee.

**Table 7: Current Bimonthly Sewer Rates**

<b>CODE</b>	<b>FIXED CHARGES</b>	<b>January 1, 2024</b>
MM	Domestic Strength	\$44.04
DM	Convalescent care per bed	\$17.60
DL	School w/caf per student	\$2.65
MC	Per restaurant seat over 33	\$2.65
ME	Motel add'tl unit w/o kitchen	\$12.35
MG	Motel add'tl unit w/kitchen	\$14.53
MD	Commercial	\$88.07
MO	School Basic Charge	\$88.07
MH	Professional Building	\$44.04
MQ	School add'tl building	\$44.06
MS	Laundry per machine	\$31.69
MA	Travel trailer w/o hookup; campsite	\$4.41
MB	Travel trailer w/hookup	\$8.80
<b>CODE</b>	<b>ADDITIONAL CHARGES – ALL CUSTOMERS</b>	
LL	Loan Fee	\$14.00
MK	Capital Improvement Fee	\$20.44

### 2.3.1 Fixed Charges

As shown above, sewer rates are billed based on customer count and number of units. The District does not bill customers for individualized sewer flows (i.e. volume rates) and instead bills fixed fees based on class average usage characteristics. All sewer customers pay a bimonthly loan fee of \$14.00 for debt repayment. The loan fee is not proposed to be adjusted.

### 2.3.2 Capital Improvement Fee

In addition to the other fees, sewer customers are billed \$20.44 as a capital improvement fee. This fee generates about \$167,000 annually. In the past, these revenues were used to generate funds for sewer system improvements, repairs, and upgrades. However, many recent projects have been grant funded and no major capital expenses and projected over the next five years. This study proposes to reduce the capital improvement fee to \$3.00 per billing period to cover routine repairs and maintenance.

## 2.4 Sewer Customer Base and Current Rate Revenues

Table 8 provides a five year history of sewer customer counts and annual rate revenues (excluding the loan and capital improvement fees). Current rates generate about \$393,000 in annual revenue.

**Table 8: Sewer Utility Historical Customer Counts and Rate Revenues**

CODE	FIXED CHARGES	Calendar Year 2020				Calendar Year 2021 (+1.7% rate increase)			
		Bimonthly Rate	Units	Annual Revenue	% of Rate Revenue	Bimonthly Rate	Units [1]	Annual Revenue	% of Rate Revenue
MM	Domestic Strength	\$38.32	1,240	\$285,101	86.40%	\$38.96	1,286	\$300,615	86.69%
DM	Convalescent care per bed	\$15.32	0	\$0	0.00%	\$15.58	0	\$0	0.00%
DL	School w/cafe per student	\$2.30	1,389	\$19,168	5.81%	\$2.34	1,389	\$19,502	5.62%
MC	Per restaurant seat over 33	\$2.30	127	\$1,753	0.53%	\$2.34	129	\$1,811	0.52%
ME	Motel add'tl unit w/o kitchen	\$10.74	26	\$1,675	0.51%	\$10.92	26	\$1,704	0.49%
MG	Motel add'tl unit w/kitchen	\$12.64	7	\$531	0.16%	\$12.86	7	\$540	0.16%
MD & MN	Commercial	\$76.64	20	\$9,197	2.79%	\$77.94	21	\$9,820	2.83%
MO	School Basic Charge	\$76.64	5	\$2,299	0.70%	\$77.94	5	\$2,338	0.67%
MH	Professional Building	\$38.32	11	\$2,529	0.77%	\$38.96	11	\$2,571	0.74%
MQ	School add'tl building	\$38.34	21	\$4,831	1.46%	\$39.00	21	\$4,914	1.42%
MS	Laundry per machine	\$27.58	17	\$2,813	0.85%	\$28.40	17	\$2,897	0.84%
MA	Travel trailer w/o hookup; campsite	\$3.84	3	\$69	0.02%	\$3.90	3	\$70	0.02%
MB	Travel trailer w/hookup	\$7.65	0	\$0	0.00%	\$7.78	0	\$0	0.00%
	<b>Total Sewer Rate Revenues*</b>			<b>\$329,966</b>	<b>100.00%</b>			<b>\$346,783</b>	<b>100.00%</b>

\* Does not include loan or capital improvement fee revenues

1 - 54 unit apartment complex came online (rate code MM)

		Calendar Year 2022 (+3.2% rate increase)				Calendar Year 2023 - ESTIMATE (+5.6% rate increase)			
		Bimonthly Rate	Units	Annual Revenue	% of Rate Revenue	Bimonthly Rate	Units	Annual Revenue	% of Rate Revenue
ODE	FIXED CHARGES								
MM	Domestic Strength	\$40.22	1,287	\$310,579	86.56%	\$42.46	1,287	\$327,876	86.53%
DM	Convalescent care per bed	\$16.08	0	\$0	0.00%	\$16.98	0	\$0	0.00%
DL	School w/caf per student	\$2.42	1,389	\$20,168	5.62%	\$2.56	1,389	\$21,335	5.63%
MC	Per restaurant seat over 33	\$2.42	141	\$2,047	0.57%	\$2.56	141	\$2,166	0.57%
ME	Motel add'tl unit w/o kitchen	\$11.28	26	\$1,760	0.49%	\$11.90	26	\$1,856	0.49%
MG	Motel add'tl unit w/kitchen	\$13.26	7	\$557	0.16%	\$14.02	7	\$589	0.16%
MD & MN	Commercial	\$80.42	22	\$10,615	2.96%	\$84.94	22	\$11,212	2.96%
MO	School Basic Charge	\$77.94	5	\$2,338	0.65%	\$84.94	5	\$2,548	0.67%
MH	Professional Building	\$40.22	11	\$2,655	0.74%	\$42.46	11	\$2,802	0.74%
MQ	School add'tl building	\$40.24	21	\$5,070	1.41%	\$42.50	21	\$5,355	1.41%
MS	Laundry per machine	\$28.94	17	\$2,952	0.82%	\$30.56	17	\$3,117	0.82%
MA	Travel trailer w/o hookup; campsite	\$4.04	3	\$73	0.02%	\$4.26	3	\$77	0.02%
MB	Travel trailer w/hookup	\$8.03	0	\$0	0.00%	\$8.48	0	\$0	0.00%
	Total Sewer Rate Revenues*			<b>\$358,814</b>	100.00%			<b>\$378,934</b>	100.00%

\* Does not include loan or capital improvement fee revenues

		Calendar Year 2024 (+3.7% rate increase)			
CODE	FIXED CHARGES	Bimonthly Rate	Units	Annual Revenue	% of Rate Revenue
MM	Domestic Strength	\$44.04	1,287	\$340,077	86.54%
DM	Convalescent care per bed	\$17.60	0	\$0	0.00%
DL	School w/caf per student	\$2.65	1,389	\$22,085	5.62%
MC	Per restaurant seat over 33	\$2.65	141	\$2,242	0.57%
ME	Motel add'tl unit w/o kitchen	\$12.35	26	\$1,927	0.49%
MG	Motel add'tl unit w/kitchen	\$14.53	7	\$610	0.16%
MD & MN	Commercial	\$88.07	22	\$11,625	2.96%
MO	School Basic Charge	\$88.07	5	\$2,642	0.67%
MH	Professional Building	\$44.04	11	\$2,907	0.74%
MQ	School add'tl building	\$44.06	21	\$5,552	1.41%
MS	Laundry per machine	\$31.69	17	\$3,232	0.82%
MA	Travel trailer w/o hookup; campsite	\$4.41	3	\$79	0.02%
MB	Travel trailer w/hookup	\$8.80	0	\$0	0.00%
	Total Sewer Rate Revenues*			<b>\$392,978</b>	100.00%

\* Does not include loan or capital improvement fee revenues

## 2.5 Current Average Bill

The typical customer of the Kelseyville County Waterworks District No. 3 is a single family residential customer that uses an average of 18 ccf per billing period. Based on these parameters, a sample bill is provided in Table 9. This customer uses most of their water in Tier 1 and pays \$74.21 for water service. Single family residential customers also pay \$78.48 per billing period for sewer service. The average customer’s total bill is \$152.69 based on rates effective January 1, 2024.

**Table 9: Current Average Bimonthly Bill**

<u>Water Charges</u>		<b>Total Fees</b>
Base Fee		\$37.95
Volume Rates		
Tier 1: 0 - 15 ccf	15 ccf	\$16.50
Tier 2: Over 15 ccf	3 ccf	\$4.44
Water Loan Fee		<u>\$15.32</u>
<b>Subtotal Water</b>		<b>\$74.21</b>
<u>Sewer Charges</u>		
Domestic Strength Fee		\$44.04
Sewer Loan Fee		\$14.00
Sewer Capital Improvement Fee		<u>\$20.44</u>
<b>Subtotal Sewer</b>		<b>\$78.48</b>
<b>Total Bimonthly Bill</b>		<b>\$152.69</b>

## SECTION 3: WATER REVENUE REQUIREMENT

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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, capital improvement projects, and the accumulation of appropriate reserves. This section summarizes the water utility and the expenses that make up its cost of service and revenue requirement.

### 3.1 Water Reserves

The Kelseyville County Waterworks District No. 3's revenues and expenses are managed via three funds: an Operating Fund, a Capital Fund, and a Debt Service Fund. The District's loan repayment fee is not proposed to be adjusted and thus the Debt Service Fund is not reviewed in this report. The District's Operating Fund reserve and Mitigation (capital) reserve are assumed to be split 50%/50% between the water and sewer utilities. The District also has a restricted Capacity Expansion Reserve which is not reviewed in this report.

As of the beginning of FY2022-23, the water Operating Fund had reserves of approximately \$84,400 and a Mitigation (capital) reserve of \$8,000, see Table 10. One goal of the proposed rate adjustment is to accumulate reasonable reserves to improve the financial health of the utility. It is proposed that the District adopt the following reserve fund targets:

- *Operating Reserve:* The fund balance target is equal to 50% of annual operating expenses. This is in-line with typical industry standards and provides a financial runway for the District to approve new rate increases in an emergency.
- *Capital (Mitigation) Reserve:* The fund balance target is \$100,000 to fund the cost of an emergency repair.

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.

**Table 10: Water Utility Reserves**

Reserve Fund	Total Proposed for FY 23-24 [1]
<b>Water Reserves</b>	
O&M Reserves (50% allocated to Water)	\$84,436
Mitigation Reserve (50% allocated to Water)	<u>\$8,000</u>
Total Water Reserves	\$92,436
<b>Reserves Not Included</b>	
O&M Reserves (50% allocated to Sewer)	\$84,436
Mitigation Reserve (50% allocated to Sewer)	\$8,000
Capital Improvement (100% allocated to Sewer) [2]	\$131,684
Capacity Expansion Reserve [3]	\$492,290
<u>Sewer Replacement</u>	<u>\$47,699</u>
Total Reserves Not Included	\$764,109
<b>Total Fund 293 Reserves</b>	<b>\$856,545</b>

Estimated Balance as of 6/30/23 (i.e. beginning balance FY 23/24)

- 1 - Form #7 - Budget Request Summary, October 26, 2023
- 2 - Funded with Capital Improvement Fees (rate code MK)
- 3 - Restricted reserve for expansion projects

### 3.2 Water Capital Improvement Plan

Table 11 provides the District’s water capital improvement plan (CIP). The District has been successful in securing grant funding, leaving only about \$86,000 in project costs to be funded via rate revenues. In addition to the projects identified below, this rate study includes assumed funding of \$20,000 per year for miscellaneous repairs (such as water main breaks) and cost for an updated rate study in five years.

**Table 11: Water Capital Projects**

Project	Amount Requested [1]	Funding Source [2]	Grant Funded	Rate Funded
Utility Truck (50% water)	\$42,855	Rate Funded (100%)	\$0	\$42,855
Well Station #4 Generator	\$65,493	HMGP 455.55-40 Grant (75%); Rate Funded (25%)	\$49,120	\$16,373
Well Station #6 Generator	\$53,087	HMGP 455.55-40 Grant (75%); Rate Funded (25%)	\$39,815	\$13,272
Well Station #7 Generator	\$53,087	HMGP 455.55-40 Grant (75%); Rate Funded (25%)	\$39,815	\$13,272
Live Oak Water Line Replacement	<u>\$364,638</u>	IRWM 453.54-90 (100% Grant)	<u>\$364,638</u>	<u>\$0</u>
<b>Total</b>	<b>\$579,160</b>		<b>\$493,388</b>	<b>\$85,772</b>

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

2 - Source: Form #3 - Department Revenue, October 26, 2023

### **3.3 Water Revenues**

The water utility's primary income source is water rate revenues. The District implemented a 3.7% rate increase January 1, 2024. Thus, rate revenues for FY2023-24 reflect a portion of the fiscal year's revenues at the prior rate and a portion of the year at the increased rate. The first rate adjustment proposed in this report will go into effect for the billing period beginning November 15, 2024. Due to the delay in collecting revenues and to be fiscally conservative, it is assumed that the November 15, 2024 rates will be in effect three billing periods of the fiscal year. Future rate adjustments are proposed to go into effect July 1 of each year and revenues are estimated based on five billing periods at the new rates (again reflecting the delay in receiving billing and receiving bimonthly revenues) and one billing period at the prior year's rates.

Other water system revenues include taxes, miscellaneous service fees, standby fees, and reimbursements from the Finley Water System (CSA Number 6). Aside from grants for specific projects, the Capital Fund has no outside revenues and relies upon transfers from the Operations Fund to cover expenses and to accumulate reserves.

### **3.4 Water Expenses**

Major expenses include administration and overhead, staffing, chemicals, utilities, and maintenance. Most operating expenses are projected to increase 3.0% annually beginning in FY2024-25. It is assumed that the Capital Fund will spend \$20,000 annually on repairs.

### **3.5 Water Cash Flow Projection**

The water Operating Fund cash flow is provided in Table 12 and the Capital Fund cash flow is provided in Table 13. Currently, the Operating Fund revenues are covering expenses and generating a small amount of positive net cash. However, by the end of FY2023-24, it is projected that the water utility (i.e. the combined cash flows of the Operating and Capital Funds) will have very low reserves on hand. Rate increases are proposed to keep up with inflationary operating cost increases, fund system repairs, and meet the proposed reserve targets over the next five years.



**Table 12: Water Operating Cash Flow**

	BUDGET		PROP 218			
	FY23-24	FY24-25	FY25-26	FY26-27	FY27-28	FY28-29
Effective Date	Jan 1	Nov 15	Jul 1	Jul 1	Jul 1	Jul 1
Rate Revenue Increase	3.7%	20%	15%	3%	3%	3%
6 Billing Periods at new rate	\$502,000	\$602,000	\$692,000	\$713,000	\$734,000	\$756,000
5 Billing periods at new rate	\$499,000	\$585,000	\$677,000	\$710,000	\$731,000	\$752,000
3 Billing periods at new rate	\$493,000	\$552,000				
<b>Beginning Operating Fund Balance</b>	<b>\$84,000</b>	<b>\$88,600</b>	<b>\$117,600</b>	<b>\$223,100</b>	<b>\$344,100</b>	<b>\$417,700</b>
<b>Revenues</b>						
Sales & Services (Rate Revenues)	\$490,000	\$552,000	\$677,000	\$710,000	\$731,000	\$752,000
Property Taxes	\$66,000	\$66,000	\$67,000	\$68,000	\$69,000	\$70,000
Collections - Tax Roll	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000
Reconnections	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000
Late Fees, Other Fees, Misc	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000
Reimbursement	\$47,700	\$49,100	\$50,600	\$52,100	\$53,700	\$55,300
<u>Standby Fee [3]</u>	<u>\$900</u>	<u>\$900</u>	<u>\$900</u>	<u>\$900</u>	<u>\$900</u>	<u>\$900</u>
<b>Total Revenues</b>	<b>\$621,600</b>	<b>\$685,000</b>	<b>\$812,500</b>	<b>\$848,000</b>	<b>\$871,600</b>	<b>\$895,200</b>
<b>Operating Expenditures (+3%/yr)</b>						
Admin & Overhead	\$130,000	\$134,000	\$138,000	\$142,000	\$146,000	\$150,000
Staffing	\$236,000	\$243,000	\$250,000	\$258,000	\$266,000	\$274,000
Professional Services	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000
Permitting	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000	\$4,000
Chemicals	\$20,000	\$21,000	\$22,000	\$23,000	\$24,000	\$25,000
Utilities	\$85,000	\$88,000	\$91,000	\$94,000	\$97,000	\$100,000
Equipment & Supplies	\$64,000	\$66,000	\$68,000	\$70,000	\$72,000	\$74,000
Meters	\$3,000	\$3,000	\$4,000	\$4,000	\$4,000	\$4,000
Water System Maint	\$53,000	\$55,000	\$57,000	\$59,000	\$61,000	\$63,000
Vehicle & OH Maint	<u>\$14,000</u>	<u>\$14,000</u>	<u>\$15,000</u>	<u>\$15,000</u>	<u>\$16,000</u>	<u>\$16,000</u>
<b>Total Operating Expenditures</b>	<b>\$617,000</b>	<b>\$636,000</b>	<b>\$657,000</b>	<b>\$677,000</b>	<b>\$698,000</b>	<b>\$718,000</b>
<b>Transfer to Capital</b>	<b>\$0</b>	<b>\$20,000</b>	<b>\$50,000</b>	<b>\$50,000</b>	<b>\$100,000</b>	<b>\$100,000</b>
<b>Net Operating Revenues</b>	<b>\$4,600</b>	<b>\$29,000</b>	<b>\$105,500</b>	<b>\$121,000</b>	<b>\$73,600</b>	<b>\$77,200</b>
<b>Ending Fund Balance</b>	<b>\$88,600</b>	<b>\$117,600</b>	<b>\$223,100</b>	<b>\$344,100</b>	<b>\$417,700</b>	<b>\$494,900</b>
<b>Operating Fund Target (50% of O&amp;M Exps)</b>						
	\$309,000	\$318,000	\$329,000	\$339,000	\$349,000	\$359,000
Target Met?	No	No	No	Yes	Yes	Yes

**Table 13: Water Capital Cash Flow**

	BUDGET	PROP 218				
	FY23-24	FY24-25	FY25-26	FY26-27	FY27-28	FY28-29
<b>CAPITAL FUND</b>						
Beginning Capital Fund Balance [1]	\$8,000	(\$77,000)	(\$77,000)	(\$47,000)	(\$17,000)	\$63,000
<b>Capital Revenues (non-grant; non-expansion fees)</b>						
Transfer from Water Operations	\$0	\$20,000	\$50,000	\$50,000	\$100,000	\$100,000
<b>Total Capital Revenues</b>	\$0	\$20,000	\$50,000	\$50,000	\$100,000	\$100,000
<b>Capital Expenses (Rate Funded Portion)</b>						
Utility Truck	\$43,000	\$0	\$0	\$0	\$0	\$0
Well Station #4 Generator	\$16,000	\$0	\$0	\$0	\$0	\$0
Well Station #6 Generator	\$13,000	\$0	\$0	\$0	\$0	\$0
Well Station #7 Generator	\$13,000	\$0	\$0	\$0	\$0	\$0
Rate Study	\$0	\$0	\$0	\$0	\$0	\$25,000
Miscellaneous Repairs	\$0	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
<b>Total Capital Projects</b>	\$85,000	\$20,000	\$20,000	\$20,000	\$20,000	\$45,000
<b>Net Capital Revenues</b>	(\$85,000)	\$0	\$30,000	\$30,000	\$80,000	\$55,000
<b>Ending Capital Reserves</b>	<b>(\$77,000)</b>	<b>(\$77,000)</b>	<b>(\$47,000)</b>	<b>(\$17,000)</b>	<b>\$63,000</b>	<b>\$118,000</b>
<b>Capital Fund Target [2]</b>	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Target Met?	No	No	No	No	No	Yes
<b>Combined Operating &amp; Capital Balance</b>						
Combined Reserve Fund Target	\$409,000	\$418,000	\$429,000	\$439,000	\$449,000	\$459,000
Target Met?	No	No	No	No	Yes	Yes
1 - Form #7, 50% of the Mitigation Reserve						
2 - Assumed to be the cost of an emergency repair						

## SECTION 4: WATER COST ALLOCATION

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The water revenue requirement detailed in the previous section determines the amount of revenue to be recovered from water rates, and the cost of service allocation determines how revenues will be recovered from customers based on how they use the water 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 under average, “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 Peaking Factors

It is proposed that *Base* expenses be recovered from a new tier 1 water rate and *Extra* expenses be recovered from a new tier 2 water rate for single family residential customers. Based on historical water usage patterns, average bimonthly use per single family residential customer is 18 ccf. Thus, 18 ccf is the proposed tier 1 breakpoint. Tier 1 is intended to recover costs associated with the first 18 units of consumption. Tier 2 is proposed to recover costs for peak usage above the first 18 units. Some District expenses are incurred at higher cost due to peak usage. Two examples are utilities and equipment maintenance – at more intensive, higher levels of use, the District must run its pumps more frequently and at greater capacity. The electricity to power the pumps at peak times is more expensive than at non-peak times. For non-single family customers, the *Base* and *Extra* costs are proposed to be combined into one uniform rate for all levels of usage.

Costs related to peaking are proposed to be allocated based on the peaking factors calculated in Table 14 that are based on historical water usage trends.

**Table 14: Peaking Factors**

Customer Class	Bimonthly Average		Bimonthly Peak		Peaking Factor
	Usage	% of Total	Usage	% of Total	
Single Family Residential	17,123	59.7%	30,797	56.5%	1.80
Multi-Family Residential	6,216	21.7%	10,973	20.1%	1.77
Commercial	4,803	16.7%	11,484	21.1%	2.39
<u>Industrial</u>	<u>542</u>	<u>1.9%</u>	<u>1,249</u>	<u>2.3%</u>	2.30
Total	28,684	100.0%	54,503	100.0%	1.90

Costs that are incurred equally at all levels of use and are not impacted by peaking (such as chemical costs) are allocated based on total water demand. It is estimated that 62.7% of total water consumption is *Base* use and 37.3% is *Extra* use. These percentages are used to allocate non-peak, water supply and delivery costs.

### 4.3 Proposed Water Cost Allocation

Table 15 allocates the District’s FY2024-25 expenses to the Base, Extra, Meters and Services, and Customer Service categories. In total, it is recommended the District recover about 59% of costs via the fixed charges and about 41% of costs from volume rates. In Table 16, the allocation percentages from Table 15 are applied to the revenue requirement for each year developed in the cash flow. This develops the amount of revenue to be collected from each rate category.

**Table 15: Water Cost Allocation**

Expense	2024-25 Budget	FIXED CHARGES		VOLUME RATE		Total
		Meters & Services	Customer Service	Base	Extra	
<b>Operating Expenses</b>						
Admin & Overhead	\$134,000	80.0%	20.0%	0.0%	0.0%	100%
Staffing [1]	\$243,000	50.0%	30.0%	10.5%	9.5%	100%
Professional Services	\$8,000	50.0%	50.0%	0.0%	0.0%	100%
Permitting	\$4,000	0.0%	100.0%	0.0%	0.0%	100%
Chemicals [2]	\$21,000	0.0%	0.0%	62.7%	37.3%	100%
Utilities [1]	\$88,000	0.0%	0.0%	52.6%	47.4%	100%
Equipment & Supplies [1]	\$66,000	10.0%	10.0%	42.1%	37.9%	100%
Meters	\$3,000	100.0%	0.0%	0.0%	0.0%	100%
Water System Maint [1]	\$55,000	25.0%	0.0%	39.5%	35.5%	100%
Vehicle & OH Maint	\$14,000	80.0%	20.0%	0.0%	0.0%	100%
Subtotal Operating Exp.	\$636,000	\$267,250	\$117,100	\$134,554	\$117,096	
<i>% of Total</i>	<i>100.0%</i>	<i>42.0%</i>	<i>18.4%</i>	<i>21.2%</i>	<i>18.4%</i>	
<b>Non-Operating Expenses</b>						
Capital Expenses (5-Year Avg) [1]	\$25,000	25.0%	0.0%	39.5%	35.5%	100%
Subtotal Non-Operating Exp.		\$6,250	\$0	\$9,868	\$8,882	
Total Water Expenses	\$661,000	\$274,000	\$117,000	\$144,000	\$126,000	\$661,000
<b>Total Allocation %</b>		<b>41.5%</b>	<b>17.7%</b>	<b>21.8%</b>	<b>19.1%</b>	<b>100.0%</b>

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

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

**Table 16: Water Revenue Requirement Allocation**

	Cost Allocation %	PROP 218				
		FY24-25	FY25-26	FY26-27	FY27-28	FY28-29
<b>Total Revenue Requirement [1]</b>		\$602,000	\$692,000	\$713,000	\$734,000	\$756,000
<b>FIXED CHARGES</b>						
Meters & Services	41.45%	\$249,529	\$286,834	\$295,539	\$304,243	\$313,362
Customer Service Charge	17.70%	\$106,554	\$122,484	\$126,201	\$129,918	\$133,812
Total Fixed Charges	59.15%	\$356,083	\$409,318	\$421,740	\$434,161	\$447,174
<b>VOLUME RATES</b>						
Base	21.79%	\$131,176	\$150,787	\$155,363	\$159,939	\$164,732
Extra	19.06%	\$114,741	\$131,895	\$135,898	\$139,900	\$144,094
Total Volume Rates	40.85%	\$245,917	\$282,682	\$291,261	\$299,839	\$308,826
<b>TOTAL</b>	100.00%	\$602,000	\$692,000	\$713,000	\$734,000	\$756,000

1 - 6 Billing Periods at new rate

## SECTION 5: WATER RATE DESIGN

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Following the allocation of costs, the next step is to derive the total cost responsibility for each customer class by developing unit costs of service for each cost function and then assigning those costs to the customer classes based on the respective service requirements of each.

### 5.1 Fixed Charges

It is proposed that *Meters* and *Customer Service* costs be recovered from fixed charges. The *Customer Service* portion of the fee is proposed to be recovered equally from all customers and recovers billing and administrative costs that are not dependent on the size of the connection. The *Meters* portion of the fixed fee is proposed to be scaled based on meter size. This is a departure from the District's current billing method that charges customers fixed fees based on number of dwelling units, motel rooms, and RV spaces.

#### 5.1.1 Meter Equivalents

AWWA guidelines recommend using meter equivalents to assign demand-related costs to larger meter sizes. The ratio at which the meter charge increases is typically a function of either meter investment (estimated cost) or the meter's safe operating capacity. Larger meters have the ability to place a greater demand on the water system and are therefore charged based on that potential demand. For example, based on the AWWA meter capacity ratios, a customer that has a 2" meter has 3.20 times the capacity equivalency of a customer with a 5/8" or 1" meter (A 2" meter has a safe operating capacity of 160 gallons per minute (gpm) compared to a 5/8" or 1" meter which has a safe operating capacity of 50 gpm).

The 4", 6", and 8" meters are assumed to be for fire protection. The 4" fire meter ratio is set as 0.8 which is equal to 25% of the 2" ratio. Fire hydrants are typically 2" meter connections and provide fire protection to the District's service area. 25% of the 2" fee is an estimate of the incremental increase in capacity from maximum hour demand to fire flow demand. The 6" fire line and 8" fire line meter ratios are scaled to the 4" fire line ratio based on flow rate in gallons per minute. Table 17 shows the proposed meter equivalents.

#### 5.1.2 Fixed Meter Charge Calculation

Table 18 calculates the Fixed Charge. The *Meters* portion of the fee is calculated by dividing the revenue requirement from Table 16 by the meter ratios from Table 17 and then scaled by meter ratio. The *Customer Service* portion of the charge is calculated as the *Customer Service* revenue requirement divided by the number of meters (accounts). The two portions of the fee are added together to equal the total Fixed Charge.

**Table 17: Number of Water Meters and Meter Equivalents**

<b>Meter Size</b>	<b>Commercial</b>	<b>Industrial</b>	<b>Multi-Family</b>	<b>Residential</b>	<b>ROD</b>	<b>#N/A</b>	<b>Grand Total</b>	<b>% of Total</b>	<b>Flow Rate (gpm)</b>	<b>Meter Ratio</b>	<b>No. of Meter Equivalents</b>
5/8"	92	2	25	781	2	20	922	85.8%	50	1.00	922
3/4"	13	0	6	52	0	2	73	6.8%	50	1.00	73
1"	10	0	9	29	0	0	48	4.5%	50	1.00	48
1-1/2"	2	3	0	1	0	0	6	0.6%	100	2.00	12
2"	5	2	6	2	0	1	16	1.5%	160	3.20	51
3"	0	0	0	0	0	1	1	0.1%	320	6.40	6
Fire 4"	1	0	1	0	0	0	2	0.2%	500	0.80	2
Fire 6"	1	0	4	0	0	0	5	0.5%	1,000	1.60	8
Fire 8"	<u>1</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0.1%</u>	1,600	2.56	<u>3</u>
<b>Total</b>	125	7	51	865	2	24	1,074	100.0%			1,125
<b>% of Total</b>	11.6%	0.7%	4.7%	80.5%	0.2%	2.2%	100.0%				

Source: "Kelseyville Meter Size Current Only" spreadsheet

**Table 18: Water Fixed Charge Calculation**

		PROP 218				
		FY24-25	FY25-26	FY26-27	FY27-28	FY28-29
<b>REVENUE REQUIREMENT</b>						
Meters & Services		\$249,529	\$286,834	\$295,539	\$304,243	\$313,362
<u>Customer Service Charge</u>		<u>\$106,554</u>	<u>\$122,484</u>	<u>\$126,201</u>	<u>\$129,918</u>	<u>\$133,812</u>
Total Fixed Charge Revenue Requirement		\$356,083	\$409,318	\$421,740	\$434,161	\$447,174
<b>METER EQUIVALENT CHARGE</b>						
Total Meter Equivalent Charge Revenue Requirement		\$249,529	\$286,834	\$295,539	\$304,243	\$313,362
<u>Total Number of Meter Equivalents</u>		<u>1,125</u>	<u>1,125</u>	<u>1,125</u>	<u>1,125</u>	<u>1,125</u>
Total Meter Equivalent Charge		\$36.98	\$42.50	\$43.79	\$45.08	\$46.43
Meter Equivalent Charge by Meter Size						
<u>Meter Size</u>	<u>Meter Ratio</u>					
5/8"	1.00	\$36.98	\$42.50	\$43.79	\$45.08	\$46.43
3/4"	1.00	\$36.98	\$42.50	\$43.79	\$45.08	\$46.43
1"	1.00	\$36.98	\$42.50	\$43.79	\$45.08	\$46.43
1-1/2"	2.00	\$73.95	\$85.01	\$87.59	\$90.17	\$92.87
2"	3.20	\$118.32	\$136.01	\$140.14	\$144.26	\$148.59
3"	6.40	\$236.64	\$272.02	\$280.27	\$288.53	\$297.18
4"	0.80	\$29.58	\$34.00	\$35.03	\$36.07	\$37.15
6"	1.60	\$59.16	\$68.00	\$70.07	\$72.13	\$74.29
8"	2.56	\$94.66	\$108.81	\$112.11	\$115.41	\$118.87
<b>CUSTOMER SERVICE CHARGE</b>						
Total Customer Service Charge Revenue Requirement		\$106,554	\$122,484	\$126,201	\$129,918	\$133,812
<u>Total Number of Meters</u>		<u>1,074</u>	<u>1,074</u>	<u>1,074</u>	<u>1,074</u>	<u>1,074</u>
Total Customer Service Charge per Account		\$16.54	\$19.01	\$19.58	\$20.16	\$20.77
<b>TOTAL BIMONTHLY FIXED CHARGE [1]</b>						
<u>Meter Size</u>						
5/8"		\$53.52	\$61.51	\$63.37	\$65.24	\$67.20
3/4"		\$53.52	\$61.51	\$63.37	\$65.24	\$67.20
1"		\$53.52	\$61.51	\$63.37	\$65.24	\$67.20
1-1/2"		\$90.49	\$104.02	\$107.17	\$110.33	\$113.64
2"		\$134.86	\$155.02	\$159.72	\$164.42	\$169.36
3"		\$253.18	\$291.03	\$299.85	\$308.69	\$317.95
4"		\$46.12	\$53.01	\$54.61	\$56.23	\$57.92
6"		\$75.70	\$87.01	\$89.65	\$92.29	\$95.06
8"		\$111.20	\$127.82	\$131.69	\$135.57	\$139.64

1 - Total Bimonthly Fixed Charge is the sum of the "Meter Equivalent Charge" by meter size plus the "Total Customer Service Charge per Account"



## 5.2 Volume Rates

Table 19 calculates the proposed volume rates. The *Base* and *Extra* revenue requirements calculated in Table 16 are allocated between single family residential customer and all other customers based on the water usage statistics presented in Table 14. The amount of revenue allocated to each customer class is divided by the estimated water use. A 5% conservation factor was applied to prior year water use to project consumption over the next five years. This factor accounts for any reduction in usage as a response to the increase in the rates.

**Table 19: Water Volume Charge Calculation**

	PROP 218				
	FY24-25	FY25-26	FY26-27	FY27-28	FY28-29
<b>REVENUE REQUIREMENT</b>					
Base Charge Revenue Requirement	\$131,176	\$150,787	\$155,363	\$159,939	\$164,732
<u>Extra Charge Revenue Requirement</u>	<u>\$114,741</u>	<u>\$131,895</u>	<u>\$135,898</u>	<u>\$139,900</u>	<u>\$144,094</u>
Total Volume Rate Revenue Requirement	\$245,917	\$282,682	\$291,261	\$299,839	\$308,826
<b>SFR RESIDENTIAL ALLOCATION</b>					
Base Charge Allocation	59.7%	59.7%	59.7%	59.7%	59.7%
Tier 1 Revenue Requirement	\$78,303	\$90,010	\$92,742	\$95,473	\$98,335
<u>Tier 1: 0 - 18 ccf Consumption (ccf)</u>	<u>55,590</u>	<u>55,590</u>	<u>55,590</u>	<u>55,590</u>	<u>55,590</u>
Tier 1 Rate per ccf	<b>\$1.41</b>	<b>\$1.62</b>	<b>\$1.67</b>	<b>\$1.72</b>	<b>\$1.77</b>
Extra Charge Allocation	56.5%	56.5%	56.5%	56.5%	56.5%
Tier 2 Revenue Requirement	\$64,835	\$74,528	\$76,790	\$79,051	\$81,421
<u>Tier 2: Over 18 ccf Consumption (ccf)</u>	<u>33,070</u>	<u>33,070</u>	<u>33,070</u>	<u>33,070</u>	<u>33,070</u>
Tier 2 Rate per ccf	<b>\$1.96</b>	<b>\$2.25</b>	<b>\$2.32</b>	<b>\$2.39</b>	<b>\$2.46</b>
<b>ALL OTHER CUSTOMER ALLOCATION</b>					
Base Charge Allocation	40.3%	40.3%	40.3%	40.3%	40.3%
Base Charge Revenue Requirement	\$52,872	\$60,777	\$62,621	\$64,466	\$66,398
Extra Charge Allocation	43.5%	43.5%	43.5%	43.5%	43.5%
Extra Charge Revenue Requirement	\$49,906	\$57,367	\$59,108	\$60,849	\$62,673
Total Revenue Requirement	\$102,779	\$118,144	\$121,729	\$125,315	\$129,071
Consumption (ccf)	<u>58,818</u>	<u>58,818</u>	<u>58,818</u>	<u>58,818</u>	<u>58,818</u>
Rate per ccf	<b>\$1.75</b>	<b>\$2.01</b>	<b>\$2.07</b>	<b>\$2.13</b>	<b>\$2.19</b>

SFR – single family residential

### 5.3 Proposed Water Rates and Bill Impacts

Table 20 provides the five-year schedule of proposed bimonthly fixed and volume rates for the Kelseyville County Waterworks District No. 3 (District).

**Table 20: Proposed Water Rates**

	PROPOSED				
	FY24-25	FY25-26	FY26-27	FY27-28	FY28-29
	Nov 15, 2024	Jul 1, 2025	Jul 1, 2026	Jul 1, 2027	Jul 1, 2028
<b>FIXED CHARGES</b>					
<u>Meter Size</u>					
5/8"	\$53.52	\$61.51	\$63.37	\$65.24	\$67.20
3/4"	\$53.52	\$61.51	\$63.37	\$65.24	\$67.20
1"	\$53.52	\$61.51	\$63.37	\$65.24	\$67.20
1-1/2"	\$90.49	\$104.02	\$107.17	\$110.33	\$113.64
2"	\$134.86	\$155.02	\$159.72	\$164.42	\$169.36
3"	\$253.18	\$291.03	\$299.85	\$308.69	\$317.95
4" - Fire protection	\$46.12	\$53.01	\$54.61	\$56.23	\$57.92
6" - Fire protection	\$75.70	\$87.01	\$89.65	\$92.29	\$95.06
8" - Fire protection	\$111.20	\$127.82	\$131.69	\$135.57	\$139.64
Loan Fee – all customers	\$15.32	\$15.32	\$15.32	\$15.32	\$15.32
<b>VOLUME RATES (per ccf)</b>					
<u>Single Family Residential Customers</u>					
Tier 1: 0- 18 ccf	\$1.41	\$1.62	\$1.67	\$1.72	\$1.77
Tier 2: Over 18 ccf	\$1.96	\$2.25	\$2.32	\$2.39	\$2.46
<u>All Other Customers</u>					
All Use	\$1.75	\$2.01	\$2.07	\$2.13	\$2.19

For FY2024-25, the proposed 20% revenue adjustment in the cash flow does not directly correlate to a 20% increase in rates due to the cost of service reallocation and the updated rate structure (i.e. the shift to fixed charges based on meter size and tiered single family volume rates). Because of the reallocation, the bill impacts to customers for the first year will vary based on customer class, meter size, and 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 21 includes a sample of bill impacts at various levels of water use for single family residential customers with a 5/8" meter.

**Table 21: Water Bill Impacts**

	Current Bill	Proposed					
			FY24-25	FY25-26	FY26-27	FY27-28	FY28-29
<b>Residential: 5/8" meter, 10 ccf</b>							
Residential (WA)	\$37.95	Fixed Meter Charge - 5/8"	\$53.52	\$61.51	\$63.37	\$65.24	\$67.20
Volume Rates		Volume Rates					
Tier 1: 0 - 15 ccf	\$11.00	Tier 1: 0 - 18 ccf	\$14.10	\$16.20	\$16.70	\$17.20	\$17.70
Tier 2: Over 15 ccf	\$0.00	Tier 2: Over 18 ccf	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Subtotal Volume	\$11.00	Subtotal Volume	\$14.10	\$16.20	\$16.70	\$17.20	\$17.70
Water Loan Fee	\$15.32	Water Loan Fee	\$15.32	\$15.32	\$15.32	\$15.32	\$15.32
Total Bimonthly Water Bill	\$64.27	Total Bimonthly Water Bill	\$82.94	\$93.03	\$95.39	\$97.76	\$100.22
\$ Change		\$ Change	\$18.67	\$10.09	\$2.36	\$2.37	\$2.46
% Change		% Change	29.0%	12.2%	2.5%	2.5%	2.5%
<b>Residential: 5/8" meter, 18 ccf (Average Use)</b>							
Residential (WA)	\$37.95	Fixed Meter Charge - 5/8"	\$53.52	\$61.51	\$63.37	\$65.24	\$67.20
Volume Rates		Volume Rates					
Tier 1: 0 - 15 ccf	\$16.50	Tier 1: 0 - 18 ccf	\$25.38	\$29.16	\$30.06	\$30.96	\$31.86
Tier 2: Over 15 ccf	\$4.44	Tier 2: Over 18 ccf	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
Subtotal Volume	\$20.94	Subtotal Volume	\$25.38	\$29.16	\$30.06	\$30.96	\$31.86
Water Loan Fee	\$15.32	Water Loan Fee	\$15.32	\$15.32	\$15.32	\$15.32	\$15.32
Total Bimonthly Water Bill	\$74.21	Total Bimonthly Water Bill	\$94.22	\$105.99	\$108.75	\$111.52	\$114.38
\$ Change		\$ Change	\$20.01	\$11.77	\$2.76	\$2.77	\$2.86
% Change		% Change	27.0%	12.5%	2.6%	2.5%	2.6%
<b>Residential: 5/8" meter, 40 ccf</b>							
Residential (WA)	\$37.95	Fixed Meter Charge - 5/8"	\$53.52	\$61.51	\$63.37	\$65.24	\$67.20
Volume Rates		Volume Rates					
Tier 1: 0 - 15 ccf	\$16.50	Tier 1: 0 - 18 ccf	\$25.38	\$29.16	\$30.06	\$30.96	\$31.86
Tier 2: Over 15 ccf	\$37.00	Tier 2: Over 18 ccf	\$43.12	\$49.50	\$51.04	\$52.58	\$54.12
Subtotal Volume	\$53.50	Subtotal Volume	\$68.50	\$78.66	\$81.10	\$83.54	\$85.98
Water Loan Fee	\$15.32	Water Loan Fee	\$15.32	\$15.32	\$15.32	\$15.32	\$15.32
Total Bimonthly Water Bill	\$106.77	Total Bimonthly Water Bill	\$137.34	\$155.49	\$159.79	\$164.10	\$168.50
\$ Change		\$ Change	\$30.57	\$18.15	\$4.30	\$4.31	\$4.40
% Change		% Change	28.6%	13.2%	2.8%	2.7%	2.7%

## SECTION 6: SEWER REVENUE REQUIREMENT

Like the water utility, the sewer utility’s cost of service and revenue requirement is comprised of operating costs, capital improvement costs, and the need to maintain reasonable reserves.

### 6.1 Sewer Reserves

As described in Section 3.1, the water and sewer utilities share the District’s Operating Fund reserve and Mitigation (capital) reserve. In addition, the sewer utility has a Sewer Replacement reserve and a Capital Improvement reserve. The Capital Improvement reserve is funded by the current capital improvement fee of \$20.44. As of the beginning of FY2022-23, the sewer Operating Fund reserve was approximately \$84,400 and the sum of the capital reserves was \$187,000. It is proposed that the sewer utility adopt the same reserve targets as the water utility:

- *Operating Reserve:* The fund balance target is equal to 50% of annual operating expenses.
- *Capital (Mitigation) Reserve:* The fund balance target is \$100,000 to fund the cost of an emergency repair.

### 6.2 Sewer Capital Improvement Plan

Table 22 provides the District’s sewer capital improvement plan (CIP). About \$124,000 in project costs are proposed to be funded via rate revenues. In addition to the projects identified below, this rate study includes assumed funding of \$20,000 per year for miscellaneous repairs and costs for an updated rate study in five years.

**Table 22: Sewer Capital Projects**

Project	Amount Requested [1]	Funding Source [2]	Grant Funded	Rate Funded
Utility Truck (50% allocated to Sewer)	\$43,000	Rate Funded (100%)	\$0	\$43,000
6" Trash Pump	\$74,000	Rate Funded (100%)	\$0	\$74,000
Lift Station #12 Generator 30KW	\$28,000	HMGP 455.55-40 Grant (75%); Rate Funded (25%)	\$21,000	\$7,000
Tertiary Treatment Plant	<u>\$300,000</u>	ARPA 455.56-01 (100% Grant)	<u>\$300,000</u>	<u>\$0</u>
<b>Total</b>	<b>\$445,000</b>		<b>\$321,000</b>	<b>\$124,000</b>

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

2 - Source: Form #3 - Department Revenue, October 26, 2023

### **6.3 Sewer Revenues**

The sewer utility's primary income source is sewer rate revenues. Same as the water utility, the first sewer rate adjustment proposed in this report will go into effect for the billing period beginning November 15, 2024 and future rate adjustments are proposed to go into effect July 1 of each year. Other sewer system revenues include taxes, miscellaneous service fees, and reimbursements. The current capital improvement fee generates about \$167,000 per year.

### **6.4 Sewer Expenses**

Major expenses include administration and overhead, staffing, chemicals, utilities, and maintenance. Most operating expenses are projected to increase 3.0% annually beginning in FY2024-24. It is assumed that the Capital Fund will spend \$20,000 annually on repairs.

### **6.5 Sewer Cash Flow Projection**

The sewer Operating Fund cash flow is provided in Table 23 and the Capital Fund cash flow is provided in Table 24. Currently, the Operating Fund is running a deficit such that operating revenues are not covering operating expenses and the utility is drawing upon reserves. Significant increases are proposed for the base sewer fees to fund expenses and accumulate operating reserves. At the end of FY2028-29, the sewer Operating Fund is projected to have over \$300,000 in reserves which is less than the target. The Capital Fund has adequate reserves and is generating positive net revenues. It is proposed that the capital improvement fee be reduced to \$3.00 per bimonthly billing period to generate \$20,000 annually which is the estimated annual repairs expense. By the end of FY2028-29, the combined reserve of both funds is projected to meet the proposed fund balance target.

**Table 23: Sewer Operating Cash Flow**

	BUDGET		PROP 218			
	FY23-24	FY24-25	FY25-26	FY26-27	FY27-28	FY28-29
Effective Date	Jan 1	Nov 15	Jul 1	Jul 1	Jul 1	Jul 1
Rate Revenue Increase	3.7%	65%	20%	3%	3%	3%
6 Billing Periods at new rate	\$393,000	\$648,000	\$778,000	\$801,000	\$825,000	\$850,000
5 Billing periods at new rate	\$391,000	\$606,000	\$756,000	\$797,000	\$821,000	\$846,000
3 Billing periods at new rate	\$384,000	\$521,000				
<b>Beginning Operating Fund Balance</b>	\$84,000	(\$126,300)	(\$220,400)	(\$100,300)	\$40,000	\$182,500
<b>Revenues</b>						
Sales & Services (Rate Revenues)	\$384,000	\$521,000	\$756,000	\$797,000	\$821,000	\$846,000
Property Taxes (50% Sewer)	\$66,000	\$66,000	\$67,000	\$68,000	\$69,000	\$70,000
Late Fees, Other Fees, Misc	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000	\$9,000
<u>Reimbursement</u>	<u>\$7,700</u>	<u>\$7,900</u>	<u>\$8,100</u>	<u>\$8,300</u>	<u>\$8,500</u>	<u>\$8,800</u>
<b>Total Revenues</b>	\$466,700	\$603,900	\$840,100	\$882,300	\$907,500	\$933,800
<b>Operating Expenditures (+3%/yr)</b>						
Admin & Overhead	\$130,000	\$134,000	\$138,000	\$142,000	\$146,000	\$150,000
Staffing	\$236,000	\$243,000	\$250,000	\$258,000	\$266,000	\$274,000
Professional Services	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000	\$8,000
Permitting	\$32,000	\$33,000	\$34,000	\$35,000	\$36,000	\$37,000
Chemicals	\$60,000	\$62,000	\$64,000	\$66,000	\$68,000	\$70,000
Utilities	\$85,000	\$88,000	\$91,000	\$94,000	\$97,000	\$100,000
Equipment & Supplies	\$56,000	\$58,000	\$60,000	\$62,000	\$64,000	\$66,000
Sewer System Maint	\$56,000	\$58,000	\$60,000	\$62,000	\$64,000	\$66,000
Vehicle & OH Maint	<u>\$14,000</u>	<u>\$14,000</u>	<u>\$15,000</u>	<u>\$15,000</u>	<u>\$16,000</u>	<u>\$16,000</u>
<b>Total Operating Expenditures</b>	\$677,000	\$698,000	\$720,000	\$742,000	\$765,000	\$787,000
<b>Transfer to Capital</b>	\$0	\$0	\$0	\$0	\$0	\$0
<b>Net Operating Revenues</b>	(\$210,300)	(\$94,100)	\$120,100	\$140,300	\$142,500	\$146,800
<b>Ending Fund Balance</b>	(\$126,300)	(\$220,400)	(\$100,300)	\$40,000	\$182,500	\$329,300
<b>Operating Fund Target (50% of O&amp;M Exps)</b>	\$339,000	\$349,000	\$360,000	\$371,000	\$383,000	\$394,000
Target Met?	No	No	No	No	No	No

**Table 24: Sewer Capital Cash Flow**

	BUDGET		PROP 218			
	FY23-24	FY24-25	FY25-26	FY26-27	FY27-28	FY28-29
<b>CAPITAL FUND</b>						
Beginning Capital Fund Balance	\$187,000	\$230,000	\$230,000	\$230,000	\$230,000	\$230,000
<b>Capital Revenues (non-grant; non-expansion fees)</b>						
Special Assmt-Cap Imp [6]	\$167,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Transfer from Sewer Operations	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>
<b>Total Capital Revenues</b>	\$167,000	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
<b>Capital Expenses (Rate Funded Portion)</b>						
Utility Truck	\$43,000	\$0	\$0	\$0	\$0	\$0
6" Trash Pump	\$74,000	\$0	\$0	\$0	\$0	\$0
Lift Station #12 Generator 30KW	\$7,000	\$0	\$0	\$0	\$0	\$0
Rate Study	\$0	\$0	\$0	\$0	\$0	\$25,000
Miscellaneous Repairs	<u>\$0</u>	<u>\$20,000</u>	<u>\$20,000</u>	<u>\$20,000</u>	<u>\$20,000</u>	<u>\$20,000</u>
<b>Total Capital Projects</b>	\$124,000	\$20,000	\$20,000	\$20,000	\$20,000	\$45,000
<b>Net Capital Revenues</b>	\$43,000	\$0	\$0	\$0	\$0	(\$25,000)
<b>Ending Capital Reserves</b>	\$230,000	\$230,000	\$230,000	\$230,000	\$230,000	\$205,000
<b>Capital Fund Target</b>	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000	\$100,000
Target Met?	Yes	Yes	Yes	Yes	Yes	Yes
<b>Combined Operating &amp; Capital Balance</b>						
Combined Reserve Fund Target	\$103,700	\$9,600	\$129,700	\$270,000	\$412,500	\$534,300
Target Met?	\$439,000	\$449,000	\$460,000	\$471,000	\$483,000	\$494,000
	No	No	No	No	No	Yes

## SECTION 7: SEWER COST ALLOCATION AND RATE DESIGN

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### 7.1 Methodology

The determination of the sewer flows, sewer loadings, and the revenue requirements of the sewer utility provide the basis for performing the cost of service analysis. The concept of proportionate allocation to each customer class indicates that allocations should take into consideration the quantity of effluent a customer contributes in addition to the strength of sewer effluent.

The key factors used to assign sewer utility costs are estimated effluent (flow) going to the wastewater treatment plant and effluent strengths, measured in biochemical oxygen demand (BOD) and total suspended solids (TSS). Higher levels of BOD or TSS typically equate to increased treatment costs. The total revenue requirement shown in the sewer cash flow projection is the net cost of providing service and is allocated to the flow, BOD, and TSS parameters. These allocations are then used as the basis to develop unit rates for the sewer parameters and to assign costs to each customer class in proportion to the sewer services rendered.

Using the FY24-25 budget as the base year, sewer expenses are allocated to the following categories (a) Flow, (b) Biochemical Oxygen Demand (BOD), and (c) Total Suspended Solids (TSS).

- *Flow Costs:* Volume- or flow-related costs that vary with the total quantity of wastewater collected. Because most agencies do not meter wastewater discharges, metered water consumption is used to estimate contributed average wastewater volume units of service.
- *Strength Costs:* Strength-related costs are those expenditures associated with the additional handling and treatment of high strength sewer. Sewer strength is typically measured in BOD and TSS. Increased levels of BOD or TSS typically equate to increased treatment costs.

### 7.2 Proposed Sewer Cost Allocation

Table 25 provides the proposed cost allocation. Most budgeted expenses are allocated 50% to flow and 25% to both BOD and TSS as this is an industry typical allocation representing the overall cost structure for most sewer utilities. However, expenses related to the collection system are not heavily impacted by pollutants and are allocated 80% to flow and 10% each to BOD and TSS. The proposed allocation is about 54% to flow, 23% to BOD, and 23% to TSS.



**Table 25: Sewer Cost Allocation**

<b>Expenses</b>	<b>FY24-25</b>	<b>Flow</b>	<b>BOD</b>	<b>TSS</b>
Admin & Overhead	\$134,000	50.0%	25.0%	25.0%
Staffing	\$243,000	50.0%	25.0%	25.0%
Professional Services	\$8,000	50.0%	25.0%	25.0%
Permitting	\$33,000	80.0%	10.0%	10.0%
Chemicals	\$62,000	0.0%	50.0%	50.0%
Utilities	\$88,000	80.0%	10.0%	10.0%
Equipment & Supplies	\$58,000	50.0%	25.0%	25.0%
Sewer System Maint	\$58,000	80.0%	10.0%	10.0%
<u>Vehicle &amp; OH Maint</u>	<u>\$14,000</u>	80.0%	10.0%	10.0%
Subtotal Operating Costs	\$698,000	\$375,900	\$161,050	\$161,050
		53.9%	23.1%	23.1%
5-Year Average Capital Projects	\$25,000	50.0%	25.0%	25.0%
Total	\$723,000	\$388,400	\$167,300	\$167,300
<i>Total Allocation %</i>		53.7%	23.1%	23.1%

### 7.3 Sewer Rate Design

Total system flows and pollutant loads are estimated in Table 26. The average residential sewer flow is estimated as 130 gallons per day (gpd) for a single family home and 95 gallons per day per each multifamily dwelling unit. Under the proposed rate structure, multifamily dwelling units will have a lower fee than single family dwellings that is proportional to their lower average flows. Total flows are estimated based on data from the WWTP as well as water use data from the past three years. Pollutant loads consist of biochemical oxygen demand (BOD) and total suspended solids (TSS) and are estimated based on typical industry standards.

**Table 26: Sewer Flows and Pollutant Loading**

Rate Code	Customer Class	Billing Unit Count	Estimated Flow (gpd)	BOD (mg/L)	TSS (mg/L)	Flow (gal per year)	BOD (lbs/yr)	TSS (lbs/yr)	
MM	Domestic Strength - SF Residential	797	130	250	130	37,817,650	78,901	41,028	
MM	Domestic Strength - Multi-Fam	474	95	250	130	16,435,950	34,291	17,831	
MM	Domestic Strength - Commercial	16	130	250	130	759,200	1,584	824	
DM	Convalescent care per bed	0	50	250	130	0	0	0	
DL	School w/caf per student	1,389	8	250	130	4,055,880	8,462	4,400	
MC	Per restaurant seat over 33	141	5	300	500	257,325	644	1,074	
ME	Motel add'tl unit w/o kitchen [1]	26	40	100	150	284,700	238	356	
MG	Motel add'tl unit w/kitchen [1]	7	50	250	130	95,813	200	104	
MD	Commercial	22	140	275	400	1,124,200	2,580	3,753	
MO	School Basic Charge	5	150	250	400	273,750	571	914	
MH	Professional Building	11	110	100	120	441,650	369	442	
MQ	School add'tl building	5	110	100	120	200,750	168	201	
MS	Laundry per machine	17	70	100	120	434,350	362	435	
MA	Travel trailer w/o hookup; campsite	3	10	100	120	10,950	9	11	
MB	Travel trailer w/hookup	0	20	250	130	0	0	0	
		2,913				62,192,168	128,379	71,374	
						MG	Lbs	Lbs	
						Estimate for rate design	62.192	128,379	71,374
						Estimate from influent records (dry weather)	64.056	142,003	73,575

1 - Assumes 75% vacancy rate

Total flow and pollutant loading estimates are used to derive unit costs for flow, BOD, and TSS as shown below in Table 27. The total revenue requirement to be collected from rates is divided between each category according to the percentages derived in the cost allocation (Table 25). The revenue requirement for each category is then divided by the number of billing units to calculate a unit charge.

**Table 27: Sewer Unit Costs**

<b>Cost Allocation</b>	<b>Total</b>	<b>Flow</b>	<b>BOD</b>	<b>TSS</b>
Cost Allocation %		53.7%	23.1%	23.1%
FY 24-25 Revenue Requirement	\$648,000	\$348,000	\$149,700	\$149,700
Billing Units		62,192,000	128,379	71,374
		gal/year	lbs/year	lbs/year
Unit Cost		\$5.5956	\$1.1661	\$2.0974
		\$/1,000 gal	\$/lb	\$/lb

Table 28 applies the unit costs from Table 27 to the flow and loading characteristics from Table 26 to calculate FY2024-25 bimonthly rates for each customer class. Table 29 shows the proposed sewer rates for the next five years. The sewer service rates for future years are increased by the percentages shown in the cash flow (Table 23). The loan fee is proposed to remain the same and the capital improvement fee is proposed to be reduced to \$3.00 per billing period.

**Table 28: FY2024-25 Sewer Rate Impacts**

<b>Customer Class</b>	<b>Billing Units</b>	<b>Current Bimonthly Rate</b>	<b>Proposed Bimonthly Rate</b>	<b>Rate Change</b>	<b>Projected FY24-25 Revenue</b>	<b>% of Revenue</b>
Domestic Strength - SF Residential	797	\$44.04	\$81.49	85%	\$389,685	60.1%
Domestic Strength - Multi-Fam	474	\$44.04	\$59.55	35%	\$169,360	26.1%
Domestic Strength - Commercial	16	\$44.04	\$81.49	85%	\$7,823	1.2%
Convalescent care per bed	0	\$17.60	\$31.34	78%	\$0	0.0%
School w/caf per student	1,389	\$2.65	\$5.01	89%	\$41,753	6.4%
Per restaurant seat over 33	141	\$2.65	\$5.25	98%	\$4,442	0.7%
Motel add'tl unit w/o kitchen	26	\$12.35	\$22.37	81%	\$3,490	0.5%
Motel add'tl unit w/kitchen	7	\$14.53	\$31.34	116%	\$1,316	0.2%
Commercial	22	\$88.07	\$130.08	48%	\$17,171	2.6%
School Basic Charge	5	\$88.07	\$137.15	56%	\$4,115	0.6%
Professional Building	11	\$44.04	\$58.01	32%	\$3,829	0.6%
School add'tl building	5	\$44.06	\$58.01	32%	\$1,740	0.3%
Laundry per machine	17	\$31.69	\$36.92	17%	\$3,766	0.6%
Travel trailer w/o hookup; campsite	3	\$4.41	\$5.27	20%	\$95	0.0%
Travel trailer w/hookup	0	\$8.80	\$12.54	43%	\$0	0.0%
					\$648,584	100.0%

**Table 29: Proposed Bimonthly Sewer Rates**

CURRENT			PROPOSED				
			FY24-25	FY25-26	FY26-27	FY27-28	FY28-29
			Nov 15, 2024	Jul 1, 2025	Jul 1, 2026	Jul 1, 2027	Jul 1, 2028
<b>CODE</b>	<b>FIXED CHARGES</b>						
MM	Domestic Strength - SF Residential	\$44.04	\$81.49	\$97.79	\$100.72	\$103.74	\$106.85
MM	Domestic Strength - Multi-Fam	\$44.04	\$59.55	\$71.46	\$73.60	\$75.81	\$78.08
MM	Domestic Strength - Commercial	\$44.04	\$81.49	\$97.79	\$100.72	\$103.74	\$106.85
DM	Convalescent care per bed	\$17.60	\$31.34	\$37.61	\$38.74	\$39.90	\$41.10
DL	School w/caf per student	\$2.65	\$5.01	\$6.01	\$6.19	\$6.38	\$6.57
MC	Per restaurant seat over 33	\$2.65	\$5.25	\$6.30	\$6.49	\$6.68	\$6.88
ME	Motel add'tl unit w/o kitchen	\$12.35	\$22.37	\$26.84	\$27.65	\$28.48	\$29.33
MG	Motel add'tl unit w/kitchen	\$14.53	\$31.34	\$37.61	\$38.74	\$39.90	\$41.10
MD	Commercial	\$88.07	\$130.08	\$156.10	\$160.78	\$165.60	\$170.57
MO	School Basic Charge	\$88.07	\$137.15	\$164.58	\$169.52	\$174.61	\$179.85
MH	Professional Building	\$44.04	\$58.01	\$69.61	\$71.70	\$73.85	\$76.07
MQ	School add'tl building	\$44.06	\$58.01	\$69.61	\$71.70	\$73.85	\$76.07
MS	Laundry per machine	\$31.69	\$36.92	\$44.30	\$45.63	\$47.00	\$48.41
MA	Travel trailer w/o hookup; campsite	\$4.41	\$5.27	\$6.32	\$6.51	\$6.71	\$6.91
MB	Travel trailer w/hookup	\$8.80	\$12.54	\$15.05	\$15.50	\$15.97	\$16.45
<b>CODE</b>	<b>ADDITIONAL CHARGES – ALL CUSTOMERS</b>						
LL	Loan Fee	\$14.00	\$14.00	\$14.00	\$14.00	\$14.00	\$14.00
MK	Capital Improvement Fee	\$20.44	\$3.00	\$3.00	\$3.00	\$3.00	\$3.00