



Lockeford Community Services District

Water Rate Study and Cost of Service Analysis

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Introduction and Summary of Findings

1.1 PURPOSE OF THE STUDY

The Lockeford Community Services District (District or LCSD) provides water services to the residents, schools, and businesses of the unincorporated community of Lockeford. The purpose of this study is to determine the level of funding required over the next six years to adequately fund the water system in a safe manner; providing clean and safe drinking water that meets State and Federal regulatory requirements.

This report provides an explanation and justification of the calculated water rates for the next six years and it documents adherence to legal requirements regarding setting of rates by a municipality. Per California Constitution Article 13D, water rates shall not be extended, imposed, or increased by any agency unless it meets all of the following requirements:

- (1) Revenues derived from the fee or charge shall not exceed the funds required to provide the property related service.
- (2) Revenues derived from the fee or charge shall not be used for any purpose other than that for which the fee or charge was imposed.
- (3) The amount of a fee or charge imposed upon any parcel or person as an incident of property ownership shall not exceed the proportional cost of the service attributable to the parcel.
- (4) No fee or charge may be imposed for a service unless that service is actually used by, or immediately available to, the owner of the property in question. Fees or charges based on potential or future use of a service are not permitted.
- (5) No fee or charge may be imposed for general governmental services including, but not limited to, police, fire, ambulance or library, services, where the service is available to the public at large in substantially the same manner as it is to property owners.

1.2 BACKGROUND

The District last conducted a water rate study in 2017. Water rates were last increased January 2022. Rate studies are typically conducted every three to five years to ensure revenue sufficiency. A water rate study is necessary at this time to ensure revenue sufficiency of the water system for the next six years.

A cost-of-service analysis, which not only supports an analysis of revenue sufficiency, but also examines whether customers are paying for their share of system costs and adjusts rates and customer classifications to achieve equity to the maximum extent practicable, is advisable whenever there has been a shift in the economic base of the community, and whenever proportional cost-of-service is in question. In addition, per California Government

Code 54999.7 (c), a public agency providing public utility service shall complete a cost-of-service study at least once every 10 years that addresses the cost of providing public utility service to public schools.

As part of the regular periodic review of the rates, best practices include maintaining a financially self-sustaining water utility, setting policies or guidelines on an appropriate reserve level, including depreciation in the rates, and continual customer outreach to educate on the value of water and need for water conservation.

This study incorporates all three major elements of cost-based rate making; revenue requirement analysis, cost-of-service analysis, and rate-design analysis. In determining an appropriate rate structure for LCSD that would meet the requirements of Proposition 218, the following key objectives were considered:

- Rates must be capable of generating sufficient revenues to meet all annual financial obligations of the water fund.
- Any changes to the rate structure must be administratively feasible (compatible with the existing billing system and straightforward to explain to customers).

This report presents the result of the analysis and rate structure that best meets these objectives under current and projected conditions.

1.3 RATE SETTING PRINCIPLES AND ORGANIZATION OF THE REPORT

This report was prepared using the principles established by the American Water Works Association. The American Water Works Association “Principles of Water Rates, Fees, and Charges: Manual of Water Supply Practices M1 (the “M1 Manual”) establishes commonly accepted professional standards for cost-of-service studies. The M1 Manual general principles of rate structure design and the objectives of the study are described below.

According to the M1 Manual, the first step in the ratemaking analysis is to determine the adequate and appropriate funding of a utility. This is referred to as the “revenue requirements” analysis. The analysis considers the short-term and long-term service objectives of the utility over a given planning horizon, including capital facilities and system operations and maintenance, to determine the adequacy of a utility’s existing rates to recover its costs. A number of factors may affect these projections, including: the number of customers served, water-use trends, nonrecurring sales, weather, conservation, use restrictions, inflation, interest rates, capital finance needs, and other changes in operating and economic conditions.

After determining a utility’s revenue requirements, a utility’s next step is determining the cost-of-service. Utilizing a public agency’s approved budget, financial reports, operating data, and capital improvement plans, a rate study generally categorizes (functionalizes) the costs and assets of the water system among major operating functions to determine the cost-of-service.

After the assets and the costs of operating those assets are properly categorized by function, the rate study allocates those “functionalized costs” to the various customer classes (e.g., single-family residential, multi-family residential and commercial) by determining the characteristics of those classes and the contribution of each to incurred costs such as peaking factors or different delivery costs, service characteristics and demand patterns. In

the case of water rates, the customer classes are frequently identified by meter rate size as this relates directly to the water demand characteristics of the users. Rate design is the final part of the M1 Manual's rate-making procedure and generally uses the revenue requirement and cost-of-service analysis to determine appropriate rates for each customer class.

Following this introduction and summary of findings, Section 2 provides information on the water system including the customer base, the water fund, and future infrastructure capital needs. Section 3 provides the water rate analysis, which starts with calculation of the revenue requirement. The methodology of the water rate analysis and detailed calculations of the water rates are also presented. Section 4 compares calculated water bills under the new rates with current LCSD water bills. Total water bill burden for a typical residential home is presented as a percentage of income to provide a test of affordability.

Appendix A includes support tables for the water rates analysis.

1.4 MAJOR ASSUMPTIONS

Several major assumptions influence the scope of the report and findings herein. They are summarized here:

- The Capital Improvement Projects (CIP) list will be funded by repayment of a loan made in 2007 to the sewer fund. The sewer fund is repaying the water fund approximately \$100,000 per year until the loan has been repaid. The loan repayment is sufficient to rehabilitate all of the District's wells. The loan may also pay for some proactive replacement of older pipelines.
- Asset Replacement costs are included in the water rates. The water rate model includes a calculated annual cost for replacement of facilities that is based on annual depreciation. Facilities include existing facilities and new facilities built in the next six years. Rates should include depreciation of existing assets so that funds are accumulated and available for replacement of assets on a timely basis, and preferably paid for with cash. The money collected for asset replacement will be put in a separate, designated fund until needed.
- The new rate structure will be implemented with the utility billing that begins June 1, 2023. The following next five rate increases are assumed to be implemented with the billing cycles starting January 1 of each year (January 2024, 2025, 2026, 2027, and 2028), to coincide with changes in the District's sewer rates. Each fiscal year six months will be billed at the 'old' rate, and six months will be billed at the 'new' rate.
- New growth and new development is assumed to increase at a pace of 0.9% per year, which equates to about 8 new homes each year. This growth rate was assumed in the recently completed Sewer Master Plan and is consistent with the long-term growth characteristics of the community.

1.5 FINDINGS AND CALCULATED RATES

The rate study finds that:

- LCSD is projected to be unable to cover operating costs with existing water rates in fiscal year 2023, and for the next six years. Water rates need to increase to achieve revenue sufficiency.

- LCSD has adequate cash in the capital fund to complete projected water system rehabilitation costs over the next six years.

The study provides a basis for adoption of a new rate schedule from 2023 through 2028. By raising the rates, the District will generate sufficient revenue to fully fund water operations while also funding necessary capital improvements, putting aside money for future system improvements, and maintaining a prudent cash reserve. Table 1-1 shows current and calculated water rates for the next six years.

Table 1-1
Projected Five-Year Water Rates Schedule

Rate Item	Rate Implementation					
	Jun-23	Jan-24	Jan-25	Jan-26	Jan-27	Jan-28
Service Charges	<i>per month, per meter</i>					
0.75-inch [1]	\$25.16	\$25.44	\$25.98	\$26.53	\$27.10	\$27.65
1-inch	\$32.71	\$33.08	\$33.78	\$34.49	\$35.24	\$35.95
1.5-inch	\$41.27	\$41.73	\$42.61	\$43.52	\$44.45	\$45.35
2-inch	\$66.18	\$66.92	\$68.34	\$69.78	\$71.28	\$72.73
3-inch	\$100.66	\$101.78	\$103.94	\$106.14	\$108.42	\$110.62
4-inch	\$107.32	\$108.52	\$110.82	\$113.16	\$115.60	\$117.94
6-inch	\$125.82	\$127.22	\$129.92	\$132.67	\$135.52	\$138.27
Use Charges	<i>Usage greater than 10,000 gallons per Month</i>					
Per 1,000 gallons	\$2.94	\$2.99	\$3.06	\$3.14	\$3.22	\$3.30

[1] Individually metered apartments will be charged the three-quarter inch meter service charge.

In compliance with California SB-7, effective January 1, 2018, which requires all new multi-family residential development to be individually metered or sub-metered, any newly constructed units will pay the same base rate per unit as a three-quarter-inch residential unit unless the owner of the building(s) sub-meters each unit and performs its own internal water billing of each unit. Note that California Residential Code Section R313 fire sprinkler requirements ensures that almost every new single-family unit will need a one-inch meter.

An illustration of water bills for single family residential customers in Lockeford using 15,000 gallons in a month is shown in Figure 1-1. This level of water consumption was used to illustrate an example bill because the median household water use per month is 12,000 gallons. The monthly bill would increase from \$39.00 under the current rates to \$39.86 in June 2023, \$40.39 January 2024, and \$44.15 by January 2028 under the proposed rates.

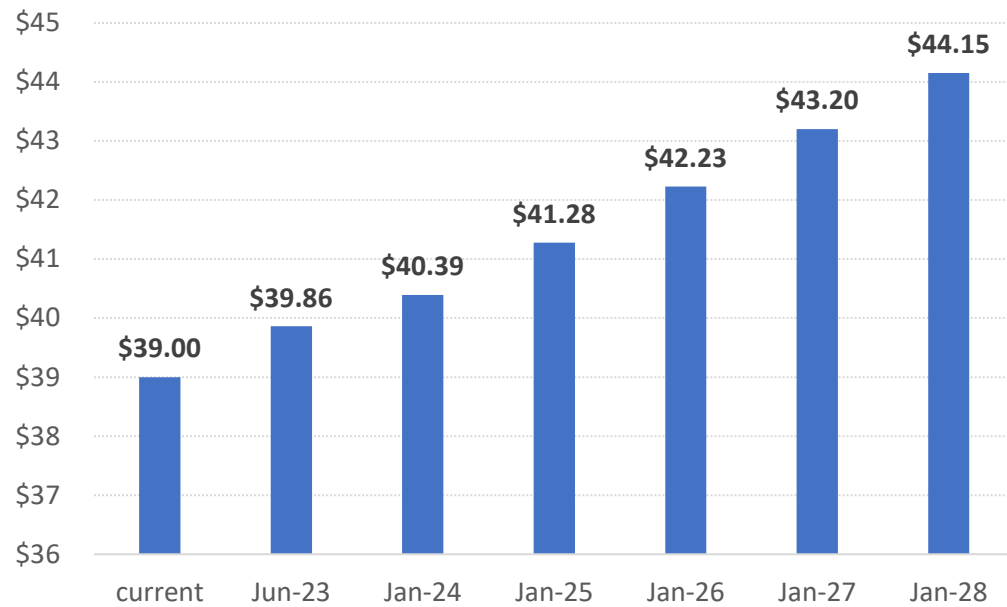


Figure 1-1
Projected Monthly Bill for a Residential Home With a Three-quarter Inch Meter Using 15,000 Gallons

Water System Characteristics

This section describes the water system’s customer base, the water fund, and water system capital improvement needs.

2.1 CUSTOMER BASE

The District’s water system serves water to about 800 households, as well as nearly 55 non-residential establishments, three churches, and the Lodi Unified School District. A pie chart illustrating the customer base makeup is provided in Figure 2-1. As the pie chart shows, the District’s water customers are primarily (92%) single family residential users.

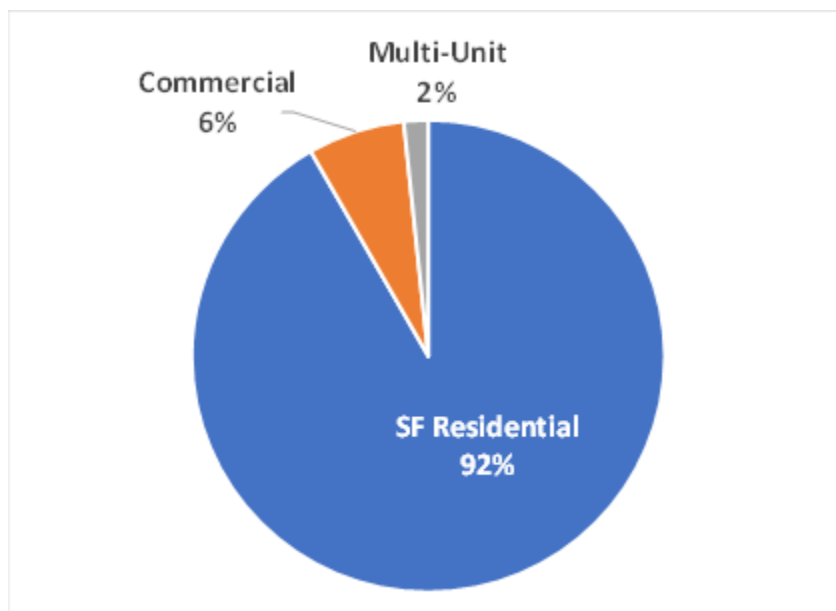


Figure 2-1
District Water Customer Makeup

Appendix A Tables A-1 and A-2 show that forty-five percent of all water used is billed; however, this is not equal among the customer groups. Single family residential accounts are billed 40% of water use, multi-unit accounts are billed 71% of water use, and commercial accounts are billed 76% of total water use, as illustrated in Figure 2-2. Total annual water use share by customer group is shown in Figure 2-3.

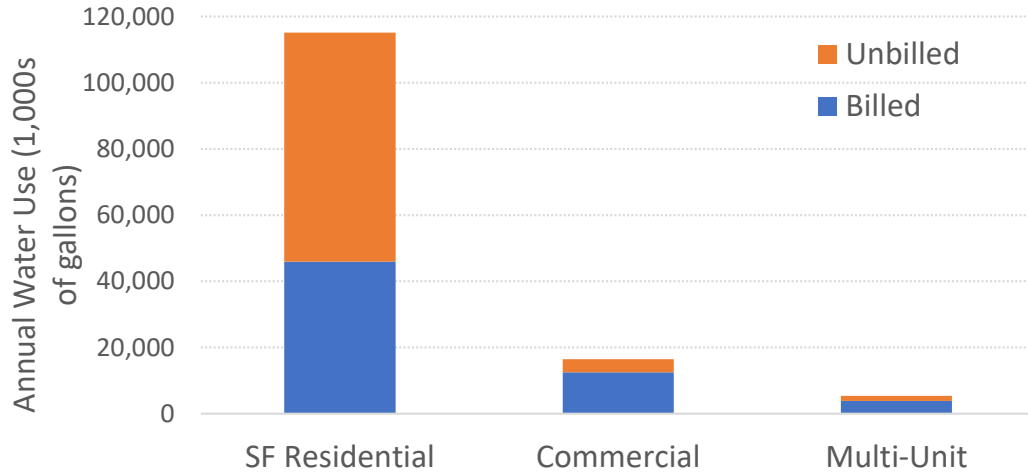


Figure 2-2
Total and Billed Water Use by Customer Category

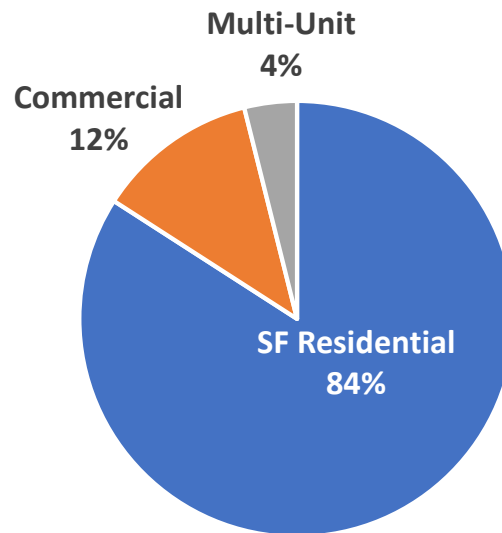


Figure 2-3
Water Use by Customer Group

2.1.1. CUSTOMER CHARACTERISTICS

Like most communities in the western U.S., Lockeford experiences greater water demand in the summer than the winter due to outside applications of water. Single-family residential customers use more than three times the amount of water during summer months compared to winter months. All other customer groups also use more water during the summer by at least 20%. Figure 2-4 displays the seasonal water use pattern with historical water use records between 2019 and 2021. The base annual flow (established as the average annual water use based on wintertime only water consumption) is 68% of total water use. The additional flow to satisfy summertime demand is 32% of total water use. Appendix A Table A-3 shows water use by month, by year.

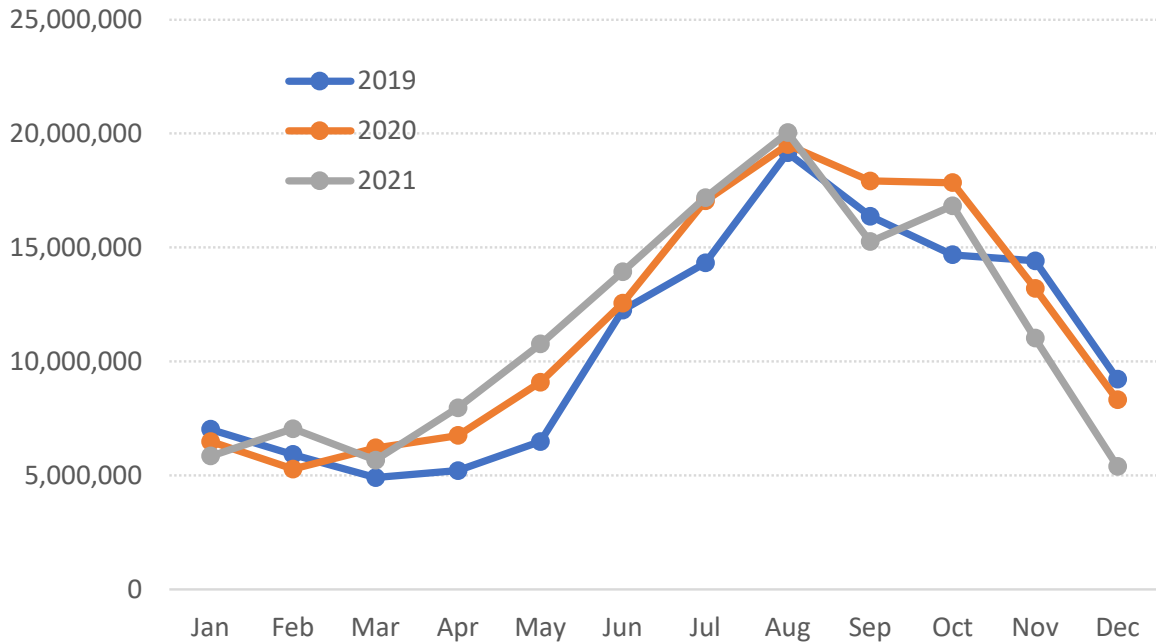


Figure 2-4
Seasonal Water Use (Gallons per Month)

Because the customer base is dominated by older single-family homes, 85% of the customers have 0.75-inch meters, as shown in Table 2-1.

Table 2-1
Summary of Customers by Meter Size

Customer Type	Total	Meter Size						
		0.75-inch	1-inch	1.5-inch	2-inch	3-inch	4-inch	6-inch
SF Residential	775	713	61	1	0	0	0	0
Commercial	56	9	32	4	8	2	0	1
Multi-Unit	14	0	12	0	2	0	0	0
Total	845	722	105	5	10	2	0	1
Share of Total	100%	85%	12%	1%	1%	0%	0%	0%

Source: LCSD August 2022.

cust

The total number of equivalent meter units (EMUs) is calculated in Table 2-2. The number of EMUs is calculated using the District’s historical meter ratios relative to a 0.75-inch meter.

Table 2-2
Equivalent Meter Units

Meter Size	Number of Billing Meters	Current Meter Ratios	
		Ratio to 0.75- inch Meter [1]	Equivalent Meter Units
0.75-inch	722	1.00	722
1-inch	105	1.30	137
1.5-inch	5	1.64	8
2-inch	10	2.63	26
3-inch	2	4.00	8
4-inch	0	4.27	0
6-inch	1	5.00	5
Total	845		906

Source: LCSD and AWWA M1 Manual m equiv

[1] No current ratio for a 4-inch meter. Ratio is based on the relative flow in gpm as provided by the AWWA.

2.1.2. GROWTH IN CUSTOMERS AND WATER DEMAND

Per the District's 2022 Sewer Master Plan, the population and therefore the number of customers is projected to grow 0.9% per year. This amount of growth equates to eight single-family units per year. Projected growth in customers and water use is shown in Table 2-3. Due to periodic, and sometimes prolonged, droughts experienced in California, and the fact that California is currently in a drought, water use was projected at a more modest rate than the growth in number of customers. The growth rate for water demand was restricted to 0.5% per year for this water rate study.

Table 2-3
Projected Growth in Customers and Water Demand

Item	Fiscal Year Ending						
	2023	2024	2025	2026	2027	2028	2029
Estimated EMUs [1]	906	914	922	930	938	946	955
Estimated Annual Water Demand [2]	136,925	138,135	139,344	140,553	141,762	142,971	144,331
Projected Demand for Rate Study [3]	136,925	137,610	138,298	138,990	139,685	140,383	141,085
Percentage of Water Billed	45%	45%	45%	45%	45%	45%	45%
Estimated Billed Water	62,214	62,525	62,837	63,151	63,467	63,785	64,103

Source: LCSD and KSN Inc. October 2022.

demand

[1] Customer growth of 0.9% per year.

[2] Water demand based on calendar year 2021 water use. Figures in thousands of gallons.

[3] Projected water demand reduced to account for drought potential.

2.2 THE WATER FUND

The water enterprise fund accounts for the revenues and expenses associated with provision of water service. An enterprise fund is a fund that is intended to recover its costs through user fees and charges for a specific service. Money collected for an enterprise fund cannot be spent on other services. Generally accepted accounting principles (GAAP) require state and local government to use the enterprise fund type to account for “business type activities”. As a business type fund, enterprise funds must be self-sufficient. Enterprise funds also provide the repayment capacity for, and make debt service payments on, any debt incurred for capital projects. Therefore, in these ways the District is managing its water fund as an enterprise fund for the “business activities” of the water system.

Historical financial records for fiscal years 2019 through 2022, and the budget for fiscal year 2023, are presented in Table 2-4. Each year, the water enterprise fund has covered all expenses and put cash into its reserves; however, fiscal year 2023 is budgeted at a loss. A one-year loss is quite normal for a small special district. Provided sufficient cash is in reserve, occasional losses can be weathered.

2.2.1. REVENUES

Water system operations are funded through rates, property taxes, penalty charges, interest, and some other smaller amounts of miscellaneous income. Rates comprise 97.5% of water fund revenues. Table 2-5 shows the District’s current water rates.

Every month, water accounts are charged a service fee (also termed a “base” fee), which is dependent on the size of the water meter serving the account, and a use fee that is charged for every one-thousand gallons of water greater than 10,000 gallons used per account per month. The current meter ratio is displayed on the right of Table 2-5; this is the ratio by which a meter larger than a 0.75-inch meter is charged.

Table 2-4
Historic Revenues and Expenses

Revenues and Expenses	Fiscal Year Ending				
	2019 Actual	2020 Actual	2021 Actual	2022 Actual	2023 Budget
Operating Revenues					
Monthly Service Fees	\$245,610	\$249,117	\$256,317	\$261,032	\$267,660
Water Meter Income	\$149,214	\$170,495	\$190,388	\$172,691	\$160,000
Late Charges	\$2,770	\$2,816	\$2,976	\$3,389	\$2,800
Interest Income	\$4,914	\$4,599	\$4,362	\$2,085	\$2,000
Other Income	\$5,743	\$3,520	\$930	\$3,520	\$900
Subtotal Operating Revenue	\$408,251	\$430,546	\$454,972	\$442,717	\$433,360
Non-Operating Revenues					
Property Tax	\$0	\$0	\$0	\$0	\$34,000
Connection Fees	\$15,450	\$6,180	\$6,180	\$9,270	\$0
Interest Income	\$27,538	\$13,030	\$2,086	\$2,929	\$2,500
Other Income	\$33,410	\$0	\$0	\$0	\$0
Subtotal Non-Operating Revenue	\$76,398	\$19,210	\$8,266	\$12,199	\$36,500
Total Income	\$484,649	\$449,756	\$463,238	\$454,916	\$469,860
Expenses					
Auditor	\$4,118	\$4,610	\$4,238	\$4,350	\$5,000
Auto Expenses	\$4,796	\$5,825	\$4,421	\$5,834	\$9,250
Bank Charges	\$62	\$123	\$112	\$67	\$100
Director Fees	\$813	\$850	\$750	\$863	\$900
Employee Education	\$411	\$170	\$345	\$160	\$300
Equipment	\$0	\$0	\$10,711	\$7,587	\$15,000
Insurance	\$8,519	\$8,497	\$8,231	\$8,257	\$9,200
Personnel Insurance	\$48,232	\$50,357	\$50,501	\$50,600	\$60,000
Legal & Professional	\$13,590	\$15,622	\$2,638	\$4,037	\$51,000
Maintenance	\$30,788	\$3,700	(\$2,061)	\$43,130	\$47,000
Misc. Dues and Fees	\$6,487	\$6,435	\$6,638	\$6,625	\$7,500
Office Expenses	\$3,939	\$4,798	\$5,728	\$9,003	\$12,000
Postage	\$3,047	\$3,089	\$2,719	\$3,068	\$3,400
Retirement	\$14,527	\$15,332	\$15,947	\$15,949	\$17,500
Salaries	\$140,916	\$148,055	\$154,956	\$156,311	\$164,000
Services	\$2,909	\$1,566	\$1,945	\$2,000	\$2,300
Soc Sec/Medi	\$2,106	\$2,223	\$2,313	\$2,376	\$2,500
Taxes	\$2,073	\$2,000	\$2,143	\$2,299	\$2,700
Telephone	\$2,540	\$2,849	\$2,988	\$3,006	\$3,200
Testing Services	\$3,412	\$2,693	\$1,486	\$3,952	\$5,000
Tools & Supplies	\$6,168	\$4,223	\$3,584	\$4,633	\$12,000
Uniforms	\$0	\$246	\$99	\$0	\$300
Utilities	\$46,996	\$51,753	\$52,555	\$65,299	\$65,000
Total Operating Expenses	\$346,449	\$335,014	\$332,989	\$399,406	\$495,150
Non-Operating Expenses					
Capital Expenses	\$0	\$0	\$0	\$43,632	\$0
Other	\$571	(\$50)	\$0	\$10,135	\$0
Total Non-Operating Expenses	\$571	(\$50)	\$0	\$53,767	\$0
Net Income	\$137,628	\$114,792	\$130,249	\$1,744	(\$25,290)

Source: LCSD financial records.

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Table 2-5
Current LCSD Water Fees

Water Meter Size	Base Monthly Fee	Meter Ratio
0.75-inch	\$24.35	1.00
1-inch	\$31.66	1.30
1.5-inch	\$39.94	1.64
2-inch	\$64.05	2.63
3-inch	\$97.42	4.00
4-inch	n.a.	
6-inch	\$121.77	5.00
plus, for every 1,000 gallons greater than 10,000 per month:		\$2.93

Source: LCSD August 2022.

curr

2.2.2. EXPENSES

Annual operating costs include all water system operating expenses and capital outlay for unplanned repairs. As is typical of utility funds, personnel costs make up the largest single cost category at 61% of total costs. Personnel costs are followed by power (16%) and repairs and maintenance (6%) to fix breaks and leaks. Percentage share of historical expenses by expense category are shown in Figure 2-5.

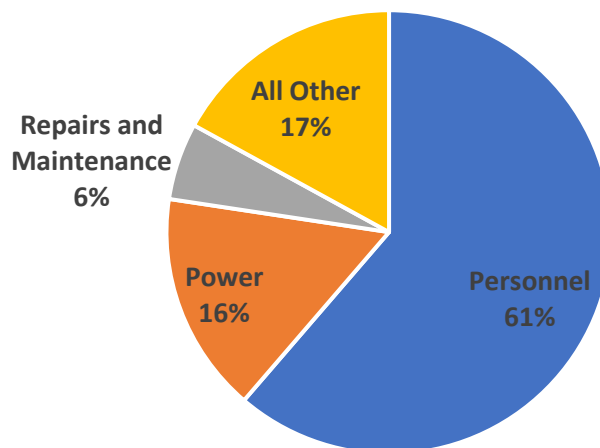


Figure 2-5
Distribution of Historical Water Fund Expenditures

2.3 CAPITAL IMPROVEMENT PROJECTS

Projected capital improvement costs were estimated based on the expected scope and need for ongoing repair and rehabilitation of the District's wells. The estimated schedule of capital costs includes rehabilitation of each well over the next six years. The total cost is estimated at \$337,400 over the next five years, as shown in Table 2-6. Appendix A Table A-4 provides the estimated CIP costs in 2022 dollars.

The scope of well repair and rehabilitation was assumed to consist of:

1. Removal and reinstallation of the well pump.
2. Well video inspection, cleaning, and disinfection.
3. Inspection of the well pump.
4. Incidental repair of well shaft, bearings, impellers, or wellhead.

Table 2-6
Capital Improvement Projects

Capital Projects	Total Est. Costs	Fiscal Year Ending						
		2023	2024	2025	2026	2027	2028	2029
	inflation factor ---->		4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Well Rehabilitation				<i>All figures in future dollars</i>				
Well No. 5	\$78,600	\$0	\$78,600	\$0	\$0	\$0	\$0	\$0
Well No. 4	\$81,800	\$0	\$0	\$81,800	\$0	\$0	\$0	\$0
Well No. 2	\$88,500	\$0	\$0	\$0	\$0	\$0	\$88,500	\$0
Well No. 3	\$88,500	\$0	\$0	\$0	\$0	\$88,500	\$0	\$0
Total Wells Rehabilitation	\$337,400	\$0	\$78,600	\$81,800	\$0	\$88,500	\$88,500	\$0

Source: KSN and HEC, December 2022.

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Section 3

Water Rate Analysis

3.1 REVENUE REQUIREMENT

The revenue requirement refers to the amount of money that must be raised for revenue sufficiency of the water fund through collection of rates. The projection of the revenue requirement is the cornerstone for the calculation of rates. This section explains the derivation of revenue requirement for this study. Components of the revenue requirement include:

- Operating Expenses
- Asset Replacement
- Capital Improvements

Non-water sales revenue projections are credited against projected operations costs. Non-water sales include property taxes, late payment (penalty) charges, interest income, and other miscellaneous income.

3.1.1. OPERATING EXPENSES AND RESERVES

Budgeted fiscal year 2023 expenses are the basis for projecting future year expenditures, with two adjustments. The future personnel costs reflect a decrease in costs owing to retirement of a key employee and assumed internal promotions which would result in a net reduction in personnel costs. In addition, the District has been deploying new software for its meter reading system integration, where costs for this task will end once the software is fully deployed. Office costs are adjusted slightly to account for this one-time expense.

Historical cost increases by type of expense are shown in Appendix A Table A-5. Operating expenses have been increasing at an average annual rate of 5.0% (3.0% for personnel-related costs and 7.0% for non-personnel-related costs).

3.1.2. ASSET REPLACEMENT

Depreciation is used as the basis for which to collect rates to cover asset replacement costs. Inclusion of asset replacement costs demonstrates fiscal responsibility toward the assets to potential future investors and helps to establish good credit¹. The water rates include 100% depreciation of the water system major infrastructure starting fiscal year 2024 with funding of the Asset Reserve fund as described in 3.4.2. System assets cost and depreciation are provided in Appendix A Table A-6.

¹ Per Governmental Accounting Standards Board (GASB) 34, local governments must report on the value of their infrastructure assets and plan for asset maintenance (including collecting sufficient revenue) to obtain good credit when issuing bonds or procuring other forms of financing for long-term construction projects.

3.1.3. SEWER FUND LOAN REPAYMENT

The water fund does not have any debt. In 2007, the water fund made a loan to the sewer fund. The principal remaining on the loan was \$755,000 as of July 1, 2022. The estimated repayment schedule is shown in Table 3-1.

Table 3-1
Estimated Sewer Loan Repayment Schedule

Year	Payments			Loan
	Principal	Interest	Total	Principal
		[1]		\$755,000
FY 2023	\$91,925	\$5,663	\$97,588	\$663,075
FY 2024	\$92,615	\$4,973	\$97,588	\$570,460
FY 2025	\$93,309	\$4,278	\$97,588	\$477,150
FY 2026	\$94,009	\$3,579	\$97,588	\$383,141
FY 2027	\$94,714	\$2,874	\$97,588	\$288,427
FY 2028	\$95,425	\$2,163	\$97,588	\$193,002
FY 2029	\$96,140	\$1,448	\$97,588	\$96,861
FY 2030	\$96,861	\$726	\$97,588	\$0

Source: HEC November 2022.

pays

[1] Estimated interest rate 0.75%

3.1.4. CALCULATED REVENUE REQUIREMENT

Table 3-2 provides the projection of annual costs and credits and the resulting revenue requirement through fiscal year 2029. Over the next six years, the revenue requirement is projected to continue to increase to account for inflation and to fund an asset reserve for future infrastructure upgrades and replacements. The total revenue requirement is projected to increase from \$455,000 in fiscal year 2023 to \$534,000 in fiscal year 2029. Figure 3-1 shows the projected annual revenue requirement and the amount estimated to be raised by new rates.

The water rates are based on raising sufficient revenue to fund the revenue requirement with even percentage increases each year. The amount to be raised each year by water rates is the “estimated water sales” line underneath the revenue requirement line in Figure 3-1.

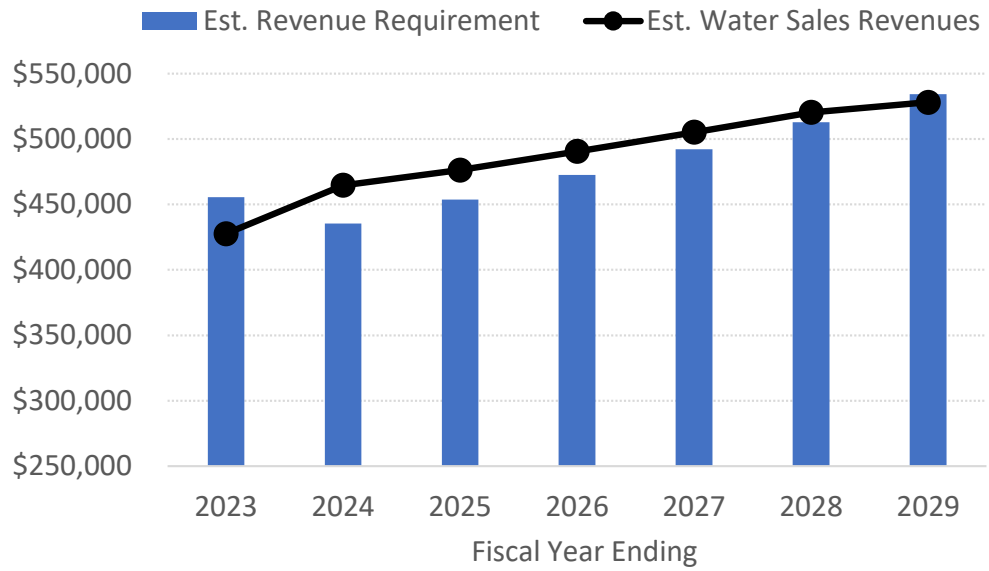


Figure 3-1
Projected Revenue Requirement and Water Sales Revenues

Table 3-2
Projected Revenue Requirement

Expenses and Credits	Annual Increase	Fiscal Year Ending						
		2023	2024	2025	2026	2027	2028	2029
Operating Expenses								
Personnel								
			[1], [2]					
Salaries	3.5%	\$164,000	\$116,000	\$120,100	\$124,400	\$128,800	\$133,400	\$138,100
Insurance	3.5%	\$60,000	\$45,000	\$46,600	\$48,300	\$50,000	\$51,800	\$53,700
Benefits	3.5%	\$20,000	\$15,400	\$16,000	\$16,600	\$17,200	\$17,900	\$18,600
Subtotal Personnel		\$244,000	\$176,400	\$182,700	\$189,300	\$196,000	\$203,100	\$210,400
Non-Personnel								
Professional Services	3.0%	\$56,000	\$57,700	\$59,500	\$61,300	\$63,200	\$65,100	\$67,100
Power	5.0%	\$65,000	\$68,300	\$71,800	\$75,400	\$79,200	\$83,200	\$87,400
Chemicals and Testing	5.0%	\$5,000	\$5,300	\$5,600	\$5,900	\$6,200	\$6,600	\$7,000
Office Costs	3.0%	\$18,700	\$15,500	\$16,000	\$16,500	\$17,000	\$17,600	\$18,200
Repairs and Maintenance	5.0%	\$47,000	\$49,400	\$51,900	\$54,500	\$57,300	\$60,200	\$63,300
Taxes, Licenses, Dues	3.0%	\$10,200	\$10,600	\$11,000	\$11,400	\$11,800	\$12,200	\$12,600
Insurance	3.0%	\$9,200	\$9,500	\$9,800	\$10,100	\$10,500	\$10,900	\$11,300
Fleet, Tools, Uniform	3.0%	\$21,550	\$22,200	\$22,900	\$23,600	\$24,400	\$25,200	\$26,000
Equipment	5.0%	\$15,000	\$15,800	\$16,600	\$17,500	\$18,400	\$19,400	\$20,400
Miscellaneous	3.0%	\$3,500	\$3,700	\$3,900	\$4,100	\$4,300	\$4,500	\$4,700
Subtotal Non-Personnel		\$251,150	\$258,000	\$269,000	\$280,300	\$292,300	\$304,900	\$318,000
Total Operating Expenses		\$495,150	\$434,400	\$451,700	\$469,600	\$488,300	\$508,000	\$528,400
Capital Expenses								
Asset Replacement	4.0%	\$0	\$41,600	\$43,300	\$45,100	\$47,000	\$48,900	\$50,900
Subtotal Capital Expenses		\$0	\$41,600	\$43,300	\$45,100	\$47,000	\$48,900	\$50,900
Total Costs		\$495,150	\$476,000	\$495,000	\$514,700	\$535,300	\$556,900	\$579,300
Operating Credits [3]								
Late Charges	3.0%	\$2,800	\$2,900	\$3,000	\$3,100	\$3,200	\$3,300	\$3,400
Property Taxes	2.0%	\$34,000	\$34,700	\$35,400	\$36,200	\$37,000	\$37,800	\$38,600
Interest Income	0.0%	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Other Income	0.0%	\$900	\$900	\$900	\$900	\$900	\$900	\$900
Subtotal Operating Credits		\$39,700	\$40,500	\$41,300	\$42,200	\$43,100	\$44,000	\$44,900
Calculated Revenue Requirement		\$455,450	\$435,500	\$453,700	\$472,500	\$492,200	\$512,900	\$534,400
Revenue Requirement Smoothed for Rates Increase			\$460,005	\$469,205	\$483,281	\$497,779	\$512,713	\$528,094
			1.0%	2.0%	3.0%	3.0%	3.0%	3.0%

Source: LCSD and HEC.

rev req

[1] Fiscal year 2024 reflects estimated cost reduction from retirement of the General Manager.

[2] Office costs reduced in fiscal year 2024 to account for one-time software costs in fiscal year 2023.

[3] Excludes interest income in the capital account.

3.2 COST CLASSIFICATION AND ALLOCATION

After determining the revenue requirement, the next step is determining the cost-of-service. Utilizing the fiscal year 2022 financial reports, operating data, and asset values, the rate study categorizes (functionalizes) the assets and

costs of the water system among major operating functions to determine the cost-of-service. Functional cost allocation for the water system is provided in Appendix A Tables A-7 and A-8.

Actual fiscal year 2022 water fund expenditures were allocated to the different functions of water service based on one of four methodologies described below.

1. Plant in Service. Plant in service costs include the original cost of current water system assets. Total cost is allocated 7% to customers, 78% to capacity, and 15% to commodity costs.
2. Utilities. Utilities costs (electricity) are allocated 100% to use. Electricity costs are driven by water demand.
3. Customers. Costs such as most administrative staff costs, water membership/dues, printing and postage are allocated 100% to customer costs. These costs are not affected by the amount of capacity available, or the quantity of water delivered.
4. Average of Classified Costs. Some expenses are allocated to multiple functions of water service because they do not directly relate to customer functions, water system capacity, or water deliveries quantity. These expenses are allocated among the customer, capacity, and commodity functions based on the combined percentage allocation of all other classified costs.

The cost classification provides a guideline for the District in determining the portion of revenue requirement to collect through service charges versus usage charges. Service charges are fixed as they remain the same each month. Usage charges are variable because they depend on the quantity of water consumed.

The allocation of costs to three rate cost allocation categories of customers, capacity, and commodity is for the following reason:

- Cost allocated to customers is a cost associated with the existence of a customer or connection, irrespective of capacity or water use (commodity). This cost allocation category deals with the cost to maintain an account, billing, administration, software etc., further described as a fixed cost in 3.2.2.
- Cost allocated to capacity is based on the capacity, whether used or not, of the water system to provide the service on-demand at the capacity or need of the user, typically proportional to the meter size. Costs associated with this category include the cost to maintain wells, pumps, pipelines, and tanks in a ready state to serve users, including associated labor and staff costs.
- The commodity cost category includes costs that vary by use, such as power, chemicals (when used), and operation and wear and tear of the facilities as they are used. Commodity costs are predominantly made up of variable costs as described in 3.2.3.

3.2.2. FIXED COSTS

As described in the AWWA M1 Manual, fixed costs generally consist of costs that a utility incurs to serve customers irrespective of the amount or rate of water used. These typically include (1) customer-related costs such as administrative and billing costs associated with meter reading, postage, and billing, and (2) the infrastructure (capacity-related facilities) required to provide service to customers. Fixed costs and a portion of capacity costs, described by the AWWA as “readiness-to-serve” costs, are allocated to customers based on the number of EMUs.

3.2.3. VARIABLE COSTS

Variable costs are those that change in total as the volume of water consumption changes, as measured in a specific time period. These include well pumping and distribution electricity costs, and costs related to plant in service, the largest of which is maintenance costs; as well as other costs determined in the functional allocation. Variable costs are recovered through use charges applied per thousand gallons consumed (the commodity portion of the rate).

The costs are functionalized and allocated to fixed charges and use charges as shown in Table 3-3. In total, the functional allocation assigns 60% of costs to service charges and 40% of costs to use charges. The District currently collects about 60% of fee revenues from base charges and 40% from use charges; therefore, there would be no change in the allocation of how revenues are collected in the rate calculations.

Table 3-3
Cost Allocation of Estimated Water Sales

Costs	Fiscal Year Ending					
	2024	2025	2026	2027	2028	2029
Revenue Requirement	\$460,005	\$469,205	\$483,281	\$497,779	\$512,713	\$528,094
FIXED CHARGES	\$276,003	\$281,523	\$289,968	\$298,667	\$307,628	\$316,856
Functional Allocation [1]	10%	10%	10%	10%	10%	10%
Customer Charge	\$46,000	\$46,920	\$48,328	\$49,778	\$51,271	\$52,809
Functional Allocation [1]	50%	50%	50%	50%	50%	50%
Readiness-to-Serve Charge	\$230,002	\$234,602	\$241,640	\$248,890	\$256,356	\$264,047
USE CHARGES						
Functional Allocation	40%	40%	40%	40%	40%	40%
TOTAL Use Charges	\$184,002	\$187,682	\$193,312	\$199,112	\$205,085	\$211,238

Source: LCSD financials and HEC.

func req

[1] Percentages rounded to nearest 1%.

3.3 RATE CALCULATIONS

The below sub-sections describe how the service charges and use charges are calculated for the proposed rates.

3.3.1. SERVICE CHARGES

The calculation of monthly service charges by meter size is shown in Table 3-4. Service charges are divided by the number of EMUs to determine the per month charge per service.

The most common method for levying fixed charges is by meter size because meter size is an indicator of potential capacity or demand requirement that each customer places on the water system, and this therefore accounts for the fixed charges associated with customers and capacity. Typically, but not always, the ratio at which the meter charge increases by meter size is a function of the meter's safe operating capacity as established

by the American Water Works Association. These meter ratios are used because a significant portion of a water system's design, and, in turn, the utility's operating and capital costs are related to meeting capacity needs proportional to the size of the meter. The meter ratios used in this rate study are those historically used by the District, with the exception of the proposed new meter ratio for a 4-inch meter. Since the District does not have any customers with a 4-inch water meter, no rate has previously been set for this size meter. This rate study adapts the AWWA published meter flow capacities to the District's historical meter ratios to establish a ratio for a 4-inch water meter.

Table 3-4
Monthly Service Charge Calculations

Item	Rate Implementation						
	Jun-23	Jan-24	Jan-25	Jan-26	Jan-27	Jan-28	
Allocated Costs	\$276,003	\$281,523	\$289,968	\$298,667	\$307,628	\$316,856	
Est. Billable EMUs	914	922	930	938	946	955	
Meter Size	Meter Ratio	per month			per month		
0.75-inch	1.00	\$25.16	\$25.44	\$25.98	\$26.53	\$27.10	\$27.65
1-inch	1.30	\$32.71	\$33.08	\$33.78	\$34.49	\$35.24	\$35.95
1.5-inch	1.64	\$41.27	\$41.73	\$42.61	\$43.52	\$44.45	\$45.35
2-inch	2.63	\$66.18	\$66.92	\$68.34	\$69.78	\$71.28	\$72.73
3-inch	4.00	\$100.66	\$101.78	\$103.94	\$106.14	\$108.42	\$110.62
4-inch	4.27	\$107.32	\$108.52	\$110.82	\$113.16	\$115.60	\$117.94
6-inch	5.00	\$125.82	\$127.22	\$129.92	\$132.67	\$135.52	\$138.27

Source: AWWA M1 Manual, LCSD, and HEC.

fixed

3.3.2. USE CHARGES

The calculation of use charges is based on allocated cost and projected water demand. The projection of water demand is based on average water use for the past three years plus the assumed growth of eight new single-family homes per year. The projected water demand accounts for customers' reactions to price increases and persistent drought conditions in California. The calculation of use charges is shown in Table 3-5.

Table 3-5
Use Charges per Thousand Gallons Calculation

Item	Rate Implementation					
	Jun-23	Jan-24	Jan-25	Jan-26	Jan-27	Jan-28
Allocated Cost	\$184,002	\$187,682	\$193,312	\$199,112	\$205,085	\$211,238
Calculated Rates						
Water Use Above Allowance [1]	62,525	62,837	63,151	63,467	63,785	64,103
Water Cost per 1,000 Galls	\$2.94	\$2.99	\$3.06	\$3.14	\$3.22	\$3.30

Source: LCSD customer records and HEC.

use

[1] Water use greater than base allowance of 10,000 gallons per account per month.

Total calculated rates include the fixed monthly service charges, and variable use charges per 1,000 gallons for water use per meter greater than 10,000 gallons per month. The calculated water rates schedule for the next six years is provided in Table 3-6.

Table 3-6
Calculated Water Rates

Rate Item	Rate Implementation					
	Jun-23	Jan-24	Jan-25	Jan-26	Jan-27	Jan-28
Service Charges	<i>per month, per meter</i>					
0.75-inch [1]	\$25.16	\$25.44	\$25.98	\$26.53	\$27.10	\$27.65
1-inch	\$32.71	\$33.08	\$33.78	\$34.49	\$35.24	\$35.95
1.5-inch	\$41.27	\$41.73	\$42.61	\$43.52	\$44.45	\$45.35
2-inch	\$66.18	\$66.92	\$68.34	\$69.78	\$71.28	\$72.73
3-inch	\$100.66	\$101.78	\$103.94	\$106.14	\$108.42	\$110.62
4-inch	\$107.32	\$108.52	\$110.82	\$113.16	\$115.60	\$117.94
6-inch	\$125.82	\$127.22	\$129.92	\$132.67	\$135.52	\$138.27
Use Charges	<i>Usage greater than 10,000 gallons per Month</i>					
Per 1,000 gallons	\$2.94	\$2.99	\$3.06	\$3.14	\$3.22	\$3.30

[1] Individually metered apartments will be charged the three-quarter inch meter service charge.

In compliance with California SB-7, effective January 1, 2018, which requires all new multi-family residential development to be individually metered or sub-metered, any newly constructed units will pay the same base rate per unit as three-quarter-inch residential unit unless the owner of the building(s) sub-meters each unit and performs its own internal water billing of each unit. Note that California Residential Code Section R313 fire sprinkler requirements ensures that almost every new single-family unit will need a one-inch meter.

3.4 CASH FLOW AND FUND BALANCES

Table 3-7 shows the projected cash flow for the water operating fund through fiscal year 2029. The target minimum operating cash is nine months of operating expenses each year; this is not LCSD policy, but a recommendation given best practices.

With adoption of the calculated rates, it is anticipated that the District will be able to meet all water fund operating obligations and achieve a target of at least nine months of operating expenses in cash reserves.

Projected fund balances for the operating, capital, connection fee, and asset reserve funds are provided in Table 3-8.

The capital fund includes interest income and repayment of the loan to the sewer fund as income sources. Connection fees are shown as accumulating in a separate, designated fund, to adhere to Mitigation Fee Act requirements.

Table 3-7
Projected Operating Fund Cash Flow

Revenues and Expenses	Fiscal Year Ending						
	2023	2024	2025	2026	2027	2028	2029
Operating Revenues							
Water Fees	\$427,660	\$464,000	\$476,000	\$490,000	\$505,000	\$520,000	\$528,000
Late Charges	\$2,800	\$2,900	\$3,000	\$3,100	\$3,200	\$3,300	\$3,400
Property Taxes	\$34,000	\$34,700	\$35,400	\$36,200	\$37,000	\$37,800	\$38,600
Interest Income	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Other Income	\$900	\$900	\$900	\$900	\$900	\$900	\$900
Total Operating Revenues	\$467,360	\$504,500	\$517,300	\$532,200	\$548,100	\$564,000	\$572,900
Operating Expenses	\$495,150	\$434,400	\$451,700	\$469,600	\$488,300	\$508,000	\$528,400
Net Operating Income	(\$27,790)	\$70,100	\$65,600	\$62,600	\$59,800	\$56,000	\$44,500
Beginning Cash	\$726,822	\$694,032	\$722,532	\$744,832	\$762,332	\$775,132	\$782,232
plus Net Op. Income	(\$27,790)	\$70,100	\$65,600	\$62,600	\$59,800	\$56,000	\$44,500
less Transfer to Assets Reserve	(\$5,000)	(\$41,600)	(\$43,300)	(\$45,100)	(\$47,000)	(\$48,900)	(\$50,900)
Ending Cash	\$694,032	\$722,532	\$744,832	\$762,332	\$775,132	\$782,232	\$775,832
Target Minimum Cash	\$371,363	\$325,800	\$338,775	\$352,200	\$366,225	\$381,000	\$396,300

Source: LCSD records and HEC projections.

flow

Table 3-8
Projected Water Fund Cash Balances

Fund	Fiscal Year Ending						
	2023	2024	2025	2026	2027	2028	2029
Operating Fund							
Beginning Cash	\$726,822	\$694,032	\$722,532	\$744,832	\$762,332	\$775,132	\$782,232
plus Net Income	(\$27,790)	\$70,100	\$65,600	\$62,600	\$59,800	\$56,000	\$44,500
less transfer to Assets Reserve	(\$5,000)	(\$41,600)	(\$43,300)	(\$45,100)	(\$47,000)	(\$48,900)	(\$50,900)
Ending Op. Fund Cash	\$694,032	\$722,532	\$744,832	\$762,332	\$775,132	\$782,232	\$775,832
Capital Fund							
Beginning Cash	\$775,863	\$875,953	\$897,443	\$915,733	\$1,015,823	\$1,027,413	\$1,039,003
plus Interest Income	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,500	\$2,501
plus Sewer Loan Repayment	\$97,590	\$97,590	\$97,590	\$97,590	\$97,590	\$97,590	\$97,590
less CIP Projects Costs	\$0	(\$78,600)	(\$81,800)	\$0	(\$88,500)	(\$88,500)	\$0
Ending Capital Fund Cash	\$875,953	\$897,443	\$915,733	\$1,015,823	\$1,027,413	\$1,039,003	\$1,139,094
Connection Fees (Designated)							
Beginning Cash	\$124,464	\$124,464	\$159,964	\$195,464	\$230,964	\$266,464	\$301,964
plus Connection Fees [1]	\$0	\$35,500	\$35,500	\$35,500	\$35,500	\$35,500	\$39,900
Ending Connection Fees Cash	\$124,464	\$159,964	\$195,464	\$230,964	\$266,464	\$301,964	\$341,864
Assets Reserve (Designated)							
Beginning Cash	\$88,536	\$93,536	\$135,136	\$178,436	\$223,536	\$270,536	\$319,436
Transfer from Operating Fund	\$5,000	\$41,600	\$43,300	\$45,100	\$47,000	\$48,900	\$50,900
Ending Assets Reserve	\$93,536	\$135,136	\$178,436	\$223,536	\$270,536	\$319,436	\$370,336
Ending Total Cash [2]	\$1,663,521	\$1,755,111	\$1,839,001	\$2,001,691	\$2,073,081	\$2,140,671	\$2,285,262

Source: LCSD records and HEC projections.

fund flow

[1] Calculated based on growth of 0.9% EMUs (8 new homes per year).

[2] Excludes approximately \$2,500 in the construction account.

3.4.1. CONNECTION FEES FUND (PROPOSED NEW SEPARATE FUND)

The District must deposit capacity fee revenues in a separate capital facilities fund to avoid any comingling with other monies of the District. Any interest income earned must also be deposited into the Water Connection Fee Fund². In addition, the District must comply with annual and five-year reporting requirements for the Water Connection Fee Fund. Because of these requirements, it is recommended that the District create a separate water connection fee fund for managing connection fee revenues and expenses.

According to Government Code Section 660013 for water connection fees, reporting is required within 180 days of the end of a fiscal year, to include the following for the prior fiscal year:

1. A description of the charges deposited in the fund,
2. The beginning and ending balance of the fund,

² Although LCSD uses the term "connection fees", the fees are capacity charges as defined in Government Code 66013. Resolution 08-03 describes the purposes of the collection of the connection fees.

3. The amount of the fees collected, and interest earned,
4. An identification of each public improvement for which fees were expended and the amount of expenditure for each improvement, including the percentage of the total cost of the improvement that was funded with capacity fees if more than one source of funding was used,
5. An identification of each public improvement on which charges were expended that were completed during the fiscal year, and each improvement anticipated to be undertaken in the following fiscal year, and
6. A description of any interfund transfer or loan made from the Water Connection Fee Fund, identification of any public improvements on which any transferred monies are, or will be, expended, and a description of repayment terms.

3.4.2. ASSET RESERVE

Currently, the District has a designated fund into which it has been depositing \$5,000 per year for replacement of short-lived assets associated with Well 2. This fund was a requirement of a USDA loan, which has since been paid off. The rate study recommends increasing the transfer from the operating fund each year to the full amount of annual depreciation and using this fund for replacement or rehabilitation of any water asset when needed. The purpose of this fund is to allow the District to spend as needed on necessary repairs; where some years expenses may be large, and some years the expenses may be small.

Section 4

Affordability

This section evaluates affordability of the proposed monthly water rates based on established criteria and compares the proposed rates with rates of other nearby water utilities.

4.1 CHANGE IN RESIDENTIAL BILL

The change in estimated bill arising from new rates beginning June 1, 2023 are illustrated for single family homes at different use levels in Table 4-1.

Table 4-1
Single Family Water Usage Estimated Monthly Bill Comparison

Use in Gallons	Current			Total Bill	Effective June 1, 2023			Total Bill	Difference New less Current
	Service Fee	Use Charge			Service Fee	Use Charge			
	0.75-inch	0-10	>10		0.75-inch	0-10	>10		
<i>thousands</i>		<i>Rate per 1,000 gallons</i>				<i>Rate per 1,000 gallons</i>			
5	\$24.35	\$0.00	\$0.00	\$24.35	\$25.16	\$0.00	\$0.00	\$25.16	\$0.81
10	\$24.35	\$0.00	\$0.00	\$24.35	\$25.16	\$0.00	\$0.00	\$25.16	\$0.81
15	\$24.35	\$0.00	\$2.93	\$39.00	\$25.16	\$0.00	\$2.94	\$39.88	\$0.88
20	\$24.35	\$0.00	\$2.93	\$53.65	\$25.16	\$0.00	\$2.94	\$54.59	\$0.94
25	\$24.35	\$0.00	\$2.93	\$68.30	\$25.16	\$0.00	\$2.94	\$69.31	\$1.01
30	\$24.35	\$0.00	\$2.93	\$82.95	\$25.16	\$0.00	\$2.94	\$84.02	\$1.07
35	\$24.35	\$0.00	\$2.93	\$97.60	\$25.16	\$0.00	\$2.94	\$98.74	\$1.14
40	\$24.35	\$0.00	\$2.93	\$112.25	\$25.16	\$0.00	\$2.94	\$113.45	\$1.20
45	\$24.35	\$0.00	\$2.93	\$126.90	\$25.16	\$0.00	\$2.94	\$128.16	\$1.26
50	\$24.35	\$0.00	\$2.93	\$141.55	\$25.16	\$0.00	\$2.94	\$142.88	\$1.33
55	\$24.35	\$0.00	\$2.93	\$156.20	\$25.16	\$0.00	\$2.94	\$157.59	\$1.39
60	\$24.35	\$0.00	\$2.93	\$170.85	\$25.16	\$0.00	\$2.94	\$172.31	\$1.46
65	\$24.35	\$0.00	\$2.93	\$185.50	\$25.16	\$0.00	\$2.94	\$187.02	\$1.52
70	\$24.35	\$0.00	\$2.93	\$200.15	\$25.16	\$0.00	\$2.94	\$201.74	\$1.59
75	\$24.35	\$0.00	\$2.93	\$214.80	\$25.16	\$0.00	\$2.94	\$216.45	\$1.65
80	\$24.35	\$0.00	\$2.93	\$229.45	\$25.16	\$0.00	\$2.94	\$231.17	\$1.72

4.1.1. AFFORDABILITY TEST

The State Water Resources Control Board (SWRCB) funding program bases its evaluation of affordability of water rates on two criteria:

1. The median household income (MHI) of the community compared to the State MHI, and
2. The percentage of MHI spent on water bills.

Generally, water rates are considered to be burdensome if they are greater than 2.0 percent of MHI. If a community's MHI is less than 80 percent of the State MHI, the community is considered "Disadvantaged", in which case a rate greater than 1.5 percent of MHI is considered burdensome.

Lockeford does not meet the definition of a Disadvantaged community.

The affordability test is shown in Table 4-2. Under the calculated water rates for June 2023 and January 2024, a household using 15,000 gallons in a month would pay \$39.86, and \$40.39, respectively for each rate adjustment, which is 0.6% of the estimated MHI for Lockeford. The proposed water rates are, per the SWRCB definitions, affordable.

Table 4-2
Test of Water Rates Affordability

	Current	Jun-23	Jan-24
Water Bill			
Median Household Income (MHI)	\$6,694	\$6,694	\$6,694
Typical Water Bill (0.75-inch meter)	\$39.00	\$39.86	\$40.39
Typical Monthly Water Bill as Percentage of MHI	0.58%	0.60%	0.60%
Median Household Income			
Statewide California	\$84,097		
Estimated Lockeford	\$80,324		
Lockeford MHI as Percentage of State MHI	95.51%		

Source: 2021 5-year ACS estimates, US Census Bureau.

4.2 COMPARISON WITH OTHER JURISDICTIONS

While a utility cannot set its rates based on the rates of other nearby utilities, it is often of benefit to compare the current and proposed rates of a utility with those of nearby systems. Figure 4-1 presents the current LCSD and first year proposed rate of a single 1" meter residential account using 15,000 gallons in a month. These estimated bills are compared with the current (or most recent) estimated monthly bill for a similar service and level of use in six nearby water systems. As described in this report, the rates set for utilities for water service is based on the cost to provide that service, and since each system is unique, the costs to provide service will vary significantly. As can be seen in Figure 4-1, the current and proposed water rates are one of the lowest rates in the region, attributable to the fiscal management of the District and comparatively low cost to operate and maintain the District water system, as compared with other systems.

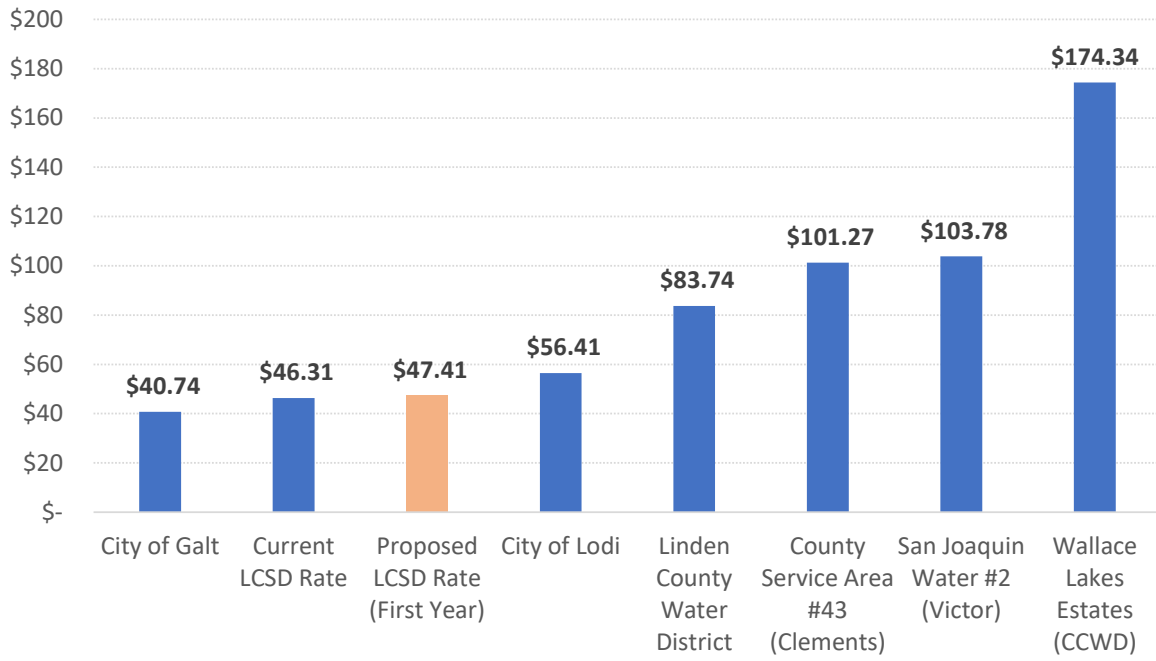


Figure 4-1
Comparison of Proposed 1" Meter Rate to Current Rates at Other Jurisdictions

APPENDICES

Appendix A

SUPPORTING TABLES

Table A-1
Lockeford CSD Water Rate Study
Total Water Usage by Meter Size

2021

Customer Type	Total	Meter Size						
		0.75-inch	1-inch	1.5-inch	2-inch	3-inch	4-inch	6-inch
SF Residential	115,146,174	104,712,732	10,119,442	314,000				
Commercial	16,430,511	1,661,280	3,075,353	3,451,300	4,565,578	592,000		3,085,000
Multi-Unit	5,348,761		4,057,761		1,291,000			
Total 2021 Water Used	136,925,446	106,374,012	17,252,556	3,765,300	5,856,578	592,000	0	3,085,000

Source: LCSD meter read records.

tot21

Table A-2
Lockeford CSD Water Rate Study
Billed Water Usage by Meter Size

2021

Customer Type	Total	Meter Size						
		0.75-inch	1-inch	1.5-inch	2-inch	3-inch	4-inch	6-inch
SF Residential	45,924,921	41,133,221	4,591,700	200,000				
Commercial	12,477,703	1,175,550	1,220,353	2,971,300	3,735,500	395,000		2,980,000
Multi-Unit	3,810,932		2,742,432		1,068,500			
Billed 2021 Water	62,213,556	42,308,771	8,554,485	3,171,300	4,804,000	395,000	0	2,980,000

Source: LCSD meter read records.

billed21

Table A-3
Lockeford CSD Water Rate Study
Monthly Historical Water Use

Month	2019	2020	2021	Total	Share of Water Use
Jan	7,014,689	6,477,700	5,845,630	19,338,019	5%
Feb	5,911,533	5,271,932	7,044,659	18,228,124	4%
Mar	4,899,437	6,198,200	5,667,053	16,764,690	4%
Apr	5,204,687	6,742,286	7,959,643	19,906,616	5%
May	6,483,714	9,087,977	10,761,679	26,333,370	6%
Jun	12,250,824	12,560,021	13,934,234	38,745,079	10%
Jul	14,318,395	17,044,740	17,183,230	48,546,365	12%
Aug	19,154,501	19,504,891	20,035,067	58,694,459	14%
Sep	16,370,645	17,917,252	15,252,571	49,540,468	12%
Oct	14,673,078	17,838,145	16,831,942	49,343,165	12%
Nov	14,412,363	13,206,801	11,017,688	38,636,852	9%
Dec	9,220,678	8,312,722	5,392,050	22,925,450	6%
Total	129,914,544	140,162,667	136,925,446	407,002,657 A	100%
Base Monthly Flow (November through May)				23,161,874 B	
Base Annual Flow				277,942,493 C = D*12	
<i>Base Flow as Percentage of Total</i>				68%	
Additional Flow				129,060,164 D = A-C	
<i>Additional Flow as Percentage of Total</i>				32%	

Source: LCSD meter read records.

use sum

Table A-4
Lockeford CSD Water Rate Study
Water Capital Improvement Projects

Capital Projects	Total Est. Costs	Fiscal Year Ending						
		2023	2024	2025	2026	2027	2028	2029
Well Rehabilitation		<i>All figures are in 2022/23 Dollars</i>						
Well No. 5	\$75,577		\$75,577					
Well No. 4	\$75,577			\$75,577				
Well No. 2	\$75,577						\$75,577	
Well No. 3	\$75,577					\$75,577		
Total Wells Rehabilitation	\$302,307	\$0	\$75,577	\$75,577	\$0	\$75,577	\$75,577	\$0

Source: KSN December 2022.

cip

Table A-5
Lockeford CSD Water Rate Study
Historical and Budgeted Operating Expenses

Operating Expense	Fiscal Year Ending					2019 to 2022 Change	Average Annual Change
	2019 Actual	2020 Actual	2021 Actual	2022 Actual	2023 Budget		
Personnel							
Salaries	\$140,916	\$148,055	\$154,956	\$156,311	\$164,000	\$15,395	4%
Insurance	\$48,232	\$50,357	\$50,501	\$50,600	\$60,000	\$2,368	2%
Benefits	\$16,633	\$17,555	\$18,260	\$18,324	\$20,000	\$1,691	3%
Subtotal Personnel	\$205,782	\$215,966	\$223,717	\$225,236	\$244,000	\$19,454	3%
Non-Personnel							
Professional Services	\$17,707	\$20,232	\$6,876	\$8,387	\$56,000	(\$9,321)	-22%
Power	\$46,996	\$51,753	\$52,555	\$65,299	\$65,000	\$18,303	12%
Chemicals and Testing	\$3,412	\$2,693	\$1,486	\$3,952	\$5,000	\$540	5%
Office Costs	\$9,589	\$10,858	\$11,548	\$15,145	\$18,700	\$5,556	16%
Repairs and Maintenance	\$30,788	\$3,700	(\$2,061)	\$43,130	\$47,000	\$12,342	12%
Taxes, Licenses, Dues	\$8,560	\$8,435	\$8,781	\$8,924	\$10,200	\$364	1%
Insurance	\$8,519	\$8,497	\$8,231	\$8,257	\$9,200	(\$262)	-1%
Fleet, Tools, Uniform	\$10,964	\$10,294	\$8,104	\$10,467	\$21,550	(\$497)	-2%
Equipment	\$0	\$0	\$10,711	\$7,587	\$15,000	\$7,587	
Miscellaneous	\$4,132	\$2,586	\$3,040	\$3,023	\$3,500	(\$1,109)	-10%
Subtotal Non-Personnel	\$140,668	\$119,047	\$109,272	\$174,171	\$251,150	\$33,503	7%
Total Operating Expenses	\$346,449	\$335,014	\$332,989	\$399,406	\$495,150	\$52,957	5%

Source: LCSD financial records.

ops exp

Table A-6
Lockeford CSD Water Rate Study
LCSD Water Assets

Asset	Original Cost	Install Year	Life	Years Depreciated	Annual Depr.	Accum. Depr	Book Value	Index	Replacement	RCLD
	<i>a</i>	<i>b</i>	<i>c</i>	<i>d = 2023-b</i>	<i>e = a/c</i>	<i>f = e*d</i>	<i>g = a-f</i>	<i>h</i>	<i>i = a/h</i>	<i>j = g/h</i>
Supply										
Bear Creek Well	\$67,384	2017	25	6	\$2,695	\$16,172	\$51,212	0.82	\$82,543	\$62,732
Well 2 Fence	\$7,153	2011	20	12	\$358	\$4,292	\$2,861	0.69	\$10,359	\$4,144
Well 4 Rehabilitation	\$26,488	2019	20	4	\$1,324	\$5,298	\$21,190	0.86	\$30,818	\$24,654
Pumping Plant	\$18,965	1976	50	47	\$379	\$17,827	\$1,138	0.18	\$103,557	\$6,213
Pumping Facilities	\$11,955	1976	50	47	\$239	\$11,238	\$717	0.18	\$65,279	\$3,917
Well 5 Equipment	\$79,007	1992	50	31	\$1,580	\$48,984	\$30,023	0.38	\$208,289	\$79,150
Solar Panels Well 3	\$95,123	2005	20	18	\$4,756	\$85,611	\$9,512	0.57	\$168,187	\$16,819
75 HP Pump	\$6,980	2007	20	16	\$349	\$5,584	\$1,396	0.61	\$11,527	\$2,305
Groundwater Wells	\$76,859	2006	20	17	\$3,843	\$65,330	\$11,529	0.59	\$130,865	\$19,630
Warmerdam Pump	\$4,253	2010	50	13	\$85	\$1,106	\$3,147	0.67	\$6,333	\$4,686
Well #2 Pump	\$12,710	2011	50	12	\$254	\$3,050	\$9,660	0.69	\$18,407	\$13,989
Pump 2 Electrical	\$3,155	2011	50	12	\$63	\$757	\$2,398	0.69	\$4,569	\$3,472
Sargent Road Pump	\$5,066	2011	50	12	\$101	\$1,216	\$3,850	0.69	\$7,337	\$5,576
Well #2 Replacement	\$463,937	2011	50	12	\$9,279	\$111,345	\$352,592	0.69	\$671,871	\$510,622
Subtotal Supply	\$879,035				\$25,306	\$377,810	\$501,225		\$1,519,940	\$757,909
Transmission										
Meter Radios	\$6,276	2020	10	3	\$628	\$1,883	\$4,393	0.87	\$7,195	\$5,036
Hydrants & Services	\$25,431	2019	10	4	\$2,543	\$10,172	\$15,259	0.86	\$29,588	\$17,753
Hydrants & Services	\$9,998	2020	10	3	\$1,000	\$2,999	\$6,999	0.87	\$11,462	\$8,023
Water Meters	\$18,110	2004	20	19	\$906	\$17,205	\$906	0.54	\$33,399	\$1,670
Water Meters	\$17,950	2005	20	18	\$898	\$16,155	\$1,795	0.57	\$31,737	\$3,174
Water Meters	\$1,140	2005	20	18	\$57	\$1,026	\$114	0.57	\$2,016	\$202
Pipeline	\$6,527	1975	50	48	\$131	\$6,266	\$261	0.17	\$38,685	\$1,547
Pipeline	\$10,485	1975	50	48	\$210	\$10,066	\$419	0.17	\$62,144	\$2,486
Pipeline	\$1,911	1980	50	43	\$38	\$1,643	\$268	0.25	\$7,740	\$1,084
Pipeline	\$52,571	1986	50	37	\$1,051	\$38,903	\$13,668	0.33	\$160,473	\$41,723
Pipeline replacement	\$6,780	1994	50	29	\$136	\$3,932	\$2,848	0.41	\$16,437	\$6,903
Water Line Klienfelder	\$2,663	1995	50	28	\$53	\$1,491	\$1,172	0.41	\$6,427	\$2,828
Pipeline replacement	\$240,694	1995	50	28	\$4,814	\$134,789	\$105,905	0.41	\$580,931	\$255,610
Pipeline replacement	\$5,490	1995	50	28	\$110	\$3,074	\$2,416	0.41	\$13,250	\$5,830
Trailer mntd	\$11,269	2000	25	23	\$451	\$10,367	\$902	0.48	\$23,684	\$1,895
Subtotal Transmission	\$417,295				\$13,024	\$259,972	\$157,323		\$1,025,170	\$355,764
Joint Facilities with Sewer and Parks										
Shop Building	\$52,000	1991	35	32	\$1,486	\$47,543	\$4,457	0.37	\$141,500	\$12,129
Office Remodel	\$48,930	1996	35	27	\$1,398	\$37,746	\$11,184	0.43	\$114,614	\$26,198
Office Equipment	\$18,896	2016	10	7	\$1,890	\$13,227	\$5,669	0.79	\$23,966	\$7,190
Subtotal Joint Facilities	\$119,826				\$4,773	\$98,516	\$21,310		\$280,080	\$45,516
One-Third of Joint Facilities	\$39,942				\$1,591	\$32,839	\$7,103		\$93,360	\$15,172
TOTAL ASSETS VALUE	\$1,336,272				\$39,921	\$670,620	\$665,652		\$2,638,470	\$1,128,845

Source: LCSD August 2022.

assets

Table A-7
Lockeford CSD Water Rate Study
Allocation of Plant In Service

Plant in Service	Customer	Capacity			Assets RCLD	Customer	Capacity		
		(Readiness-to-serve)	Capacity (Peaking)	Commodity (Use)			(Readiness-to-serve)	Capacity (Peaking)	Commodity (Use)
Supply									
Wells		60%	20%	20%	\$696,788	\$0	\$418,073	\$139,358	\$139,358
Pumps				100%	\$26,170	\$0	\$0	\$0	\$26,170
Other	100%				\$34,951	\$34,951	\$0	\$0	\$0
Total Supply	5%	55%	18%	22%	\$757,909	\$34,951	\$418,073	\$139,358	\$165,528
Transmission									
Distribution Pipes		90%	10%		\$318,011	\$0	\$286,210	\$31,801	\$0
Meters	100%				\$10,082	\$10,082	\$0	\$0	\$0
Public Fire Hydrants	50%	50%			\$25,776	\$12,888	\$12,888	\$0	\$0
Other	100%				\$1,895	\$1,895	\$0	\$0	\$0
Total Transmission	7%	84%	9%	0%	\$355,764	\$24,865	\$299,098	\$31,801	\$0
Joint Facilities	100%				\$15,172	\$15,172	\$0	\$0	\$0
Total	7%	64%	15%	15%	\$1,128,845	\$74,988	\$717,171	\$171,159	\$165,528

Source: LCSD and HEC.

plant

Table A-8
Lockeford CSD Water Rate Study
Functional Allocation of Expenses

Expenditures	ACTUAL FY 2022	Allocation Basis	Customer	Capacity		Commodity (Use)	Unclassified
				(Readiness- to-serve)	(Peaking)		
Auditor	\$4,350	Customers	100%	0%	0%	0%	0%
Auto Expenses	\$5,834	Plant in Service	7%	64%	15%	15%	0%
Bank Charges	\$67	Avg. of Classified	0%	0%	0%	0%	100%
Director Fees	\$863	Customers	100%	0%	0%	0%	0%
Employee Education	\$160	Plant in Service	7%	64%	15%	15%	0%
Equipment	\$7,587	Plant in Service	7%	64%	15%	15%	0%
Insurance	\$8,257	Plant in Service	7%	64%	15%	15%	0%
Personnel Insurance	\$50,600	Avg. of Classified	0%	0%	0%	0%	100%
Legal & Professional	\$4,037	Avg. of Classified	0%	0%	0%	0%	100%
Maintenance	\$43,130	Plant in Service	7%	64%	15%	15%	0%
Misc. Dues and Fees	\$6,625	Avg. of Classified	0%	0%	0%	0%	100%
Office Expenses	\$9,003	Customers	100%	0%	0%	0%	0%
Postage	\$3,068	Customers	100%	0%	0%	0%	0%
Retirement	\$15,949	Avg. of Classified	0%	0%	0%	0%	100%
Salaries	\$156,311	Avg. of Classified	0%	0%	0%	0%	100%
Services	\$2,000	Plant in Service	7%	64%	15%	15%	0%
Soc Sec/Medi	\$2,376	Avg. of Classified	0%	0%	0%	0%	100%
Taxes	\$2,299	Avg. of Classified	0%	0%	0%	0%	100%
Telephone	\$3,006	Avg. of Classified	0%	0%	0%	0%	100%
Testing Services	\$3,952	Customers	100%	0%	0%	0%	0%
Tools & Supplies	\$4,633	Avg. of Classified	0%	0%	0%	0%	100%
Uniforms	\$0	Avg. of Classified	0%	0%	0%	0%	100%
Utilities	\$65,299	Utilities	0%	0%	0%	100%	0%
Total Operating Expenses	\$399,406		\$25,685	\$42,546	\$10,154	\$75,119	\$245,903
Reallocate As All Others	\$245,903		\$41,145	\$68,156	\$16,266	\$120,336	
Allocation of Operating Expenses	\$399,406		\$66,830	\$110,702	\$26,420	\$195,454	
	100%		17%	28%	7%	49%	
Capital							
Accumulated Depreciation	\$670,620	Plant in Service	7%	64%	15%	15%	
Total Capital			\$44,548	\$426,054	\$101,681	\$98,336	
TOTAL	\$1,070,026		\$111,379	\$536,756	\$128,101	\$293,790	
Share of Total	100%		10%	50%	12%	27%	

Source: LCSD 2022 financials and HEC.

func