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SEWER USER RATE STUDY SALIDA SANITARY DISTRICT



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SECTION 1: OVERVIEW

The Salida Sanitary District (District) is located in north-central Stanislaus County and encompasses an area of approximately 1,200 acres in the unincorporated community of Salida. The District owns and operates a wastewater system that collects, treats, and disposes wastewater for approximately 4,200 individual customer accounts.

The wastewater system is comprised of three major components: a sanitary wastewater collection system consisting of 42.7 miles of pipeline ranging in size from 6 inches to 36 inches, four lift stations, and a wastewater treatment plant. The collection system conveys untreated wastewater from residences, business, and some industry to the wastewater treatment plant. The four lift stations are needed to pump about 50 percent of the wastewater generated in the District at points where gravity force is not enough to move wastewater through the collection system.

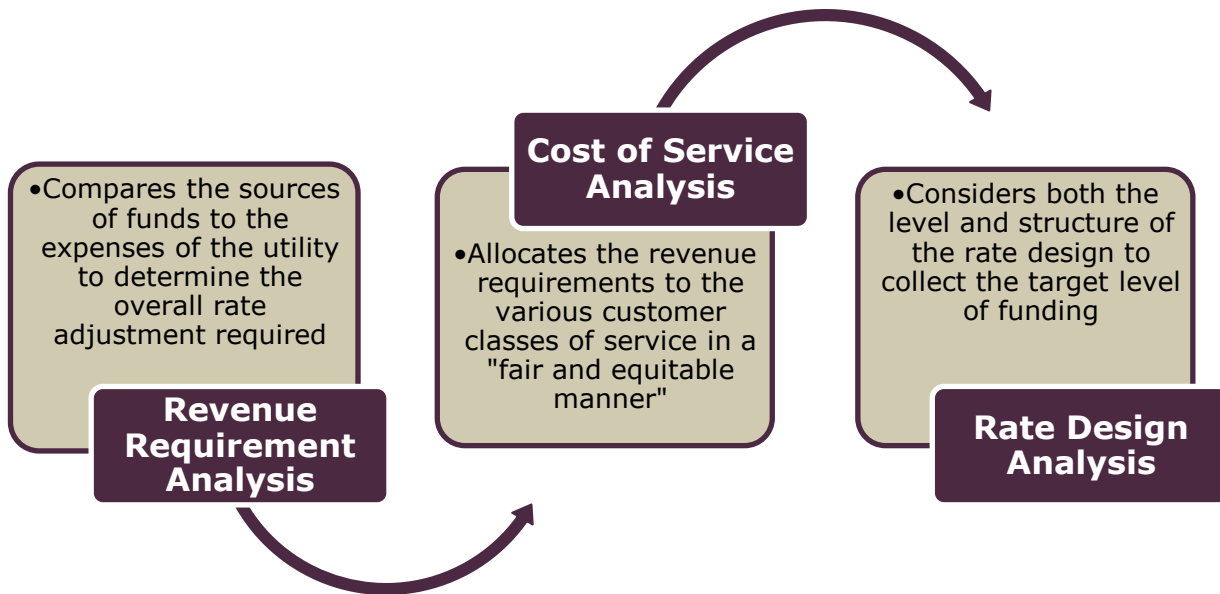
The District's revenues are derived primarily from sewer rates and they must be adequate to fund the operations and capital needs. This Study was conducted to review the District's finances, project revenues and expenditures over the next 5 years and design wastewater rates and charges to distribute the cost of providing sewer services equitably and proportionately to the District's customers. This Report presents key findings and recommendations of the Study.

The District's goal is to have a sewer user rate that would meet future funding requirements and a rate design that is fair and equitable to the District's residents, businesses, and other ratepayers. The rates recommended by this Study were developed following industry standards.

Rate Study Process

Rate analyses are typically performed every 5 years to ensure that revenues from rates are adequately funding sewer operations, maintenance, and future capital needs. In California, rate analyses also require compliance with the cost-of-service principles imposed by Proposition 218 to ensure that rates correlate to how costs are incurred. A comprehensive sewer rate study typically includes the following three components: a revenue requirement analysis, a cost of service analysis, and a rate design analysis. This process is shown and summarized in **Figure 1**.

FIGURE 1

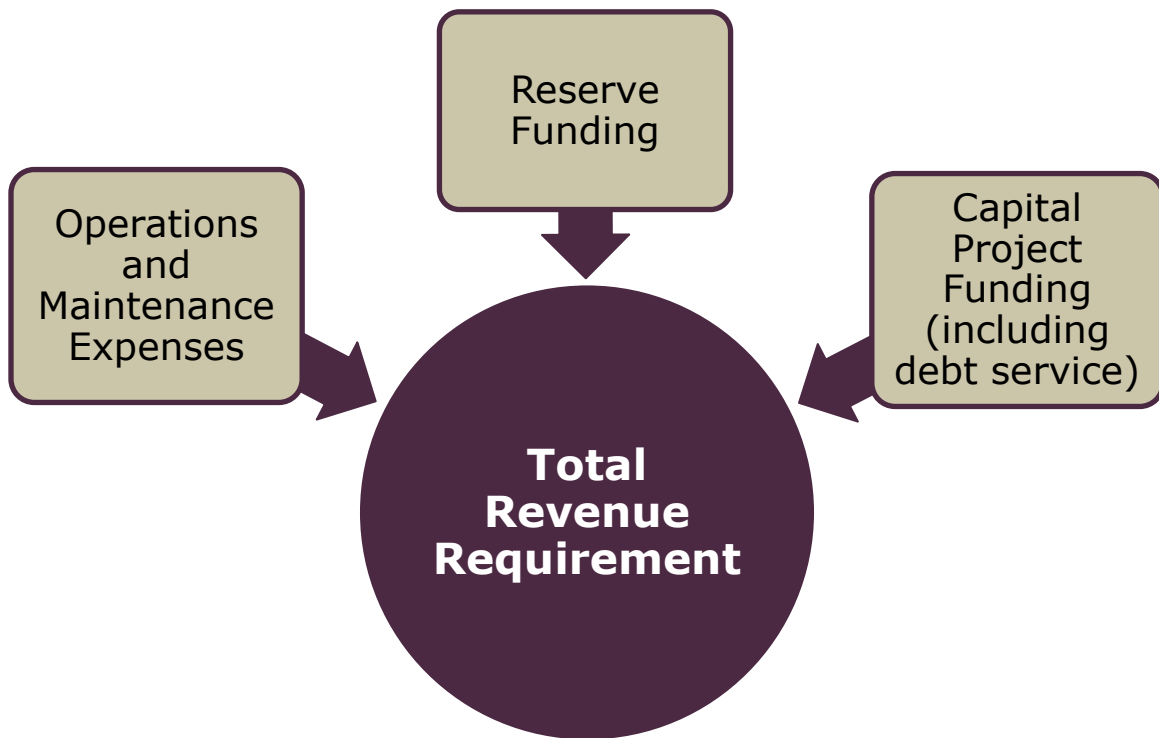


SECTION 2: REVENUE REQUIREMENT ANALYSIS

The first step in the rate analysis process is to determine the revenue requirements that must be provided from sewer rates to cover the cost of service. For purposes of this study, a five-year rate projection period was developed using a spreadsheet model. With this model, revenue requirements were projected for fiscal year 2021-22 through fiscal year 2025-26.

To develop the revenue requirement the District's 2020-21 Budget was analyzed. Major operating and maintenance expenses were identified and projected out over the next 5 years using a "cash basis" approach. For public utilities, a cash basis approach is the most frequently used methodology. **Figure 2** provides a summary of the cash basis methodology used to develop the sewer revenue requirement.

FIGURE 2



The revenue requirement model assumed no growth in the District's customer base. Certain expenses were increased over time due to expected inflation as well as adjustments to budgetary categories based on known one-time expenditures that will be incurred during the 5-year period.

Operations and Maintenance Expenses

Operations and maintenance expenses are incurred by the District to provide sewer service to its customers. These expenses are accounted for during the fiscal year in which the service is provided and are not capitalized or amortized over an extended period of years. Operations and maintenance costs include salaries and benefits, professional services,

utilities, materials and supplies and other items necessary to maintain the District's sewer collection and treatment system.

For the revenue requirement model, the District's 2020-21 Budget was used as a base with several of the line items increased in future fiscal years for inflation. It has been estimated that Insurance costs will increase by 10% each year. Proposed costs for Salaries and Benefit; Lab, Testing, Equipment and Supplies; and Safety, Security, Clothing are estimated to increase annually by 5%. Utilities costs are estimated to increase by 4%, Miscellaneous Office and Operation Expenses are estimated to increase by 2%, and Communications are estimated to increase by 1% annually.

Reserves

Reserve funds are important to sustain the long-term financial viability of the District. In February 2021, the District Board of Directors adopted a Reserve Policy to maintain existing public assets, respond to unplanned events and emergencies, and ensure financial viability should there be an unexpected fluctuation in revenues or expenditures. The District's reserves are allocated into two main categories – General Fund Reserve and Construction Fund Reserve. The General Fund Reserves are set asides for economic and unplanned contingencies, capital/maintenance, and contractually restricted funds. Contractually restricted reserves are funds held to satisfy limitations set by external requirements established by creditors, grant agencies or law. For example, bond covenants and reserves held with a fiscal agent.

The Construction Fund Reserve is comprised of set asides for system capacity and expansion/enhancement projects. These projects are funded from new sewer connection fees collected at the time customers are connected to the sewer system. This reserve is not funded from sewer user fees and are not subject to the analysis in this report.

The District's reserve policy sets forth the reserve fund targets that should be set aside for the various reserve categories. As described in the policy, the District shall target reserves of:

- Economic and Unplanned Contingencies – minimum funding target of 15% by 2026
- Capital and Maintenance Reserve – minimum funding target of \$500,000 by 2026
- Contractually Restricted Reserves – varies based on the contract requirements
- Construction Fund Reserve – funded from Connection Fees

Debt Repayment

The District currently has two debt obligations outstanding that will be retired in calendar year 2021. The first obligation will be repaid during the 2020-21 fiscal year and the second obligation will be retired in December 2021, with a payment of about \$107,000 in the 2021-22 fiscal year. Once the outstanding debt is paid off, the District plans to borrow additional funds, estimated at \$4 million, for a new aerobic digester project. This project is described in more detail in the Capital Project Funding section below. Estimated debt service for the digester project is included in the budget for fiscal years 2021-22 through 2025-26.

Capital Project Funding

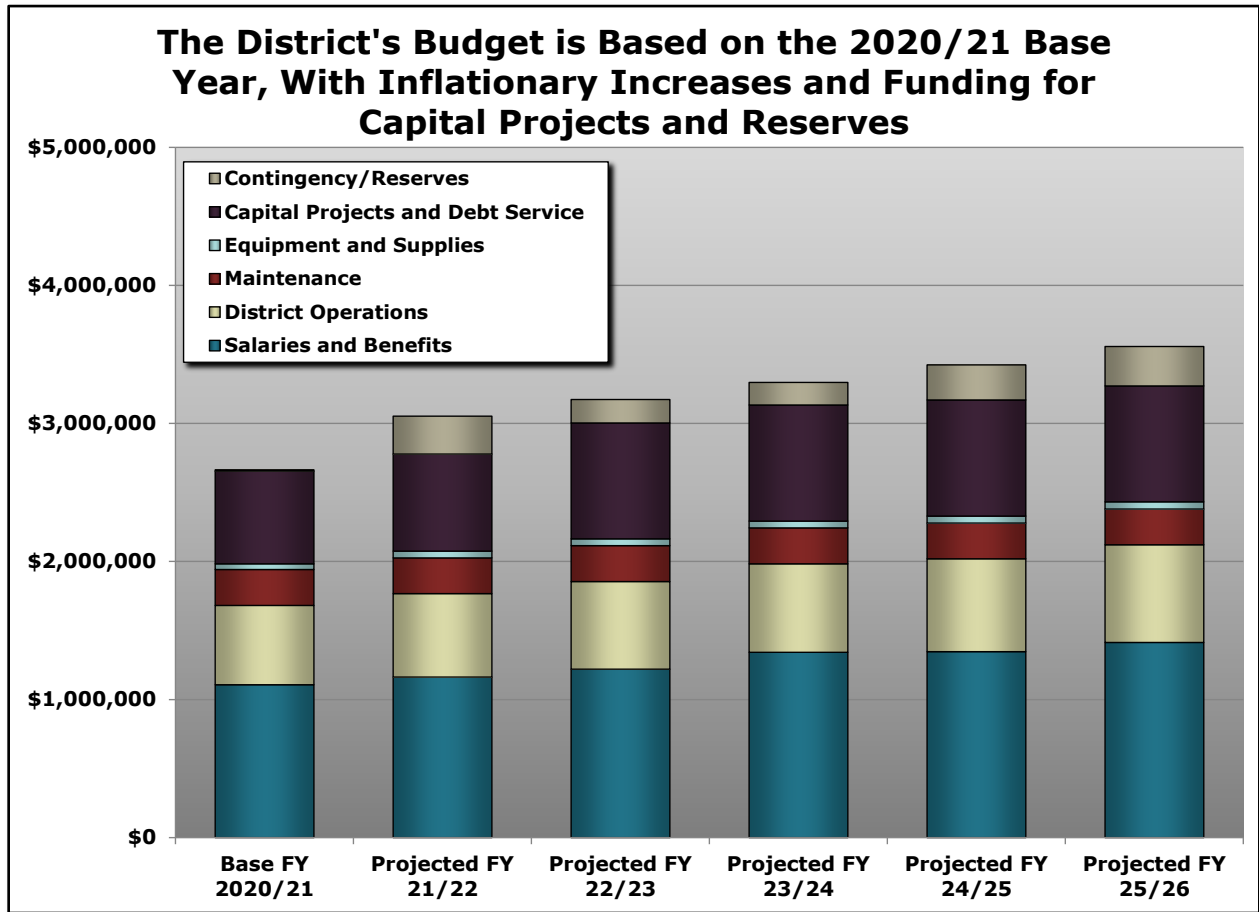
In addition to debt service on existing obligations and planned future obligations, the District anticipates completing several capital projects over the next 5 years. Such projects are necessary to replace aging infrastructure, facilities, equipment, structures, and systems

at the treatment plant, in the collection system or in the administrative facilities. Based on recent capital expenditures, including expenditures in the 2020-21 budget, and anticipated necessary projects, a capital budget of \$350,000 per year has been included in the 5-year rate model to fund the ongoing projects.

Total Funding Need

The components of the District's budget – Operations and Maintenance Expenses, Reserve Funding, Debt Service and Capital Project Funding – come together to determine the overall sewer funding requirement. This portion of the analysis balances the District's need to fund sewer operations and maintain financial stability with an attempt to minimize rates and the impacts on the District's customers. The projected total funding needed over the next five years ranges from approximately \$3.1 million to \$3.6 million, shown in **Chart 1**, and detailed in **Appendix A**.

CHART 1



As shown in **Chart 1**, the District's overall expenditures are projected to increase at about 4% per year, following an initial increase of in 2021-22 due to both capital project funding and reserve fund contributions, per the new Board policy.



SECTION 3: COST OF SERVICE ANALYSIS

After completing the revenue requirement analysis, the next step is to distribute costs to each customer class. A cost of service analysis is conducted to allocate the costs of the determined revenue requirements in an equitable and proportional manner among the District's users. Allocation of the costs is based on the relationship between the user and the costs they impose on the utility. Key factors in allocating costs include the estimated flow from each user, as well as sewage strengths based on the user's biochemical oxygen demand (BOD) and total suspended solids (TSS). Industry standards were used for such things as BOD and TSS per customer category.

Table 1, on the following page, summarizes the estimated sewage flows and strengths for all customer classes in the District.

Cost Classification

Cost classification assigns the functionalized costs to cost components. Typically, there are two types of classifications for sewer utility: fixed costs and variable costs. Fixed costs are the costs that are required to maintain capacity and service levels. Variable costs are dependent upon the volume of flow and strength of wastewater. The volume of flow refers to the volume of fluid which passes over the course of a year. The strength refers to the BOD and TSS of the wastewater.

To determine the per unit costs, the District's budgetary needs were allocated based on the fixed, volume and strength costs. Fixed costs were allocated 20% of the District's budgetary needs, volume costs were allocated an estimated 40% of the District's budgetary needs and strength costs, combining BOD and TSS, were allocated a combined estimated 40% of the District's budgetary needs.

Cost Allocation

The District's current rates and rate structure is based on a fixed charge per Equivalent Dwelling Unit (EDU). Under this system, one EDU equates to one single family residential customer. In order to make the rates more equitable among all customers, rates are set based on three separate components: (1) fixed charge, (2) volume charge, (3) strength charge.

Customer classes have been broken down into residential and non-residential categories as shown in **Table 1**. Residential users include single-family, apartments, duplexes, and residential care homes. Non-residential users have been broken down into subcategories including: shops and stores, hotels and motels, full service restaurants, short order restaurants, fast food restaurants, gas stations, churches, offices, laundry facilities, light industrial, heavy industrial and schools. Full service restaurants are defined as an establishment with a table, counter and/or booth service and a wait staff, where customer consumption primarily occurs on-premises, though they may offer take-out service. Short order restaurants are defined as establishments whose customers generally order or select items and pay before eating but are often served by wait staff. In these establishments, customer consumption primarily occurs on-premises, though they may offer take-out service. Fast food restaurants are defined as establishments whose customers order and select items either over the counter or through a drive-through, whose customers generally pay before eating. In these establishments, consumption primarily occurs off-premises, though there may be limited seating options available.

TABLE 1

Customer Summary and Estimated Flows												
User Group	Number of Customers/ Dwelling Units	Single Family Equivalent Dwelling Units (EDUs)	Flow			Loading						
			Total Flow (MGD)	Annual Flow (MG/Year)	% of Total	BOD per User (MG/L)	Annual BOD Load (LBS/Yr)	% of Total	TSS per User (MG/L)	Annual TSS Load (LBS/Year)	% of Total	
Single-Family	3,985	4,023	0.8851	323.05	73.35%	250	673,553	73.09%	250	673,553	77.99%	
Duplex	23	49	0.0108	3.93	0.89%	250	8,204	0.89%	250	8,204	0.95%	
Apartments	26	137	0.0301	11.00	2.50%	250	22,937	2.49%	250	22,937	2.66%	
Rest Homes	4	60	0.0132	4.82	1.09%	250	10,042	1.09%	100	4,017	0.47%	
Sub-Total Residential	4,038	4,269	0.94	343	77.8%		714,736	77.6%		708,711	82.1%	
Shops and Stores	38	142.4	0.0313	11.43	2.60%	150	14,304	1.55%	150	14,304	1.66%	
Hotels and Motels	5	132.9	0.0292	10.67	2.42%	310	27,581	2.99%	120	10,676	1.24%	
Full Service Restaurants	4	40	0.0089	3.25	0.74%	1,000	27,080	2.94%	600	16,248	1.88%	
Short Order Restaurants	8	29	0.0063	2.29	0.52%	500	9,569	1.04%	300	5,742	0.66%	
Fast Food	3	31	0.0069	2.51	0.57%	1,000	20,942	2.27%	600	12,565	1.45%	
Gas Stations	3	5	0.0010	0.38	0.09%	180	570	0.06%	280	887	0.10%	
Churches and Other Non-Profit Buildings	7	10.3	0.0023	0.82	0.19%	250	1,717	0.19%	250	1,717	0.20%	
Office Buildings	45	275.9	0.0607	22.16	5.03%	130	24,021	2.61%	80	14,782	1.71%	
Laundry Facilities	10	25	0.0054	1.97	0.45%	150	2,464	0.27%	110	1,807	0.21%	
Light Industrial	107	296.0	0.0651	23.77	5.40%	250	49,565	5.38%	250	49,565	5.74%	
Heavy Industrial	1	113.1	0.0249	9.08	2.06%	250	18,932	2.05%	250	18,932	2.19%	
High Schools	1	63	0.0139	5.06	1.15%	130	5,485	0.60%	100	4,219	0.49%	
Middle Schools	1	24	0.0053	1.93	0.44%	130	2,089	0.23%	100	1,607	0.19%	
Elementary Schools	3	21	0.0046	1.69	0.38%	130	1,828	0.20%	100	1,406	0.16%	
Pre-Schools	2	8	0.0017	0.63	0.14%	130	684	0.07%	100	526	0.06%	
Sub-Total Non-Residential	238	1,216	0.27	98	22.2%		206,831	22.4%		154,984	17.9%	
Total	4,276	5,485	1.2	440			921,567			863,694		

Note: Customer counts, EDU and total District flow based on 2019-20 District data. Water consumption data provided by the City of Modesto for calendar year 2019. Estimated loading per customer based on industry standard data, as provided by the State Water Resources Control Board Revenue Program Guidelines, Appendix G.

SECTION 4: RATE DESIGN ANALYSIS

Once the revenue requirements have been determined and the cost of service analysis performed a rate structure can be designed that will collect the necessary revenues.

Rate Design Criteria

The main goals of the rate design should be on establishing rates which are equitable and proportional to the users and are able to generate sufficient revenues. Other criteria that should be considered when determining a rate structure are listed below:

- Easy to understand by the customer and easy to administer
- Customer's ability to pay
- Provide monthly and yearly revenue stability
- Efficient allocation of the resource
- Policy considerations including water conservation and economic development

Final Rate Design

The rate applied to each customer is equal to the sum of a base component, a volumetric component, and a strength component. The base component is based on the District's fixed operations and maintenance costs, equal to about 20% of the annual budget, and are equally divided among the number of customers in the system. The volumetric component is based on each user's actual or estimated flow, with costs equal to about 40% of the annual budget. The strength component is based on each user's estimated strength of flow, with costs equal to 40% of the annual budget.

Residential Customers

Residential customers make up about 94% of the total customer accounts in the District. For residential customers, the volumetric and strength components are based on discharge characteristics of an average single-family user (one EDU) and is composed of wastewater flow of 220 gallons per EDU per day for 365 days per year and constituent levels of sewage strength of 250 milligrams per liter (mg/l) BOD and 250 mg/l TSS, as estimated based on Statewide averages based on data provided by the State Water Resources Control Board, Revenue Program Guidelines, Exhibit G. Single family, apartments and duplex customers are all billed at one EDU per dwelling unit. Rest home customers, on average, have lower volume and strength levels and their rates are, therefore, adjusted accordingly.

Non-Residential Customers

The remaining 6% of the District's customer accounts are non-residential. To calculate the charges for non-residential customers, the District has established a set of strength factors and an estimated flow rate per EDU. The flow factor is established for each non-residential customer based on the ratio of its flow based on actual or estimated water usage to the standard flow rate of 220 gallons per day per EDU. The City of Modesto is able to provide water utilization data for several non-residential customers in the District. To the extent that such data is available for a customer, water consumption data will be used to determine customer flow. For non-residential properties where the City is unable to provide water utilization data, Statewide average flow rates by property type as provided by the California State Water Resources Control Board will be utilized.

The strength factor for a commercial customer reflects the pollutant content of their wastewater and the resulting ease or difficulty of treatment. This is an important component in the rate structure because higher strength sewage that contains more oils and greases such as that generated by a restaurant costs more to treat and these costs need to be recovered from the users who are generating higher strength sewage. **Table 2** summarizes the sewage strengths for each user classification in this Study.

TABLE 2

Sewage Strength				
User Group	BOD per User (MG/L)	Equivalent EDUs	TSS per User (MG/L)	Equivalent EDUs
Single-Family	250	1.00	250	1.00
Duplex	250	1.00	250	1.00
Apartments	250	1.00	250	1.00
Rest Homes	250	1.00	100	0.40
Shops and Stores	150	0.60	150	0.60
Hotels and Motels	310	1.24	120	0.48
Full Service Restaurants	1,000	4.00	600	2.40
Short Order Restaurants	500	2.00	300	1.20
Fast Food	1,000	4.00	600	2.40
Gas Stations	180	0.72	280	1.12
Churches and Other Non-Profit Buildings	250	1.00	250	1.00
Office Buildings	130	0.52	80	0.32
Laundry Facilities	150	0.60	110	0.44
Light Industrial	250	1.00	250	1.00
Heavy Industrial	250	1.00	250	1.00
High Schools	130	0.52	100	0.40
Middle Schools	130	0.52	100	0.40
Elementary Schools	130	0.52	100	0.40
Pre-Schools	130	0.52	100	0.40

Source: State Water Resources Control Board Revenue Program Guidelines, Appendix G.

Non-residential customers pay a base component plus a volumetric and strength component per EDU based on a formula that determines each commercial customer’s number of EDUs. Each non-residential customer’s flow and strength is considered in the determination of their individual sewer bill as shown below:

$$\begin{aligned}
 &\text{Non-Residential Customer Charge} = \\
 &\quad \text{Base charge} + \\
 &\quad (\text{Volume Charge per EDU} + \text{Strength Charge per EDU} * \text{Strength Factor}) * \\
 &\quad \text{Customer Assigned EDUs}
 \end{aligned}$$

The volumetric component for non-residential customers, in the absence of actual flow data, is based on the customer classification and the average flow rates set forth in guidelines provided by the California State Water Resources Control Board (State) Revenue Program Guidelines, Appendix G. Additionally, for non-residential customers, the strength component is based on the customer classification and the average strength characteristics set forth in State guidelines.

The District’s General Manager shall assign flow rates based upon the actual flow rates or the average flow rates for the type of customer as provided by the State guidelines.

Recommended Sewer Rates

Table 3 summarizes the recommended monthly sewer rates based on the three-component rate model described above. The fixed charge is billed per customer, the volume charge is billed per assigned EDU and the strength charge is billed based on the strength factor per customer class.

TABLE 3

Recommended Monthly Sewer Rates					
	2021/22	2022/23	2023/24	2024/25	2025/26
Flat Rates					
Per Customer	\$11.68	\$12.16	\$12.64	\$13.13	\$13.65
Flow Based Rates					
Per EDU	\$18.22	\$18.96	\$19.71	\$20.48	\$21.28
Strength Based Rates (Per EDU)					
User Group					
Single-Family	\$18.22	\$18.96	\$19.71	\$20.48	\$21.28
Duplex	\$18.22	\$18.96	\$19.71	\$20.48	\$21.28
Apartments	\$18.22	\$18.96	\$19.71	\$20.48	\$21.28
Rest Homes	\$12.75	\$13.27	\$13.80	\$14.34	\$14.90
Shops and Stores	\$10.93	\$11.37	\$11.83	\$12.29	\$12.77
Hotels and Motels	\$15.67	\$16.30	\$16.95	\$17.61	\$18.30
Full Service Restaurants	\$58.30	\$60.66	\$63.07	\$65.54	\$68.11
Short Order Restaurants	\$29.15	\$30.33	\$31.54	\$32.77	\$34.05
Fast Food	\$58.30	\$60.66	\$63.07	\$65.54	\$68.11
Gas Stations	\$16.76	\$17.44	\$18.13	\$18.84	\$19.58
Churches and Other Non-Profit Buildings	\$18.22	\$18.96	\$19.71	\$20.48	\$21.28
Office Buildings	\$7.65	\$7.96	\$8.28	\$8.60	\$8.94
Laundry	\$9.47	\$9.86	\$10.25	\$10.65	\$11.07
Light Industrial	\$18.22	\$18.96	\$19.71	\$20.48	\$21.28
Heavy Industrial	\$18.22	\$18.96	\$19.71	\$20.48	\$21.28
High Schools	\$8.38	\$8.72	\$9.07	\$9.42	\$9.79
Middle Schools	\$8.38	\$8.72	\$9.07	\$9.42	\$9.79
Elementary Schools	\$8.38	\$8.72	\$9.07	\$9.42	\$9.79
Pre-Schools	\$8.38	\$8.72	\$9.07	\$9.42	\$9.79
% Change in Rates	4%	4%	4%	4%	4%

Customer Impacts

Table 4 provides a summary of the impact of the rate model on the District’s customers. The table shows the average impact per customer, with 1 EDU in both the volume and strength categories, of the recommended rate model from fiscal year 2021-22 through 2025-26. As shown in the table, the percent change in rates is 4% per year.

TABLE 4

Combined Monthly Sewer Rate						
	2021/22	2022/23	2023/24	2024/25	2025/26	Current
	Charge	Charge	Charge	Charge	Charge	2020/21
	Charge	Charge	Charge	Charge	Charge	Charge
Fixed Charge Per Customer	\$11.68	\$12.16	\$12.64	\$13.13	\$13.65	\$11.28
Volume Charge Per EDU	\$18.22	\$18.96	\$19.71	\$20.48	\$21.28	\$17.30
BOD Component Strength Charge Per EDU	\$9.11	\$9.48	\$9.86	\$10.24	\$10.64	\$8.48
TSS Component Strength Charge Per EDU	\$9.11	\$9.48	\$9.86	\$10.24	\$10.64	\$9.24
Total Charge	\$48.12	\$50.07	\$52.06	\$54.09	\$56.22	\$46.30
% Change in Rates	4%	4%	4%	4%	4%	

Note: Total Charge for 1 EDU in both volume and strength categories.

SECTION 5: RECOMMENDATIONS

The District intends to update their sewer user rates based on current cost of service and to allocate costs equitably and proportionately to all user classes. The recommended rate structure achieves these goals and includes the funding of a reserve to enhance the financial management practices of the District.

In order to implement the rates identified the following is recommended:

- **Approve and Accept this Rate Study.** The approval of this report will provide documentation of the rate study analysis and the basis for analyzing potential changes to future rates.
- **Initiate the Procedural Proposition 218 Activities.** The District must mail a notice of proposed rate increases to all affected property owners. The District must hold a public hearing no less than 45 days after the notices are mailed, prior to adopting the proposed rates. At the public hearing, the proposed rates are subject to majority protest.
- **Utilize Water Meter Data to Refine the Volumetric Component of the Rate.** Water meter data can be applied toward the volumetric component of the rate so that each non-residential customer is billed based on their actual utilization of the system.
- **Review District Sewer User Rate Ordinance.** Ensure that the ordinance reflects the current rate model, collection procedures and appeals process.
- **Annually Review Rates and Revenue.** Any time an agency adopts new utility rates or rate structures, those new rates should be closely monitored to ensure the revenue generated is sufficient to meet the annual revenue requirements.



APPENDIX A: PROJECTED ANNUAL REVENUE REQUIREMENT

Projected Budgetary Needs						
Expense Description	Base FY 2020/21	Projected FY 21/22	Projected FY 22/23	Projected FY 23/24	Projected FY 24/25	Projected FY 25/26
Salaries and Benefits	\$1,107,000	\$1,162,350	\$1,220,468	\$1,342,491	\$1,346,615	\$1,413,946
District Operations	\$575,500	\$604,430	\$633,923	\$640,562	\$672,441	\$706,660
Maintenance	\$260,000	\$260,000	\$260,000	\$260,000	\$260,000	\$260,000
Equipment and Supplies	\$40,000	\$49,000	\$49,600	\$50,212	\$50,836	\$51,473
Capital Projects and Debt Service	\$672,000	\$702,000	\$840,000	\$840,000	\$840,000	\$840,000
Contingency/Reserves	\$10,000	\$275,000	\$170,000	\$165,000	\$255,000	\$285,000
Total	\$2,664,500	\$3,052,780	\$3,173,990	\$3,298,265	\$3,424,893	\$3,557,080
Less Non-Service Charge Revenues	\$55,000	\$55,000	\$55,000	\$55,000	\$55,000	\$55,000
Total Service Charge Funding Need	\$2,609,500	\$2,997,780	\$3,118,990	\$3,243,265	\$3,369,893	\$3,502,080
		15%	4%	4%	4%	4%