



ELSINORE VALLEY MUNICIPAL WATER DISTRICT

Comprehensive Cost of Service Study for Sewer Service

Final Study / June 12, 2017



Elsinore Valley Municipal Water District





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June 12, 2017

Ms. Margie Armstrong
Director of Strategic Programs
31315 Chaney Street
Lake Elsinore, CA 92530

Subject: Comprehensive Cost of Service Study for Sewer Service

Dear Ms. Armstrong,

Raftelis Financial Consultants, Inc. (RFC) is pleased to provide this Comprehensive Cost of Service Study for Sewer Service (Study) for the Elsinore Valley Municipal Water District (District). This Study includes a comprehensive review of the District's financial plan, accounts, customer types, capital improvement plan, and reserves to establish cost of service based rates that provide sufficient revenue through fiscal year ending (FYE) 2019. The proposed rates were derived in compliance with California Constitution article XIII D, section 6 (commonly referred to as Proposition 218).

The major objectives of the Study include the following:

- » Develop a financial plan for the sewer utility to ensure financial sufficiency, meet operation and maintenance (O&M) costs, and ensure sufficient funding for capital replacement and refurbishment (R&R) needs
- » Conduct a comprehensive cost-of-service analysis update
- » Derive rates that are compliant with Proposition 218 and Proposition 26

The Study summarizes the key findings and recommendations related to the development of the financial plans for the sewer utility and the development of the updated sewer rates.

It has been a pleasure working with you, and we thank you, Barbara Mason, and other District Staff for the support provided during this Study.

Sincerely,

RAFTELIS FINANCIAL CONSULTANTS, INC.

Habib Isaac
Senior Manager

Akbar Alikhan
Senior Consultant

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1. EXECUTIVE SUMMARY

1.1 BACKGROUND

The Elsinore Valley Municipal Water District (District) engaged RFC to conduct a Comprehensive Cost of Service Study for Sewer Service (Study) and to develop cost-of-service based rates for the District's approximate 35,311 sewer connections, serving 38,939 residential dwelling units and 826 non-residential accounts. The District bills monthly service charges to each residential dwelling unit and each non-residential account for a total number of annual bills equal to 477,180 billable units ($39,765 \times 12 = 477,180$ billable units). Sewer flows from District customers are conveyed by 310 miles of sewer pipelines, 31 lift stations, and treated at one of four wastewater treatment plants based on the customer's sewer service area.

1.1.1 Objectives of the Study

The major objectives of the Study include the following:

- » Develop a financial plan for the sewer utility to ensure financial sufficiency, meet operation and maintenance (O&M) costs, and ensure sufficient funding for capital replacement and refurbishment (R&R) needs;
- » Conduct a comprehensive cost-of-service analysis update;
- » Derive rates that are compliant with California Constitution article XIII D, section 6 (commonly referred to as Proposition 218).

1.1.2 Sewer Rates

The current sewer rate structure consists of a monthly base charge and a variable flow charge. Residential customers are currently only charged the base charge which includes an annualized flow component; commercial customers are charged both the base charge and the flow charge. Residential customers receive a reduced rate for the monthly base charge if less than 4 hundred cubic feet (CCF) of water was delivered to their property during the billing cycle, and a further reduction if no water was delivered. The following tables summarize the current sewer rate structure of the District. Table 1-1 summarizes the current rates for the monthly base charge and flow charge. There District's sewer service area contains four divisions – Southern Division, Regional Division, Horsethief Division, and Canyon Lake Division. The District's current rates vary by sewer division.

Table 1-1: Current Base Charge Rates

Customer Class and Service Area	\$ per	FYE 2017 No Usage Rate (0 CCF)	FYE 2017 Low Usage Rate (<4 CCF)	FYE 2017 Reg. Usage Rate (>4 CCF)
Southern Division				
Residential	<i>per dwelling unit</i>	\$13.52	\$33.79	\$43.50
Commercial	<i>per dwelling unit</i>			\$43.50
Regional System Division				
Single Family Residential	<i>per dwelling unit</i>	\$13.52	\$33.79	\$43.50
Multi-Family Residential	<i>per dwelling unit</i>	\$13.52	\$33.79	\$33.79
Commercial II Regional	<i>per dwelling unit</i>			\$32.63
Commercial III Regional	<i>per dwelling unit</i>			\$32.63
Commercial III Reg 306 RVs	<i>per RV site</i>			\$8.16
Commercial IV Regional	<i>per dwelling unit</i>			\$32.63
Institutional V Regional	<i>per dwelling unit</i>			\$32.63
Schools VIII Reg Pub Student/Cnt	<i>per dwelling unit</i>			\$32.63
Schools VIII Regional	<i>per dwelling unit</i>			\$32.63
Horsethief Division				
Residential	<i>per dwelling unit</i>	\$13.52	\$33.79	\$43.50
Canyon Lake Division				
Single Family Residential	<i>per dwelling unit</i>	\$13.52	\$33.79	\$43.50
Multi-Family Residential	<i>per dwelling unit</i>	\$13.52	\$33.79	\$33.36
Commercial II Canyon Lake	<i>per dwelling unit</i>			\$33.36
Commercial III Canyon Lake	<i>per dwelling unit</i>			\$33.36
Commercial IV Canyon Lake	<i>per dwelling unit</i>			\$33.36
Commercial V Canyon Lake	<i>per dwelling unit</i>			\$33.36
UC 304 RV Parks Canyon Lake	<i>per site</i>			\$33.36
UC 507 Fire Station Canyon Lake	<i>per dwelling unit</i>			\$33.36
UC 507 Fire Station Regional	<i>monthly min</i>			\$33.36
Sewer Service Only	<i>per dwelling unit</i>			\$43.50

Table 1-2: Current Flow Charge Rates

Customer Class and Service Area	FYE 2017 Flow Rates (\$ /CCF)
Regional System Division	
Commercial II Regional	\$3.99
Commercial III Regional	\$4.40
Commercial III Reg 306 RVs	\$4.40
Commercial IV Regional	\$8.29
Institutional V Regional	\$3.98
Schools VIII Reg Pub Student/Cnt	\$4.30
Schools VIII Regional	\$3.81
Canyon Lake Division	
Commercial II Canyon Lake	\$4.46
Commercial III Canyon Lake	\$4.68
Commercial IV Canyon Lake	\$5.85
Commercial V Canyon Lake	\$4.40
UC 304 RV Parks Canyon Lake	\$4.40
UC 507 Fire Station Canyon Lake	\$4.40
UC 507 Fire Station Regional	\$4.40

1.2 FINANCIAL HEALTH AND PROPOSED RECOMMENDATIONS

As part of the financial plan development, RFC first reviewed the District’s projected revenue requirements over a 5-year planning horizon to determine the financial health of the sewer utility over the planning period and whether the current rates could support the utility’s revenue needs.

1.2.1 Financial Health of the Utility

In Fiscal Year 2017-18, the District’s total beginning reserve balance for the sewer utility is approximately \$7M. Based on the District’s revenue requirements, reserve policies, capital planning schedule, and current revenues, the existing sewer rates would not generate sufficient revenue to fund current capital needs while reinvesting in its existing assets.

Without revenue adjustments, the sewer utility would need to defer major portions of its capital program and would not be able to adequately reinvest in its existing assets. The capital program helps to mitigate unforeseen emergency repairs due to collection pipeline failures or system facility failures, while limiting the need to significantly increase rates. Due to the capital reinvestment goals of the District, it is recommended that the District slowly increase rates over the 5-year planning period; however, the District’s budgetary process is on a two-year adoption cycle and the proposed rates herein correspond to Fiscal Year 2017-18 (FYE 2018) and Fiscal Year 2018-19 (FYE 2019). Overall, the proposed financial plan for the sewer system aims to strike a balance between ensuring a strong financial position and, to the extent possible, minimizing rate increases to its customers through a multi-year measured approach. The first proposed adjustment will take place on July 1, 2017, with the second proposed adjustment occurring on July 1, 2018. Subsequent adjustments after Fiscal Year End (FYE) 2019 would need to be noticed and approved by the Board through a separate Proposition 218 public hearing.

The proposed rates herein are only for the next two fiscal years and District staff will need to reevaluate the actual revenue adjustments required in future years to achieve the proposed 5-year financial plan herein. For FYE 2018, the District will use a flat charge for residential service, as shown in Table 1-3 (the residential flow rates have been converted to a flat monthly fee). In FYE 2019, the District will transition to fixed and variable charge components that will vary based on the projected flow generated by each person residing within the household or Persons Per Household (PPH) for each account. The proposed rates for the residential monthly base charge and variable flow charge for FYE 2018 are shown in Table 1-4.

Table 1-3: Proposed Residential Base Charge Rate for FYE 2018

Customer Class	Accounts Component [A]	Flow Charge Component [B]	Proposed FYE 2018 Charge (\$/Month) (A + B) = [C]
Residential Dwelling Unit	\$21.47	\$24.66	\$46.13

Table 1-4: Proposed Residential Flow Charge Rates for FYE 2019

Persons/ Household [A]	CCF/person [B]	Allocation (CCF) [C]	\$/CCF [D]	Flow Charge Component C x D = [E]	Base Charge [F]	Total Charge E + F = [G]
1	2.25	2.25 CCF	\$3.08	\$6.93	\$20.29	\$27.22
2	2.25	4.50 CCF	\$3.08	\$13.86	\$20.29	\$34.15
3	2.25	6.75 CCF	\$3.08	\$20.79	\$20.29	\$41.08
4	2.25	9.00 CCF	\$3.08	\$27.72	\$20.29	\$48.01
5	2.25	11.25 CCF	\$3.08	\$34.65	\$20.29	\$54.94
6	2.25	13.50 CCF	\$3.08	\$41.58	\$20.29	\$61.87
7	2.25	15.75 CCF	\$3.08	\$48.51	\$20.29	\$68.80
8	2.25	18.00 CCF	\$3.08	\$55.44	\$20.29	\$75.73
9	2.25	20.25 CCF	\$3.08	\$62.37	\$20.29	\$82.66

For non-residential customers, the District will continue to use a fixed base charge and a variable flow charge rate structure. The variable flow charge portion of the rate will be based on the CCF of water delivered for the billing period. The proposed rates for FYE 2018 and FYE 2019 are shown in Table 1-5. The septage rate applies to waste haulers who transport sewage to the District’s treatment plant; these users are not subject to a base charge, but a pay a variable flow charge per gallon disposed into the treatment plant.

**Table 1-5: Proposed Non-Residential Sewer Base Charge
and Flow Charge Rates for FYE 2018 & FYE 2019**

Non-Residential Customer Class	FYE 2018 Base Monthly Charge	FYE 2018 Flow Charge \$/CCF	FYE 2019 Base Monthly Charge	FYE 2019 Flow Charge \$/CCF
Commercial II	\$21.47	\$3.55	\$22.98	\$3.80
Commercial III	\$21.47	\$4.27	\$22.98	\$4.57
Commercial IV	\$21.47	\$7.92	\$22.98	\$8.48
Commercial V	\$21.47	\$3.23	\$22.98	\$3.46
Sewer - Schools VIII Reg Pub Student/Cnt	\$21.47	\$3.23	\$22.98	\$3.46
Sewer - Schools VIII Regional	\$21.47	\$3.23	\$22.98	\$3.46
Sewer - UC 304 RV Parks Canyon Lake	\$21.47	\$3.55	\$22.98	\$3.80
Sewer - UC 507 Fire Station	\$21.47	\$3.55	\$22.98	\$3.80
		FYE 2018 Flow Charge \$/Gallon		FYE 2018 Flow Charge \$/Gallon
Septage (Rate charged per gal) ¹		\$0.11		\$0.12

¹ The charges for Septage are incurred on a per gallon basis.

2. INTRODUCTION

2.1 STUDY APPROACH

The total cost of wastewater service is analyzed by system function in order to equitably distribute costs of service to the various classes of customers. For this analysis, wastewater utility costs of service are developed consistent with the guidelines for allocating costs detailed in the Water Environment Federation (WEF) Manual of Practice No. 27, Financing and Charges for Wastewater Systems, 2004.

The first step in ratemaking analysis is to determine the adequate and appropriate level of funding for a given utility. This is referred to as determining the “revenue requirement”. This analysis typically considers the short-term and long-term service objectives of the utility over a given planning horizon, including capital facilities, system operations and maintenance, and financial reserve policies 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, changes in total discharge to the plant and corresponding strength concentrations, nonrecurring sales, inflation, interest rates, capital finance needs, changes in tax laws, and other changes in operating and economic conditions, among others.

After determining the utility’s revenue requirement, the next step is determining the cost of service. Utilizing the District’s approved budget, financial reports, operating data, and capital improvement plans, a rate study generally categorizes (functionalizes) **system costs** (e.g., collection, treatment, administrative, etc.), including operating and maintenance and asset costs, among **major operating functions** to determine the cost of service.

After the asset values and operating costs are properly categorized by function, these functionalized costs are allocated first to cost causation components, and then distributed to the various customer classes by determining the characteristics of those classes and the contribution of each to cost causation components, such as total flow, biochemical oxygen demand (BOD), and total suspended solids (TSS).

Rate design is the final element of the rate-making process and uses the revenue requirement and cost of service analysis to determine rates for each customer class that reflect the cost of providing service to those customers. Rates utilize “rate components” that build-up to the total variable rates, and fixed charge rates (or base charges), for the various customer classes.

2.2 LEGAL REQUIREMENTS

2.2.1 California Constitution - Article XIII D, Section 6 (Proposition 218)

Proposition 218, reflected in part in the California Constitution as article XIII D, section 6, was enacted in 1996 to ensure that rates and fees for the ongoing delivery of services provided to property, including sewer services, are proportional to the cost of providing service attributable to a parcel. The principal requirements under Proposition 218, as they relate to public sewer service fees are as follows:

1. Revenues derived from the charge shall not exceed the costs required to provide the property related service.
2. Revenues derived from the charge shall not be used for any purpose other than that for which the charge was imposed.
3. The amount of the charge imposed upon any parcel shall not exceed the proportional cost of service attributable to the parcel.
4. No charge may be imposed for a service unless that service is actually used or immediately available to the owner of property.
5. No 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.
6. A public agency must hold a public hearing to consider the adoption of the proposed new or increase in an existing charge; written notice of the public hearing and proposed charge shall be mailed to the record owner of each parcel at least 45 days prior to the public hearing; if the public agency receives written protests to the proposed charge from a majority of the property owners, the charge may not be imposed.

2.2.2 Cost-Based Rate Setting Methodology

The costs of wastewater services should be recovered from classes of customers in proportion to the cost of serving those customers. To develop utility rates that comply with Proposition 218 and industry standards while meeting other emerging goals and objectives of the District, there are four major steps discussed below and previously addressed in Section 2.1.

1. Calculate the Revenue Requirement

The rate-making process starts by determining the test year (rate setting year) revenue requirement, which for this Study is FYE 2018. The revenue requirement should sufficiently fund the utility's O&M, debt service, capital expenses, and reserves.

2. Cost of Service Analysis (COS)

The annual cost of providing service is distributed among customer classes commensurate with their service requirements. A COS analysis involves the following:

- a) Functionalize costs. Examples of functions are collection, pumping, pre-treatment, treatment, and administration.
- b) Allocate functionalized costs to cost causation components. Cost causation components include, but are not limited to, flow, BOD, and TSS.
- c) Distribute the cost causation components. Distribute cost components, using unit costs, to customer classes in proportion to their demands on the system.

3. Rate Design and Calculations

Rates do more than simply recover costs. Within the legal framework and industry standards, properly designed rates should support and optimize a blend of various utility objectives, and revenue stability equity between customer classes and among accounts within each customer class.

4. Rate Adoption

Rate adoption is the last step of the rate-making process to comply with Proposition 218. RFC documents the rate study results in this Study to serve as the District's administrative record and a public education tool about the proposed changes, the rationale and justifications behind the changes, and their anticipated financial impacts.

3. KEY ASSUMPTIONS

The Study uses the District’s FYE 2018 budget as the base year and the model projects the District’s revenue requirements through FYE 2027; however, the proposed sewer rates derived herein are only for FYE 2018 and FYE 2019 in connection with the District’s 2-year budget cycle. The District will periodically review the rates and take a measured approach with any potential future rate adjustments. Certain cost escalation assumptions and inputs for the five-year Study period were incorporated into the Study to adequately model expected future costs of the District. These assumptions were based on discussions with and/or direction from District management and are presented in Table 3-1. Although the District has potential for growth in the future, we assumed no growth for financial planning purposes to ensure the District is not dependent on growth to occur to meet its revenue requirements.

Table 3-1: Inflationary Factor Assumptions

Inflationary Factors	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
CPI	2%	2%	2%	2%	2%
Capital	3%	3%	3%	3%	3%
General	2%	2%	2%	2%	2%
Labor	4%	4%	4%	4%	4%
Fringe Benefits	5%	5%	5%	5%	5%
Repairs & Maint.	2%	2%	2%	2%	2%
Outside Services	3%	3%	3%	3%	3%
Contracted Services	3%	3%	3%	3%	3%
Chemicals & Testing	3%	3%	3%	3%	3%
Licenses/Permit Fees	4%	4%	4%	4%	4%
Supplies	4%	4%	4%	4%	4%
Utilities	4%	4%	4%	4%	4%
Non-Inflationary	0%	0%	0%	0%	0%

4. SEWER FINANCIAL PLAN

4.1 FINANCIAL PLAN

This section describes the development of the sewer utility’s financial plan, the results of which were used to determine the total revenue needs to meet ongoing expenses and provide for the fiscal sustainability of the District. The review involves analysis of projected annual operating revenues under the current rates, O&M expenses, capital expenditures, and reserve requirements.

The current sewer rate structure consists of a monthly base charge for residential customers and flow charges for non-residential customers. Residential customers receive a reduced rate for the monthly base charge if less than 4 CCF of water was delivered to their property during a billing cycle, and a further reduction if no water was used. The following tables summarize the current sewer rate structure of the District and projected revenues under the current sewer rates for the five-year Study period. The figures presented in all the tables of the financial plan have been rounded to the nearest dollar. Column totals may be slightly different than the summation of the individual line items.

Table 4-1 summarizes the calculated base charge annual sewer revenues at current rates. The District charges a fixed amount based on dwelling units and customer class. While most single family residential accounts are assigned one dwelling unit, multi-family accounts can contain several dwelling units per account. Additionally, based on changing water consumptions between billing periods, an individual dwelling unit may be charged at the low usage rate in a particular billing period and then be charged at the regular usage rate the following cycle should consumption increase. Actual usage data was used to estimate the distribution of all no, low, and regular usage units there are throughout the fiscal year.

Table 4-2 summarizes the calculated variable revenue from flow at current rates. Estimated flow for commercial accounts was based on FYE 2016 consumption, with no change in usage habits.

Table 4-1: Calculated FYE 2018 Annual Base Charge Revenue

Customer Class and Service Area	Monthly Units	Charge	Annual Revenue
Southern Division			
Residential Southern			
<i>No Usage Rate</i>	512	\$13.52	\$6,922
<i>Low Usage Rate</i>	9,173	\$33.79	\$309,956
<i>Regular Usage Rate</i>	49,889	\$43.50	\$2,170,172
Commercial Southern	180	\$43.50	\$7,830
			\$2,494,879
Regional System Division			
Single Family I-A Regional			
<i>No Usage Rate</i>	2,738	\$13.52	\$37,018
<i>Low Usage Rate</i>	31,001	\$33.79	\$1,047,516
<i>Regular Usage Rate</i>	246,082	\$43.50	\$10,704,582
Multi-Family Regional			
<i>No Usage Rate</i>	471	\$13.52	\$6,368
<i>Low Usage Rate</i>	768	\$33.79	\$25,951
<i>Regular Usage Rate</i>	49,905	\$33.79	\$1,686,282
Commercial II Regional	5,156	\$32.63	\$168,232
Commercial III Regional	2,940	\$32.63	\$95,932
Commercial III Reg 306 RVs	2,301	\$8.16	\$18,776
Commercial IV Regional	2,316	\$32.63	\$75,571
Institutional V Regional	695	\$32.63	\$22,678
Schools VIII Reg Pub Student/Cnt	31	\$32.63	\$1,012
Schools VIII Regional	1,791	\$32.63	\$58,440
			\$13,948,358
Horsethief Division			
Residential Horsethief			
<i>No Usage Rate</i>	67	\$13.52	\$906
<i>Low Usage Rate</i>	1,513	\$33.79	\$51,124
<i>Regular Usage Rate</i>	22,865	\$43.50	\$994,628
			\$1,046,658
Canyon Lake Division			
Residential 1-A Canyon Lake (SF)			
<i>No Usage Rate</i>	750	\$13.52	\$10,140
<i>Low Usage Rate</i>	7,145	\$33.79	\$241,430
<i>Regular Usage Rate</i>	40,057	\$43.50	\$1,742,480
Canyon Lake Multi-Family			
<i>No Usage Rate</i>	12	\$13.52	\$162
<i>Low Usage Rate</i>	168	\$33.79	\$5,677
<i>Regular Usage Rate</i>	1,044	\$33.36	\$34,828
Commercial II Canyon Lake	779	\$33.36	\$25,987
Commercial III Canyon Lake	24	\$33.36	\$801
Commercial IV Canyon Lake	240	\$33.36	\$8,006
Commercial V Canyon Lake	156	\$33.36	\$5,204
UC 304 RV Parks Canyon Lake	12	\$33.36	\$400
UC 507 Fire Station Canyon Lake	32	\$33.36	\$1,069
UC 507 Fire Station Regional	48	\$33.36	\$1,601
			\$2,077,785
Sewer Service Only	168	\$43.50	\$7,308
Total Revenue			\$19,574,988

Table 4-2: Calculated FYE 2018 Annual Flow Charge Revenue

Customer Class and Service Area	Charge/CCF	Number of CCFs	Annual Revenue
Regional System			
Sewer - Commercial II Regional	\$3.99	121,524	\$484,882
Sewer - Commercial III Regional	\$4.40	33,116	\$145,709
Sewer - Commercial III Reg 306 RVs	\$4.40	6,705	\$29,503
Sewer - Commercial IV Regional	\$8.29	102,774	\$851,993
Sewer - Institutional V Regional	\$3.98	12,601	\$50,153
Sewer - Schools VIII Reg Pub Student/Cnt	\$4.30	911	\$3,917
Sewer - Schools VIII Regional	\$3.81	32,677	\$124,501
			\$1,690,658
Canyon Lake			
Sewer - Commercial II Canyon Lake	\$4.46	7,509	\$33,490
Sewer - Commercial III Canyon Lake	\$4.68	2,449	\$11,461
Sewer - Commercial IV Canyon Lake	\$5.85	10,417	\$60,939
Sewer - Commercial V Canyon Lake	\$4.40	1,556	\$6,846
Sewer - UC 304 RV Parks Canyon Lake	\$4.40	152	\$669
Sewer - UC 507 Fire Station Canyon Lake	\$4.40	343	\$1,509
Sewer - UC 507 Fire Station Regional	\$4.40	614	\$2,702
			\$117,617
	Charge/CCF	Number of Gallons	Annual Revenue
Septage	\$0.07	2,534,514	\$187,554
Total Revenue			\$1,995,829

Using a combination of projected flow for residential customers on a per capita basis for indoor use and water consumption data for non-residential customers for fiscal year 2015-16, , RFC projected the revenues for the sewer utility under the current rates². Table 4-3 summarizes the rate revenue at the current rates (line 1) as well as miscellaneous and additional non-operating revenues. RFC assumed zero growth and no increase in total wastewater flow.

Table 4-3: Projected Wastewater Revenues at Current Rates

Line #		FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
1	Revenue at Current Rates	\$21,570,816	\$21,570,816	\$21,570,816	\$21,570,816	\$21,570,816
2	Additional Rate Revenue	\$0	\$0	\$0	\$0	\$0
3	Service Revenues ³	\$394,152	\$394,152	\$394,152	\$394,152	\$394,152
4	Non-Operating Revenues ⁴	\$937,415	\$929,246	\$929,246	\$929,246	\$929,246
5	Total Revenue	\$22,902,383	\$22,894,215	\$22,894,215	\$22,894,215	\$22,894,215

² Although only the Study Period is shown here, RFC projected the revenues through FYE 2027.

³ Sewer service revenues include reimbursement revenue from Eastern Municipal Water District, Inspection Fees, Delinquency Fees, and Standby Charges.

⁴ Figure from District's operating budget, includes Standby Charges, Lake Elsinore Replenishment Revenue, and Investment Income.

4.1.1 O&M Expenses

The District's FYE 2018 budget values and the assumed inflation factors (Table 3-1) for the Study period were used as the basis for projecting O&M costs. Table 4-4 shows the total projected O&M expenses for FYE 2018 through FYE 2022⁵.

Table 4-4: Projected Sewer O&M Expenses

	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
Collection System Expenses	\$1,076,256	\$1,124,385	\$1,167,138	\$1,211,661	\$1,258,032
Sewage Lift Stations Expenses	\$1,549,375	\$1,572,408	\$1,628,113	\$1,685,952	\$1,746,014
Pre-Treatment Program Services	\$266,495	\$297,820	\$310,429	\$323,589	\$337,326
Regional Treatment Plant Expenses	\$3,876,863	\$4,066,915	\$4,211,223	\$4,361,231	\$4,517,181
Railroad Canyon Treatment Plant	\$1,077,389	\$1,117,464	\$1,157,320	\$1,198,716	\$1,241,717
Horsethief Treatment Plant	\$827,897	\$856,016	\$885,845	\$916,835	\$949,036
RCWD Treatment Contractual Svc	\$2,781,357	\$2,921,862	\$3,009,518	\$3,099,804	\$3,192,798
Division Administrative Expenses	\$5,371,215	\$5,654,230	\$5,791,626	\$5,932,859	\$6,078,056
O&M Expenses	\$16,826,847	\$17,611,100	\$18,161,211	\$18,730,648	\$19,320,159
Current Debt Service	\$2,771,879	\$2,805,245	\$1,481,314	\$1,545,929	\$1,612,248
Total Expenses	\$19,598,725	\$20,416,345	\$19,642,525	\$20,276,577	\$20,932,407

4.1.2 Capital Improvement Plan

The District provided the capital improvement plan (CIP) to address future sewer utility needs. Table 4-5 summarizes the planned CIP expenditures for the Study period. RFC indexed the capital expenditures by a 3% inflationary compounding rate from Table 3-1 to account for increased construction costs in future years. As part of the District's strategic planning, the District plans to appropriate additional funding for reinvestment in its sewer utility's infrastructure to not only fund existing capital needs, but also to "catch up" on aging facilities. As such, the proposed rates would fully fund "Existing Customer Deficiencies" and include a portion of "Aged Based Replacement Facilities."

Table 4-5: Baseline Sewer Utility Capital Improvement Plan

	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
	FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
Existing Customers Deficiencies	\$2,917,604	\$3,005,132	\$3,005,132	\$3,005,132	\$3,005,132
Aged Based Replacement Facilities	\$7,615,480	\$7,843,944	\$7,843,944	\$7,843,944	\$7,843,944
Inflated CIP	\$10,533,084	\$10,849,077	\$10,849,077	\$10,849,077	\$10,849,077

4.1.3 Reserve Requirements

For FYE 2018, the District's total beginning reserve balance for the sewer utility is estimated to be approximately \$7M. RFC recommends retaining the existing reserves and the adopted parameters for each. Currently, the District maintains the reserves described below.

⁵ Although only the Study Period is shown here, RFC projected the expenses through FYE 2026.

Operating Reserve – The operating reserve is used primarily to meet ongoing cash flow requirements. RFC recommends retaining the existing operating reserve target of 20% of annual O&M expenses. As the potential for revenue volatility increases, reserves should be set at an amount to offset this impact and provide revenue stability. Maintaining this level of reserves also provides liquid funds for the continued ongoing operations of the utility in the event of unforeseen costs or interruption with the utility or the billing system.

Capital Repair and Replacement (R&R) – The capital reserve is used primarily to meet the District’s capital improvement requirements. The ideal target for the capital reserve should be to have a reserve sufficient to fund a year’s worth of capital costs, which would ensure that the District can continue to reinvest in the sewer system and that necessary capital improvements are not delayed or deferred due to cash flow concerns. RFC recommends retaining the District’s adopted minimum target of 5% of Original Cost Less Depreciation (OCLD) and a maximum target of 20% of OCLD.

Rate Stabilization – A Rate Stabilization fund is used in the event of any unforeseen circumstances or critical asset failures to help mitigate the impact to the District and ultimately the District’s customers. RFC recommends retaining the District’s existing minimum reserve target of 15% of annual O&M costs and a maximum reserve of 30% of annual O&M costs.

4.1.4 Financial Outlook at Current Rates

Revenues generated from current rates and other revenues cover the operational expenses for the Study period, but do not sufficiently fund necessary planned capital improvements. Figure 4-1 illustrates the operating position of the sewer utility, where expenses, inclusive of Capital R&R funding, are shown by stacked bars; and the total revenues at current rates are shown by the horizontal blue trend line. While current rates are able to provide minimal levels of CIP investment (as shown by green portion of vertical bars), it is not sufficient to fund the District’s planned CIP schedule as shown in Table 4-5.

Figure 4-2 displays the capital investment possible under the current rates by fiscal year for each fiscal year of the study period.

Figure 4-1: Financial Position under Current Rates

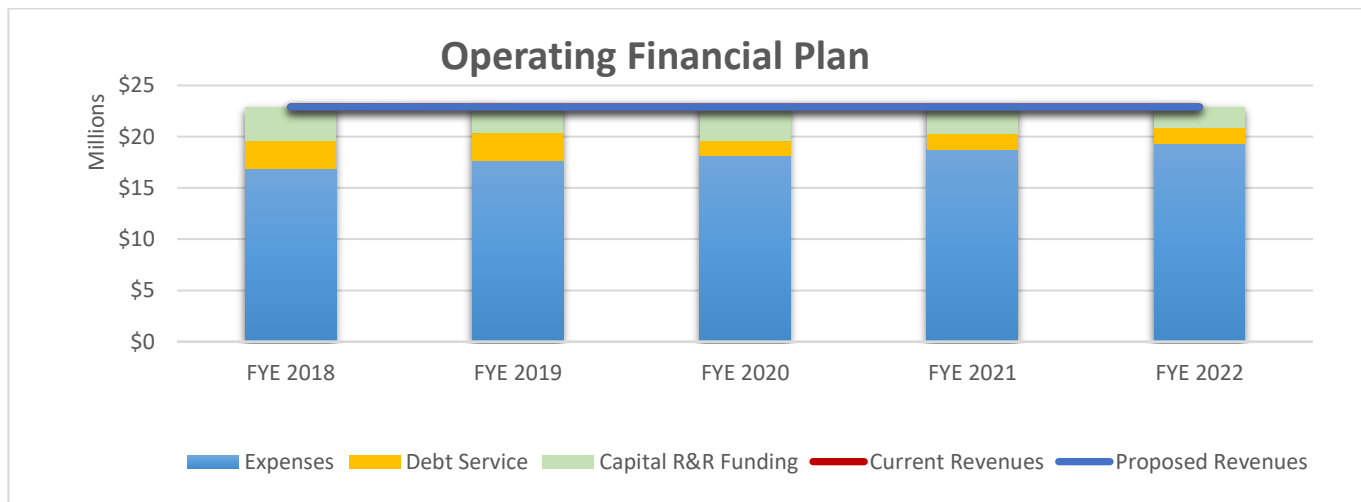
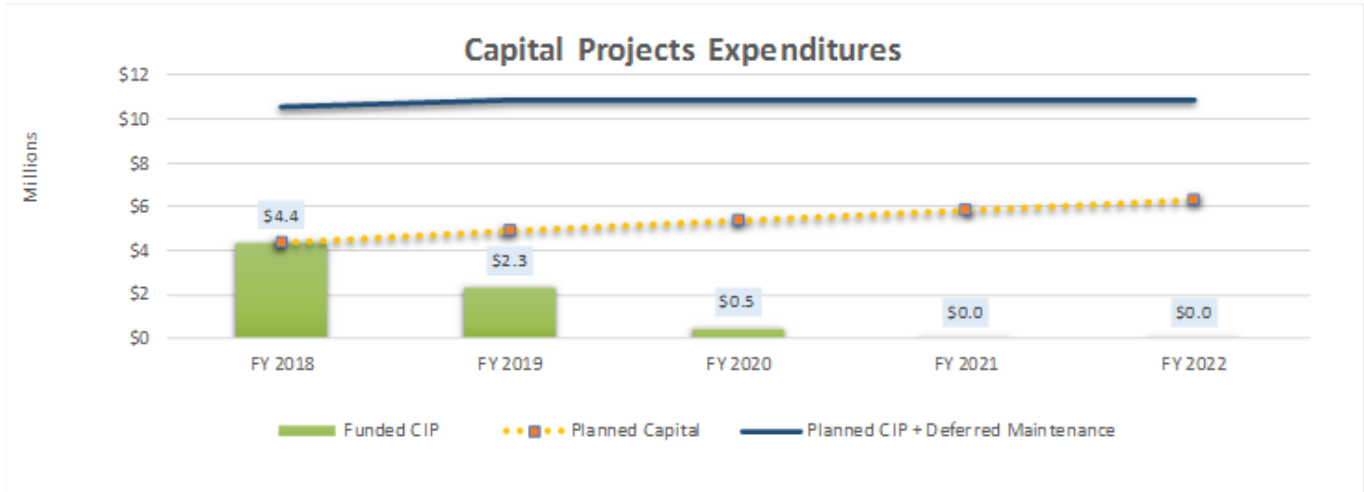


Figure 4-2: Baseline Sewer Capital Improvement Plan and Funding Source



4.1.5 Recommendations and Proposed Financial Plan

After reviewing the District’s revenue requirements, reserve policies, capital planning schedule, and current revenues, a financial plan was developed to meet the following criteria:

- » Positive net operating cash income each fiscal year of the planning period
- » Fully fund planned capital projects as well as build funds to cover deferred capital within a five-year planning period through Pay-As-You-Go (PAYGO) or cash on hand.

Although the financial plan provides an approach for the next five fiscal years, the proposed rates herein are only for the next two fiscal years.

4.1.5.1 Proposed Financial Plan

Under the proposed plan, the District will maintain a positive net income while fully funding its capital needs by the fifth year. Table 4-6 summarizes the proposed financial plan (see Appendix A for a detailed financial plan). Figure 4-3 illustrates the operating position of the sewer utility, where expenses, inclusive of capital R&R funding, are shown by stacked bars; and total revenues at both current rates and proposed rates are shown by the horizontal trend lines.

Figure 4-4 summarizes the revised projected CIP and its funding sources (100% PAYGO). With the additional proposed revenues, the District will be able to fund incrementally more CIP, as denoted by the green portion of the stacked bars. By FYE 2022, the District’s revenues will fund the entirety of its annual planned CIP.

Figure 4-5 displays the ending total rate stabilization reserve balance for the sewer utility, equal to approximately 18% of O&M costs. The horizontal trend lines indicate the minimum and target reserve balance and the bars indicate ending reserve balance. No new debt is proposed to be issued as part of the proposed five-year financial plan. With the additional rate revenue, the District is able to fully fund its planned capital (reflected as orange bars) and incrementally increase its CIP spending to fund deferred maintenance (reflected as green bars) and have positive net cash changes beginning in FYE 2019. Ideally, the District’s long-term goal is to reinvest approximately \$10M annually to the Utility’s system infrastructure.

Table 4-6: Proposed Sewer Financial Plan

		FYE 2018	FYE 2019	FYE 2020	FYE 2021	FYE 2022
1	Revenue					
2	Current Rate Revenue	\$21,570,816	\$21,570,816	\$21,570,816	\$21,570,816	\$21,570,816
3	Additional Rate Revenue	\$1,725,665	\$3,356,419	\$5,101,326	\$6,968,375	\$8,966,119
4	Service Revenues ⁶	\$394,152	\$394,152	\$394,152	\$394,152	\$394,152
5	Non-Operating Revenues	\$937,415	\$929,246	\$929,246	\$929,246	\$929,246
6	Total Revenue	\$24,628,049	\$26,250,634	\$27,995,540	\$29,862,590	\$31,860,334
7						
8	Total Operating Expenses	\$16,826,847	\$17,611,100	\$18,161,211	\$18,730,648	\$19,320,159
9						
10	Net Revenues	\$7,801,202	\$8,639,534	\$9,834,330	\$11,131,942	\$12,540,174
11						
12	Debt Service	\$2,771,879	\$2,805,245	\$1,481,314	\$1,545,929	\$1,612,248
13						
14	Net Revenue after Debt Service	\$5,029,324	\$5,834,289	\$8,353,015	\$9,586,013	\$10,927,926
15	Less: CIP Expenditures	\$5,644,757	\$5,536,272	\$8,143,973	\$9,369,627	\$10,703,912
16	Net Cash Changes	-\$615,433	\$298,016	\$209,042	\$216,386	\$224,014
17						
18	Beginning Balance	\$7,009,635	\$6,394,202	\$6,692,218	\$6,901,260	\$7,117,646
19	Net Cash Changes	-\$615,433	\$298,016	\$209,042	\$216,386	\$224,014
20	Ending Balance	\$6,394,202	\$6,692,218	\$6,901,260	\$7,117,646	\$7,341,661

⁶ Sewer service revenues include reimbursement revenue from Eastern Municipal Water District, Inspection Fees, Delinquency Fees, and Standby Charges.

Figure 4-3: Operating Financial Position at Proposed Rates

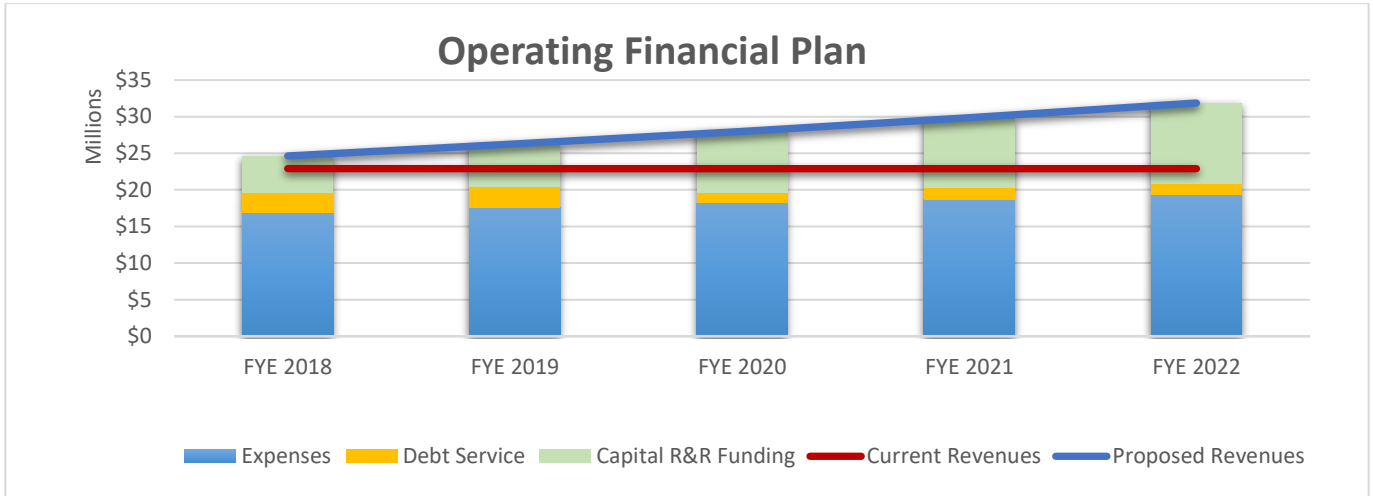


Figure 4-4: Proposed Sewer Capital Improvement Plan and Funding Source

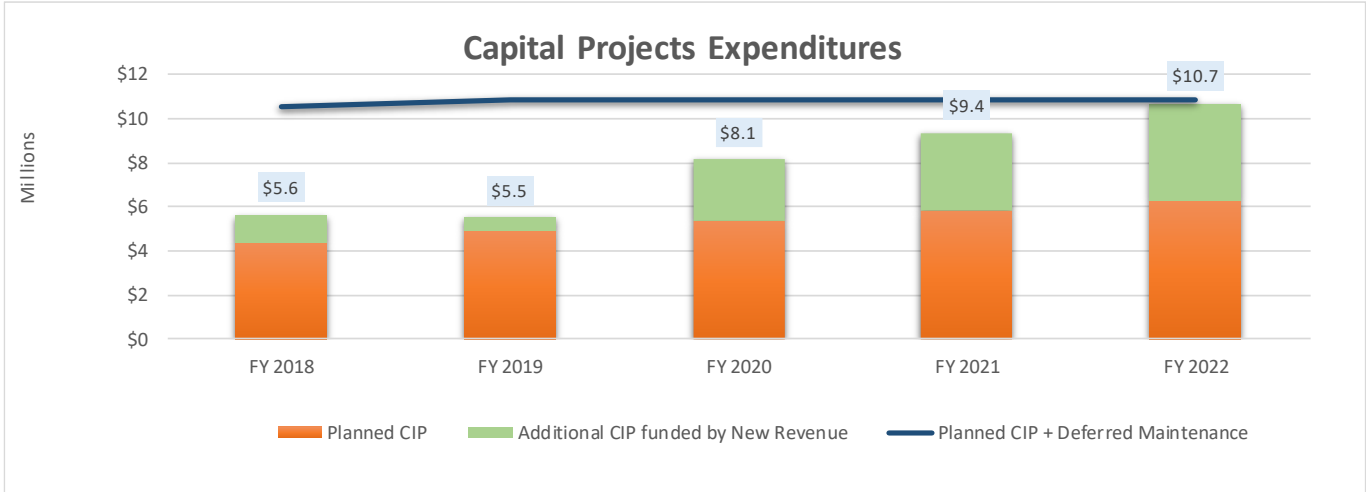
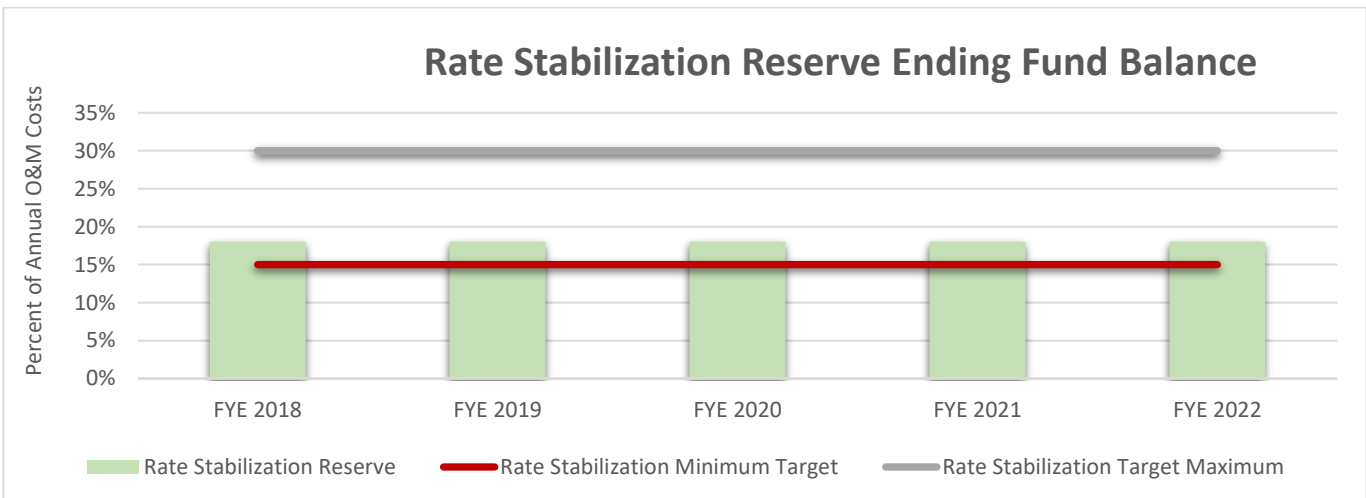


Figure 4-5: Projected Ending Sewer Rate Stabilization Reserve at Proposed Rates

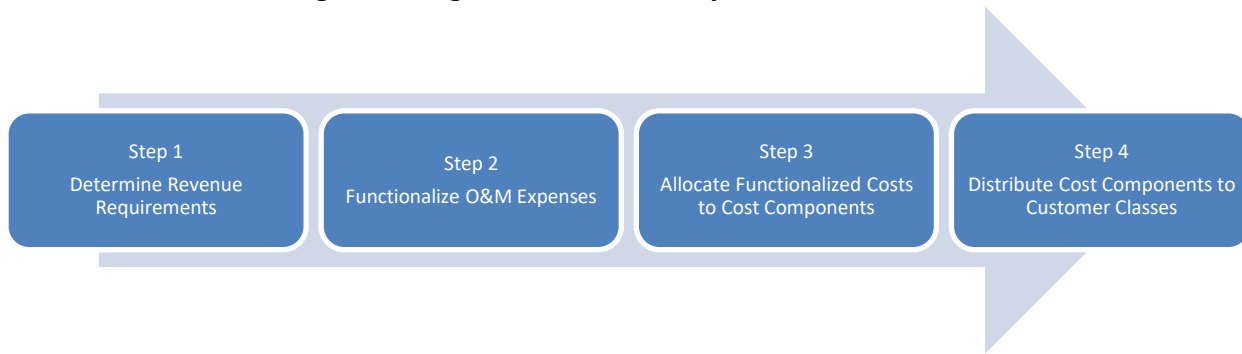


5. COST OF SERVICE STUDY

5.1.1 Cost of Service Process

This section of the Study discusses the allocation of O&M expenses to the appropriate parameters consistent with industry standards, the determination of unit costs, and calculation of costs by customer class for the sewer utility.

The total cost of sewer service is analyzed by system function in order to equitably distribute costs of service to the various classes of customers. For this analysis, sewer utility costs of service are developed consistent with the guidelines for allocating costs detailed in the Water Environment Federation (WEF) Manual of Practice No. 27, Financing and Charges for Wastewater Systems, 2004.



5.1.2 Cost of Service Analysis

5.1.2.1 Step 1 – Determine Revenue Requirements

Using the District’s FYE 2018 budget, sewer rates are calculated for the Test Year (FYE 2018) and adjusted on an incremental basis for FYE 2019. Test Year revenue requirements are used in the cost allocation process. Due to the uncertainty regard the timing and amount of future years’ capital projects, it is recommended that the District reevaluate the actual revenue adjustments required in FYE 2020 and beyond. Much like the financial plan, each line item has been rounded to the nearest dollar. The summation of each line item may be slightly different than the column totals.

The revenue requirement determination is based upon the premise that a utility must generate annual revenues to meet O&M expenses, any debt service needs, reserve levels, and capital investments. Deductions are made to account for revenue offsets, required net cash flows, and any mid-year adjustments. The FYE 2018 cost of service to be recovered from the District’s sewer customers is shown in Table 5-1.

Table 5-1: Revenue Requirement from Rates

Line #		FYE 2018		
		Operating (Table 4-4)	Capital (Table 4-4)	Total
1				
2	Revenue Requirements			
3	Operating Expenses	\$16,826,847	\$0	\$16,826,847
4	Existing Debt	\$0	\$2,771,879	\$2,771,879
5	Proposed Debt Service	\$0	\$0	\$0
6	Total Revenue Requirement	\$16,826,847	\$2,771,879	\$19,598,725
7				
8	Less: Revenue Offsets			
9	Sewer Reimbursement EMWD	\$217,152	\$0	\$217,152
10	Industrial Waste Permit Fees	\$40,000	\$0	\$40,000
11	Industrial Waste Inspection Fees	\$20,000	\$0	\$20,000
12	Industrial Waste Inspection Noncompliance Fees	\$450	\$0	\$450
13	Industrial Waste Compliance Review Fee	\$6,500	\$0	\$6,500
14	Delinquent Charges, Sewer	\$110,000	\$0	\$110,000
15	Credit Collection Charge, Sewer	\$50	\$0	\$50
16	Standby Charges Current Year	\$293,771	\$0	\$293,771
17	Standby Charges - Canyon Lake	\$43,980	\$0	\$43,980
18	Allocated Investment Income	\$99,664	\$0	\$99,664
19	Lake Elsinore Replenishment Revenue	\$500,000	\$0	\$500,000
20	Total Revenue Offsets	\$1,331,567	\$0	\$1,331,567
21				
22	Less: Adjustments		(Table 4-6)	
23	Adjustments for Cash Balance	\$0	-\$5,029,324	-\$5,029,324
24	Adjustments for Mid-Year Increase	\$0	\$0	\$0
25	Total Adjustments	\$0	-\$5,029,324	-\$5,029,324
26				
27	Revenue Requirement from Rates	\$15,495,280	\$7,801,202	\$23,296,482

5.1.2.2 Step 2 – Functionalize O&M Costs

A cost of service analysis distributes a utility’s revenue requirements (costs) to each customer class. After determining a utility’s revenue requirement, the total cost of sewer service is analyzed by system functions to proportionately distribute costs in relation to how that cost is generally incurred. The sewer utility costs were categorized into the following **functions**:

- » Operations & Maintenance (O&M) Functional Cost Categories
 - **Collection System Costs** – Costs associated with the maintenance and operation of the District’s 310 miles of sewer pipeline, except capital repairs.
 - **Sewage Lift Stations Costs** – Costs associated with the conveyance of wastewater flow through the District’s collection system.
 - **Pre-Treatment Program Service Costs** – Costs associated with initial treatment efforts prior to flow reaching one of the District’s wastewater treatment plants.
 - **Treatment Costs** – Costs associated with treating wastewater flow at the treatment plants, including personnel, supplies, contract expenses, and chemicals.
 - **Administrative Costs** – Costs associated with overseeing the sewer service operation, billing and collection, and general administrative personnel.

Table 5-2 summarizes the functionalized costs FYE 2018 Test Year prior to any offset adjustments (i.e., lines 2-6 from Table 5-1).

Table 5-2: FYE 2018 Functionalized Costs

Functionalized Cost Categories	FYE 2018 Functionalized Costs
Collection System Costs	
Personnel	\$754,193
O&M	\$297,063
General	\$25,000
Sewage Lift Stations Costs	
Personnel	\$569,822
O&M	\$918,053
General	\$61,500
Pre-Treatment Program Service Costs	
Personnel	\$250,495
O&M	\$16,000
General	\$0
Treatment Costs	
Personnel	\$2,529,069
O&M	\$6,034,436
General	\$0
Administrative Costs	
Personnel	\$841,159
O&M	\$0
General	\$4,530,055
Total	\$16,826,847

5.1.2.3 Step 3 – Allocate Functionalized Costs to Cost Components

The sewer utility is comprised of various facilities, each designed and operated to fulfill a given function. In order to provide adequate service to its customers at all times, the utility must be capable of collecting and conveying the total amount of wastewater generated. The separation of costs by function allows allocation of such costs to the functional cost components. RFC allocated the District's costs to the following cost causation components:

1. **Account** Cost Component — This includes customer related costs such as billing, collecting, customer accounting, and customer call center. These costs are incurred at the same level regardless of the type of land use, customer class, amount of flow, or the sewer strength
2. **Flow** (CCF) Cost Component — This is the amount of sewer estimated to enter the collection system.
3. **BOD** (mg/L)(or biochemical oxygen demand) Cost Component — This is the amount of oxygen required to break down the organic material present in the wastewater. High BOD indicates a high concentration of contaminants in the wastewater. Higher strength wastewater requires higher amounts of oxygen to treat it, and therefore is more costly to treat due to aeration needs.
4. **TSS**⁷ (mg/L) (or total suspended solids) Cost Component — This is the measure of the suspended solids in wastewater. The more solid that is suspended in the water, the higher the TSS value. Higher suspended solids are also more costly to treat. Like BOD, TSS is also a measure of wastewater strength.

All District staffing costs within each Functional Cost Category and all expenses under Administrative Costs are allocated to a fixed cost component and recovered as a fixed cost. The remaining Collection System Costs and Treatment Costs are allocated as a variable cost component which is recovered based on flow and strength parameters. 50% of all variable cost components are allocated to flow as a majority of variable costs are a function of treating the total volume of flow, independent of the type of flow or strength being treated, while the remaining 50% of variable costs is a function of the costs incurred to treat the various strength concentrations contributing to the treatment plant. Table 5-3 summarizes the percentage allocation of the functionalized costs from Table 5-2 (prior to offsets and adjustments) to the cost components. The percentage allocation of the functionalized costs to the cost components (O&M Allocation (%)) will be used to allocate the Revenue Requirement, including any revenue offsets or adjustments, from the revenue requirement (Table 5-1).

⁷ TSS is the dry-weight of particles trapped by a filter after the wastewater treatment process. It is a water quality parameter used, for example, to assess the quality of wastewater after treatment in a wastewater treatment plant.

Table 5-3: Sewer O&M Allocation (%)

	Functionalized Cost Categories	Cost Components				Total
		Accounts	Flow	BOD	TSS	
1	Collection System Expenses					
2	Personnel	100%	0%	0%	0%	100%
3	O&M	0%	50%	25%	25%	100%
4	General	0%	50%	25%	25%	100%
5	Sewage Lift Stations Expenses					
6	Personnel	100%	0%	0%	0%	100%
7	O&M	0%	50%	25%	25%	100%
8	General	0%	50%	25%	25%	100%
9	Pre-Treatment Program Service					
10	Personnel	100%	0%	0%	0%	100%
11	O&M	0%	50%	25%	25%	100%
12	General	0%	50%	25%	25%	100%
13	Treatment Expenses					
14	Personnel	100%	0%	0%	0%	100%
15	O&M	0%	50%	25%	25%	100%
16	General	0%	50%	25%	25%	100%
17	Division Administrative Expense					
18	Personnel	100%	0%	0%	0%	100%
19	O&M	100%	0%	0%	0%	100%
20	General	100%	0%	0%	0%	100%

The percentage allocations for each expense line item is then multiplied by the line item total to obtain each cost component’s share of the line item. For example, O&M for Treatment Expenses is allocated 50% to flow (line 15 of Table 5-3) and is responsible for 50% of \$6,034,436 (line 15 of Table 5-4), or \$3,017,218. Table 5-4 summarizes the allocation to each cost component for every expense line item.

Table 5-4: Sewer O&M Allocation (\$)

	Functionalized Cost Categories	Cost Components				Total
		Accounts	Flow	BOD	TSS	
1	Collection System Costs					
2	Personnel	\$754,193	\$0	\$0	\$0	\$754,193
3	O&M	\$0	\$148,532	\$74,266	\$74,266	\$297,063
4	General	\$0	\$12,500	\$6,250	\$6,250	\$25,000
5	Sewage Lift Stations Costs					
6	Personnel	\$569,822	\$0	\$0	\$0	\$569,822
7	O&M	\$0	\$459,027	\$229,513	\$229,513	\$918,053
8	General	\$0	\$30,750	\$15,375	\$15,375	\$61,500
9	Pre-Treatment Program Service Costs					
10	Personnel	\$250,495	\$0	\$0	\$0	\$250,495
11	O&M	\$0	\$8,000	\$4,000	\$4,000	\$16,000
12	General	\$0	\$0	\$0	\$0	\$0
13	Treatment Costs					
14	Personnel	\$2,529,069	\$0	\$0	\$0	\$2,529,069
15	O&M	\$0	\$3,017,218	\$1,508,609	\$1,508,609	\$6,034,436
16	General	\$0	\$0	\$0	\$0	\$0
17	Division Administrative Costs					
18	Personnel	\$841,159	\$0	\$0	\$0	\$841,159
19	O&M	\$0	\$0	\$0	\$0	\$0
20	General	\$4,530,055	\$0	\$0	\$0	\$4,530,055
21	Allocated Costs	\$9,474,794	\$3,676,026	\$1,838,013	\$1,838,013	\$16,826,847
22	O&M Allocation	56%	22%	11%	11%	

Much like O&M costs, capital costs must also be functionalized. The District provided RFC⁸ a comprehensive listing of assets for the Sewer utility, the associated replacement costs of the capital assets were then functionalized based on the asset’s purpose.

Table 5-5: Functionalization of Capital Asset Costs

Functionalized Capital Assets	Asset Replacement Cost
Pumping	\$53,311,165
Treatment	\$100,535,791
Collection	\$163,434,124
General	\$8,011,646
Total	\$325,292,727

Table 5-6 summarizes the percentage allocations for the District’s capital assets allocated to the cost components (Capital Allocation (%)). The Capital Allocation (%) will be used to allocate the Capital Requirement, including any revenue offsets or adjustments, from the capital revenue requirement (Table 5-1).

⁸ Based on fixed asset listing for Fund 133 as of September 2016. Provided to RFC on 11/14/16.

Table 5-6: Development of Capital Allocation (%)

	Functionalized Costs	Cost Components				Total
		Account	Flow	BOD	TSS	
1	Pumping	10%	90%	0%	0%	100%
2	Treatment	0%	50%	25%	25%	100%
3	Collection	0%	50%	25%	25%	100%
4	General	100%	0%	0%	0%	100%

The percentage allocations for each expense line item is multiplied by the line item total to obtain each cost component’s share of the line item. For example, Collection is allocated 50% to flow (line 3 of Table 5-6) and is responsible for 50% of \$163,434,124 (line 3 of Table 5-7), or \$81,717,062. Table 5-7 summarizes the allocation to each cost component for every capital asset category.

Table 5-7: Development of Capital Allocation (\$)

	Functionalized Costs	Cost Components				Total
		Account	Flow	BOD	TSS	
1	Pumping	\$5,331,117	\$47,980,049	\$0	\$0	\$53,311,165
2	Treatment	\$0	\$50,267,896	\$25,133,948	\$25,133,948	\$100,535,791
3	Collection	\$0	\$81,717,062	\$40,858,531	\$40,858,531	\$163,434,124
4	General	\$8,011,646	\$0	\$0	\$0	\$8,011,646
5	Total	\$13,342,763	\$179,965,007	\$65,992,479	\$65,992,479	\$325,292,727
6	Capital Allocation	4%	55%	20%	20%	

Table 5-8 shows the revenue requirements from Table 5-1 allocated to each of the cost components. These costs were not impacted by offsets or other adjustments and therefore reflect only the costs related to the sewer utility. Operating revenue requirements were allocated based on the O&M Allocation (%) from the final line of Table 5-3 and the Capital Allocation from the final line of Table 5-6.

Table 5-8: Allocation to Cost Components

			Accounts	Flow	BOD	TSS	Total
1	O&M Allocation (%)	Table 5-3	56%	22%	11%	11%	100%
2	Capital Allocation (%)	Table 5-6	4%	55%	20%	20%	100%
3							
4	O&M Costs		\$8,725,021	\$3,385,129	\$1,692,565	\$1,692,565	\$15,495,280
5	Capital Costs		\$319,987	\$4,315,939	\$1,582,638	\$1,582,638	\$7,801,202
6	Total Revenue Requirements		\$9,045,008	\$7,701,068	\$3,275,203	\$3,275,203	\$23,296,482

Before we can allocate the cost of service requirements from Table 5-8 to customer classes, we first must define the rate structure. Therefore, Step 4 will be discussed in Section 5.1.3.2.

5.1.3 Rate Design

A key component of the Study includes evaluating the current rate structure and determining the most appropriate structure to model moving forward. To determine the appropriate rate structure for meeting the District's revenue requirements, RFC reviewed the current rate structure and flow data, worked closely with District staff, and incorporated feedback on policies and objectives. As such, RFC recommends the following proposed adjustments to the current structure:

- » Retain the existing fixed plus variable rate structure for all non-residential customers;
- » Transition to a fixed plus variable rate structure for residential customers, where the variable portion is based on the projected flow generated for each person residing within each residential dwelling unit or PPH.
 - The District has received PPH data as part of its water budget-based rates, where each residential customer's indoor allotment is based on the number of PPH.
 - 4 PPH is assumed to calculate the variable portion of all residential bills for FYE 2018 to allow time for residents to submit variance changes to the District over the next 12 months.
 - Transition to actual PPH data on file for each residential customer to calculate the variable portion of the bill for FYE 2019 rates.

5.1.3.1 *Flow by Customer Class*

Table 5-9 shows the projected flow for the residential customer class and each of the sub-classes within non-residential customer class. The flow was based on a combination of actual water consumption data from FYE 2016 for non-residential customers and projected flow based on expected indoor water usage on a per capita basis for residential customers which reflects the amount of projected flow generated by each residential unit, assuming 55 gallons per capita per day as the overall net amount converted to flow. For residential customers, the lesser of actual usage or estimated indoor water usage per dwelling unit was the basis for determining the total amount of flow generated by the residential customer class.

Table 5-9: Flows by Customer Class

Customer Class	Flow (CCF)
Residential Flow	
Single Family	2,659,678
Multi Family	283,496
Total Residential Flow	2,943,174
Non-Residential Flow	
Commercial II	134,164
Commercial III	42,270
Commercial IV	113,191
Commercial V	14,157
Sewer - Schools VIII Reg Pub Student/Cnt	911
Sewer - Schools VIII Regional	32,677
Sewer - UC 304 RV Parks Canyon Lake	152
Sewer - UC 507 Fire Station	957
Septage	3,388
Total Non-Residential Flow	341,868
Total Flow Generated by Customers	3,285,042
Inflow and Infiltration (3.5%)	120,359
Total Flow into Wastewater Plant	3,405,401

5.1.3.2 Step 4 - Distribute Cost Components to Customer Classes

To allocate costs to the residential customer class and each of the non-residential sub-classes, unit costs of service need to be developed for each cost component. The unit costs of service are developed by dividing the total annual costs allocated to each cost component (Table 5-8) by the total annual service units⁹ of the respective component. Table 5-10 summarizes the derivation of each of the annual units of service. The numbers shown in Table 5-10 are derived as follows:

- » **Billable Units** – The number of Non-Residential accounts was based on the accounts within the District’s consumption database; the number of Residential dwelling units (DU) was provided by the District.
- » **Annual Billable Units** - The number of Accounts/Dwelling Units multiplied by the number of billing periods (12).
- » **Loading Factors**
 - **BOD (parts per million or ppm)** – Based on the District’s existing strength ratings for each customer class.
 - **TSS (ppm)** - Based on the District’s existing strength ratings for each customer class.
- » **Flow** – Flow in CCF/Year (CCF/Yr) for all customer classes was derived in Table 5-9
- » **Flow** – There are approximately 748.05 gallons in 1 CCF. The flow was converted into millions of gallons per year (MG/Yr) by taking the Flow (CCF / Yr) times 748.05, and then dividing my 1,000,000.

⁹ Annual service units refer to the quantity of an item/component that has been serviced in a year. This can be in the form of a billable unit, pound of BOD, pound of TSS, or gallon of flow treated.

- » **BOD** – Flow was then weighted by BOD and converted into pounds/year (lbs / YR). BOD (ppm) was multiplied by the Flow (MG /Yr) and by the conversion factor of 8.3454 (milligrams/liter (mg/L) to lbs/MG).
- » **TSS (lbs/Yr)** – Flow was then weighted by TSS and converted to lbs / YR. TSS (ppm) was multiplied by the Flow (Mg /Yr) and by the conversion factor of 8.3454 (mg/L to lbs/MG).

Table 5-10: Determination of Units of Service

Customer Class	# of Billable Units [A]	Annual Billable Units [B] (A x 12)	BOD (ppm) [C]	TSS (ppm) [D]	Flow (ccf / YR) [E]	Flow (MG / Yr) [F]	BOD (lbs / Yr) [G]	TSS (lbs / Yr) [H]
Residential								
Single Family	34,613	415,356	175	175	2,659,678	1,989.6	2,905,661	2,905,661
Multi Family	4,326	51,912	175	175	283,496	212.1	309,716	309,716
Non-Residential								
Commercial II	456	5,472	150	150	134,164	100.4	125,634	125,634
Commercial III	94	1,128	180	280	42,270	31.6	47,499	73,887
Commercial IV	169	2,028	683	567	113,191	84.7	482,860	400,421
Commercial V	71	852	130	100	14,157	10.6	11,490	8,838
Sewer - Schools VIII Reg Pub Student/Cnt	1	12	130	100	911	0.7	739	569
Sewer - Schools VIII Regional	29	348	130	100	32,677	24.4	26,520	20,400
Sewer - UC 304 RV Parks Canyon Lake	1	12	150	150	152	0.1	142	142
Sewer - UC 507 Fire Station	5	60	150	150	957	0.7	896	896
Septage	N/A	N/A	3,556	12,000	3,388	2.5	75,215	253,819
Total	39,765	477,180			3,285,042	2,457	3,986,372	4,099,983

The annual units of service for the fixed (base charges) components from Table 5-10 are shown below and have been rounded up to the nearest whole penny.

Account Cost Component

These costs are incurred at the same level regardless of the type of land use, amount of flow, or the wastewater strength, therefore, the Account Cost Component is based on the number of accounts/dwelling units. The total Account Cost Component revenue requirement from Table 5-8 of approximately \$9M is divided by the number of billable units from Table 5-10 to determine the unit cost of service shown in Table 5-11.

Table 5-11: Monthly Base Charge - Unit Rate

Account Cost Component	
Revenue Requirements (Table 5-8)	\$9,045,008
÷ Number of annual billable units (Table 5-10)	477,180
Monthly Unit Rate	\$18.96

Flow Cost Component

RFC allocated the Flow Cost Component revenue requirement of approximately \$7.7M from Table 5-8 to residential customer class and each of the non-residential sub-classes based on its proportionate share of the projected flow (Table 5-9) as shown in Table 5-12.

Table 5-12: Flow Cost Component Allocated to Classes

Customer Class	Projected Flow (CCF / Yr) (Table 5-8)	% Allocation	Allocated Revenue Requirement
Residential	2,943,174	90%	\$6,899,633
Non-Residential			
Commercial II	134,164	4.1%	\$314,520
Commercial III	42,270	1.3%	\$99,093
Commercial IV	113,191	3.4%	\$265,351
Commercial V	14,157	0.4%	\$33,189
Sewer - Schools VIII Reg Pub Student/Cnt	911	0.0%	\$2,136
Sewer - Schools VIII Regional	32,677	1.0%	\$76,605
Sewer - UC 304 RV Parks Canyon Lake	152	0.0%	\$356
Sewer - UC 507 Fire Station	957	0.0%	\$2,243
Septage	3,388	0.1%	\$7,943
Total	3,285,042	100%	\$7,701,068

BOD Cost Component

RFC allocated the BOD Cost Component revenue requirement of approximately \$3.3M from Table 5-8 to the residential customer class and each of the non-residential sub-classes based on its proportionate share of the weighted BOD (Table 5-10) as shown in Table 5-13.

Table 5-13: BOD Component Allocated to Classes

Customer Class	Projected BOD (lbs / Yr) (Table 5-8)	% Allocation	Allocated Revenue Requirement
Residential	3,215,377	81%	\$2,641,753
Non-Residential			
Commercial II	125,634	3.2%	\$103,221
Commercial III	47,499	1.2%	\$39,025
Commercial IV	482,860	12.1%	\$396,718
Commercial V	11,490	0.3%	\$9,440
Sewer - Schools VIII Reg Pub Student/Cnt	739	0.0%	\$607
Sewer - Schools VIII Regional	26,520	0.7%	\$21,789
Sewer - UC 304 RV Parks Canyon Lake	142	0.0%	\$117
Sewer - UC 507 Fire Station	896	0.0%	\$736
Septage	75,215	1.9%	\$61,797
Total	3,986,372	100%	\$3,275,203

TSS Cost Component

RFC allocated the TSS Cost Component revenue requirement of approximately \$3.3M from Table 5-8 to the residential customer class and each of the non-residential sub-classes based on its proportionate share of the weighted TSS (Table 5-10) as shown in Table 5-14.

Table 5-14: TSS Component Allocated to Classes

Customer Class	Projected TSS (lbs / Yr) (Table 5-8)	% Allocation	Allocated Requirement
Residential	3,215,377	78%	\$2,568,550
Non-Residential			
Commercial II	125,634	3.1%	\$100,361
Commercial III	73,887	1.8%	\$59,023
Commercial IV	400,421	9.8%	\$319,870
Commercial V	8,838	0.2%	\$7,060
Sewer - Schools VIII Reg Pub Student/Cnt	569	0.0%	\$454
Sewer - Schools VIII Regional	20,400	0.5%	\$16,296
Sewer - UC 304 RV Parks Canyon Lake	142	0.0%	\$114
Sewer - UC 507 Fire Station	896	0.0%	\$716
Septage	253,819	6.2%	\$202,759
Total	4,099,983	100%	\$3,275,203

Next, the allocated variable revenue requirements were added together to determine the total variable revenue requirement by customer class. The total variable revenue requirement was then divided by the total flow to determine the variable unit rate for the residential customer classes and each non-residential customer sub-class as shown in Table 5-15.

Table 5-15: Variable Unit Rate

	Flow [A] (Table 5-12)	BOD [B] (Table 5-13)	TSS [C] (Table 5-14)	Total Variable Req. [D] (A+B+C)	Flow [E] (Table 5-10)	Unit Charge (\$ / CFF) [F] (D ÷ E)
Residential	\$6,899,633	\$2,641,753	\$2,568,550	\$12,109,936	4,053,887	\$2.99
Non-Residential						
Commercial II	\$314,520	\$103,221	\$100,361	\$518,101	134,164	\$3.87
Commercial III	\$99,093	\$39,025	\$59,023	\$197,141	42,270	\$4.67
Commercial IV	\$265,351	\$396,718	\$319,870	\$981,938	113,191	\$8.68
Commercial V	\$33,189	\$9,440	\$7,060	\$49,689	14,157	\$3.51
Sewer - Schools VIII Reg Pub Student/Cnt	\$2,136	\$607	\$454	\$3,197	911	\$3.51
Sewer - Schools VIII Regional	\$76,605	\$21,789	\$16,296	\$114,690	32,677	\$3.51
Sewer - UC 304 RV Parks Canyon Lake	\$356	\$117	\$114	\$587	152	\$3.87
Sewer - UC 507 Fire Station	\$2,243	\$736	\$716	\$3,696	957	\$3.87
Septage¹⁰	\$7,943	\$61,797	\$202,759	\$272,499	3,388	\$80.43
Total	\$7,701,068	\$3,275,203	\$3,275,203	\$14,251,473	\$4,395,755	

5.1.4 Proposed Sewer Rates

5.1.4.1 Charges

For residential customers, the monthly base charge consists of an Account/Customer Service component combined with a fixed usage charge based on the estimated flow of such units. The flow or usage units for Residential customers are listed in Table 5-16. Fifty-Five gallons per person per day (GPD) were multiplied by the assumed number of 4 residents per household to arrive at the gallons per household per day (GHD). Next, the total residential dwelling units (Table 5-10) were multiplied by the GHD. This total was then multiplied by 365 days in one year to arrive at the total estimated usage for each residential class in gallons. This usage was then converted to CCF and used to calculate an average usage per month.

Table 5-16: CCF Allocation for Residential Customers

Customer Class	GPD	Assumed Number of Person/ Household	GHD	Estimated CCF per Month
Residential	55	4	220	9

The estimated monthly usage was then multiplied by the variable rate of \$2.99 (from Table 5-15) to create the flow charge component of \$26.91 listed in Table 5-17. This flow component is added to the Accounts/Customer Service Unit rate (Table 5-11) to create a total flat monthly base service charge for Residential (both single family and multi-family) customers.

¹⁰ The charges for Septage are incurred on a per gallon basis. The charges are shown in CCF for calculation purposes. The charge is converted to a per gallon basis in Table 5-20.

Table 5-17: Residential Sewer Charges for FYE 2018

Customer Class	Accounts Component [A]	Flow Charge Component [B]	Proposed FYE 2018 Charge (\$/Month) (A + B) = [C]
Residential	\$18.96	\$26.91	\$45.87

For FYE 2018 residential rates, the District will continue to provide a reduced rate for occurrences where a customer who uses 4 ccf of water or less at a rate equal to the base charge plus the product of 4 ccf and residential flow rate of \$2.99 for a total monthly sewer charge equal to \$30.92. In addition, customers with no water use (i.e., no water use) for a month will only be charged the monthly base charge equal to \$18.96.

As discussed in Section 5.1.3, the District will use an assumed PPH of 4 for all residential customers to calculate charges for FYE 2018 and all residential accounts will be charged the same monthly rate for the next 12 months to provide time for accounts to submit a variance if they wish to have their sewer charge updated to reflect the actual PPH at the residence. For FYE 2019, the rates in Table 5-18 are based on actual PPH data available to the District and an expected number of appeals based on an analysis completed by the District using 2010 Census Data and GIS Data (identified in Table 5-19). This approach will ensure the District recovers its revenue requirements while providing time to for customers to understand the new rate structure and submit a variance on their household size prior to the rate structure change commencing on July 1, 2018.

The charges for each number of PPH is shown in Table 5-18 below through 9 PPH. If any household has more than 9 PPH, the flow component would be calculated similar to the table below (PPH × 2.25 ccf × \$3.20 per ccf).

Table 5-18: Residential Sewer Charges for FYE 2019

Persons/ Household [A]	CCF/person [B]	Allocation (CCF) [C]	Rate/CCF [D]	Flow Charge Component C × D = [E]	Base Charge [F]	Total Charge E + F = [G]
1	2.25	2.25 hcf	\$3.08	\$6.93	\$20.29	\$27.22
2	2.25	4.50 hcf	\$3.08	\$13.86	\$20.29	\$34.15
3	2.25	6.75 hcf	\$3.08	\$20.79	\$20.29	\$41.08
4	2.25	9.00 hcf	\$3.08	\$27.72	\$20.29	\$48.01
5	2.25	11.25 hcf	\$3.08	\$34.65	\$20.29	\$54.94
6	2.25	13.50 hcf	\$3.08	\$41.58	\$20.29	\$61.87
7	2.25	15.75 hcf	\$3.08	\$48.51	\$20.29	\$68.80
8	2.25	18.00 hcf	\$3.08	\$55.44	\$20.29	\$75.73
9	2.25	20.25 hcf	\$3.08	\$62.37	\$20.29	\$82.66

Table 5-19 shows the number of variances currently submitted to the District for calculation each customer’s water budget and the District expects to receive additional variance requests prior to the implementation of the new rate structure proposed for FYE 2019. Submitting a variance for a higher PPH currently has no bearing on the sewer service bill; however, under the proposed sewer service rate structure in FYE 2019, the flow component will increase and decrease with adjustments made to the total number of persons in the household, as shown in Table 5-18. The District estimates that the new sewer rate structure will result in customers revising their PPH submissions to the District.

The District relied on 2010 Census Data and GIS Data to develop estimates for FYE 2019. The results are shown in Table 5-19.

Table 5-19: Estimated Residential Variances for FYE 2019

Persons/ Household	Current Variances used in Water Budget	Estimated Variances for FYE 2019
0	-	-
1	-	721
2	-	1,295
3	-	837
4	32,872	30,017
5	2,347	2,347
6	2,352	2,352
7	778	778
8	539	539
9	23	23
10	11	11
11	8	8
12	4	4
13	4	4
14	1	1
15	1	1
Total	38,940	38,940

RFC recommends that the District retain its fixed (base charge) plus variable rate structure for non-residential customers. The base charge component for non-residential customers is the same as residential customers, as calculated in Table 5-11. The flow component for each customer class is based on the unit rates developed in Table 5-15. The FYE 2018 values are then adjusted for FYE 2019 to allow the District to meet its operating and capital needs.

Table 5-20: Proposed Non-Residential Sewer Charges (\$/Month)

Non-Residential Customer Class	FYE 2018 Base Charge	FYE 2018 Charge/CCF		FYE 2019 Base Charge	FYE 2019 Charge/CCF
Commercial II	\$18.96	\$3.87		\$20.29	\$4.15
Commercial III	\$18.96	\$4.67		\$20.29	\$5.00
Commercial IV	\$18.96	\$8.68		\$20.29	\$9.29
Commercial V	\$18.96	\$3.51		\$20.29	\$3.76
Sewer - Schools VIII Reg Pub Student/Cnt	\$18.96	\$3.51		\$20.29	\$3.76
Sewer - Schools VIII Regional	\$18.96	\$3.51		\$20.29	\$3.76
Sewer - UC 304 RV Parks Canyon Lake	\$18.96	\$3.87		\$20.29	\$4.15
Sewer - UC 507 Fire Station	\$18.96	\$3.87		\$20.29	\$4.15
	FYE 2018 Base Charge	FYE 2018 Charge/Gallon		FYE 2019 Base Charge	FYE 2018 Charge/Gallon
Septage (per gallon)		\$0.11			\$0.12

APPENDIX A:
Detailed Financial Plans



Sewer Utility Detailed Financial Plan

Revenues

Wastewater Rate Revenues	\$23,296,482	\$24,927,235	\$26,672,142	\$28,539,192	\$30,536,935
Service Revenues					
Sewer Reimbursement Emwd	\$217,152	\$217,152	\$217,152	\$217,152	\$217,152
Industrial Waste Permit Fees	\$40,000	\$40,000	\$40,000	\$40,000	\$40,000
Industrial Waste Inspection Fees	\$20,000	\$20,000	\$20,000	\$20,000	\$20,000
Industrial Waste Inspection Noncompliance Fees	\$450	\$450	\$450	\$450	\$450
Industrial Waste Compliance Review Fee	\$6,500	\$6,500	\$6,500	\$6,500	\$6,500
Reclaimed Water Sales, Block 1	\$0	\$0	\$0	\$0	\$0
Reclaimed Water Sales, Block 2	\$0	\$0	\$0	\$0	\$0
Reclaimed Water Sales, Block 3	\$0	\$0	\$0	\$0	\$0
Reclaimed Water Sales, Block 4	\$0	\$0	\$0	\$0	\$0
Delinquent Charges, Sewer	\$110,000	\$110,000	\$110,000	\$110,000	\$110,000
Credit Collection Charge, Sewer	\$50	\$50	\$50	\$50	\$50
Septage Dumping Fees	\$0	\$0	\$0	\$0	\$0
Accrued Net Standby Charges - Operating	\$0	\$0	\$0	\$0	\$0
Sewer Standby Charges Operating	\$0	\$0	\$0	\$0	\$0
Sewer Standby Charge Prior Year	\$0	\$0	\$0	\$0	\$0
Subtotal Service Revenues	\$394,152	\$394,152	\$394,152	\$394,152	\$394,152
	0	0	0	0	0
Non-Operating Revenues	0	0	0	0	0
Standby Charges Current Year	\$293,771	\$278,726	\$278,726	\$278,726	\$278,726
Standby Charges Prior Year	\$0	\$0	\$0	\$0	\$0
Standby Charges -Accr Net Taxes Receivable	\$0	\$0	\$0	\$0	\$0
Standby Charges -Net Taxes Received	\$0	\$0	\$0	\$0	\$0
Standby Charges - Canyon Lake	\$43,980	\$43,880	\$43,880	\$43,880	\$43,880
Allocated Investment Income	\$99,664	\$106,640	\$106,640	\$106,640	\$106,640
Lake Elsinore Replenishment Revenue	\$500,000	\$500,000	\$500,000	\$500,000	\$500,000
Loss (Gain) On Disposal Of Assets	\$0	\$0	\$0	\$0	\$0
Subtotal Non-Operating Revenues	\$937,415	\$929,246	\$929,246	\$929,246	\$929,246
TOTAL REVENUES	\$24,628,049	\$26,250,634	\$27,995,540	\$29,862,590	\$31,860,334

Expenditures & Net Cashflow

Collection System Expenses

Direct Labor	\$425,638	\$439,047	\$456,609	\$474,873	\$493,868
Emp Benefit Allocations	\$328,555	\$358,110	\$376,015	\$394,816	\$414,557
Repairs & Maint - Inventory	\$9,500	\$9,500	\$9,690	\$9,884	\$10,081
Repairs & Maint - Materials	\$80,100	\$83,655	\$85,328	\$87,035	\$88,775
Repairs & Maint - Landscape	\$4,713	\$4,713	\$4,807	\$4,903	\$5,001
Repairs & Maint - Outside Services	\$179,490	\$180,315	\$183,921	\$187,600	\$191,352
Chemical & Treatment Expenses	\$23,260	\$24,045	\$24,766	\$25,509	\$26,275
Licenses, Permit & Fees	\$25,000	\$25,000	\$26,000	\$27,040	\$28,122
Supplies	\$0	\$0	\$0	\$0	\$0
Subtotal Collection System Expenses	\$1,076,256	\$1,124,385	\$1,167,138	\$1,211,661	\$1,258,032

Sewage Lift Stations Expenses

Direct Labor	\$321,586	\$331,987	\$345,266	\$359,077	\$373,440
Emp Benefit Allocations	\$248,236	\$270,786	\$284,325	\$298,541	\$313,468
Repairs & Maint - Inventory	\$5,000	\$5,000	\$5,100	\$5,202	\$5,306
Repairs & Maint - Materials	\$160,000	\$135,000	\$137,700	\$140,454	\$143,263
Repairs & Maint - Landscape	\$50,000	\$50,000	\$51,000	\$52,020	\$53,060
Repairs & Maint - Outside Services	\$155,000	\$155,000	\$158,100	\$161,262	\$164,487
Chemical & Treatment Expenses	\$300,000	\$300,000	\$309,000	\$318,270	\$327,818
Electricity	\$248,053	\$262,936	\$273,453	\$284,392	\$295,767
Licenses, Permit & Fees	\$61,500	\$61,700	\$64,168	\$66,735	\$69,404
Supplies	\$0	\$0	\$0	\$0	\$0
Phones And Cellphones	\$0	\$0	\$0	\$0	\$0
Subtotal Sewage Lift Stations Expenses	\$1,549,375	\$1,572,408	\$1,628,113	\$1,685,952	\$1,746,014

Pre-Treatment Program Services

Direct Labor	\$141,370	\$144,201	\$149,970	\$155,968	\$162,207
Emp Benefit Allocations	\$109,125	\$117,618	\$123,499	\$129,674	\$136,158
Repairs & Maint - Inventory	\$1,000	\$1,000	\$1,020	\$1,040	\$1,061
Repairs & Maint - Materials	\$1,500	\$1,500	\$1,530	\$1,561	\$1,592
Repairs & Maint - Outside Services	\$1,500	\$1,500	\$1,530	\$1,561	\$1,592
Consulting And Professional Fees	\$0	\$20,000	\$20,600	\$21,218	\$21,855
Water & WWTreatment & Testing	\$10,000	\$10,000	\$10,200	\$10,404	\$10,612
Advertising	\$1,000	\$1,000	\$1,040	\$1,082	\$1,125
Supplies	\$1,000	\$1,000	\$1,040	\$1,082	\$1,125
Subtotal Pre-Treatment Program Services	\$266,495	\$297,820	\$310,429	\$323,589	\$337,326

Regional Treatment Plant Expenses

Direct Labor	\$974,868	\$1,016,832	\$1,057,505	\$1,099,805	\$1,143,797
Emp Benefit Allocations	\$752,512	\$829,381	\$870,850	\$914,393	\$960,113
Repairs & Maint - Inventory	\$120,000	\$125,000	\$127,500	\$130,050	\$132,651
Repairs & Maint - Materials	\$260,000	\$265,000	\$270,300	\$275,706	\$281,220

Repairs & Maint - Landscape	\$35,795	\$35,795	\$36,511	\$37,241	\$37,986
Repairs & Maint - Outside Services	\$340,000	\$325,000	\$331,500	\$338,130	\$344,893
Chemical & Treatment Expenses	\$348,000	\$360,000	\$370,800	\$381,924	\$393,382
Disposal Expense	\$792,000	\$817,000	\$833,340	\$850,007	\$867,007
Electricity	\$952,575	\$1,009,730	\$1,050,119	\$1,092,124	\$1,135,809
Water & Ww Treatment & Testing	\$96,000	\$99,000	\$101,970	\$105,029	\$108,180
Licenses, Permit & Fees	\$55,500	\$55,500	\$57,720	\$60,029	\$62,430
Supplies	\$57,000	\$57,000	\$59,280	\$61,651	\$64,117
Phones And Cellphones	\$0	\$0	\$0	\$0	\$0
Consulting And Professional Fees	\$19,000	\$19,000	\$19,570	\$20,157	\$20,762
Allocated Laboratory Expense	\$151,174	\$155,647	\$160,316	\$165,126	\$170,080
Allocated Treatment Costs	-\$1,077,562	-\$1,102,970	-\$1,136,059	-\$1,170,141	-\$1,205,245
Subtotal Regional Treatment Plant Expenses	\$3,876,863	\$4,066,915	\$4,211,223	\$4,361,231	\$4,517,181

Railroad Canyon Treatment Plant

Direct Labor	\$247,237	\$257,420	\$267,717	\$278,426	\$289,563
Emp Benefit Allocations	\$190,845	\$209,966	\$220,464	\$231,487	\$243,061
Repairs & Maint - Inventory	\$1,000	\$1,000	\$1,020	\$1,040	\$1,061
Repairs & Maint - Materials	\$65,000	\$65,000	\$66,300	\$67,626	\$68,979
Repairs & Maint - Landscape	\$32,845	\$32,845	\$33,502	\$34,172	\$34,855
Repairs & Maint - Outside Services	\$37,000	\$29,000	\$29,580	\$30,172	\$30,775
Chemical & Treatment Expenses	\$53,000	\$55,000	\$56,650	\$58,350	\$60,100
Disposal Expense	\$121,000	\$121,000	\$123,420	\$125,888	\$128,406
Electricity	\$168,385	\$178,489	\$185,629	\$193,054	\$200,776
Waste Water Treatment Cost	\$218,501	\$228,271	\$235,119	\$242,173	\$249,438
Water & Ww Treatment & Testing	\$12,000	\$13,000	\$13,390	\$13,792	\$14,205
Rent / Lease Expense	\$0	\$0	\$0	\$0	\$0
Licenses, Permit & Fees	\$24,200	\$24,200	\$25,168	\$26,175	\$27,222
Supplies	\$2,000	\$2,000	\$2,080	\$2,163	\$2,250
Phones And Cellphones	\$0	\$0	\$0	\$0	\$0
Allocated Laboratory Expense	\$30,375	\$31,273	\$32,211	\$33,178	\$34,173
Allocated Treatment Costs	-\$126,000	-\$131,000	-\$134,930	-\$138,978	-\$143,147
Subtotal Railroad Canyon Treatment Plant	\$1,077,389	\$1,117,464	\$1,157,320	\$1,198,716	\$1,241,717

Horsethief Treatment Plant

Direct Labor	\$221,565	\$231,470	\$240,729	\$250,358	\$260,373
Emp Benefit Allocations	\$171,028	\$188,799	\$198,239	\$208,151	\$218,559
Repairs & Maint - Inventory	\$1,000	\$1,000	\$1,020	\$1,040	\$1,061
Repairs & Maint - Materials	\$57,000	\$57,000	\$58,140	\$59,303	\$60,489
Repairs & Maint - Landscape	\$41,695	\$41,695	\$42,529	\$43,379	\$44,247
Repairs & Maint - Outside Services	\$31,500	\$23,000	\$23,460	\$23,929	\$24,408
Chemical & Treatment Expenses	\$73,000	\$78,000	\$80,340	\$82,750	\$85,233
Disposal Expense	\$174,000	\$174,000	\$177,480	\$181,030	\$184,650
Electricity	\$80,452	\$85,279	\$88,690	\$92,238	\$95,927
Waste Water Treatment Cost	\$6,840	\$6,964	\$7,173	\$7,388	\$7,610
Water & Ww Treatment & Testing	\$12,000	\$13,000	\$13,390	\$13,792	\$14,205

Licenses, Permit & Fees	\$17,800	\$17,800	\$18,156	\$18,519	\$18,890
Supplies	\$500	\$500	\$520	\$541	\$562
Phones And Cellphones	\$0	\$0	\$0	\$0	\$0
Allocated Laboratory Expense	\$33,517	\$34,508	\$35,888	\$37,324	\$38,817
Allocated Treatment Costs	-\$94,000	-\$97,000	-\$99,910	-\$102,907	-\$105,995
Subtotal Horsethief Treatment Plant	\$827,897	\$856,016	\$885,845	\$916,835	\$949,036
Rcwd Treatment Contractual Svc	\$2,781,357	\$2,921,862	\$3,009,518	\$3,099,804	\$3,192,798
Subtotal Rcwd Treatment Contractual Svc	\$2,781,357	\$2,921,862	\$3,009,518	\$3,099,804	\$3,192,798
Billable To Outside Sources Expenses					
Direct Labor	\$0	\$0	\$0	\$0	\$0
Emp Benefit Allocations	\$0	\$0	\$0	\$0	\$0
Subtotal Billable To Outside Sources Expenses	\$0	\$0	\$0	\$0	\$0
Division Administrative Expenses (Allocated)					
Direct Labor	\$474,719	\$492,549	\$512,251	\$532,741	\$554,051
Emp Benefit Allocations	\$366,441	\$401,749	\$421,836	\$442,928	\$465,074
Travel And Training	\$26,175	\$28,350	\$28,917	\$29,495	\$30,085
Employee Certifications	\$17,119	\$17,185	\$17,529	\$17,879	\$18,237
Repairs & Maint - Inventory	\$0	\$50,000	\$52,000	\$54,080	\$56,243
Consulting And Professional Fees	\$0	\$0	\$0	\$0	\$0
Maintenance Agreements	\$40,769	\$41,072	\$42,304	\$43,573	\$44,880
General Liability & Property Insurance	\$64,850	\$64,850	\$66,147	\$67,470	\$68,819
Legal Costs	\$300	\$400	\$408	\$416	\$424
Property Taxes	\$4,500	\$4,500	\$4,590	\$4,682	\$4,775
Licenses, Permit & Fees	\$2,900	\$2,900	\$3,016	\$3,137	\$3,262
Supplies	\$31,486	\$31,486	\$32,745	\$34,055	\$35,417
Dues & Subscriptions	\$15,500	\$15,500	\$16,120	\$16,765	\$17,435
Uniforms	\$0	\$0	\$0	\$0	\$0
Phones And Cellphones	\$0	\$0	\$0	\$0	\$0
Bad Debt Expense	\$65,500	\$65,500	\$66,810	\$68,146	\$69,509
Facilities Charges	\$66,790	\$69,916	\$71,314	\$72,740	\$74,195
Computer Charges	\$532,549	\$541,161	\$551,984	\$563,024	\$574,284
Allocated Vehicle & Equip O&M Costs	\$225,037	\$236,945	\$241,684	\$246,518	\$251,448
Allocated Engineering Services	\$0	\$0	\$0	\$0	\$0
Allocated G & A Expense	\$3,436,580	\$3,590,167	\$3,661,970	\$3,735,210	\$3,809,914
Subtotal Division Admin.	\$5,371,215	\$5,654,230	\$5,791,626	\$5,932,859	\$6,078,056

Reserves:

Operating Reserve	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Beginning Balance	\$3,331,583	\$3,365,369	\$3,522,220	\$3,632,242	\$3,746,130
Net Cashflow	\$5,029,324	\$5,834,289	\$8,353,015	\$9,586,013	\$10,927,926
Transfer to Rate Stabilization	-\$4,995,537	-\$5,677,438	-\$8,242,993	-\$9,472,126	-\$10,810,024
Ending Balance	\$3,365,369	\$3,522,220	\$3,632,242	\$3,746,130	\$3,864,032

Rate Stabilization Reserve	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Beginning Balance	\$3,678,052	\$3,028,832	\$3,169,998	\$3,269,018	\$3,371,517
Transfer from Operating	\$4,995,537	\$5,677,438	\$8,242,993	\$9,472,126	\$10,810,024
Balance before Transfer to Capital	\$8,673,589	\$8,706,270	\$11,412,991	\$12,741,144	\$14,181,541
Transfer to Capital	-\$5,644,757	-\$5,536,272	-\$8,143,973	-\$9,369,627	-\$10,703,912
Balance after Transfer to Capital	\$3,028,832	\$3,169,998	\$3,269,018	\$3,371,517	\$3,477,629

R&R Reserve	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Beginning Balance	\$0	\$0	\$0	\$0	\$0
Transfers from Rate Stabilization	\$5,644,757	\$5,536,272	\$8,143,973	\$9,369,627	\$10,703,912
Capital	-\$4,383,929	-\$4,942,897	-\$5,406,397	-\$5,869,897	-\$6,333,397
Available Debt Proceeds	\$0	\$0	\$0	\$0	\$0
Balance before Debt Proceeds	\$1,260,828	\$593,375	\$2,737,576	\$3,499,730	\$4,370,515

Debt Proceeds Balance	\$0	\$0	\$0	\$0	\$0
Ending Balance before Additional CIP from New Funding	\$1,260,828	\$593,375	\$2,737,576	\$3,499,730	\$4,370,515

Additional CIP funded by New Revenue	\$1,260,828	\$593,375	\$2,737,576	\$3,499,730	\$4,370,515
Ending Balance	\$0	\$0	\$0	\$0	\$0

Wastewater Enterprise	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Beginning Balance	\$7,009,635	\$6,394,202	\$6,692,218	\$6,901,260	\$7,117,646
Ending Balance	\$6,394,202	\$6,692,218	\$6,901,260	\$7,117,646	\$7,341,661