

Rossmoor Los Alamitos Area Sewer District

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Report on

Comprehensive Sewer Service User Fee and Charges Rate Study

Submitted By:

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April 18, 2019

Ms. Susan Bell
General Manager
Rossmoor Los Alamitos Area Sewer District
3243 Katella Avenue
Los Alamitos, CA 90720

Dear Ms. Bell:

I am pleased to submit this report on the Comprehensive Sewer Service User Fee and Charges Rate Study (Study) for the Rossmoor Los Alamitos Area Sewer District (District). The wastewater service charges presented in this report have been developed based on industry methods that result in fair and equitable rates for the users of the wastewater utility in accordance with Proposition 218.

The Study included a review and analysis of the wastewater collection system revenue and revenue requirements, parcels served by the District, water consumption information provided by the local water purveyor that serves approximately 90 percent of the District's services area, and number of equivalent dwelling units. This report presents the findings and recommendations for the District's wastewater service charges to meet the on-going operational and capital infrastructure needs of the wastewater collection system. Tables and figures throughout the report are provided to demonstrate the calculations.

It has been a pleasure working with the District on this project. If there are any questions regarding this report, please contact me at (949) 760-9454.

Very Truly Yours,

TUCKFIELD & ASSOCIATES



G. Clayton Tuckfield
President/Project Consultant

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Executive Summary

The Rossmoor Los Alamitos Area Sewer District (District) engaged Tuckfield & Associates to conduct a Comprehensive Sewer Service User Fee and Charges Study (Study) for its wastewater collection system (System). With this Study, the District intends to create a new revenue stream from wastewater service charges that is separate from, and in addition to, the revenue currently received from Pre-Proposition 13 property taxes and miscellaneous sources. This Study includes development of a pro forma statement of revenues and revenue requirements for the System and design of new wastewater service charges for implementation that meets the requirements of Proposition 218.

Wastewater Financial Plan

The District currently receives revenue from several sources including property taxes, charges for service, rental income, interest earnings, and other sources. However, the District has not established a wastewater service charge revenue stream that is separate from the revenue received from property taxes. This new revenue stream is needed to meet rising operation and maintenance (O&M) costs and necessary replacement of capital infrastructure.

The District's engineer has prepared a five-year capital improvement program (CIP) spending plan for the System. The capital expenditures consist of various repair, replacement, and rehabilitation projects of collection sewers estimated to average about \$1 million every two years in current dollars. The sewer repair and replacement projects are expected to continue beyond this five year study period and therefore are planned to be funded with annual revenue from the new wastewater charges.

A forward looking financial plan was created that identifies the revenue and revenue requirements of the wastewater collection system. Annual revenue includes the new wastewater service charge revenue, property tax revenues, and other revenue discussed above. Annual revenue requirements include operation and maintenance (O&M) and administrative expense and capital replacement expenditures. Future expenses were projected recognizing escalation assumptions in expenses.

From the analysis of the financial plan, the revenue from new wastewater service charges is established in a manner such that the proposed charges remain at the same level over the study period while at the same time providing adequate funding of future obligations and cash reserve targets. The proposed revenue from the wastewater charges is proposed to be effective beginning July 1, 2019 and to remain constant for the next five years through June 30, 2024. The wastewater financial plan is presented in Table 7.

Proposed Wastewater Service Charges

Table ES-1 presents the proposed residential and non-residential wastewater service charges to be implemented by the District to meet future operations and capital spending needs of the System. A complete list of the charges for all customer classifications is provided in Appendix B. The wastewater service charges reflect the forecast of the cost of providing wastewater service presented in this Study.

**Table ES-1
Proposed Wastewater Service Charges**

Use Type	Charge Basis	Proposed Annual Wastewater Service Charges				
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
One Unit Residential	per unit	\$31.17	\$31.17	\$31.17	\$31.17	\$31.17
Multi Unit Residential	per unit	\$24.94	\$24.94	\$24.94	\$24.94	\$24.94
Mobile Home	per unit	\$15.59	\$15.59	\$15.59	\$15.59	\$15.59
Non-Residential	per 1,000 sf	\$29.09	\$29.09	\$29.09	\$29.09	\$29.09

Wastewater Residential Bill Impacts

The proposed wastewater service charges are new first-time charges to be collected from customers on the county tax rolls. The impact to a single-family residential customer is \$31.17 annually, or \$2.59 monthly.

Introduction

The Rossmoor Los Alamitos Area Sewer District (District) engaged Tuckfield & Associates to conduct a Comprehensive Sewer Service User Fee and Charges Study (Study) for its wastewater collection system. This Study includes development of a pro forma statement of revenues and revenue requirements of the wastewater collection system and design of new wastewater service charges for implementation.

Background

The Rossmoor Los Alamitos Area Sewer District was formed in 1952 and serves a population of about 25,000 with a service area that includes the City of Los Alamitos, unincorporated community of Rossmoor, and portions of the cities of Seal Beach, Long Beach, and Cypress. The District owns and operates a wastewater collection system consisting of about 55 miles of sewer pipe of various sizes with about 8,000 connections. The System connects with trunk sewers of the Orange County Sanitation District (OCSD) for treatment and disposal. Customers of the System include primarily residential customers but also includes some light commercial and industrial customers.

The District currently does not have a wastewater service charge revenue stream established. Current revenues consist of property tax revenue, charges for new service connections, rental income, interest earnings, and other miscellaneous sources.

Objectives

The objectives of this Study are to (1) review the current and future financial status of the wastewater collection system, (2) determine the amount of additional revenue required to ensure that financial obligations are being met, now and in the future, including the financing of the planned capital expenditures related to aging infrastructure while providing for adequate reserves, and (3) create new rates and charges that are fair and equitable to its customers and generate the required revenue. Additionally, the Study also sought to review and provide the following.

- Revenue sufficiency to fund operating and capital needs
- Appropriate levels of operating and capital reserves
- Rates and charges that are consistent with industry practice
- Stable revenue stream similar to the existing rate structure
- Ease of understanding and administration

Scope of the Study

This Study includes the findings and recommendations of analyzing the wastewater collection system financial status and related capital improvement plan (CIP) and financing of the System. Historical trends were analyzed from data supplied by the District including the current year's budget, financial audits, System master plans, and capital improvement plans.

Revenue requirements include operation and maintenance expense, annual replacement, and additions to reserves. Changing conditions such as additional facilities, utility growth, employee additions/reductions, and

non-recurring maintenance expenditures are recognized. Inflation for ongoing expenditures is included to reflect cost escalation.

The financial plans and rates developed herein are based on funding of the capital improvement plan as stated as well as estimates of operation and maintenance expenses developed from information provided by the District. Deviation from the financial plans, planning assumptions, construction cost estimates and funding requirements, major operational changes, or other financial policy changes that were not foreseen, may result in the need for lower or higher revenue than anticipated. It is suggested that the District conduct an update to the rate study at least every three to five years for prudent rate planning.

Planning Assumptions

Assumptions

Several assumptions were used to conduct the Study for the five-year period FY 2019-20 to FY 2023-24. The assumptions include customer growth rates, property tax growth rates, interest earnings rate, expense inflation factors, and other assumptions. Assumptions and financial information are provided in Table 1.

Table 1
Assumptions and Planning Information

Description	Value
EDU Growth	
Annual EDU growth [1]	0.5%
Financial	
Interest earnings on fund reserves (annual)	2.0%
Property Tax Revenue (annual)	1.0%
Cost Escalation	
Personnel Services [2]	3.0%
All Other Operations and Maintenance (annual)	3.0%
Capital (annual)	3.0%

[1] Annualized growth in Equivalent Dwelling Units (EDUs).

[2] Personnel Services growth in staffing, promotions and inflation.

District Reserve Policy

A reserve policy provides a basis to deal with unanticipated reductions in revenues, changes in the costs of providing services, fixed asset repair and replacement, natural disaster, and other issues. It also provides guidelines to maintain the financial health and stability of the wastewater collection system fund. The District's goal is to maintain appropriate reserves related to wastewater operations and capital spending developed in this Study. Reserve types and their targets developed in this Study are described below.

Operating Reserve – The purpose of the Operating Reserve is to provide working capital to meet cash flow needs during normal operations and support the operation, maintenance and administration of the utility. This reserve ensures that operations can continue should there be significant events that impact cash flows. The target balance to be maintained is 365 days of annual O&M expense. Since O&M expense increases each year, the reserve to be maintained will increase annually also.

Capital Reserve – The Capital Reserve is used to fund future replacement of assets and capital projects. The District currently provides annual revenue and existing capital reserves to capital spending through the revenue received. Revenue provided for annual capital spending that is not used is accumulated as capital reserves. The policy utilized in this Study, and the minimum reserve level used, is equal to the average of two-year's capital replacement expenditures estimated at \$1,000,000.

Capital Emergency Reserve – The purpose of the emergency capital reserve is to provide protection against catastrophic loss and to provide a cushion for inaccuracy in long range replacement program. The Target Reserve is established at 5 percent of the value of current capital fixed asset value, currently estimated at \$85,000.

District Beginning Balances

The beginning balances and reserves of the District as of June 30, 2018 total \$2,548,339. This amount has been separated into the beginning balances by reserve type as stated below. The cash balances are used in the development of the financial plans for the System with the intent to meet the Target Reserves. Target Reserves are also shown below in Table 2 for the first year of the financial plan.

Table 2
Reserve Balances and Reserve Targets

Reserve Type	Reserve Balance	Reserve Target
Operation and Maintenance Reserve	\$598,339	\$435,200
Capital Reserve [1]	1,950,000	1,000,000
Emergency Capital Reserve	-	85,000
Total [2]	\$2,548,339	\$1,520,200

[1] \$1,138,251 of the Capital Reserve balance has been contracted out to Vasilj Inc. for the construction on the 2018 Sewer Repair Project scheduled to begin in May 2019.

[2] Reserve balance after reducing for the Vasilj Inc. contract is \$1,410,088.

Wastewater Financial Planning

This section discusses the method for billing proposed wastewater service charges, user classifications, revenues and revenue requirements, and planned capital improvement expenditures and associated financing sources used in developing the wastewater utility financial plan. Revenue levels are discussed to sustain the wastewater collection system.

Proposed Billing Method for Wastewater Service Charges

Parcels within the District's service area may be billed for services on the county tax rolls. An example of this method is the billing of wastewater collection, treatment, and disposal services provided by the Orange County Sanitation District. In a similar manner, this study proposes to bill a customer of the System a flat wastewater service charge based on the property use classification, known as the Assessor's Use Code, on the tax rolls maintained by the Orange County Assessor's office. The proposed wastewater service charges are fixed annual charges per parcel and will be submitted to the Orange County Assessor's Office prior to August 1 of each year. The fixed charges may need to be adjusted annually due to parcel subdivision and development.

Wastewater User Classifications

Customer Billing Information

Parcel information was received from the Orange County Assessor's office for use in developing the wastewater service charge. The information included the Assessor's Parcel Number (APN), Assessor's Use Code, number of dwelling units, and non-residential building square feet. There are over 60 Assessor's Use Codes that are applicable to parcels serviced by the District.

Wastewater Flow Estimates

Water consumption information was requested from Golden State Water Company (GSWC) which serves approximately 90 percent of the District's service area. The water consumption information was used to estimate wastewater flow from the various land use types by Assessor Use Code.

From this information, wastewater flow for a single-family residential customer is estimated at 150 gallons per day (gpd) per unit. As a check on the residential wastewater flow estimate, multiplying 55 gallons per capita per day (gpcd), which is the State Department of Water Resources Target for indoor water use, by a persons-per-household (PPH) value of 2.82 from service area census data results in an average daily wastewater flow estimate of 155 gpd.

Further analysis of the GSWC information indicates that wastewater flow for multi-unit customers is estimated at 120 gpd per unit while wastewater flow from a mobile home park unit is estimated at 75 gpd per unit. Non-residential wastewater flow is estimated at 140 gpd per 1,000 square feet (SF) of building space.

Equivalent Dwelling Units

The approach used to assess charges to parcels is an Equivalent Dwelling Unit (EDU) methodology, where the charge for one single-family residential (SFR) dwelling unit is defined as one EDU. One EDU is the wastewater flow and strength of a single-family residence stated in terms of maximum discharge flow in gpd and strength consisting of bio-chemical oxygen demand (BOD) and suspended solids (SS).

Wastewater service charges for multifamily, multiple unit, commercial and other customers are charged a percentage or multiple of the EDU charge based on their proportion of flow and strength relative to the single-family residence. For residential users, the service charges are based on the flow and strength of the dwelling unit whereas for non-residential users the service charges are based on the flow and strength per 1,000 sf of building space related back to one EDU.

From the EDU estimate of wastewater flow, the number of Equivalent Dwelling Units (EDUs) for the various customer types can be calculated. EDUs are calculated from the following formula where Daily Flow is the flow of the customer, BOD is the assigned BOD Strength in mg/l, and SS is the SS strength assigned in mg/l.

$$One\ EDU = \frac{Daily\ Flow}{150} * \left[1.0 + 0.0 * \frac{BOD}{250} + 0.0 * \frac{SS}{250} \right]$$

Because the District only provides wastewater collection service, only wastewater flow is relevant in calculating EDUs for the District’s customers. Therefore, in the above formula, certain factors are zero that relate to wastewater strength (BOD and SS).

Billing Units Summary

For each Assessor’s Use Code, wastewater flow was assigned so that EDUs could be developed for each type of customer the District serves. A summary of the customer classifications, their attributes, and calculated number of EDUs are provided in Table 3. Table B-1 in Appendix B provides detail of the wastewater flow and calculated number of EDUs for each Assessor’s Use Code used in this Study. The number of EDUs calculated are planned to increase annually following the planning factors in Table 1.

Table 3
Proposed Wastewater Customers by Classification

Customer Class/ Land Use Type	FY 2017-18 [1]			Estimated	FY 2017-18	
	Number of Parcels	Number of Units	Number of Bldg SF	Flow per Unit/SF gpd/unit or 1,000 sf	Estimated Flow gpd	Number of EDUs EDU
One Unit Residential	6,442	6,405	-	150	960,750	6,405.00
Multi Unit Residential	470	2,113	-	120	253,560	1,690.40
Mobile Home	2	111	3,736	75	8,325	55.50
Non-Residential	465		7,170,364	140	1,003,851	6,692.34
Vacant, Rural, Common Area	46		-		-	-
Totals	7,425	8,629	7,174,100		2,226,486	14,843.24

[1] Information provided by the Orange County Assessor’s Office.

Revenues

The District currently receives revenues from property taxes and miscellaneous revenues. About 93 percent of the District’s total revenue received is from property taxes from a portion of the 1 percent ad valorem tax. Property tax revenue has been increased by 1 percent annually as a conservative estimate following the assumptions in Table 1.

Other miscellaneous revenue includes charges for services, interest earnings, rental income, and other revenue. Table 4 provides a projection of the current wastewater revenue sources for the District.

Table 4
Projected Wastewater Revenue

Description	Estimate		Projected			
	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Property Tax Revenue	\$475,600	\$480,400	\$485,200	\$490,100	\$495,000	\$500,000
Charges for Services	20,000	20,000	20,000	20,000	20,000	20,000
Interest Earnings	40,700	35,900	35,100	34,100	35,800	37,500
Rental Income	13,500	13,500	13,500	13,500	13,500	13,500
Other	300	300	300	300	300	300
Total Wastewater Revenue	\$550,100	\$550,100	\$554,100	\$558,000	\$564,600	\$571,300

Revenue Requirements

Revenue requirements of the wastewater System include O&M and administrative expense and capital replacement spending. Each of these items are discussed below.

Operation and Maintenance Expense

Operation and maintenance (O&M) expenses are an on-going obligation of the wastewater utility and such costs are normally met from wastewater service revenue. O&M expenses include the cost to operate and maintain the wastewater collection system, technical services, and other general and administrative expenses.

O&M expense for the study period was projected from the District's FY 2017-18 actual expense. Future O&M expense has been projected recognizing the major expense categories of personnel services, electricity, and all other expenses. Personnel costs consist of salaries and benefits expense of those personnel directly involved with providing wastewater service. Cost inflation for personnel services costs are projected to increase by 3 percent annually.

Annual escalation in electricity and all other expense is projected to increase by 3 percent based on expectations of future expense inflation. Table 5 below summarizes projected O&M expense for the wastewater utility. Table A-1 in Appendix A provides the detailed projections of historical and projected wastewater O&M expense.

Table 5
Historical and Projected Operation and Maintenance Expense

Description	Actual	Estimate	Projected				
	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
OPERATION AND MAINTENANCE							
Salaries & Benefits	\$65,657	\$67,630	\$69,700	\$71,800	\$74,000	\$76,200	\$78,500
Sewer Repairs and Maintenance	199,558	205,540	211,700	218,100	224,600	231,300	238,200
Facilities and Maintenance	32,478	33,450	34,500	35,500	36,600	37,700	38,800
Materials and Supplies	4,181	4,310	4,400	4,500	4,600	4,700	4,800
Professional/Specialized Services	112,154	115,520	119,000	122,600	126,300	130,100	134,000
Insurance	8,443	8,700	9,000	9,300	9,600	9,900	10,200
LAFCO Charges	0	0	10,000	10,300	10,600	10,900	11,200
Tax Collection Charge	0	0	14,900	15,300	15,800	16,300	16,800
Billing Consultant	0	0	5,000	5,200	5,400	5,600	5,800
Total Wastewater O&M Expenses	\$422,471	\$435,150	\$478,200	\$492,600	\$507,500	\$522,700	\$538,300

Annual Capital Replacement

Annual capital replacement is provided by planning for an annual amount from wastewater revenues to be used towards financing the replacement. The annual amount is \$500,000, estimated based on the average annual spending towards replacement identified in the capital improvement plan discussed below.

Wastewater Capital Improvement Program

The District has developed a capital improvement program (CIP) that lists capital expenditures for FY 2018-19 through FY 2027-28, with the first six years summarized in Table 6. The CIP includes 3 percent annual inflation in the project costs to the year of expenditure. The entire 10-year capital plan is provided in Appendix A-2. The plan consists entirely of replacement of sewer lines due to aging infrastructure.

Table 6
Capital Improvement Program With Sources and Uses of Funds

Description	Projected					
	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Current Capital Improvement Projects (CIP) [1]						
Sewer Rehabilitations	\$1,138,251	\$0	\$1,149,500	\$0	\$855,800	\$0
Total Wastewater CIP	\$1,138,251	\$0	\$1,149,500	\$0	\$855,800	\$0
Sources and Uses of Capital Funds						
Beginning Year Balance [2]	\$1,950,000	\$1,089,838	\$1,589,838	\$940,338	\$1,440,338	\$1,084,538
Replacement Transfer from Operations	278,089	500,000	500,000	500,000	500,000	500,000
Capital Improvement Projects	(1,138,251)	-	(1,149,500)	-	(855,800)	-
Sources Less Uses	\$1,089,838	\$1,589,838	\$940,338	\$1,440,338	\$1,084,538	\$1,584,538
Target Capital Reserve Level	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000

[1] CIP Source: District provided FY 2018-19 through FY 2023-24.

[2] The available cash balance FY 2018-19 provided by District.

Funding for the CIP includes annual replacement revenue from wastewater service charges and from capital reserves. The capital financing plan above shows that the ending capital cash balances exceed the Capital Reserve Target in all years except FY 2020-21 where it is just above 90 percent of Target Reserve.

Wastewater Financial Plan

The financial plan provides the means of analyzing the impacts of projected revenue on funding projected O&M expense and annual capital infrastructure requirements, as well as the impact on reserves. The financial plan includes the revenues, O&M expense, and annual capital replacement that were identified above. The plan also incorporates specific financial planning goals to provide guidance to maintain the health of the wastewater utility on an on-going basis. The goals included the following.

- Generate positive levels of income in each year of the Study period
- Maintain operating and capital reserves at or greater than target levels
- Meet annual capital replacement spending from wastewater service charge revenue

Proposed New Revenue

Table 7 shows the pro forma statement of revenue and revenue requirements for the wastewater collection system. The table shows that new revenue from wastewater service charges is established in such a manner that the revenue generated from the charges and minor additional EDU growth is sufficient to meet the operating and capital obligations for the Study period. Additionally, the wastewater service charges are not increased over the Study period but are sufficient to meet the financial planning goals for the Study period.

Table 7
Wastewater Financial Plan

Description	Estimated		Projected			
	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
Revenues						
Proposed Sewer Revenues [1]	\$0	\$465,000	\$467,300	\$469,600	\$471,900	\$474,300
Charges for Services	20,000	20,000	20,000	20,000	20,000	20,000
Property Tax Revenue	475,600	480,400	485,200	490,100	495,000	500,000
Interest Earnings [2]	40,700	35,900	35,100	34,100	35,800	37,500
Rental Income	13,500	13,500	13,500	13,500	13,500	13,500
Other	300	300	300	300	300	300
Total Revenues	\$550,100	\$1,015,100	\$1,021,400	\$1,027,600	\$1,036,500	\$1,045,600
Revenue Requirements						
Operation and Maintenance Expense	\$435,150	\$478,200	\$492,600	\$507,500	\$522,700	\$538,300
Capital Replacement	278,789	500,000	500,000	500,000	500,000	500,000
Total Revenue Requirements	\$713,939	\$978,200	\$992,600	\$1,007,500	\$1,022,700	\$1,038,300
Additions (reductions) to cash	(\$163,839)	\$36,900	\$28,800	\$20,100	\$13,800	\$7,300
Available Operating Reserves						
FY beginning available cash [3]	\$598,339	\$434,500	\$471,400	\$500,200	\$520,300	\$534,100
Additions (reductions)	(163,839)	36,900	28,800	20,100	13,800	7,300
FY ending available reserves	\$434,500	\$471,400	\$500,200	\$520,300	\$534,100	\$541,400
Target Reserves [4]	\$435,200	\$478,200	\$492,600	\$507,500	\$522,700	\$538,300
Above (below) Target	(\$700)	(\$6,800)	\$7,600	\$12,800	\$11,400	\$3,100

[1] Projected using the existing rates. Changes in rate based revenues is due to customer and demand growth.

[2] Interest earnings on the average fund balance calculated at 2.0%.

[3] The available FY 2018-19 cash balance provided by the District.

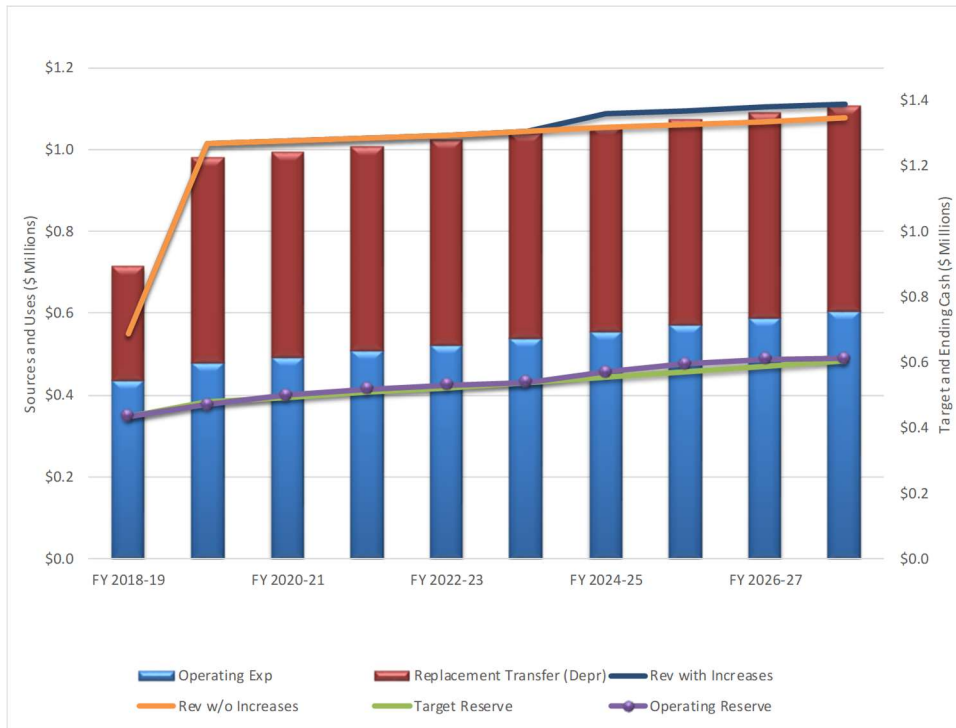
[4] Target reserve estimated at 360 days of operation and maintenance expense.

Graphical depictions of the relationship between operations and capital spending of the System are presented in Figures 1 and 2 respectively. Operating sources and uses of funds have been included into Figure 1 while capital sources and uses have been included into Figure 2. For both funds, the purple line represents the cash reserve balance at the end of year while the green line indicates the target reserve level.

For Figure 1, the proposed revenue will fund O&M expense and annual replacement for the Study period. The figure also shows that the operating fund balance is equal to the target level in each year of Study period.

For Figure 2, sources of funds include the annual replacement amount from operations, capital reserve, and capital emergency reserve. The annual replacement and capital reserves are used to pay for all CIP expenditures in the Study period. The capital reserve balance is equal to or greater than the target reserve level in each year except FY 2020-21 where it dips just below the target reserve line. The District will have on-going annual capital expenditures as stated in the Appendix A-2 expanded 10-year financial plan, however if the actual spending is less than the annual replacement revenue provided for this purpose, the difference will accumulate in the capital reserve balance for spending in future years.

**Figure 1
Wastewater Operations**



**Figure 2
Wastewater Capital Spending**



Cost of Service

This section of the report discusses the allocation of the System’s operating and capital costs to the users of the wastewater system. State legislation requires that the revenue received from customers be proportional to the cost of service being provided to each customer.

Costs of Service to be Allocated

The annual revenue requirement for a representative year in the Study period is called the Test Year, and the annual costs for this year are defined as the cost of providing service. For this Study the Test Year is FY 2019-20, and the annual costs of the System for this year will be used to form the basis for the proposed rates. Table 8 provides the revenue to be recovered from user rates and charges for the Test Year developed in this Study.

Table 8
Costs To Be Recovered From
Wastewater Service Charges

Description	FY 2019-20
Revenue Requirements	
Operating Expense	
Operation and Maintenance Expense	\$478,200
Subtotal	\$478,200
Capital Cost	
Capital Replacement	\$500,000
Subtotal	\$500,000
Less Revenue Requirements Met From Other Sources	
Other Revenue	(\$514,200)
Interest Income	(\$35,900)
Subtotal	(\$550,100)
Adjustments	
Adjustments for Annual Cash Balance	\$36,900
Subtotal	\$36,900
Total Costs to be Recovered	\$465,000

The cost of service consists of O&M expense including other technical and general and administrative costs, and costs associated with annual replacement. To allocate the costs of providing service to the users of the System, it is necessary to recognize the wastewater parameters that are specific to the System.

Cost Allocation to Wastewater Parameters

The cost allocation parameters for wastewater service are generally considered to be wastewater flow, BOD (biochemical oxygen demand), and SS (suspended solids). Test Year operating and capital costs are normally assigned to each parameter based on the functional operation and design of a system’s facilities.

Because the District only provides wastewater collection service, the District’s facilities consist only of those sewer lines to convey wastewater to the OCSA treatment facilities. Therefore, all of the District’s cost of providing service are related to wastewater flow only.

Customer Class Cost Responsibility

Each customer classification’s responsibility for a portion of the total cost of service is established through developing a customer classification’s wastewater flow. Costs of service are then distributed to each user classification in proportion to their flow to the total wastewater flow of the System. Table B-1 in Appendix B lists wastewater flow developed for each of the District’s customer classification (Assessor’s Use Code) in terms of gpd per dwelling unit for residential customers and per 1,000 sf for non-residential customers.

Wastewater Rate Design

This section describes how wastewater service charges are designed and also provides the proposed schedule of wastewater charges for implementation.

Proposed Wastewater Service Charges

The wastewater service revenues required to recover wastewater costs of \$465,000 are shown in Table 8. This value is divided by the total number of EDUs from Table 3 plus EDU growth ($14,843.24 * 1.005 = 14,917.46$) to determine the wastewater service charge for one EDU. The cost to provide service to one EDU is \$31.17 annually. This is shown below in Table 9.

The charge per EDU is applied to other customer classifications in proportion to their flow to an EDU, which then determines the wastewater service charges for residential and non-residential customers. The proposed wastewater service charges for all customer classifications are shown in Table 9. The proposed wastewater service charges do not increase over the study period, however, provide sufficient revenue to meet operating and capital obligations as shown in Table 7.

Table 9
Proposed Wastewater Service Charges

Use Type	Charge Basis	Proposed Annual Wastewater Service Charges				
		FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24
One Unit Residential	per unit	\$31.17	\$31.17	\$31.17	\$31.17	\$31.17
Multi Unit Residential	per unit	\$24.94	\$24.94	\$24.94	\$24.94	\$24.94
Mobile Home	per unit	\$15.59	\$15.59	\$15.59	\$15.59	\$15.59
Non-Residential	per 1,000 sf	\$29.09	\$29.09	\$29.09	\$29.09	\$29.09

The expanded analysis from Table 7, shown in Table A-3, indicates that a rate change is anticipated in FY 2024-25, the year after the five year study period of this Study. It is recommended that a rate study be conducted near the end of this study period to support the rate change.

Wastewater Bill Impact

The impact to a single-family customer bill that would occur from the implementation of the proposed wastewater service charges for the July 2019 increase is provided in Table 9. The proposed wastewater service charges are new first-time charges to District customers and the impact to a SFR customer is \$31.17 annually, or \$2.59 per month.

Appendix A

Wastewater Technical Appendices

Wastewater Historical and Projected Operation and Maintenance Expense, Capital Improvement Program with Sources and Uses Funding, and Wastewater Financial Plan for an expanded 10-year period is detailed in Appendix A.

Appendix A-1 Historical and Projected Operation and Maintenance Expense

Description	Actual		Estimate		Projected						
	FY 2017-18	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28
OPERATION AND MAINTENANCE											
Salaries & Benefits	\$65,657	\$67,630	\$69,700	\$71,800	\$74,000	\$76,200	\$78,500	\$80,900	\$83,300	\$85,800	\$88,400
Sewer Repairs and Maintenance	199,558	205,540	211,700	218,100	224,600	231,300	238,200	245,300	252,700	260,300	268,100
Facilities and Maintenance	32,478	33,450	34,500	35,500	36,600	37,700	38,800	40,000	41,200	42,400	43,700
Materials and Supplies	4,181	4,310	4,400	4,500	4,600	4,700	4,800	4,900	5,000	5,200	5,400
Professional/Specialized Services	112,154	115,520	119,000	122,600	126,300	130,100	134,000	138,000	142,100	146,400	150,800
Insurance	8,443	8,700	9,000	9,300	9,600	9,900	10,200	10,500	10,800	11,100	11,400
LAFCO Charges	0	0	10,000	10,300	10,600	10,900	11,200	11,500	11,800	12,200	12,600
Tax Collection Charge	0	0	14,900	15,300	15,800	16,300	16,800	17,300	17,800	18,300	18,800
Billing Consultant	0	0	5,000	5,200	5,400	5,600	5,800	6,000	6,200	6,400	6,600
Total Wastewater O&M Expenses	\$422,471	\$435,150	\$478,200	\$492,600	\$507,500	\$522,700	\$538,300	\$554,400	\$570,900	\$588,100	\$605,800

Appendix A-2 Capital Improvement Program With Sources and Uses of Funds

Description	Projected										
	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	
Current Capital Improvement Projects (CIP) [1]											
Sewer Rehabilitations	\$1,138,251	\$0	\$1,149,500	\$0	\$855,800	\$0	\$955,700	\$0	\$1,067,400	\$0	
Total Wastewater CIP	\$1,138,251	\$0	\$1,149,500	\$0	\$855,800	\$0	\$955,700	\$0	\$1,067,400	\$0	
Sources and Uses of Capital Funds											
Beginning Year Balance [2]	\$1,950,000	\$1,089,838	\$1,589,838	\$940,338	\$1,440,338	\$1,084,538	\$1,584,538	\$1,128,838	\$1,628,838	\$1,061,438	
Replacement Transfer from Operations	278,089	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	
Capital Improvement Projects	(1,138,251)	-	(1,149,500)	-	(855,800)	-	(955,700)	-	(1,067,400)	-	
Sources Less Uses	\$1,089,838	\$1,589,838	\$940,338	\$1,440,338	\$1,084,538	\$1,584,538	\$1,128,838	\$1,628,838	\$1,061,438	\$1,561,438	
Target Capital Reserve Level	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000	

[1] CIP Source: District provided FY 2018-19 through FY 2023-24.

[2] The available cash balance FY 2018-19 provided by District.

Table A-3
Wastewater Financial Plan

Description	Estimated		Projected								
	FY 2018-19	FY 2019-20	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	
Proposed Rate Increase (July 1)								7.0%	0.0%	0.0%	0.0%
Revenues											
Proposed Sewer Revenues [1]	\$0	\$465,000	\$467,300	\$469,600	\$471,900	\$474,300	\$476,700	\$479,100	\$481,500	\$483,900	
Additional Sewer Service Revenue [2]	0	0	0	0	0	0	33,400	33,500	33,700	33,900	
Charges for Services	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	
Property Tax Revenue	475,600	480,400	485,200	490,100	495,000	500,000	505,000	510,100	515,200	520,400	
Interest Earnings [3]	40,700	35,900	35,100	34,100	35,800	37,500	38,300	39,400	39,100	38,600	
Rental Income	13,500	13,500	13,500	13,500	13,500	13,500	13,500	13,500	13,500	13,500	
Other	300	300	300	300	300	300	300	300	300	300	
Total Revenues	\$550,100	\$1,015,100	\$1,021,400	\$1,027,600	\$1,036,500	\$1,045,600	\$1,087,200	\$1,095,900	\$1,103,300	\$1,110,600	
Revenue Requirements											
Operation and Maintenance Expense	\$435,150	\$478,200	\$492,600	\$507,500	\$522,700	\$538,300	\$554,400	\$570,900	\$588,100	\$605,800	
Capital Replacement	278,789	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	500,000	
Total Revenue Requirements	\$713,939	\$978,200	\$992,600	\$1,007,500	\$1,022,700	\$1,038,300	\$1,054,400	\$1,070,900	\$1,088,100	\$1,105,800	
Additions (reductions) to cash	(\$163,839)	\$36,900	\$28,800	\$20,100	\$13,800	\$7,300	\$32,800	\$25,000	\$15,200	\$4,800	
Available Operating Reserves											
FY beginning available cash [4]	\$598,339	\$434,500	\$471,400	\$500,200	\$520,300	\$534,100	\$541,400	\$574,200	\$599,200	\$614,400	
Additions (reductions)	(163,839)	36,900	28,800	20,100	13,800	7,300	32,800	25,000	15,200	4,800	
FY ending available reserves	\$434,500	\$471,400	\$500,200	\$520,300	\$534,100	\$541,400	\$574,200	\$599,200	\$614,400	\$619,200	
Target Reserves [5]	\$435,200	\$478,200	\$492,600	\$507,500	\$522,700	\$538,300	\$554,400	\$570,900	\$588,100	\$605,800	
Above (below) Target	(\$700)	(\$6,800)	\$7,600	\$12,800	\$11,400	\$3,100	\$19,800	\$28,300	\$26,300	\$13,400	

[1] Projected using the existing rates. Changes in rate based revenues is due to customer and demand growth.

[2] Additional wastewater service revenue from rate increases.

[3] Interest earnings on the average fund balance calculated at 2.0%.

[4] The available FY 2018-19 cash balance provided by the District.

[5] Target reserve estimated at 360 days of operation and maintenance expense.

Appendix B

Wastewater Billing Information

Billing information used to develop the wastewater service charges is provided in Appendix B.

Table B-1
Proposed Wastewater Service Charges

Assessor's Use Code	Use Type	Charge Basis	Flow gpd per unit or ksf	Number Units	Number Square Feet	FY 2018-19	Annual
						Number of EDUs	Charges FY 2019-20
2	One Residence	per unit	150	6,399	-	6,399.00	\$31.17
3	Two or More SFR	per unit	120	156	-	124.80	\$24.94
4	Misc. Improvement	per unit	150	3	-	3.00	\$31.17
10	Duplex Only	per unit	120	26	-	20.80	\$24.94
11	Triplex Only	per unit	120	41	-	32.80	\$24.94
12	04-Units Only	per unit	120	592	-	473.60	\$24.94
13	5 To 16 Units	per unit	120	714	-	571.20	\$24.94
14	17 To 25 Units	per unit	120	121	-	96.80	\$24.94
15	26-40 Units only	per unit	120	70	-	56.00	\$24.94
17	100 or More Units	per unit	120	150	-	120.00	\$24.94
18	A Mix Of Forms	per unit	120	243	-	194.40	\$24.94
21	Automobile Dealership	per 1,000 sf	140	1	14,619	13.64	\$29.09
22	Auto Repair Shop	per 1,000 sf	140	3	16,775	15.66	\$29.09
28	Bowling Alleys	per 1,000 sf	140	4	108,406	101.18	\$29.09
33	Church Buildings	per 1,000 sf	140	29	206,235	192.49	\$29.09
35	Entertainment Center (per EDU)	per unit	150	1	-	1.00	\$31.17
36	Financial Buildings	per 1,000 sf	140	5	36,494	34.06	\$29.09
37	Fraternal Buildings	per 1,000 sf	140	1	5,455	5.09	\$29.09
39	Golf Course (per EDU)	per unit	150	2	-	2.00	\$31.17
40	Health Club	per 1,000 sf	140	1	2,472	2.31	\$29.09
42	Hospital	per 1,000 sf	140	4	232,833	217.31	\$29.09
44	Lumber/Constr. Mat'l. Yard	per 1,000 sf	140	1	58,862	54.94	\$29.09
47	Supermarket	per 1,000 sf	140	1	30,976	28.91	\$29.09
48	Convenience Market	per 1,000 sf	140	1	4,748	4.43	\$29.09
50	Single Medical Bldgs. To 3 Stories	per 1,000 sf	140	23	245,528	229.16	\$29.09
51	Small Medical Center	per 1,000 sf	140	3	51,257	47.84	\$29.09
53	High Rise Medical	per 1,000 sf	140	1	68,020	63.49	\$29.09
55	Mobile Home Park (per EDU)	per unit	75	111	3,736	55.50	\$15.59
56	Motels and Motor Hotels	per 1,000 sf	140	7	150,063	140.06	\$29.09
61	Convalescent Hospitals	per 1,000 sf	140	2	73,415	68.52	\$29.09
63	Low Rise Retirement Building	per 1,000 sf	140	1	46,923	43.79	\$29.09
65	Single Office Bldgs. To 3 Stories	per 1,000 sf	140	54	721,360	673.27	\$29.09
66	Small Office Center	per 1,000 sf	140	4	39,336	36.71	\$29.09
67	Office Complex	per 1,000 sf	140	2	10,753	10.04	\$29.09
69	Converted Residence To Office	per 1,000 sf	140	1	2,773	2.59	\$29.09
72	Paved Parking Lot	per 1,000 sf	140	2	21,467	20.04	\$29.09
76	Restaurant - Take Out	per 1,000 sf	140	4	10,641	9.93	\$29.09
77	Restaurant - Coffee Shop	per 1,000 sf	140	9	35,199	32.85	\$29.09
78	Restaurant - Dinner House	per 1,000 sf	140	7	48,156	44.95	\$29.09
81	Pre-Schools, Nursery or Care	per 1,000 sf	140	7	7,814	7.29	\$29.09
83	Automotive Service Station	per 1,000 sf	140	2	3,778	3.53	\$29.09
86	Combined Service Stn./Convenience Mkt.	per 1,000 sf	140	4	14,052	13.12	\$29.09
88	Convenience Shopping Center	per 1,000 sf	140	15	134,047	125.11	\$29.09
89	Neighborhood Shopping Center	per 1,000 sf	140	13	216,090	201.68	\$29.09
90	Community Shopping Center	per 1,000 sf	140	10	421,909	393.78	\$29.09
96	Unattached Single Store	per 1,000 sf	140	17	48,570	45.33	\$29.09
97	Strip Store	per 1,000 sf	140	12	125,927	117.53	\$29.09
98	Store With Offices or Liv. Qtr.	per 1,000 sf	140	5	37,767	35.25	\$29.09
99	Store w/ Office Upstairs	per 1,000 sf	140	2	62,430	58.27	\$29.09
106	Factory	per 1,000 sf	140	3	30,374	28.35	\$29.09
107	Light Industrial - Single Tenant	per 1,000 sf	140	22	475,212	443.53	\$29.09
108	Light Industrial - Multi Tenant	per 1,000 sf	140	14	249,645	233.00	\$29.09
110	Warehouse - Single Tenant	per 1,000 sf	140	66	1,179,857	1,101.20	\$29.09
111	Warehouse - Multi Tenant	per 1,000 sf	140	47	533,595	498.02	\$29.09
112	Steel Building	per 1,000 sf	140	10	129,338	120.72	\$29.09
113	Mini-Warehouse	per 1,000 sf	140	1	130,359	121.67	\$29.09
114	Industrial Park	per 1,000 sf	140	26	389,960	363.96	\$29.09
118	Governmental Use	per 1,000 sf	140	89	736,874	687.75	\$29.09
Totals						7,174,100	14,843.24

Notes: Flow is measured in gallons per day per EDU or 1,000 square feet.