



# **COSTA MESA SANITARY DISTRICT**

## **2022 Wastewater Rate Study Final Report**

**January 3, 2022**



# **COSTA MESA SANITARY DISTRICT 2022 WASTEWATER RATE STUDY**

## **FINAL REPORT**

Prepared for:

Costa Mesa Sanitary District  
290 Paularino Ave  
Costa Mesa, CA 92626

Prepared by:

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RDN Project Number 312



January 3, 2022  
Mr. Scott Carroll  
General Manager  
Costa Mesa Sanitary District  
290 Paularino Ave.  
Costa Mesa, CA 92626



**Subject: 2022 Wastewater Rate Study**

Dear Mr. Carroll,

Robert D. Niehaus, Inc. is pleased to provide this 2022 Wastewater Rate Study (Study) report to the Costa Mesa Sanitary District. This Study includes a financial plan to determine the revenue requirements for the next ten years and a comprehensive review of the District's current rates based on the cost-of-service principles. We developed proposed rates for the next five years closely following the Proposition 218 (Prop 218) requirements. This report outlines the approach, methodology, findings, and recommendations of the Study. The Study also includes a customer billing impact study and a rate comparison survey. Each of the Study components has enhanced the defensibility and equitability of the proposed rates.

RDN utilized the District's billing records, accounting, operating and management records, capital plan, master planning documents, and reserve policies. Based on the District provided data, key assumptions were made for the Study using appropriate resources and our econometric and finance expertise. We are confident that the rates proposed in this report are cost-based and are fully compliant with Prop 218 and other legal requirements.

It has been an absolute pleasure and honor to work with your District. We thank you, Mr. Mark Esquer, Ms. Kaitlin Tran, and the Board of Directors for the support provided during this Study.

Respectfully submitted,

A handwritten signature in blue ink that reads "Robert D. Niehaus".

Robert D. Niehaus, Ph.D.

Managing Director/Principal Economist

A handwritten signature in blue ink that reads "Ichiko Kido".

Ichiko Kido, MBA

Program Manager/Sr. Financial Analyst



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# EXECUTIVE SUMMARY

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## Study Overview

Costa Mesa Sanitary District (District, CMSD) retained Robert D. Niehaus, Inc. (RDN) to develop a comprehensive wastewater rate study (Study), which includes financial planning, revenue requirements, cost of service, and rate-setting analyses. The Study's overall goal is to develop a financial plan to identify necessary revenue to meet the District's financial needs and propose rates, which recover the costs from ratepayers commensurate with their service requirements. RDN collaborated with CMSD staff to evaluate the District's financial stability, given the current and projected future financial conditions. RDN amended the current rates based on the cost of service (COS) analysis results to further improve equity and ensure compliance with Proposition 218 (Prop 218) requirements and other legal mandates. The objectives of the Study include:

1. Projecting account growth based on historical data and inputs from District staff for the study period (FY 2022-23 – FY 2026-27);
2. Developing a ten-year financial plan for the District to ensure financial sufficiency to fund a day-to-day operation and maintenance, and capital improvement and replacement projects while building up reserves to the District's target level;
3. Estimating wastewater discharge strength and wastewater flow by customer class based on the most recent available data and resources;
4. Conducting a COS analysis to equitably allocate the costs of providing service to customers commensurate with their service requirements identified in #3;
5. Designing rates based on the results of COS analysis (#4) to establish a strong nexus between costs and pricing of rates;
6. Performing a bill impact study to find a set of rates that minimize the financial impact on all customers;
7. Conducting a rate comparison survey to assess how the District's rates compare with neighboring agencies; and
8. Developing an administrative record, which effectively communicates the findings of the Study.

## Summary of Recommendations

RDN recommends the following changes and modifications to the current rates based on the findings of the Study:

- Create new residential customer classes by sub-setting customers identified as Trailers and Accessory Dwelling Units (ADUs) based on an estimated household size occupying those units;
- Use CMSD Wastewater Master Plan data on total flow and wastewater flow coefficients to estimate the District's current wastewater flow coefficients by customer class;
- Adjust revenues by 17.0 percent in FY 2022-23 and FY 2023-24 to eliminate the deficit through the end of the study period (FY 2026-27).

## Current Rates

The District's customers currently pay an annual service charge levied through property taxes. The annual charge is based on each customer's relative number of billing units. For Single-Family and Multi-Family Residential customers billing units are defined as one dwelling unit (DU). Single-Family customers pay \$92.38 annually per DU, while Multi-Family customers pay \$54.21 annually per DU. Additional customer classes (Commercial I – Average Strength, Commercial II – High, and Industrial) billing units are based on the total square footage of building space on each taxed parcel. One billing unit is equivalent to 1,000 square feet. The current rates as described are displayed in Table ES-1.

**Table ES- 1. Current Wastewater Rates**

Customer Class	Current Rates
Single-Family Residential	<b>\$92.38</b>
Multi-Family Residential	<b>\$54.21</b>
Commercial I - Ave Strength	<b>\$41.09</b>
Commercial II - High Strength	<b>\$44.81</b>
Industrial	<b>\$105.48</b>
Trailer*	<b>\$54.21</b>
ADU	<b>\$0.00</b>

Note: The Trailer customer class is currently billed based on the same cost of service as multi-family customers.

Note: The ADU customers are not billed under the current rates.

## Proposed Rates

The recommended rates allow the District to maintain healthy reserve fund balances and execute necessary capital improvement projects over the next five-year study period. In addition to the proposed revenue adjustments, the proposed rates reallocate the District's costs based on a detailed COS analysis which increases the equitability of the proposed rates by allocating District costs based on the relative wear each customer places on the system. Thus, each customer class will have different overall rate adjustments. Proposed annual revenue adjustments presented in this Study are 17.0 percent for the first two years, which will balance the budget at the end of the five-year rate study period. Table ES-2 and Table ES-3 show the proposed revenue adjustments and rates for the study period, respectively.

**Table ES- 2. Proposed Revenue Adjustments for the Wastewater System, FY 2022-23 – FY 2026-27**

Wastewater	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
<b>Revenue Adjustment</b>	<b>17.0%</b>	<b>17.0%</b>	<b>0.0%</b>	<b>0.0%</b>	<b>0.0%</b>

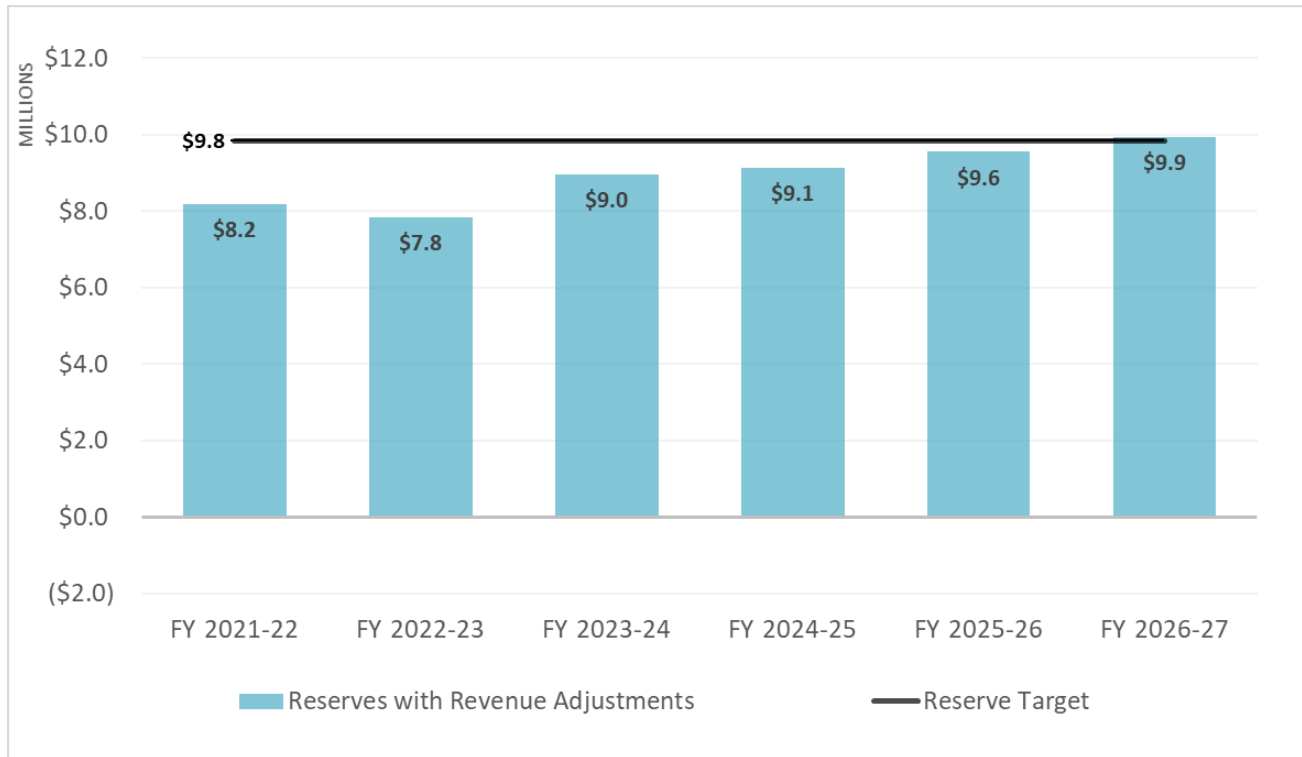
**Table ES- 3. Proposed Wastewater Rates for FY 2022-23 – FY 2026-27**

Customer Class	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
Single-Family Residential	\$101.22	\$118.43	\$118.43	\$118.43	\$118.43
Multi-Family Residential	\$76.83	\$89.89	\$89.89	\$89.89	\$89.89
Commercial I - Ave Strength	\$44.13	\$51.63	\$51.63	\$51.63	\$51.63
Commercial II - High Strength	\$49.14	\$57.49	\$57.49	\$57.49	\$57.49
Industrial	\$113.64	\$132.96	\$132.96	\$132.96	\$132.96
Trailer*	\$71.35	\$83.48	\$83.48	\$83.48	\$83.48
ADU	\$37.21	\$43.54	\$43.54	\$43.54	\$43.54

## Anticipated Financial Results

Figure ES- 1 presents the District's cash reserve fund balance for the current year and the study period, FY 2021-2022 through FY 2026-27, with the recommended revenue adjustments of 17.0 percent for the first two years of the study period.

*Figure ES- 1. Cash Reserve Balance with Recommended Revenue Adjustments,  
FY 2021-22 (Current) and FY 2022-23 – FY 2026-27*

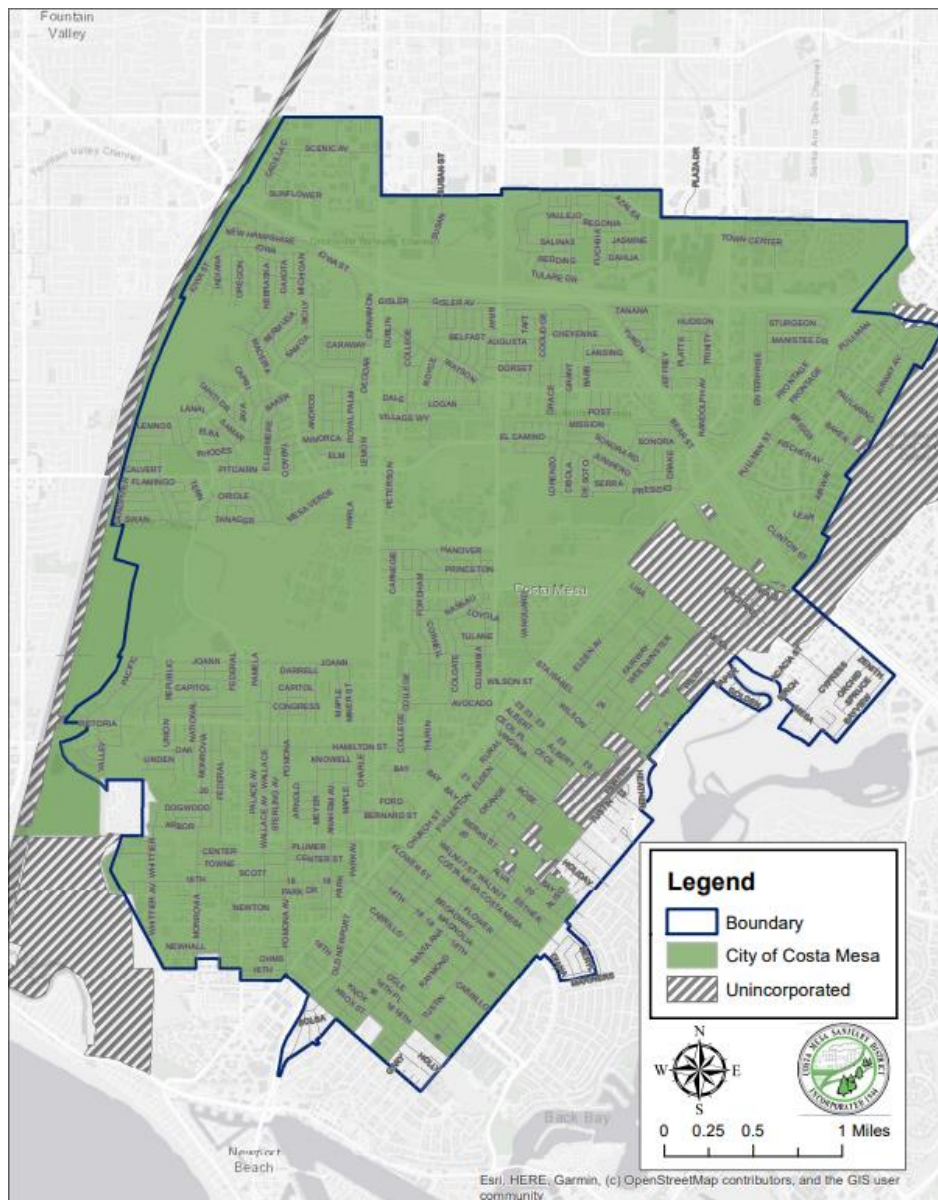


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# 1 INTRODUCTION

Costa Mesa Sanitary District (CMSD) is a special district located in the heart of Orange County, between the beachfront communities of Newport Beach and Huntington Beach. CMSD was formed in 1944 and provides solid waste and wastewater collection services to the City of Costa Mesa, portions of the City of Newport Beach and some unincorporated areas within Orange County. The District serves approximately 124,000 residents through 224 miles of collection system pipelines within the service area encompassing approximately 16 square miles. Sewage is transported to the Orange County Sanitation District's facilities to be treated to federally mandated standards to protect the public's health. Figure 1-1 shows CMSD's current service area.

**Figure 1-1. Costa Mesa Sanitary District Service Area**



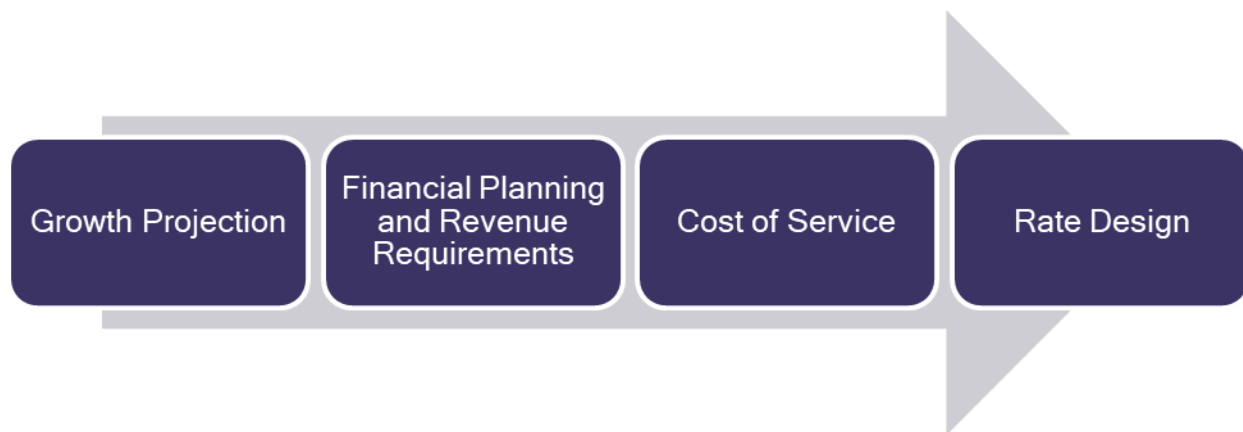
CMUSD currently serves over 25,000 wastewater accounts, of which approximately 85 percent are either Single-Family or Multi-Family residential customers. The remaining customers are classified as Average Strength Commercial (Commercial I), High Strength Commercial (Commercial II), or Industrial customers. The local economy is primarily comprised of retail, commercial business and light manufacturing of products ranging from electronics to pharmaceuticals.

CMUSD's leadership comprises a five-member Board of Directors elected at large by voters residing in the service area. The Board members also reside in the community and have the same concerns as their constituents. The current members of the Board are Robert Ooten, Michael Scheafer, Arlene Schafer, Arthur Perry, and Brett Eckles.

## 1.1 Methodology

The wastewater rates formulated in the Study were developed using principles set forth by the Water Environment Federation (WEF). RDN rate-making practices incorporate methods described in the WEF Financing and Charges for Wastewater Systems Manual 27<sup>1</sup>. Figure 1-2 presents the steps taken to develop the District's proposed rates.

*Figure 1-2. Rate Study Process*



1. **Growth Projection:** Project customer growth for FY 2021-2022 and ten additional years, including the five-year study period, FY 2022-23 through FY 2026-27, using District historical billing data and local planning documents. Forecast revenues for the study period based on the projected customer growth.
2. **Financial Planning/Revenue Requirements:** Develop a five-year financial plan based on the projected revenues and annual costs, which include both operating and capital expenses. The District's target reserve level is also to be considered part of the financial planning. Based on the financial planning, revenue requirements and necessary revenue adjustments are determined for each year of the study period.

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<sup>1</sup> Financing and Charges for Wastewater Systems, WEF Manual of Practice Number 27, Water Environment Federation



3. **Cost of Service (COS) Analysis:** Perform a COS analysis to allocate costs among the customers commensurate with their service requirements. Flows (Volumes) and strengths of discharges are commonly used to allocate costs to wastewater customers proportionally.
4. **Rate Design:** Design rates to equitably recover the rate revenue requirements from each customer class based on the proportional revenue requirements determined through the COS analysis.

## 1.2 Legal Framework

The primary goal of this study is to help CMSD establish rates that achieve the District's objectives of revenue stability, equitable cost recovery, and ratepayer affordability. This section of the report describes the legal framework considered in developing the rates to ensure that the calculated cost of service rates provide a fair and equitable allocation of costs to the different customer classes.

### California Constitution - Article XIII C (Proposition 26)

The voters in the State approved Proposition 26 on November 2, 2010. Proposition 26 amended Article XIII C of the State Constitution to expand the definition of "tax" to include "any levy, charge, or exaction of any kind imposed by a local government" with listed exceptions. By means of these exceptions, Article XIII C classifies several types of charges, in addition to property-related charges, that are not taxes, such as charges for specific services or benefits, regulatory charges and penalties.

Article XIII C's definition of "tax" lists the following exceptions: (1) a charge imposed for a specific benefit conferred or privilege granted directly to the payer that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of conferring the benefit or granting the privilege; (2) a charge imposed for a specific government service or product provided directly to the payer that is not provided to those not charged, and which does not exceed the reasonable costs to the local government of providing the service or product; (3) a charge imposed for the reasonable regulatory costs to a local government for issuing licenses and permits, performing investigations, inspections, and audits, enforcing agricultural marketing orders, and the administrative enforcement and adjudication thereof; (4) a charge imposed for entrance to or use of local government property, or the purchase, rental, or lease of local government property; (5) a fine, penalty, or other monetary charge imposed by the judicial branch of government or a local government, as a result of a violation of law; (6) a charge imposed as a condition of property development; and (7) assessments and property-related fees imposed in accordance with the provisions of Article XIII D.

Proposition 26 also provides that the local government bears the burden of proving by a preponderance of the evidence that a levy, charge, or other exaction is not a tax, that the amount is no more than necessary to cover the reasonable costs of the governmental activity, and that the manner in which those costs are allocated to a payer bear a fair or reasonable relationship to the payer's burdens on, or benefits received from, the governmental activity. Like the proportionality requirements of Article XIII D, assessment of rates under these requirements, if applicable, would be supported by the cost of service approach.

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

In November 1996, California voters passed Proposition 218, the "Right to Vote on Taxes Act." This constitutional amendment protects taxpayers by limiting the methods by which local governments can create or increase taxes, fees, and charges without taxpayer consent. Between 2002 and 2017, California courts have ruled that fees

associated with providing wastewater services are “property-related” and thus under the jurisdiction of Prop 218. The principal requirements for fairness of the fees related to public wastewater service are as follows: Revenues derived from the fee or charge shall not exceed the funds required to provide the property-related service. Revenues derived by the fee or charge shall not be used for any other purpose other than that for which the charge was imposed. The amount of the fee or charge imposed upon any parcel shall not exceed the proportional cost of service attributable to the parcel. Reliance by an agency on any parcel map, including, but not limited to, an assessor’s parcel map, may be considered a significant factor in determining whether a fee or charge is imposed as an incident of property ownership for purposes of this article.

The rates developed in this Report use a methodology to establish an equitable system of charges that recover the cost of providing service and fairly apportion costs to each customer as required by Proposition 218.

## 1.3 Key Assumptions

A test year, FY 2022-23, was selected for which costs are to be analyzed and rates established for this study. The financial plan was built for the next 10 years, which includes the five-year study period, FY 2022-23 through FY 2026-27, with a detailed revenue adjustment plan. The District’s fiscal year starts on July 1 and ends on June 30.

### Customer Growth

RDN projected account growth based on the historical data and foreseeable development planned in the next ten years. ADUs are projected to grow at a rate indicated in Housing Element<sup>2</sup> as there was no historical data available for the District.

#### Residential

The analyses performed for this Study were based on an assumption of customer account growth. The count of billing units for FY 2021-22 was derived from customers’ billing records, and the numbers of accounts for the following 10 years were projected based on historical data, input from the District, and District staff input. The current number of Single-Family Residential customers is 21,758. This number is projected to increase by an average of 298 accounts per year, resulting in 25,985 by FY 2026-27 (the end of the study period) and 27,59 by the end of FY 2031-32. Major residential developments currently in the planning stages, such as the One West Project, were included in the growth projections. For Multi-Family Residential customers, steady increases are expected at a similar rate to Single-Family Customers. Trailers, currently included in the Multi-Family Residential category, will see similar growth. The newly devised customer class of ADU has growth projections based on published planning documents, which project a significant increase of ADUs through the region. Currently, no ADUs are being billed by the District. By the end of the study period, RDN projects a total of 571 ADUs will be built within the District’s jurisdiction.

#### Non-Residential

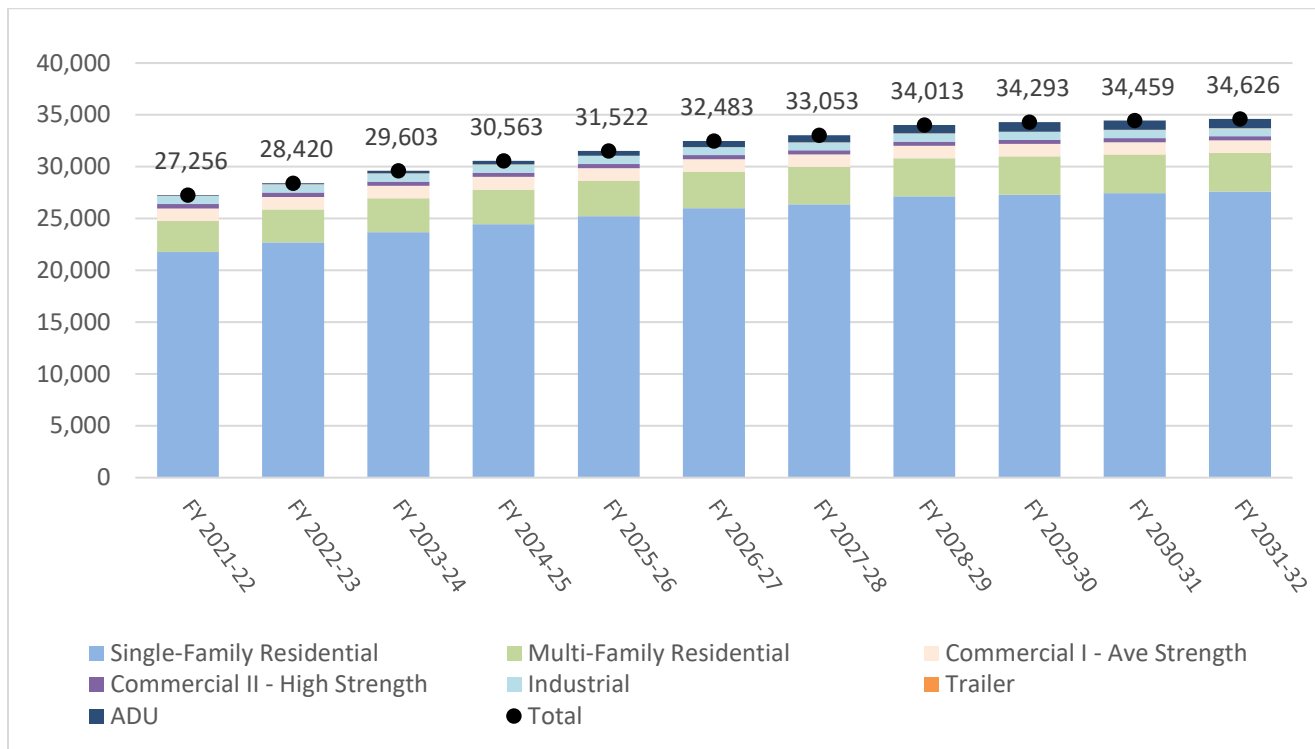
Non-Residential customer (Commercial I Average-Strength, Commercial II High-Strength, and Industrial) account projections are based on the growth percentages captured in historical billing records provided by the District. On average, non-residential customer accounts have been slightly declining each year. The current number of accounts, 2,424, is projected to decrease to 2,380 by the end of the rate study period. The billing units (1,000 ft<sup>2</sup>

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<sup>2</sup> City of Costa Mesa 2021-2029 Housing Element Update Initial Study and Mitigated Negative Declaration, dated October 2021

per unit) for non-residential customers are projected to decline at the same rate as the number of accounts. Figure 1-3 shows total account growth during the ten-year projection period.

**Figure 1-3. Projected Customer Account Growth, FY 2021-22 – FY 2031-32**



## Household Size

To determine the differences in residential flows, RDN determined household sizes for each residential customer class by utilizing US Census American Community Survey (ACS) data for the District's service area<sup>3</sup>. For an ADU household size, RDN used estimates from the District's most recent Master Plan<sup>4</sup>. Table 1-1 shows the relative household size used in this study to determine the residential flow used in the COS Analysis where Single-Family residential customers equal one equivalent dwelling unit (EDU) Multi-Family residential customers, trailers, and ADUs equal 0.86, 0.76, and 0.43 EDU, respectively.

**Table 1-1. Household Size and Relative EDU determinations for Residential Customers**

Customer Class	HHS	EDU
SFR	2.94	1.00
MFR	2.53	0.86
Trailer	2.23	0.76
ADU	1.25	0.43

## Escalation Factors

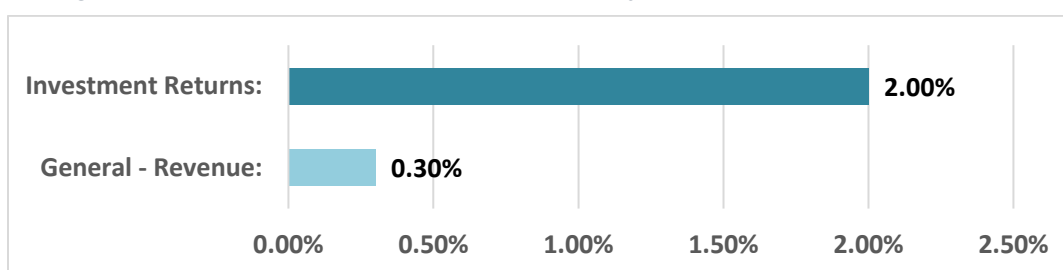
The financial plan was built based on an assumption in the projected escalation of revenues and expenses associated with both operations and maintenance (O&M) and capital improvement projects (CIPs). Escalation

<sup>3</sup> U.S. Census Bureau (2021). 2015-2019 American Community Survey 5-year Public Use Microdata Samples.

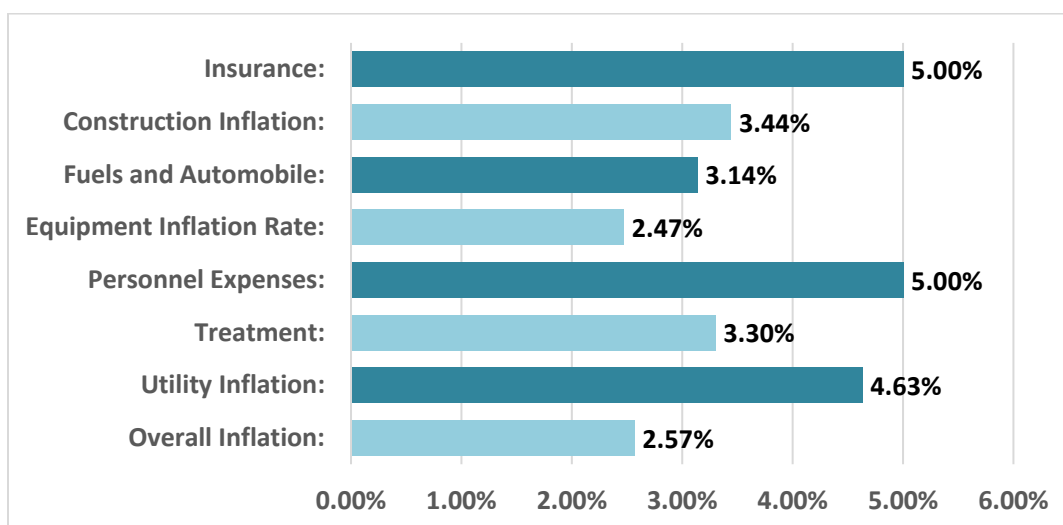
<sup>4</sup> Costa Mesa Sanitary District (2020). Wastewater Master Plan Update for the Costa Mesa Sanitary District

factors were calculated for eight independent variables using historical Consumer Price Index (CPI) data from Los Angeles-Long Beach-Anaheim, CA, between the year 2000 and the most current calendar year<sup>5</sup>, and projections by the California Department of Transportation (CADOT)<sup>6</sup> and the California Department of Finance (CADO). Construction costs were determined using a 5-year average building cost index (BCI) for the Los Angeles area published by Engineering News Record (ENR)<sup>7</sup>. Additionally, property tax increases were charted using audited financial statements published by the County of Orange. All escalation factors were developed by calculating an average growth rate and projecting that rate into future years. Due to District contingencies, insurance inflation is expected to rise at 5.0 percent per year. The personnel expenses inflation rate, which includes salaries, insurance, and payroll taxes, is also expected to rise 5.0 percent per year during the study period and is based on District financial records. Non-recurring expenses (one-time expense) and some contracted service expenses are not escalated. Figure 1-4 and Figure 1-5 display escalation factors estimated for CMSD for the study period.

**Figure 1-4. Revenue Escalation Factors Estimated for CMSD, FY 2022-23 - FY 2031-32**



**Figure 1-5. Expense Escalation Factors Estimated for CMSD, FY 2021-22 – FY 2030-31**



<sup>5</sup> Bureau of Labor Statistics (2021) *Consumer Price Indices 2000-2021 Los Angeles – Long Beach – Anaheim, Not Seasonally Adjusted*.

<sup>6</sup> California Department of Transportation (2021) *Monthly CPI for transportation, 20 Year Average*.

<sup>7</sup> Engineering News Record (2021) *Los Angeles Building Cost Index, Average Annual Change*.

# 2 FINANCIAL PLAN

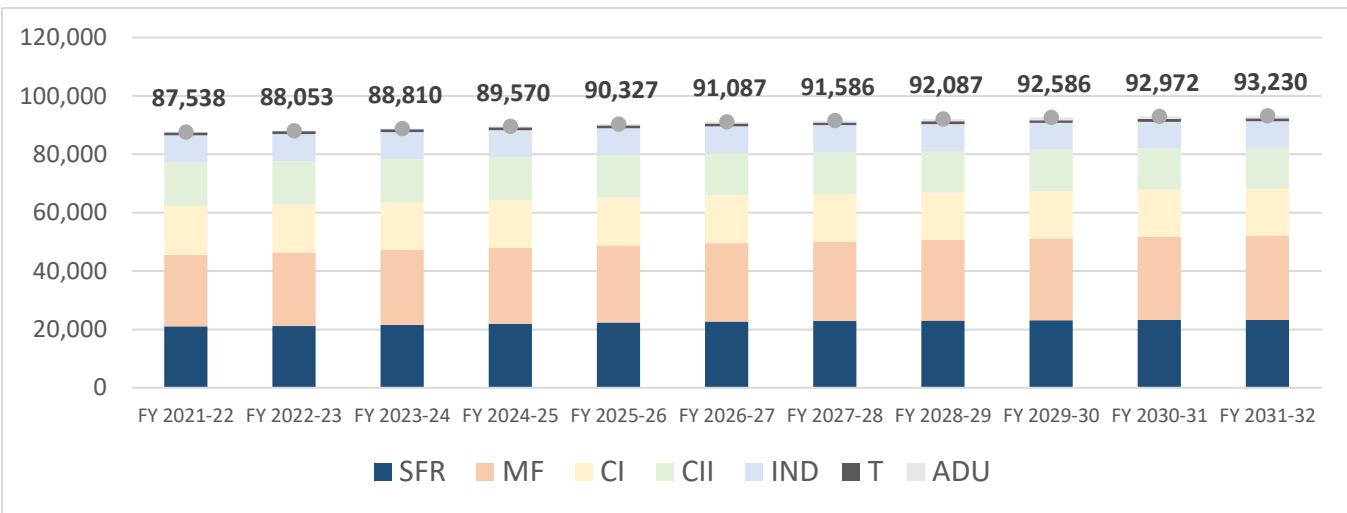
RDN built a 10-year financial model for CMSD’s wastewater system to meet the system’s long-term financial goals. This report presents the account growth and demand projections are presented for 10 years in this report. The detailed rate analysis was performed for the first five years because rate recommendations designed under Prop 218 cannot exceed five years.

## 2.1 Billing Unit

RDN first projected growth based on customer billing units to estimate the District’s revenue generated from rates. RDN utilized CMSD’s tax bill records for FY 2017-18 – FY 2021-22 to determine the current billing units and used this as the starting point for the projections.

For residential customers, one billing unit equates to one DU, and for non-residential customers, one billing unit is equal to 1,000 square feet of building space. Because revenues are derived from the number of billing units, RDN projected billing units for each customer using a linear regression model. The linear trends captured in the historical data were forecasted over the study period yielding the billing unit counts displayed in Figure 2-1.

Figure 2-1 Customer Billing Unit Growth Projections



## 2.2 Revenues

Based on the projected billing units, RDN conducted a revenue analysis using the current wastewater rates. The District currently collects revenues from annual charges and other operating revenues such as service charges and wastewater permitting fees. With no rate increases, the District is expected to collect between \$6.1 and \$6.3 million in operating revenues per year during the study period. The revenue analysis also includes non-operating revenues such as investment earnings, inspection fees, and transfers. These revenues total approximately \$327,000 and are used to offset the revenue requirements that need to be recovered from customers’ rates. Forecasted revenues by category are shown in Table 2-1.

*Table 2-1. Revenue Forecast without Revenue Adjustments for Wastewater System, FY 2021-22 to FY 2026-27*

Description	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
<b>Revenues from rates</b>						
Annual Charge	\$5,668,987	\$5,701,155	\$5,750,860	\$5,800,743	\$5,850,486	\$5,900,417
<b>Total Revenues from rates</b>	<b>\$5,668,987</b>	<b>\$5,701,155</b>	<b>\$5,750,860</b>	<b>\$5,800,743</b>	<b>\$5,850,486</b>	<b>\$5,900,417</b>
<b>Other operating revenues</b>						
	<b>\$57,555</b>	<b>\$75,000</b>	<b>\$75,225</b>	<b>\$75,451</b>	<b>\$75,677</b>	<b>\$75,904</b>
<b>Non-operating revenues</b>						
Investment Earnings	\$66,000	\$99,000	\$100,980	\$103,000	\$105,060	\$107,161
Inspection Fees	\$100,000	\$125,000	\$125,375	\$125,751	\$126,128	\$126,507
Other	\$50,000	\$50,000	\$50,150	\$50,300	\$50,451	\$50,603
Transfer in from Solid Waste Fund	\$52,800	\$52,800	\$52,958	\$53,117	\$53,277	\$53,436
Transfer in from Capacity Charges	\$235,000	\$0	\$0	\$0	\$0	\$0
<b>Total Non-operating revenues</b>	<b>\$503,800</b>	<b>\$326,800</b>	<b>\$329,463</b>	<b>\$332,168</b>	<b>\$334,916</b>	<b>\$337,707</b>
<b>Total</b>	<b>\$6,230,342</b>	<b>\$6,102,955</b>	<b>\$6,155,549</b>	<b>\$6,208,362</b>	<b>\$6,261,079</b>	<b>\$6,314,027</b>

## 2.3 Operating and Maintenance (O&M) Expense

The District's FY 2021-2022 Budget anticipated approximately \$4.6 million in expenses, classified as O&M expenses. The itemized O&M expenses were carefully reviewed by RDN and forecasted over the study period using escalation factors discussed in the Key Assumptions section (Figure 1-5). In FY 2022-23, the District is expected to hire two additional wastewater maintenance employees, at which time an additional \$265,000 in annual personnel expenses are projected. In FY 2022-23, the overall increase in O&M expenses is expected to be 8.3 percent. On average, O&M Expenses are expected to increase by 3.9 percent annually through the study period. By FY 2026-27, annual O&M expenses are projected to reach around \$5.5 million. O&M expenses by function are shown in Table 2-2.

*Table 2-2. O&M Expense Forecast for Wastewater System, FY 2021-22 to FY 2026-27*

Description	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
Sewer Collection	\$1,636,220	\$1,851,310	\$1,802,298	\$1,884,924	\$2,008,609	\$2,052,960
Pumping	\$800,840	\$852,370	\$857,391	\$893,986	\$950,571	\$972,194
Transmission	\$114,000	\$114,000	\$117,762	\$121,648	\$125,663	\$129,809
Customer Accounts	\$227,360	\$252,040	\$263,930	\$276,397	\$298,641	\$303,176
Administrative and General	\$1,802,780	\$1,889,980	\$1,863,202	\$1,929,989	\$2,017,797	\$2,071,711
<b>Total</b>	<b>\$4,581,200</b>	<b>\$4,959,700</b>	<b>\$4,904,584</b>	<b>\$5,106,946</b>	<b>\$5,401,281</b>	<b>\$5,529,851</b>

## 2.4 Capital Improvement Projects

In addition to the costs associated with daily operation and maintenance, the District estimates capital project spending between \$2.2 million and \$3.1 million per year with no inflation adjustment for the study period. RDN worked closely with District staff to optimize CIP scheduling to mitigate rate increases while ensuring the District is able to execute necessary improvements to the wastewater collection system. Major capital projects during the

study period include a new combo cleaning truck; force main rehabilitation; calcium removal; brick manhole rehabilitation; and odor projects, among others. Table 2-3 shows the annual CIP expenses through the study period by the proposed funding source.

*Table 2-3. CIP Forecast for Study Period, FY 2021-22 to FY 2026-27*

Description	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
PAYGO	\$631,746	\$0	\$45,310	\$13,230	\$6,769
Asset Replacement Fund	\$9,017	\$0	\$514,210	\$0	\$63,252
Asset Management Fund	\$1,827,785	\$2,241,615	\$2,506,881	\$2,593,118	\$2,504,684
<b>Total</b>	<b>\$2,468,548</b>	<b>\$2,241,615</b>	<b>\$3,066,402</b>	<b>\$2,606,348</b>	<b>\$2,574,705</b>

## 2.5 Reserves

The District must maintain an appropriate reserve balance to ensure that day-to-day operations will continue during emergencies and guarantee the future stability of the system. At the end of the study period, the District's financial goal is to build an appropriate level of cash reserves for each reserve fund included in the District's policy. The District currently has three reserve accounts:

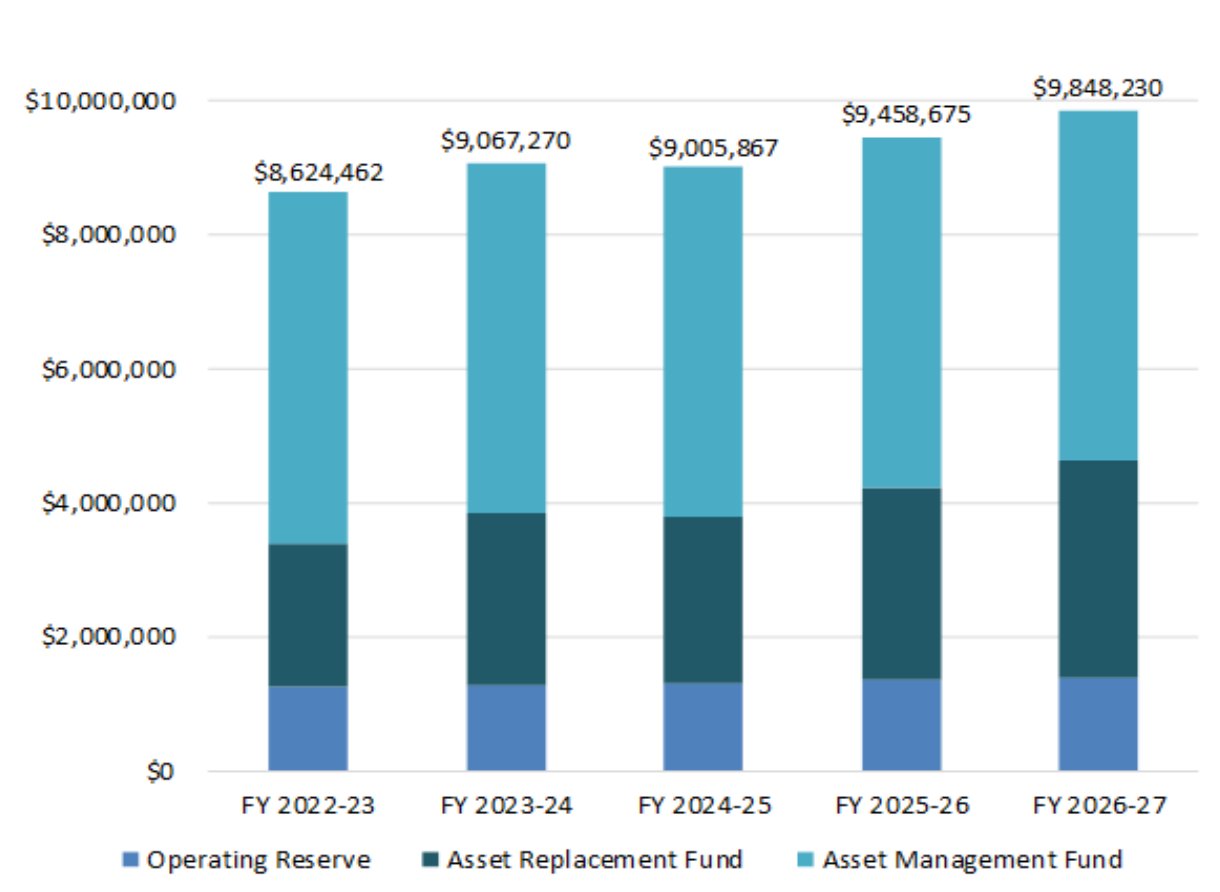
**Operating Reserve:** three months of budgeted Operating and Maintenance (O&M) expense of upcoming year, a balance of \$1.4 million in FY 2026-27

**Asset Replacement Fund:** funds the purchase of new or replacement vehicles, equipment, and computers, a balance of \$3.2 million if FY 2026-27

**Asset Management Fund:** funds capital improvements and ending balance is required to be \$5 million at the end of each Fiscal Year.

The total reserve balance target at the end of FY 2026-27 is set at \$9.8 million, and reserve contributions to reach this target are estimated at approximately \$2.8 million per year. The target ending balance takes into account annual expenditures from the Asset Replacement Fund and the Asset Management Fund, which are liquid funds used to pay for new equipment and capital expenses throughout the study period as outlined in Section 2.4. Figure 2-2 shows the reserve balances under the proposed financial plan through the study period.

Figure 2-2. Reserve Fund Balances, FY 2022-23 to FY 2026-27



## 2.6 Revenue Requirements

Revenue requirements were developed based on the financial plan outlined above. Under the recommended rates, revenue requirements include reserve contributions of between \$2.3 and \$3.0 million per year, categorized as Other Obligations. The total revenue requirements are offset by the sum of Other Operating Revenues and Non-operating Revenues to compute the pure portion of revenue requirements that need to be recovered from customer rates. Under the proposed financial plan, the test year Revenue Requirements are \$6.7 million. Table 2-4 displays CMSD’s revenue requirements for FY 2022-23 through FY 2026-27. To achieve this goal, RDN proposes two 17.0 percent annual revenue adjustments for FY 2022-23 and FY 2023-24, which will balance the budget through the whole study period.



Table 2-4. Revenue Requirements, FY 2022-23 to FY 2026-27

Description	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
<b>Test Year</b>					
Other Operating Revenues	(\$75,000)	(\$75,225)	(\$75,451)	(\$75,677)	(\$75,904)
O&M Expenses	\$4,959,700	\$4,904,584	\$5,106,946	\$5,401,281	\$5,529,851
Non-operating Revenues	(\$326,800)	(\$329,463)	(\$332,168)	(\$334,916)	(\$337,707)
Other Obligations	\$2,902,339	\$2,684,423	\$3,004,999	\$3,059,156	\$2,964,260
Net Balance	(\$789,887)	\$688,034	\$236,312	(\$41,113)	(\$3,420)
<b>Revenue Requirements</b>	<b>\$6,670,352</b>	<b>\$7,872,352</b>	<b>\$7,940,637</b>	<b>\$8,008,730</b>	<b>\$8,077,080</b>

## 2.7 Recommended Financial Plan

Under the financial plan outlined above, a total of \$164,000 will be contributed to the Operating Reserve, and \$2.1 million will be contributed to the Asset Replacement Fund; additionally, the District will be able to sufficiently cover their operating expenses and the full execution of their CIP program. Table 2-5 shows the proposed financial plan through the study period under the proposed rate plan, respectively. By adopting this plan, the District will reach its target reserve balance (\$9.8 million) by the end of FY 2026-27.

Table 2-5. Financial Plan, FY 2022-23 to FY 2026-27

Description	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
<b>Overall Revenue Adjustment</b>	<b>17.00%</b>	<b>17.00%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.00%</b>
<b>Operating Revenues</b>	<b>\$6,745,352</b>	<b>\$7,947,577</b>	<b>\$8,016,088</b>	<b>\$8,084,407</b>	<b>\$8,152,984</b>
Water Sales	\$6,670,352	\$7,872,352	\$7,940,637	\$8,008,730	\$8,077,080
Other Operating Revenues	\$75,000	\$75,225	\$75,451	\$75,677	\$75,904
<b>O&amp;M Expenses</b>	<b>(\$4,959,700)</b>	<b>(\$4,904,584)</b>	<b>(\$5,106,946)</b>	<b>(\$5,401,281)</b>	<b>(\$5,529,851)</b>
Net Operating Revenues	\$1,785,652	\$3,042,993	\$2,909,142	\$2,683,127	\$2,623,134
Non-operating Revenues	\$326,800	\$329,463	\$332,168	\$334,916	\$337,707
<b>Other Obligations</b>	<b>(\$2,902,339)</b>	<b>(\$2,684,423)</b>	<b>(\$3,004,999)</b>	<b>(\$3,059,156)</b>	<b>(\$2,964,260)</b>
Debt Service Principal	\$0	\$0	\$0	\$0	\$0
Debt Service Interest	\$0	\$0	\$0	\$0	\$0
Contribution to Reserves	(\$2,270,592)	(\$2,684,423)	(\$2,959,689)	(\$3,045,925)	(\$2,957,491)
PAYGO	(\$631,746)	\$0	(\$45,310)	(\$13,230)	(\$6,769)
CIP Reserve	(\$1,836,802)	(\$2,241,615)	(\$3,021,091)	(\$2,593,118)	(\$2,567,936)
Use of CIP Fund	\$1,836,802	\$2,241,615	\$3,021,091	\$2,593,118	\$2,567,936
<b>Net Balance</b>	<b>(\$789,887)</b>	<b>\$688,034</b>	<b>\$236,312</b>	<b>(\$41,113)</b>	<b>(\$3,420)</b>
Beginning of the Year Balance	\$0	(\$789,887)	(\$101,853)	\$134,459	\$93,346
Ending Balance	(\$789,887)	(\$101,853)	\$134,459	\$93,346	\$89,926
% Deficit/Surplus	-11.8%	8.7%	3.0%	-0.5%	0.0%
<b>% Cumulative Deficiency</b>	<b>-11.8%</b>	<b>-0.7%</b>	<b>0.6%</b>	<b>0.3%</b>	<b>0.2%</b>

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## 3 COST OF SERVICE ANALYSIS

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The wastewater system's COS analysis utilizes a three-step approach to allocate costs equitably among customers. These steps include 1) functionalization of cost and asset items, 2) cost classification, and 3) cost allocation to customers. Provided below is a detailed discussion of the wastewater COS analysis conducted for the District and the specific steps taken for the analysis.

The typical major functions included in a wastewater study are collection, pumping, administrative, and other wastewater services. CMSD does not provide wastewater treatment; therefore, this function was not included as a system function. O&M expenses and asset items were carefully distributed to each function. Special attention was paid to staff's salaries, and one employee's salary often applies to multiple system functions. Once costs were functionalized, RDN further classified the costs into three different types of service categories (cost causative components):

- Volume related costs - those costs which tend to vary with the total quantity of wastewater collected
- Strength-related costs - those costs associated with the additional handling and treatment of high "strength" wastewater. The wastewater strength is typically measured in biochemical oxygen demand (BOD) and total suspended solids (TSS). Increased levels of BOD or TSS generally equate to increased wear on the system.
- Other wastewater service-related costs – those costs are a function of the number of customers served. Customer-related costs typically include the costs of billing, collecting, and accounting.

### 3.1 Volume

#### Annual Flow

Despite slight population increases in the District's service area, wastewater flows have steadily declined since the previous rate study. To determine total wastewater flows to Orange County Sanitation District's (OCS) treatment plant, RDN utilized the District's most recent Wastewater Master Plan<sup>8</sup> population and daily per capita flow estimates. According to the Master Plan, OCS estimated a measured flow rate of 100 per capita per day (gpcd) in 2005, dropping to 75 gpcd in 2015, with projected flows to be 70 gpcd by 2022. A flow coefficient of 71.5 gallons gpcd was used for the purposes of this study. The District's current population is estimated to be 124,000 in the Master Plan, which was multiplied by the flow coefficient estimate of 71.5 gpcd resulting in a total daily flow of 8.9 million gallons per day (mgpd), or 4.3 million hcf per year.

#### Residential Flow

Flow for residential customers was based on per capita flow and household size (HHS) analysis for Single-Family, Multi-family, Trailer, and ADU Residential customers. To calculate HHS, RDN utilized 2019 American Community Survey (ACS) data on occupied housing and population by units in structure for zip codes 92626 and 92627. These two zips comprise the vast majority of the CMSD service area, and roughly 90 percent of the service area population resides in either zip code 92626 or 92627. HHS was determined by dividing the number of single family, multi-family, and trailer households by the total population of each housing type in both zip codes. For ADU units,

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<sup>8</sup> Costa Mesa Sanitary District Wastewater Master Plan Update (2020)

an estimate of 1.25 persons per household was used in our analysis based on the District’s Master Plan. Residential flow represents 62.7 percent of the total flow of the District and is further broken down into four customer classes: SFR – 30.4 percent, MFR – 31.1 percent, Trailers – 1.1 percent, and ADUs – 0.1 percent of total flow.

### Non-Residential Flow

Non-residential flow, Commercial I Average Strength, Commercial II High Strength, and industrial, was determined using flow estimates provided in the District’s Master Plan. For each acre of commercial zoned property, it is estimated that 5,000 gallons of wastewater are contributed each day. For each acre of industrial zoned property, it is estimated that 3,500 gallons of wastewater are contributed each day. The ratio of non-residential flow apportioned to Commercial I&II and Industrial wastewater contributions are 59.1 percent and 40.9 percent, respectively. Commercial flows are then divided into 52.5 percent and 47.5 percent for Commercial I and Commercial II, respectively.

### COS Flow Component

Based on the flow analysis described, the total flow and percentage of total flow by customer class are shown in Table 3-1.

*Table 3-1. Flow Component by Customer Class*

Description	Annual Flow	% Flow
	<b>hcf/year</b>	
Single Family Residential	1,316,299	30.4%
Multi-Family Residential	1,344,305	31.1%
Commercial - Ave Strength	500,547	11.6%
Commercial - High Strength	453,469	10.5%
Industrial	660,526	15.3%
Trailer	48,039	1.1%
ADU	3,138	0.1%

## 3.2 Strength

Wastewater strength ratios by customer class were also estimated to allocate costs between customer classes. Table 3-2 shows the general strength (BOD/TSS) contributions by customer class used to perform the cost-of-service analysis.

*Table 3-2. Strength Factors by Customer Class*

Description	BOD	TSS
	<b>mg/L</b>	<b>mg/L</b>
Single Family Residential	175	250
Multi-Family Residential	175	250
Commercial - Ave Strength	175	250
Commercial - High Strength	500	500
Industrial	500	500
Trailer	175	250
ADU	175	250

Total proportional strength for each customer class was determined by multiplying the total customer class flow by strength in milligrams per liter. This total was converted to pounds per year by customer class. Table 3-3 shows the percentage of total strength contributions by customer class.

*Table 3-3. Percent of Strength by Customer Class*

Description	% BOD	% TSS
Single Family Residential	20.6%	24.2%
Multi-Family Residential	21.0%	24.7%
Commercial - Ave Strength	7.8%	9.2%
Commercial - High Strength	20.3%	16.7%
Industrial	29.5%	24.3%
Trailer	0.8%	0.9%
ADU	0.05%	0.1%

### 3.3 Wastewater Service

Customer service costs typically include all the costs associated with billing. Each customer receives one bill, so for the purpose of allocating customer service costs, the total costs are divided by the total number of billed accounts, 28,301.

### 3.4 Cost Allocation

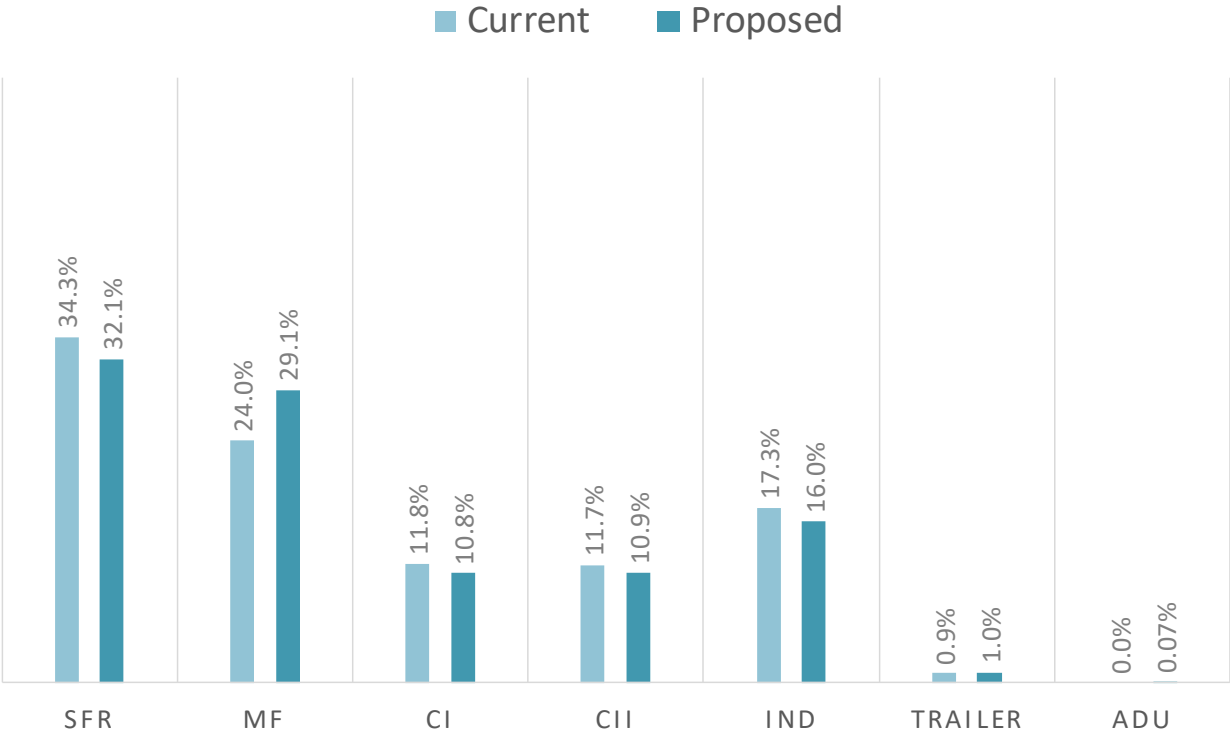
The total Test Year rate revenue requirement developed in the financial planning stage, \$6.7 million, was functionalized into the four cost causative functions. Table 3-4 shows the total Test Year revenue requirements allocated to each cost component.

*Table 3-4. Test Year (FY 2022-23) Revenue Requirement by Function*

Description	Allocation
Volume	\$5,548,869
BOD	\$386,405
TSS	\$386,405
Sewer Service	\$348,672
<b>Total</b>	<b>\$6,670,352</b>

The component allocations were then distributed to customers according to the relative strain on the system. In this analysis, the costs are allocated to customer classes according to the volume of discharge, the relative strength of discharge, and the number of connections. Based on the results of the unit of service analysis carried out during this study, there are shifts in the cost allocation among the identified customer classes. Figure 3-1 displays different service requirements based on the type of services provided by the system. Based on the proposed cost allocation, ADUs, Trailers, and Multi-Family Residential customers will see an increase in their cost allocation. All other customers will see a decrease.

Figure 3-1. Final Cost of Service Cost Allocation

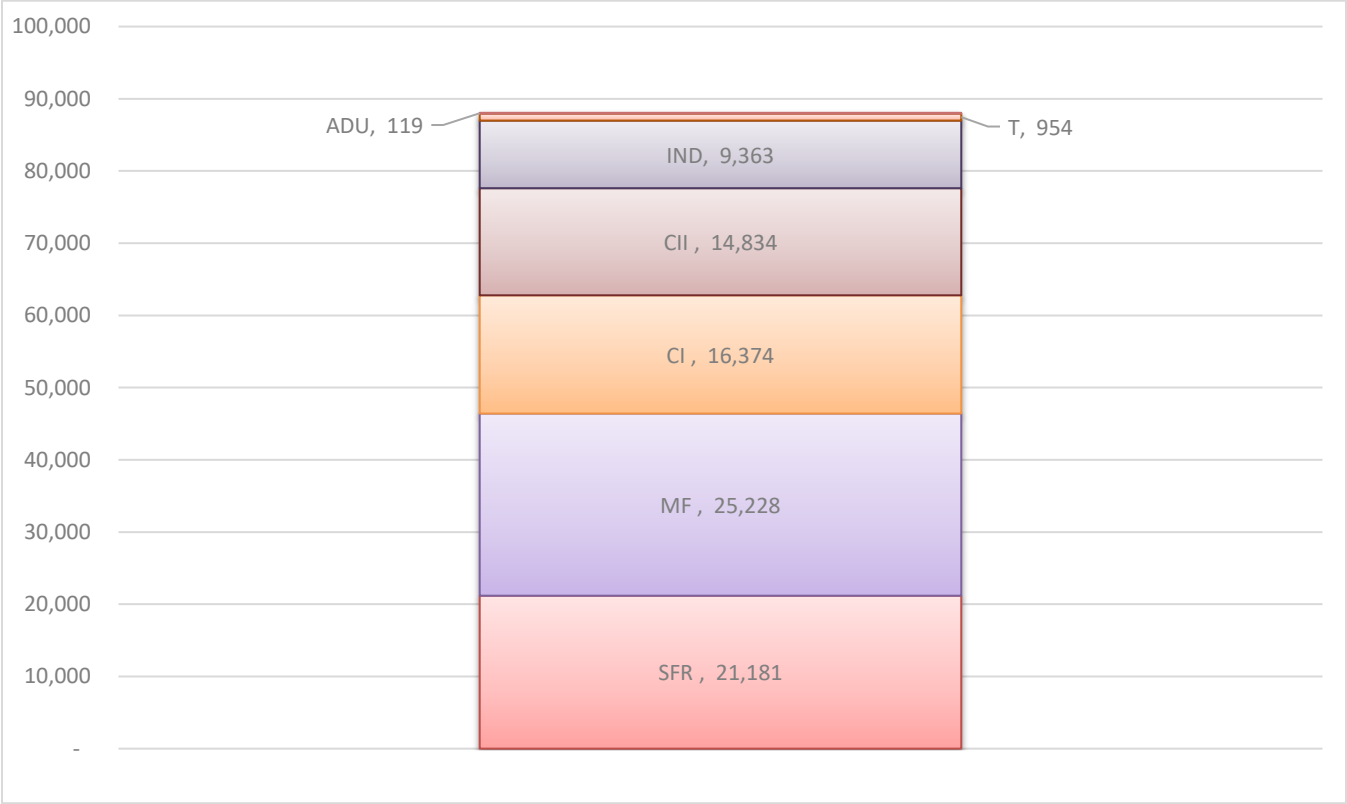


# 4 RATE DESIGN

The District’s rates are comprised of a fixed annual service charge assessed through customer property taxes. The fixed charge is applied to each of the District’s billing units. Billing units for Single-Family and Multi-Family Residential customers are equivalent to one dwelling unit. For non-residential customers, one billing unit is defined as 1,000 square feet of building space. The number of billing units was projected for the study period using the methodology described in Section 1.3.

Figure 4-1 presents the number of billing units by customer class for FY 2022-23.

*Figure 4-1. Number of Billing Units by Customer Class*



Annual rates were determined by dividing the cost allocation of each customer class by the number of billing units within that class. For example, the total annual cost allocation for Single-Family Residential customers is \$2,143,949, divided by the number of units, 21,181, resulting in an annual charge of \$101.22. Cost allocations for each customer class are shown in Table 4-1 to Table 4-7.

*Table 4-1. Single-Family Residential Cost Allocation*

Single Family Residential	
Cost Allocation Summary	Cost of Service
Volume	\$1,683,109
BOD	\$79,949
TSS	\$93,981
Sewer Service	\$286,910
<b>Total Revenue Requirements</b>	<b>\$2,143,949</b>

*Table 4-2. Multi-Family Residential Cost Allocation*

Multi-Family Residential	
Cost Allocation Summary	Cost of Service
Volume	\$1,718,919
BOD	\$81,650
TSS	\$95,981
Sewer Service	\$41,743
<b>Total Revenue Requirements</b>	<b>\$1,938,293</b>

*Table 4-3. Trailer Cost Allocation*

Trailer	
Cost Allocation Summary	Cost of Service
Volume	\$61,426
BOD	\$2,918
TSS	\$3,430
Sewer Service	\$298
<b>Total Revenue Requirements</b>	<b>\$68,072</b>

*Table 4-4. Additional Dwelling Unit Cost Allocation*

Accessory Dwelling Unit	
Cost Allocation Summary	Cost of Service
Volume	\$4,013
BOD	\$191
TSS	\$224
Sewer Service	\$0
<b>Total Revenue Requirements</b>	<b>\$4,427</b>

*Table 4-5. Commercial I Cost Allocation*

Commercial - Ave Strength	
Cost Allocation Summary	Cost of Service
Volume	\$640,033
BOD	\$30,402
TSS	\$35,738
Sewer Service	\$16,476
<b>Total Revenue Requirements</b>	<b>\$722,648</b>



*Table 4-6. Commercial II Cost Allocation*

Commercial - High Strength	
Cost Allocation Summary	Cost of Service
Volume	\$579,836
BOD	\$78,693
TSS	\$64,753
Sewer Service	\$5,667
<b>Total Revenue Requirements</b>	<b>\$728,950</b>

*Table 4-7. Industrial Cost Allocation*

Industrial	
Cost Allocation Summary	Cost of Service
Volume	\$844,593
BOD	\$114,625
TSS	\$94,320
Sewer Service	\$10,474
<b>Total Revenue Requirements</b>	<b>\$1,064,012</b>

## 4.1 Proposed Rates

Table 4-8 shows the proposed rates for all customer classes through FY 2026-27 based on the cost allocation and projected billing units.

*Table 4-8. Current Rates and Proposed Wastewater Rates, Current and FY 2022-23 – FY 2026-27*

Customer Class	Current Rates	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27
Single-Family Residential	<b>\$92.38</b>	\$101.22	\$118.43	\$118.43	\$118.43	\$118.43
Multi-Family Residential	<b>\$54.21</b>	\$76.83	\$89.89	\$89.89	\$89.89	\$89.89
Commercial I - Ave Strength	<b>\$41.09</b>	\$44.13	\$51.63	\$51.63	\$51.63	\$51.63
Commercial II - High Strength	<b>\$44.81</b>	\$49.14	\$57.49	\$57.49	\$57.49	\$57.49
Industrial	<b>\$105.48</b>	\$113.64	\$132.96	\$132.96	\$132.96	\$132.96
Trailer*	<b>\$54.21</b>	\$71.35	\$83.48	\$83.48	\$83.48	\$83.48
ADU	<b>\$0.00</b>	\$37.21	\$43.54	\$43.54	\$43.54	\$43.54

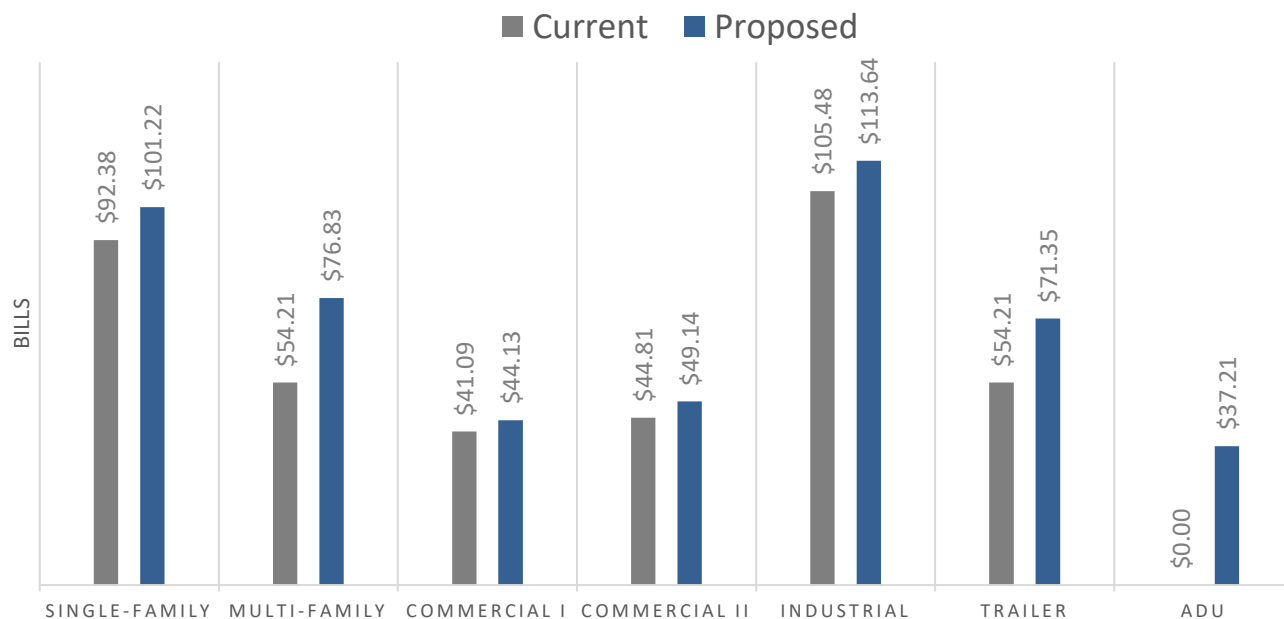
## 4.2 Bill Impacts

RDN performed an extensive bill impact analysis to find the optimal rates with the least impact across all customers. Note that the bill impact shown below only reflects the Test Year rates.

### Customers Bill Impact

This analysis compares the rate per billing unit under current and proposed rates. Figure 4-2 presents current versus proposed annual bills by customer class.

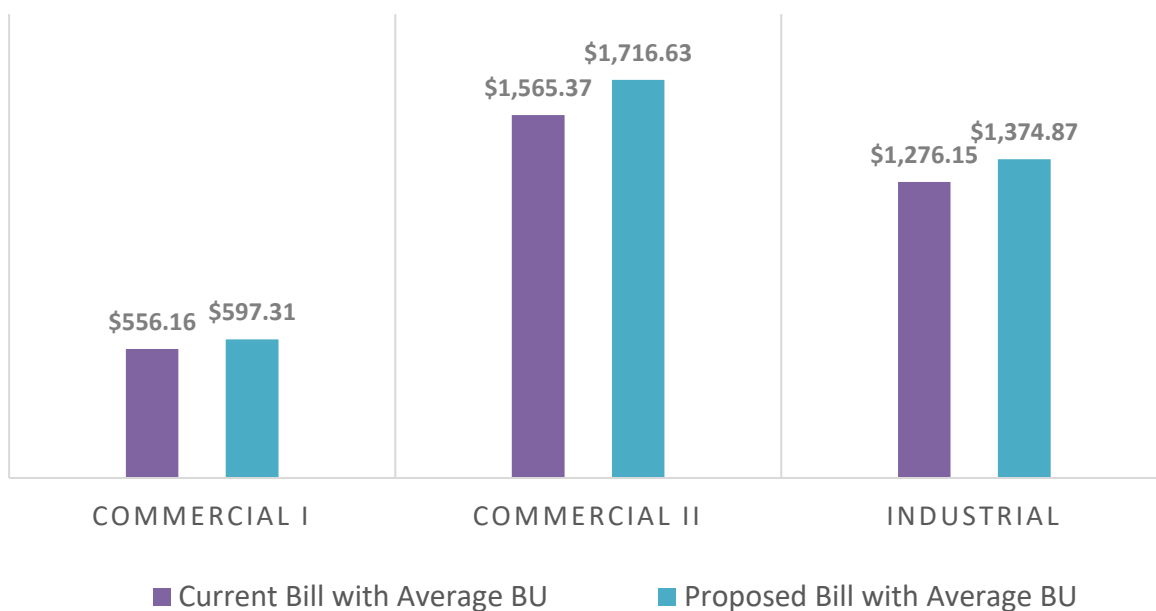
**Figure 4-2. Current vs. Proposed Rates by Customer Class**



Residential customers' annual bill is calculated by multiplying the annual charge by the number of DUs for each account.

For non-residential customers, one billing unit typically does not equal their annual bill. Figure 4-3 shows the current versus proposed annual bills for the average non-residential customer (13.54 billing units for CI, 34.93 billing units for CII, and 12.1 billing units for IND) within each class.

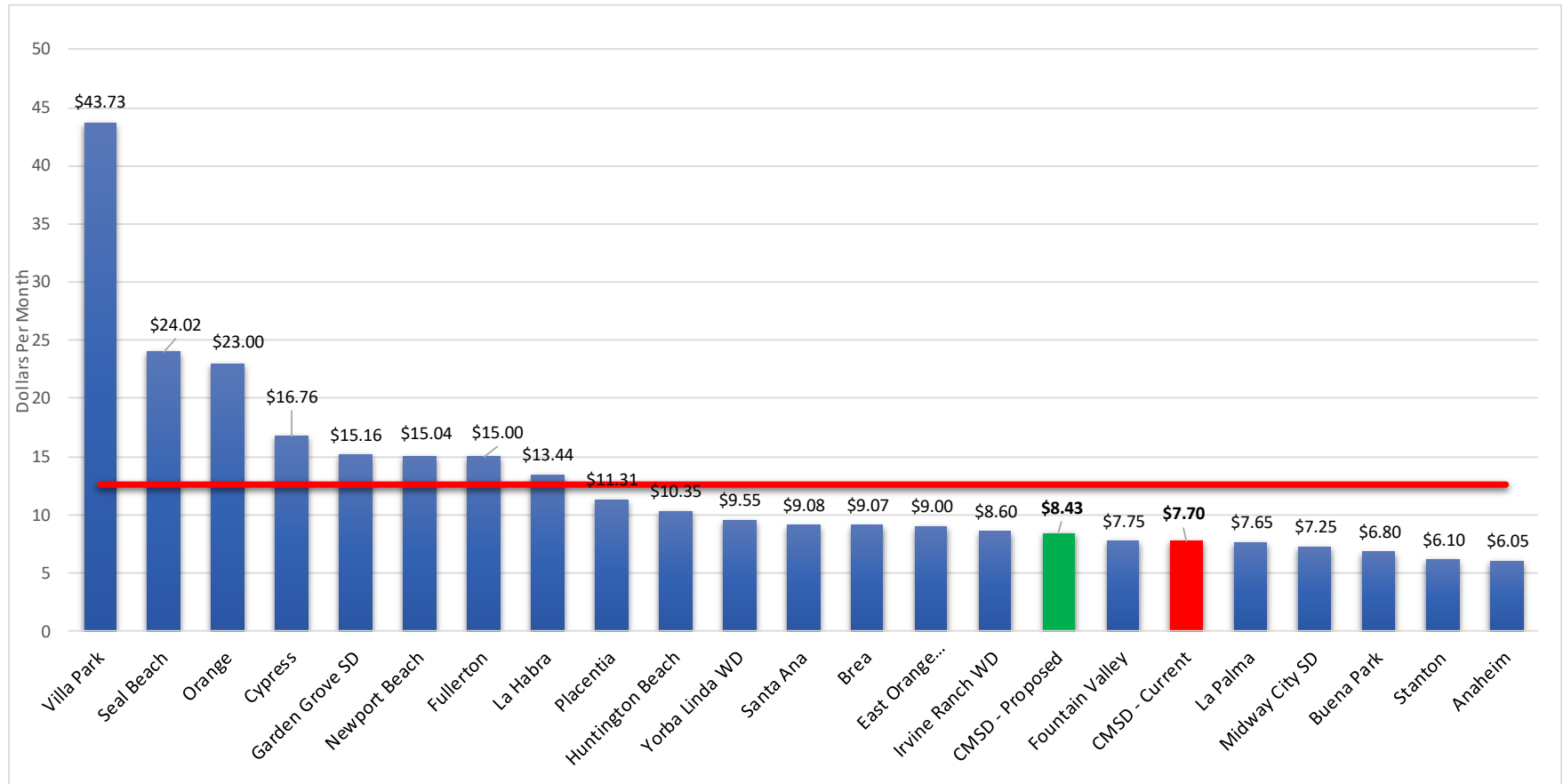
**Figure 4-3. Non-Residential Bill Impacts**



### 4.3 Rate Comparison Survey

Figure 4-4 shows projected monthly residential wastewater rates in November 2021 for 22 local wastewater providers. Where wastewater utilities charged volumetric rates, the usage level at 9 hcf was chosen because it represents a typical estimate of indoor use. Also shown are the proposed rates for CMSD in the test year and also at the end of the study period. Individual residential wastewater rates range between \$6.05 and \$43.73 at 9 hcf of usage. In all instances, CMSD's proposed wastewater rates are below the regional average.

Figure 4-4. Rate Comparison Survey for Orange County



## 5 APPENDIX

### Revenues

Description	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32
<b>Revenues from rates</b>												
Annual Charge	\$5,620,000	\$5,668,987	\$5,701,155	\$5,750,860	\$5,800,743	\$5,850,486	\$5,900,417	\$5,926,316	\$5,952,258	\$5,978,106	\$6,003,993	\$6,017,992
<b>Other operating revenues</b>												
Charges for Services	\$40,000	\$22,000	\$25,000	\$25,075	\$25,150	\$25,226	\$25,301	\$25,377	\$25,453	\$25,530	\$25,606	\$25,683
Sewer Permits	\$55,000	\$30,000	\$50,000	\$50,150	\$50,300	\$50,451	\$50,603	\$50,755	\$50,907	\$51,059	\$51,213	\$51,366
Investment Earnings	\$100,000	\$66,000	\$99,000	\$100,980	\$103,000	\$105,060	\$107,161	\$109,304	\$111,490	\$113,720	\$115,994	\$118,314
Inspection Fees	\$125,000	\$100,000	\$125,000	\$125,375	\$125,751	\$126,128	\$126,507	\$126,886	\$127,267	\$127,649	\$128,032	\$128,416
Other	\$5,000	\$50,000	\$50,000	\$50,150	\$50,300	\$50,451	\$50,603	\$50,755	\$50,907	\$51,059	\$51,213	\$51,366
Transfer in from Solid Waste Fund		\$52,800	\$52,800	\$52,958	\$53,117	\$53,277	\$53,436	\$53,597	\$53,758	\$53,919	\$54,081	\$54,243
Transfer in from Capacity Charges		\$235,000		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0

### Expenses – O&M

Description	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32
<b>Total Operating Expenses</b>	<b>\$3,899,800</b>	<b>\$4,581,200</b>	<b>\$4,959,700</b>	<b>\$4,904,584</b>	<b>\$5,106,946</b>	<b>\$5,401,281</b>	<b>\$5,529,851</b>	<b>\$5,755,330</b>	<b>\$5,969,680</b>	<b>\$6,210,677</b>	<b>\$6,576,124</b>	<b>\$6,734,980</b>
		17.5%	8.3%	-1.1%	4.1%	5.8%	2.4%	4.1%	3.7%	4.0%	5.9%	2.4%
Regular Salaries	\$608,500	\$880,000	\$916,000	\$961,800	\$1,009,890	\$1,060,385	\$1,113,404	\$1,169,074	\$1,227,528	\$1,288,904	\$1,353,349	\$1,421,017
Part-time Salaries	\$25,000	-	-	-	-	-	-	-	-	-	-	-
Board Salaries	\$85,000	\$85,000	\$85,000	\$89,250	\$93,713	\$98,398	\$103,318	\$108,484	\$113,908	\$119,604	\$125,584	\$131,863
Overtime	\$3,500	\$3,000	\$4,000	\$4,200	\$4,410	\$4,631	\$4,862	\$5,105	\$5,360	\$5,628	\$5,910	\$6,205
Auto Allowance	\$2,400	\$2,400	\$2,400	\$2,475	\$2,553	\$2,633	\$2,716	\$2,801	\$2,889	\$2,979	\$3,073	\$3,169
Cell Phone Allowance	\$4,000	\$6,000	\$6,000	\$6,154	\$6,312	\$6,474	\$6,640	\$6,811	\$6,986	\$7,165	\$7,349	\$7,537
Incentive Pay	\$5,500	\$6,000	\$6,000	\$6,300	\$6,615	\$6,946	\$7,293	\$7,658	\$8,041	\$8,443	\$8,865	\$9,308
Tuition Reimbursement	\$5,000	\$13,000	\$10,500	\$10,770	\$11,046	\$11,330	\$11,620	\$11,919	\$12,225	\$12,539	\$12,860	\$13,191
Compensated Absences	\$8,000	\$14,000	\$13,000	\$13,650	\$14,333	\$15,049	\$15,802	\$16,592	\$17,421	\$18,292	\$19,207	\$20,167
Cafeteria Plan	\$84,000	\$115,000	\$115,000	\$117,952	\$120,980	\$124,086	\$127,272	\$130,539	\$133,890	\$137,327	\$140,853	\$144,469
Medicare	\$11,500	\$15,000	\$16,000	\$16,800	\$17,640	\$18,522	\$19,448	\$20,421	\$21,442	\$22,514	\$23,639	\$24,821
Social Security	\$5,600	\$6,000	\$6,000	\$6,300	\$6,615	\$6,946	\$7,293	\$7,658	\$8,041	\$8,443	\$8,865	\$9,308
Retirement - Employer	\$63,500	\$95,000	\$96,000	\$100,800	\$105,840	\$111,132	\$116,689	\$122,523	\$128,649	\$135,082	\$141,836	\$148,928
Retirement - Employee	\$8,000	\$9,000	\$9,000	\$9,450	\$9,923	\$10,419	\$10,940	\$11,487	\$12,061	\$12,664	\$13,297	\$13,962
Deferred Medical	\$6,500	\$9,000	\$10,000	\$10,500	\$11,025	\$11,576	\$12,155	\$12,763	\$13,401	\$14,071	\$14,775	\$15,513
Benefits Admin Costs	\$18,000	\$6,100	\$6,000	\$6,300	\$6,615	\$6,946	\$7,293	\$7,658	\$8,041	\$8,443	\$8,865	\$9,308
Workers' Compensation	\$30,000	\$24,300	\$29,100	\$30,555	\$32,083	\$33,687	\$35,371	\$37,140	\$38,997	\$40,947	\$42,994	\$45,144
Regular Salaries	\$590,000	\$614,000	\$646,000	\$678,300	\$712,215	\$747,826	\$785,217	\$824,478	\$865,702	\$908,987	\$954,436	\$1,002,158
Overtime	\$75,000	\$69,000	\$74,000	\$77,700	\$81,585	\$85,664	\$89,947	\$94,445	\$99,167	\$104,125	\$109,332	\$114,798
Compensated Absences	\$8,500	\$14,000	\$9,000	\$9,450	\$9,923	\$10,419	\$10,940	\$11,487	\$12,061	\$12,664	\$13,297	\$13,962
Cafeteria Plan	\$102,500	\$98,000	\$101,000	\$103,593	\$106,252	\$108,980	\$111,778	\$114,647	\$117,590	\$120,609	\$123,705	\$126,881
Medicare	\$11,000	\$11,000	\$11,000	\$11,550	\$12,128	\$12,734	\$13,371	\$14,039	\$14,741	\$15,478	\$16,252	\$17,065
Retirement - Employer	\$53,500	\$68,000	\$70,000	\$73,500	\$77,175	\$81,034	\$85,085	\$89,340	\$93,807	\$98,497	\$103,422	\$108,593
Retirement - Employee	\$18,500	\$19,000	\$19,000	\$19,950	\$20,948	\$21,995	\$23,095	\$24,249	\$25,462	\$26,735	\$28,072	\$29,475
Deferred Medical	\$6,500	\$7,000	\$7,000	\$7,350	\$7,718	\$8,103	\$8,509	\$8,934	\$9,381	\$9,850	\$10,342	\$10,859
Cell Phone Allowance	\$7,000	\$7,000	\$7,000	\$7,180	\$7,364	\$7,553	\$7,747	\$7,946	\$8,150	\$8,359	\$8,574	\$8,794

Description	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32
Cell Phone Allowance	\$7,000	\$7,000	\$7,000	\$7,180	\$7,364	\$7,553	\$7,747	\$7,946	\$8,150	\$8,359	\$8,574	\$8,794
Incentive Pay	\$6,000	\$6,000	\$6,000	\$6,300	\$6,615	\$6,946	\$7,293	\$7,658	\$8,041	\$8,443	\$8,865	\$9,308
Benefits Admin Costs	\$1,500	\$1,000	\$1,000	\$1,050	\$1,103	\$1,158	\$1,216	\$1,276	\$1,340	\$1,407	\$1,477	\$1,551
Workers' Compensation	\$44,000	\$65,700	\$78,800	\$82,740	\$86,877	\$91,221	\$95,782	\$100,571	\$105,600	\$110,880	\$116,423	\$122,245
Professional Services	\$98,000	\$197,300	\$118,400	\$121,440	\$124,557	\$127,755	\$131,034	\$134,398	\$137,848	\$141,387	\$145,017	\$148,740
Engineering/Architectural Services	\$40,000		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plan Check/Inspection - Inside	\$30,000		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Plan Check/Inspection - Outside	\$60,000	\$92,400	\$92,400	\$94,772	\$97,205	\$99,700	\$102,260	\$104,885	\$107,578	\$110,339	\$113,172	\$116,077
Legal Services	\$120,000	\$120,000	\$120,000	\$123,081	\$126,240	\$129,481	\$132,805	\$136,214	\$139,711	\$143,298	\$146,977	\$150,750
Fiscal Services	\$26,000	\$25,200	\$28,900	\$29,642	\$30,403	\$31,183	\$31,984	\$32,805	\$33,647	\$34,511	\$35,397	\$36,306
Medical/Employment Services	\$5,450	\$7,500	\$8,700	\$8,923	\$9,152	\$9,387	\$9,628	\$9,876	\$10,129	\$10,389	\$10,656	\$10,929
Contract Services	\$13,700	\$10,300	\$6,700	\$6,872	\$7,048	\$7,229	\$7,415	\$7,605	\$7,801	\$8,001	\$8,206	\$8,417
County Collection Fee	\$18,500	\$18,000	\$18,000	\$18,462	\$18,936	\$19,422	\$19,921	\$20,432	\$20,957	\$21,495	\$22,046	\$22,612
Election Costs	\$43,800		\$40,000	\$41,027	\$42,080	\$43,160	\$44,268	\$45,405	\$46,570	\$47,766	\$48,992	\$50,250
Building Maintenance	\$26,350	\$40,400	\$44,400	\$45,927	\$47,507	\$49,142	\$50,832	\$52,581	\$54,389	\$56,260	\$58,196	\$60,198
Equipment Maintenance	\$15,300	\$13,500	\$13,500	\$13,833	\$14,175	\$14,525	\$14,884	\$15,252	\$15,628	\$16,014	\$16,410	\$16,815
Office Supplies	\$5,400	\$5,400	\$5,400	\$5,539	\$5,681	\$5,827	\$5,976	\$6,130	\$6,287	\$6,448	\$6,614	\$6,784
Multi Media/Copy/Blueprint	\$900	\$900	\$900	\$923	\$947	\$971	\$996	\$1,022	\$1,048	\$1,075	\$1,102	\$1,131
Postage	\$3,600	\$3,600	\$3,600	\$3,692	\$3,787	\$3,884	\$3,984	\$4,086	\$4,191	\$4,299	\$4,409	\$4,522
Public Info/Education/Promo	\$53,900	\$64,400	\$58,800	\$60,309	\$61,858	\$63,446	\$65,075	\$66,745	\$68,459	\$70,216	\$72,019	\$73,867
Small Tools/Equipment	\$17,900	\$10,800	\$10,800	\$11,067	\$11,340	\$11,620	\$11,907	\$12,201	\$12,503	\$12,812	\$13,128	\$13,452
Computer Licenses & Maintenance	\$100,350	\$99,000	\$105,400	\$108,106	\$110,881	\$113,728	\$116,647	\$119,642	\$122,713	\$125,863	\$129,094	\$132,409
Emergency Equipment and Supplies	\$4,500	\$5,850	\$5,800	\$5,943	\$6,090	\$6,240	\$6,395	\$6,553	\$6,714	\$6,880	\$7,050	\$7,224
Memberships/Dues	\$46,400	\$49,100	\$59,700	\$61,233	\$62,805	\$64,417	\$66,071	\$67,767	\$69,506	\$71,291	\$73,121	\$74,998
Staff Development	\$43,540	\$36,800	\$49,550	\$50,822	\$52,127	\$53,465	\$54,837	\$56,245	\$57,689	\$59,170	\$60,689	\$62,247
Board Development	\$30,760	\$24,300	\$21,600	\$22,155	\$22,723	\$23,307	\$23,905	\$24,519	\$25,148	\$25,794	\$26,456	\$27,135
Mileage Reimbursement	\$1,400	\$1,350	\$1,300	\$1,333	\$1,368	\$1,403	\$1,439	\$1,476	\$1,514	\$1,552	\$1,592	\$1,633
Liability Insurance	\$108,900	\$35,100	\$38,400	\$40,320	\$42,336	\$44,453	\$46,675	\$49,009	\$51,460	\$54,033	\$56,734	\$59,571
Telephone	\$21,600	\$30,900	\$22,100	\$22,667	\$23,249	\$23,846	\$24,458	\$25,086	\$25,730	\$26,391	\$27,068	\$27,763
Gas - Building	\$3,200	\$2,700	\$2,700	\$2,825	\$2,956	\$3,093	\$3,236	\$3,386	\$3,542	\$3,706	\$3,878	\$4,058
Water - Building	\$4,100	\$3,600	\$3,600	\$3,767	\$3,941	\$4,124	\$4,314	\$4,514	\$4,723	\$4,942	\$5,171	\$5,410
Electric - Building	\$11,700	\$7,200	\$7,200	\$7,533	\$7,882	\$8,247	\$8,629	\$9,028	\$9,446	\$9,884	\$10,341	\$10,820
Bank Merchants/Fees	\$8,500	\$8,500	\$8,500	\$8,718	\$8,942	\$9,172	\$9,407	\$9,649	\$9,896	\$10,150	\$10,411	\$10,678
Capital Outlay	\$60,000	\$327,200	\$34,400	\$35,583	\$36,807	\$38,074	\$39,383	\$40,738	\$42,140	\$43,589	\$45,089	\$46,640
Contingency	\$95,750		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Contract Services- Sewer	\$2,400	\$42,400	\$2,400	\$2,462	\$2,525	\$2,590	\$2,656	\$2,724	\$2,794	\$2,866	\$2,940	\$3,015
Pump Station Maintenance	\$89,900	\$112,000	\$112,000	\$115,853	\$119,838	\$123,961	\$128,225	\$132,636	\$137,198	\$141,918	\$146,800	\$151,850
Sewer Line Maintenance	\$25,000	\$35,000	\$35,500	\$36,721	\$37,984	\$39,291	\$40,643	\$42,041	\$43,487	\$44,983	\$46,530	\$48,131
GIS Support	\$62,500	\$71,500	\$68,500	\$70,259	\$72,062	\$73,912	\$75,810	\$77,756	\$79,752	\$81,799	\$83,899	\$86,053
Building Maintenance - Yard	\$13,000	\$15,000	\$18,000	\$18,619	\$19,260	\$19,922	\$20,608	\$21,316	\$22,050	\$22,808	\$23,593	\$24,404
Equipment Maintenance	\$101,000	\$100,000	\$130,000	\$133,211	\$136,501	\$139,873	\$143,328	\$146,868	\$150,496	\$154,213	\$158,022	\$161,925
Televising Sewer Lines Program	\$25,000	\$25,000	\$25,000	\$25,642	\$26,300	\$26,975	\$27,668	\$28,378	\$29,107	\$29,854	\$30,620	\$31,406
Annual Sewer Maintenance	\$150,000	\$100,000	\$100,000	\$103,440	\$106,998	\$110,679	\$114,486	\$118,425	\$122,499	\$126,713	\$131,071	\$135,580
Fats, Oils and Grease Program	\$131,500	\$114,000	\$114,000	\$117,762	\$121,648	\$125,663	\$129,809	\$134,093	\$138,518	\$143,089	\$147,811	\$152,689
Sewer Inspection Rebate Program (SIRP)	\$30,000	\$30,000	\$30,000	\$30,770	\$31,560	\$32,370	\$33,201	\$34,054	\$34,928	\$35,824	\$36,744	\$37,687

Description	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32
Office Supplies	\$1,000	\$1,000	\$1,000	\$1,026	\$1,052	\$1,079	\$1,107	\$1,135	\$1,164	\$1,194	\$1,225	\$1,256
Small Tools/Equipment	\$9,000	\$36,500	\$17,500	\$17,932	\$18,375	\$18,829	\$19,294	\$19,771	\$20,259	\$20,759	\$21,272	\$21,798
Materials and Supplies	\$20,400	\$21,500	\$22,000	\$22,565	\$23,144	\$23,738	\$24,348	\$24,973	\$25,614	\$26,271	\$26,946	\$27,637
Emergency Equipment and Supplies		\$6,700										
Computer Licenses & Maintenance	\$33,000	\$71,900	\$70,000	\$71,797	\$73,640	\$75,531	\$77,470	\$79,458	\$81,498	\$83,590	\$85,736	\$87,937
Memberships/Dues	\$3,400	\$3,100	\$3,600	\$3,692	\$3,787	\$3,884	\$3,984	\$4,086	\$4,191	\$4,299	\$4,409	\$4,522
Staff Development	\$16,000	\$11,700	\$13,250	\$13,590	\$13,939	\$14,297	\$14,664	\$15,040	\$15,426	\$15,822	\$16,229	\$16,645
Mileage Reimbursement	\$200	\$200	\$200	\$205	\$210	\$216	\$221	\$227	\$233	\$239	\$245	\$251
Telephone - Yard	\$29,500	\$23,000	\$12,800	\$13,393	\$14,013	\$14,662	\$15,340	\$16,051	\$16,794	\$17,571	\$18,385	\$19,236
Gas - Yard	\$400	\$400	\$400	\$419	\$438	\$458	\$479	\$502	\$525	\$549	\$575	\$601
Water - Yard	\$3,500	\$4,000	\$4,000	\$4,185	\$4,379	\$4,582	\$4,794	\$5,016	\$5,248	\$5,491	\$5,745	\$6,011
Electric - Yard	\$5,800	\$5,000	\$5,000	\$5,232	\$5,474	\$5,727	\$5,992	\$6,270	\$6,560	\$6,864	\$7,182	\$7,514
Water Pumps	\$2,000	\$3,500	\$3,500	\$3,662	\$3,832	\$4,009	\$4,195	\$4,389	\$4,592	\$4,805	\$5,027	\$5,260
Electric Pumps	\$55,000	\$55,000	\$55,000	\$57,547	\$60,211	\$62,999	\$65,916	\$68,967	\$72,161	\$75,502	\$78,997	\$82,655
Liability Insurance	\$19,800	\$175,500	\$192,200	\$201,810	\$211,901	\$222,496	\$233,620	\$245,301	\$257,566	\$270,445	\$283,967	\$298,165
Capital Outlay	\$53,000		\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Sharps Program		\$7,500	\$7,500									
GIS , AssetManagement, and Permit System Improvements			\$120,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
GIS Subscription Addition			\$15,000	\$15,385	\$15,780	\$16,185	\$16,601	\$17,027	\$17,464	\$17,912	\$18,372	\$18,844
Additional Work Stations (2) with AutoCAD (1)			\$4,000		\$4,200		\$4,410		\$4,631		\$4,862	
General Engineering Support and Resource			\$25,000	\$25,860	\$26,750	\$27,670	\$28,622	\$29,606	\$30,625	\$31,678	\$32,768	\$33,895
Gravity Sewer Flow Measuring Meter			\$30,000	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Flow Meter Rental and Cloud Access			\$45,000	\$46,112	\$47,250	\$48,418	\$49,613	\$50,839	\$52,095	\$53,381	\$54,700	\$56,051
2 new Wastewater Staff			\$265,300	\$278,565	\$292,493	\$307,118	\$322,474	\$338,597	\$355,527	\$373,304	\$391,969	\$411,567
Risk & Resilience Assessment (RRA)			\$25,000									
Employee Engagement Survey			\$22,500					\$25,540				
Springbrook Cloud Upgrade			\$36,000									
The Western Wastewater Technical Advisory Group 31 (Western wwTAG31)			\$21,000	\$21,000	\$21,000	\$21,000	\$21,000					
CIP Master Plan Updates						\$91,716					\$104,108	
IT Security Maintenance & Monitoring			\$17,000	\$17,436	\$17,884	\$18,343	\$18,814	\$19,297	\$19,792	\$20,301	\$20,822	\$21,356

## Expenses - CIP

Description	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32
	\$1,567,000	\$1,802,000	\$2,468,548	\$2,241,615	\$3,066,402	\$2,606,348	\$2,574,705	\$2,680,444	\$2,801,911	\$2,883,572	\$3,020,134	\$3,297,032
Iowa FM Replacement #322	\$270,000											
Brick Manhole Rehab Ph2 #324	\$117,000											
Calcium Removl Ph 1 #327	\$450,000											
Ductile Iron Pipe (DIP) Rehab PH 2 #328	\$325,000											
Aviemore Force Main Replacement #329	\$230,000											
Westbluff Pump Station Rehab #330	\$175,000											
City MH Adjustment Program #309		\$70,000										
Manhole Cover Repairs #311		\$72,000										
Brick Manhole Rehab Ph 2 #324		\$130,000										
Calcium Removal Ph 1 #327		\$75,000										
Ductile Iron Pipe (DIP) Rehab PH 2 #328		\$400,000										
Gisler Forcemain Replacement #334		\$520,000										
Sewer Siphon Lining #335		\$250,000										
Grade 4 Sewer Repairs #336		\$120,000										
Air-Vac Rehab and Removal #337		\$165,000										
City MH Adjustment Program #309			\$72,408									
Manhole Cover Repairs #311			\$74,477									
Brick Manhole Rehab Ph 2 #324			\$134,472									
Calcium Removal Ph 1 #327			\$413,760									
Sewer Siphon Lining #335			\$310,320									
Grade 4 Sewer Repairs #336			\$175,848									
Air-Vac Rehab and Removal #337			\$170,676									
Elden PS Force main Valve Rehab #338			\$268,944									
21st Street FM Rehab #339			\$206,880									
System Wide Sewer Assessment						\$400,702.54						
Brick Manhole Rehab Phase 6					\$221,358							
Sea Bluff Force Main and Pump Station Rehab				\$427,993								
California Force Main and Pump Station Rehab					\$553,395							
Brick Manhole Rehab Phase 5				\$213,997								



Description	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32
Calcium Removal Phase 2				\$427,993								
21st Street Force Main Upgrades				\$213,997								
Wastewater Pipeline Rehabilitation												
Future CIP												
Future CIP 1												
Future CIP 2												
Future CIP 3												
Future CIP 4												
Future CIP 5												
CIP assumption												
Trimble GPS Unit			\$30,741									
Trimble GPS Unit											\$37,367.36	
Combo Cleaning Truck			\$464,117									
Pickup Truck			\$77,353									
Pickup Truck								\$90,271.95				
Additional County Radios (2)			\$12,296			\$13,230.26			\$14,235.04			\$15,316
Additional Nozzles with Camera (1)			\$10,247					\$11,576.59				
Manhole Cover Repairs #311				\$53,499								
Harbor Generator Project				\$534,992								
Irvine Generator Project				\$299,595								
Manhole Cover Repairs #311					\$55,340							
Brick Manhole Rehab Ph 5					\$442,716							
Mendoza FM Rehab & Redundancy					\$221,358							
Grade 4 Sewer Repairs #336					\$387,377							
Sea Bluff Force Main and Pump Station Rehab					\$221,358							
Irvine Generator Project					\$332,037							
Mendoza FM Rehab & Redundancy						\$457,945.76						
Sea Bluff Force Main and Pump Station Rehab						\$457,945.76						
Brick Manhole Rehab P6						\$343,459.32						
Grade 4 Sewer Repairs #336						\$228,972.88						
Irvine FM Redundancy						\$572,432.20						
Manhole Cover Repairs #311						\$57,243.22						
Irvine FM Redundancy							\$592,123.86					
Brick Manhole Rehab P7							\$236,849.55					
Santa Ana & Irvine PS Odor Project							\$592,123.86					
Manhole Cover Repairs #311							\$59,212.39					
Elden FM Redundancy							\$592,123.86					
Iowa Overflow Interconnection							\$118,424.77					
Grade 4 Sewer Repairs #336							\$236,849.55					
Elden FM Redundancy								\$1,224,985.85				
Manhole Cover Repairs #311								\$61,249.29				
Brick Manhole Rehab P8								\$489,994.34				
Sewer Replacement								\$293,996.60				
Grade 4 Sewer Repairs #336								\$428,745.05				
City MH Adjustment Program #309								\$79,624.08				
City MH Adjustment Program #309							\$76,976.10					
City MH Adjustment Program #309						\$74,416.19						
City MH Adjustment Program #309					\$71,941							
City MH Adjustment Program #309				\$69,549								
City MH Adjustment Program #309									\$82,363.15			

Description	FY 2020-21	FY 2021-22	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32
Manhole Cover Repairs #311									\$107,705.66			
Brick Manhole Rehab P9									\$570,206.41			
Grade 4 Sewer Repairs #336									\$633,562.68			
Canyon PS Project									\$380,137.61			
Mendoza Pump Station/FM Project									\$570,206.41			
Santa Ana Foremain									\$443,493.88			
City MH Adjustment Program #309										\$65,535.72		
Manhole Cover Repairs #311										\$91,750.01		
Brick Manhole Rehab P10										\$393,214.34		
Grade 4 Sewer Repairs #336										\$524,285.79		
Canyon PS Project										\$707,785.82		
Sewer 138118 Adams Rehab										\$458,750.07		
Santa Ana Pump Station Rehabilitation										\$642,250.09		
City MH Adjustment Program #309											\$81,348.18	
Manhole Cover Repairs #311											\$88,127.20	
Brick Manhole Rehab P10											\$474,531.07	
Grade 4 Sewer Repairs #336											\$338,950.76	
Forcemain Rehab & Replacement											\$610,111.37	
Sewer 141486 Irvine Sag Replacement											\$576,216.30	
Pump Station Rehabilitation											\$813,481.83	
City MH Adjustment Program #309												\$70,122
Manhole Cover Repairs #311												\$91,159
Brick Manhole Rehab P10												\$596,038
Grade 4 Sewer Repairs #336												\$490,855
Harbor Forcemain Rehab & Redundancy												\$701,221
Siphon Project												\$560,977
Adams Pump Station & FM Rehabilitation												\$771,343
2022 Propane Forklift			\$36,992									
2023 Propane Forklift			\$9,017									
2008 Chevy Silverado 250 #1009- Replacemnt					\$54,745							
2008 Chevy Silverado 250 #1009- Replacemnt					\$11,081							
2013 VACCON Sewer Combo Truck #1001- Replacement					\$459,465							
2013 VACCON Sewer Combo Truck #1001- Replacement					\$34,229							
2018 Ford F250 Diesel #1013- Replacement							\$63,252.19					
2018 Ford F250 Diesel #1013- Replacement							\$6,768.68					

## O&M Cost of Service Analysis

O&M Cost Allocation	Total by Function	Volume	BOD	TSS	Sewer Service
<b>Sewer Collection</b>	<b>\$1,851,310</b>	<b>\$1,666,179</b>	<b>\$92,566</b>	<b>\$92,566</b>	<b>\$0</b>
Fixed	\$1,851,310	\$1,666,179	\$92,566	\$92,566	\$0
Variable	\$0	\$0	\$0	\$0	\$0
<b>Pumping</b>	<b>\$852,370</b>	<b>\$767,133</b>	<b>\$42,619</b>	<b>\$42,619</b>	<b>\$0</b>
Purchased Power	\$55,000	\$49,500	\$2,750	\$2,750	\$0
Fixed	\$55,000	\$49,500	\$2,750	\$2,750	\$0
Variable	\$0	\$0	\$0	\$0	\$0
Other	\$797,370	\$717,633	\$39,869	\$39,869	\$0
Fixed	\$797,370	\$717,633	\$39,869	\$39,869	\$0
Variable	\$0	\$0	\$0	\$0	\$0
<b>Sewer Treatment</b>	<b>\$114,000</b>	<b>\$0</b>	<b>\$57,000</b>	<b>\$57,000</b>	<b>\$0</b>
Chemicals	\$0	\$0	\$0	\$0	\$0
Fixed	\$0	\$0	\$0	\$0	\$0
Variable	\$0	\$0	\$0	\$0	\$0
Transmission	\$0	\$0	\$0	\$0	\$0
Fixed	\$0	\$0	\$0	\$0	\$0
Variable	\$0	\$0	\$0	\$0	\$0
Storage	\$0	\$0	\$0	\$0	\$0
Fixed	\$0	\$0	\$0	\$0	\$0
Variable	\$0	\$0	\$0	\$0	\$0
Land Application	\$0	\$0	\$0	\$0	\$0
Fixed	\$0	\$0	\$0	\$0	\$0
Variable	\$0	\$0	\$0	\$0	\$0
Structures	\$0	\$0	\$0	\$0	\$0
Fixed	\$0	\$0	\$0	\$0	\$0
Variable	\$0	\$0	\$0	\$0	\$0
ST-Other	\$114,000	\$0	\$57,000	\$57,000	\$0
Fixed	\$114,000	\$0	\$57,000	\$57,000	\$0
Variable	\$0	\$0	\$0	\$0	\$0
<b>Customer Accounts</b>	<b>\$252,040</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$252,040</b>
Meter Reading/Bill	\$0	\$0	\$0	\$0	\$0
Fixed	\$0	\$0	\$0	\$0	\$0
Variable	\$0	\$0	\$0	\$0	\$0
CA-Other	\$252,040	\$0	\$0	\$0	\$252,040
Fixed	\$252,040	\$0	\$0	\$0	\$252,040
Variable	\$0	\$0	\$0	\$0	\$0
<b>Administrative and G</b>	<b>\$1,889,980</b>	<b>\$1,498,153</b>	<b>\$118,325</b>	<b>\$118,325</b>	<b>\$155,177</b>
Administrative and	\$1,889,980	\$1,498,153	\$118,325	\$118,325	\$155,177
Fixed	\$1,889,980	\$1,498,153	\$118,325	\$118,325	\$155,177
Variable	\$0	\$0	\$0	\$0	\$0
<b>Total Test Year O&amp;M</b>	<b>\$4,959,700</b>	<b>\$3,931,465</b>	<b>\$310,509</b>	<b>\$310,509</b>	<b>\$407,217</b>

### CIP/Asset Cost of Service Analysis

Asset Cost Allocation	Total by Function	Volume	BOD	TSS	Sewer Service
<b>Sewer Treatment</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
Structures	\$0	\$0	\$0	\$0	\$0
Sewer Treatment Pl	\$0	\$0	\$0	\$0	\$0
<b>Collection and Dispo:</b>	<b>\$26,827,503</b>	<b>\$24,109,083</b>	<b>\$1,339,393</b>	<b>\$1,339,393</b>	<b>\$39,633</b>
Land	\$0	\$0	\$0	\$0	\$0
Electrical Pumping f	\$2,843,089	\$2,558,780	\$142,154	\$142,154	\$0
Other Pumping Equ	\$919,457	\$827,511	\$45,973	\$45,973	\$0
Structures	\$0	\$0	\$0	\$0	\$0
Collection System	\$21,626,458	\$19,463,812	\$1,081,323	\$1,081,323	\$0
Force Mains	\$1,398,866	\$1,258,979	\$69,943	\$69,943	\$0
Services	\$39,633	\$0	\$0	\$0	\$39,633
Storage	\$0	\$0	\$0	\$0	\$0
Land Application	\$0	\$0	\$0	\$0	\$0
<b>Sewer General</b>	<b>\$3,874,168</b>	<b>\$3,486,751</b>	<b>\$193,708</b>	<b>\$193,708</b>	<b>\$0</b>
G-Land	\$0	\$0	\$0	\$0	\$0
G-Structures	\$2,680,821	\$2,412,739	\$134,041	\$134,041	\$0
Other	\$1,193,347	\$1,074,012	\$59,667	\$59,667	\$0
<b>Total Assets</b>	<b>\$30,701,670</b>	<b>\$27,595,834</b>	<b>\$1,533,102</b>	<b>\$1,533,102</b>	<b>\$39,633</b>
	<b>\$2,902,339</b>				
<b>Total Other Obligations:</b>	<b>\$2,902,339</b>	<b>\$2,608,733</b>	<b>\$144,930</b>	<b>\$144,930</b>	<b>\$3,747</b>

## 10-Year Financial Plan

Description	FY 2022-23	FY 2023-24	FY 2024-25	FY 2025-26	FY 2026-27	FY 2027-28	FY 2028-29	FY 2029-30	FY 2030-31	FY 2031-32
<b>Operating Revenues</b>	\$6,745,512	\$7,956,820	\$8,034,370	\$8,111,721	\$8,189,332	\$8,236,074	\$8,282,892	\$8,329,592	\$8,371,401	\$8,397,971
Revenue from Rates	\$6,670,512	\$7,881,595	\$7,958,919	\$8,036,044	\$8,113,428	\$8,159,943	\$8,206,531	\$8,253,003	\$8,294,582	\$8,320,921
Revenue from Rates - Proposed	\$6,670,512	\$7,881,595	\$7,958,919	\$8,036,044	\$8,113,428	\$8,159,943	\$8,206,531	\$8,253,003	\$8,294,582	\$8,320,921
<b>Water Sales % Surplus/Shortfall</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>	<b>0%</b>
Other Operating Revenues	\$75,000	\$75,225	\$75,451	\$75,677	\$75,904	\$76,132	\$76,360	\$76,589	\$76,819	\$77,049
<b>O&amp;M Expenses</b>	<b>(\$4,959,700)</b>	<b>(\$4,904,584)</b>	<b>(\$5,106,946)</b>	<b>(\$5,401,281)</b>	<b>(\$5,529,851)</b>	<b>(\$5,755,330)</b>	<b>(\$5,969,680)</b>	<b>(\$6,210,677)</b>	<b>(\$6,576,124)</b>	<b>(\$6,734,980)</b>
Net Operating Revenues	\$1,785,812	\$3,052,236	\$2,927,424	\$2,710,440	\$2,659,482	\$2,480,744	\$2,313,212	\$2,118,914	\$1,795,277	\$1,662,990
Non-operating Revenues	\$326,800	\$329,463	\$332,168	\$334,916	\$337,707	\$340,542	\$343,421	\$346,347	\$349,319	\$352,339
<b>Other Obligations</b>	<b>(\$2,902,339)</b>	<b>(\$2,684,423)</b>	<b>(\$3,004,999)</b>	<b>(\$3,059,156)</b>	<b>(\$2,964,260)</b>	<b>(\$3,046,542)</b>	<b>(\$3,255,498)</b>	<b>(\$3,343,821)</b>	<b>(\$3,474,128)</b>	<b>(\$3,736,746)</b>
Debt Service Principal	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Debt Service Interest	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Contribution to Reserves	(\$2,270,592)	(\$2,684,423)	(\$2,959,689)	(\$3,045,925)	(\$2,957,491)	(\$3,034,965)	(\$3,241,263)	(\$3,343,821)	(\$3,474,128)	(\$3,721,430)
Capital PAYGO	(\$631,746)	\$0	(\$45,310)	(\$13,230)	(\$6,769)	(\$11,577)	(\$14,235)	\$0	\$0	(\$15,316)
CIP Reserve	(\$1,836,802)	(\$2,241,615)	(\$3,021,091)	(\$2,593,118)	(\$2,567,936)	(\$2,668,867)	(\$2,787,676)	(\$2,883,572)	(\$3,020,134)	(\$3,281,716)
<i>Use of CIP Fund</i>	<i>\$1,836,802</i>	<i>\$2,241,615</i>	<i>\$3,021,091</i>	<i>\$2,593,118</i>	<i>\$2,567,936</i>	<i>\$2,668,867</i>	<i>\$2,787,676</i>	<i>\$2,883,572</i>	<i>\$3,020,134</i>	<i>\$3,281,716</i>
<b>Net Balance</b>	<b>(\$789,726)</b>	<b>\$697,277</b>	<b>\$254,594</b>	<b>(\$13,800)</b>	<b>\$32,928</b>	<b>(\$225,256)</b>	<b>(\$598,865)</b>	<b>(\$878,560)</b>	<b>(\$1,329,532)</b>	<b>(\$1,721,417)</b>
Beginning of the Year Balance	\$0	(\$789,726)	(\$92,449)	\$162,144	\$148,344	\$181,273	(\$43,983)	(\$642,848)	(\$1,521,408)	(\$2,850,941)
Ending Balance	<b>(\$789,726)</b>	<b>(\$92,449)</b>	<b>\$162,144</b>	<b>\$148,344</b>	<b>\$181,273</b>	<b>(\$43,983)</b>	<b>(\$642,848)</b>	<b>(\$1,521,408)</b>	<b>(\$2,850,941)</b>	<b>(\$4,572,357)</b>
<b>DSCR</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
% Deficit/Surplus	-11.8%	8.8%	3.2%	-0.2%	0.4%	-2.8%	-7.3%	-10.6%	-16.0%	-20.7%
% Cumulative Deficiency	-11.8%	-0.6%	0.7%	0.5%	0.5%	-0.1%	-1.2%	-2.4%	-4.0%	-5.7%
<b>Reserve Target</b>	<b>\$9,848,230</b>	<b>\$9,848,230</b>	<b>\$9,848,230</b>	<b>\$9,848,230</b>	<b>\$9,848,230</b>	<b>\$10,214,328</b>	<b>\$10,667,915</b>	<b>\$11,128,165</b>	<b>\$11,582,159</b>	<b>\$12,021,873</b>
Operating Reserve	\$1,251,233	\$1,284,040	\$1,316,848	\$1,349,655	\$1,382,463	\$1,438,832	\$1,492,420	\$1,552,669	\$1,644,031	\$1,683,745
Sewer Construction Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Facilities Revolving Fund	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Asset Replacement Fund	\$2,152,624	\$2,562,624	\$2,468,414	\$2,888,414	\$3,245,162	\$3,554,890	\$3,954,890	\$4,354,890	\$4,717,522	\$5,117,522
Asset Management Fund	\$5,220,606	\$5,220,606	\$5,220,606	\$5,220,606	\$5,220,606	\$5,220,606	\$5,220,606	\$5,220,606	\$5,220,606	\$5,220,606
<b>Annual Target Reserves</b>	<b>\$8,624,462</b>	<b>\$9,067,270</b>	<b>\$9,005,867</b>	<b>\$9,458,675</b>	<b>\$9,848,230</b>	<b>\$10,214,328</b>	<b>\$10,667,915</b>	<b>\$11,128,165</b>	<b>\$11,582,159</b>	<b>\$12,021,873</b>
<b>Actual Cash Balance</b>	<b>\$7,834,736</b>	<b>\$8,974,660</b>	<b>\$9,158,608</b>	<b>\$9,579,334</b>	<b>\$9,974,505</b>	<b>\$10,078,999</b>	<b>\$10,210,814</b>	<b>\$10,398,898</b>	<b>\$10,475,604</b>	<b>\$10,514,230</b>

