CITY OF

San Diego

Wastewater Financial Plan, Cost of Service, and Rate Study

Final Report / March 23, 2021

Addendum to Final Report / July 7, 2021

RAFTELIS

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March 23, 2021

Ms. Lisa Celaya
Assistant Director
City of San Diego
9192 Topaz Way
San Diego, CA 92123

Subject: Wastewater Financial Plan, Cost of Service and Rate and Fee Study Final Report

Dear Ms. Celaya,

Raftelis is pleased to provide this Wastewater Financial Plan, Cost of Service, and Rate Study Report (Report) for the City of San Diego (City). The Water Financial Plan, Cost of Service, and Rate Study Report is provided under a separate cover.

The major objectives of the wastewater study included the following:

- Develop financial plans for the City's Sewer Revenue Fund to ensure financial sufficiency, meet operations and maintenance (O&M) costs, ensure sufficient funding for capital replacement and refurbishment (R&R) needs, and improve the financial health of the enterprises.
- Develop a comprehensive cost of service analysis to ensure equity between classes.
- Develop cost of service-based rates which meet the City's policy objectives and comply with legal and statutory requirements.
- Develop a rate model for use by the City.

The Report summarizes the key findings and recommendations related to the development of the financial plan for the wastewater utility and the development of updated wastewater rates and fees.

It has been a pleasure working with you, and we thank you and the City staff for the support provided during the course of this study.

Sincerely,

John Wright
Senior Manager

227 W. Trade Street, Suite 1400
Charlotte, NC 28202
www.raftelis.com

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Executive Summary

Study Objectives

The City of San Diego (City) retained Raftelis to conduct a comprehensive financial planning, cost of service, and rate design analysis for its wastewater utility. The City's overall objectives for this study included:

- Development of a financial plan for the wastewater utility to ensure financial sufficiency, meet operations and maintenance (O&M) costs, ensure adequate funding for capital replacement and refurbishment (R&R) needs, and sustain the financial health of the utility for the period FY 2022 through FY 2025.
- Development of a comprehensive wastewater financial model for the City's future financial planning and rate analysis needs.
- Conduct a comprehensive cost of service (COS) for the wastewater utility to ensure that costs are equitably assigned to customer classes for the period FY 2022 through FY 2025.
- Design rates for the period FY 2022 through FY 2025 which maintain fair and equitable cost recovery from each customer class.
- Comply with Proposition 218, Proposition 26, California Government Code Section 66013, and other regulatory requirements.
- Provide appropriate education and public outreach to the City Council, the general public, and other stakeholders to ensure successful implementation of current and upcoming rate cases.

Raftelis applied industry best practice cost of service methodologies supported by the Water Environment Federation (WEF) in its *Manual of Practice No. 27, Financing and Charges for Wastewater Systems, 4th Edition, 2018* (WEF Manual No. 27).

Study Findings and Recommendations

FINANCIAL PLAN

The Sewer Revenue Fund incurs all of the costs necessary to provide wastewater service and a portion of the costs necessary to provide recycled water service (the Water Enterprise Fund also incurs costs to provide recycled water service). If the City's current wastewater rates remain unchanged, projected rate revenues will be inadequate to meet the wastewater utility's annual revenue requirements throughout the period FY22 through FY25. Table 1 illustrates the recommended rate revenue adjustments. These adjustments are required to pay for future wastewater utility operations and maintenance expenses, fund the capital improvement program, provide adequate reserves, and satisfy debt service coverage requirements throughout the study period.

Table 1: Projected Required Rate Revenue Adjustments

Year	Effective Date	% Rate Revenue Increase
FY 2022	January 1st	5.00%
FY 2023	January 1st	4.00%
FY 2024	January 1st	4.00%
FY 2025	January 1st	3.00%

COST OF SERVICE ANALYSIS

The cost of service analysis is a method of allocating the test year annual revenue requirement to customer classes based on the principle of cost causation. The test year is the year in which the cost of service rates will be effective. Customer classes are assigned costs to operate the system based on the demands they place on the system. The allocation processes used in the cost of service analysis considers the volume and strength of wastewater discharges and the number of customers in each customer classes. As shown in Table 2, the total FY22 wastewater revenue requirement is approximately $292.0 million. Of this amount, approximately $282.1 million is associated with the provision of wastewater service. Approximately $10.0 million is associated with wastewater costs that have been identified as being incurred to provide recycled water service.

Table 2: Test Year FY 2022 Cost of Service Summary ($/millions)

Customer Class	FY 2022 Cost of Service	Revenue at Existing Rates	Required Change in Revenue Recovery from Existing Rates	Percentage Change in Revenue Recovery
Wastewater Customer Classes				
Single Family Residential	$125,935,543	$106,632,771	$19,302,772	18.1%
Multi-Family Residential	$71,361,452	$75,752,500	($4,391,048)	-5.8%
Non-Residential	$71,538,149	$82,326,763	($10,788,614)	-13.1%
Total Regular Wastewater Service	$268,835,144	$264,712,034	$4,123,110	1.6%
Other (Navy, Prisons)	$7,950,535	$7,257,235	$693,299	9.6%
Total Other (Navy, Prisons)	$7,950,535	$7,257,235	$693,299	9.6%
Trucked Waste and Imported Flows	$3,941,475	$4,500,000	($558,525)	-12.4%
Total Trucked Waste	$3,941,475	$4,500,000	($558,525)	-12.4%
Stormwater Transportation	$1,360,433	$1,667,940	($307,507)	-18.4%
Total Stormwater Transportation	$1,360,433	$1,667,940	($307,507)	-18.4%
Total Wastewater Service	$282,087,586	$278,137,209	$3,950,376	1.4%
Recycled Service	$9,956,484		$9,956,484	
Total	$292,044,070	$278,137,209	$13,906,860	5.0%

WASTEWATER RATE DESIGN

In the development of wastewater rate schedules, a basic consideration is to establish equitable charges to customers commensurate with the cost of providing service. The cost of service analysis determines the cost of serving each customer class based on the service requirements (i.e., demands) they place on the wastewater utility system. The City's customer classes reflect groups of customers that have similar service characteristics.

The City has the following wastewater service customer classes: Single Family Residential, Multi-Family Residential, Commercial/Industrial, Other (Navy/Prisons), Trucked Waste and Imported Flows, and Stormwater Transportation. Tables 3 and 4 show a comparison of current and proposed service charges and current and proposed commodity rates for the typical customer classes. Service charges and commodity rates for the Other (Navy/Prisons) customer class are not shown in Tables 3 and 4 because these rates are set via a contractual arrangement. These contractually agreed to rates reflect the estimated costs that the Other (Navy/Prisons) customer class impose on the City's sewer system based on its its flow and strength loading characteristics.

Table 3: Current and Proposed Wastewater Monthly Service Charges

Customer Class	Current Charge	FY 2022	FY 2023	FY 2024	FY 2025
Single Family Residential	$15.33	$15.11	$15.71	$16.34	$16.83
Multi-Family Residential	$15.33	$15.11	$15.71	$16.34	$16.83
Commercial / Industrial	$15.33	$15.11	$15.71	$16.34	$16.83

Table 4: Current and Proposed Wastewater Commodity Rates

Customer Class	Unit	Current Charge	FY 2022	FY 2023	FY 2024	FY 2025
Residential						
Single Family Residential	($ / hcf)	$3.598	$4.720	$4.909	$5.105	$5.258
Multi-Family Residential	($ / hcf)	$5.028	$4.720	$4.909	$5.105	$5.258
Commercial / Industrial						
Flow Charges	($ / hcf)	$3.767	$3.122	$3.247	$3.377	$3.478
COD Charges	($ / lb)	$0.224	$0.208	$0.216	$0.225	$0.232
TSS Charges	($ / lb)	$0.552	$0.469	$0.488	$0.507	$0.522
Trucked Waste						
Flow Charges	($ / hcf)	$3.900	$3.068	$3.191	$3.318	$3.418
COD Charges	($ / lb)	$0.232	$0.208	$0.216	$0.225	$0.232
TSS Charges	($ / lb)	$0.571	$0.469	$0.488	$0.507	$0.522
Stormwater Transportation						
Flow	($/hcf)	$7.676	$3.740	$3.890	$4.045	$4.167

RECYCLED WATER DESIGN

As noted previously, the Sewer Revenue Fund incurs expenses to provide recycled water service. As part of this study, Raftelis developed the proposed recycled water rates shown in Tables 5 and 6. It is important to note that the recycled water rates shown below include both the recycled water costs incurred by the Sewer Revenue Fund and the Water Revenue Fund (i.e., the total recycled water revenue requirement).

Table 5: Current and Proposed Recycled Water Monthly Meter Service Charges

Meter Size	Current Charge	FY 2022	FY 2023	FY 2024	FY 2025
5/8", 3/4"	$21.55	$19.01	$19.77	$20.56	$21.18
1"	$21.55	$29.33	$30.50	$31.72	$32.68
1.5"	$39.05	$55.15	$57.36	$59.65	$61.44
2"	$60.06	$86.13	$89.58	$93.16	$95.95
3"	$126.52	$184.24	$191.61	$199.27	$205.25
4"	$224.50	$328.83	$341.98	$355.66	$366.33
6"	$493.94	$674.79	$701.78	$729.85	$751.75
8"	$843.86	$1,449.34	$1,507.31	$1,567.61	$1,614.63
10"	$1,333.75	$2,172.25	$2,259.14	$2,349.51	$2,419.99
12"	$1,753.65	$2,740.26	$2,849.87	$2,963.87	$3,052.78
16"	$3,503.24	$4,031.17	$4,192.42	$4,360.11	$4,490.92

Table 6: Current and Proposed Recycled Water Commodity Rates

Customer Class	Current Charge	FY 2022	FY 2023	FY 2024	FY 2025
All Usage ($/HCF)	$1.73	$2.21	$2.30	$2.39	$2.46

CAPACITY FEES

Capacity fees are one-time charges assessed to new development connecting to the City's wastewater system. The current capacity fee has been in place since 2007. The proposed fee uses the combined methodology which considers the value of the existing available capacity as well as the value of future capacity projects. Capacity fees are expressed on a per equivalent dwelling unit (EDU) basis. The proposed capacity fee is $5,154 per EDU which represents a $1,026 increase from the current fee of $4,124 that was implemented in 2007. The section of this report entiled Capacity Fees provides greater detail regarding this calculation.

Introduction

Study Background

The City retained Raftelis to conduct a comprehensive wastewater financial planning, cost of service, and rate design analysis. The City also requested that Raftelis complete a wastewater capacity fee study. Raftelis also completed a comprehensive financial planning, cost of service and rate design, analysis for the City's water utility. The results from these two studies are published in separate reports.

The wastewater and water studies included the participation of the City's Independent Rate Advisory Committee (IROC). The IROC is an advisory body to the Mayor and City Council. They provided input and oversight on policy issues relating to the City's Public Utilities Department operations. Areas of focus include resource management, planned expenditures, service delivery methods, public outreach and education, and high quality, affordable services. The IROC also assists the City in tracking and reviewing use of rate proceeds to fund capital improvements. The City and/or Raftelis presented to the IROC in the following meetings:

- December 17, 2018: Cost of service study rate structure options
- June 17, 2019: Review of financial assumptions
- September 16, 2019: Overview of the cost of service study and rate setting process
- October 21, 2019: Overview of water and wastewater cost of service
- December 15, 2019: Overview of water and wastewater expenditures
- January 21, 2020: Cost of service study rate structure options

Report Contents

Raftelis developed the FY22 wastewater revenue requirement, conducted a detailed customer class cost-of-service analysis, and designed wastewater rates and fees using the City's current wastewater rate structure. The revenue requirement analysis included calculating the revenue required from rates to meet the wastewater utility's projected FY22 expenditures, target reserve requirements, and debt service coverage requirements.

The wastewater cost-of-service analysis included a comprehensive review of customer wastewater flows and strength loadings to identify the proportional contribution to total wastewater system demands made by each type of customer. The components of the wastewater O&M revenue requirement were then assigned to the functional activities the costs were incurred to fund (e.g., treatment, engineering, customer service, etc.). The wastewater capital cost revenue requirement was assigned to functional activities based on the profile of existing and projected wastewater assets. These functionalized costs were then allocated to the demand parameters of wastewater flow, the strength loadings of chemical oxygen demand (COD), total suspended solids (TSS), and customer service components such as accounts/bills. The functionalized and allocated costs were distributed to customer classes based on their proportionate share of overall wastewater system demand. The estimated customer class cost of service serves as the basis for the wastewater rates presented in this report. This report contains the following sections:

- **Executive Summary**. Summarizes the study results for the wastewater financial plan, cost of service analysis and rate design.
- **Study Background**. Provides an overview and purpose of the study as well as key components of the study process.

- **Financial Plan**. Details the development of the financial plan, discussion of operating expenses, capital expenditures, debt service, reserve requirements, and debt service coverage requirements.
- **Cost of Service Analysis**. Details the process for functionalizing, allocating, and distributing the revenue requirement to customer classes.
- **Rate Design**. Details the rate design analysis.
- **Recycled Water**. Details the process of calculating cost of service recycled water rates.
- **Capacity Fees**. Details the process of updating the City's wastewater capacity fees.

Legal and Statutory Considerations

There are two Constitutional provisions that govern and impact water and wastewater rates - Article X, Section 2 (Article X) and Article XIII D, Section 6 (Article XIII D). In November 1996, California voters approved Proposition 218, which amended the California Constitution by adding Article XIII C and Article XIII D. Article XIII D placed substantive limitations on the use of the revenue collected from property-related fees and on the amount of the fee that may be imposed on each parcel. Additionally, it established procedural requirements for imposing new, or increasing existing, property-related fees. The California Supreme Court has determined that water and wastewater service fees are property-related fees.

These provisions require that a property-related fee must meet all of the following requirements:

- Revenues derived from the fee must not exceed the funds required to provide the property-related service;
- Revenues from the fee must not be used for any purpose other than that for which the fee is imposed;
- The amount of a fee imposed upon any parcel or person as an incident of property ownership must not exceed the proportional cost of the service attributable to the parcel;
- The fee may not be imposed for a service, unless the service is actually used by, or immediately available to, the owner of the property subject to the fee. A fee based on potential or future use of a service is not permitted, and stand-by charges must be classified as assessments subject to the ballot protest and proportionality requirements for assessments;
- No fee may be imposed for general governmental services, such as police, fire, ambulance, or libraries, where the service is available to the public in substantially the same manner as it is to property owners. The five substantive requirements in Article XIII D are structured to place limitations on (1) the use of the revenue collected from property-related fees and (2) the allocation of costs recovered by such fees to ensure that they are proportionate to the cost of providing the service attributable to each parcel.

For the City's wastewater service charges, this Rate Study was prepared to comply with the requirements of Article X to maximize the beneficial use of water and the cost-of-service requirements of Article XIII D.

The Rate Setting Process

REVENUE REQUIREMENTS

The Sewer Revenue Fund financial plan determines the test year revenue requirement. The study used the revenue requirements method for allocating costs of service. This methodology is consistent with industry standards as discussed in WEF Manual No. 27. The revenue requirements analysis is conducted because in order "to provide adequate service, every wastewater utility must receive sufficient annual revenue to ensure proper operations and

maintenance (O&M) of facilities, development and perpetuation of the physical condition of the system, compliance with regulatory requirements, and maintenance of the financial integrity of the utility."[1]

COST OF SERVICE

After determining a utility's revenue requirements, the next step in the rate study process is to determine the cost of serving each wastewater customer class. The wastewater cost-of-service analysis starts with a comprehensive review of customer contributed and billed wastewater flows and strength loadings to identify the proportional contribution to total wastewater system demands made by each customer class. The components of the wastewater O&M revenue requirement were then assigned to the functional activities the costs were incurred to fund (e.g., treatment, engineering, customer service, etc.). The wastewater capital cost revenue requirement was assigned to functional activities based on the profile of existing and projected wastewater assets. These functionalized costs were then allocated to the demand parameters of wastewater flow, the strength loadings of chemical oxygen demand (COD) and total suspended solids (TSS), and customer service activities such as accounts and bills. The functionalized and allocated costs were then distributed to customer classes based on their proportionate share of overall wastewater system demand. The estimated customer class cost of service serves as the basis for the wastewater rates presented in this report.

RATE DESIGN

The financial plan determines the test year revenue requirement, and the cost of service analysis allocates the revenue requirement to customer classes. The final step in a rate study is rate design. Rate design involves developing rates and charges that recover the cost of serving each customer class. The final rate recommendations made by Raftelis were based on the City's existing wastewater rate structures as updated to fund the utility's long-term projected costs of providing service, proportionally recover costs from all customers, and comply with the substantive requirements of Article XIII D.

CAPACITY FEES

Capacity fees are one-time charges assessed to new development. These fees recover the costs to ensure the wastewater system maintains sufficient capacity to serve new development. The calculation of capacity fees includes the capacity available to serve new development and to the value of those facilities. There are three primary methodologies to estimate the value of capacity: buy-in, incremental, and the combined method. The method selected must consider whether there is available capacity in the existing system, expansion capacity to be available in the future, or a combination of both. Fees are calculated by dividing the value of facilities by the capacity of those facilities. This unit cost is then applied to the demand characteristics of an EDU. The equivalent dwelling unit is typically measured as a single family dwelling or a ¾" meter. Capacity fees must comply with the California Government Code Section 66013.

Reliance on City Provided Data

During this project, the City (and/or its representatives) provided Raftelis with a variety of technical information, including cost and revenue data. Raftelis did not independently assess or test for the accuracy of such data – historic or projected. Raftelis has relied on this data in the formulation of our findings and subsequent recommendations, as well as in the preparation of this report. Raftelis also relied on cost allocation data provided by the City as needed to complete the cost-of-service analysis.

[1] Water Environment Federation, Financing and Charges for Wastewater Systems, Manual of Practice No. 27, (4th Edition, 2018).

There are often differences between actual and projected data. Some of the assumptions used in this report will not be realized, and unanticipated events and circumstances may occur. Therefore, there are likely to be differences between the data or results projected in this report and actual results achieved, and those differences may be material. As a result, Raftelis takes no responsibility for the accuracy of data or projections provided by or prepared on behalf of the Department, nor do we have any responsibility for updating this report for events occurring after the date of this report.

Financial Plan

Introduction

The City of San Diego's wastewater utility system consists of two sub-systems: the Municipal sub-system and the Metropolitan sub-system. The Municipal sub-system is a sewage collection system for retail customers served within the City of San Diego. It consists of the piping and pumping systems required for the collection and conveyance of the wastewater generated in the City's municipal service area. The sewage collected by the Municipal sub-system is ultimately discharged into the Metropolitan sub-system. The Metropolitan sub-system is a regional sewage treatment and disposal system that serves the City of San Diego and 12 participating agencies that consist of other cities and wastewater districts in the County of San Diego. The City, as operator of the regional metropolitan wastewater system is the holder of three National Pollutant Discharge Elimination System (NPDES) permits. One NPDES permit is associated with the discharge of sewage from the Point Loma Wastewater Treatment Plant which includes flows received from the City's North City Water Reclamation Plant. The City also holds an NPDES permit for wastewater discharges from its South Bay Water Reclamation Plant. And in May 2020, the Regional Water Quality Control Board adopted an order that grants an NPDES permit to the City of San Diego to add purified water to the Miramar Reservoir for Phase 1 of the Pure Water Program. This is the first NPDES permit issued for a reservoir augmentation project in the state of California.

The City accounts for the operation of its wastewater utility system through an enterprise fund known as the Sewer Revenue Fund that is managed by the Public Utilities Department. The Sewer Revenue Fund is a self-supporting enterprise fund. This means that the cost of paying for annual wastewater operations and maintenance expenses, capital projects, and debt service is met through cash inflows from wastewater rates, capacity fees, miscellaneous revenues, and the proceeds from external debt financing. The Sewer Revenue Fund also incurs costs that are used to provide recycled water service.

For the purposes of this study, wastewater utility financial information has been subdivided into two primary funds; operating and capital. Within each of these funds, the respective operating and capital costs of the Municipal and Metropolitan sub-systems were identified. Separate financial forecasts have been made for the operating and capital funds for the study period FY22 through FY25 to determine the adequacy of revenues under existing rates to meet revenue requirements.

Capital Improvement Program

In the wastewater financial planning model, the capital fund (referenced in the paragraph above) is used to track projected funding for capital improvement program expenditures associated with the Municipal and Metropolitan sub-systems. Funding for Pure Water Program capital projects are included as part of the Metropolitan sub-system.

SOURCES OF FUNDS

The City funds wastewater capital improvement program expenditures through a combination of sources including cash transfers from the operating fund, revenue bond proceeds, state revolving fund loans, and grants. Table 7 shows a detail of projected funding for capital improvement program expenditures for the period FY21 through FY25.

Table 7: Capital Funding Summary ($ millions)

Summary of All Funding	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total
Total All CIP Expenditures	**$196.9**	**$355.1**	**$337.1**	**$275.9**	**$186.5**	**$1,351.5**
Grants	$12.6	$0.3	$0.0	$0.0	$0.0	$12.9
SRF Loans	$17.5	$202.3	$180.0	$160.8	$110.9	$671.6
Commercial Paper	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Bonds	$0.0	$150.0	$80.0	$60.0	$50.0	$340.0
Capacity Fees	$17.5	$17.5	$17.5	$17.5	$17.5	$87.5
Cash	$149.3	($15.1)	$59.6	$37.6	$8.1	$239.4
Total All CIP Funding	$196.9	$355.1	$337.1	$275.9	$186.5	$1,351.5

Funding Detail	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total
Muni Subsystem CIP Expenditures	**$132.6**	**$126.2**	**$92.6**	**$110.0**	**$100.1**	**$561.5**
Grants	$0.0	$0.3	$0.0	$0.0	$0.0	$0.3
SRF Loans	$0.0	$0.0	$5.4	$13.3	$28.1	$46.8
Commercial Paper	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Revenue Bonds	$0.0	$120.0	$40.0	$30.0	$40.0	$230.0
Capacity Fees	$17.5	$17.5	$17.5	$17.5	$17.5	$87.5
Cash	$115.1	($11.6)	$29.7	$49.2	$14.5	$196.9
Muni Subsystem CIP Funding	$132.6	$126.2	$92.6	$110.0	$100.1	$561.5

Funding Detail	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total
Metro Subsystem CIP Expenditures	**$22.7**	**$71.4**	**$55.6**	**$56.7**	**$43.0**	**$249.4**
Grants	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
SRF Loans	$17.5	$7.0	$2.0	$24.7	$25.4	$76.7
Commercial Paper	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Bonds	$0.0	$30.0	$40.0	$30.0	$10.0	$110.0
Capacity Fees	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Cash	$5.2	$34.4	$13.5	$2.0	$7.6	$62.6
Metro Subsystem CIP Funding	$22.7	$71.4	$55.6	$56.7	$43.0	$249.4

Funding Detail	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total
Pure Water CIP Expenditures	**$41.5**	**$157.4**	**$189.0**	**$109.2**	**$43.4**	**$540.6**
Grants	$12.6	$0.0	$0.0	$0.0	$0.0	$12.6
SRF Loans	$0.0	$195.3	$172.5	$122.9	$57.4	$548.1
Commercial Paper	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Bonds	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Capacity Fees	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Cash	$28.9	($37.9)	$16.4	($13.6)	($14.0)	($20.1)
Pure Water CIP Funding	$41.5	$157.4	$189.0	$109.2	$43.4	$540.6

USES OF FUNDS

The City's wastewater capital improvement program for the period FY21 through FY25 totals $1,351.5 million. Projects include both expansion-related infrastructure designed to accommodate growth and repair and replacement projects designed to ensure the service quality provided by existing infrastructure. Pure Water projects total $540.6 million for the period FY21 through FY25 and represent 40% of the total wastewater utility capital program. Pure Water projects will be funded through a combination of cash reserves, state revolving fund loans, and grants. The detailed capital improvement program project listing is contained in Appendix A. Table 8 summarizes the capital improvement program by sub-system and facility type.

Table 8: Capital Improvement Program Summary ($ millions)

Project	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total
Municipal Subsystem CIP Expenditures						
Sewer Treatment Plants	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Trunk Sewers	$35.9	$53.4	$17.3	$12.2	$20.7	$139.5
Muni Pump Station	$2.0	$1.3	$0.9	$1.6	$6.4	$12.1
Sewer Pipelines	$93.5	$68.4	$69.0	$84.1	$58.4	$373.3
Miscellaneous Projects	$1.3	$3.2	$5.4	$12.1	$14.6	$36.6
Total Municipal Subsystem	$132.6	$126.2	$92.6	$110.0	$100.1	$561.5
Metropolitan Subsystem CIP Expenditures						
Sewer Treatment Plants	$8.0	$29.4	$34.2	$19.7	$10.9	$102.2
Trunk Sewers	$0.6	$3.5	$7.5	$9.0	$6.4	$26.9
Large Sewer Pump Station	$12.5	$5.2	$6.8	$7.1	$1.1	$32.7
SDG&E Relocation Advance	$0.0	$28.4	$0.0	$0.0	$0.0	$28.4
Recycled Water	$0.5	$0.4	$0.4	$0.4	$0.4	$2.0
Miscellaneous Projects	$1.1	$4.5	$6.8	$20.6	$24.3	$57.2
Total Metropolitan Subsystem	$22.7	$71.4	$55.6	$56.7	$43.0	$249.4
Pure Water CIP Expenditures						
Pure Water - North City	$40.7	$157.2	$179.1	$98.8	$39.6	$515.4
Pure Water - Demo Facility	$0.8	$0.2	$9.3	$6.9	$0.1	$17.3
Pure Water - Central Facility	$0.0	$0.0	$0.6	$3.6	$3.7	$7.9
Total All Pure Water	$41.5	$157.4	$189.0	$109.2	$43.4	$540.6
Total All CIP Expenditures	$196.9	$355.1	$337.1	$275.9	$186.5	$1,351.5

Operating Fund

In the wastewater financial planning model, the operating fund is used to track projected funding for operating expenditures associated with the Municipal sub-system and the Metropolitan sub-system. Funding for Pure Water Program operating expenses is included within the Metropolitan sub-system.

BEGINNING FUND BALANCE

The wastewater operating fund beginning balance was $323.7 million at the start of FY21 (Juy 1, 2020). This amount is projected to decline to approximately $149.9 million at the end of FY25 (June 30, 2025) due primarily to the use of cash funding for capital improvement program expenditures and a slight increase in operating costs. Table 9 details the projected operating fund during the period FY21 through FY25.

Table 9: Operating Fund Detail ($ millions)

Reserve Item	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Beginning Balance	$323.7	$181.7	$197.7	$138.0	$124.5
Net Cash Balance	($142.0)	$16.0	($59.7)	($13.5)	$25.4
Other Sources / (Uses)	$0.0	$0.0	$0.0	$0.0	$0.0
Ending Balance	$181.7	$197.7	$138.0	$124.5	$149.9
Days Cash on Hand (1)	252	263	180	161	191
Interest Earnings on Operating Fund	$4.3	$3.0	$2.6	$2.1	$2.3
Unrestricted Funds					
Beginning Unrestricted Balance	$184.7	$45.2	$76.8	$38.5	$19.5
Net Cashflow Balance	($142.0)	$16.0	($59.7)	($13.5)	$25.4
Other Sources / (Uses)	$0.0	$0.0	$0.0	$0.0	$0.0
Transfers to / (from) Operating Fund	$2.5	$15.6	$21.5	($5.5)	($8.3)
Total Unrestricted Funds	$45.2	$76.8	$38.5	$19.5	$36.6

*(1) Days Cash on Hand = Ending Cash Balance ÷ Annual O&M Expenses * 365 days*

TARGET RESERVES

The City maintains three different types of reserves: Emergency Operating, Emergency Capital, and Rate Stabilization. The City's reserve policy requires minimum balances that are based on the following requirements:

- Emergency Operating: 70 days of O&M excluding contingencies and debt service
- Emergency Capital: $10,000,000
- Rate Stabilization: 5% of prior year operating revenue

The "Unrestricted Funds" shown in Table 9 reflect available operating funds after subtracting the reserves mandated by the City's reserve policy. Total unrestricted funds (operating funds in excess of City mandated reserves) are projected to decline from $45.2 million in FY21 to $36.6 million at the end of FY25.

REVENUES

Revenue of the wastewater utility is derived primarily from the rates paid by customers for wastewater service (sewer service charge revenue) and reimbursements from the agencies that participate in the regional wastewater treatment system operated by the City. A high level summary of projected wastewater utility revenues is shown in Table 10. Sewer service charge revenue projected from existing rates in FY21 represents approximately 75% of total revenue. Annual revenue from existing wastewater rates is projected to increase during the study period based on a projected growth rate in the number of accounts of 0.25% per year with no changes in the use per account. The reimbursement received from the 12 participating agencies who receive wholesale wastewater treatment services from the regional wastewater system operated by the City is projected to be $80.0 million in FY21 and will remain constant through FY25. Approximately 20% of total revenue during this period is provided by these reimbursements.

Table 10: Revenue Summary ($ millions)

Revenue Source	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total	% of Total
Sewer Service Charge Revenue							
Revenue from Existing Rates	$276.8	$278.1	$278.8	$279.5	$280.2	$1,393.5	69.8%
Revenue from Proposed Rate Adj.	$0.0	$7.0	$19.8	$31.8	$42.8	$101.4	5.1%
Total Rate Revenue	$276.8	$285.1	$298.6	$311.3	$323.0	$1,494.8	74.9%
Other Operating Revenues							
New Sewer Service Connections	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	0.0%
Maint & Operation Metro	$80.0	$80.0	$80.0	$80.0	$80.0	$400.0	20.0%
Other Sewer Treatment Plant Services	$2.3	$2.1	$2.1	$2.2	$2.2	$10.9	0.5%
Services Rendered Other Funds	$6.5	$3.6	$3.6	$3.6	$3.6	$21.0	1.1%
Total Other Operating Revenues	$88.8	$85.8	$85.8	$85.8	$85.8	$431.9	21.6%
Non-Operating Revenues							
Grant Assistance	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	0.0%
Land and Building Rentals	$0.9	$0.1	$0.1	$0.1	$0.1	$1.3	0.1%
Other Revenues	$4.6	$10.8	$10.9	$10.8	$15.9	$53.0	2.7%
Total Non-Operating Revenues	$5.5	$10.9	$11.0	$10.9	$16.0	$54.2	2.7%
Interest Earnings on Operating Fund	$4.3	$3.0	$2.6	$2.1	$2.3	$14.3	0.7%
Total Revenues	$375.4	$384.8	$397.9	$410.1	$427.1	$1,995.3	100.0%

Revenue Requirements

The revenue requirements of the wastewater utility include O&M, debt service, transfers to the capital improvement fund, and funding reserves.

OPERATIONS AND MAINTENANCE EXPENSES

O&M consists of the cost of personnel and materials to collect and treat wastewater on a routine basis. Since these costs are an annual obligation of the wastewater utility, they must be met from annual sewer service charge revenue. Table 11 provides a summary of projected O&M expenses for the Municipal and Metropolitan sub-systems. As shown this table, for the period FY21 through FY25, approximately 36% of the actual and projected O&M expenses incurred by the wastewater utility are associated with the operation of the Municipal sub-system and approximately 64% are for the operation of the Metropolitan sub-system.

Table 11: Operations and Maintenance Expense Summary ($ millions)

Operations and Maintenace Expenses	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total	% of Total
Municipal Sub-System							
Personnel Cost	$24.0	$24.2	$24.2	$24.2	$24.3	$120.7	8.7%
Fringe Benefits	$18.5	$18.5	$18.5	$18.5	$18.5	$92.4	6.7%
Supplies	$5.7	$5.8	$5.9	$6.1	$6.3	$29.8	2.2%
Contracts	$38.0	$40.8	$41.6	$42.4	$43.4	$206.1	14.9%
IT Expenses	$3.8	$3.9	$4.4	$4.2	$4.3	$20.6	1.5%
Energy & Utilities	$5.1	$5.1	$5.1	$5.1	$5.1	$25.5	1.8%
Other	$0.1	$0.1	$0.1	$0.1	$0.1	$0.6	0.0%
Transfers	$0.6	$0.6	$0.6	$0.6	$0.6	$3.1	0.2%
Capital Expenditures	$1.1	$1.4	$1.1	$1.1	$1.1	$5.7	0.4%
Debt Service	$0.1	$0.1	$0.1	$0.1	$0.1	$0.6	0.0%
Total Municipal Sub-System	$97.0	$100.4	$101.6	$102.4	$103.7	$505.1	36.4%
Metropolitan Sub-System							
Personnel Cost	$34.1	$36.1	$37.2	$38.0	$38.0	$183.3	13.2%
Fringe Benefits	$23.3	$23.3	$23.3	$23.3	$23.3	$116.3	8.4%
Supplies	$20.8	$20.8	$21.4	$23.2	$24.4	$110.6	8.0%
Contracts	$57.9	$64.1	$66.2	$65.8	$66.8	$320.9	23.1%
IT Expenses	$8.5	$8.4	$9.1	$8.9	$9.1	$44.0	3.2%
Energy & Utilities	$17.6	$17.8	$17.6	$17.7	$18.2	$88.9	6.4%
Other	$0.2	$0.3	$0.2	$0.2	$0.2	$1.2	0.1%
Transfers	$0.5	$0.5	$0.5	$0.5	$0.5	$2.3	0.2%
Capital Expenditures	$2.9	$3.2	$2.9	$2.9	$2.9	$14.7	1.1%
Total Metropolitan Sub-System	$165.7	$174.3	$178.4	$180.4	$183.3	$882.2	63.6%
Total Operations and Maintenance	$262.7	$274.7	$280.0	$282.8	$287.1	$1,387.3	100.0%

DEBT SERVICE

The wastewater utility funds its capital program using a variety of external debt instruments. Table 12 provides a summary of projected debt service payments for the Municipal and Metropolitan sub-systems. As shown in Table 12, the vast majority of all projected debt service expenditures are associated with existing outstanding debt financing.

Table 12: Debt Service Summary ($ millions)

Debt Service	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total	% of Total
Existing Debt Service							
Municipal Sub-System							
Revenue Bonds	$31.4	$38.0	$37.9	$31.5	$31.5	$170.2	31.4%
SRF Loans	$1.6	$1.6	$1.6	$1.7	$1.7	$8.2	1.5%
Municipal Sub-Sytem Existing Debt Service	$33.0	$39.6	$39.5	$33.2	$33.2	$178.4	32.9%
Metropolitan Sub-System							
Revenue Bonds	$63.7	$57.5	$59.7	$46.8	$46.8	$274.3	50.6%
SRF Loans	$8.7	$8.5	$8.2	$8.6	$8.6	$42.7	7.9%
Metropolitan System Existing Debt Service	$72.4	$66.0	$67.9	$55.4	$55.4	$317.0	58.4%
Total Existing Debt Service	$105.4	$105.6	$107.3	$88.5	$88.5	$495.4	91.3%
Proposed Debt Service							
Municipal Sub-System							
New Revenue Bonds	$0.0	$2.9	$7.9	$10.0	$12.0	$32.8	6.0%
Municipal Sub-System Proposed Debt Service	$0.0	$2.9	$7.9	$10.0	$12.0	$32.8	6.0%
Metropolitan Sub-System							
New Revenue Bonds	$0.0	$0.7	$2.7	$4.8	$6.1	$14.3	2.6%
Metropolitan System Proposed Debt Service	$0.0	$0.7	$2.7	$4.8	$6.1	$14.3	2.6%
Total Proposed Debt Service	$0.0	$3.6	$10.6	$14.8	$18.0	$47.1	8.7%
Transfers from Reserve (final pmt)	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	0.0%
Less: Interest Earnings on Debt Service Reserve (Note 1)	($0.0)	($0.0)	($0.0)	($0.0)	($0.0)	($0.2)	0.0%
Total Debt Service	$105.4	$109.2	$118.0	$103.3	$106.6	$542.3	100.0%

Note 1: Interest earnings on the Debt Service Reserve are projected to be $33,068 per year. This amount is ($0.0) when expressed as $/millions. Over the five-year period FY2021 - FY2022, total interest earnings are projected to be $165,342. This amount is ($0.2) when expressed as $/millions.

PAYGO CAPITAL TRANSFERS

Transfers of cash to the capital fund from the operating fund are used to partially pay for the City's wastewater capital improvement program. The use of operating cash flows (i.e., cash generated primarily from rate revenues) to fund capital improvements is referred to as pay-as-you-go or "PAYGO" funding. These transfers vary each year based on the number of projects funded and the type of funding used for each project. Table 13 summarizes the projected transfers of cash to/from the wastewater operating fund to pay for capital improvement projects during the period FY21 through FY25.

The negative values shown in Table 13 reflect transfers from the operating fund to pay for capital improvements (i.e., transfers out) during those years in which projected capital improvement expenditures are greater than other funding sources. A positive value indicates that projected sources of funding exceed project capital improvement program expenditures. For example, the positive value of $9.5 million for Pure Water in FY22 reflects projected receipt of SRF loan proceeds in excess of actual projected FY22 Pure Water capital improvement program expenditures. Note that proceeds from bonds, SRF loans and grants are distributed on a reimbursement basis which may include both prior year and current year capital improvement program expenditures.

Table 13: PAYGO Transfers to Fund Capital Projects ($ millions)

PAYGO Transfers In / (Out)	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Total	% of Total
Municipal Sub-System	($115.1)	$11.6	($29.7)	($49.2)	($14.5)	($196.9)	82.2%
Metropolitan Sub-Sytem	($5.2)	($5.9)	($13.5)	($2.0)	($7.6)	($34.2)	14.3%
Pure Water (Metropolitan Sub-System)	($28.9)	$9.5	($16.4)	$13.6	$14.0	($8.3)	3.5%
Total Metropolitan Sub-system	($34.1)	$3.5	($30.0)	$11.7	$6.4	($42.5)	17.8%
Total Transfers	($149.3)	$15.1	($59.6)	($37.6)	($8.1)	($239.4)	100.0%

OPERATING FUND FINANCIAL PLAN

The outcome of the financial planning process is a projection of the amount of rate revenues required from the provision of wastewater service. For the wastewater utility, revenues under existing rates are inadequate to sustain minimum reserve and debt service coverage targets during the period FY22 through FY25. Table 14 provides a summary of the revenue adjustments and resulting financial plan for the operating fund.

Table 14: Operating Fund Financial Plan Summary ($ millions)

Financial Plan Component	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Annual Revenue Adjustment	0.0%	5.0%	4.0%	4.0%	3.0%
Cumulative Revenue Adjustment	0.0%	5.0%	9.2%	13.6%	17.0%
Revenue					
Revenue from Existing Rates	$276.8	$278.1	$278.8	$279.5	$280.2
Revenue from Proposed Rate Adjustments	$0.0	$7.0	$19.8	$31.8	$42.8
Total Rate Revenue	$276.8	$285.1	$298.6	$311.3	$323.0
Other Operating Revenue	$88.8	$85.8	$85.8	$85.8	$85.8
Total Operating Revenue	$365.6	$370.8	$384.4	$397.1	$408.8
Non-Operating Revenue	$5.5	$10.9	$11.0	$10.9	$16.0
Interest Earnings on Operating Fund	$4.3	$3.0	$2.6	$2.1	$2.3
Total Revenue	$375.4	$384.8	$397.9	$410.1	$427.1
Expenditures					
O&M Expenses	$262.7	$274.7	$280.0	$282.8	$287.1
Debt Service	$105.4	$109.2	$118.0	$103.3	$106.6
PAYGO Transfers	$149.3	($15.1)	$59.6	$37.6	$8.1
Total Expenditures	$517.4	$368.8	$457.6	$423.6	$401.7
Net Cash Flow	($142.0)	$16.0	($59.7)	($13.5)	$25.4
Beginning Cash Reserves	$323.7	$181.7	$197.7	$138.0	$124.5
Ending Cash Reserves	$181.7	$197.7	$138.0	$124.5	$149.9
Senior Debt Service Coverage	1.45	1.43	1.49	1.60	1.70
Aggregate Debt Service Coverage	1.38	1.31	1.33	1.35	1.40

Cost of Service

Introduction

The cost-of-service process is used to assign costs to each customer class based on their proportionate share of total system wastewater demands. The starting point for the cost of service analysis is the revenue requirement from rates developed as part of the financial planning process. Table 15 provides a summary of the revenue requirement from rates for the period FY21 through FY25. As shown in Table 15, the FY22 revenue requirement from rates is $292.0 million. This amount of costs serves as the basis for the cost of service study and proposed FY22 rates developed by Raftelis. A detail of the FY22 revenue requirement is provided later in this section.

Table 15: Summary of Projected Revenue Requirement from Rates ($ millions)

Revenue Requirement Component	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
O&M Expenses	$262.7	$274.7	$280.0	$282.8	$287.1
Debt Service Expenditures	$105.37	$109.17	$117.95	$103.29	$106.55
PAYGO Transfers	$149.3	($15.1)	$59.6	$37.6	$8.1
Annualized Change in Cash Reserves	($142.0)	$23.0	($53.9)	($7.4)	$30.2
Total Gross Revenue Requirement	$375.4	$391.7	$403.8	$416.2	$431.9
Less: Revenue Requirement Offsets					
Other Operating Revenues	$88.8	$85.8	$85.8	$85.8	$85.8
Non-Operating Revenues	$5.5	$10.9	$11.0	$10.9	$16.0
Interest Earnings on Operating Fund	$4.3	$3.0	$2.6	$2.1	$2.3
Total Revenue Requirement Offsets	$98.6	$99.7	$99.3	$98.8	$104.1
Net Revenue Requirement from Rates	$276.8	$292.0	$304.5	$317.4	$327.8
Annual Rate Revenue Adjustment	0.0%	5.0%	4.0%	4.0%	3.0%
Cumulative Rate Revenue Adjustment	0.0%	5.0%	9.2%	13.6%	17.0%

The first step in the cost of service process is to assign the revenue requirement to specific functional categories. The components of the wastewater O&M revenue requirement are then assigned to the functional activities the costs were incurred to fund (e.g., treatment, engineering, customer service, etc.). The wastewater capital cost revenue requirement was assigned to functional activities based on the profile of existing and projected wastewater assets. These functionalized costs are then allocated to the specific types of demand (demand parameters) they are used to meet (e.g., flow, COD and TSS strength loadings, customer service). Finally, the costs are allocated to customer classes based on their respective units of service (e.g., HCF of flow, pounds of COD and TSS, and number of customer accounts). The cost of service process consists of the following nine steps:

- Determine the revenue from existing rates that will be earned during the test year
- Determine test year revenue requirement (the amount of rate revenue that must be earned by customers)
- Functionalize revenue requirement
- Allocate functionalized costs to demand parameters
- Determine system units of service
- Determine unit cost of service
- Determine customer class units of service
- Distribute costs to customer classes

- Design rates to recover class cost-of-service and total revenue requirement

PROJECTED FY22 REVENUE AT EXISTING RATES

The projected FY22 wastewater revenue that will be earned under the City's current FY21 wastewater rates was developed using detailed billing records provided by the City. Table 16 shows these projected revenues for those customer classes and/or services that must pay sewer service charges based on their actual proportional contribution of system wastewater volumes and strength loadings.

Table 16: Projected FY22 Wastewater Revenue at Existing FY21 Rates

Customer Class/Type	FY22 Revenue at Existing FY21 Rates
Wastewater Customer Classes	
Single Family Residential	$106,632,771
Multi-Family Residential	$75,752,500
Non-Residential	$82,326,763
Subtotal	$264,712,034
Other (Navy, Prisons)	$7,257,235
Subtotal	$7,257,235
Trucked Waste and Imported Flows	$4,500,000
Subtotal	$4,500,000
Stormwater Transportation	$1,667,940
Subtotal	$1,667,940
Total Wastewater Service	$278,137,209

TEST YEAR FY22 REVENUE REQUIREMENT

Raftelis conducted a cost of service study and developed proposed rates and charges for FY22. Thus, FY22 is referred to as the COS study "test year". As noted previously, the starting point for the cost of service analysis is the development of the revenue requirement from rates. Table 17 provides a detail of the FY22 test year revenue requirements with amounts shown for both the Metropolitan and Municipal sub-systems. Note that the total system net revenue requirement from rates shown in Table 17 is $292.0 million. This amount can be directly traced to Table 15 (Summary of Projected Revenue Requirement from Rates).

Table 17: FY22 Revenue Requirement Detail

Revenue Requirement Component	Municipal Sub-System			Metropolitan Sub-System		
	Operating	Capital	Total	Operating	Capital	Total
O&M						
Department Management	$16,586,089		$16,586,089	$15,540,241		$15,540,241
Customer Support Services	$6,624,256		$6,624,256	$0		$0
Employee Services & Quality Assurance	$3,613,600		$3,613,600	$7,030,283		$7,030,283
Engineering Program Management	$6,368,850		$6,368,850	$4,777,043		$4,777,043
Environmental Monitoring & Technical Services	$6,745,995		$6,745,995	$18,350,953		$18,350,953
Finance & Budget	$6,978,531		$6,978,531	$11,065,903		$11,065,903
Innovation & Technology	$649,722		$649,722	$1,136,535		$1,136,535
Pure Water	$0		$0	$7,650,472		$7,650,472
Water Systems Operations	$0		$0	$5,865,286		$5,865,286
Wastewater Collection	$43,687,408		$43,687,408	$0		$0
Wastewater Treatment	$6,638,748		$6,638,748	$102,883,328		$102,883,328
Water Construction Maintenance	$2,495,714		$2,495,714	$0		$0
Total O&M	$100,388,913	$0	$100,388,913	$174,300,043	$0	$174,300,043
Debt Service						
Existing		$39,594,360	$39,594,360		$65,984,855	$65,984,855
Proposed		$2,897,015	$2,897,015		$728,699	$728,699
Interest Earnings on Debt Service Reserve		($12,085)	($12,085)		($20,983)	($20,983)
Total Debt Service	$0	$42,479,289	$42,479,289	$0	$66,692,571	$66,692,571
Total Expense Items Before Transfers	$100,388,913	$42,479,289	$142,868,203	$174,300,043	$66,692,571	$240,992,614
Less: PAYGO CIP Transfer In		$11,565,068	$11,565,068		$3,532,088	$3,532,088
Add: Change in Cash Reserves	$6,007,864	$2,542,211	$8,550,074	$10,431,141	$3,991,276	$14,422,417
Gross Revenue Requirement from Rates	$106,396,777	$33,456,432	$139,853,209	$184,731,184	$67,151,759	$251,882,943
Revenue Requirement Offsets						
Other Operating Revenues						
New Sewer Service Connections	$3,000		$3,000			
Maint & Operation Metro			$0	$80,000,000		$80,000,000
Other Sewer Treatment Plant Services	$2,140,670		$2,140,670			$0
Services Rendered Other Funds	$1,317,808		$1,317,808	$2,295,600		$2,295,600
Total Other Operating Revenues	$3,461,478	$0	$3,461,478	$82,295,600	$0	$82,295,600
Non-Operating Revenues	$8,164,565		$8,164,565	$2,735,044	$0	$2,735,044
Interest Earnings on Operating Fund	$1,109,328		$1,109,328	$1,926,068		$1,926,068
Total Revenue Requirement Offsets	$12,735,370	$0	$12,735,370	$86,956,712	$0	$86,956,712
Net Revenue Requirement from Rates	$93,661,407	$33,456,432	$127,117,839	$97,774,472	$67,151,759	$164,926,231
				Total System Net Revenue Requirement from Rates		$292,044,070

REVENUE REQUIREMENT COST ALLOCATIONS

The underlying principle in cost allocation is to convert the test year revenue requirement into costs that best reflect the cost associated with customer demands placed on the wastewater system. Those costs are proportionately allocated to customer classes based on their respective customer service characteristics. This process is accomplished through the assignment of the revenue requirement to functional components, the allocation of these functional costs to demand parameters reflecting customer usage characteristics, and the distribution of costs to customer classes. This section of the report describes the revenue requirement cost allocation process.

ASSIGNMENT OF COSTS TO FUNCTIONS

Wastewater systems are comprised of several facilities (unit processes or functions) that are designed and operated to collect, convey and treat the wastewater discharges of customers. The separation of costs into functional components provides a means for distributing costs to customer classes based on their respective proportional cost responsibility in the system. Table 18 provides a summary of key functional cost components for the City's wastewater utility system. These functional cost components were used to functionalize the O&M and capital cost components for both the Municipal and Metropolitan sub-systems of the City's wastewater utility.

Table 18: Functional Cost Components

O&M Functions	Capital Cost Functions
Engineering	Large Sewer Pump Station
General and Administrative	Muni Pump Station
Operational Support	Miscellaneous Projects
Quality Control	AMI
Transmission	Sewer Pipelines
Treatment and Disposal	Sewer Treatment Plants
Customer	Trunk Sewers
Recycled Water	Pure Water
	Recycled Water

Table 19 shows the assignment of O&M costs to functions for both the Municipal and Metropolitan sub-systems. The functionalization developed for O&M costs was based on consultations with Public Utilities Department staff and reflects their best estimate of the functional justification for the incurrence of each major O&M line item.

Note that the total functionalized FY22 O&M costs assigned for the Municipal sub-system total $106.4 million. This value can be seen in Table 17 (line labeled Gross Revenue Requirement from Rates). This amount reflects total Municipal sub-system O&M costs of $100.4 plus the allocation of $6.0 million associated with the FY22 change in cash reserves.

Similarly, the total functionalized FY22 O&M costs assigned for the Metropolitan sub-system are $184.7 million. This amount can also be seen in Table 17 (line labeled Gross Revenue Requirement from Rates). This amount reflects total Metropolitan sub-system O&M costs of $174.3 million plus the allocation of $10.4 million associated with the FY22 change in cash reserves.

Table 19: Functional Assignment of FY22 O&M Costs

O&M Function	Municipal Sub-System	Metropolitan Sub-System
Engineering		
Environmental Support	$2,370,253	$343,718
Program Management & Review	$4,115,639	$12,101,863
Subtotal	$6,485,892	$12,445,581
General and Administrative		
Business Support Admin	$28,522,365	$35,414,177
Operating Division Admin	$7,514,124	$9,045,765
Subtotal	$36,036,490	$44,459,943
Operational Support		
Central Support Comnet/Comc	$384,299	$7,022,575
Operational Support	$1,764,765	$6,274,418
Subtoal	$2,149,064	$13,296,993
Quality Control		
Industrial Permitting and Compliance	$5,603,942	$22,254
Marine Biology & Ocean Operations	$1,490	$7,325,553
Sewage Testing and Control	$512,109	$534,828
Wastewater Chemistry Services	$1,531,690	$8,304,214
Subtotal	$7,649,231	$16,186,848
Transmission		
Main Cleaning	$13,985,124	$0
Other Muni Agencies	$4,857,042	$0
Other Pump Stations	$5,611,497	$1,249,158
Pipeline Maintenance & Repair	$11,333,098	$0
Pump Station 1	$0	$3,287,861
Pump Station 2	$1,144	$8,473,610
Sewer Pump Stations	$5,192,493	$0
WWC Engineering & Planning	$2,735,920	$0
Subtotal	$43,716,319	$13,010,629
Treatment and Disposal		
Cogen Facilities	$0	$1,068,144
GUF	$0	$1,734,013
MBC	$5,025	$21,533,717
NCWRP	$383	$12,791,177
PTLWWTP	$0	$25,996,463
SBWRP	$6	$10,509,355
WWTD Plant Engineering	$0	$892,565
Subtotal	$5,414	$74,525,433
Customer		
Meters and Services	$2,645,072	$0
Billing	$7,687,987	$1,206,920
Subtotal	$10,333,059	$1,206,920
Recycled	$21,309	$9,598,836
Subtotal	$21,309	$9,598,836
Total Functionalized O&M	$106,396,777	$184,731,184

Table 20 shows the functional assignment of FY22 revenue requirement offsets (i.e., revenue items that reduce the revenue requirement from rates). The functionalization developed for revenue requirement offsets was based on consultations with the Public Utilities Department staff and reflects their best estimate of the functional justification for each line item. The most significant of these is the $80 million reimbursement the participating agencies provide to the City of San Diego for the operation of the regional wastewater treatment system. As shown in Table 20, this item is recorded in the Metropolitan sub-system. Note that the total functionalized revenue requirement offset assigned for the Municipal sub-system is $12.7 million. This value can seen in Table 17 (line labled Total Revenue Requirement Offset). Similarly, the total functionalized revenue requirement offset assigned for the Metropolitan sub-system is $87.0 million. This amount can also be seen in Table 17.

Table 20: Functional Assignment of FY22 Revenue Requirement Offsets

Revenue Requirement Offsets	Municipal Sub-System	Metropolitan Sub-System
Other Operating Revenues		
New Sewer Service Connections	$3,000	$0
Maint & Operation Metro	$0	$80,000,000
Other Sewer Treatment Plant Services		
Sewer Service (SSC)-Navy	$654,761	$0
Sewerage Treatment Services	$956,656	$0
M & O Trunk Sewers Muni	$529,252	$0
Services Rendered Other Funds		
Reimbursements Between Funds/Depts	$662,400	$1,545,600
Other Services To Outside	$0	$750,000
Transport Charge Muni System	$565,408	$0
Service To Other Depts	$90,000	$0
Non-Operating Revenues		
Sale Of Elec/Gas Eng Generated	$0	$0
Hydroelectric Fac Cogenration	$0	$0
Grant Assistance	$0	$0
Land and Building Rentals		
Telecom Lease	$91,000	$0
Other Revenues		
IWCP Notice of Violation Fees	$0	$664,599
IWCP Industrial User Discharge Permit Fees	$0	$2,070,445
IWCP Trucked Waste & Permet Fees	$513,312	$0
Revenue from Small Projects	$55,000	$0
Other Sewer Revenue	$3,985,253	$0
Expenditure Refund of Prior Year	$2,950,000	$0
Revenue Otherwise Unclassified	$70,000	$0
Repair Damages Recovered	$30,000	$0
Transfers From Other Funds	$300,000	$0
Intra-Ent Tranfer In to Fund 700089	$170,000	$0
Interest Earnings on Operating Fund	$1,109,328	$1,926,068
Total Revenue Requirement Offsets	$12,735,370	$86,956,712

Table 21 shows the FY22 functional allocation of the capital cost revenue requirement for the Municipal and Metropolitan sub-systems. The asset allocation percentages shown in Table 21 reflect the profile of existing wastewater utility assets as of June 30, 2019 coupled with the functional profile of projected capital improvement program expenditures during the five-year period FY21 through FY25. Existing assets and projected capital expenditures for the Pure Water Program are included in the functionalized asset percentage of the Metropolitan

sub-system. Note that the total functionalized capital costs assigned for the Municipal sub-system total $33.5 million. This value can also be seen in Table 17 (line labeled Gross Revenue Requirement from Rates). Similarly, the total functionalized capital costs assigned for the Metropolitan sub-system are $67.2 million. This amount can also be seen in Table 17.

Table 21: Functional Assignment of FY22 Capital Costs

Capital Infrrastructure Function	Municipal Sub-System		Metropolitan Sub-System	
	Asset Percentage	Amount	Asset Percentage	Amount
Large Sewer Pump Station	1.4%	$460,595	8.7%	$5,875,039
Muni Pump Station	4.8%	$1,595,958	0.0%	$28,572
Miscellaneous Projects	8.3%	$2,766,042	5.1%	$3,440,712
AMI	0.3%	$85,067	0.0%	$0
Sewer Pipelines	76.6%	$25,640,351	19.9%	$13,373,363
Sewer Treatment Plants	2.8%	$949,152	51.1%	$34,321,914
Trunk Sewers	5.9%	$1,959,267	1.8%	$1,221,229
PW-CF	0.0%	$0	0.2%	$116,273
PW-Demo	0.0%	$0	0.4%	$255,938
PW-NC	0.0%	$0	12.6%	$8,489,617
Recycled Water	0.0%	$0	0.0%	$29,103
Total Capital Cost Revenue Req.	100.0%	$33,456,432	100.0%	$67,151,759

ALLOCATION OF FUNCTIONALIZED COSTS TO DEMAND PARAMETERS

Wastewater utility systems are designed and operated to meet three primary types of customer demands: the volume of customer wastewater discharges (flow), the strength of customer wastewater discharges (COD and TSS), and customer service-related demands such as meter reading, and billing and collection. Once costs have been assigned to functions, they can be allocated to specific demand parameters. The demand parameters used in the allocation of the City's functionalized FY22 revenue requirement, for both the Municipal and Metropolitan sub-systems, include:

VOLUME-RELATED COSTS

- Flow: Varies directly with the quantity of customer wastewater discharges reaching a wastewater treatment facility.
- COD: Varies directly with the strength of customer wastewater discharges as measured by the metric Chemical Oxygen Demand (COD). COD is a measurement of the amount of oxygen required to dissolve organic matter contained in customer wastewater discharges.
- TSS: Varies directly with the strength of customer wastewater discharges reaching a wastewater treatment facility as measured by the metric Total Suspended Solids (TSS). TSS is measurement of organic solids contained in customer wastewater discharges.

CUSTOMER-RELATED COSTS

These costs include both meter-related costs and services, as well as billing and customer support. Meter costs reflect the wastewater utility's proportionate share of costs incurred by the water utility's construction maintenance function that are beneficial to wastewater customers. Meter costs also include the wastewater utility's proportionate share of capital expenditures made by the City to install an automated meter reading system. These costs are appropriately shared with the City's water utility because wastewater customer units of service reflect billed water consumption. Lastly, meter costs also include the allocation of capital costs associated with sewer pipelines, trunk sewers, and municipal pump stations. These costs reflect the fact that the City's wastewater collection and conveyance system must stand ready to meet the instantaneous wastewater discharges imposed by customers. Such costs are, for the most part, fixed in nature and do not vary with the volume of customer wastewater discharges.

For this reason, they have been allocated to meter costs which are recovered from all customers through a fixed monthly meter service charge. Billing and collection costs include the cost of billing, customer service, and customer accounting.

RECYCLED WATER COSTS

Recycled water costs are costs incurred by the City's water and wastewater utilities to provide recycled water service. They include the cost of providing tertiary level wastewater treatment at the City's North City and South Bay Water Reclamation Facilities and debt service related to the recycled water distribution system.

SUMMARY OF FY22 ALLOCATIONS TO DEMAND PARAMETERS

Table 22 shows the percentages used to allocate Municipal sub-system O&M costs to demand parameters. These percentages were determined based on consultations with the Public Utilities Department staff.

Table 22: Allocation Percentages for Municipal Sub-System O&M Costs

Function	FY 2022 Allocation of Municipal Sub-System O&M to Demand Parameters						
	Volume-Related			Customer-Related			
	FLOW	COD	TSS	Meters and Services	Billing	Recycled	Total
Engineering							
Environmental Support	45.00%	30.00%	25.00%				100.00%
Program Management & Review	45.00%	30.00%	25.00%				100.00%
General and Administrative							
Business Support Admin	72.22%	7.16%	5.90%	3.76%	10.93%	0.03%	100.00%
Operating Division Admin	72.22%	7.16%	5.90%	3.76%	10.93%	0.03%	100.00%
Operational Support							
Central Support Comnet/Comc	45.00%	30.00%	25.00%				100.00%
Operational Support	45.00%	30.00%	25.00%				100.00%
Quality Control							
Industrial Permitting and Compliance	45.00%	30.00%	25.00%				100.00%
Marine Biology & Ocean Operations	30.00%	40.00%	30.00%				100.00%
Sewage Testing and Control	45.00%	30.00%	25.00%				100.00%
Wastewater Chemistry Services	30.00%	40.00%	30.00%				100.00%
Transmission							
Main Cleaning	100.00%						100.00%
Other Muni Agencies	100.00%						100.00%
Other Pump Stations	100.00%						100.00%
Pipeline Maintenance & Repair	100.00%						100.00%
Pump Station 1	100.00%						100.00%
Pump Station 2	100.00%						100.00%
Sewer Pump Stations	100.00%						100.00%
WWC Engineering & Planning	100.00%						100.00%
Treatment and Disposal							
MBC	0.00%	50.00%	50.00%				100.00%
NCWRP	75.00%	10.00%	15.00%				100.00%
PTLWWTP	35.00%	40.00%	25.00%				100.00%
SBWRP	75.00%	10.00%	15.00%				100.00%
WWTD Plant Engineering	45.00%	30.00%	25.00%				100.00%
Customer							
Meters and Services				100.00%			100.00%
Billing					100.00%		100.00%
Recycled						100.00%	100.00%

Table 23 shows the dollar allocations for FY22 Municipal sub-system O&M costs to demand parameters based on the allocation percentages shown in Table 22. Note that the total O&M costs shown in Table 23 sum to $106.4 million. This amount is also shown in Table 19 (Functional Assignment of FY22 O&M Costs).

Table 23: FY22 Dollar Allocations of Municipal Sub-System O&M Costs

	FY 2022 Allocation of Municipal Sub-System O&M to Demand Parameters						
	Volume-Related			Customer-Related			
Function	FLOW	COD	TSS	Meters and Services	Billing	Recycled	Total
Engineering							
Environmental Support	$1,066,614	$711,076	$592,563	$0	$0	$0	$2,370,253
Program Management & Review	$1,852,037	$1,234,692	$1,028,910	$0	$0	$0	$4,115,639
	$2,918,651	$1,945,768	$1,621,473	$0	$0	$0	$6,485,892
General and Administrative							
Business Support Admin	$20,598,981	$2,043,551	$1,682,422	$1,072,249	$3,116,525	$8,638	$28,522,365
Operating Division Admin	$5,426,735	$538,367	$443,229	$282,480	$821,038	$2,276	$7,514,124
	$26,025,715	$2,581,918	$2,125,651	$1,354,729	$3,937,563	$10,914	$36,036,490
Operational Support							
Central Support Comnet/Comc	$172,935	$115,290	$96,075	$0	$0	$0	$384,299
Operational Support	$794,144	$529,430	$441,191	$0	$0	$0	$1,764,765
	$967,079	$644,719	$537,266	$0	$0	$0	$2,149,064
Quality Control							
Industrial Permitting and Compliance	$2,521,774	$1,681,183	$1,400,986	$0	$0	$0	$5,603,942
Marine Biology & Ocean Operations	$447	$596	$447	$0	$0	$0	$1,490
Sewage Testing and Control	$230,449	$153,633	$128,027	$0	$0	$0	$512,109
Wastewater Chemistry Services	$459,507	$612,676	$459,507	$0	$0	$0	$1,531,690
	$3,212,177	$2,448,087	$1,988,967	$0	$0	$0	$7,649,231
Transmission							
Main Cleaning	$13,985,124	$0	$0	$0	$0	$0	$13,985,124
Other Muni Agencies	$4,857,042	$0	$0	$0	$0	$0	$4,857,042
Other Pump Stations	$5,611,497	$0	$0	$0	$0	$0	$5,611,497
Pipeline Maintenance & Repair	$11,333,098	$0	$0	$0	$0	$0	$11,333,098
Pump Station 1	$0	$0	$0	$0	$0	$0	$0
Pump Station 2	$1,144	$0	$0	$0	$0	$0	$1,144
Sewer Pump Stations	$5,192,493	$0	$0	$0	$0	$0	$5,192,493
WWC Engineering & Planning	$2,735,920	$0	$0	$0	$0	$0	$2,735,920
	$43,716,319	$0	$0	$0	$0	$0	$43,716,319
Treatment and Disposal							
MBC	$0	$2,513	$2,513	$0	$0	$0	$5,025
NCWRP	$287	$38	$57	$0	$0	$0	$383
PTLWWTP	$0	$0	$0	$0	$0	$0	$0
SBWRP	$4	$1	$1	$0	$0	$0	$6
WWTD Plant Engineering	$0	$0	$0	$0	$0	$0	$0
	$292	$2,552	$2,571	$0	$0	$0	$5,414
Customer							
Meters and Services	$0	$0	$0	$2,645,072	$0	$0	$2,645,072
Billing	$0	$0	$0	$0	$7,687,987	$0	$7,687,987
	$0	$0	$0	$2,645,072	$7,687,987	$0	$10,333,059
Recycled	$0	$0	$0	$0	$0	$21,309	$21,309
	$0	$0	$0	$0	$0	$21,309	$21,309
Total	$76,840,233	$7,623,043	$6,275,927	$3,999,801	$11,625,550	$32,222	$106,396,777
	72.22%	7.16%	5.90%	3.76%	10.93%	0.03%	100.00%

Table 24 shows the percentages used to allocate Metropolitan sub-system O&M costs to demand parameters. These percentages were determined based on consultations with the Public Utilities Department staff.

Table 24: Allocation Percentages for Metropolitan Sub-System O&M Costs

Function	FY 2022 Allocation of Metropolitan Sub-System O&M to Demand Parameters						
	Volume-Related			Customer-Related			
	FLOW %	COD %	TSS %	Meters and Services	Billing	Recycled	Total
Engineering							
Environmental Support	45.00%	30.00%	25.00%				100.00%
Program Management & Review	45.00%	30.00%	25.00%				100.00%
General and Administrative							
Business Support Admin	45.00%	30.00%	25.00%				100.00%
Operating Division Admin	45.00%	30.00%	25.00%				100.00%
Operational Support							
Central Support Comnet/Comc	45.00%	30.00%	25.00%				100.00%
Operational Support	45.00%	30.00%	25.00%				100.00%
Quality Control							
Industrial Permitting and Compliance	45.00%	30.00%	25.00%				100.00%
Marine Biology & Ocean Operations	30.00%	40.00%	30.00%				100.00%
Sewage Testing and Control	45.00%	30.00%	25.00%				100.00%
Wastewater Chemistry Services	30.00%	40.00%	30.00%				100.00%
Transmission							
Main Cleaning	100.00%						100.00%
Other Muni Agencies	100.00%						100.00%
Other Pump Stations	100.00%						100.00%
Pipeline Maintenance & Repair	100.00%						100.00%
Pump Station 1	100.00%						100.00%
Pump Station 2	100.00%						100.00%
Sewer Pump Stations	100.00%						100.00%
WWC Engineering & Planning	100.00%						100.00%
Treatment and Disposal							
Cogen Facilities	0.00%	60.00%	40.00%				100.00%
GUF	0.00%	60.00%	40.00%				100.00%
MBC	0.00%	50.00%	50.00%				100.00%
NCWRP	75.00%	10.00%	15.00%				100.00%
PTLWWTP	35.00%	40.00%	25.00%				100.00%
SBWRP	75.00%	10.00%	15.00%				100.00%
WWTD Plant Engineering	45.00%	30.00%	25.00%				100.00%
Customer							
Meters and Services				100.00%			100.00%
Billing					100.00%		100.00%
Recycled						100.00%	100.00%

Table 25 shows the dollar allocations of the FY22 Metropolitan sub-system O&M costs to demand parameters based on the allocation percentages shown in Table 24. Note that the total O&M costs shown in Table 25 sum to $184.7 million. This amount is also shown in Table 19 (Functional Assignment of FY22 O&M Costs).

Table 25: FY22 Dollar Allocations of Metropolitan Sub-System O&M Costs

Function	FY 2022 Allocation of Metropolitan Sub-System O&M to Demand Parameters						
	Volume-Related			Customer-Related			
	FLOW	COD	TSS	Meters and Services	Billing	Recycled	Total
Engineering							
Environmental Support	$154,673	$103,115	$85,929	$0	$0	$0	$343,718
Program Management & Review	$5,445,838	$3,630,559	$3,025,466	$0	$0	$0	$12,101,863
	$5,600,512	$3,733,674	$3,111,395	$0	$0	$0	$12,445,581
General and Administrative							
Business Support Admin	$15,936,380	$10,624,253	$8,853,544	$0	$0	$0	$35,414,177
Operating Division Admin	$4,070,594	$2,713,730	$2,261,441	$0	$0	$0	$9,045,765
	$20,006,974	$13,337,983	$11,114,986	$0	$0	$0	$44,459,943
Operational Support							
Central Support Comnet/Comc	$3,160,159	$2,106,773	$1,755,644	$0	$0	$0	$7,022,575
Operational Support	$2,823,488	$1,882,325	$1,568,604	$0	$0	$0	$6,274,418
	$5,983,647	$3,989,098	$3,324,248	$0	$0	$0	$13,296,993
Quality Control							
Industrial Permitting and Compliance	$10,014	$6,676	$5,563	$0	$0	$0	$22,254
Marine Biology & Ocean Operations	$2,197,666	$2,930,221	$2,197,666	$0	$0	$0	$7,325,553
Sewage Testing and Control	$240,672	$160,448	$133,707	$0	$0	$0	$534,828
Wastewater Chemistry Services	$2,491,264	$3,321,685	$2,491,264	$0	$0	$0	$8,304,214
	$4,939,617	$6,419,031	$4,828,200	$0	$0	$0	$16,186,848
Transmission							
Main Cleaning	$0	$0	$0	$0	$0	$0	$0
Other Muni Agencies	$0	$0	$0	$0	$0	$0	$0
Other Pump Stations	$1,249,158	$0	$0	$0	$0	$0	$1,249,158
Pipeline Maintenance & Repair	$0	$0	$0	$0	$0	$0	$0
Pump Station 1	$3,287,861	$0	$0	$0	$0	$0	$3,287,861
Pump Station 2	$8,473,610	$0	$0	$0	$0	$0	$8,473,610
Sewer Pump Stations	$0	$0	$0	$0	$0	$0	$0
WWC Engineering & Planning	$0	$0	$0	$0	$0	$0	$0
	$13,010,629	$0	$0	$0	$0	$0	$13,010,629
Treatment and Disposal							
Cogen Facilities	$0	$640,887	$427,258	$0	$0	$0	$1,068,144
GUF	$0	$1,040,408	$693,605	$0	$0	$0	$1,734,013
MBC	$0	$10,766,858	$10,766,858	$0	$0	$0	$21,533,717
NCWRP	$9,593,383	$1,279,118	$1,918,677	$0	$0	$0	$12,791,177
PTLWWTP	$9,098,762	$10,398,585	$6,499,116	$0	$0	$0	$25,996,463
SBWRP	$7,882,016	$1,050,936	$1,576,403	$0	$0	$0	$10,509,355
WWTD Plant Engineering	$401,654	$267,769	$223,141	$0	$0	$0	$892,565
	$26,975,815	$25,444,560	$22,105,058	$0	$0	$0	$74,525,433
Customer							
Meters and Services	$0	$0	$0	$0	$0	$0	$0
Billing	$0	$0	$0	$0	$1,206,920	$0	$1,206,920
	$0	$0	$0	$0	$1,206,920	$0	$1,206,920
Recycled	$0	$0	$0	$0	$0	$9,598,836	$9,598,836
	$0	$0	$0	$0	$0	$9,598,836	$9,598,836
Total	$76,517,193	$52,924,346	$44,483,887	$0	$1,206,920	$9,598,836	$184,731,184
	41.42%	28.65%	24.08%	0.00%	0.65%	5.20%	100.00%

Table 26 shows the percentages used to allocate Municipal sub-system revenue requirement offsets to demand parameters. These percentages were determined based on consultations with the Public Utilities Department staff.

Table 26: Allocation Percentages for Municipal Sub-System Revenue Requirement Offsets

Function	FY 2022 Allocation of Municipal Sub-System Rev. Offsets to Demand Parameters						
	Volume-Related			Customer-Related			
	FLOW	COD	TSS	Meters and Services	Billing	Recycled	Total
Other Operating Revenues							
New Sewer Service Connections				100.00%			100.00%
Other Sewer Treatment Plant Services							
Sewer Service (SSC)-Navy	45.00%	30.00%	25.00%				100.00%
Sewerage Treatment Services	45.00%	30.00%	25.00%				100.00%
M & O Trunk Sewers Muni	100.00%						100.00%
Services Rendered Other Funds							
Revenue from Other Agencies							
Reimbursements Between Funds/Depts	72.22%	7.16%	5.90%	3.76%	10.93%	0.03%	100.00%
Transport Charge Muni System	100.00%						100.00%
Service To Other Depts	72.22%	7.16%	5.90%	3.76%	10.93%	0.03%	100.00%
Land and Building Rentals							
Telecom Lease	84.68%	8.40%	6.92%				100.00%
Other Revenues							
IWCP Trucked Waste & Permet Fees	84.68%	8.40%	6.92%				100.00%
Revenue from Small Projects	84.68%	8.40%	6.92%				100.00%
Other Sewer Revenue	45.00%	30.00%	25.00%				100.00%
Expenditure Refund of Prior Year	45.00%	30.00%	25.00%				100.00%
Revenue Otherwise Unclassified					100.00%		100.00%
Repair Damages Recovered	45.00%	30.00%	25.00%		0.00%		100.00%
Transfers From Other Funds	45.00%	30.00%	25.00%		0.00%		100.00%
Intra-Ent Tranfer In to Fund 700089	45.00%	30.00%	25.00%		0.00%		100.00%
Interest Earnings on Operating Fund	72.22%	7.16%	5.90%	3.76%	10.93%	0.03%	100.00%

Table 27 shows the dollar allocations of the FY22 Municipal sub-system revenue requirement offsets to demand parameters based on the allocation percentages shown in Table 26. Note that the total revenue requirement offsets shown in Table 27 sum to $12.7 million. This amount is also shown in Table 17 (line labled Total Revenue Requirement Offsets).

Table 27: FY22 Dollar Allocations for Municipal Sub-System Revenue Requirement Offsets

Function	FY 2022 Allocation of Municipal Sub-System Rev Offsets to Demand Parameters						
	Volume-Related			Customer-Related			
	FLOW	COD	TSS	Meters and Services	Billing	Recycled	Total
Other Operating Revenues							
New Sewer Service Connections	$0	$0	$0	$3,000	$0	$0	$3,000
Other Sewer Treatment Plant Services							
Sewer Service (SSC)-Navy	$294,643	$196,428	$163,690	$0	$0	$0	$654,761
Sewerage Treatment Services	$430,495	$286,997	$239,164	$0	$0	$0	$956,656
M & O Trunk Sewers Muni	$529,252	$0	$0	$0	$0	$0	$529,252
Services Rendered Other Funds							
Revenue from Other Agencies							
Reimbursements Between Funds/Depts	$478,388	$47,459	$39,072	$24,902	$72,378	$201	$662,400
Transport Charge Muni System	$565,408	$0	$0	$0	$0	$0	$565,408
Service To Other Depts	$64,998	$6,448	$5,309	$3,383	$9,834	$27	$90,000
Land and Building Rentals							
Telecom Lease	$77,061	$7,645	$6,294	$0	$0	$0	$91,000
Other Revenues							
IWCP Trucked Waste & Permet Fees	$434,685	$43,124	$35,503	$0	$0	$0	$513,312
Revenue from Small Projects	$46,575	$4,621	$3,804	$0	$0	$0	$55,000
Other Sewer Revenue	$1,793,364	$1,195,576	$996,313	$0	$0	$0	$3,985,253
Expenditure Refund of Prior Year	$1,327,500	$885,000	$737,500	$0	$0	$0	$2,950,000
Revenue Otherwise Unclassified	$0	$0	$0	$0	$70,000	$0	$70,000
Repair Damages Recovered	$13,500	$9,000	$7,500	$0	$0	$0	$30,000
Transfers From Other Funds	$135,000	$90,000	$75,000	$0	$0	$0	$300,000
Intra-Ent Tranfer In to Fund 700089	$76,500	$51,000	$42,500	$0	$0	$0	$170,000
Interest Earnings on Operating Fund	$801,161	$79,480	$65,435	$41,703	$121,212	$336	$1,109,328
Total	$7,068,532	$2,902,778	$2,417,085	$72,988	$273,424	$564	$12,735,370
	55.50%	22.79%	18.98%	0.57%	2.15%	0.00%	100.00%

Table 28 shows the percentages used to allocate Metropolitan sub-system revenue requirement offsets to demand parameters. These percentages were determined based on consultations with the Public Utilities Department staff.

Table 28: Allocation Percentages for Metropolitan Sub-System Revenue Requirement Offsets

Functional Component	FY 2022 Allocation of Metropolitan Sub-System Rev. Offsets to Demand Parameters						
	Volume-Related			Customer-Related			
	FLOW %	COD %	TSS %	Meters and Services	Billing	Recycled	Total
Other Operating Revenues							
Maint & Operation Metro	45.00%	30.00%	25.00%				100.00%
Services Rendered Other Funds							
Reimbursements Between Funds/Depts	43.99%	30.43%	25.58%				100.00%
Other Services To Outside	43.99%	30.43%	25.58%				100.00%
IWCP Notice of Violation Fees					100.00%		100.00%
IWCP Industrial User Discharge Permit Fees	45.00%	30.00%	25.00%				100.00%
Interest Earnings on Operating Fund	41.42%	28.65%	24.08%	0.00%	0.65%	5.20%	100.00%

Table 29 shows the dollar allocations of the FY22 Metropolitan sub-system revenue requirement offsets to demand parameters based on the allocation percentages shown in Table 28. Note that the total revenue requirement offsets shown in Table 29 sum to $87.0 million. This amount is also shown in Table 17 (line labeled Total Revenue Requirement Offsets).

Table 29: FY22 Dollar Allocations for Metropolitan Sub-System Revenue Requirement Offsets

	FY 2022 Allocation of Metropolitan Sub-System Rev. Offsets to Demand Parameters							
	Volume-Related			Customer-Related				
Functional Component	FLOW	COD	TSS	Meters and Services	Billing	Readiness to Serve Allocation	Recycled	Total
Other Operating Revenues								
Maint & Operation Metro	$36,000,000	$24,000,000	$20,000,000	$0	$0	$0	$0	$80,000,000
Services Rendered Other Funds								
Reimbursements Between Funds/Depts	$679,975	$470,316	$395,309	$0	$0	$0	$0	$1,545,600
Other Services To Outside	$329,957	$228,220	$191,823	$0	$0	$0	$0	$750,000
IWCP Notice of Violation Fees	$0	$0	$0	$0	$664,599	$0	$0	$664,599
IWCP Industrial User Discharge Permit Fees	$931,700	$621,134	$517,611	$0	$0	$0	$0	$2,070,445
Interest Earnings on Operating Fund	$797,793	$551,807	$463,804	$0	$12,584	$0	$100,081	$1,926,068
Total Non-Rate Revenues	$38,739,426	$25,871,476	$21,568,547	$0	$677,183	$0	$100,081	$86,956,712
	44.55%	29.75%	24.80%	0.00%	0.78%	0.00%	0.12%	100.00%

Table 30 shows the percentages used to allocate Municipal sub-system capital costs to demand parameters. These percentages were determined based on consultations with the Public Utilities Department staff. Note the allocation of the capital costs associated with municipal pump stations, sewer pipelines, and trunk sewers to the customer-related demand parameter. As explained previously, these costs reflect the fact that the City's wastewater collection and conveyance pipelines must stand ready to meet the instantaneous wastewater discharges imposed by customers. Pipeline costs are fixed in nature do not vary with the volume of customer wastewater discharges. For this reason, they have been considered a customer-related cost that is allocated to the monthly service charge as part of the rate design process.

Table 30: Allocation Percentages for Municipal Sub-System Capital Costs

	FY 2022 % Allocation of Municipal Sub-System Capital Costs to Demand Parameters						
		Volume-Related			Customer-Related		
Function	Total	FLOW %	COD %	TSS %	Meters and Services	Billing	Recycled
Large Sewer Pump Station	100%	100.00%					
Muni Pump Station	100%	0.00%			100.00%		
Miscellaneous Projects	100%	100.00%					
AMI	100%					100.00%	
Sewer Pipelines	100%	0.00%			100.00%		
Sewer Treatment Plants	100%	100.00%					
Trunk Sewers	100%	0.00%			100.00%		

Table 31 shows the dollar allocation of the FY22 Municipal sub-system capital costs based on the percentage allocations shown in Table 30. Note that the total capital costs shown in Table 31 sum to $33.5 million. This amount is also shown in Table 21 (Functional Assignment of FY22 Capital Costs).

Table 31: FY22 Dollar Allocation for Municipal Sub-System Capital Costs

Function	FY 2022 $ Allocation of Municipal Sub-System Capital Costs to Demand Parameters						
		Volume-Related			Customer-Related		
	Total	FLOW	COD	TSS	Meters and Services	Billing	Recycled
Large Sewer Pump Station	$460,595	$460,595	$0	$0	$0	$0	$0
Muni Pump Station	$1,595,958	$0	$0	$0	$1,595,958	$0	$0
Miscellaneous Projects	$2,766,042	$2,766,042	$0	$0	$0	$0	$0
AMI	$85,067	$0	$0	$0	$0	$85,067	$0
Sewer Pipelines	$25,640,351	$0	$0	$0	$25,640,351	$0	$0
Sewer Treatment Plants	$949,152	$949,152	$0	$0	$0	$0	$0
Trunk Sewers	$1,959,267	$0	$0	$0	$1,959,267	$0	$0
Total	$33,456,432	$4,175,789	$0	$0	$29,195,577	$85,067	$0
Total %	100.0%	12.5%	0.0%	0.0%	87.3%	0.3%	0.0%

Table 32 shows the percentages used to allocate Metropolitan sub-system capital costs to demand parameters. These percentages were determined based on consultations with the Public Utilities Department staff.

Table 32: Allocation Percentages for Metropolitan Sub-System Capital Costs

Function	FY 2022 % Allocation of Metropolitan Sub-System Capital Costs to Demand Parameters						
		Volume-Related			Customer-Related		
	Total	FLOW %	COD %	TSS %	Meters and Services	Billing	Recycled
Large Sewer Pump Station	100%	55.46%	21.87%	22.08%			0.591%
Muni Pump Station	100%	55.46%	21.87%	22.08%			0.591%
Miscellaneous Projects	100%	55.46%	21.87%	22.08%			0.591%
AMI	0%						
Sewer Pipelines	100%	55.46%	21.87%	22.08%			0.591%
Sewer Treatment Plants	100%	55.46%	21.87%	22.08%			0.591%
Trunk Sewers	100%	55.46%	21.87%	22.08%			0.591%
PW-CF	100%	55.46%	21.87%	22.08%			0.591%
PW-Demo	100%	55.46%	21.87%	22.08%			0.591%
PW-NC	100%	55.46%	21.87%	22.08%			0.591%
Recycled Water	100%	0.00%					100.00%

Table 33 shows the dollar allocation of the FY22 Metropolitan sub-system capital costs based on the percentage allocations shown in Table 33. Note that the total capital costs shown in Table 33 sum to $67.2 million. This amount is also shown in Table 21 (Functional Assignment of FY22 Capital Costs).

Table 33: FY22 Dollar Allocations for Metropolitan Sub-System Capital Costs

Function	FY 2022 $ Allocation of Metropolitan Sub-System Capital Costs to Demand Parameters						
		Volume-Related			Customer-Related		
	Total	FLOW	COD	TSS	Meters and Services	Billing	Recycled
Large Sewer Pump Station	$5,875,039	$3,258,582	$1,284,735	$1,296,977	$0	$0	$34,745
Muni Pump Station	$28,572	$15,847	$6,248	$6,307	$0	$0	$169
Miscellaneous Projects	$3,440,712	$1,908,386	$752,404	$759,574	$0	$0	$20,349
AMI	$0	$0	$0	$0	$0	$0	$0
Sewer Pipelines	$13,373,363	$7,417,517	$2,924,444	$2,952,311	$0	$0	$79,091
Sewer Treatment Plants	$34,321,914	$19,036,601	$7,505,406	$7,576,926	$0	$0	$202,982
Trunk Sewers	$1,221,229	$677,353	$267,054	$269,599	$0	$0	$7,222
PW-CF	$116,273	$64,491	$25,426	$25,669	$0	$0	$688
PW-Demo	$255,938	$141,956	$55,968	$56,501	$0	$0	$1,514
PW-NC	$8,489,617	$4,708,754	$1,856,482	$1,874,173	$0	$0	$50,208
Recycled Water	$29,103	$0	$0	$0	$0	$0	$29,103
SDG&E Relocation	$0	$0	$0	$0	$0	$0	$0
Readiness-to-Serve Adj.	$0	$0	$0	$0	$0	$0	
Total	$67,151,759.09	$37,229,485.82	$14,678,166.77	$14,818,036.39	$0.00	$0.00	$426,070.12
Total %	100.0%	55.4%	21.9%	22.1%	0.0%	0.0%	0.6%

Table 34 shows a final summary of the FY22 revenue requirement allocations discussed in this section of the report. The total allocated revenue requirement sums to approximately $292.0 million. This corresponds to the

revenue requirement from rates developed in the financial plan and referenced in several tables in this report (see Table 15, Summary of Projected Revenue Requirement from Rates and Table 17, FY22 Revenue Requirement Detail). Second, based on the allocations developed in consultation with the Public Utilities Department staff, approximately $10.0 million of this revenue requirement is associated with costs that are related to the provision of recycled water service.

Table 34: Summary of FY22 Revenue Requirement Allocations

Summary of Allocated Revenue Requirement Components							
		Volume			Customer-Related		
Revenue Requirement Component	Total	FLOW	COD	TSS	Meters	Billing	Recycled
Municipal Sub-System O&M	$106,396,777	$76,840,233	$7,623,043	$6,275,927	$3,999,801	$11,625,550	$32,222
Municipal Sub-System Capital Costs	$33,456,432	$4,175,789	$0	$0	$29,195,577	$85,067	$0
Less: Municipal Sub-System Rev. Req. Offsets	$12,735,370	$7,068,532	$2,902,778	$2,417,085	$72,988	$273,424	$564
Total Municipal Sub-Sytem	$127,117,839	$73,947,490	$4,720,265	$3,858,843	$33,122,389	$11,437,193	$31,658
Metropolitan Sub-System O&M	$184,731,184	$76,517,193	$52,924,346	$44,483,887	$0	$1,206,920	$9,598,836
Metropolitan Sub-System Capital Costs	$67,151,759	$37,229,486	$14,678,167	$14,818,036	$0	$0	$426,070
Less: Metropolitan Sub-System Rev. Req. Offsets	$86,956,712	$38,739,426	$25,871,476	$21,568,547	$0	$677,183	$100,081
Total Metropolitan Sub-Sytem	$164,926,231	$75,007,253	$41,731,037	$37,733,377	$0	$529,738	$9,924,826
Combined O&M	$291,127,961	$153,357,426	$60,547,390	$50,759,815	$3,999,801	$12,832,470	$9,631,059
Combined Captial Costs	$100,608,191	$41,405,275	$14,678,167	$14,818,036	$29,195,577	$85,067	$426,070
Less: Combined Revenue Requirement Offsets	$99,692,082	$45,807,958	$28,774,254	$23,985,632	$72,988	$950,606	$100,644
Combined Net Rev. Req. from Raates	$292,044,070	$148,954,743	$46,451,302	$41,592,220	$33,122,389	$11,966,931	$9,956,484

UNITS OF SERVICE DETERMINATION

The next step in the cost of service study process is to determine the total system and customer class units of service. The units of service are used in the allocation of costs to customer classes and the eventual determination of test year rates and charges as part of the rate design process. The process of determining the units of service involves developing estimates, in consultation with Public Utilities Department staff, of the projected test year contributed units of service (i.e., wastewater flowing to treatment plants), billed units of service, return flows, strength loadings, and inflow and infiltration volumes. Table 35 shows the volume and strength loading inputs used to determine the units of service for test year FY22.

The units of service shown in Table 35 for Single Family Residential and Multi-Family Residential customers reflect a 95% return flow factor. Additionally, the billed sewer commodity rate for Single Family Residential customers is based on their lowest water usage during a winter monitoring period. Water consumption during the winter months typically reflects the highest percentage of water returned to the sewer system and is associated with non-discretionary indoor activities such as showers, clothes washing, and toilet flushing. Thus, it is assumed that 95% of this usage returns to the City's sewer system and only 5% is lost to factors such as outdoor usage or evaporation. Although the costs allocated to Single Family Residential customers in the cost-of-service process are based on the units of service associated with 95% return flow assumption, it is important to note that the $/HCF rates they pay are calculated based on 100% of their their lowest water consumption during the winter monitoring period.

Also, the City currently imposes a 20 HCF cap on the billed sewer volumes for Single Family Residential customers. This means that if a customer's lowest water consumption during the winter monitoring period exceeds 20 HCF, they are not billed for any amounts in excess of the 20 HCF cap. The City maintains this policy because Single Family Residential customers with such a high level of water consumption during the winter monitoring period are invariably using the water for activities that do not create return flows to the sewer system and do not impose a cost on the City's sewer infrastructure (e.g., outdoor irrigation). Raftelis recommends no change in this policy.

Table 35: FY22 Flow and Volume Loadings Used to Determine Units of Service

Customer Class	Estimated Test-Year Billed Flow (HCF)	Test-Year Flow Used in Plant Balance (HCF)	Est. Test Year Flow for Plant Balance Analysis (MGD)	Estimated Weighted Test Year COD Strength (mg/L)	Estimated Test COD Pounds	Estimated Weighted Test Year TSS Strength (mg/L)	Estimated Test Year TSS Pounds
Single Family Residential (Note 1)	17,778,264	16,889,351	34.61	766	80,804,550	292	30,771,627
Multi-Family Residential Note 2)	14,006,986	13,306,637	27.27	766	63,663,595	292	24,244,085
Commercial / Industrial (Note 3)	14,161,621	14,161,621	29.02	714	63,079,886	274	24,253,460
Total Retail	45,946,871	44,357,609	90.90	750	207,548,030	286	79,269,173
Other (Navy, Prisons)(Note 4)	1,668,513	1,668,513	3.42	651	6,780,466	273	2,843,421
Total Other (Navy, Prisons)	1,668,513	1,668,513	3.42	651	6,780,466	273	2,843,421
Trucked Waste (Note 5)	88,808	88,808	0.18	9,475	5,252,430	8,208	4,550,412
Imported Flows (Note 5)	133,681	133,681	0.27	100	83,448	50	41,724
Total Trucked Waste	222,489	222,489	0.46	3,842	5,335,878	3,306	4,592,137
Stormwater Transportation (Note 6)	363,828	363,828	0.75	320	726,767	88	199,861
Total Stormwater Transportation	363,828	363,828	0.75	320	726,767	88	199,861
Total Billed Flow	48,201,701	46,612,439	95.52	757	220,391,142	299	86,904,592
Estimated Inflow/Infiltration (Note 7)	2,120,875	1,951,735	4.00	276	3,362,628	154	1,876,249
Total Estimated I/I	2,120,875	1,951,735	4.00	276	3,362,628	154	1,876,249
Estimated Contributed Flow	50,322,576	48,564,174	100	738	223,753,771	293	88,780,841

Note 1: Single Family Residential test-year flows are based on FY18 and FY19 actual billed volumes reduced to reflect a 95% return flow factor. Actual FY18 and FY19 billed volumes reflect a customer's lowest winter water consumption. Note that there is a 20 HCF cap on billed volumes for each account. Under the cap, customers are not billed for any amounts in excess of the 20 HCF cap. Test year COD and TSS mg/L strength loadings were provided by Public Utilities Department staff.

Note 2: Multi-Family Residential test-year units flows are based on FY18 and FY19 actual billed volumes reduced to reflect a 95% return flow factor. Test year COD and TSS mg/L strength loadings were provided by Public Utilities Department staff.

Note 3: Commercial/Industrial test year flows for FY18 and FY19 reflect actual meter water consumption after being adjusted for estimated return flows in the City's billing system. Test year COD and TSS mg/L strength loadings were based on the average of estimated strength poundages for FY18 and FY19.

Note 4: Other (Navy/Prisons) test year flow are based on projected FY22 levels. Test year COS and TSS mg/L strength loadings are based on actual FY18 sampled loadings.

Note 5: Test Year flows for Trucked Waste and Imported Flows (Groundwater Discharges) are based on projected FY22 billed flows. Test year COD and TSS mg/L strength loadings are based on data provided by the Public Utilities Department staff.

Note 6: Dry-Weather Stormwater Transportation test year flow were developed in consultation with Public Utilities Department staff. Test year COD and TSS mg/L strength loadings are based on those specified in the contract between the Public Utilities Department and the City of San Diego's Transportation and Storm Water Department.

Note 7: The estimate of Inflow and Infiltration was provided by the Public Utilities Department Staff. It is equivalent to 4.0% of the retail volumes specified in the analysis.

ALLOCATION OF INFLOW AND INFILTRATION (I/I)

After determining the test year units of service which are summarized in Table 35, the next step in the cost of service process is the determination of how inflow and infiltration (I/I) volumes and associated strength loadings loadingsshould be allocated to each customer class. Inflow is water introduced into the wastewater collection and conveyance system through direct connections such as manhole covers. Infiltration is water entering the wastewater collection system through leaky sewer pipelines. I/I volumes and strength loadings are allocated to customers because there is a cost to treat the I/I received at the wastewater treatment plant and this cost must be borne by the customers whose rates pay for the wastewater utility system.

There is no industry standard one-size-fits-all approach for the allocation of I/I in every situation. Methods for allocating I/I to customer classes range from relying entirely on the proportionate share of contributed volume from each customer class (100% volume) to relying entirely on the proportionate share of customer accounts/wastewater service connections (100% accounts). For this study, Raftelis has allocated I/I to customer classes based 67% on accounts and 33% on contributed volumes. Our rationale for this approach is that the majority of infiltration entering the wastewater system is from leaky connections from service lines that connect to individual customer premises. Approximately 84% of the customer accounts on the City's wastewater system are associated with the Single Family Residential customer class. Allocating I/I on a basis that emphasizes accounts (67%) over volumes (33%) more closely ties to the cost of service standard of cause causation. Note that Raftelis did not allocate any I/I to the Trucked Waste or Stormwater Transportation customer classes. This is because trucked waste discharges bypass the wastewater collection and conveyance system and Stormwater Transportation volumes reflect dry-weather flows.

Table 36 shows a detail of the FY22 allocation of I/I to each customer class.

Table 36: Detail FY22 Allocation of I/I to Customer Classes

FY 2022 Allocation of I/I Units						
Allocation of I/I	Estimated Test Year Flow (MGD)	Estimated Test Year Flow (HCF)	Estimated Test Year COD Strength (mg/L)	Estimated Test COD Pounds	Estimated Test Year TSS Strengh (mg/L)	Estimated Test Year TSS Pounds
Estimated I/I						
Amount Allocated on Accounts	2.68	1,307,662		2,252,961		1,257,087
Amount Allocated on Flow	1.32	644,072		1,109,667		619,162
Total	4.00	1,951,735	276.00	3,362,628	154.00	1,876,249
I/I Allocated on Accounts						
Single Family Residential	2.25	1,095,684		1,887,744		1,053,307
Multi-Family Residential	0.28	136,917		235,894		131,622
Commercial / Industrial	0.15	74,991		129,201		72,090
Other (Navy, Prisons)	0.00	71		122		68
Trucked Waste and Imported Flows	0.00	0		0		0
Stormwater Transportation						
Total I/I Allocated on Accounts	2.68	1,307,662		2,252,961		1,257,087
I/I Allocated on Volume						
Single Family Residential	0.48	236,343		407,194		227,202
Multi-Family Residential	0.38	186,208		320,817		179,006
Commercial / Industrial	0.41	198,172		341,430		190,508
Other (Navy, Prisons)	0.05	23,349		40,227		22,446
Trucked Waste and Imported Flows	0.00	0		0		0
Stormwater Transportation	0.00	0		0		0
Total I/I Allocated on Volume	1.32	644,072		1,109,667		619,162
Allocated I/I Reconciliation						
Single Family Residential	2.73	1,332,027		2,294,938		1,280,509
Multi-Family Residential	0.66	323,125		556,710		310,628
Commercial / Industrial	0.56	273,163		470,630		262,598
Other (Navy, Prisons)	0.05	23,419		40,349		22,514
Trucked Waste and Imported Flows	0.00	0		0		0
Stormwater Transportation	0.00	0		0		0
Total Allocated I/I	4.00	1,951,735	276.00	3,362,628	154.00	1,876,249

Allocation of I/I Between Accounts & Volume	
% of I/I Allocated on Accounts	67.00%
% of I/I Allocated on Flow	33.00%

Table 37 shows a summary of the units of service used on the calculation of the unit cost of service for each demand parameter.

Table 37: Summary of FY 22 Units of Service

FY 2022 Billed Units of Service			
Billed Units of Service			
Customer Class	**Flow (HCF))**	**COD Pounds**	**TSS Pounds**
Single Family Residential	17,778,264		
Multi-Family Residential	14,006,986		
Commercial / Industrial	14,161,621	63,079,886	24,253,460
Other (Navy, Prisons)	1,668,513		
Trucked Waste and Imported Flows	222,489		
Stormwater Transportation	363,828		
Total	48,201,701	63,079,886	24,253,460
FY 2022 Return Flow Units of Service			
Customer Class	**Flow (HCF))**	**COD Pounds**	**TSS Pounds**
Single Family Residential	16,889,351	80,804,550	30,771,627
Multi-Family Residential	13,306,637	63,663,595	24,244,085
Commercial / Industrial	14,161,621	63,079,886	24,253,460
Other (Navy, Prisons)	1,668,513	6,780,466	2,843,421
Trucked Waste and Imported Flows	222,489	5,335,878	4,592,137
Stormwater Transportation	363,828	726,767	199,861
Total	46,612,439	220,391,142	86,904,592
FY 2022 Allocated I/I Units of Service			
Customer Class	**Flow (HCF)**	**COD Pounds**	**TSS Pounds**
Single Family Residential	1,332,027	2,294,938	1,280,509
Multi-Family Residential	323,125	556,710	310,628
Commercial / Industrial	273,163	470,630	262,598
Other (Navy, Prisons)	23,419	40,349	22,514
Trucked Waste and Imported Flows	0	0	0
Stormwater Transportation	0	0	0
Total	1,951,735	3,362,628	1,876,249
FY 2022 Total Units of Service			
Customer Class	**Flow (HCF)**	**COD Pounds**	**TSS Pounds**
Single Family Residential	18,221,378	83,099,488	32,052,136
Multi-Family Residential	13,629,762	64,220,305	24,554,713
Commercial / Industrial	14,434,784	63,550,516	24,516,059
Other (Navy, Prisons)	1,691,932	6,820,816	2,865,935
Trucked Waste and Imported Flows	222,489	5,335,878	4,592,137
Stormwater Transportation	363,828	726,767	199,861
Total	48,564,174	223,753,771	88,780,841

	Accounts/EDUs		**Flow**	
FY 2022 Accounts	**Accounts**	**Percentage**	**HCF**	**Percentage**
SFR	231,905	83.79%	16,889,351	36.70%
MFR	28,979	10.47%	13,306,637	28.91%
Non-Residential	15,872	5.73%	14,161,621	30.77%
Other (Navy, Prisons)	15	0.01%	1,668,513	3.63%
Trucked Waste and Imported Flows	0	0.00%	0	0.00%
Stormwater Transportation	0	0.00%	0	
Total	276,771	100.00%	46,026,122	100.00%

UNIT COST OF SERVICE

Having established the units of service for each customer class, the next step in the cost of service process is to calculate the unit cost of service for each demand parameter. Table 39 shows a detail of the unit cost of service calculation. As shown in Table 38, the estimated FY22 unit cost of service for the volume-related demand parameters of flow, COD and TSS are: $3.07/HCF for flow, $0.21/pound for COD, and $0.47/pound for TSS.

Table 38: FY22 Unit Cost of Service Calculation

FY 2022 Unit Cost of Service Calculation					
	Volume-Related			Customer-Related	
	Flow	COD	TSS		
Customer Class	Total Flow HCF/Year	Total COD Lbs/Year	Total TSS Lbs/Year	Meters and Service Accounts / EDUs	Bills
Net Revenue Requirement from Rates	$148,954,743	$46,451,302	$41,592,220	$33,122,389	$11,966,931
Single Family Residential	16,889,351	80,804,550	30,771,627	231,905	2,782,860
Multi-Family Residential	13,306,637	63,663,595	24,244,085	28,979	347,748
Commercial / Industrial	14,161,621	63,079,886	24,253,460	15,872	190,464
Subtotal	44,357,609	207,548,030	79,269,173	276,756	3,321,072
Other (Navy, Prisons)	1,668,513	6,780,466	2,843,421	15	180
Subtotal	1,668,513	6,780,466	2,843,421	15	180
Trucked Waste and Imported Flows	222,489	5,335,878	4,592,137	0	0
Subtotal	222,489	5,335,878	4,592,137	0	0
Stormwater Transportation	363,828	726,767	199,861	0	0
Subtotal	363,828	726,767	199,861	0	0
I/I (Total)	1,951,735	3,362,628	1,876,249		
Total Contributed Units	48,564,174	223,753,771	88,780,841	276,771	3,321,252
Unit Cost of Service (Net	$3.07	$0.21	$0.47	$119.67	$3.60

DISTRIBUTION OF COSTS TO CUSTOMER CLASSES

The first step in the distribution of costs to customer classes is to multiply the units of service for each customer class (Table 37) by the unit cost of service (Table 38) results in the determination of the test year FY22 customer class cost of service. Table 39 shows a detail of this calculation for FY22 *before* the allocation of I/I to each customer class. The total calculated COS for wastewater customer classes is $282.1 million. In contrast, the total FY22 revenue requirement is $292.0 million as shown, for example. in Tables 2, 15 and 34. The difference of approximately $10.0 million is associated with the costs that have been allocated to recycled customers (Table 34).

Table 39: FY22 Wastewater Customer Class Cost of Service - Before I/I Allocation

FY 2022 Class Cost of Service Before Allocation of I/I (Net of Recycled)						
		Volume-Related			Customer-Related	
Customer Class	Total Calculated COS	Flow	COD	TSS	Meters and Services	Billing
Single Family Residential	$120,773,661	$51,802,568	$16,775,032	$14,415,951	$27,753,080	$10,027,030
Multi-Family Residential	$70,109,273	$40,813,763	$13,216,568	$11,357,916	$3,468,043	$1,252,984
Commercial / Industrial	$70,479,585	$43,436,148	$13,095,390	$11,362,308	$1,899,471	$686,268
Subtotal	$261,362,519	$136,052,478	$43,086,989	$37,136,175	$33,120,594	$11,966,282
Other (Navy, Prisons)	$7,859,779	$5,117,619	$1,407,625	$1,332,092	$1,795	$649
Subtotal	$7,859,779	$5,117,619	$1,407,625	$1,332,092	$1,795	$649
Trucked Waste and Imported Flows	$3,941,475	$682,413	$1,107,729	$2,151,333	$0	$0
Subtotal	$3,941,475	$682,413	$1,107,729	$2,151,333	$0	$0
Stormwater Transportation	$1,360,433	$1,115,925	$150,877	$93,631	$0	$0
Subtoal	$1,360,433	$1,115,925	$150,877	$93,631	$0	$0
Total Allocated I/I	$7,563,380	$5,986,309	$698,082	$878,989		
Net Revenue Requirement	$282,087,586	$148,954,743	$46,451,302	$41,592,220	$33,122,389	$11,966,931

The final step in the determination of the customer class COS is to allocate I/I costs to each class. As noted previously in this report, Raftelis has allocated I/I to customer classes based 67% on accounts and 33% on contributed volumes. Table 40 shows this calculation.

Table 40: FY22 Wastewater Customer Class Cost of Service - After I/I Allocation

FY 2022 Class Cost of Service After Allocation of I/I (Net of Recycled)								
		Volume-Related				Customer-Related		
Customer Class	Total Calculated COS	Flow	I/I Allocated on Flow	COD	TSS	Meters and Services	I/I Allocated on Accounts	Billing
Single Family Residential	$125,935,543	$51,802,568	$915,880	$16,775,032	$14,415,951	$27,753,080	$4,246,002	$10,027,030
Multi-Family Residential	$71,361,452	$40,813,763	$721,595	$13,216,568	$11,357,916	$3,468,043	$530,583	$1,252,984
Commercial / Industrial	$71,538,149	$43,436,148	$767,960	$13,095,390	$11,362,308	$1,899,471	$290,604	$686,268
Subtotal	$268,835,144	$136,052,478	$2,405,435	$43,086,989	$37,136,175	$33,120,594	$5,067,190	$11,966,282
Other (Navy, Prisons)	$7,950,535	$5,117,619	$90,481	$1,407,625	$1,332,092	$1,795	$275	$649
Subtotal	$7,950,535	$5,117,619	$90,481	$1,407,625	$1,332,092	$1,795	$275	$649
Trucked Waste and Imported Flows	$3,941,475	$682,413	$0	$1,107,729	$2,151,333	$0	$0	$0
Subtotal	$3,941,475	$682,413	$0	$1,107,729	$2,151,333	$0	$0	$0
Stormwater Transportation	$1,360,433	$1,115,925	$0	$150,877	$93,631	$0	$0	$0
Subtoal	$1,360,433	$1,115,925	$0	$150,877	$93,631	$0	$0	$0
Net Revenue Requirement	$282,087,586	$142,968,434	$2,495,915	$45,753,220	$40,713,231	$33,122,389	$5,067,464	$11,966,931
		$231,930,801				$50,156,785		

CLASS COST OF SERVICE VERSUS REVENUES AT EXISTING RATES

Table 41 provides a comparison of the estimated FY22 cost of service for each customer class versus the projected revenues that would be earned if existing rates remain in place. Some customer classes have an estimated COS that is greater than the revenue projected to be collected from them in FY22 if existing rates remain unchanged (e.g., Single Family Residential and Other (Navy, Prisons)). Other customer classes have an estimated COS that is less than the amount of revenue projected to be collected from them in FY22 if existing rates remain unchanged (e.g., Multi-Family Residential, and Commercial/Industrial).

Table 41: Comparison of FY22 Customer Class Cost of Service to Revenue at Existing Rates

FY 2022 Cost of Service vs. Revenue at Existing Rates				
Customer Class	FY 2022 Cost of Service	Revenue at Existing Rates	Required Change in Revenue Recovery from Existing Rates	Percentage Change in Revenue Recovery
Wastewater Net Revenue Requirement	$292,044,070			
Wastewater Customer Classes				
Single Family Residential	$125,935,543	$106,632,771	$19,302,772	18.1%
Multi-Family Residential	$71,361,452	$75,752,500	($4,391,048)	-5.8%
Non-Residential	$71,538,149	$82,326,763	($10,788,614)	-13.1%
Total Regular Wastewater Service	$268,835,144	$264,712,034	$4,123,110	1.6%
Other (Navy, Prisons)	$7,950,535	$7,257,235	$693,299	9.6%
Total Other (Navy, Prisons)	$7,950,535	$7,257,235	$693,299	9.6%
Trucked Waste	$3,941,475	$4,500,000	($558,525)	-12.4%
Total Trucked Waste	$3,941,475	$4,500,000	($558,525)	-12.4%
Stormwater Transportation	$1,360,433	$1,667,940	($307,507)	-18.4%
Total Stormwater Transportation	$1,360,433	$1,667,940	($307,507)	-18.4%
Total Wastewater Service	$282,087,586	$278,137,209	$3,950,376	1.4%
Recycled Service	$9,956,484		$9,956,484	
Total System	$292,044,070	$278,137,209	$13,906,860	5.00%
Cumulative Increase from Revenue Requirement Projection				5.00%

Rate Design

Introduction

This section of the report discusses the development of a schedule of sewer service charges for the City's customer classes. The proposed sewer service charges are an outcome of the comprehensive analysis of customer flows and strength loadings completed in the cost of service analysis. Raftelis recommends no changes to the City's existing rate structures. Note that the City's proposed FY22 wastewater rate revenue increase of 5.0% is anticipated to become effective on January 1, 2022.

PROPOSED RATES - MONTHLY SERVICE CHARGE

Table 42 shows a detail of the calculation of the proposed FY22 monthly service charge for retail customers. Note that the calculated monthly service charge of $15.11 is $0.22 lower (1.4%) than the current monthly service charge of $15.33. This proposed service charge is based on the identification of costs in the FY22 revenue requirement that can reasonably be considered appropriate for fixed revenue recovery. The proposed monthly service charge of $15.11 results in projected FY22 revenue recovery being approximately 18% fixed and 82% variable in nature. The current (FY21) revenue recovery profile is approximately 19% fixed and 81% variable. There is no industry standard level of fixed revenue recovery that is appropriate for all sewer utilities. In general, sewer utilities are exposed to less rate revenue volatility than water utilities which often earn a significant amount of revenue from outdoor irrigation demands that can fluctuate in response to seasonal weather conditions.

Table 42: Detail of Proposed FY22 Monthly Service Charges

FY 2022 Meter Service Charge for SFR, MFR and Commercial/Industrial									
Customer Class	Meters and Services Revenue Requirement	Billing Revenue Requirement	I/I Accounts Revenue Requirement	Total Customer Revenue Requirement	Projected Test-Year Bills for Fixed Charge Calculation	FY 2022 Calculated Service Charge	Current Service Charge	$ Difference	% Difference
Single Family Residential	$27,753,080	$10,027,030	$4,246,002	$42,026,113	2,782,860	$15.11	$15.33	($0.22)	-1.4%
Multi-Family Residential	$3,468,043	$1,252,984	$530,583	$5,251,610	347,748	$15.11	$15.33	($0.22)	-1.4%
Commercial / Industrial	$1,899,471	$686,268	$290,604	$2,876,344	190,464	$15.11	$15.33	($0.22)	-1.4%
Subtotal	$33,120,594	$11,966,282	$5,067,190	$50,154,067	3,321,072				
Other (Navy, Prisons)	$1,795	$649	$275	$2,718	180	$15.11	$15.33	($0.22)	-1.4%
Subtotal	$1,795	$649	$275	$2,718	180				
TOTAL	$33,122,389	$11,966,931	$5,067,464	$50,156,785	3,321,252	$15.11	$15.33	($0.22)	-1.4%

PROPOSED COMMODITY RATES

Tables 43 through 46 below provide a detail of the commodity rates for the City's wastewater customers. Note that no detail is provided for the Other (Navy/Prisons) customer class. Although a revenue requirement for this customer class was calculated as part of the COS study ($8.0 million as shown in Table 41), this customer class is not shown because these rates are set via a contractual arrangement.

Table 43 shows a detail of the calculation of proposed commodity rates ($/HCF) for Single Family Residential and Multi-Family Residential customers. As shown in the calculation, there is a significant increase in the amount of revenue that must be recovered from Single Family Residential customers and a decrease in the amount of revenue that must be recovered from Multi-Family Residential customers. As is the case for all proposed FY22 customer class rates, this outcome reflects updated cost allocations, the results of which are summarized in Table 40, updated volume and strength loadings (Table 35), updated units of service calculation (Table 37), and an updated unit cost of service calculation (Table 38).

Table 43: Detail Proposed FY 22 Residential Commodity Rates

FY 2022 Single Family and Multi-Family Residential Flow Based Charges										
Customer Class	Flow Revenue Requirement	COD Revenue Requirement	TSS Revenue Requirement	I/I Volume Revenue Requirement	Total Volumetric Revenue Requirement	Projected Test-Year Billable Units of Service	FY 2022 $/HCF Calculated Charge	Current $/HCF Charge	$ Difference	% Difference
Single Family	$51,802,568	$16,775,032	$14,415,951	$915,880	$83,909,430	17,778,264	$4.7200	$3.5983	$1.1217	31.2%
Multi Family	$40,813,763	$13,216,568	$11,357,916	$721,595	$66,109,842	14,006,986	$4.7200	$5.0276	($0.3076)	-6.1%
TOTAL	$92,616,330	$29,991,599	$25,773,867	$1,637,475	$150,019,272	31,785,250				

Table 44 shows the calculation of proposed FY22 commodity rates for the Commercial/Industrial customer class. As shown in Table 44, both flow-based and strength-based commodity rates decline. As is the case for all proposed FY22 customer class rates, this outcome reflects updated cost allocations, the results of which are summarized in Table 40, updated volume and strength loadings (Table 35), updated units of service calculation (Table 37), and an updated unit cost of service calculation (Table 38).

Table 44: Detail of Proposed FY22 Commercial / Industrial Commodity Rates

FY 2022 Commercial Flow and Strength Charges								
Commercial/Industrial	Flow and Strength Revenue Requirement	I/I Volume Revenue Requirement	Total Revenue Requirement	Projected Test-Year Billable Units of Service	FY 2022 Calculated Charges	Current Charges	$ Difference	% Difference
Flow Charges ($ / hcf)	$43,436,148	$767,960	$44,204,107	14,161,621	$3.1220	$3.7672	($0.6452)	-17.1%
COD Charges ($ / lb)	$13,095,390		$13,095,390	63,079,886	$0.2080	$0.2242	($0.0162)	-7.2%
TSS Charges ($ / lb)	$11,362,308		$11,362,308	24,253,460	$0.4690	$0.5517	($0.0827)	-15.0%
TOTAL	$67,893,845	$767,960	$68,661,805					

Table 45 shows the calculation of the proposed FY22 commodity rates ($/HCF and $/lb.) for trucked waste and imported flows.

Table 45: Detail of Proposed FY22 Trucked Waste and Imported Flows Rates

FY 2022 Trucked Waste						
Flow Based Charges	Revenue Requirement	Projected Test-Year Billable Units of Service	FY 2022 Calculated Charges	Current Charges	$ Difference	% Difference
Flow Charges ($ / hcf)	$682,413	222,489	$3.0680	$3.8996	($0.8316)	-21.3%
COD Charges ($ / lb)	$1,107,729	5,335,878	$0.2080	$0.2321	($0.0241)	-10.4%
TSS Charges ($ / lb)	$2,151,333	4,592,137	$0.4690	$0.5710	($0.1020)	-17.9%
TOTAL	$3,941,475					

Table 46 shows the calculation of proposed commodity rates ($/HCF) for dry weather stormwater transportation service. Rates for this non-operating service are established by a contract between the Public Utilities Department and the City's Transportation and Stormwater Department.

Table 46: Detail of Proposed FY22 Stormwater Transportation

FY 2022 Stormwater Transportation							
Flow Based Charges		Revenue Requirement	Projected Test-Year Billable Units of Service (HCF)	FY 2022 Calculated $/HCF Charge	Current Charges	$ Difference	% Difference
Flow Charges	($ / hcf)	$1,115,925					
COD Charges	($ / lb)	$150,877					
TSS Charges	($ / lb)	$93,631					
TOTAL		$1,360,433	363,828	$3.7400	$7.6763	($3.9363)	-51.3%

PROJECTED RATES

Table 47 provides a summary of the projected wastewater service rates for the period FY22 though FY25. The projected rates for FY23 through FY25 are based on the proposed FY22 cost of service rates increased on the same percentage basis as the overall systemwide percentage revenue increases specified in Table 1, Projected Required Rate Revenue Adjustments.

Table 47: Proposed Wastewater Rates for FY22 - FY25

FY 2022 Wastewater Rate Summary | **Rate Projection for FY22 - FY25**

FY 2022 Wastewater Service Charges ($/month)						FY 2022 - FY 2025 Wastewater Service Charges ($/Month)				
Customer Class		Current Charge	FY 2022	$ Diff	% Diff	Current Charge	FY 2022	FY 2023	FY 2024	FY 2025
Single Family Residential	$/Month	$15.33	$15.11	($0.22)	-1.4%	$15.33	$15.11	$15.71	$16.34	$16.83
Multi-Family Residential	$/Month	$15.33	$15.11	($0.22)	-1.4%	$15.33	$15.11	$15.71	$16.34	$16.83
Commercial / Industrial	$/Month	$15.33	$15.11	($0.22)	-1.4%	$15.33	$15.11	$15.71	$16.34	$16.83

FY 2022 Wastewater Commodity and Strength Charges						FY2022 - FY2025 Wastewater Commodity and Strength Charges				
Customer Class		Current Charge	FY 2022	$ Diff	% Diff	Current Charge	FY 2022	FY 2023	FY 2024	FY 2025
Residential										
Single Family Residential	($ / hcf)	$3.598	$4.720	$1.122	31.2%	$3.5983	$4.720	$4.909	$5.105	$5.258
Multi-Family Residential	($ / hcf)	$5.028	$4.720	($0.308)	-6.1%	$5.0276	$4.720	$4.909	$5.105	$5.258
Commercial / Industrial										
Flow Charges	($ / hcf)	$3.767	$3.122	($0.645)	-17.1%	$3.7672	$3.122	$3.247	$3.377	$3.478
COD Charges	($ / lb)	$0.224	$0.208	($0.016)	-7.2%	$0.2242	$0.208	$0.216	$0.225	$0.232
TSS Charges	($ / lb)	$0.552	$0.469	($0.083)	-15.0%	$0.5517	$0.469	$0.488	$0.507	$0.522
Trucked Waste										
Flow Charges	($ / hcf)	$3.900	$3.068	($0.832)	-21.3%	$3.8996	$3.068	$3.191	$3.318	$3.418
COD Charges	($ / lb)	$0.232	$0.208	($0.024)	-10.4%	$0.2321	$0.208	$0.216	$0.225	$0.232
TSS Charges	($ / lb)	$0.571	$0.469	($0.102)	-17.9%	$0.5710	$0.469	$0.488	$0.507	$0.522
Stormwater Transportation										
Flow	($/hcf)	$7.676	$3.740	($3.936)	-51.3%	$7.6763	$3.740	$3.890	$4.045	$4.167

Recycled Water

Introduction

The City provides recycled water service to 765 customers who use approximately 5.76 million HCF annually. The costs incurred to provide recycled water service are accounted for in both the Water Revenue Fund and the Sewer Revenue Fund. A small portion of billing and collection costs related to recycled water customers is also incurred by the wastewater utility. Within the Water Revenue Fund, there are annual debt service payments of approximately $3.7 million associated with debt financing used to fund the construction of the recycled water transmission and distribution system. As part of the wastewater COS, Raftelis developed proposed FY22 rates for the recycled water system that are discussed in this section of the report.

RECYCLED SYSTEM REVENUE REQUIREMENT

Table 48 details the calculation of the FY22 recycled water revenue requirement which is estimated to be $13.7 million. Of this amount, approximately $9.9 million was identified as part of the wastewater cost of service process. This amount reflects the best estimate of FY22 Sewer Revenue Fund costs that are incurred to assist in the provision of recycled water service. The remaining FY22 recycled revenue requirement is associated with the $3.7 million of recycled water-related debt service in the Water Revenue Fund.

Table 48: Test Year FY22 Recycled Water Revenue Requirement

FY 2022 Recycled Revenue Requirement Components		
Revenue Requirement Component	Cost Description	FY 2022
Metro Subsystem & Muni Subsystem O&M		
Metro O&M - Treatment	Wastewater Treatment	$3,733,550
Metro O&M - Water System Operations	Water Systems Operations	$5,865,286
Metro O&M for Billing	Customer Support Services	$0
Muni O&M for Billing	Customer Support Services	$32,222
Metro Capital	Recycled Share of Metro Capital Revenue Requirment based on Recycled Debt Service as % of Total Non-Recyled Debt Service	$426,070
Muni Capital	Recycled Share of Muni Capital Revenue Requirment based on Recycled Debt Service as % of Total Non-Recyled Debt Service	$0
Total Gross Wastewater Costs Allocated to Recycled		$10,057,129
Non-Rate Revenue Offsets		
Metro Non-Rate Revenue Offset	Recycled Allocation of Operating Fund Interest Earnings based on	$100,081
Muni Non-Rate Revenue Offset	Recycled Allocation of Various Muni O&M Offsets	$564
Total Net Wastewater Costs Allocated to Recycled		$9,956,484
Other Recycled Costs from the Water Revenue Fund		
Recycled Debt for Recycled T&D System Funding	Recycled Data Inputs Workshweet	$3,723,619
Total Recycled Net Revenue Requirement from Rates		$13,680,103

RECYCLED WATER MONTHLY SERVICE CHARGES

Table 49 details the revenue requirement components for the FY22 recycled water monthly service charge calculation. To arrive at this revenue requirement, 25% of the debt service used to finance the recycled water transportation and distribution system was allocated to the meters and service demand parameter. This recognizes that the transportation and distribution system must stand ready to meet the instantaneous peak demands of recycled water customers. Because the debt service costs do not vary with consumption, they are conceptually suitable for recovery through the monthly service charge.

Table 49: FY22 Recycled Water Monthly Service Charge Unit Cost

FY 2022 Calculation of Recycled Water Monthly Service Charge Unit Cost	
Billing Component	**FY 2022**
Billing Component	
Amount Identified as Billing in Wastewater COS Allocations	$32,222
Number of Accounts	765
Annual Unit Cost per Account	$42.12
Unit Cost per Bill (12 Bills per Year)	$3.51
Meter Capacity Component	
Recycled Debt Svc in Water Revenue Fund	$3,723,619
Percentage Allocated to Meter Service Charge	25.00%
Amount Allocated to Meter Service Charge	$930,905
Equivalent Meters	5,008
Annual Unit Cost per Equivalent Meter	$185.89
Unit Cost per Equivalent Meter (12 Bills per Year)	$15.49

Table 50 details the calculation of the proposed FY22 monthly service charge for recycled water. As shown in Table 50, the proposed FY22 service charge for a 3/4" meter decreases from $21.55 to $19.01.

Table 50: Proposed FY22 Recycled Water Monthly Service Charges

FY 2022 Meter Service Charge Calculation							
Meter Size	**Meter Flow Rate Equivalency**	**Monthly Capacity Component**	**Monthly Billing Component**	**Calculated Meter Charge**	**Current Meter Service Charge**	**Change - $**	**Change - %**
5/8", 3/4"	1.00	$15.49	$3.51	$19.01	$21.55	($2.54)	-11.8%
1"	1.67	$25.82	$3.51	$29.33	$21.55	$7.78	36.1%
1.5"	3.33	$51.64	$3.51	$55.15	$39.05	$16.10	41.2%
2"	5.33	$82.62	$3.51	$86.13	$60.06	$26.07	43.4%
3"	11.67	$180.73	$3.51	$184.24	$126.52	$57.72	45.6%
4"	21.00	$325.31	$3.51	$328.83	$224.50	$104.33	46.5%
6"	43.33	$671.28	$3.51	$674.79	$493.94	$180.85	36.6%
8"	93.33	$1,445.83	$3.51	$1,449.34	$843.86	$605.48	71.8%
10"	140.00	$2,168.74	$3.51	$2,172.25	$1,333.75	$838.50	62.9%
12"	176.67	$2,736.74	$3.51	$2,740.26	$1,753.65	$986.61	56.3%
16"	260.00	$4,027.66	$3.51	$4,031.17	$3,503.24	$527.93	15.1%

Table 51 shows the calculation of the FY22 revenue requirement for recycled water commodity charges. As shown in this table, of the total FY22 recycled revenue requirement of $13.7 million, approximately $12.7 million is recovered through commodity rates.

Table 51: FY22 Recycled Water Commodity Revenue Requirement

FY 2022 Commodity Rate Calculation	
Component	**FY 2022**
Total Revenue Requirement	$13,680,103
Less: Meter Service Charge Revenue Recovery	$963,146
Net Volumetric Revenue Requirement	$12,716,958
Projected Test-Year Sales (AF)	13,238
Gallons	4,313,662,890
HCF	5,766,544
Unit Cost per HCF	$2.21

Table 52 compares the proposed FY22 recycled water commodity rate of $2.21 per HCF to the current commodity rate of $1.73 per HCF which is a 27.5% increase, or approximately 4.1% per year from January 2016.

Table 52: Proposed FY22 Recycled Water Commodity Rate

FY 2022 Commodity Rate ($ /HCF)				
Customer Class	Current Charge	FY 2022 Calculated Charge	Change - $	Change - %
All Consumption	$1.73	$2.21	$0.48	27.5%

Table 53 provides a summary of the projected recycled water service rates for FY22 and a projection of recycled water rates through FY25. The projected rates for FY23 through FY25 are based on FY22 cost of service rates increased on the same percentage basis as the overall systemwide percentage revenue increase specified in Table 1, Projected Required Rate Revenue Adjustments.

Table 53: Proposed Recycled Water Rates FY22 - FY25

FY 2022 Recycled Water Rate Summary

FY 2022 Recycled Water Monthly Service Charges ($/month)					
Meter Size		Current Charge	FY 2022	$ Diff	% Diff
5/8", 3/4"	$/Month	$21.55	$19.01	($2.54)	-11.8%
1"	"	$21.55	$29.33	$7.78	36.1%
1.5"	"	$39.05	$55.15	$16.10	41.2%
2"	"	$60.06	$86.13	$26.07	43.4%
3"	"	$126.52	$184.24	$57.72	45.6%
4"	"	$224.50	$328.83	$104.33	46.5%
6"	"	$493.94	$674.79	$180.85	36.6%
8"	"	$843.86	$1,449.34	$605.48	71.8%
10"	"	$1,333.75	$2,172.25	$838.50	62.9%
12"	"	$1,753.65	$2,740.26	$986.61	56.3%
16"	"	$3,503.24	$4,031.17	$527.93	15.1%

FY 2022 Recycled Water Commodity Rates				
Customer Class	Current Charge	FY 2022	$ Diff	% Diff
All Consumpt	($ / hcf)	$1.73	$2.21	$0.48	27.5%

Rate Projection for FY22 - FY25

FY 2022 - FY 2025 Recycled Water Monthly Service Charges ($/Month)				
Current Charge	FY 2022	FY 2023	FY 2024	FY 2025
$21.55	$19.01	$19.77	$20.56	$21.18
$21.55	$29.33	$30.50	$31.72	$32.68
$39.05	$55.15	$57.36	$59.65	$61.44
$60.06	$86.13	$89.58	$93.16	$95.95
$126.52	$184.24	$191.61	$199.27	$205.25
$224.50	$328.83	$341.98	$355.66	$366.33
$493.94	$674.79	$701.78	$729.85	$751.75
$843.86	$1,449.34	$1,507.31	$1,567.61	$1,614.63
$1,333.75	$2,172.25	$2,259.14	$2,349.51	$2,419.99
$1,753.65	$2,740.26	$2,849.87	$2,963.87	$3,052.78
$3,503.24	$4,031.17	$4,192.42	$4,360.11	$4,490.92

FY2022 - FY2025 Recycled Water Commodity Rates				
Current Charge	FY 2022	FY 2023	FY 2024	FY 2025
$1.73	$2.21	$2.30	$2.39	$2.46

Capacity Fees

Introduction

Capacity fees are one-time capital charges imposed on new customers to pay for the facilities needed to provide water and wastewater service. Per California Government Code Section 66013, the fees "shall not exceed the reasonable cost of providing service." Therefore, the fees need to reflect the estimated cost of existing or additional system capacity needed to serve them. Other common terms for capacity fees are connection fees, impact fees, system development charges, tap fees, development impact fees, plant and facility connection charges, and capital facility charges.

The City currently charges a capacity fee for connection to and, therefore, use of, capacity in the wastewater system. The fee is charged to new customers or customers requesting additional capacity compared to their current capacity (as measured by Equivalent Dwelling Units). The current wastewater capacity fee is $4,124 per EDU and was last increased in 2007.

Valuation Methodologies

There are three primary methodologies to develop the cost included in capacity fees. These methodologies consider whether the utility is attempting to recover costs related to existing capacity (Buy-In), recover future capacity expansion plans (Incremental), or a combination of existing and future capacity (Hybrid).

BUY-IN METHOD

The buy-in approach is based on the idea that new customers "buy-in" to the system to reimburse existing customers who have already constructed and maintain the facilities that will serve new customers, including the costs associated with financing those services. The buy-in method considers the valuation of existing assets in service and the design capacity of those assets to determine the capacity fee and recoups funds expended by existing rate payers to build the current system for which the new development is connecting. This equates to new development buying into the system.

There are four approaches to determine the value of assets under the buy-in methodology.

- Original cost (OC)
- Original cost less accumulated depreciation (OCLD)
- Replacement cost new (RCN)
- Replacement cost new less accumulated depreciation (RCNLD)

The OC approach values existing facilities at the original cost in the year the facilities were completed. This allows new customers to buy into the system at the same cost level as existing customers. The OCLD approach also values existing facilities at the original cost in the year the facilities were completed but reduces the cost by accumulated depreciation. Accumulated depreciation accounts for the loss in value of an asset due to use, repair, and obsolescence. With the OCLD approach, new customers buy into the system at a lower cost than existing customers. The accumulated depreciation not recovered through the capacity fee using the OCLD approach is recovered through user rates. Because new development occurs over time, both the OC and OCLD approaches do not reflect the time value of money, and do not compensate the existing customers for carrying cost of the initial funds used to add capacity.

The RCN and RCNLD approaches both consider the current value of facilities as if they were added at the time of the new connection. However, RCNLD deducts accumulated depreciation from the current replacement value. The RCN and RCNLD approaches estimate the value of facilities using historical asset data and apply a cost index factor from publications such as *Engineering News Record*, or the *Handy Whitman Cost Index for Public Utilities*. These methods account for inflation of the market value of facilities over time and fairly compensate existing customers for the carrying cost of building facilities in advance of serving new development.

INCREMENTAL

When new users connect to a system, they use either surplus capacity from the existing system or they require construction of new capacity to accommodate their needs. When substantial new facility construction is required, the incremental cost method is an option. Under the incremental-cost approach, new customers pay for the cost of additional capacity regardless of the value of past investments made by existing customers.

As with the equity buy-in approach, new connectors will effectively acquire a financial position that is on par with existing customers. This approach is best suited for growing communities where additional facilities are needed to accommodate growth.

COMBINED METHOD

In addition to the above two methodologies, there is also a hybrid approach which includes using aspects of both the incremental cost approach and the buy-in approach. This is appropriate when systems have some existing unused capacity available yet are also in the process of planning or building additional capacity. The fee produced by the hybrid approach recognizes that new customers benefit from both existing infrastructure and planned capital improvements. The hybrid approach was used for this study.

CREDITS AND OFFSETS

Credits and adjustments may be accounted for differently depending on the methodology selected (buy-in, incremental, and hybrid) and often include grants, contributions in aid, existing and/or future debt. Grants, and contributions in aid of construction can be deducted from the capacity fees valuation using any of the methodologies. Contributions in aid of construction typically refers to when developers are required to construct, install and dedicate onsite facilities serving the development and dedicate these facilities to the utility. Grants also provide no-cost infrastructure to the utility.

Another practice, most common with the buy-in methodologies, is to reduce outstanding principal from debt used to construct those facilities when rate-based revenues, assessments, or other dedicated revenues are the sole repayment source for outstanding debt and may require additional analysis for each community. Once a new customer connects to the wastewater system, they pay for service through user charges or rates. For some communities, rates are designed to fully recover principal and interest costs on outstanding debt while capacity fees are dedicated to cash funding capital facilities. By reducing the capacity fees by outstanding principal, it avoids double-counting this cost in both rates and capacity fees when applicable.

Alternatively, communities that repay outstanding debt using capacity fees may not wish to adjust the value for outstanding principal as capacity fees are used to repay previously expansionary investments (e.g., excess and available capacity in place). Under the incremental and hybrid methodologies, expansionary facilities are often designed and built to meet long-term planning horizons and capacity fees revenues may be insufficient to meet the initial expansion project costs. As a result, debt funding or existing reserve funds from rates are used to assist in funding the projects. Interest on bonds and loans are a cost of doing business and are often capitalized. As a result, interest costs are often included in the cost of expansion facilities and the capacity fees if they are not to be funded by user rates.

Estimating System Capacity

The second step in determining capacity fees is estimating the existing and/or future capacity. The buy in methodology may consider either the total capacity of the system or the remaining capacity available in the system. Whichever method is chosen, the value of facilities and capacity should be based on the same criteria. For example, if there is 25% capacity available in the system, the asset value should reflect the value of that remaining 25%.

The incremental methodology considers the capacity that future growth-related projects will add over a specified time period. For example, if the next increment of capacity will provide treatment and transport for 10 million gallons per day (mgd), then the appropriate capacity to use for unit cost calculation is 10 mgd. The basis of capacity used to calculate the unit cost is often based on water/wastewater treatment design values as those tend to be largest facilities that govern system capacity.

The hybrid method captures the combined existing capacity (total or remaining available) and future incremental capacity of future growth-related projects.

Unit Cost of Capacity

Capacity units used to develop capacity fees for customers are determined by dividing the estimated value of existing assets, growth-related projects, or both, by the capacity of the facilities included in the valuation. The unit cost of capacity is then applied to customer demand characteristics to determine the capacity fees. For the hybrid method, the unit cost of capacity is determined by a weighted average of the existing and future cost of capacities. The weighted average cost of capacity is the sum of the estimated existing system asset value plus the future project growth-related costs, divided by the sum of the existing and future capacity. Adding together the individual unit costs for the existing assets and the future growth-related assets could overstate or understate the unit cost of capacity since the weighted average comprises the unit cost.

Equivalent Dwelling Unit Demand Analysis

A customer demand analysis determines the demand requirements of a group of customers or the entire customer class and serves as the basis for the capacity fee. Customer demands must be analyzed using the same unit measurements as the unit cost of capacity calculation in order to maintain the rational nexus between the cost of facilities and the cost to serve a new customer. For example, if the unit cost of treatment facilities is measured using peak day demand in gallons per day (gpd), then the new customer demands should also be measured in peak day gpd to calculate the treatment component of the capacity fee.

Assessment Schedule

The unit cost of capacity can be applied to the customer class demand characteristics to determine the cost to serve a new customer. The final task is to develop an assessment schedule in order to apply the capacity fee in an equitable manner. Capacity fee assessment schedules are used to consistently and equitably apply the unit cost of capacity to new development. These schedules may be based on customer type and/or water meter size, lot size, plumbing fixtures, number of units, or equivalent residential units, etc. The City's capacity fees are based on the demand of an equivalent dwelling unit (EDU).

Proposed Wastewater Capacity Fee

SYSTEM VALUATION

Raftelis selected the combined methodology to calculate the proposed wastewater capacity fee. Existing assets were valued at replacement cost new less accumulated depreciation. There is existing capacity available for new growth in the system plus a number of projects that will expand the system's capacity over the next 10 years. The valuation of the wastewater system's backbone assets includes treatment plants, pump stations, trunk sewers and collection system pipelines. Existing wastewater assets were valued using the Engineering News Records Construction Cost Index (ENR-CCI) based on 2019 index. Excluded from the asset valuation were non-backbone infrastructure facilities such as equipment, computers, and vehicles. Growth- related wastewater capital improvement projects were included in the total system value. The total system value was reduced by developer contributions (donated wastewater assets) and the outstanding principal on existing wastewater debt issuances.

SYSTEM CAPACITY

The wastewater system includes the Point Loma Wastewater Treatment Plant which includes flows received from the City's North City Water Reclamation Plant. The City also holds an NPDES permit for wastewater discharges from its South Bay Water Reclamation Plant. The existing permitted capacity of the three plants is 240 MGD at Point Loma, 30 MGD at North City, and 15 MGD at South Bay.

UNIT COST OF CAPACITY

The wastewater capacity fee unit cost of capacity is the sum of the value of existing assets, net of offsets, plus expansion capital divided by the total capacity available and expansion capacity. The unit cost is stated in gallons per day. Equivalent dwelling units (EDU) are based on the current fee schedule, 1 EDU = 280 gallons of sewage per day.

CAPACITY FEE CALCULATION

Table 54 summarizes the wastewater capacity fee calculation. Raftelis recommends that the City increase its existing wastewater capacity fees from $4,124 per EDU to $5,154 per EDU as shown in Table 54. A detail of the capacity fee calculation can be found in the Appendix F.

Table 54: Wastewater Capacity Fee Calculation

SDC Components	Existing Fee	Fee Based on Original Cost	Fee Based on Replacement Cost New Less Depreciation
Backbone Net System Investment [1]		$4,378,416,655	$5,142,028,922
Less: Developer Contributions [2]		($67,333,805)	($81,583,152)
Growth-Related Capital Improvement Projects [3]		$503,747,058	$503,747,058
Less: Credit of Outstanding Principal [4]		($870,257,717)	($870,257,717)
Total System Value		$3,944,572,191	$4,693,935,110
Total Capacity Served, gpd [5]		255,000,000	255,000,000
Unit Cost of Capacity, $ per gpd		$15.47	$18.41
Equivalent Dwelling Unit (gpd) [6]		280	280
Tap Fee, $ per Equivalent Dwelling Unit	$4,124	$4,331	$5,154

[1] Excludes equipment, equipment - computers, and vehicles.
[2] FY19 Sewer Donated Asset Report by Asset Category.
[3] R&E_FY19 W-WW CIP_PTD List with Projected Projects.
[4] FY19 WW Bond and SRF Debt Service by Project Capacity vCOSS.
[5] 2014 Treatment Plant Capacity & Flows.
[6] EDU from current fee schedule.

Addendum to the Final Report July 07, 2021

Changes Since the Issuance of the Original Final Report on March 23, 2021

Two modifications have been made to the original final report originally issued on March 23, 2021 based on feedback from the City's independent review of the Cost of Service Study. The first assumption is that revenues earned from the Industrial Water Control Program (IWCP) during the period FY22 - FY25 will be less than originally projected. The second is a change in the allocation of the capital costs associated with trunk sewers and municipal pumping costs. The ramifications of these two changes, although having a relatively minor impact on the wastewater rates proposed for the period FY22 - FY25, run through virtually every table presented in the original report issued on March 23, 2021. This addendum discusses each change and presents a limited number of key report tables that best summarize the impacts of each change.

Table 55: Revised Table 3 - Current and Proposed Wastewater Monthly Service Charges

Customer Class	Current Charge	FY 2022	FY 2023	FY 2024	FY 2025
Single Family Residential	$15.33	$14.14	$14.71	$15.29	$15.75
Multi-Family Residential	$15.33	$14.14	$14.71	$15.29	$15.75
Commercial / Industrial	$15.33	$14.14	$14.71	$15.29	$15.75

Table 56: Revised Table 4 - Current and Proposed Wastewater Commodity Rates

Customer Class	Unit	Current Charge	FY 2022	FY 2023	FY 2024	FY 2025
Residential						
Single Family Residential	($ / hcf)	$3.598	$4.786	$4.977	$5.177	$5.332
Multi-Family Residential	($ / hcf)	$5.028	$4.786	$4.977	$5.177	$5.332
Commercial / Industrial						
Flow Charges	($ / hcf)	$3.767	$3.191	$3.319	$3.451	$3.555
COD Charges	($ / lb)	$0.224	$0.208	$0.216	$0.225	$0.232
TSS Charges	($ / lb)	$0.552	$0.469	$0.488	$0.507	$0.522
Trucked Waste						
Flow Charges	($ / hcf)	$3.900	$3.135	$3.260	$3.391	$3.493
COD Charges	($ / lb)	$0.232	$0.208	$0.216	$0.225	$0.232
TSS Charges	($ / lb)	$0.571	$0.469	$0.488	$0.507	$0.522
Stormwater Transportation						
Flow	($/hcf)	$7.676	$3.808	$3.960	$4.119	$4.242

Discussion of the Change in Projected IWCP Revenues

IWCP revenues serve as an offset to the revenue requirement from rates (i.e., they reduce the amount that must be paid by customers for wastewater service). The change in IWCP revenue reflects a decision to base projected IWCP revenues on a 5-year historical average in lieu of the original revenue assumptions, as the proposed IWCP fee increases for full-cost recovery have not yet been approved by City Council. As shown in Table 57, the use of a 5-year historical average results in approximately $3.0 million less annual IWCP revenue in FY 2022 and future years as compared to the original financial plan.

Table 57: Revised IWCP Revenues

Original IWCP Revenue	FY 2022	FY 2023	FY 2024	FY 2025
IWCP Notice of Violation Fees	$664,599	$664,599	$664,599	$664,599
IWCP Industrial User Discharge Permit Fees	$2,070,445	$2,070,445	$2,070,445	$2,070,445
IWCP Lab Monitoring Fees	$0	$0	$0	$0
IWCP Penalties	$513,312	$513,312	$513,312	$513,312
Total Original IWCP Revenue	**$3,248,356**	**$3,248,356**	**$3,248,356**	**$3,248,356**
Revised IWCP Revenue (5-Year Average)	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**
IWCP Notice of Violation Fees	$22,215	$22,215	$22,215	$22,215
IWCP Industrial User Discharge Permit Fees	$151,049	$151,049	$151,049	$151,049
IWCP Lab Monitoring Fees	$58,118	$58,118	$58,118	$58,118
IWCP Penalties	$0	$0	$0	$0
Total	**$231,382**	**$231,382**	**$231,382**	**$231,382**
Difference	**($3,016,974)**	**($3,016,974)**	**($3,016,974)**	**($3,016,974)**

The reduction in IWCP revenue does not change the total system FY22 net revenue requirement from rates which remains at $292.0 million. Instead, the $3.0 million reduction in IWCP revenue is absorbed by a drawdown from fund balance in excess required reserves. Table 58 below shows the estimated FY 2022 fund balance and debt service coverage impacts of the change.

Table 58: Change in Cash Reserves and Debt Service Due to Revised IWCP Revenues

Metric	Original Model	5-Year IWCP Averaging	Difference
Days of Cash on Hand	263	259	(4)
Ending Balance	$197,721,748	$194,680,444	($3,041,304)
Unrestricted Cash	$76,791,674	$73,750,370	($3,041,304)
Senior Debt	1.43	1.40	(0.03)
Total Debt Service	1.31	1.29	(0.03)

Although the overall FY 2022 total system net revenue requirement remains at $292.0 million, the reduction in IWCP revenues does cause a minor reallocation of the change in fund balance in excess of required reserves in the cost-of-service model. This results in the revenue requirement for the Municipal Subsystem to decrease by approximately $609K with a corresponding $609K increase in the Metropolitan Subsystem revenue requirement. The tables below show the rate and customer bill impacts ***assuming no other change in the original cost-of-service model other than the change in projected IWCP revenues***.

Table 59: Rate Impacts of the Change in IWCP Revenues (Assuming No Other Changes)

Rate / Charge	Current Rates	Original COS Rates vs. Current Rates		Revised COS Rates with Change in IWCP Revenue vs. Current Rates	
Service Charge	$15.33	$15.11	-1.4%	$15.17	-1.0%
SFR Commodity	$3.598	$4.720	31.2%	$4.716	31.1%
MFR Commodity	$5.028	$4.720	-6.1%	$4.716	-6.2%
Commercial/Industrial					
Flow	$3.767	$3.122	-17.1%	$3.117	-17.3%
COD	$0.224	$0.208	-7.2%	$0.208	-7.2%
TSS	$0.552	$0.469	-15.0%	$0.469	-15.0%

Allocation of Trunk Sewers and Municipal Pumping Costs

Raftelis assigned the capital costs associated with trunk sewers and municipal pumping facilities to the meters and services demand parameter. These costs were then recovered via the monthly service charge. Raftelis has modified this approach and allocated the capital costs associated with trunk sewers and municipal pumping facilities to the flow demand parameter. As a result, these costs will now be recovered via wastewater commodity charges. The change in the allocation of the capital costs associated with trunk sewers and municipal pumping results in a change in several key tables contained in the original final report. The revised tables below reflect the impact of the change in the allocation of trunk sewers and municipal pumping costs and the change in projected IWCP revenues discussed above.

Table 60: Revised Table 30 - Allocation Percentages for Municipal Subsystem Capital Costs

	FY 2022 % Allocation of Municipal Sub-System Capital Costs to Demand Parameters						
		Volume-Related			Customer-Related		
Function	Total	FLOW %	COD %	TSS %	Meters and Services	Billing	Recycled
Large Sewer Pump Station	100%	100.00%					
Muni Pump Station	100%	100.00%			0.00%		
Miscellaneous Projects	100%	100.00%					
AMI	100%					100.00%	
Sewer Pipelines	100%	0.00%			100.00%		
Sewer Treatment Plants	100%	100.00%					
Trunk Sewers	100%	100.00%			0.00%		

Table 61: Revised Table 31 - FY22 Dollar Allocation for Municipal Subsystem Capital Costs

	FY 2022 $ Allocation of Municipal Sub-System Capital Costs to Demand Parameters						
		Volume-Related			Customer-Related		
Function	Total	FLOW	COD	TSS	Meters and Services	Billing	Recycled
Large Sewer Pump Station	$455,962	$455,962	$0	$0	$0	$0	$0
Muni Pump Station	$1,579,903	$1,579,903	$0	$0	$0	$0	$0
Miscellaneous Projects	$2,738,216	$2,738,216	$0	$0	$0	$0	$0
AMI	$84,211	$0	$0	$0	$0	$84,211	$0
Sewer Pipelines	$25,382,418	$0	$0	$0	$25,382,418	$0	$0
Sewer Treatment Plants	$939,604	$939,604	$0	$0	$0	$0	$0
Trunk Sewers	$1,939,558	$1,939,558	$0	$0	$0	$0	$0
Total	$33,119,872	$7,653,243	$0	$0	$25,382,418	$84,211	$0
Total %	100.0%	23.1%	0.0%	0.0%	76.6%	0.3%	0.0%

Table 62: Revised Table 34 - Summary of FY22 Revenue Requirement Allocations

Summary of Allocated Revenue Requirement Components							
		Volume			Customer-Related		
Revenue Requirement Component	Total	FLOW	COD	TSS	Meters	Billing	Recycled
Municipal Sub-System O&M	$105,601,402	$76,265,809	$7,566,057	$6,229,011	$3,969,901	$11,538,643	$31,981
Municipal Sub-System Capital Costs	$33,119,872	$7,653,243	$0	$0	$25,382,418	$84,211	$0
Less: Municipal Sub-System Rev. Req. Offsets	$12,213,166	$6,627,425	$2,859,017	$2,381,057	$72,654	$272,452	$561
Total Municipal Sub-Sytem	$126,508,107	$77,291,628	$4,707,039	$3,847,954	$29,279,664	$11,350,402	$31,420
Metropolitan Sub-System O&M	$183,350,216	$75,913,319	$52,507,326	$44,133,188	$0	$1,197,602	$9,598,780
Metropolitan Sub-System Capital Costs	$66,623,358	$36,934,793	$14,561,981	$14,700,743	$0	$0	$425,841
Less: Metropolitan Sub-System Rev. Req. Offsets	$84,437,612	$37,895,118	$25,308,451	$21,099,322	$0	$34,695	$100,026
Total Metropolitan Sub-Sytem	$165,535,963	$74,952,995	$41,760,855	$37,734,610	$0	$1,162,907	$9,924,596
Combined O&M	$288,951,618	$152,179,129	$60,073,382	$50,362,200	$3,969,901	$12,736,245	$9,630,762
Combined Captial Costs	$99,743,230	$44,588,036	$14,561,981	$14,700,743	$25,382,418	$84,211	$425,841
Less: Combined Revenue Requirement Offsets	$96,650,778	$44,522,542	$28,167,469	$23,480,379	$72,654	$307,147	$100,587
Combined Net Rev. Req. from Raates	$292,044,070	$152,244,622	$46,467,894	$41,582,564	$29,279,664	$12,513,309	$9,956,016

Table 63: Revised Table 38 - FY22 Unit Cost of Service Calculation

FY 2022 Unit Cost of Service Calculation					
	Volume-Related			Customer-Related	
	Flow	COD	TSS		
Customer Class	Total Flow HCF/Year	Total COD Lbs/Year	Total TSS Lbs/Year	Meters and Service Accounts	Bills
Net Revenue Requirement from Rates	$152,244,622	$46,467,894	$41,582,564	$29,279,664	$12,513,309
Single Family Residential	16,889,351	80,804,550	30,771,627	231,905	2,782,860
Multi-Family Residential	13,306,637	63,663,595	24,244,085	28,979	347,748
Commercial / Industrial	14,161,621	63,079,886	24,253,460	15,872	190,464
Subtotal	44,357,609	207,548,030	79,269,173	276,756	3,321,072
Other (Navy, Prisons)	1,668,513	6,780,466	2,843,421	15	180
Subtotal	1,668,513	6,780,466	2,843,421	15	180
Trucked Waste and Imported Flows	222,489	5,335,878	4,592,137	0	0
Subtotal	222,489	5,335,878	4,592,137	0	0
Stormwater Transportation	363,828	726,767	199,861	0	0
Subtotal	363,828	726,767	199,861	0	0
I/I (Total)	1,951,735	3,362,628	1,876,249		
Total Contributed Units	48,564,174	223,753,771	88,780,841	276,771	3,321,252
Unit Cost of Service (Net	$3.13	$0.21	$0.47	$105.79	$3.77

Table 64: Revised Table 39 - FY22 Wastewater Customer Class Cost of Service - Before I/I Allocation

FY 2022 Class Cost of Service Before Allocation of I/I (Net of Recycled)						
		Volume-Related			Customer-Related	
Customer Class	Total Calculated COS	Flow	COD	TSS	Meters and Services	Billing
Single Family Residential	$119,158,447	$52,946,702	$16,781,023	$14,412,604	$24,533,280	$10,484,837
Multi-Family Residential	$70,667,648	$41,715,193	$13,221,289	$11,355,279	$3,065,695	$1,310,192
Commercial / Industrial	$71,251,938	$44,395,497	$13,100,067	$11,359,670	$1,679,102	$717,601
Subtotal	$261,078,033	$139,057,392	$43,102,380	$37,127,554	$29,278,077	$12,512,631
Other (Navy, Prisons)	$7,972,824	$5,230,649	$1,408,128	$1,331,782	$1,587	$678
Subtotal	$7,972,824	$5,230,649	$1,408,128	$1,331,782	$1,587	$678
Trucked Waste and Imported Flows	$3,956,443	$697,485	$1,108,125	$2,150,834	$0	$0
Subtotal	$3,956,443	$697,485	$1,108,125	$2,150,834	$0	$0
Stormwater Transportation	$1,385,112	$1,140,571	$150,931	$93,610	$0	$0
Subtoal	$1,385,112	$1,140,571	$150,931	$93,610	$0	$0
Total Allocated I/I	$7,695,641	$6,118,525	$698,331	$878,785		
Net Revenue Requirement	$282,088,054	$152,244,622	$46,467,894	$41,582,564	$29,279,664	$12,513,309

Table 65: Revised Table 40 - FY22 Wastewater Customer Class Cost of Service - After I/I Allocation

FY 2022 Class Cost of Service After Allocation of I/I (Net of Recycled)								
		Volume-Related				Customer-Related		
Customer Class	Total Calculated COS	Flow	I/I Allocated on Flow	COD	TSS	Meters and Services	I/I Allocated on Accounts	Billing
Single Family Residential	$124,410,596	$52,946,702	$931,896	$16,781,023	$14,412,604	$24,533,280	$4,320,253	$10,484,837
Multi-Family Residential	$71,941,723	$41,715,193	$734,214	$13,221,289	$11,355,279	$3,065,695	$539,862	$1,310,192
Commercial / Industrial	$72,329,013	$44,395,497	$781,389	$13,100,067	$11,359,670	$1,679,102	$295,686	$717,601
Subtotal	$268,681,332	$139,057,392	$2,447,499	$43,102,380	$37,127,554	$29,278,077	$5,155,800	$12,512,631
Other (Navy, Prisons)	$8,065,167	$5,230,649	$92,063	$1,408,128	$1,331,782	$1,587	$279	$678
Subtotal	$8,065,167	$5,230,649	$92,063	$1,408,128	$1,331,782	$1,587	$279	$678
Trucked Waste and Imported Flows	$3,956,443	$697,485	$0	$1,108,125	$2,150,834	$0	$0	$0
Subtotal	$3,956,443	$697,485	$0	$1,108,125	$2,150,834	$0	$0	$0
Stormwater Transportation	$1,385,112	$1,140,571	$0	$150,931	$93,610	$0	$0	$0
Subtoal	$1,385,112	$1,140,571	$0	$150,931	$93,610	$0	$0	$0
Net Revenue Requirement	$282,088,054	$146,126,097	$2,539,562	$45,769,563	$40,703,779	$29,279,664	$5,156,080	$12,513,309
		$235,139,001				$46,949,053		

Table 66: Revised Table 42 - Detail of Proposed FY22 Monthly Service Charges

FY 2022 Meter Service Charge for SFR, MFR and Commercial/Industrial										
Customer Class	Meters and Services Revenue Requirement	Readiness to Serve Revenue Requirement	Billing Revenue Requirement	I/I Accounts Revenue Requirement	Total Customer Revenue Requirement	Projected Test-Year Bills for Fixed Charge Calculation	FY 2022 Calculated Service Charge	Current Service Charge	$ Difference	% Difference
Single Family Residential	$24,533,280	$0	$10,484,837	$4,320,253	$39,338,370	2,782,860	$14.14	$15.33	($1.19)	-7.8%
Multi-Family Residential	$3,065,695	$0	$1,310,192	$539,862	$4,915,748	347,748	$14.14	$15.33	($1.19)	-7.8%
Commercial / Industrial	$1,679,102	$0	$717,601	$295,686	$2,692,390	190,464	$14.14	$15.33	($1.19)	-7.8%
Subtotal	$29,278,077	$0	$12,512,631	$5,155,800	$46,946,508	3,321,072				
Other (Navy, Prisons)	$1,587	$0	$678	$279	$2,544	180	$14.14	$15.33	($1.19)	-7.8%
Subtotal	$1,587	$0	$678	$279	$2,544	180				
TOTAL	$29,279,664	$0	$12,513,309	$5,156,080	$46,949,053	3,321,252	$14.14	$15.33	($1.19)	-7.8%

Table 67: Revised Table 43 - Detail of Proposed FY22 Residential Commodity Rates

FY 2022 Single Family and Multi-Family Residential Flow Based Charges										
Customer Class	Flow Revenue Requirement	COD Revenue Requirement	TSS Revenue Requirement	I/I Volume Revenue Requirement	Total Volumetric Revenue Requirement	Projected Test-Year Billable Units of Service	FY 2022 $/HCF Calculated Charge	Current $/HCF Charge	$ Difference	% Difference
Single Family	$52,946,702	$16,781,023	$14,412,604	$931,896	$85,072,226	17,778,264	$4.7860	$3.5983	$1.1877	33.0%
Multi Family	$41,715,193	$13,221,289	$11,355,279	$734,214	$67,025,975	14,006,986	$4.7860	$5.0276	($0.2416)	-4.8%
TOTAL	$94,661,895	$30,002,312	$25,767,883	$1,666,110	$152,098,200	31,785,250				

Table 68: Revised Table 44 - Detail of Proposed FY22 Commercial / Industrial Commodity Rates

FY 2022 Commercial Flow and Strength Charges								
Commercial/Industrial	Flow and Strength Revenue Requirement	I/I Volume Revenue Requirement	Total Revenue Requirement	Projected Test-Year Billable Units of Service	FY 2022 Calculated Charges	Current Charges	$ Difference	% Difference
Flow Charges ($ / hcf)	$44,395,497	$781,389	$45,176,886	14,161,621	$3.1910	$3.7672	($0.5762)	-15.3%
COD Charges ($ / lb)	$13,100,067		$13,100,067	63,079,886	$0.2080	$0.2242	($0.0162)	-7.2%
TSS Charges ($ / lb)	$11,359,670		$11,359,670	24,253,460	$0.4690	$0.5517	($0.0827)	-15.0%
TOTAL	$68,855,235	$781,389	$69,636,624					

Table 69: Revised Table 45 - Detail of Proposed FY22 Truck Waste and Imported Flows Rates

FY 2022 Trucked Waste							
Flow Based Charges		Revenue Requirement	Projected Test-Year Billable Units of Service	FY 2022 Calculated Charges	Current Charges	$ Difference	% Difference
Flow Charges	($ / hcf)	$697,485	222,489	$3.1350	$3.8996	($0.7646)	-19.6%
COD Charges	($ / lb)	$1,108,125	5,335,878	$0.2080	$0.2321	($0.0241)	-10.4%
TSS Charges	($ / lb)	$2,150,834	4,592,137	$0.4690	$0.5710	($0.1020)	-17.9%
TOTAL		$3,956,443					

Table 70: Revised Table 46 - Detail of Proposed FY22 Stormwater Transportation Rates

FY 2022 Stormwater Transportation							
Flow Based Charges		Revenue Requirement	Projected Test-Year Billable Units of Service (HCF)	FY 2022 Calculated $/HCF Charge	Current Charges	$ Difference	% Difference
Flow Charges	($ / hcf)	$1,140,571					
COD Charges	($ / lb)	$150,931					
TSS Charges	($ / lb)	$93,610					
TOTAL		$1,385,112	363,828	$3.8080	$7.6763	($3.8683)	-50.4%

Addition to the Discussion of Capacity Fees in the Original Final Report Issued on March 23, 2021

There are no changes to the capacity fees recommended in the original report. However, Raftelis wishes to add the following information to clarify that we believe the proposed capacity fees are in compliance with State of California legal/regulatory requirements.

ECONOMIC FRAMEWORK FOR CAPACITY FEES

For publicly owned water and wastewater systems, most of the assets are typically paid for by the contributions of existing customers through rates, charges, and taxes. In service areas that incorporate new customers, the infrastructure developed by previous customers is generally extended towards the service of new customers.

Existing customers' investment in the existing system capacity allows newly connecting customers to take advantage of unused surplus capacity. To further economic equality among new and existing customers, new connectors will typically buy-in to the existing and pre-funded facilities based on the percentage of remaining available system capacity, effectively putting them on par with existing customers. In other words, the new users are buying into the existing system through a payment for the portion of facilities that has already been constructed in advance of new development.

The basic economic philosophy behind capacity fees is that the cost of providing water and wastewater service should be paid for by those that receive utility from the product. In order to ensure a fair distribution of the value of the system, the capacity fee should reflect a reasonable estimate of the cost of providing capacity to new users, and not unduly burden existing users. Accordingly, many utilities make this philosophy one of their primary guiding principles when developing their connection fee structure.

Legal Framework - Rationtal Nexus Test

The Seventh Edition of the American Water Works Association Publication, *Principles of Water Rates, Fees, and Charges* states the following regarding capacity fees:

> *"A common legal consideration in the related to SDCs [capacity fees] is that there must be a reasonable relationship, or rational nexus, between the amount of the SDC [capacity fee] and the cost associated with serving new development. In general terms, the rational nexus test requires that there be a connection (nexus) established between new development and new or expanded factilities required to accommodate new development, and the appropriate apportionatment of the cost to the new development in relation to the benefits reasonably expected to be received by the new development."*

In the State of California, the basic statutory standards governing water and wastewater connection fees are embodied in Government Code Sections 66013, 66016, 66022 and 66023. Government Code Section 66013, in particular, contains requirements specific to pricing water and wastewater capacity fees:

> *"Notwithstanding any other provision of law, when a local agency imposes fees for water connections or sewer connections, or imposes capacity charges, those fees or charges shall not exceed the estimated reasonable cost of providing the service for which the fee or charge is imposed, unless a question regarding the amount the fee or charge in excess of the estimated reasonable cost of providing the services or materials is submitted to, and approved by, a popular vote of two-thirds of those electors voting on the issue."*

Section 66013 also includes the following general requirements:

- *Local agencies must follow a process set forth in the law, making certain determinations regarding the purpose and use of the fee; they must establish a nexus or relationship between a development project and the public improvement being financed with the fee.*

- *The connection fee revenue must be segregated from the general fund in order to avoid commingling of connection fees and the general fund.*

From the perspective of Raftelis, the proposed wastewater capacity fees are in accordance with State of California legal/regulatory requirements and general industry standards regarding the calculation of capacity fees.

APPENDIX A:

WASTEWATER FINANCIAL PLAN

Table A-1
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
Financial Model Dashboard

Financial Dashboard		FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Revenue Adjustment		0.00%	5.00%	4.00%	4.00%	3.00%
Effective Month		January	January	January	January	January
Account Growth	*(All Customers)*	0.25%	0.25%	0.25%	0.25%	0.25%
Demand Factor	*(All Customers)*	0.00%	0.00%	0.00%	0.00%	0.00%
Days of Cash on Hand		**252**	**259**	**172**	**149**	**175**
Ending Balance - (Days of Cash Cal)		$181,702,687	$194,680,444	$131,875,611	$115,243,580	$137,454,445
Unrestricted Cash		*$45,204,089*	*$73,750,370*	*$32,419,838*	*$10,262,598*	*$24,152,841*
Debt Service Coverage Ratio						
Senior Debt		1.45 x	1.40 x	1.46 x	1.57 x	1.66 x
Total Debt Service		1.38 x	1.29 x	1.30 x	1.32 x	1.37 x
Transfers (to)/from RSF		*$2,500,000*	*$17,500,000*	*$22,500,000*	*($5,000,000)*	*($7,500,000)*
Total CIP		**$196,891,088**	**$355,052,577**	**$337,146,182**	**$275,881,461**	**$186,495,809**
Capacity Fee (Use of Funds)		$17,500,000	$17,500,000	$17,500,000	$17,500,000	$17,500,000
Muni Cash Funded CIP (Net of Capacity Fees)		$115,137,829	($11,565,068)	$29,650,543	$49,211,312	$14,464,590
Metro Cash Funded CIP (Net of Capacity Fees)		$5,168,685	$5,922,866	$13,533,862	$1,987,828	$7,589,633
PW Cash Funded CIP (Net of Capacity Fees)		$28,949,225	($9,454,954)	$16,447,254	($13,648,310)	($13,968,577)
Cash Funded % of CIP		**84.7%**	**0.7%**	**22.9%**	**20.0%**	**13.7%**
Capacity Fee Receipts	*Input*	$17,500,000	$17,500,000	$17,500,000	$17,500,000	$17,500,000
Commercial Paper (CP1)						
Draw-Down Month		July	July	July	July	July
CP Funded CIP		$0	$0	$0	$0	$0
Outstanding Balance						
CP Refinance Month						
Refinance Amount (Rev Bond)		$0	$0	$0	$0	$0
Commercial Paper (CP2)						
Draw-Down Month		July	July	July	July	July
CP Funded CIP		$0	$0	$0	$0	$0
Outstanding Balance						
CP Refinance Month						
Refinance Amount (Rev Bond)		$0	$0	$0	$0	$0
Muni Revenue Bonds						
Issue Month		February	February	February	February	February
Bond Proceeds		$0	$120,000,000	$40,000,000	$30,000,000	$40,000,000
Remaining Proceeds						
Metro Revenue Bonds	Does not include PW					
Issue Month		July	February	February	February	February
Proceeds			$30,000,000	$40,000,000	$30,000,000	$10,000,000
Remaining Funds						

Table A-2
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
Inflated CIP

Key Assumptions					
Inflationary Factors	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**
Capital Inflation	**3.1%**	**3.1%**	**3.1%**	**3.1%**	**3.1%**
Cumulative Inflation Factor	100%	100%	103%	106%	110%
CIP Summary (Inflated)					
CIP Expenditures	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**
Muni Baseline	**$132,637,829**	**$126,234,932**	**$92,599,004**	**$110,001,045**	**$100,067,346**
Cash	$132,063,829	$122,803,616	$83,754,185	$98,135,288	$79,756,967
Existing Proceeds	$0	$0	$0	$0	$0
Grants	$0	$0	$0	$0	$0
SRF - PS2	$0	$0	$0	$0	$0
SRF - Morena PS	$0	$0	$0	$0	$0
SRF - WRP Expansion	$0	$0	$0	$0	$0
SRF - North City MBC	$0	$0	$0	$0	$0
SRF - Metro Rehab	$0	$0	$0	$0	$0
SRF - MBC Dewatering	$0	$0	$0	$0	$0
SRF - MBC Equipment Upgrade	$0	$0	$0	$0	$0
SRF - Kearny Mesa TS	$374,000	$1,150,000	$600,000	$600,000	$1,623,000
SRF - NMI SMI Ph I	$0	$0	$0	$0	$0
SRF - NMI SMI Ph II	$0	$0	$0	$0	$0
SRF - PROPOSED	$200,000	$1,981,316	$2,796,358	$9,845,662	$13,827,738
SRF - AMI	$0	$0	$5,448,461	$1,420,095	$4,859,641
CP / Revenue Bond	$0	$0	$0	$0	$0
Grants - Prop 68	$0	$300,000	$0	$0	$0
Metro Baseline	**$22,704,033**	**$42,941,176**	**$55,582,183**	**$56,658,950**	**$43,027,140**
Cash	$9,664,919	$34,610,169	$45,347,222	$35,017,267	$17,248,565
Existing Proceeds	$0	$0	$0	$0	$0
Grants	$0	$0	$0	$0	$0
SRF - PS2	$12,320,352	$4,746,007	$3,498,017	$0	$0
SRF - Morena PS	$0	$0	$0	$0	$0
SRF - WRP Expansion	$0	$0	$0	$0	$0
SRF - North City MBC	$0	$0	$0	$0	$0
SRF - Metro Rehab	$0	$0	$0	$0	$0
SRF - MBC Dewatering	$618,762	$0	$0	$0	$0
SRF - MBC Equipment Upgrade	$0	$0	$0	$0	$0
SRF - Kearny Mesa TS	$0	$0	$0	$0	$0
SRF - NMI SMI Ph I	$0	$0	$200,000	$1,000,000	$2,000,000
SRF - NMI SMI Ph II	$0	$0	$0	$500,000	$900,000

Table A-2
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
Inflated CIP

CIP Expenditures	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
SRF - PROPOSED	$100,000	$3,585,000	$6,536,944	$20,141,683	$22,878,575
SRF - AMI	$0	$0	$0	$0	$0
CP / Revenue Bond	$0	$0	$0	$0	$0
Grants - Prop 68	$0	$0	$0	$0	$0
Pure Water	**$41,549,225**	**$185,876,468**	**$188,964,996**	**$109,221,466**	**$43,401,323**
Cash	$822,349	$28,669,216	$9,885,617	$10,441,520	$3,778,587
Existing Proceeds	$0	$0	$0	$0	$0
Grants	$0	$0	$0	$0	$0
SRF - PS2	$0	$0	$0	$0	$0
SRF - Morena PS	$0	$0	$0	$0	$0
SRF - WRP Expansion	$27,638,353	$156,714,693	$178,057,696	$98,110,919	$39,375,990
SRF - North City MBC	$488,524	$492,559	$1,021,682	$669,028	$246,746
SRF - Metro Rehab	$0	$0	$0	$0	$0
SRF - MBC Dewatering	$0	$0	$0	$0	$0
SRF - MBC Equipment Upgrade	$0	$0	$0	$0	$0
SRF - Kearny Mesa TS	$0	$0	$0	$0	$0
SRF - NMI SMI Ph I	$0	$0	$0	$0	$0
SRF - NMI SMI Ph II	$0	$0	$0	$0	$0
SRF - PROPOSED	$0	$0	$0	$0	$0
Grants - Prop 68	$12,600,000	$0	$0	$0	$0
Total CIP	**$196,891,088**	**$355,052,577**	**$337,146,182**	**$275,881,461**	**$186,495,809**
	TRUE	TRUE	TRUE	TRUE	TRUE

Summary of Projected CIP by Asset Type

Description	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
PW-NC	$40,726,877	$157,207,252	$179,079,378	$98,779,947	$39,622,736
PW-Demo	$822,349	$222,349	$9,289,314	$6,866,804	$92,991
PW-CF	$0	$0	$596,303	$3,574,715	$3,685,595
Trunk Sewers	$36,422,789	$56,932,987	$24,730,020	$21,180,606	$27,112,007
Muni Pump Station	$1,973,277	$1,273,832	$866,055	$1,637,017	$6,352,240
Sewer Pipelines	$93,511,612	$68,353,540	$69,031,134	$84,080,221	$58,353,277
Miscellaneous Projects	$2,388,651	$7,681,034	$12,178,463	$32,669,532	$38,899,981
SDG&E Relocation	$0	$28,446,868	$0	$0	$0
Sewer Treatment Plants	$8,008,528	$29,418,709	$34,196,764	$19,651,635	$10,919,341
Large Sewer Pump Station	$12,537,005	$5,166,007	$6,817,894	$7,068,935	$1,074,050
Recycled Water	$500,000	$350,000	$360,856	$372,049	$383,589
Muni Baseline	$0	$0	$0	$0	$0
Total	**$196,891,088**	**$355,052,577**	**$337,146,182**	**$275,881,461**	**$186,495,809**

Table A-3
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
Operating Expenses

Inflationary Assumptions

Inflationary Category	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Personnel Cost	0.0%	0.0%	0.0%	1.0%	1.0%
Fringe Benefits	0.0%	0.0%	0.0%	0.0%	0.0%
Supplies	0.0%	0.0%	0.0%	3.5%	3.5%
Contracts	0.0%	0.0%	0.0%	0.0%	0.0%
IT Expenses	0.0%	0.0%	0.0%	0.0%	0.0%
Energy & Utilities	3.8%	4.7%	3.3%	3.3%	3.3%
Other	0.0%	0.0%	0.0%	0.0%	0.0%
Transfers	0.0%	0.0%	0.0%	0.0%	0.0%
Contingencies	0.0%	0.0%	0.0%	0.0%	0.0%
Capital Expenditures	0.0%	0.0%	0.0%	0.0%	0.0%
Debt Service	0.0%	0.0%	0.0%	0.0%	0.0%
Pure Water NC	3.5%	3.5%	3.5%	3.5%	3.5%
Pure Water CF	3.5%	3.5%	3.5%	3.5%	3.5%
Pure Water P3	3.5%	3.5%	3.5%	3.5%	3.5%
Baseline Muni	3.5%	3.5%	3.5%	3.5%	3.5%
Baseline Metro	3.5%	3.5%	3.5%	3.5%	3.5%

O&M Expense Summary

O&M Summary by Division	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Muni					
Department Management	$16,678,089	$16,586,089	$17,308,271	$17,254,334	$17,551,401
Customer Support Services	$6,404,932	$6,624,256	$6,724,220	$6,775,326	$6,827,603
Employee Services & Quality Assurance	$3,553,167	$3,613,600	$3,638,653	$3,664,229	$3,690,338
Engineering Program Management	$6,038,850	$6,368,850	$6,417,926	$6,467,986	$6,519,051
Environmental Monitoring & Technical Services	$6,445,995	$6,745,995	$6,485,039	$6,509,569	$6,534,596
Finance & Budget	$6,978,531	$6,978,531	$7,086,866	$7,216,121	$7,485,090
Innovation & Technology	$649,722	$649,722	$649,761	$649,802	$649,843
Long Range Planning	$0	$0	$0	$0	$0
Water Systems Operations	$0	$0	$0	$0	$0
Wastewater Collection	$41,222,408	$43,687,408	$44,047,178	$44,485,481	$44,912,518
Wastewater Treatment	$6,638,748	$6,638,748	$6,730,587	$6,824,464	$6,920,431
Water Systems Operations & Water Construction Maintenance	$2,424,768	$2,495,714	$2,506,897	$2,518,306	$2,633,962
Capital Related O&M (Baseline Muni)	$0	$0	$0	$0	$0
Subtotal Muni O&M	**$97,035,210**	**$100,388,913**	**$101,595,397**	**$102,365,619**	**$103,724,834**
Metro					
Department Management	$15,660,241	$15,540,241	$16,361,597	$16,167,996	$16,429,539
Customer Support Services	$0	$0	$0	$0	$0
Employee Services & Quality Assurance	$6,951,457	$7,030,283	$7,110,360	$7,192,080	$7,275,476
Engineering Program Management	$4,157,043	$4,777,043	$4,611,394	$4,646,440	$4,642,195
Environmental Monitoring & Technical Services	$17,590,578	$18,350,953	$18,248,384	$18,347,195	$18,448,209

Table A-3
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
Operating Expenses

Inflationary Category	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Finance & Budget	$11,065,903	$11,065,903	$11,232,539	$11,421,264	$11,750,895
Innovation & Technology	$1,136,535	$1,136,535	$1,136,583	$1,136,632	$1,136,682
Recycled Water	$0	$0	$0	$0	$0
Pure Water	$6,678,442	$7,650,472	$8,692,480	$8,808,243	$8,926,326
Water Systems Operations	$5,865,286	$5,865,286	$5,902,071	$5,939,679	$5,978,129
Long Range Planning	$0	$0	$0	$0	$0
Wastewater Collection	$0	$0	$0	$0	$0
Wastewater Treatment	$96,603,521	$102,883,328	$105,146,441	$106,750,689	$108,742,509
Water Construction Maintenance	$0	$0	$0	$0	$0
Capital Related O&M (PWNC)	$0	$0	$0	$0	$0
Capital Related O&M (PWCF)	$0	$0	$0	$0	$0
Capital Related O&M (PWP3)	$0	$0	$0	$0	$0
Capital Related O&M (Baseline Metro)	$0	$0	$0	$0	$0
Subtotal Metro O&M	**$165,709,006**	**$174,300,043**	**$178,441,848**	**$180,410,216**	**$183,329,959**
Total O&M Summary by Division	**$262,744,216**	**$274,688,956**	**$280,037,245**	**$282,775,835**	**$287,054,793**

Table A-4
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
Cash Flow

Days of Cash

Inputs				FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Interest Rate				1.7%	1.6%	1.52%	1.62%	1.7%
Target Days Cash on Hand				160 days	160 days	160 days	160 days	160 days
Beginning Balance (Cash and Investments)	*(input overrides beginning balance)*			$323,710,585				
Interest Earnings on Operating Fund	*(inputs overrides calc. earnings)*							
Transfers Out		*(non-inflated)*						

Days of Cash Calculation				FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Beginning Balance	*(input or prior years ending balance)*			$323,710,585	$181,702,687	$194,680,444	$131,875,611	$115,243,580
Net Cash Balance	*(based on cashflow shown below)*			($142,007,898)	$12,977,757	($62,804,833)	($16,632,031)	$22,210,866
Other Sources / (Uses)	*(used to true-up to actuals)*			$0	$0	$0	$0	$0
Ending Balance				**$181,702,687**	**$194,680,444**	**$131,875,611**	**$115,243,580**	**$137,454,445**
Days Cash on Hand		*(shown on dashboard)*		252 days	259 days	172 days	149 days	175 days
Interest Earnings on Operating Fund	*(flows into cashflow below)*			$4,296,013	$3,011,065	$2,481,826	$2,001,665	$2,147,933
Unrestricted Funds								
Beginning Unrestricted Balance				$184,711,987	$45,204,089	$73,750,370	$32,419,838	$10,262,598
Net Cashflow Balance				($142,007,898)	$12,977,757	($62,804,833)	($16,632,031)	$22,210,866
Other Sources / (Uses)				$0	$0	$0	$0	$0
Transfers to / (from) Operating Fund	*(also includes SRF & Bond Reimb. of funds)*			$2,500,000	$15,568,524	$21,474,301	($5,525,209)	($8,320,622)
Total Unrestricted Funds		*(shown on dashboard)*		**$45,204,089**	**$73,750,370**	**$32,419,838**	**$10,262,598**	**$24,152,841**

Cashflow

Revenue

Revenue		Source		*Projection* FY 2021	*Projection* FY 2022	*Projection* FY 2023	*Projection* FY 2024	*Projection* FY 2025
Revenue from Existing Rates								
Sewer Service Charge Revenue		*(Revenue Tab)*		$264,051,940	$264,712,034	$265,373,833	$266,037,340	$266,702,552
Other Sewer Service Revenues		*(Revenue Tab)*		$12,745,240	$13,425,175	$13,446,947	$13,468,784	$13,490,687
Revenue from Existing Rates				**$276,797,180**	**$278,137,209**	**$278,820,780**	**$279,506,124**	**$280,193,239**
Proposed Revenue Adjustments:								
Fiscal Year	**Revenue Adjustments**	**Effective Month**	**# of Eff. Months**					
FY 2022	5.0%	January	6		$6,953,430	$13,941,039	$13,975,306	$14,009,662
FY 2023	4.0%	January	6			$5,855,236	$11,739,257	$11,768,116
FY 2024	4.0%	January	6				$6,104,414	$12,238,841
FY 2025	3.0%	January	6					$4,773,148
Total Proposed Revenue Adjustments	*(Based on Revenue Adj from Dashboard)*			**$0**	**$6,953,430**	**$19,796,275**	**$31,818,977**	**$42,789,766**
Subtotal Rate Revenue				**$276,797,180**	**$285,090,640**	**$298,617,055**	**$311,325,101**	**$322,983,005**
Other Operating Revenues								
New Sewer Service Connections		*(Revenue Tab)*		$0	$3,000	$3,000	$3,000	$3,000
Maint & Operation Metro		*(Revenue Tab)*		$80,000,000	$80,000,000	$80,000,000	$80,000,000	$80,000,000
Other Sewer Treatment Plant Services		*(Revenue Tab)*		$2,298,072	$2,140,670	$2,147,092	$2,153,533	$2,159,993
Services Rendered Other Funds		*(Revenue Tab)*		$6,514,122	$3,613,408	$3,615,104	$3,616,806	$3,618,512

Table A-4
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
Cash Flow

Revenue	Source	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Other Operating Revenues		**$88,812,194**	**$85,757,078**	**$85,765,196**	**$85,773,338**	**$85,781,505**
Subtotal Operating Revenues		**$365,609,374**	**$370,847,717**	**$384,382,251**	**$397,098,440**	**$408,764,511**
Non-Operating Revenues	*(CIP funding is captured in the Capflow tab)*					
Sale Of Elec/Gas Eng Generated	*(Revenue Tab)*	$0	$0	$0	$0	$0
Hydroelectric Fac Cogenration	*(Revenue Tab)*	$0	$0	$0	$0	$0
Grant Assistance	*(Revenue Tab)*	$0	$0	$0	$0	$0
Land and Building Rentals	*(Revenue Tab)*	$879,000	$91,000	$93,000	$95,000	$98,000
Other Revenues	*(Revenue Tab)*	$4,573,982	$7,791,635	$7,859,615	$7,791,635	$12,895,574
Placeholder 1	*(Revenue Tab)*	$0	$0	$0	$0	$0
Non-Operating Revenues		**$5,452,982**	**$7,882,635**	**$7,952,615**	**$7,886,635**	**$12,993,574**
Interest Earnings on Operating Fund	*(Calculated above)*	$4,296,013	$3,011,065	$2,481,826	$2,001,665	$2,147,933
Total Revenues		**$375,358,369**	**$381,741,418**	**$394,816,693**	**$406,986,741**	**$423,906,018**
Check - captures total revenue from the revenue tab plus adjustments		TRUE	TRUE	TRUE	TRUE	TRUE
Expenditures						
		Budget	*Projection*	*Projection*	*Projection*	*Projection*
O&M Expenditures	*Source*	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**
Muni						
Department Management	*(O&M Tab)*	$16,678,089	$16,586,089	$17,308,271	$17,254,334	$17,551,401
Customer Support Services	*(O&M Tab)*	$6,404,932	$6,624,256	$6,724,220	$6,775,326	$6,827,603
Employee Services & Quality Assurance	*(O&M Tab)*	$3,553,167	$3,613,600	$3,638,653	$3,664,229	$3,690,338
Engineering Program Management	*(O&M Tab)*	$6,038,850	$6,368,850	$6,417,926	$6,467,986	$6,519,051
Environmental Monitoring & Technical Services	*(O&M Tab)*	$6,445,995	$6,745,995	$6,485,039	$6,509,569	$6,534,596
Finance & Budget	*(O&M Tab)*	$6,978,531	$6,978,531	$7,086,866	$7,216,121	$7,485,090
Innovation & Technology	*(O&M Tab)*	$649,722	$649,722	$649,761	$649,802	$649,843
Long Range Planning	*(O&M Tab)*	$0	$0	$0	$0	$0
Water Systems Operations	*(O&M Tab)*	$0	$0	$0	$0	$0
Wastewater Collection	*(O&M Tab)*	$41,222,408	$43,687,408	$44,047,178	$44,485,481	$44,912,518
Wastewater Treatment	*(O&M Tab)*	$6,638,748	$6,638,748	$6,730,587	$6,824,464	$6,920,431
Water Systems Operations & Water Construction Maintenance	*(O&M Tab)*	$2,424,768	$2,495,714	$2,506,897	$2,518,306	$2,633,962
Capital Related O&M (Baseline Muni)	*(O&M Tab)*	$0	$0	$0	$0	$0
Muni O&M		**$97,035,210**	**$100,388,913**	**$101,595,397**	**$102,365,619**	**$103,724,834**
Metro	`					
Department Management	*(O&M Tab)*	$15,660,241	$15,540,241	$16,361,597	$16,167,996	$16,429,539
Customer Support Services	*(O&M Tab)*	$0	$0	$0	$0	$0
Employee Services & Quality Assurance	*(O&M Tab)*	$6,951,457	$7,030,283	$7,110,360	$7,192,080	$7,275,476
Engineering Program Management	*(O&M Tab)*	$4,157,043	$4,777,043	$4,611,394	$4,646,440	$4,642,195
Environmental Monitoring & Technical Services	*(O&M Tab)*	$17,590,578	$18,350,953	$18,248,384	$18,347,195	$18,448,209
Finance & Budget	*(O&M Tab)*	$11,065,903	$11,065,903	$11,232,539	$11,421,264	$11,750,895
Innovation & Technology	*(O&M Tab)*	$1,136,535	$1,136,535	$1,136,583	$1,136,632	$1,136,682
Recycled Water	*(O&M Tab)*	$0	$0	$0	$0	$0
Pure Water	*(O&M Tab)*	$6,678,442	$7,650,472	$8,692,480	$8,808,243	$8,926,326
Water Systems Operations	*(O&M Tab)*	$5,865,286	$5,865,286	$5,902,071	$5,939,679	$5,978,129
Long Range Planning	*(O&M Tab)*	$0	$0	$0	$0	$0
Wastewater Collection	*(O&M Tab)*	$0	$0	$0	$0	$0
Wastewater Treatment	*(O&M Tab)*	$96,603,521	$102,883,328	$105,146,441	$106,750,689	$108,742,509
Capital Related O&M (PWNC)	*(O&M Tab)*	$0	$0	$0	$0	$0

Table A-4
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
Cash Flow

Revenue	Source	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Capital Related O&M (PWCF)	*(O&M Tab)*	$0	$0	$0	$0	$0
Capital Related O&M (PWP3)	*(O&M Tab)*	$0	$0	$0	$0	$0
Capital Related O&M (Baseline Metro)	*(O&M Tab)*	$0	$0	$0	$0	$0
Metro O&M		**$165,709,006**	**$174,300,043**	**$178,441,848**	**$180,410,216**	**$183,329,959**
Subtotal Operations and Maintenance Expenses		**$262,744,216**	**$274,688,956**	**$280,037,245**	**$282,775,835**	**$287,054,793**
Debt Service						
Existing						
Muni	*(Existing Debt Tab)*	$32,994,052	$39,594,360	$39,496,372	$33,150,941	$33,162,905
Revenue Bonds	*(Existing Debt Tab)*	*$31,373,034*	*$37,962,071*	*$37,852,565*	*$31,495,362*	*$31,495,296*
SRF Loans	*(Existing Debt Tab)*	*$1,621,018*	*$1,632,289*	*$1,643,807*	*$1,655,579*	*$1,667,609*
Metro	*(Existing Debt Tab)*	$72,405,327	$65,984,855	$67,850,333	$55,370,119	$55,378,055
Revenue Bonds	*(Existing Debt Tab)*	*$63,696,766*	*$57,462,729*	*$59,662,086*	*$46,755,038*	*$46,754,904*
SRF Loans	*(Existing Debt Tab)*	*$8,708,561*	*$8,522,126*	*$8,188,248*	*$8,615,081*	*$8,623,151*
Existing Debt Service	*(Existing Debt Tab)*	**$105,399,379**	**$105,579,215**	**$107,346,705**	**$88,521,059**	**$88,540,961**
Proposed						
Muni	*(Proposed Debt Tab)*	$0	$2,897,015	$7,918,509	$9,994,703	$11,974,330
Commercial Paper	*(Proposed Debt Tab)*	*$0*	*$0*	*$0*	*$0*	*$0*
Refinance CP - Revenue Bond	*(Proposed Debt Tab)*	*$0*	*$0*	*$0*	*$0*	*$0*
New Revenue Bonds	*(Proposed Debt Tab)*	*$0*	*$2,897,015*	*$7,918,509*	*$9,994,703*	*$11,974,330*
Metro	*(Proposed Debt Tab)*	$0	$728,699	$2,720,476	$4,809,413	$6,072,491
New Revenue Bonds	*(Proposed Debt Tab)*	*$0*	*$728,699*	*$2,720,476*	*$4,809,413*	*$6,072,491*
Placeholder	*(Proposed Debt Tab)*	*$0*	*$0*	*$0*	*$0*	*$0*
Proposed Debt Service	*(Proposed Debt Tab)*	**$0**	**$3,625,714**	**$10,638,985**	**$14,804,116**	**$18,046,821**
Transfers from Reserve (final pmt)	*(Reserve Tab)*	$0	$0	$0	$0	$0
Interest Earnings on Debt Service Reserve	*(Reserve Tab)*	($33,068)	($33,068)	($33,068)	($33,068)	($33,068)
Subtotal Debt Service		**$105,366,311**	**$109,171,861**	**$117,952,621**	**$103,292,107**	**$106,554,713**
Total Expenses		**$368,110,527**	**$383,860,817**	**$397,989,867**	**$386,067,942**	**$393,609,507**
Check - captures total expenses from O&M and Debt tabs less Debt Reserve Transfers		TRUE	TRUE	TRUE	TRUE	TRUE

Transfers In / Out

Transfers Out	Source	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
To CIP Fund (PAYGO)						
Muni	*(Capflow Tab)*	($115,137,829)	$11,565,068	($29,650,543)	($49,211,312)	($14,464,590)
Metro	*(Capflow Tab)*	($5,168,685)	($5,922,866)	($13,533,862)	($1,987,828)	($7,589,633)
Metro - Pure Water	*(Capflow Tab)*	($28,949,225)	$9,454,954	($16,447,254)	$13,648,310	$13,968,577
Total Transfers		**($149,255,740)**	**$15,097,156**	**($59,631,659)**	**($37,550,830)**	**($8,085,646)**

Net Cashflow

Net Cashflow	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Revenues	$375,358,369	$381,741,418	$394,816,693	$406,986,741	$423,906,018
Less: Expenditures	($368,110,527)	($383,860,817)	($397,989,867)	($386,067,942)	($393,609,507)
Less: Transfers Out	($149,255,740)	$15,097,156	($59,631,659)	($37,550,830)	($8,085,646)
Net Cashflow	**($142,007,898)**	**$12,977,757**	**($62,804,833)**	**($16,632,031)**	**$22,210,866**

Table A-5
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
Debt Service Coverage

Key Inputs

Summary	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Senior Debt Coverage	1.20 x	1.20 x	1.20 x	1.20 x	1.20 x
Aggregrate Debt Coverage	1.25 x	1.25 x	1.25 x	1.25 x	1.25 x

Debt Coverage Ratio Summary

Debt Service Coverage

Coverage Calculation	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Net Revenues	$145,247,221	$140,454,054	$153,786,816	$136,218,765	$146,063,671
Debt Service					
Senior Debt	$100,228,056	$100,611,077	$105,268,971	$86,927,382	$87,841,933
Subordinate Debt	$5,171,323	$8,593,852	$12,716,719	$16,397,794	$18,745,849
Total Debt Service	**$105,399,379**	**$109,204,929**	**$117,985,690**	**$103,325,176**	**$106,587,782**
Senior Debt Coverage	1.45 x	1.40 x	1.46 x	1.57 x	1.66 x
Aggregate Debt Coverage	1.38 x	1.29 x	1.30 x	1.32 x	1.37 x

Debt Service Calculations

Net System Revenues

Description	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
System Revenues					
Operating Revenues	$365,609,374	$370,847,717	$384,382,251	$397,098,440	$408,764,511
Sewer Service Charge Revenue	$264,051,940	$264,712,034	$265,373,833	$266,037,340	$266,702,552
Other Sewer Service Revenues	$12,745,240	$13,425,175	$13,446,947	$13,468,784	$13,490,687
Proposed Revenue Adjustments	$0	$6,953,430	$19,796,275	$31,818,977	$42,789,766
New Sewer Service Connections	$0	$3,000	$3,000	$3,000	$3,000
Maint & Operation Metro	$80,000,000	$80,000,000	$80,000,000	$80,000,000	$80,000,000
Other Sewer Treatment Plant Services	$2,298,072	$2,140,670	$2,147,092	$2,153,533	$2,159,993
Services Rendered Other Funds	$6,514,122	$3,613,408	$3,615,104	$3,616,806	$3,618,512
Non-Operating Revenues	$5,452,982	$7,882,635	$7,952,615	$7,886,635	$12,993,574
Sale Of Elec/Gas Eng Generated	$0	$0	$0	$0	$0
Hydroelectric Fac Cogenration	$0	$0	$0	$0	$0
Grant Assistance	$0	$0	$0	$0	$0
Land and Building Rentals	$879,000	$91,000	$93,000	$95,000	$98,000
Other Revenues	$4,573,982	$7,791,635	$7,859,615	$7,791,635	$12,895,574

Table A-5
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
Debt Service Coverage

Description	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Placeholder 1	$0	$0	$0	$0	$0
Interest Earnings on Operating Fund	$4,296,013	$3,011,065	$2,481,826	$2,001,665	$2,147,933
Interest Earnings on Debt Service Reserve	$33,068	$33,068	$33,068	$33,068	$33,068
Bond Interest Earnings (Senior Debt)	$1	$1	$1	$1	$1
Bond Interest Earnings (Subordinate Debt)	$0	$0	$0	$0	$0
SRF Interest Earnings (Senior Debt)	$28,327	$28,327	$28,327	$28,327	$28,327
SRF Interest Earnings (Subordinate Debt)	$4,740	$4,740	$4,740	$4,740	$4,740
Capacity Charge Revenue	$17,500,000	$17,500,000	$17,500,000	$17,500,000	$17,500,000
Grant Proceeds (Contribution in Aid)	$12,600,000	$300,000	$0	$0	$0
Transfers (to) / from Emergency Operating Reserve	$0	-$1,931,476	-$1,025,699	-$525,209	-$820,622
Transfers (to) / from Rate Stabilization Reserve	$2,500,000	$17,500,000	$22,500,000	-$5,000,000	-$7,500,000
Total System Revenues	$407,991,437	$415,143,010	$433,824,062	$418,994,600	$433,118,464
Maintenance and Operation Costs	$262,744,216	$274,688,956	$280,037,245	$282,775,835	$287,054,793
Net System Revenues	$145,247,221	$140,454,054	$153,786,816	$136,218,765	$146,063,671
Projected Parity Debt Service	$100,228,056	$100,611,077	$105,268,971	$86,927,382	$87,841,933
Parity Debt Service Coverage	1.45 x	1.40 x	1.46 x	1.57 x	1.66 x
Projected Parity Debt Service	$100,228,056	$100,611,077	$105,268,971	$86,927,382	$87,841,933
Projected Subordinate Debt Service	$5,171,323	$8,593,852	$12,716,719	$16,397,794	$18,745,849
Aggregrate Parity and Subordinated Debt Service	$105,399,379	$109,204,929	$117,985,690	$103,325,176	$106,587,782
Aggregrate Parity and Subordinated Debt Service Coverage	1.38 x	1.29 x	1.30 x	1.32 x	1.37 x

Table A-6
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
Reserves

Key Inputs / Factors					
Key Inputs	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**
Interest Rates for Bond Debt Service Reserve	1.00%	1.00%	1.00%	1.00%	1.00%
Other Interest Rates	3.25%	2.95%	2.75%	2.78%	2.78%
SRF Interest Rates	0.50%	0.50%	0.50%	0.50%	0.50%
Reserve Beginning Balances					
Emergency Operating Reserve	$50,748,598				
Emergency Capital Reserve	$10,000,000				
Rate Stabilization Fund (RSF) Reserve	$78,250,000				
Bond Debt Service Reserve (Senior)	$131				
Bond Debt Service Reserve (Subordinate)					
SRF Reserve (Senior)	$5,651,311				
Pension Stabilization Reserve	$945,545				
Reserve Policy					
Emergency Operating Reserve	70 days	70 days	70 days	70 days	70 days
Emergency Capital Reserve	$10,000,000	$10,000,000	$10,000,000	$10,000,000	$10,000,000
Rate Stabilization Reserve	5.0%	5.0%	5.0%	5.0%	5.0%
Transfers to / (from) Wastewater Operating Fund	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**
Emergency Operating Reserve					
Emergency Capital Reserve					
Rate Stabilization Fund (RSF) Reserve	$2,500,000	$17,500,000	$22,500,000	-$5,000,000	-$7,500,000
Bond Debt Service Reserve (Senior)					
Bond Debt Service Reserve (Subordinate)					
SRF Reserve (Senior)					
Pension Stabilization Reserve					
Reserve Summaries					
Transfers TO Wastewater Operating Fund FROM	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**
Emergency Operating Reserve	$0	$0	$0	$0	$0
Emergency Capital Reserve	$0	$0	$0	$0	$0
Rate Stabilization Fund (RSF) Reserve	$2,500,000	$17,500,000	$22,500,000	$0	$0
Bond Debt Service Reserve (Senior)	$0	$0	$0	$0	$0
Bond Debt Service Reserve (Subordinate)	$0	$0	$0	$0	$0
SRF Reserve (Senior)	$0	$0	$0	$0	$0
Pension Stabilization Reserve	$0	$0	$0	$0	$0
Total Transfers TO Wastewater Operating Fund FROM	**$2,500,000**	**$17,500,000**	**$22,500,000**	**$0**	**$0**

Table A-6
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
Reserves

Transfers FROM Wastewater Operating Fund TO	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Emergency Operating Reserve	$0	$1,931,476	$1,025,699	$525,209	$820,622
Emergency Capital Reserve	$0	$0	$0	$0	$0
Rate Stabilization Fund (RSF) Reserve	$0	$0	$0	$5,000,000	$7,500,000
Bond Debt Service Reserve (Senior)	$0	$0	$0	$0	$0
Bond Debt Service Reserve (Subordinate)	$0	$0	$0	$0	$0
SRF Reserve (Senior)	$0	$0	$0	$0	$0
Pension Stabilization Reserve	$0	$0	$0	$0	$0
Total Transfers FROM Wastewater Operating Fund TO	**$0**	**$1,931,476**	**$1,025,699**	**$5,525,209**	**$8,320,622**

Reserve Balance					
Beginning Reserve Balances	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**
Emergency Operating Reserve	$50,748,598	$50,748,598	$52,680,074	$53,705,773	$54,230,982
Emergency Capital Reserve	$10,000,000	$10,000,000	$10,000,000	$10,000,000	$10,000,000
Rate Stabilization Fund (RSF) Reserve	$78,250,000	$75,750,000	$58,250,000	$35,750,000	$40,750,000
Bond Debt Service Reserve (Senior)	$0	$0	$0	$0	$0
Bond Debt Service Reserve (Subordinate)	$0	$0	$0	$0	$0
SRF Reserve (Senior)	$0	$0	$0	$0	$0
Pension Stabilization Reserve	$0	$0	$0	$0	$0
Beginning Reserves	**$138,998,598**	**$136,498,598**	**$120,930,074**	**$99,455,773**	**$104,980,982**
Ending Reserve Balances	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**
Emergency Operating Reserve	$50,748,598	$52,680,074	$53,705,773	$54,230,982	$55,051,604
Emergency Capital Reserve	$10,000,000	$10,000,000	$10,000,000	$10,000,000	$10,000,000
Rate Stabilization Fund (RSF) Reserve	$75,750,000	$58,250,000	$35,750,000	$40,750,000	$48,250,000
Bond Debt Service Reserve (Senior)	$0	$0	$0	$0	$0
Bond Debt Service Reserve (Subordinate)	$0	$0	$0	$0	$0
SRF Reserve (Senior)	$0	$0	$0	$0	$0
Pension Stabilization Reserve	$0	$0	$0	$0	$0
Ending Reserves	**$136,498,598**	**$120,930,074**	**$99,455,773**	**$104,980,982**	**$113,301,604**
Total Minimum Reserve Target	**$78,737,800**	**$80,960,542**	**$82,248,159**	**$83,450,095**	**$84,906,526**

Table A-7
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
Revenue Requirement Projection

Gross Revenue Requirement from Rates

O&M Summary by Division	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Muni					
Department Management	$16,678,089	$16,586,089	$17,308,271	$17,254,334	$17,551,401
Customer Support Services	$6,404,932	$6,624,256	$6,724,220	$6,775,326	$6,827,603
Employee Services & Quality Assurance	$3,553,167	$3,613,600	$3,638,653	$3,664,229	$3,690,338
Engineering Program Management	$6,038,850	$6,368,850	$6,417,926	$6,467,986	$6,519,051
Environmental Monitoring & Technical Services	$6,445,995	$6,745,995	$6,485,039	$6,509,569	$6,534,596
Finance & Budget	$6,978,531	$6,978,531	$7,086,866	$7,216,121	$7,485,090
Innovation & Technology	$649,722	$649,722	$649,761	$649,802	$649,843
Long Range Planning	$0	$0	$0	$0	$0
Water Systems Operations	$0	$0	$0	$0	$0
Wastewater Collection	$41,222,408	$43,687,408	$44,047,178	$44,485,481	$44,912,518
Wastewater Treatment	$6,638,748	$6,638,748	$6,730,587	$6,824,464	$6,920,431
Water Systems Operations & Water Construction Maintenance	$2,424,768	$2,495,714	$2,506,897	$2,518,306	$2,633,962
Capital Related O&M (Baseline Muni)	$0	$0	$0	$0	$0
Muni O&M	$97,035,210	$100,388,913	$101,595,397	$102,365,619	$103,724,834
	TRUE	TRUE	TRUE	TRUE	TRUE
Metro					
Department Management	$15,660,241	$15,540,241	$16,361,597	$16,167,996	$16,429,539
Customer Support Services	$0	$0	$0	$0	$0
Employee Services & Quality Assurance	$6,951,457	$7,030,283	$7,110,360	$7,192,080	$7,275,476
Engineering Program Management	$4,157,043	$4,777,043	$4,611,394	$4,646,440	$4,642,195
Environmental Monitoring & Technical Services	$17,590,578	$18,350,953	$18,248,384	$18,347,195	$18,448,209
Finance & Budget	$11,065,903	$11,065,903	$11,232,539	$11,421,264	$11,750,895
Innovation & Technology	$1,136,535	$1,136,535	$1,136,583	$1,136,632	$1,136,682
Recycled Water	$0	$0	$0	$0	$0
Pure Water	$6,678,442	$7,650,472	$8,692,480	$8,808,243	$8,926,326
Water Systems Operations	$5,865,286	$5,865,286	$5,902,071	$5,939,679	$5,978,129
Long Range Planning	$0	$0	$0	$0	$0
Wastewater Collection	$0	$0	$0	$0	$0
Wastewater Treatment	$96,603,521	$102,883,328	$105,146,441	$106,750,689	$108,742,509
Capital Related O&M (PWNC)	$0	$0	$0	$0	$0
Capital Related O&M (PWCF)	$0	$0	$0	$0	$0
Capital Related O&M (PWP3)	$0	$0	$0	$0	$0
Capital Related O&M (Baseline Metro)	$0	$0	$0	$0	$0
Metro O&M	$165,709,006	$174,300,043	$178,441,848	$180,410,216	$183,329,959

Table A-7
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
Revenue Requirement Projection

	TRUE	TRUE	TRUE	TRUE	TRUE
Subtotal Operations and Maintenance Expenses	$262,744,216	$274,688,956	$280,037,245	$282,775,835	$287,054,793
	TRUE	TRUE	TRUE	TRUE	TRUE
Debt Service	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**
Existing					
Muni					
Revenue Bonds	$31,373,034	$37,962,071	$37,852,565	$31,495,362	$31,495,296
SRF Loans	$1,621,018	$1,632,289	$1,643,807	$1,655,579	$1,667,609
Total Muni	$32,994,052	$39,594,360	$39,496,372	$33,150,941	$33,162,905
Metro					
Revenue Bonds	$63,696,766	$57,462,729	$59,662,086	$46,755,038	$46,754,904
SRF Loans	$8,708,561	$8,522,126	$8,188,248	$8,615,081	$8,623,151
Total Metro	$72,405,327	$65,984,855	$67,850,333	$55,370,119	$55,378,055
Existing Debt Service	$105,399,379	$105,579,215	$107,346,705	$88,521,059	$88,540,961
Proposed					
Muni					
Commercial Paper	$0	$0	$0	$0	$0
Refinance CP - Revenue Bond	$0	$0	$0	$0	$0
New Revenue Bonds	$0	$2,897,015	$7,918,509	$9,994,703	$11,974,330
Total Muni	$0	$2,897,015	$7,918,509	$9,994,703	$11,974,330
Metro					
New Revenue Bonds	$0	$728,699	$2,720,476	$4,809,413	$6,072,491
Placeholder	$0	$0	$0	$0	$0
Total Metro	$0	$728,699	$2,720,476	$4,809,413	$6,072,491
Proposed Debt Service	$0	$3,625,714	$10,638,985	$14,804,116	$18,046,821
Transfers from Reserve (final pmt)	$0	$0	$0	$0	$0
Interest Earnings on Debt Service Reserve	($33,068)	($33,068)	($33,068)	($33,068)	($33,068)
Subtotal Debt Service	$105,366,311	$109,171,861	$117,952,621	$103,292,107	$106,554,713
	TRUE	TRUE	TRUE	TRUE	TRUE
Total Expense Items Before Transfers	$368,110,527	$383,860,817	$397,989,867	$386,067,942	$393,609,507
	TRUE	TRUE	TRUE	TRUE	TRUE

Table A-7
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
Revenue Requirement Projection

Transfers In / (Out)	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
To CIP Fund (PAYGO)					
Muni	($115,137,829)	$11,565,068	($29,650,543)	($49,211,312)	($14,464,590)
Metro	($5,168,685)	($5,922,866)	($13,533,862)	($1,987,828)	($7,589,633)
Metro - Pure Water	($28,949,225)	$9,454,954	($16,447,254)	$13,648,310	$13,968,577
Total Transfers	($149,255,740)	$15,097,156	($59,631,659)	($37,550,830)	($8,085,646)
	TRUE	TRUE	TRUE	TRUE	TRUE
Change in Cash Reserves					
Annualized Change in Cash Reserves	($142,007,898)	$19,931,187	($56,949,597)	($10,527,617)	$26,984,014
	TRUE	TRUE	TRUE	TRUE	TRUE
Gross Revenue Requirement	$375,358,369	$388,694,848	$400,671,929	$413,091,154	$428,679,166
Determinaton of Net Revenue Requirement from Rates					
Other Operating Revenues	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**
New Sewer Service Connections	$0	$3,000	$3,000	$3,000	$3,000
Maint & Operation Metro	$80,000,000	$80,000,000	$80,000,000	$80,000,000	$80,000,000
Other Sewer Treatment Plant Services	$2,298,072	$2,140,670	$2,147,092	$2,153,533	$2,159,993
Services Rendered Other Funds	$6,514,122	$3,613,408	$3,615,104	$3,616,806	$3,618,512
Other Operating Revenues	$88,812,194	$85,757,078	$85,765,196	$85,773,338	$85,781,505
	TRUE	TRUE	TRUE	TRUE	TRUE
Non-Operating Revenues					
Land and Building Rentals	$879,000	$91,000	$93,000	$95,000	$98,000
Other Revenues	$4,573,982	$7,791,635	$7,859,615	$7,791,635	$12,895,574
Placeholder 1	$0	$0	$0	$0	$0
Non-Operating Revenues	$5,452,982	$7,882,635	$7,952,615	$7,886,635	$12,993,574
Interest Earnings on Operating Fund	$4,296,013	$3,011,065	$2,481,826	$2,001,665	$2,147,933
Total Non-Rate Revenues	$98,561,189	$96,650,778	$96,199,637	$95,661,639	$100,923,013
Net Revenue Requirement from Rates	$276,797,180	$292,044,070	$304,472,292	$317,429,515	$327,756,153

APPENDIX B:

WASTEWATER COST OF SERVICE AND RATE DESIGN

Table B-1
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
FY 2022 Revenue Requirement Detail

FY 2022 Revenue Requirement Detail	Muni & Metro FY 2022 Operating	Muni & Metro FY 2022 Capital	Muni & Metro FY 2022 Total	Muni Only FY 2022 Operating	Muni Only FY 2022 Capital	Muni Only FY 2022 Total	Metro Only FY 2022 Operating	Metro Only FY 2022 Capital	Metro Only FY 2022 Total
Gross Revenue Requirement Component									
O&M Summary by Division									
Muni									
Department Management	$16,586,089		$16,586,089	$16,586,089		$16,586,089			
Customer Support Services	$6,624,256		$6,624,256	$6,624,256		$6,624,256			
Employee Services & Quality Assurance	$3,613,600		$3,613,600	$3,613,600		$3,613,600			
Engineering Program Management	$6,368,850		$6,368,850	$6,368,850		$6,368,850			
Environmental Monitoring & Technical Services	$6,745,995		$6,745,995	$6,745,995		$6,745,995			
Finance & Budget	$6,978,531		$6,978,531	$6,978,531		$6,978,531			
Innovation & Technology	$649,722		$649,722	$649,722		$649,722			
Wastewater Collection	$43,687,408		$43,687,408	$43,687,408		$43,687,408			
Wastewater Treatment	$6,638,748		$6,638,748	$6,638,748		$6,638,748			
Water Systems Operations & Water Construction Maintenance	$2,495,714		$2,495,714	$2,495,714		$2,495,714			
Capital Related O&M (Baseline Muni)	$0		$0	$0		$0			
Muni O&M	$100,388,913	$0	$100,388,913	$100,388,913	$0	$100,388,913	$0	$0	$0
Metro									
Department Management	$15,540,241		$15,540,241				$15,540,241		$15,540,241
Employee Services & Quality Assurance	$7,030,283		$7,030,283				$7,030,283		$7,030,283
Engineering Program Management	$4,777,043		$4,777,043				$4,777,043		$4,777,043
Environmental Monitoring & Technical Services	$18,350,953		$18,350,953				$18,350,953		$18,350,953
Finance & Budget	$11,065,903		$11,065,903				$11,065,903		$11,065,903
Innovation & Technology	$1,136,535		$1,136,535				$1,136,535		$1,136,535
Pure Water	$7,650,472		$7,650,472				$7,650,472		$7,650,472
Water Systems Operations	$5,865,286		$5,865,286				$5,865,286		$5,865,286
Wastewater Treatment	$102,883,328		$102,883,328				$102,883,328		$102,883,328
Capital Related O&M (Baseline Metro)	$0		$0				$0		$0
Metro O&M	$174,300,043	$0	$174,300,043	$0	$0	$0	$174,300,043	$0	$174,300,043
Subtotal Operations and Maintenance Expenses	$274,688,956	$0	$274,688,956	$100,388,913	$0	$100,388,913	$174,300,043	$0	$174,300,043
	TRUE								
Debt Service									
Existing									
Muni									
Revenue Bonds		$37,962,071	$37,962,071		$37,962,071	$37,962,071			$0
SRF Loans		1632288.74	$1,632,289		1632288.74	$1,632,289			$0
Total Muni	$0	$39,594,360	$39,594,360	$0	$39,594,360	$39,594,360	$0	$0	$0
Metro									
Revenue Bonds		$57,462,729	$57,462,729			$0		$57,462,729	$57,462,729
SRF Loans		$8,522,126	$8,522,126			$0		$8,522,126	$8,522,126
Total Metro	$0	$65,984,855	$65,984,855	$0	$0	$0	$0	$65,984,855	$65,984,855

Table B-1
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
FY 2022 Revenue Requirement Detail

FY 2022 Revenue Requirement Detail	Muni & Metro FY 2022 Operating	Muni & Metro FY 2022 Capital	Muni & Metro FY 2022 Total	Muni Only FY 2022 Operating	Muni Only FY 2022 Capital	Muni Only FY 2022 Total	Metro Only FY 2022 Operating	Metro Only FY 2022 Capital	Metro Only FY 2022 Total
Existing Debt Service	$0	$105,579,215	$105,579,215	$0	$39,594,360	$39,594,360	$0	$65,984,855	$65,984,855
Proposed									
Muni									
Commercial Paper		$0	$0		$0	$0			$0
Refinance CP - Revenue Bond		$0	$0		$0	$0			$0
New Revenue Bonds		$2,897,015	$2,897,015		$2,897,015	$2,897,015			$0
Total Muni	$0	$2,897,015	$2,897,015	$0	$2,897,015	$2,897,015	$0	$0	$0
Metro									
New Revenue Bonds		$728,699	$728,699			$0		$728,699	$728,699
Placeholder		$0	$0			$0		$0	$0
Total Metro	$0	$728,699	$728,699	$0	$0	$0	$0	$728,699	$728,699
Proposed Debt Service	$0	$3,625,714	$3,625,714	$0	$2,897,015	$2,897,015	$0	$728,699	$728,699
Transfers from Reserve (final pmt)		$0	$0			$0		$0	$0
Interest Earnings on Debt Service Reserve		($33,068)	($33,068)		($12,085)	($12,085)		($20,983)	($20,983)
Subtotal Debt Service	$0	$109,171,861	$109,171,861	$0	$42,479,289	$42,479,289	$0	$66,692,571	$66,692,571
		TRUE							
Total Expense Items Before Transfers	$274,688,956	$109,171,861	$383,860,817	$100,388,913	$42,479,289	$142,868,203	$174,300,043	$66,692,571	$240,992,614
			TRUE						
Transfers In/Out									
To CIP Fund (PAYGO)									
Muni		$11,565,068	$11,565,068		$11,565,068	$11,565,068			$0
Metro		($5,922,866)	($5,922,866)			$0		($5,922,866)	($5,922,866)
Metro - Pure Water		$9,454,954	$9,454,954			$0		$9,454,954	$9,454,954
Total Transfers	$0	$15,097,156	$15,097,156	$0	$11,565,068	$11,565,068	$0	$3,532,088	$3,532,088
		TRUE							
Annualized Change in Cash Reserves									
Annualized Change in Cash Reserves	$14,262,662	$5,668,525	$19,931,187	$5,212,489	$2,205,650	$7,418,139	$9,050,173	$3,462,875	$12,513,048
Gross Revenue Requirement	$288,951,618	$99,743,230	$388,694,848	$105,601,402	$33,119,872	$138,721,274	$183,350,216	$66,623,358	$249,973,574
Revenue Requirement Offsets									
Other Operating Revenues									
New Sewer Service Connections	$3,000		$3,000	$3,000		$3,000	$0		$0
Maint & Operation Metro	$80,000,000		$80,000,000				$80,000,000		$80,000,000
Other Sewer Treatment Plant Services									
Sewer Service (SSC)-Navy	$654,761		$654,761	$654,761		$654,761			

Table B-1
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
FY 2022 Revenue Requirement Detail

FY 2022 Revenue Requirement Detail	Muni & Metro FY 2022 Operating	Muni & Metro FY 2022 Capital	Muni & Metro FY 2022 Total	Muni Only FY 2022 Operating	Muni Only FY 2022 Capital	Muni Only FY 2022 Total	Metro Only FY 2022 Operating	Metro Only FY 2022 Capital	Metro Only FY 2022 Total
Waste Discharge-Trucked Fee	$0		$0	$0		$0			
Sewerage Treatment Services	$956,656		$956,656	$956,656		$956,656			
M & O Trunk Sewers Muni	$529,252		$529,252	$529,252		$529,252			
Total Other Sewer Treatment Plant Services	$2,140,670		$2,140,670	$2,140,670		$2,140,670	$0		$0
Services Rendered Other Funds									
Reimbursements Between Funds/Depts	$2,208,000		$2,208,000	$662,400		$662,400	$1,545,600		$1,545,600
Other Services To Outside	$750,000		$750,000			$0	$750,000		$750,000
Transport Charge Muni System	$565,408		$565,408	$565,408		$565,408			$0
Subdivision Surcharge	$0		$0	$0		$0			$0
Service To Other Depts	$90,000		$90,000	$90,000		$90,000			$0
READ - Processing Fees	$0		$0	$0		$0			$0
Total Services Rendered Other Funds	$3,613,408		$3,613,408	$1,317,808		$1,317,808	$2,295,600		$2,295,600
Other Operating Revenues	$85,757,078	$0	$85,757,078	$3,461,478	$0	$3,461,478	$82,295,600	$0	$82,295,600
			TRUE						
Land and Building Rentals									$0
Telecom Lease	$91,000		$91,000	$91,000		$91,000			$0
Other Land/Bldg Leases	$0		$0	$0		$0			$0
Total Land and Building Revenues	$91,000	$0	$91,000	$91,000	$0	$91,000	$0	$0	$0
Other Revenues									
IWCP Notice of Violation Fees	$22,215		$22,215			$0	$22,215		$22,215
IWCP Industrial User Discharge Permit Fees	$151,049		$151,049			$0	$151,049		$151,049
IWCP Trucked Waste & Permet Fees	$0		$0	$0		$0			$0
Revenue from Small Projects	$55,000		$55,000	$55,000		$55,000			$0
Other Sewer Revenue	$3,985,253		$3,985,253	$3,985,253		$3,985,253			$0
Expenditure Refund of Prior Year	$2,950,000		$2,950,000	$2,950,000		$2,950,000			$0
Revenue Otherwise Unclassified	$70,000		$70,000	$70,000		$70,000			$0
Repair Damages Recovered	$30,000		$30,000	$30,000		$30,000			$0
Transfers From Other Funds	$300,000		$300,000	$300,000		$300,000			$0
Intra-Ent Tranfer In to Fund 700089	$170,000		$170,000	$170,000		$170,000			$0
Rental Of Non-Agricultural Land	$0		$0	$0		$0			$0
Total Other Revenues	$7,791,635	$0	$7,791,635	$7,560,253	$0	$7,560,253	$231,382	$0	$231,382
Non-Operating Revenues	$7,882,635	$0	$7,882,635	$7,651,253	$0	$7,651,253	$231,382	$0	$231,382
			TRUE						

Table B-1
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
FY 2022 Revenue Requirement Detail

FY 2022 Revenue Requirement Detail	Muni & Metro FY 2022 Operating	Muni & Metro FY 2022 Capital	Muni & Metro FY 2022 Total	Muni Only FY 2022 Operating	Muni Only FY 2022 Capital	Muni Only FY 2022 Total	Metro Only FY 2022 Operating	Metro Only FY 2022 Capital	Metro Only FY 2022 Total
Interest Earnings on Operating Fund	$3,011,065		$3,011,065	$1,100,436		$1,100,436	$1,910,629		$1,910,629
			TRUE						
Total Revenue Requirement Offsets	$96,650,778	0	$96,650,778	$12,213,166	0	$12,213,166	$84,437,612	0	$84,437,612
Net Revenue Requirement from Rates									
Gross Revenue Requirement	$288,951,618	$99,743,230	$388,694,848	$105,601,402	$33,119,872	$138,721,274	$183,350,216	$66,623,358	$249,973,574
Less: Non-Rate Revenue Offsets	$96,650,778	0	$96,650,778	$12,213,166	$0	$12,213,166	$84,437,612	$0	$84,437,612
Net Revenue Requirment from Rates	$192,300,840	$99,743,230	$292,044,070	$93,388,236	$33,119,872	$126,508,107	$98,912,604	$66,623,358	$165,535,963

Table B-2
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
FY 2022 Assignment of Municipal Sub-System Operating Costs to Functions

FY 2022 O&M Budget Before Assignment to Functions

Division Title		Cmmt Item Grp	O&M Before Allocation of Change in Cash			Allocation of Change in Cash			O&M After Allocation of Change in Cash		
			MUNI	METRO		MUNI	METRO		MUNI	METRO	
			700000	700001	Grand Total	700000	700001	Grand Total	700000	700001	Grand Total
Customer Support Services	200013	Customer Support Service Total	$6,624,256	$0	$6,624,256	$343,951	$0	$343,951	$6,968,207	$0	$6,968,207
Employee Services & Quality Assurance	200012	Employee Services & Quality Assurance Total	$3,613,600	$7,030,283	$10,643,883	$187,629	$365,033	$552,662	$3,801,229	$7,395,316	$11,196,544
Environmental Monitoring & Technical Services	200016	EMTS Total	$6,745,995	$18,350,953	$25,096,948	$350,272	$952,836	$1,303,108	$7,096,267	$19,303,789	$26,400,055
Engineering Program Management	200015	EPM Total	$6,368,850	$4,777,043	$11,145,893	$330,689	$248,038	$578,728	$6,699,539	$5,025,081	$11,724,621
Finance & Budget	200011	FIT Total	$6,978,531	$11,065,903	$18,044,434	$362,346	$574,574	$936,920	$7,340,877	$11,640,477	$18,981,354
Innovation & Technology	200023	IT Total	$649,722	$1,136,535	$1,786,257	$33,735	$59,012	$92,748	$683,457	$1,195,547	$1,879,005
Long Range Planning	200014	Long Range Planning Total	$0	$0	$0	$0	$0	$0	$0	$0	$0
Department Management	200000	Department Management Total	$16,586,089	$15,540,241	$32,126,330	$861,199	$806,895	$1,668,094	$17,447,288	$16,347,136	$33,794,424
Pure Water		Pure Water Total	$0	$7,650,472	$7,650,472	$0	$397,235	$397,235	$0	$8,047,707	$8,047,707
Recycled Water		Recycled Water Total	$0	$0	$0	$0	$0	$0	$0	$0	$0
Wastewater Collection	200018	Wastewater Collection Total	$43,687,408	$0	$43,687,408	$2,268,379	$0	$2,268,379	$45,955,787	$0	$45,955,787
Wastewater Treatment	200019	WWTD Total	$6,638,748	$102,883,328	$109,522,076	$344,703	$5,342,006	$5,686,710	$6,983,451	$108,225,334	$115,208,785
Water Systems Operations & Water Construction Maintenance	200021	WSO & WCM	$2,495,714	$0	$2,495,714	$129,585	$0	$129,585	$2,625,299	$0	$2,625,299
Water Systems Operations	200020	Water System Operations Total	$0	$5,865,286	$5,865,286	$0	$304,543	$304,543	$0	$6,169,829	$6,169,829
		Grand Total	**$100,388,913**	**$174,300,043**	**$274,688,956**	**$5,212,489**	**$9,050,173**	**$14,262,662**	**$105,601,402**	**$183,350,216**	**$288,951,618**
			$100,388,913	*$174,300,043*	*$274,688,956*	*$5,212,489*	*$9,050,173*	*$14,262,662*	*$105,601,402*	*$183,350,216*	*$288,951,618*

FY 2022 Assignment of Municipal Subsystem O&M to Functions

Division Title		Cmmt Item Grp	Engineering		General and Administrative		Operational Support		Quality Control			
			Environmental Support	Program Management & Review	Business Support Admin	Operating Division Admin	Central Support Comnet/Comc	Operational Support	Industrial Permitting and Compliance	Marine Biology & Ocean Operations	Sewage Testing and Control	Wastewater Chemistry Services
Customer Support Services	200013	Customer Support Service Total	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Employee Services & Quality Assurance	200012	Employee Services & Quality Assurance Total	$0	$0	$3,801,229	$0	$0	$0	$0	$0	$0	$0
Environmental Monitoring & Technical Services	200016	EMTS Total	$0	$0	$0	$1,546,135	$0	$0	$3,520,133	$1,479	$508,280	$1,520,240
Engineering Program Management	200015	EPM Total	$2,352,534	$4,084,872	$0	$262,133	$0	$0	$0	$0	$0	$0
Finance & Information Technology	200011	FIT Total	$0	$0	$7,340,877	$0	$0	$0	$0	$0	$0	$0
Information Technology	99	IT Total	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
LPR&WR	200014	Long Range Planning Total	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Department Management	200000	Department Management Total	$0	$0	$17,167,039	$0	$0	$280,249	$0	$0	$0	$0
Pure Water		Pure Water Total	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Recycled Water		Recycled Water Total	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Wastewater Collection	200018	Wastewater Collection Total	$0	$0	$0	$5,440,368	$0	$654,672	$2,041,916	$0	$0	$0
Wastewater Treatment	200019	WWTD Total	$0	$0	$0	$209,317	$381,426	$816,652	$0	$0	$0	$0
Water Systems Operations & Water Construction Maintenance	200021	WSO & WCM	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Water Systems Operations	200020	Water System Operations Total	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
		Grand Total	**$2,352,534**	**$4,084,872**	**$28,309,145**	**$7,457,952**	**$381,426**	**$1,751,572**	**$5,562,049**	**$1,479**	**$508,280**	**$1,520,240**

FY 2022 Assignment of Municipal Subsystem O&M to Functions

Division Title		Cmmt Item Grp	Transmission							
			Main Cleaning	Other Muni Agencies	Other Pump Stations	Pipeline Maintenance & Repair	Pump Station 1	Pump Station 2	Sewer Pump Stations	WWC Engineering & Planning
Customer Support Services	200013	Customer Support Service Total	$0	$0	$0	$0	$0	$0	$0	$0
Employee Services & Quality Assurance	200012	Employee Services & Quality Assurance Total	$0	$0	$0	$0	$0	$0	$0	$0
Environmental Monitoring & Technical Services	200016	EMTS Total	$0	$0	$0	$0	$0	$0	$0	$0
Engineering Program Management	200015	EPM Total	$0	$0	$0	$0	$0	$0	$0	$0
Finance & Information Technology	200011	FIT Total	$0	$0	$0	$0	$0	$0	$0	$0
Information Technology	99	IT Total	$0	$0	$0	$0	$0	$0	$0	$0
LPR&WR	200014	Long Range Planning Total	$0	$0	$0	$0	$0	$0	$0	$0
Department Management	200000	Department Management Total	$0	$0	$0	$0	$0	$0	$0	$0
Pure Water		Pure Water Total	$0	$0	$0	$0	$0	$0	$0	$0
Recycled Water		Recycled Water Total	$0	$0	$0	$0	$0	$0	$0	$0
Wastewater Collection	200018	Wastewater Collection Total	$13,880,578	$4,820,733	$0	$11,248,377	$0	$0	$5,153,676	$2,715,468
Wastewater Treatment	200019	WWTD Total	$0	$0	$5,569,548	$0	$0	$1,135	$0	$0
Water Systems Operations & Water Construction Maintenance	200021	WSO & WCM	$0	$0	$0	$0	$0	$0	$0	$0
Water Systems Operations	200020	Water System Operations Total	$0	$0	$0	$0	$0	$0	$0	$0
		Grand Total	**$13,880,578**	**$4,820,733**	**$5,569,548**	**$11,248,377**	**$0**	**$1,135**	**$5,153,676**	**$2,715,468**

FY 2022 Assignment of Municipal Subsystem O&M to Functions

Division Title		Cmmt Item Grp	Treatment and Disposal						
			Cogen Facilities	GUF	MBC	NCWRP	PTLWWTP	SBWRP	WWTD Plant Engineering
Customer Support Services	200013	Customer Support Service Total	$0	$0	$0	$0	$0	$0	$0
Employee Services & Quality Assurance	200012	Employee Services & Quality Assurance Total	$0	$0	$0	$0	$0	$0	$0
Environmental Monitoring & Technical Services	200016	EMTS Total	$0	$0	$0	$0	$0	$0	$0
Engineering Program Management	200015	EPM Total	$0	$0	$0	$0	$0	$0	$0
Finance & Information Technology	200011	FIT Total	$0	$0	$0	$0	$0	$0	$0
Information Technology	99	IT Total	$0	$0	$0	$0	$0	$0	$0
LPR&WR	200014	Long Range Planning Total	$0	$0	$0	$0	$0	$0	$0
Department Management	200000	Department Management Total	$0	$0	$0	$0	$0	$0	$0

Table B-2
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
FY 2022 Assignment of Municipal Sub-System Operating Costs to Functions

Pure Water		Pure Water Total	$0	$0	$0	$0	$0	$0	$0		
Recycled Water		Recycled Water Total	$0	$0	$0	$0	$0	$0	$0		
Wastewater Collection	200018	Wastewater Collection Total	$0	$0	$0	$0	$0	$0	$0		
Wastewater Treatment	200019	WWTD Total	$0	$0	$4,988	$380	$0	$6	$0		
Water Systems Operations & Water Construction Maintenance	200021	WSO & WCM	$0	$0	$0	$0	$0	$0	$0		
Water Systems Operations	200020	Water System Operations Total	$0	$0	$0	$0	$0	$0	$0		
		Grand Total	**$0**	**$0**	**$4,988**	**$380**	**$0**	**$6**	**$0**		

FY 2022 Assignment of Municipal Subsystem O&M to Functions			**Customer**								
Division Title		**Cmmt Item Grp**	**Meters and Services**	**Billing**	**Recycled**		**Total Muni O&M Before Assignment to Functions**	**Total Muni O&M After Assignment to Functions**	**Difference**		
Customer Support Services	200013	Customer Support Service Total	$0	$6,948,947	$19,260		$6,968,207	$6,968,207	$0		
Employee Services & Quality Assurance	200012	Employee Services & Quality Assurance Total	$0	$0	$0		$3,801,229	$3,801,229	$0		
Environmental Monitoring & Technical Services	200016	EMTS Total	$0	$0	$0		$7,096,267	$7,096,267	$0		
Engineering Program Management	200015	EPM Total	$0	$0	$0		$6,699,539	$6,699,539	$0		
Finance & Information Technology	200011	FIT Total	$0	$0	$0		$7,340,877	$7,340,877	$0		
Information Technology	99	IT Total	$0	$681,568	$1,889		$683,457	$683,457	$0		
LPR&WR	200014	Long Range Planning Total	$0	$0	$0		$0	$0	$0		
Department Management	200000	Department Management Total	$0	$0	$0		$17,447,288	$17,447,288	$0		
Pure Water		Pure Water Total	$0	$0	$0		$0	$0	$0		
Recycled Water		Recycled Water Total	$0	$0	$0		$0	$0	$0		
Wastewater Collection	200018	Wastewater Collection Total	$0	$0	$0		$45,955,787	$45,955,787	$0		
Wastewater Treatment	200019	WWTD Total	$0	$0	$0		$6,983,451	$6,983,451	$0		
Water Systems Operations & Water Construction Maintenance	200021	WSO & WCM	$2,625,299	$0	$0		$2,625,299	$2,625,299	$0		
Water Systems Operations	200020	Water System Operations Total	$0	$0	$0		$0	$0	$0		
		Grand Total	**$2,625,299**	**$7,630,515**	**$21,149**		**$105,601,402**	**$105,601,402**	**$0**		

Table B-3
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
FY 2022 Allocation of Municipal Subsystem Operating Costs to Demand Parameters

	FY 2022 Allocation of Municipal Sub-System O&M to Demand Parameters							FY 2022 Allocation of Municipal Sub-System O&M to Demand Parameters						
	Volume-Related			Customer-Related				Volume-Related			Customer-Related			
Function	FLOW	COD	TSS	Meters and Services	Billing	Recycled	Total	FLOW	COD	TSS	Meters and Services	Billing	Recycled	Total
Engineering														
Environmental Support	45.00%	30.00%	25.00%				100.00%	$1,058,640	$705,760	$588,134	$0	$0	$0	$2,352,534
Program Management & Review	45.00%	30.00%	25.00%				100.00%	$1,838,192	$1,225,462	$1,021,218	$0	$0	$0	$4,084,872
								$2,896,833	$1,931,222	$1,609,352	$0	$0	$0	$6,437,406
General and Administrative														
Business Support Admin	72.22%	7.16%	5.90%	3.76%	10.93%	0.03%	100.00%	$20,444,992	$2,028,274	$1,669,845	$1,064,233	$3,093,227	$8,573	$28,309,145
Operating Division Admin	72.22%	7.16%	5.90%	3.76%	10.93%	0.03%	100.00%	$5,386,167	$534,342	$439,915	$280,369	$814,901	$2,259	$7,457,952
								$25,831,159	$2,562,616	$2,109,760	$1,344,602	$3,908,128	$10,832	$35,767,097
Operational Support														
Central Support Comnet/Comc	45.00%	30.00%	25.00%				100.00%	$171,642	$114,428	$95,357	$0	$0	$0	$381,426
Operational Support	45.00%	30.00%	25.00%				100.00%	$788,208	$525,472	$437,893	$0	$0	$0	$1,751,572
								$959,849	$639,900	$533,250	$0	$0	$0	$2,132,999
Quality Control														
Industrial Permitting and Compliance	45.00%	30.00%	25.00%				100.00%	$2,502,922	$1,668,615	$1,390,512	$0	$0	$0	$5,562,049
Marine Biology & Ocean Operations	30.00%	40.00%	30.00%				100.00%	$444	$591	$444	$0	$0	$0	$1,479
Sewage Testing and Control	45.00%	30.00%	25.00%				100.00%	$228,726	$152,484	$127,070	$0	$0	$0	$508,280
Wastewater Chemistry Services	30.00%	40.00%	30.00%				100.00%	$456,072	$608,096	$456,072	$0	$0	$0	$1,520,240
								$3,188,164	$2,429,786	$1,974,098	$0	$0	$0	$7,592,048
Transmission														
Main Cleaning	100.00%						100.00%	$13,880,578	$0	$0	$0	$0	$0	$13,880,578
Other Muni Agencies	100.00%						100.00%	$4,820,733	$0	$0	$0	$0	$0	$4,820,733
Other Pump Stations	100.00%						100.00%	$5,569,548	$0	$0	$0	$0	$0	$5,569,548
Pipeline Maintenance & Repair	100.00%						100.00%	$11,248,377	$0	$0	$0	$0	$0	$11,248,377
Pump Station 1	100.00%						100.00%	$0	$0	$0	$0	$0	$0	$0
Pump Station 2	100.00%						100.00%	$1,135	$0	$0	$0	$0	$0	$1,135
Sewer Pump Stations	100.00%						100.00%	$5,153,676	$0	$0	$0	$0	$0	$5,153,676
WWC Engineering & Planning	100.00%						100.00%	$2,715,468	$0	$0	$0	$0	$0	$2,715,468
								$43,389,515	$0	$0	$0	$0	$0	$43,389,515
Treatment and Disposal														
MBC	0.00%	50.00%	50.00%				100.00%	$0	$2,494	$2,494	$0	$0	$0	$4,988
NCWRP	75.00%	10.00%	15.00%				100.00%	$285	$38	$57	$0	$0	$0	$380
PTLWWTP	35.00%	40.00%	25.00%				100.00%	$0	$0	$0	$0	$0	$0	$0
SBWRP	75.00%	10.00%	15.00%				100.00%	$4	$1	$1	$0	$0	$0	$6
WWTD Plant Engineering	45.00%	30.00%	25.00%				100.00%	$0	$0	$0	$0	$0	$0	$0
								$289	$2,532	$2,552	$0	$0	$0	$5,373
Customer														
Meters and Services				100.00%			100.00%	$0	$0	$0	$2,625,299	$0	$0	$2,625,299
Billing					100.00%		100.00%	$0	$0	$0	$0	$7,630,515	$0	$7,630,515
								$0	$0	$0	$2,625,299	$7,630,515	$0	$10,255,814
Recycled						100.00%	100.00%	$0	$0	$0	$0	$0	$21,149	$21,149
								$0	$0	$0	$0	$0	$21,149	$21,149
								$76,265,809	$7,566,057	$6,229,011	$3,969,901	$11,538,643	$31,981	$105,601,402
								72.22%	7.16%	5.90%	3.76%	10.93%	0.03%	100.00%
								$90,060,877	$90,060,877	$90,060,877	<< Total Flow and Strength			
								84.68%	8.40%	6.92%				TRUE
								FLOW	COD	TSS				

Table B-4
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
FY 2022 Allocation of Municipal Subsystem Non-Rate Revenues to Demand Parameters

	FY 2022 Allocation of Municipal Sub-System Rev. Offsets to Demand Parameters							FY 2022 Allocation of Municipal Sub-System Rev Offsets to Demand Parameters						
	Volume-Related			Customer-Related				Volume-Related			Customer-Related			
Function	FLOW	COD	TSS	Meters and Services	Billing	Recycled	Total	FLOW	COD	TSS	Meters and Services	Billing	Recycled	Total
Other Operating Revenues														
New Sewer Service Connections				100.00%			100.00%	$0	$0	$0	$3,000	$0	$0	$3,000
Other Sewer Treatment Plant Services														
Sewer Service (SSC)-Navy	45.00%	30.00%	25.00%				100.00%	$294,643	$196,428	$163,690	$0	$0	$0	$654,761
Sewerage Treatment Services	45.00%	30.00%	25.00%				100.00%	$430,495	$286,997	$239,164	$0	$0	$0	$956,656
M & O Trunk Sewers Muni	100.00%						100.00%	$529,252	$0	$0	$0	$0	$0	$529,252
Services Rendered Other Funds														
Revenue from Other Agencies														
Reimbursements Between Funds/Depts	72.22%	7.16%	5.90%	3.76%	10.93%	0.03%	100.00%	$478,388	$47,459	$39,072	$24,902	$72,378	$201	$662,400
Transport Charge Muni System	100.00%						100.00%	$565,408	$0	$0	$0	$0	$0	$565,408
Service To Other Depts	72.22%	7.16%	5.90%	3.76%	10.93%	0.03%	100.00%	$64,998	$6,448	$5,309	$3,383	$9,834	$27	$90,000
Land and Building Rentals														
Telecom Lease	84.68%	8.40%	6.92%				100.00%	$77,061	$7,645	$6,294	$0	$0	$0	$91,000
Other Revenues														
IWCP Trucked Waste & Permet Fees	84.68%	8.40%	6.92%				100.00%	$0	$0	$0	$0	$0	$0	$0
Revenue from Small Projects	84.68%	8.40%	6.92%				100.00%	$46,575	$4,621	$3,804	$0	$0	$0	$55,000
Other Sewer Revenue	45.00%	30.00%	25.00%				100.00%	$1,793,364	$1,195,576	$996,313	$0	$0	$0	$3,985,253
Expenditure Refund of Prior Year	45.00%	30.00%	25.00%				100.00%	$1,327,500	$885,000	$737,500	$0	$0	$0	$2,950,000
Revenue Otherwise Unclassified					100.00%		100.00%	$0	$0	$0	$0	$70,000	$0	$70,000
Repair Damages Recovered	45.00%	30.00%	25.00%		0.00%		100.00%	$13,500	$9,000	$7,500	$0	$0	$0	$30,000
Transfers From Other Funds	45.00%	30.00%	25.00%		0.00%		100.00%	$135,000	$90,000	$75,000	$0	$0	$0	$300,000
Intra-Ent Tranfer In to Fund 700089	45.00%	30.00%	25.00%		0.00%		100.00%	$76,500	$51,000	$42,500	$0	$0	$0	$170,000
Interest Earnings on Operating Fund	72.22%	7.16%	5.90%	3.76%	10.93%	0.03%	100.00%	$794,740	$78,843	$64,910	$41,369	$120,240	$333	$1,100,436
								$6,627,425	$2,859,017	$2,381,057	$72,654	$272,452	$561	$12,213,166
								54.26%	23.41%	19.50%	0.59%	2.23%	0.00%	100.00%

Table B-5
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
Metropolitan Regional Wastewater System Cost Allocations per the Contolling Joint Powers Agreement

Key Assumptions - Metropolitan Regional Wastewater System Cost Allocations per the Regional Joint Power Agreement					
Metro Baseline O&M Allocation	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**
Sewer Flows	**41.56%**	**41.56%**	**41.56%**	**41.56%**	**41.56%**
Participating Agencies (PA) Share	32.61%	32.61%	32.61%	32.61%	32.61%
City of San Diego (CSD) Share	67.39%	67.39%	67.39%	67.39%	67.39%
COD	**26.42%**	**26.42%**	**26.42%**	**26.42%**	**26.42%**
PA Share	32.17%	32.17%	32.17%	32.17%	32.17%
CSD Share	67.83%	67.83%	67.83%	67.83%	67.83%
TSS	**32.02%**	**32.02%**	**32.02%**	**32.02%**	**32.02%**
PA Share	35.00%	35.00%	35.00%	35.00%	35.00%
CSD Share	65.00%	65.00%	65.00%	65.00%	65.00%
Metro Baseline Capital Allocation	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**
Sewer Capacity	**55.80%**	**55.80%**	**55.80%**	**55.80%**	**55.80%**
Participating Agencies (PA) Share	32.61%	32.61%	32.61%	32.61%	32.61%
City of San Diego (CSD) Share	67.39%	67.39%	67.39%	67.39%	67.39%
COD	**22.20%**	**22.20%**	**22.20%**	**22.20%**	**22.20%**
PA Share	32.17%	32.17%	32.17%	32.17%	32.17%
CSD Share	67.83%	67.83%	67.83%	67.83%	67.83%
TSS	**22.00%**	**22.00%**	**22.00%**	**22.00%**	**22.00%**
PA Share	35.00%	35.00%	35.00%	35.00%	35.00%
CSD Share	65.00%	65.00%	65.00%	65.00%	65.00%
Metropolitan Regional Wastewater System Cost Allocations per the Regional Joint Power Agreement					
	FY 2021	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**
Metro Expenditures					
Metro O&M	$165,709,006	$174,300,043	$178,441,848	$180,410,216	$183,329,959
Metro and PureWater PAYGO CIP	$34,117,911	($3,532,088)	$29,981,116	($11,660,482)	($6,378,944)
	$72,372,259	$66,680,486	$70,537,741	$60,146,464	$61,417,478
Total Metro Expenditures	**$272,199,175**	**$237,448,441**	**$278,960,705**	**$228,896,197**	**$238,368,494**
Metro Revenue Offsets					
O&M Credits	$9,837,944	$7,450,862	$7,520,842	$7,454,862	$13,460,134
Total Metro Revenue Offsets	**$9,837,944**	**$7,450,862**	**$7,520,842**	**$7,454,862**	**$13,460,134**
PA Billing Adjustments					
TOTAL METRO COSTS	**$262,361,232**	**$229,997,579**	**$271,439,863**	**$221,441,335**	**$224,908,360**
Metro O&M Expenditures					
PA Flow	$21,124,762	$22,612,596	$23,164,439	$23,440,148	$23,021,975
PA COD	$13,247,971	$14,181,036	$14,527,113	$14,700,019	$14,437,770
PA TSS	$17,468,470	$18,698,788	$19,155,117	$19,383,107	$19,037,311
PA Total	**$51,841,203**	**$55,492,419**	**$56,846,669**	**$57,523,273**	**$56,497,056**
City Flow	$43,655,251	$46,729,924	$47,870,332	$48,440,097	$47,575,925
City COD	$27,933,164	$29,900,518	$30,630,217	$30,994,786	$30,441,838
City TSS	$32,441,444	$34,726,320	$35,573,789	$35,997,198	$35,355,007
City Total	**$104,029,859**	**$111,356,762**	**$114,074,338**	**$115,432,081**	**$113,372,769**
Subtotal Metro O&M Expenditures	**$155,871,062**	**$166,849,181**	**$170,921,006**	**$172,955,354**	**$169,869,826**
	TRUE	TRUE	TRUE	TRUE	TRUE

Table B-5
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
Metropolitan Regional Wastewater System Cost Allocations per the Contolling Joint Powers Agreement

	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025
Metro PAYGO CIP Expenditures					
PA Flow	$6,208,225	($642,712)	$5,455,478	($2,121,786)	($1,160,737)
PA COD	$2,436,612	($252,253)	$2,141,173	($832,761)	($455,568)
PA TSS	$2,627,079	($271,971)	$2,308,546	($897,857)	($491,179)
PA Total	**$11,271,916**	**($1,166,936)**	**$9,905,197**	**($3,852,404)**	**($2,107,483)**
City Flow	$12,829,569	($1,328,193)	$11,273,985	($4,384,763)	($2,398,714)
City COD	$5,137,564	($531,871)	$4,514,634	($1,755,866)	($960,558)
City TSS	$4,878,861	($505,089)	$4,287,300	($1,667,449)	($912,189)
City Total	**$22,845,994**	**($2,365,153)**	**$20,075,919**	**($7,808,078)**	**($4,271,461)**
Subtotal Metro PAYGO CIP Expenditures	**$34,117,911**	**($3,532,088)**	**$29,981,116**	**($11,660,482)**	**($6,378,944)**
	TRUE	TRUE	TRUE	TRUE	TRUE
Metro Debt Service Expenditures					
PA Flow	$13,169,131	$12,133,435	$12,835,315	$10,944,479	$11,175,758
PA COD	$5,168,639	$4,762,147	$5,037,622	$4,295,504	$4,386,277
PA TSS	$5,572,664	$5,134,397	$5,431,406	$4,631,278	$4,729,146
PA Total	**$23,910,434**	**$22,029,979**	**$23,304,343**	**$19,871,261**	**$20,291,180**
City Flow	$27,214,589	$25,074,277	$26,524,744	$22,617,248	$23,095,195
City COD	$10,898,003	$10,040,921	$10,621,756	$9,057,011	$9,248,404
City TSS	$10,349,233	$9,535,310	$10,086,897	$8,600,944	$8,782,699
City Total	**$48,461,825**	**$44,650,507**	**$47,233,397**	**$40,275,203**	**$41,126,298**
Subtotal Metro Debt Service Expenditures	**$72,372,259**	**$66,680,486**	**$70,537,741**	**$60,146,464**	**$61,417,478**
	FALSE	TRUE	TRUE	TRUE	FALSE
TOTAL	**$262,361,232**	**$229,997,579**	**$271,439,863**	**$221,441,335**	**$224,908,360**
	TRUE	TRUE	TRUE	TRUE	TRUE
Total Metro Allocation					
Total PA Cost	$87,023,553	$76,355,463	$90,056,209	$73,542,130	$74,680,753
Total City Cost	$175,337,678	$153,642,116	$181,383,654	$147,899,206	$150,227,607
% PA Cost	33.2%	33.2%	33.2%	33.2%	33.2%
% City Cost	66.8%	66.8%	66.8%	66.8%	66.8%
Metro O&M					
% PA Cost	33.3%	33.3%	33.3%	33.3%	33.3%
% City Cost	66.7%	66.7%	66.7%	66.7%	66.7%
Metro and PureWater PAYGO CIP					
% PA Cost	33.0%	33.0%	33.0%	33.0%	33.0%
% City Cost	67.0%	67.0%	67.0%	67.0%	67.0%
% PA Cost	33.0%	33.0%	33.0%	33.0%	33.0%
% City Cost	67.0%	67.0%	67.0%	67.0%	67.0%

Table B-6
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
FY 2022 Assignment of Metropolitan Subsystem Operating Costs to Functions

FY 2022 O&M Budget Before Assignment to Functions			O&M Before Allocation of Change in Cash			Allocation of Change in Cash			O&M After Allocation of Change in Cash		
			MUNI	METRO		MUNI	METRO		MUNI	METRO	
Division Title		Cmmt Item Grp	700000	700001	Grand Total	700000	700001	Grand Total	700000	700001	Grand Total
Customer Support Services	200013	Customer Support Service Total	$6,624,256	$0	$6,624,256	$343,951	$0	$343,951	$6,968,207	$0	$6,968,207
Employee Services & Quality Assurance	200012	Employee Services & Quality Assurance Total	$3,613,600	$7,030,283	$10,643,883	$187,629	$377,744	$565,373	$3,801,229	$7,408,027	$11,209,256
Environmental Monitoring & Technical Services	200016	EMTS Total	$6,745,995	$18,350,953	$25,096,948	$350,272	$986,016	$1,336,288	$7,096,267	$19,336,968	$26,433,235
Engineering Program Management	200015	EPM Total	$6,368,850	$4,777,043	$11,145,893	$330,689	$256,675	$587,365	$6,699,539	$5,033,718	$11,733,258
Finance & Budget	200011	FIT Total	$6,978,531	$11,065,903	$18,044,434	$362,346	$594,582	$956,928	$7,340,877	$11,660,485	$19,001,362
Innovation & Technology	200023	IT Total	$649,722	$1,136,535	$1,786,257	$33,735	$61,067	$94,803	$683,457	$1,197,602	$1,881,060
Long Range Planning	200014	Long Range Planning Total	$0	$0	$0	$0	$0	$0	$0	$0	$0
Department Management	200000	Department Management Total	$16,586,089	$15,540,241	$32,126,330	$861,199	$834,993	$1,696,192	$17,447,288	$16,375,234	$33,822,522
Pure Water		Pure Water Total	$0	$7,650,472	$7,650,472	$0	$411,068	$411,068	$0	$8,061,540	$8,061,540
Recycled Water		Recycled Water Total	$0	$0	$0	$0	$0	$0	$0	$0	$0
Wastewater Collection	200018	Wastewater Collection Total	$43,687,408	$0	$43,687,408	$2,268,379	$0	$2,268,379	$45,955,787	$0	$45,955,787
Wastewater Treatment	200019	WWTD Total	$6,638,748	$102,883,328	$109,522,076	$344,703	$5,528,027	$5,872,731	$6,983,451	$108,411,355	$115,394,806
Water Systems Operations & Water Construction Maintenance	200021	WSO & WCM	$2,495,714	$0	$2,495,714	$129,585	$0	$129,585	$2,625,299	$0	$2,625,299
Water Systems Operations	200021	Water System Operations Total	$0	$5,865,286	$5,865,286	$0	$0	$0	$0	$5,865,286	$5,865,286
		Grand Total	**$100,388,913**	**$174,300,043**	**$274,688,956**	**$5,212,489**	**$9,050,173**	**$14,262,662**	**$105,601,402**	**$183,350,216**	**$288,951,618**

FY 2022 Assignment of Metropolitan Subsystem O&M to Functions			Engineering		General and Administrative		Operational Support		Quality Control			
Division Title		Cmmt Item Grp	Environmental Support	Program Management & Review	Business Support Admin	Operating Division Admin	Central Support Comnet/Comc	Operational Support	Industrial Permitting and Compliance	Marine Biology & Ocean Operations	Sewage Testing and Control	Wastewater Chemistry Services
Customer Support Services	200013	Customer Support Service Total	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Employee Services & Quality Assurance	200012	Employee Services & Quality Assurance Total	$0	$0	$7,408,027	$0	$0	$0	$0	$0	$0	$0
Environmental Monitoring & Technical Services	200016	EMTS Total	$0	$0	$0	$3,275,094	$0	$0	$22,082	$7,268,995	$530,698	$8,240,099
Engineering Program Management	200015	EPM Total	$290,584	$3,997,369	$0	$745,765	$0	$0	$0	$0	$0	$0
Finance & Information Technology	200011	FIT Total	$0	$0	$11,660,485	$0	$0	$0	$0	$0	$0	$0
Information Technology	99	IT Total	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
LPR&WR	200014	Long Range Planning Total	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Department Management	200000	Department Management Total	$0	$0	$16,072,243	$0	$0	$302,991	$0	$0	$0	$0
Pure Water		Pure Water Total	$50,480	$8,011,060	$0	$0	$0	$0	$0	$0	$0	$0
Recycled Water		Recycled Water Total	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Wastewater Collection	200018	Wastewater Collection Total	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Wastewater Treatment	200019	WWTD Total	$0	$0	$0	$4,953,705	$6,966,442	$5,921,356	$0	$0	$0	$0
Water Systems Operations & Water Construction Maintenance	200021	WSO & WCM	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Water Systems Operations	200021	Water System Operations Total	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
		Grand Total	**$341,064**	**$12,008,429**	**$35,140,755**	**$8,974,564**	**$6,966,442**	**$6,224,347**	**$22,082**	**$7,268,995**	**$530,698**	**$8,240,099**

FY 2022 Assignment of Metropolitan Subsystem O&M to Functions			Transmission							
Division Title		Cmmt Item Grp	Main Cleaning	Other Muni Agencies	Other Pump Stations	Pipeline Maintenance & Repair	Pump Station 1	Pump Station 2	Sewer Pump Stations	WWC Engineering & Planning
Customer Support Services	200013	Customer Support Service Total	$0	$0	$0	$0	$0	$0	$0	$0
Employee Services & Quality Assurance	200012	Employee Services & Quality Assurance Total	$0	$0	$0	$0	$0	$0	$0	$0
Environmental Monitoring & Technical Services	200016	EMTS Total	$0	$0	$0	$0	$0	$0	$0	$0
Engineering Program Management	200015	EPM Total	$0	$0	$0	$0	$0	$0	$0	$0
Finance & Information Technology	200011	FIT Total	$0	$0	$0	$0	$0	$0	$0	$0
Information Technology	99	IT Total	$0	$0	$0	$0	$0	$0	$0	$0
LPR&WR	200014	Long Range Planning Total	$0	$0	$0	$0	$0	$0	$0	$0
Department Management	200000	Department Management Total	$0	$0	$0	$0	$0	$0	$0	$0
Pure Water		Pure Water Total	$0	$0	$0	$0	$0	$0	$0	$0
Recycled Water		Recycled Water Total	$0	$0	$0	$0	$0	$0	$0	$0
Wastewater Collection	200018	Wastewater Collection Total	$0	$0	$0	$0	$0	$0	$0	$0
Wastewater Treatment	200019	WWTD Total	$0	$0	$1,239,173	$0	$3,261,580	$8,405,878	$0	$0
Water Systems Operations & Water Construction Maintenance	200021	WSO & WCM	$0	$0	$0	$0	$0	$0	$0	$0
Water Systems Operations	200021	Water System Operations Total	$0	$0	$0	$0	$0	$0	$0	$0
		Grand Total	**$0**	**$0**	**$1,239,173**	**$0**	**$3,261,580**	**$8,405,878**	**$0**	**$0**

FY 2022 Assignment of Metropolitan Subsystem O&M to Functions			Treatment and Disposal						
Division Title		Cmmt Item Grp	Cogen Facilities	GUF	MBC	NCWRP	PTLWWTP	SBWRP	WWTD Plant Engineering
Customer Support Services	200013	Customer Support Service Total	$0	$0	$0	$0	$0	$0	$0
Employee Services & Quality Assurance	200012	Employee Services & Quality Assurance Total	$0	$0	$0	$0	$0	$0	$0
Environmental Monitoring & Technical Services	200016	EMTS Total	$0	$0	$0	$0	$0	$0	$0
Engineering Program Management	200015	EPM Total	$0	$0	$0	$0	$0	$0	$0
Finance & Information Technology	200011	FIT Total	$0	$0	$0	$0	$0	$0	$0
Information Technology	99	IT Total	$0	$0	$0	$0	$0	$0	$0
LPR&WR	200014	Long Range Planning Total	$0	$0	$0	$0	$0	$0	$0
Department Management	200000	Department Management Total	$0	$0	$0	$0	$0	$0	$0
Pure Water		Pure Water Total	$0	$0	$0	$0	$0	$0	$0
Recycled Water		Recycled Water Total	$0	$0	$0	$0	$0	$0	$0
Wastewater Collection	200018	Wastewater Collection Total	$0	$0	$0	$0	$0	$0	$0

Table B-6
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
FY 2022 Assignment of Metropolitan Subsystem Operating Costs to Functions

Wastewater Treatment	200019	WWTD Total	$1,059,606	$1,720,152	$21,361,591	$12,688,933	$25,788,665	$10,425,350	$885,430		
Water Systems Operations & Water Construction Maintenance	200021	WSO & WCM	$0	$0	$0	$0	$0	$0	$0		
Water Systems Operations	200021	Water System Operations Total	$0	$0	$0	$0	$0	$0	$0		
		Grand Total	**$1,059,606**	**$1,720,152**	**$21,361,591**	**$12,688,933**	**$25,788,665**	**$10,425,350**	**$885,430**		

FY 2022 Assignment of Metropolitan Subsystem O&M to Functions			Customer				Total Metro O&M Before Assignment to Functions	Total Metro O&M After Assignment to Functions	Difference		
Division Title		Cmmt Item Grp	Meters and Services	Billing	Recycled						
Customer Support Services	200013	Customer Support Service Total	$0	$0	$0		$0	$0	$0		
Employee Services & Quality Assurance	200012	Employee Services & Quality Assurance Total	$0	$0	$0		$7,408,027	$7,408,027	$0		
Environmental Monitoring & Technical Services	200016	EMTS Total	$0	$0	$0		$19,336,968	$19,336,968	$0		
Engineering Program Management	200015	EPM Total	$0	$0	$0		$5,033,718	$5,033,718	$0		
Finance & Information Technology	200011	FIT Total	$0	$0	$0		$11,660,485	$11,660,485	$0		
Information Technology	99	IT Total	$0	$1,197,602	$0		$1,197,602	$1,197,602	$0		
LPR&WR	200014	Long Range Planning Total	$0	$0	$0		$0	$0	$0		
Department Management	200000	Department Management Total	$0	$0	$0		$16,375,234	$16,375,234	$0		
Pure Water		Pure Water Total	$0	$0	$0		$8,061,540	$8,061,540	$0		
Recycled Water		Recycled Water Total	$0	$0	$0		$0	$0	$0		
Wastewater Collection	200018	Wastewater Collection Total	$0	$0	$0		$0	$0	$0		
Wastewater Treatment	200019	WWTD Total	$0	$0	$3,733,494		$108,411,355	$108,411,355	$0		
Water Systems Operations & Water Construction Maintenance	200021	WSO & WCM	$0	$0	$0		$0	$0	$0		
Water Systems Operations	200021	Water System Operations Total	$0	$0	$5,865,286		$5,865,286	$5,865,286	$0		
		Grand Total	**$0**	**$1,197,602**	**$9,598,780**		**$183,350,216**	**$183,350,216**	**$0**		

Table B-7
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
FY 2022 Allocaiton of Metropolitan Subsystem Operating Costs to Demand Parameters

	FY 2022 Allocation of Metropolitan Sub-System O&M to Demand Parameters							FY 2022 Allocation of Metropolitan Sub-System O&M to Demand Parameters						
	Volume-Related			Customer-Related				Volume-Related			Customer-Related			
Function	FLOW %	COD %	TSS %	Meters and Services	Billing	Recycled	Total	FLOW	COD	TSS	Meters and Services	Billing	Recycled	Total
Engineering														
Environmental Support	45.00%	30.00%	25.00%				100.00%	$153,479	$102,319	$85,266	$0	$0	$0	$341,064
Program Management & Review	45.00%	30.00%	25.00%				100.00%	$5,403,793	$3,602,529	$3,002,107	$0	$0	$0	$12,008,429
								$5,557,272	$3,704,848	$3,087,373	$0	$0	$0	$12,349,493
General and Administrative														
Business Support Admin	45.00%	30.00%	25.00%				100.00%	$15,813,340	$10,542,227	$8,785,189	$0	$0	$0	$35,140,755
Operating Division Admin	45.00%	30.00%	25.00%				100.00%	$4,038,554	$2,692,369	$2,243,641	$0	$0	$0	$8,974,564
								$19,851,894	$13,234,596	$11,028,830	$0	$0	$0	$44,115,320
Operational Support														
Central Support Comnet/Comc	45.00%	30.00%	25.00%				100.00%	$3,134,899	$2,089,932	$1,741,610	$0	$0	$0	$6,966,442
Operational Support	45.00%	30.00%	25.00%				100.00%	$2,800,956	$1,867,304	$1,556,087	$0	$0	$0	$6,224,347
								$5,935,855	$3,957,237	$3,297,697	$0	$0	$0	$13,190,789
Quality Control														
Industrial Permitting and Compliance	45.00%	30.00%	25.00%				100.00%	$9,937	$6,625	$5,521	$0	$0	$0	$22,082
Marine Biology & Ocean Operations	30.00%	40.00%	30.00%				100.00%	$2,180,698	$2,907,598	$2,180,698	$0	$0	$0	$7,268,995
Sewage Testing and Control	45.00%	30.00%	25.00%				100.00%	$238,814	$159,210	$132,675	$0	$0	$0	$530,698
Wastewater Chemistry Services	30.00%	40.00%	30.00%				100.00%	$2,472,030	$3,296,040	$2,472,030	$0	$0	$0	$8,240,099
								$4,901,479	$6,369,472	$4,790,923	$0	$0	$0	$16,061,875
Transmission														
Main Cleaning	100.00%						100.00%	$0	$0	$0	$0	$0	$0	$0
Other Muni Agencies	100.00%						100.00%	$0	$0	$0	$0	$0	$0	$0
Other Pump Stations	100.00%						100.00%	$1,239,173	$0	$0	$0	$0	$0	$1,239,173
Pipeline Maintenance & Repair	100.00%						100.00%	$0	$0	$0	$0	$0	$0	$0
Pump Station 1	100.00%						100.00%	$3,261,580	$0	$0	$0	$0	$0	$3,261,580
Pump Station 2	100.00%						100.00%	$8,405,878	$0	$0	$0	$0	$0	$8,405,878
Sewer Pump Stations	100.00%						100.00%	$0	$0	$0	$0	$0	$0	$0
WWC Engineering & Planning	100.00%						100.00%	$0	$0	$0	$0	$0	$0	$0
								$12,906,631	$0	$0	$0	$0	$0	$12,906,631
Treatment and Disposal														
Cogen Facilities	0.00%	60.00%	40.00%				100.00%	$0	$635,764	$423,842	$0	$0	$0	$1,059,606
GUF	0.00%	60.00%	40.00%				100.00%	$0	$1,032,091	$688,061	$0	$0	$0	$1,720,152
MBC	0.00%	50.00%	50.00%				100.00%	$0	$10,680,795	$10,680,795	$0	$0	$0	$21,361,591
NCWRP	75.00%	10.00%	15.00%				100.00%	$9,516,699	$1,268,893	$1,903,340	$0	$0	$0	$12,688,933
PTLWWTP	35.00%	40.00%	25.00%				100.00%	$9,026,033	$10,315,466	$6,447,166	$0	$0	$0	$25,788,665
SBWRP	75.00%	10.00%	15.00%				100.00%	$7,819,013	$1,042,535	$1,563,803	$0	$0	$0	$10,425,350
WWTD Plant Engineering	45.00%	30.00%	25.00%				100.00%	$398,444	$265,629	$221,358	$0	$0	$0	$885,430
								$26,760,188	$25,241,173	$21,928,365	$0	$0	$0	$73,929,727
Customer														
Meters and Services				100.00%			100.00%	$0	$0	$0	$0	$0	$0	$0
Billing					100.00%		100.00%	$0	$0	$0	$0	$1,197,602	$0	$1,197,602
								$0	$0	$0	$0	$1,197,602	$0	$1,197,602
Recycled						100.00%	100.00%	$0	$0	$0	$0	$0	$9,598,780	$9,598,780
								$0	$0	$0	$0	$0	$9,598,780	$9,598,780
								$75,913,319	$52,507,326	$44,133,188	$0	$1,197,602	$9,598,780	$183,350,216
								41.40%	28.64%	24.07%	0.00%	0.65%	5.24%	100.00%

Table B-8
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
FY 2022 Allocation of Metropolitan Subsystem Non-Rate Revenues to Demand Parameters

	FY 2022 Allocation of Metropolitan Sub-System Rev. Offsets to Demand Parameters							FY 2022 Allocation of Metropolitan Sub-System Rev. Offsets to Demand Parameters						
	Volume-Related			Customer-Related				Volume-Related			Customer-Related			
Functional Component	FLOW %	COD %	TSS %	Meters and Services	Billing	Recycled	Total	FLOW	COD	TSS	Meters and Services	Billing	Recycled	Total
Other Operating Revenues														
Maint & Operation Metro	45.00%	30.00%	25.00%				100.00%	$36,000,000	$24,000,000	$20,000,000	$0	$0	$0	$80,000,000
Services Rendered Other Funds														
Reimbursements Between Funds/Depts	43.99%	30.43%	25.58%				100.00%	$679,971	$470,319	$395,310	$0	$0	$0	$1,545,600
Other Services To Outside	43.99%	30.43%	25.58%				100.00%	$329,955	$228,221	$191,824	$0	$0	$0	$750,000
IWCP Notice of Violation Fees					100.00%		100.00%	$0	$0	$0	$0	$22,215	$0	$22,215
IWCP Industrial User Discharge Permit Fees	45.00%	30.00%	25.00%				100.00%	$67,972	$45,315	$37,762	$0	$0	$0	$151,049
Interest Earnings on Operating Fund	41.40%	28.64%	24.07%	0.00%	0.65%	5.24%	100.00%	$791,066	$547,161	$459,897	$0	$12,480	$100,026	$1,910,629
								$37,895,118	$25,308,451	$21,099,322	$0	$34,695	$100,026	$84,437,612
								44.88%	29.97%	24.99%	0.00%	0.04%	0.12%	100.00%

Table B-9
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
Functionalization of Assets

Summary of Asset Values as of June 30, 2019					Projected Inflation Adjusted CIP						FY 2025 Assets by Function			
Asset Type	Acquisition Value	Book Value	Replacement Cost New	Replacement Cost New Less Depreciation	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	RCN at June 30, 2019 + Projected CIP Expenditures	% of Total	Pure Water + Metro	% of Total
Muni Baseline														
Large Sewer Pump Station	$51,737,176	$28,646,634	$85,292,558	$40,252,828	$0	$0	$0	$0	$0	$0	$85,292,558	1.4%		
Muni Pump Station	$168,077,548	$102,298,841	$280,155,574	$162,154,563	$3,279,958	$1,973,277	$1,273,832	$866,055	$1,637,017	$6,352,240	$295,537,953	4.8%		
Miscellaneous Projects	$278,700,622	$191,382,914	$490,877,538	$317,998,223	($3,769,224)	$1,020,937	$1,929,422	$3,796,748	$8,452,743	$9,904,757	$512,212,920	8.3%		
AMI					$4,220,580	$259,214	$1,280,151	$1,628,257	$3,628,647	$4,735,728	$15,752,578	0.3%		
Sewer Pipelines	$2,184,138,318	$1,660,044,161	$4,298,682,652	$2,747,221,951	$76,042,931	$93,511,612	$68,353,540	$69,031,134	$84,080,221	$58,353,277	$4,748,055,367	76.6%		
Sewer Treatment Plants	$73,337,974	$26,253,294	$175,763,102	$48,379,107	$0	$0	$0	$0	$0	$0	$175,763,102	2.8%		
Trunk Sewers	$166,560,624	$141,873,209	$214,980,778	$178,843,515	$8,363,122	$35,872,789	$53,397,987	$17,276,809	$12,202,417	$20,721,344	$362,815,247	5.9%		
PW-CF					$0	$0	$0	$0	$0	$0	$0	0.0%		
PW-Demo					$0	$0	$0	$0	$0	$0	$0	0.0%		
PW-NC					$0	$0	$0	$0	$0	$0	$0	0.0%		
Recycled Water					$0	$0	$0	$0	$0	$0	$0	0.0%		
SDG&E Relocation					$0	$0	$0	$0	$0	$0	$0	0.0%		
Total Muni Assets	$2,922,552,262	$2,150,499,053	$5,545,752,201	$3,494,850,187	$88,137,368	$132,637,829	$126,234,932	$92,599,004	$110,001,045	$100,067,346	$6,195,429,724	100.0%		
Metro Baseline														
Large Sewer Pump Station	$125,145,291	$72,493,276	$341,803,139	$102,101,609	$22,511,024	$12,537,005	$5,166,007	$6,817,894	$7,068,935	$1,074,050	$396,978,055	10.1%	$396,978,055	8.7%
Muni Pump Stations	$982,919	$22,436	$1,930,585	$31,478	$0	$0	$0	$0	$0	$0	$1,930,585	0.0%	$1,930,585	0.0%
Miscellaneous Projects	$98,209,819	$29,722,013	$174,827,097	$48,071,834	$481,749	$1,108,500	$4,471,460	$6,753,458	$20,588,142	$24,259,497	$232,489,903	5.9%	$232,489,903	5.1%
AMI					$0	$0	$0	$0	$0	$0	$0	0.0%	$0	0.0%
Pipelines	$386,893,902	$275,844,052	$903,642,029	$487,338,632	$0	$0	$0	$0	$0	$0	$903,642,029	22.9%	$903,642,029	19.9%
Sewer Treatment Plants	$1,139,333,734	$649,076,563	$2,209,027,091	$1,127,709,493	$7,919,586	$8,008,528	$29,418,709	$34,196,764	$19,651,635	$10,919,341	$2,319,141,654	58.9%	$2,319,141,654	51.1%
Trunk Sewers	$32,379,005	$21,955,878	$54,940,114	$34,762,731	$671,614	$550,000	$3,535,000	$7,453,210	$8,978,189	$6,390,663	$82,518,790	2.1%	$82,518,790	1.8%
PW-CF					$0	$0	$0	$0	$0	$0	$0	0.0%	$7,856,614	0.2%
PW-Demo					$0	$0	$0	$0	$0	$0	$0	0.0%	$17,293,807	0.4%
PW-NC					$0	$0	$0	$0	$0	$0	$0	0.0%	$573,645,899	12.6%
Recycled Water					$0	$500,000	$350,000	$360,856	$372,049	$383,589	$1,966,495	0.0%	$1,966,495	0.043%
SDG&E Relocation					$0	$0	$0	$0	$0	$0	$0	0.0%		0.0%
Total Metro Assets	$1,782,944,669	$1,049,114,218	$3,686,170,056	$1,800,015,777	$31,583,973	$22,704,033	$42,941,176	$55,582,183	$56,658,950	$43,027,140	$3,938,667,511	100.0%	$4,537,463,831	100.0%
Pure Water														
Large Sewer Pump Station					$0	$0	$0	$0	$0	$0	$0	0.0%		
Muni Pump Station					$0	$0	$0	$0	$0	$0	$0	0.0%		
Miscellaneous Projects					$0	$0	$0	$0	$0	$0	$0	0.0%		
AMI					$0	$0	$0	$0	$0	$0	$0	0.0%		
Sewer Pipelines					$0	$0	$0	$0	$0	$0	$0	0.0%		
Sewer Treatment Plants					$0	$0	$0	$0	$0	$0	$0	0.0%		
Trunk Sewers					$0	$0	$0	$0	$0	$0	$0	0.0%		
PW-CF					$0	$0	$0	$596,303	$3,574,715	$3,685,595	$7,856,614	1.3%		
PW-Demo					$0	$822,349	$222,349	$9,289,314	$6,866,804	$92,991	$17,293,807	2.9%		
PW-NC	$13,052,888	$13,052,888	$13,451,716	$13,451,716	$16,331,125	$40,726,877	$157,207,252	$179,079,378	$98,779,947	$39,622,736	$545,199,031	91.0%		
Recycled Water					$0	$0	$0	$0	$0	$0	$0	0.0%		
SDG&E Relocation					$0	$0	$28,446,868	$0	$0	$0	$28,446,868	4.8%		
Total Pure Water Assets	$13,052,888	$13,052,888	$13,451,716	$13,451,716	$16,331,125	$41,549,225	$185,876,468	$188,964,996	$109,221,466	$43,401,323	$598,796,320	100.0%		
Total	**$4,718,549,820**	**$3,212,666,159**	**$9,245,373,973**	**$5,308,317,680**	**$136,052,465**	**$196,891,088**	**$355,052,577**	**$337,146,182**	**$275,881,461**	**$186,495,809**				

Table B-10
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
FY 2020 Allocation of the Capital Cost Revenue Requirement to Functions

FY 2022 Muni Capital Cost Revenue Requirement by Function					FY 2022 Metro Capital Cost Revenue Requirement by Function			
Capital Cost Revenue Requirement			Muni		Capital Cost Revenue Requirement			Metro
Debt Service			$42,479,289		Debt Service			$66,692,571
Transfers			($11,565,068)		Transfers			($3,532,088)
Change in Cash			$2,205,650		Change in Cash			$3,462,875
Total Capital Cost Revenue Requirment			$33,119,872		Total Capital Cost Revenue Requirment			$66,623,358
			TRUE					TRUE
Functionalized Capital Cost Revenue Requirment	Asset Percentages	Allocated Amount	Amount		Functionalized Capital Cost Revenue Requirment	Asset Percentages	Allocated Amount	Amount
Large Sewer Pump Station	1.38%	$455,962	$455,962		Large Sewer Pump Station	8.75%	$5,828,809	$5,828,809
Muni Pump Station	4.77%	$1,579,903	$1,579,903		Muni Pump Station	0.04%	$28,347	$28,347
Miscellaneous Projects	8.27%	$2,738,216	$2,738,216		Miscellaneous Projects	5.12%	$3,413,638	$3,413,638
AMI	0.25%	$84,211	$84,211		AMI	0.00%	$0	$0
Sewer Pipelines	76.64%	$25,382,418	$25,382,418		Sewer Pipelines	19.92%	$13,268,131	$13,268,131
Sewer Treatment Plants	2.84%	$939,604	$939,604		Sewer Treatment Plants	51.11%	$34,051,843	$34,051,843
Trunk Sewers	5.86%	$1,939,558	$1,939,558		Trunk Sewers	1.82%	$1,211,619	$1,211,619
PW-CF	0.00%	$0	$0		PW-CF	0.17%	$115,358	$115,358
PW-Demo	0.00%	$0	$0		PW-Demo	0.38%	$253,924	$253,924
PW-NC	0.00%	$0	$0		PW-NC	12.64%	$8,422,815	$8,422,815
Recycled Water	0.00%	$0	$0		Recycled Water	0.04%	$28,874	$28,874
Total Capital Cost Rev. Req.	100.00%	$33,119,872	$33,119,872		Total Capital Cost Rev. Req.	100.00%	$66,623,358	$66,623,358
			TRUE					TRUE
					Total Capital Cost Revenue Requirement			$99,743,230
								TRUE

Table B-11
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
FY 2022 Allocation of the Municipal Subsystem Capital Cost Revenue Requirement to Demand Parameters

Function	FY 2022 % Allocation of Municipal Sub-System Capital Costs to Demand Parameters						
	Total	Volume-Related			Customer-Related		Recycled
		FLOW %	COD %	TSS %	Meters and Services	Billing	
Large Sewer Pump Station	100%	100.00%					
Muni Pump Station	100%	100.00%					
Miscellaneous Projects	100%	100.00%					
AMI	100%					100.00%	
Sewer Pipelines	100%	0.00%			100.00%		
Sewer Treatment Plants	100%	100.00%					
Trunk Sewers	100%	100.00%					

Function	FY 2022 $ Allocation of Municipal Sub-System Capital Costs to Demand Parameters						
	Total	Volume-Related			Customer-Related		Recycled
		FLOW	COD	TSS	Meters and Services	Billing	
Large Sewer Pump Station	$455,962	$455,962	$0	$0	$0	$0	$0
Muni Pump Station	$1,579,903	$1,579,903	$0	$0	$0	$0	$0
Miscellaneous Projects	$2,738,216	$2,738,216	$0	$0	$0	$0	$0
AMI	$84,211	$0	$0	$0	$0	$84,211	$0
Sewer Pipelines	$25,382,418	$0	$0	$0	$25,382,418	$0	$0
Sewer Treatment Plants	$939,604	$939,604	$0	$0	$0	$0	$0
Trunk Sewers	$1,939,558	$1,939,558	$0	$0	$0	$0	$0
Total	$33,119,872	$7,653,243	$0	$0	$25,382,418	$84,211	$0
Total %	100.0%	23.1%	0.0%	0.0%	76.6%	0.3%	0.0%

Table B-12
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
FY 2022 Allocation of the Metropolitan Subsystem Capital Cost Revenue Requirement to Demand Parameters

	FY 2022 % Allocation of Metropolitan Sub-System Capital Costs to Demand Parameters						
		Volume-Related			Customer-Related		
Function	Total	FLOW %	COD %	TSS %	Meters and Services	Billing	Recycled
Large Sewer Pump Station	100%	55.46%	21.87%	22.08%			0.596%
Muni Pump Station	100%	55.46%	21.87%	22.08%			0.596%
Miscellaneous Projects	100%	55.46%	21.87%	22.08%			0.596%
AMI	0%						
Sewer Pipelines	100%	55.46%	21.87%	22.08%			0.596%
Sewer Treatment Plants	100%	55.46%	21.87%	22.08%			0.596%
Trunk Sewers	100%	55.46%	21.87%	22.08%			0.596%
PW-CF	100%	55.46%	21.87%	22.08%			0.596%
PW-Demo	100%	55.46%	21.87%	22.08%			0.596%
PW-NC	100%	55.46%	21.87%	22.08%			0.596%
Recycled Water	100%	0.00%					100.00%

	FY 2022 $ Allocation of Metropolitan Sub-System Capital Costs to Demand Parameters						
		Volume-Related			Customer-Related		
Function	Total	FLOW	COD	TSS	Meters and Services	Billing	Recycled
Large Sewer Pump Station	$5,828,809	$3,232,788	$1,274,565	$1,286,711	$0	$0	$34,745
Muni Pump Station	$28,347	$15,722	$6,198	$6,258	$0	$0	$169
Miscellaneous Projects	$3,413,638	$1,893,280	$746,448	$753,561	$0	$0	$20,349
AMI	$0	$0	$0	$0	$0	$0	$0
Sewer Pipelines	$13,268,131	$7,358,803	$2,901,295	$2,928,942	$0	$0	$79,091
Sewer Treatment Plants	$34,051,843	$18,885,915	$7,445,996	$7,516,950	$0	$0	$202,982
Trunk Sewers	$1,211,619	$671,991	$264,941	$267,465	$0	$0	$7,222
PW-CF	$115,358	$63,980	$25,225	$25,465	$0	$0	$688
PW-Demo	$253,924	$140,832	$55,525	$56,054	$0	$0	$1,514
PW-NC	$8,422,815	$4,671,482	$1,841,787	$1,859,338	$0	$0	$50,208
Recycled Water	$28,874	$0	$0	$0	$0	$0	$28,874
SDG&E Relocation	$0	$0	$0	$0	$0	$0	$0
Readiness-to-Serve Adj.	$0	$0	$0	$0	$0	$0	
Total	$66,623,358.19	$36,934,793.19	$14,561,980.70	$14,700,743.18	$0.00	$0.00	$425,841.11
Total %	100.0%	55.4%	21.9%	22.1%	0.0%	0.0%	0.6%

Table B-13
City of San Diego
Wastewater Financial Plan, Cost of Service, and Rate Study
FY 2022 Units of Service

FY 2022 Units of Service Calculation									
Customer Class	Estimated Test-Year Billed Flow (HCF) (Note 1)	Estimated Return Factor	Test-Year Flow Used in Mass Balance (HCF)	Est. Test Year Flow for Mass Balance Analysis (MGD)	Estimated Test Year COD Strength (mg/L)	Estimated Test Year COD Pounds	Estimated Test Year TSS Strength (mg/L)	Estimated Test Year TSS Pounds	Source of Strength Loadings
Single Family Residential	17,778,264	95.0%	16,889,351	34.61	766.4	80,804,549.5	291.9	30,771,627	Huy Nguyen, City of San Diego
Multi-Family Residential	14,006,986	95.0%	13,306,637	27.27	766.4	63,663,594.7	291.9	24,244,085	Set to Match SFR
Commercial / Industrial	14,161,621	100.0%	14,161,621	29.02	713.6	63,079,885.6	274.4	24,253,460	Actual 2020 Billing Data
Total Retail	45,946,871		44,357,609	90.90	749.6	207,548,029.8	286.3	**79,269,173**	
Other (Navy, Prisons)	1,668,513	100.0%	1,668,513	3.42	651.0	6,780,466.5	273.0	2,843,421	Navy prisons Flow-Load FY18
Total Other (Navy, Prisons)	1,668,513		1,668,513	3.42	651.0	6,780,466.5	273.0	2,843,421	
Trucked Waste	88,808	100.0%	88,808	0.18	9,474.5	5,252,430.0	8,208.2	4,550,412	Raftelis Estimate
Imported Flows (Groundwater Discharge)	133,681	100.0%	133,681	0.27	100.0	83,448.5	50.0	41,724	
Total Trucked Waste	222,489		222,489	0.46	3,841.9	5,335,878.4	3,306.4	4,592,137	
Stormwater Transportation	363,828	100.0%	363,828	0.75	320.0	726,767.5	88.0	199,861	Inv# 1000264730
Total Storewater Transportation	363,828		363,828	0.75	320.0	726,767.5	88.0	199,861	
Total Billed Flow	**48,201,701**		**46,612,439**	**95.52**	**757.4**	**220,391,142.2**	**298.7**	**86,904,592**	
	4.40%								
Estimated I/I	2,120,875		1,951,735	4.00	276.0	3,362,628.3	154.0	1,876,249	Huy Nguyen, City of San Diego
Total Estimated I/I	2,120,875		1,951,735	4.00	276.0	3,362,628.3	154.0	1,876,249	
Estimated Contributed Flow	**50,322,576**		**48,564,174**	**99.52**	**738.1**	**223,753,771**	**292.9**	**88,780,841**	
Note 1: Residential customer are billed based on water water usage. C/I and Other are based on estimated return flow									

Table B-14
City of San Diego
Wastewater Rate and Fee Study
Units of Service Calculation
FY 2022

Summary Units of Service After the Allocation of I/I

FY 2022 Billed Units of Service			
Billed Units of Service			
Customer Class	Flow (HCF))	COD Pounds	TSS Pounds
Single Family Residential	17,778,264		
Multi-Family Residential	14,006,986		
Commercial / Industrial	14,161,621	63,079,886	24,253,460
Other (Navy, Prisons)	1,668,513		
Trucked Waste and Imported Flows	222,489		
Stormwater Transportation	363,828		
Total	48,201,701	63,079,886	24,253,460

FY 2022 Return Flow Units of Service			
Customer Class	Flow (HCF))	COD Pounds	TSS Pounds
Single Family Residential	16,889,351	80,804,550	30,771,627
Multi-Family Residential	13,306,637	63,663,595	24,244,085
Commercial / Industrial	14,161,621	63,079,886	24,253,460
Other (Navy, Prisons)	1,668,513	6,780,466	2,843,421
Trucked Waste and Imported Flows	222,489	5,335,878	4,592,137
Stormwater Transportation	363,828	726,767	199,861
Total	46,612,439	220,391,142	86,904,592

FY 2022 Allocated I/I Units of Service			
Customer Class	Flow (HCF)	COD Pounds	TSS Pounds
Single Family Residential	1,332,027	2,294,938	1,280,509
Multi-Family Residential	323,125	556,710	310,628
Commercial / Industrial	273,163	470,630	262,598
Other (Navy, Prisons)	23,419	40,349	22,514
Trucked Waste and Imported Flows	0	0	0
Stormwater Transportation	0	0	0
Total	1,951,735	3,362,628	1,876,249

FY 2022 Total Units of Service			
Customer Class	Flow (HCF)	COD Pounds	TSS Pounds
Single Family Residential	18,221,378	83,099,488	32,052,136
Multi-Family Residential	13,629,762	64,220,305	24,554,713
Commercial / Industrial	14,434,784	63,550,516	24,516,059
Other (Navy, Prisons)	1,691,932	6,820,816	2,865,935
Trucked Waste and Imported Flows	222,489	5,335,878	4,592,137
Stormwater Transportation	363,828	726,767	199,861
Total	48,564,174	223,753,771	88,780,841

	Accounts/EDUs		Flow	
FY 2022 Accounts	Accounts	Percentage	HCF	Percentage
SFR	231,905	83.79%	16,889,351	36.70%
MFR	28,979	10.47%	13,306,637	28.91%
Non-Residential	15,872	5.73%	14,161,621	30.77%
Other (Navy, Prisons)	15	0.01%	1,668,513	3.63%
Trucked Waste and Imported Flows	0	0.00%	0	0.00%
Stormwater Transportation	0	0.00%	0	
Total	276,771	100.00%	46,026,122	100.00%

Allocation of I/I

FY 2022 Allocation of I/I Units						
Allocation of I/I	Estimated Test Year Flow (MGD)	Estimated Test Year Flow (HCF)	Estimated Test Year COD Strength (mg/L)	Estimated Test Year COD Pounds	Estimated Test Year TSS Strengh (mg/L)	Estimated Test Year TSS Pounds
Estimated I/I						
Amount Allocated on Accounts	2.68	1,307,662		2,252,961		1,257,087
Amount Allocated on Flow	1.32	644,072		1,109,667		619,162
Total	4.00	1,951,735	276.00	3,362,628	154.00	1,876,249
I/I Allocated on Accounts						
Single Family Residential	2.25	1,095,684		1,887,744		1,053,307
Multi-Family Residential	0.28	136,917		235,894		131,622
Commercial / Industrial	0.15	74,991		129,201		72,090
Other (Navy, Prisons)	0.00	71		122		68
Trucked Waste and Imported Flows	0.00	0		0		0
Stormwater Transportation						
Total I/I Allocated on Accounts	2.68	1,307,662		2,252,961		1,257,087
I/I Allocated on Volume						
Single Family Residential	0.48	236,343		407,194		227,202
Multi-Family Residential	0.38	186,208		320,817		179,006
Commercial / Industrial	0.41	198,172		341,430		190,508
Other (Navy, Prisons)	0.05	23,349		40,227		22,446
Trucked Waste and Imported Flows	0.00	0		0		0
Stormwater Transportation	0.00	0		0		0
Total I/I Allocated on Volume	1.32	644,072		1,109,667		619,162
Allocated I/I Reconciliation						
Single Family Residential	2.73	1,332,027		2,294,938		1,280,509
Multi-Family Residential	0.66	323,125		556,710		310,628
Commercial / Industrial	0.56	273,163		470,630		262,598
Other (Navy, Prisons)	0.05	23,419		40,349		22,514
Trucked Waste and Imported Flows	0.00	0		0		0
Stormwater Transportation	0.00	0		0		0
Total Allocated I/I	4.00	1,951,735	276.00	3,362,628	154.00	1,876,249

Allocation of I/I Between Accounts & Volume	
% of I/I Allocated on Accounts	67.00%
% of I/I Allocated on Flow	33.00%

Table B-15
City of San Diego
Wastewater Rate and Fee Study
Cost of Service by Customer Class
FY 2022

Revenue Requirement Components

FY 2022 Revenue Requirement Allocations

Revenue Requirement Component	Total	Volume			Customer-Related			Recycled
		FLOW	COD	TSS	Meters and Services	Billing	Readiness to Serve Allocation	
Muni O&M	$105,601,402	$76,265,809	$7,566,057	$6,229,011	$3,969,901	$11,538,643	$0	$31,981
Muni Capital Costs	$33,119,872	$7,653,243	$0	$0	$25,382,418	$84,211	$0	$0
Less: Muni Non-Rate Revenues	$12,213,166	$6,627,425	$2,859,017	$2,381,057	$72,654	$272,452	$0	$561
Muni Net Revenue Requirement from Rates	$126,508,107	$77,291,628	$4,707,039	$3,847,954	$29,279,664	$11,350,402	$0	$31,420
Metro O&M	$183,350,216	$75,913,319	$52,507,326	$44,133,188	$0	$1,197,602		$9,598,780
Metro Capital Costs	$66,623,358	$36,934,793	$14,561,981	$14,700,743	$0	$0	$0	$425,841
Less: Metro Non-Rate Revenues	$84,437,612	$37,895,118	$25,308,451	$21,099,322	$0	$34,695	$0	$100,026
Metro Net Revenue Requirement from Rates	$165,535,963	$74,952,995	$41,760,855	$37,734,610	$0	$1,162,907	$0	$9,924,596
Combined O&M	$288,951,618	$152,179,129	$60,073,382	$50,362,200	$3,969,901	$12,736,245	$0	$9,630,762
Combined Capital Costs	$99,743,230	$44,588,036	$14,561,981	$14,700,743	$25,382,418	$84,211	$0	$425,841
Less: Combined Non-Rate Revenues	$96,650,778	$44,522,542	$28,167,469	$23,480,379	$72,654	$307,147	$0	$100,587
Combined Net Revenue Requirement from Rates	$292,044,070	$152,244,622	$46,467,894	$41,582,564	$29,279,664	$12,513,309	$0	$9,956,016
	TRUE	$240,295,081	Total Volumetric		$41,792,973	Total Customer-Related		
	TRUE							
Combined Net Revenue Requirement from Rates	$292,044,070							
Less: Revenue Requirement Allocated to Recycled Water	$9,956,016							
Net Revenue Req. to be Recovered from WW Customers	$282,088,054							

Unit Cost of Service

FY 2022 Unit Cost of Service Calculation

Customer Class	Flow			COD			TSS			Customer		
	Contributed Flow HCF/Year	Allocated I/I HCF/Year	Total Flow HCF/Year	Contributed COD Lbs/Year	Allocated I/I COS Lbs/Year	Total COS Lbs/Year	Contributed TSS Lbs/Year	Allocated TSS Lbs/Year	Total TSS Lbs/Year	Meters and Service Accounts / EDUs	Bills	Readiness to Serve Accounts/EDUs
Single Family Residential	16,889,351		16,889,351	80,804,550		80,804,550	30,771,627		30,771,627	231,905	2,782,860	231,905
Multi-Family Residential	13,306,637		13,306,637	63,663,595		63,663,595	24,244,085		24,244,085	28,979	347,748	28,979
Commercial / Industrial	14,161,621		14,161,621	63,079,886		63,079,886	24,253,460		24,253,460	15,872	190,464	15,872
Subtotal	44,357,609		44,357,609	207,548,030		207,548,030	79,269,173		79,269,173	276,756	3,321,072	276,756
Other (Navy, Prisons)	1,668,513		1,668,513	6,780,466		6,780,466	2,843,421		2,843,421	15	180	15
Subtotal	1,668,513		1,668,513	6,780,466		6,780,466	2,843,421		2,843,421	15	180	15
Total Before I/I Allocation	46,026,122		46,026,122	214,328,496		214,328,496	82,112,594		82,112,594			
Trucked Waste and Imported Flows	222,489		222,489	5,335,878		5,335,878	4,592,137		4,592,137			
Subtotal	222,489		222,489	5,335,878		5,335,878	4,592,137		4,592,137	0	0	0
Stormwater Transportation	363,828		363,828	726,767		726,767	199,861		199,861			
Subtotal	363,828		363,828	726,767		726,767	199,861		199,861	0	0	0
I/I (Total)	1,951,735		1,951,735	3,362,628		3,362,628	1,876,249		1,876,249			
Total Contributed Units	48,564,174		48,564,174	223,753,771		223,753,771	88,780,841		88,780,841	276,771	3,321,252	276,771
			TRUE			TRUE			TRUE	TRUE		
Unit Cost of Service for Wastewater Demand Parameters		**$/HCF**	**$3.13**		**$/Pound**	**$0.21**		**$/Pound**	**$0.47**	**$105.7902**	**$3.7676**	**$0.0000**

Class Cost of Service

FY 2022 Class Cost of Service Net of Recycled - Before Allocation of I/I to Classes

Customer Class	Total Class COS After Allocation of I/I	I/I Allocation to Class COS		Total Class COS without Allocation of I/I to Customer Classes	Flow and Strength				Customer			
		I/I Flow	I/I Acct		Total Flow and Strength	Flow	COD	TSS	Total Fixed	Meters and Services	Billing	Readiness to Serve Allocation
Single Family Residential	$124,410,596	$931,896	$4,320,253	$119,158,447	$84,140,330	$52,946,702	$16,781,023	$14,412,604	$35,018,117	$24,533,280	$10,484,837	$0
Multi-Family Residential	$71,941,723	$734,214	$539,862	$70,667,648	$66,291,761	$41,715,193	$13,221,289	$11,355,279	$4,375,887	$3,065,695	$1,310,192	$0
Commercial / Industrial	$72,329,013	$781,389	$295,686	$71,251,938	$68,855,235	$44,395,497	$13,100,067	$11,359,670	$2,396,704	$1,679,102	$717,601	$0
Subtotal	$268,681,332	$2,447,499	$5,155,800	$261,078,033	$219,287,325	$139,057,392	$43,102,380	$37,127,554	$41,790,708	$29,278,077	$12,512,631	$0
Other (Navy, Prisons)	$8,065,167	$92,063	$279	$7,972,824	$7,970,559	$5,230,649	$1,408,128	$1,331,782	$2,265	$1,587	$678	$0
Subtotal	$8,065,167	$92,063	$279	$7,972,824	$7,970,559	$5,230,649	$1,408,128	$1,331,782	$2,265	$1,587	$678	$0
Trucked Waste and Imported Flows	$3,956,443			$3,956,443	$3,956,443	$697,485	$1,108,125	$2,150,834	$0	$0	$0	$0
Subtotal	$3,956,443	$0	$0	$3,956,443	$3,956,443	$697,485	$1,108,125	$2,150,834	$0	$0	$0	$0
Stormwater Transportation	$1,385,112			$1,385,112	$1,385,112	$1,140,571	$150,931	$93,610	$0	$0	$0	$0
Subtotal	$1,385,112	$0	$0	$1,385,112	$1,385,112	$1,140,571	$150,931	$93,610	$0	$0	$0	$0
Total Allocated I/I		$2,539,562	$5,156,080	$7,695,641	$7,695,641	$6,118,525	$698,331	$878,785				
Net Revenue Req. to be Recovered from WW Customers	**$282,088,054**			**$282,088,054**	**$240,295,081**	**$152,244,622**	**$46,467,894**	**$41,582,564**	**$41,792,973**	**$29,279,664**	**$12,513,309**	**$0**

Table B-15
City of San Diego
Wastewater Rate and Fee Study
Cost of Service by Customer Class
FY 2022

FY 2022 Class Cost of Service Net of Recycled - After Allocation of I/I to Classes											
								Customer			
Customer Class	Total	Total Flow and Strength	I/I Flow	Flow	COD	TSS	Total Fixed	I/I Accounts	Meters and Services	Billing	Readiness to Serve Allocation
Single Family Residential	$124,410,596	$85,072,226	$931,896	$52,946,702	$16,781,023	$14,412,604	$39,338,370	$4,320,253	$24,533,280	$10,484,837	$0
Multi-Family Residential	$71,941,723	$67,025,975	$734,214	$41,715,193	$13,221,289	$11,355,279	$4,915,748	$539,862	$3,065,695	$1,310,192	$0
Commercial / Industrial	$72,329,013	$69,636,624	$781,389	$44,395,497	$13,100,067	$11,359,670	$2,692,390	$295,686	$1,679,102	$717,601	$0
Subtotal	$268,681,332	$221,734,824	$2,447,499	$139,057,392	$43,102,380	$37,127,554	$46,946,508	$5,155,800	$29,278,077	$12,512,631	$0
Other (Navy, Prisons)	$8,065,167	$8,062,622	$92,063	$5,230,649	$1,408,128	$1,331,782	$2,544	$279	$1,587	$678	$0
Subtotal	$8,065,167	$8,062,622	$92,063	$5,230,649	$1,408,128	$1,331,782	$2,544		$1,587	$678	$0
Trucked Waste and Imported Flows	$3,956,443	$3,956,443	$0	$697,485	$1,108,125	$2,150,834	$0	$0	$0	$0	$0
Subtotal	$3,956,443	$3,956,443	$0	$697,485	$1,108,125	$2,150,834	$0	$0	$0	$0	$0
Stormwater Transportation	$1,385,112	$1,385,112	$0	$1,140,571	$150,931	$93,610	$0	$0	$0	$0	$0
Subtotal	$1,385,112	$1,385,112	$0	$1,140,571	$150,931	$93,610	$0	$0	$0	$0	$0
I/I (Total)	**$282,088,054**	**$235,139,001**	**$2,539,562**	**$146,126,097**	**$45,769,563**	**$40,703,779**	**$46,949,053**	**$5,155,800**	**$29,279,664**	**$12,513,309**	**$0**
	TRUE	TRUE									

Comparison of Cost of Service to Revenue at Existing Rates

FY 2022 Cost of Service vs. Revenue at Existing Rates				
Customer Class	FY 2022 Cost of Service	Revenue at Existing Rates	Required Change in Revenue Recovery from Existing Rates	Percentage Change in Revenue Recovery
Wastewater Enterprise Fund Net Revenue Requirement from Rates	$292,044,070	<<From Financial Plan		
Wastewater Customer Classes				
Single Family Residential	$124,410,596	$106,632,771	$17,777,825	16.67%
Multi-Family Residential	$71,941,723	$75,752,500	($3,810,777)	-5.03%
Non-Residential	$72,329,013	$82,326,763	($9,997,750)	-12.14%
Total Regular Wastewater Service	**$268,681,332**	**$264,712,034**	**$3,969,298**	**1.50%**
Other (Navy, Prisons)	$8,065,167	$7,257,235	$807,931	11.13%
Total Other (Navy, Prisons)	**$8,065,167**	**$7,257,235**	**$807,931**	**11.13%**
Trucked Waste and Imported Flows	$3,956,443	$4,500,000	($543,557)	-12.08%
Total Trucked Waste	**$3,956,443**	**$4,500,000**	**($543,557)**	**-12.08%**
Stormwater Transportation	$1,385,112	$1,667,940	($282,828)	-16.96%
Total Stormwater Transportation	**$1,385,112**	**$1,667,940**	**($282,828)**	**-16.96%**
Total Wastewater Service	**$282,088,054**	**$278,137,209**	**$3,950,844**	1.42%
Recycled Service	$9,956,016		$9,956,016	
Total System Revenues from Rates and Charges	**$292,044,070**	**$278,137,209**	**$13,906,860**	**5.00%**
		Cumulative Increase from Revenue Requirement Projection		5.00%

FY 2022 Cost of Service vs. Revenue at Existing Rates (Recycled as Separate Item)				
Customer Class	FY 2022 Cost of Service	Revenue at Existing Rates	Required Change in Revenue Recovery from Existing Rates	Percentage Change in Revenue Recovery
Determination of Wastewater Cost of Service				
Total WW Enterprise Fund Net Revenue Req. from Rates	$292,044,070	<<From Financial Plan and Revenue Requirement Projection		
Less: Wastewater Costs in Revenue Requirement Allocated to Recycled	$9,956,016	<< From Cost Allocations in this Wastewater COS Model		
Net Revenue Req. to be Recovered from Wastewater Customers	$282,088,054			
Wastewater Customer Classes				
Single Family Residential	$124,410,596	$106,632,771	$17,777,825	16.67%
Multi-Family Residential	$71,941,723	$75,752,500	($3,810,777)	-5.03%
Non-Residential	$72,329,013	$82,326,763	($9,997,750)	-12.14%
Total Regular Wastewater Service	$268,681,332	$264,712,034	$3,969,298	1.50%
Other (Navy, Prisons)	$8,065,167	$7,257,235	$807,931	11.13%
Total Other (Navy, Prisons)	$8,065,167	$7,257,235	$807,931	11.13%
Trucked Waste	$3,956,443	$4,500,000	($543,557)	-12.08%
Total Trucked Waste	$3,956,443	**$4,500,000**	**($543,557)**	**-12.08%**
Stormwater Transportation	$1,385,112	$1,667,940	($282,828)	-16.96%
Total Stormwater Transportation	$1,385,112	**$1,667,940**	**($282,828)**	**-16.96%**
Total System Revenues from Rates and Charges	**$282,088,054**	**$278,137,209**	**$3,950,844**	**1.42%**
		Cumulative Increase from Revenue Requirement Projection		5.00%

Table B-16
City of San Diego
Wastewater Rate and Fee Study
Wastewater Rate Design
FY 2022

FY 2022 Meter Service Charge for SFR, MFR and Commercial/Industrial										
Customer Class	Meters and Services Revenue Requirement	Readiness to Serve Revenue Requirement	Billing Revenue Requirement	I/I Accounts Revenue Requirement	Total Customer Revenue Requirement	Projected Test-Year Bills for Fixed Charge Calculation	FY 2022 Calculated Service Charge	Current Service Charge	$ Difference	% Difference
Single Family Residential	$24,533,280	$0	$10,484,837	$4,320,253	$39,338,370	2,782,860	$14.14	$15.33	($1.19)	-7.8%
Multi-Family Residential	$3,065,695	$0	$1,310,192	$539,862	$4,915,748	347,748	$14.14	$15.33	($1.19)	-7.8%
Commercial / Industrial	$1,679,102	$0	$717,601	$295,686	$2,692,390	190,464	$14.14	$15.33	($1.19)	-7.8%
Subtotal	$29,278,077	$0	$12,512,631	$5,155,800	$46,946,508	3,321,072				
Other (Navy, Prisons)	$1,587	$0	$678	$279	$2,544	180	$14.14	$15.33	($1.19)	-7.8%
Subtotal	$1,587	$0	$678	$279	$2,544	180				
TOTAL	$29,279,664	$0	$12,513,309	$5,156,080	$46,949,053	3,321,252	$14.14	$15.33	($1.19)	-7.8%
	TRUE	TRUE	TRUE	TRUE						

FY 2022 Single Family and Multi-Family Residential Flow Based Charges										
Customer Class	Flow Revenue Requirement	COD Revenue Requirement	TSS Revenue Requirement	I/I Volume Revenue Requirement	Total Volumetric Revenue Requirement	Projected Test-Year Billable Units of Service	FY 2022 $/HCF Calculated Charge	Current $/HCF Charge	$ Difference	% Difference
Single Family	$52,946,702	$16,781,023	$14,412,604	$931,896	$85,072,226	17,778,264	$4.7860	$3.5983	$1.1877	33.0%
Multi Family	$41,715,193	$13,221,289	$11,355,279	$734,214	$67,025,975	14,006,986	$4.7860	$5.0276	($0.2416)	-4.8%
TOTAL	$94,661,895	$30,002,312	$25,767,883	$1,666,110	$152,098,200	31,785,250				
	TRUE	TRUE	TRUE	TRUE	TRUE					
	TRUE	TRUE	TRUE	TRUE	TRUE					

FY 2022 Commercial Flow and Strength Charges									
Commercial/Industrial		Flow and Strength Revenue Requirement	I/I Volume Revenue Requirement	Total Revenue Requirement	Projected Test-Year Billable Units of Service	FY 2022 Calculated Charges	Current Charges	$ Difference	% Difference
Flow Charges	($ / hcf)	$44,395,497	$781,389	$45,176,886	14,161,621	$3.1910	$3.7672	($0.5762)	-15.3%
COD Charges	($ / lb)	$13,100,067		$13,100,067	63,079,886	$0.2080	$0.2242	($0.0162)	-7.2%
TSS Charges	($ / lb)	$11,359,670		$11,359,670	24,253,460	$0.4690	$0.5517	($0.0827)	-15.0%
TOTAL		$68,855,235	$781,389	$69,636,624					
			TRUE	TRUE					

FY 2022 Trucked Waste							
Flow Based Charges		Revenue Requirement	Projected Test-Year Billable Units of Service	FY 2022 Calculated Charges	Current Charges	$ Difference	% Difference
Flow Charges	($ / hcf)	$697,485	222,489	$3.1350	$3.8996	($0.7646)	-19.6%
COD Charges	($ / lb)	$1,108,125	5,335,878	$0.2080	$0.2321	($0.0241)	-10.4%
TSS Charges	($ / lb)	$2,150,834	4,592,137	$0.4690	$0.5710	($0.1020)	-17.9%
TOTAL		$3,956,443					
		TRUE					

FY 2022 Stormwater Transportation							
Flow Based Charges		Revenue Requirement	Projected Test-Year Billable Units of Service (HCF)	FY 2022 Calculated $/HCF Charge	Current Charges	$ Difference	% Difference
Flow Charges	($ / hcf)	$1,140,571					
COD Charges	($ / lb)	$150,931					
TSS Charges	($ / lb)	$93,610					
TOTAL		$1,385,112	363,828	$3.8080	$7.6763	($3.8683)	-50.4%

Table B-17
City of San Diego
Wastewater Rate and Fee Study
Wastewater Rate Summary

FY 2022 Wastewater Rate Summary

FY 2022 Wastewater Service Charges ($/month)

Customer Class		Current Charge	FY 2022	$ Diff	% Diff
Single Family Residential	$/Month	$15.33	$14.14	($1.19)	-7.8%
Multi-Family Residential	$/Month	$15.33	$14.14	($1.19)	-7.8%
Commercial / Industrial	$/Month	$15.33	$14.14	($1.19)	-7.8%

FY 2022 Wastewater Commodity and Strength Charges

Customer Class		Current Charge	FY 2022	$ Diff	% Diff
Residential					
Single Family Residential	($ / hcf)	$3.598	$4.786	$1.188	33.0%
Multi-Family Residential	($ / hcf)	$5.028	$4.786	($0.242)	-4.8%
Commercial / Industrial					
Flow Charges	($ / hcf)	$3.767	$3.191	($0.576)	-15.3%
COD Charges	($ / lb)	$0.224	$0.208	($0.016)	-7.2%
TSS Charges	($ / lb)	$0.552	$0.469	($0.083)	-15.0%
Trucked Waste					
Flow Charges	($ / hcf)	$3.900	$3.135	($0.765)	-19.6%
COD Charges	($ / lb)	$0.232	$0.208	($0.024)	-10.4%
TSS Charges	($ / lb)	$0.571	$0.469	($0.102)	-17.9%
Stormwater Transportation					
Flow	($/hcf)	$7.676	$3.808	($3.868)	-50.4%

Rate Projection for FY22 - FY25

FY 2022 - FY 2025 Wastewater Service Charges ($/Month)

Current Charge	FY 2022	FY 2023	FY 2024	FY 2025
$15.33	$14.14	$14.71	$15.29	$15.75
$15.33	$14.14	$14.71	$15.29	$15.75
$15.33	$14.14	$14.71	$15.29	$15.75

FY2022 - FY2025 Wastewater Commodity and Strength Charges

Current Charge	FY 2022	FY 2023	FY 2024	FY 2025
$3.5983	$4.786	$4.977	$5.177	$5.332
$5.0276	$4.786	$4.977	$5.177	$5.332
$3.7672	$3.191	$3.319	$3.451	$3.555
$0.2242	$0.208	$0.216	$0.225	$0.232
$0.5517	$0.469	$0.488	$0.507	$0.522
$3.8996	$3.135	$3.260	$3.391	$3.493
$0.2321	$0.208	$0.216	$0.225	$0.232
$0.5710	$0.469	$0.488	$0.507	$0.522
$7.6763	$3.808	$3.960	$4.119	$4.242

APPENDIX C:

RECYCLED WATER COST OF SERVICE AND RATE DESIGN

Table C-1
City of San Diego
Wastewater Rate and Fee Study
Data Inputs for Recycled Water Rates

Debt Service Inputs for the Recycled Revenue Requirement

												3
	Recycled Water Bond Series Debt Service											Test Year
Water Fund	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**	**FY 2030**	**FY 2022**
2012A	$11,828,900	$11,832,025	$11,834,100	$11,835,550	$11,830,675	$11,827,550	$11,834,275	$11,831,000	$11,832,500	$11,831,500	$11,831,875	$11,834,100
2016A	$2,610,875	$2,613,850	$2,611,000	$2,612,725	$2,613,400	$2,612,325	$2,615,125	$2,611,050	$2,615,175	$2,611,675	$2,610,550	$2,611,000
2016B	$46,306,875	$46,315,000	$46,308,625	$39,114,125	$39,117,250	$41,157,500	$42,621,875	$42,030,125	$42,044,750	$42,037,750	$21,750,750	$46,308,625
2018A	$16,023,175	$16,022,550	$16,021,925	$16,025,675	$16,023,300	$16,024,300	$16,027,925	$16,023,675	$16,021,050	$16,024,175	$16,022,300	$16,021,925
Total	$76,769,825	$76,783,425	$76,775,650	$69,588,075	$69,584,625	$71,621,675	$73,099,200	$72,495,850	$72,513,475	$72,505,100	$52,215,475	$76,775,650
Recycled Water Debt Service	$3,723,337	$3,723,996	$3,723,619	$3,375,022	$3,374,854	$3,473,651	$3,545,311	$3,516,049	$3,516,904	$3,516,497	$2,532,451	$3,723,619
Percentage of total CIP Proceeds for RW	4.85%	4.85%	4.85%	4.85%	4.85%	4.85%	4.85%	4.85%	4.85%	4.85%	4.85%	4.85%
Wastewater Fund	**FY 2020**	**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**FY 2026**	**FY 2027**	**FY 2028**	**FY 2029**	**FY 2030**	**FY 2022**
2015 Refunding Bonds	$14,658,900	$14,658,900	$80,373,900	$84,008,150	$64,743,900	$64,743,700	$43,399,950	$13,665,750	$0	$0	$0	$80,373,900
2016 Refunding Bonds	$80,405,400	$80,410,900	$15,050,900	$13,506,500	$13,506,500	$13,506,500	$13,506,500	$42,431,500	$39,185,250	$39,189,000	$24,034,750	$15,050,900
Total	$95,064,300	$95,069,800	$95,424,800	$97,514,650	$78,250,400	$78,250,200	$56,906,450	$56,097,250	$39,185,250	$39,189,000	$24,034,750	$95,424,800
Recycled Water Debt Service	$395,467	$395,490	$396,967	$405,661	$325,522	$325,521	$236,731	$233,365	$163,011	$163,026	$99,985	$396,967
Percentage of total CIP Proceeds for RW	0.42%	0.42%	0.42%	0.42%	0.42%	0.42%	0.42%	0.42%	0.42%	0.42%	0.42%	0.42%
Grand Total	$4,118,804	$4,119,486	$4,120,586	$3,780,683	$3,700,376	$3,799,172	$3,782,042	$3,749,413	$3,679,914	$3,679,524	$2,632,435	$4,120,586
R/R Paygo (uninflated)	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000

Recycled Debt Allocations for COS Study	Test Year	
Item	FY 2022	
Metro Capital Cost TY Revenue Requirement	$66,623,358	
Recycled Portion of Metro Capital Cost TY RR	$28,874	
Net Metro Capital Cost TY Revenue RR	$66,594,484	
Recycled Debt Service in the WW Enterprise Fund	$396,967	
Recycled Debt Svc. as a % of Net Metro Capital Cost TY RR	0.5961%	Used as the Basis for Allocating Sewer Revenue Fund Debt Service to Recycled
	$425,841	

Basis for Allocation of Wastewater Treatment Costs to Recycled

Recycled O&M Allocations from COS Study		
Recycled Tertiary Treatment	FY 2018 Recycled Tertiary Treatment Costs	
NC Tertiary Cost Report FY 2018	$2,255,711	
SB Tertiary Cost Report FY 2018	$1,462,243	
FY 19 Pump Station O&M	$256,038	
Total	$3,973,992	Amount Used as the Basis for the Allocation of Wastewter Treatment Costs to Recycled

FY 2022 WW Treatment Cost Allocation to Recycled				
Wastewater Treatment		FY 2022 WW Treatment Cost	FY 2022 % Allocation to Recycled	FY 2022 $ Allocation to Recycled
200019	Personnel Cost	$19,801,344	3.44%	$664,897
200019	Fringe Benefits	$12,026,004	3.44%	$403,808
200019	Supplies	$21,490,330	3.44%	$699,312
200019	Contracts	$33,803,557	3.44%	$1,084,059
200019	IT Expenses	$6,373,417	3.44%	$209,738
200019	Energy & Utilities	$19,597,464	3.44%	$598,116
200019	Other	$72,706	3.44%	$2,504
200019	Capital Expenditures	$2,229,985	3.44%	$71,061
WWTD Total		$115,394,806	3.44%	$3,733,494

Table C-1
City of San Diego
Wastewater Rate and Fee Study
Data Inputs for Recycled Water Rates

Basis for Billing Costs Allocated to Recycled

FY 2022		
Recycled Accounts	$765	
Sewer Accounts	$276,771	
% Recycled	0.276%	Thisis used to allocate customer support services to recycled

Forecast of Recycled Customer Accounts and Demand

Recycled Demand and Customer Account Forecast					
Year	Total Sales	# Customers	% Increase Sales	% Increase Customers	Source
FY 2021	12,979	750			FY 2021 from Composite Schedules Recycled.xls
FY 2022	13,238	765	2.0%	2.0%	2% Growth Rate from Composite Schedules - Recycled.xls
FY 2023	13,503	780	2.0%	2.0%	2% Growth Rate from Composite Schedules - Recycled.xls
FY 2024	13,773	796	2.0%	2.0%	2% Growth Rate from Composite Schedules - Recycled.xls
FY 2025	14,048	812	2.0%	2.0%	2% Growth Rate from Composite Schedules - Recycled.xls
					2% Growth Rate from Composite Schedules - Recycled.xls

Projection of Recycled Accounts by Meter Size and Equivalent Meters							Test Year
Accounts	% at Each Meter size	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2022
3/4"	0.4%	3	3	3	3	3	3
1"	12.3%	92	94	96	98	100	94
1 1/2"	20.4%	153	156	159	162	165	156
2"	61.4%	461	470	479	489	498	470
3"	0.9%	7	7	7	8	8	7
4"	2.8%	21	22	22	23	23	22
6"	0.7%	5	5	5	5	5	5
8"	0.3%	2	2	2	2	2	2
10"	0.8%	6	6	6	6	7	6
12"	0.0%	0	0	0	0	0	0
16"	0.0%	0	0	0	0	0	0
Total Recycled Water Accounts	100.0%	750	765	780	796	812	765
Equivalelent Meters		**FY 2021**	**FY 2022**	**FY 2023**	**FY 2024**	**FY 2025**	**Test Year**
3/4"		3	3	3	3	3	3
1"		154	157	160	163	166	157
1 1/2"		509	520	530	541	551	520
2"		2,456	2,505	2,555	2,606	2,659	2505
3"		83	84	86	88	89	84
4"		446	455	464	474	483	455
6"		219	224	228	233	237	224
8"		189	193	197	200	205	193
10"		850	867	885	902	920	867
12"		0	0	0	0	0	0
16"		0	0	0	0	0	0
Total Equivalent Meters		4,910	5,008	5,108	5,210	5,314	5,008

Table C-1
City of San Diego
Wastewater Rate and Fee Study
Data Inputs for Recycled Water Rates

Calculation of Recycled Equivalent Meters		
Meter Size	Max Capacity (gpm)	Meter Ratio
5/8", 3/4"	30	1.00
1"	50	1.67
1.5"	100	3.33
2"	160	5.33
3"	350	11.67
4"	630	21.00
6"	1,300	43.33
8"	2,800	93.33
10"	4,200	140.00
12"	5,300	176.67
16"	7,800	260.00

Projection of Recycled Demand						
Equivalelent Meters	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	Test Year
Projected Test-Year Sales (AF) - *from Composite Schedules*	12,979	13,238	13,503	13,773	14,048	13,238
Gallons	4,229,081,264	4,313,662,890	4,399,936,147	4,487,934,870	4,577,693,568	4,313,662,890
HCF	5,653,474	5,766,544	5,881,874	5,999,512	6,119,502	5,766,544

Table C-2
City of San Diego
Wastewater Rate Fee Study
Recycled Water Rate Calculation
FY 2022

FY 2022 Recycled Revenue Requirement

FY 2022 Recycled Revenue Requirement Components		
Revenue Requirement Component	**Cost Description**	**FY 2022**
Metro Subsystem & Muni Subsystem O&M		
Metro O&M - Treatment	Wastewater Treatment	$3,733,494
Metro O&M - Water System Operations	Water Systems Operations	$5,865,286
Metro O&M for Billing	Customer Support Services	$0
Muni O&M for Billing	Customer Support Services	$31,981
Metro Capital	Recycled Share of Metro Capital Revenue Requirment based on Recycled Debt Service as % of Total Non-Recyled Debt	$425,841
Muni Capital	Recycled Share of Muni Capital Revenue Requirment based on Recycled Debt Service as % of Total Non-Recyled Debt Service	$0
Total Gross Wastewater Costs Allocated to Recycled		$10,056,603
Non-Rate Revenue Offsets		
Metro Non-Rate Revenue Offset	Recycled Allocation of Operating Fund Interest Earnings	$100,026
Muni Non-Rate Revenue Offset	Recycled Allocation of Various Muni O&M Offsets	$561
Total Net Wastewater Costs Allocated to Recycled		$9,956,016
Other Recycled Costs from the Water Revenue Fund		
Recycled Debt for Recycled T&D System Funding	Recycled Data Inputs Workshweet	$3,723,619
Total Recycled Net Revenue Requirement from Rates		$13,679,635

TRUE

FY 2022 Recycled Meter Service Charge Calculation

FY 2022 Calc of Recycled Mo. Service Charge Unit Cost	
Billing Component	**FY 2022**
Billing Component	
Amount Identified as Billing in Wastewater COS Allocations	$31,981
Number of Accounts	765
Annual Unit Cost per Account	$41.81
Unit Cost per Bill (12 Bills per Year)	$3.48
Meter Capacity Component	
Recycled Debt Svc in Water Revenue Fund	$3,723,619
Percentage Allocated to Meter Service Charge	25.00%
Amount Allocated to Meter Service Charge	$930,905
Equivalent Meters	5,008
Annual Unit Cost per Equivalent Meter	$185.89
Unit Cost per Equivalent Meter (12 Bills per Year)	$15.49

FY 2022 Meter Service Charge Calculation								Projected Mtr. Svc. Charge Rev	
Meter Size	**Meter Flow Rate Equivalency**	**Monthly Capacity Component**	**Monthly Billing Component**	**Calculated Meter Charge**	**Current Meter Service Charge**	**Change - $**	**Change - %**	**No. of Meters**	**Fixed Revenue at Proposed Mtr Svc. Chrg.**
5/8", 3/4"	1.00	$15.49	$3.48	$18.98	$21.55	($2.57)	-11.9%	3	$705
1"	1.67	$25.82	$3.48	$29.31	$21.55	$7.76	36.0%	94	$33,043
1.5"	3.33	$51.64	$3.48	$55.13	$39.05	$16.08	41.2%	156	$103,131
2"	5.33	$82.62	$3.48	$86.11	$60.06	$26.05	43.4%	470	$485,388
3"	11.67	$180.73	$3.48	$184.22	$126.52	$57.70	45.6%	7	$15,976
4"	21.00	$325.31	$3.48	$328.80	$224.50	$104.30	46.5%	22	$85,541
6"	43.33	$671.28	$3.48	$674.77	$493.94	$180.83	36.6%	5	$41,797
8"	93.33	$1,445.83	$3.48	$1,449.32	$843.86	$605.46	71.7%	2	$35,910
10"	140.00	$2,168.74	$3.48	$2,172.23	$1,333.75	$838.48	62.9%	6	$161,466
12"	176.67	$2,736.74	$3.48	$2,740.23	$1,753.65	$986.58	56.3%	0	$0
16"	260.00	$4,027.66	$3.48	$4,031.15	$3,503.24	$527.91	15.1%	0	$0
							Total	765	$962,959

Table C-2
City of San Diego
Wastewater Rate Fee Study
Recycled Water Rate Calculation
FY 2022

FY 2022 Recycled Volumetric Rate

FY 2022 Commodity Rate Calculation	
Component	**FY 2022**
Total Revenue Requirement	$13,679,635
Less: Meter Service Charge Revenue Recovery	$962,959
Net Volumetric Revenue Requirement	$12,716,676
Projected Test-Year Sales (AF)	13,238
Gallons	4,313,662,890
HCF	5,766,544
Unit Cost per HCF	$2.21

FY 2022 Commodity Rate ($/HCF)				
Customer Class	**Current Charge**	**FY 2022 Calculated Charge**	**Change - $**	**Change - %**
All Consumption	$1.73	$2.21	$0.48	27.5%

FY 2022 Revenue Proof

FY 2022 Revenue Proof					
Rate Component	**Projected Revenue at Existing Rates**	**Projected Reveue at Proposed TY Rates**	**TY Cost of Service**	**$ Difference**	**% Difference**
Service Charge	$656,718	$962,959	$962,886	$73	0.01%
Volumetrric	$9,999,186	$12,744,061	$12,716,676	$27,385	0.22%
Total	$10,655,905	$13,707,020	$13,679,562	$27,458	0.20%

Table C-3
City of San Diego
Wastewater Rate Fee Study
Recycled Water Rate Summary

FY 2022 Recycled Water Rate Summary

FY 2022 Recycled Water Monthly Service Charges ($/month)					
Meter Size		Current Charge	FY 2022	$ Diff	% Diff
5/8", 3/4"	$/Month	$21.55	$18.98	($2.57)	-11.9%
1"	"	$21.55	$29.31	$7.76	36.0%
1.5"	"	$39.05	$55.13	$16.08	41.2%
2"	"	$60.06	$86.11	$26.05	43.4%
3"	"	$126.52	$184.22	$57.70	45.6%
4"	"	$224.50	$328.80	$104.30	46.5%
6"	"	$493.94	$674.77	$180.83	36.6%
8"	"	$843.86	$1,449.32	$605.46	71.7%
10"	"	$1,333.75	$2,172.23	$838.48	62.9%
12"	"	$1,753.65	$2,740.23	$986.58	56.3%
16"	"	$3,503.24	$4,031.15	$527.91	15.1%

FY 2022 Recycled Water Commodity Rates					
Customer Class		Current Charge	FY 2022	$ Diff	% Diff
All Consumptio	($ / hcf)	$1.73	$2.21	$0.48	27.5%

Rate Projection for FY22 - FY25

FY 2022 - FY 2025 Recycled Water Monthly Service Charges ($/Month)				
Current Charge	FY 2022	FY 2023	FY 2024	FY 2025
$21.55	$18.98	$19.74	$20.53	$21.14
$21.55	$29.31	$30.48	$31.70	$32.65
$39.05	$55.13	$57.34	$59.63	$61.42
$60.06	$86.11	$89.55	$93.14	$95.93
$126.52	$184.22	$191.59	$199.25	$205.23
$224.50	$328.80	$341.95	$355.63	$366.30
$493.94	$674.77	$701.76	$729.83	$751.73
$843.86	$1,449.32	$1,507.29	$1,567.58	$1,614.61
$1,333.75	$2,172.23	$2,259.12	$2,349.48	$2,419.97
$1,753.65	$2,740.23	$2,849.84	$2,963.83	$3,052.75
$3,503.24	$4,031.15	$4,192.40	$4,360.09	$4,490.89

FY2022 - FY2025 Recycled Water Commodity Rates				
Current Charge	FY 2022	FY 2023	FY 2024	FY 2025
$1.73	$2.21	$2.30	$2.39	$2.46