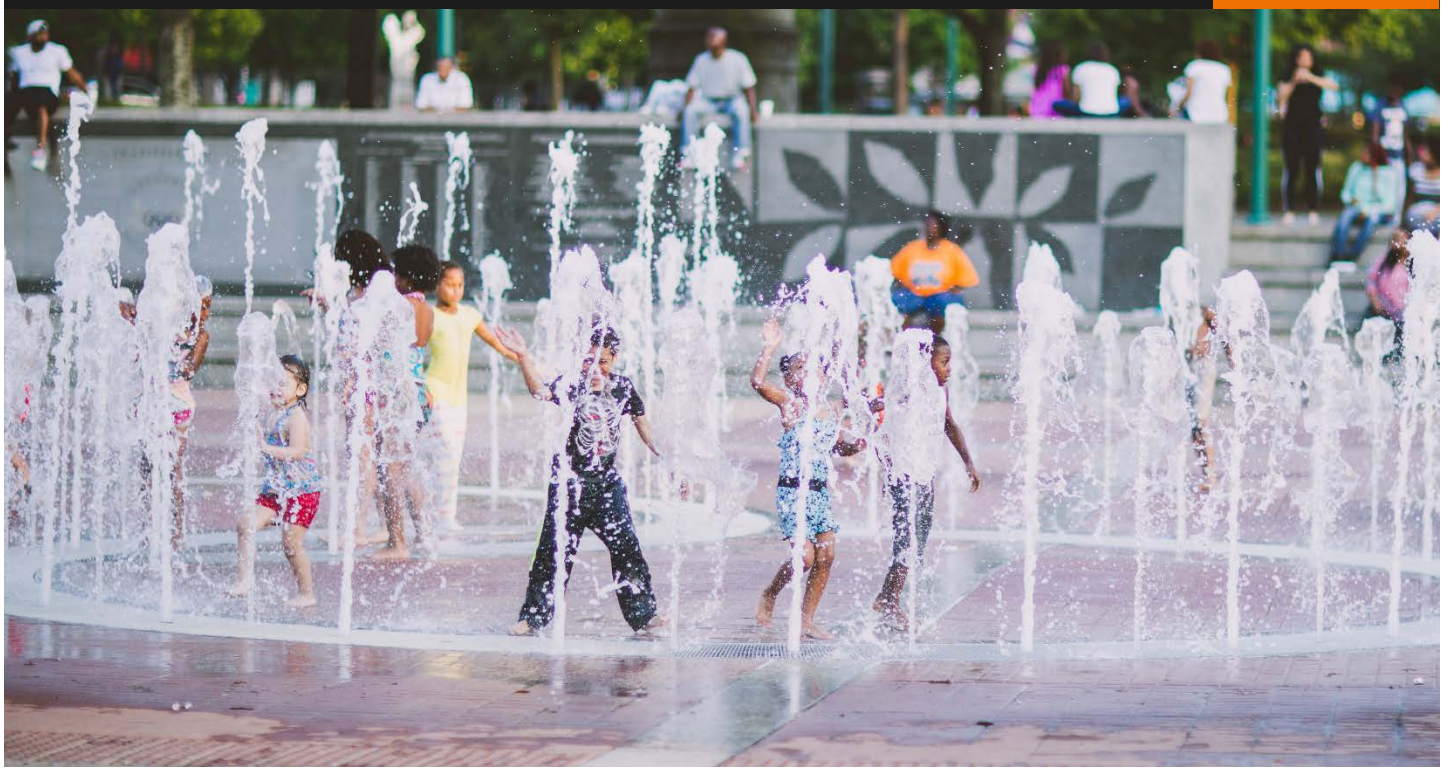
Stantec

Whittier Utility Authority

Sewer Rate and Fee Study – Final Report

March 18, 2019



March 18, 2019

Mr. David Schickling
Public Works Director
City of Whittier
13230 Penn Street
Whittier, CA 90602

Re: Sewer Rate and Fee Study – Final Report

Dear Mr. Schickling,

Stantec is pleased to present this Draft Report on the Sewer Rate and Fee Study (Study) that was conducted for Whittier Utility Authority (WUA) and the City of Whittier. We appreciate the professional assistance provided by you and all of the members of WUA and the City staff who participated in the study.

If you or others at the City have any questions, please do not hesitate to call us at (202) 585-6391 or email me at David.Hyder@stantec.com. We appreciate the opportunity to be of service to the City of Whittier, and we look forward to the possibility of doing so again in the near future.

Sincerely,

David A. Hyder
Principal

1101 14th Street NW
Washington DC 20005
(202) 585-6391
David.hyder@stantec.com

Georgette Aronow
Project Manager

101 Providence Mine Road
Nevada City CA 95959
(530) 470-0515
Georgette.Aronow@stantec.com

Enclosure

Table of Contents

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

1.0 EXECUTIVE SUMMARY

This Executive Summary presents an overview of the results of the Sewer Cost of Service and Rate Study (Study) that was conducted for the Whittier Utility Authority (WUA) and by extension the City of Whittier (City) (collectively referred to as "the Utility") by Stantec Consulting Service Inc.

ES.1 STUDY OBJECTIVES AND APPROACH

Current sewer rates and charges were adopted in 2013. Since then the Utility has updated its Sewer Master Plan and the previous sewer rate ordinance has expired. As a result, the Utility needed to revisit the basis of the rates and charges to sewer customers to ensure they align with the full cost of providing service and are equitable both between and within customer classes. Stantec was engaged to provide a full cost-of-service analysis and recommend updated rates and charges, for which the results and findings are presented herein. The primary objectives of this Study were to:

i. Develop a multi-year financial management plan that integrates the Utility's capital funding needs;

ii. Identify future rate adjustments to sewer rates that will ensure adequate revenues to meet the Utility's ongoing financial requirements;

iii. Determine the cost of providing sewer service to customers using industry accepted methodologies;

iv. Recommend specific rate structures that equitably recover the cost of service while promoting affordability and comporting with industry practices and legal requirements; and

v. Develop a System Connection Fee schedule.

This study used methodologies that are aligned with industry standard practices for rate setting as promulgated by the American Water Works Association (AWWA), Water Environment Federation (WEF) and all applicable law, including California Constitution Article XIII D, Section 6(b), commonly known as Proposition 218.

The Study consisted of the following phases:

Revenue Sufficiency Analysis (RSA) – Develop and populate a multi-year forecasting model for the District that will determine the level of annual rate revenue required to satisfy projected annual operating costs, debt service expenses, and capital cost requirements as well as maintain adequate reserves.

Cost-of-Service Analysis (COSA) – Utilize industry standards and principles, as outlined in the AWWA Manual, *Principles of Water Rates, Fees, and Charges, M1 (M1)*[1] and WEF's *Manual of*

[1] Although the AWWA M1 is primarily focused on water rate setting, it is an accepted and well-known manual providing general cost of service and rate setting guidance for water and sewer utilities alike.

Practice 27: Financing & Charges for Wastewater Systems (MOP 27), incorporating test year revenue requirements from the revenue sufficiency analysis to assess system billing determinants, allocate revenue requirements to the water system's functional cost components, and identify costs allocable to the Utility's rate components.

Rate Structure Analysis – Evaluate the Utility's current user rate structure and based on the recommended rate adjustments identified in the financial plan and subsequent cost of service analysis, develop recommended rate schedules to meet the revenue requirements, goals, and objectives of the Utility.

System Connection Fee – Develop recommended schedules of fees to be charged to new customers to recover the proportional cost of construction sewer system capacity for that account.

ES.2 REVENUE SUFFICIENCY ANALYSIS

In the RSA, Stantec evaluated the sufficiency of the Utility's rate revenues to meet all of its current and projected financial requirements over a 10-year projection period and determined the level of rate revenue increases necessary over the next 5 years to provide sufficient revenues to meet cost requirements. As part of the RSA, Stantec thoroughly discussed and reviewed source data and assumptions, and analyzed several alternative capital spending scenarios.

The proposed financial plan and associated rate revenue adjustments are based upon the revenue and expense information, beginning balances, and other assumptions as described in the full report. The financial plan includes the Utility's 10-year capital improvement program (CIP), which consists of approximately $31.5 million in projects to be completed over the ten years between fiscal year (FY) 2019 and FY 2028. The RSA was completed assuming the Utility maintained its existing goal of cash-funding the entire ten-year CIP.

Based on the RSA it was determined that the current sewer rates and charges will not be sufficient to meet the annual revenue requirements of the system. A preliminary analysis indicated that failing to adjust sewer rates would result in insufficient funds to meet capital funding requirements to complete the Utility's CIP. This diagnostic analysis revealed that without rate adjustments the Sewer Enterprise Fund balance would fall below reserve targets by FY 2023, and all resources would be exhausted by FY 2025 under the current projection of operating and capital costs. As a result, the RSA phase of the study set out to determine the appropriate level of rate revenue increases need to meet the Utility's financial goals while minimizing the impact to customers struggling to afford sewer service.

Table ES-1 shows the 5-year rate revenue adjustment plan resulting from the Utility's RSA. It is important to note that, while rate revenues will increase overall by 5% per year, some customers' bills may go up or go down based on the recommended rate structure adjustments identified in the cost of service and rate design phases of the Study.

Table ES-1: Proposed Sewer Rate Revenue Increases, FY 2020 – FY 2024

Proposed Implementation Date	Rate Adjustment
July 1, 2019 (FY 2020)	5.0%
July 1, 2020 (FY 2021)	5.0%
July 1, 2021 (FY 2022)	5.0%
July 1, 2022 (FY 2023)	5.0%
July 1, 2023 (FY 2024)	5.0%

ES.3 COST-OF-SERVICE ANALYSIS

The purpose of a COSA is to determine the cost of providing sewer services so that the revenue requirements of the utility may be fairly distributed through a rate structure. The Study employed wastewater cost-of-service methods promulgated in WEF's *Manual of Practice 27: Financing & Charges for Wastewater Systems (MOP 27)* along with general guidance from AWWA's Manual, *Principles of Water Rates, Fees, and Charges, M1 (M1)*. The COSA included the following steps:

- Step 1: Allocate costs to the appropriate activities/functions
- Step 2: Allocate the costs of each function to specific system parameters
- Step 3: Calculate unit costs
- Step 4: Distribute costs to customer classes based on unit costs and each class' usage characteristics
- Step 5: Credit non-rate revenue

ES.4 RATE STRUCTURE RECOMMENDATION

A rate structure analysis was performed to identify potential rate structure modifications and specific rate schedules that would:

- Fairly and equitably recover the cost of providing service and revenue requirements for each Customer Class;
- Conform to accepted industry practice and legal requirements;
- Provide fiscal stability and recovery of fixed costs of the system; and
- Promote affordability for customers minimizing their usage.

Current sewer rates solely consist of a Commodity (consumption-based) rate, charged based on water usage. Single Family Residential, Multi-Residential and Private Development customers are charged for all water usage up to a maximum bill, while Commercial customers are charged based on all water usage. This maximum bill for residential customers is intended to omit water usage that is not returned to the sewer system from the sewer bill (e.g. landscape irrigation). The Utility's current sewer rates are presented in Table ES-2, below.

Table ES-2: Current Sewer Rates for FY 2019

Customer Class	Commodity Rate ($/CCF)	Max Bill (per Unit)	Max Usage (CCF per unit)
Residential	$0.91	$273.00	300
Multi-Residential	$0.91	$163.00	180
Commercial	$1.22	N/A	N/A
Private Development	$0.50	$273.00	546
Reduced Rate	$0.50	$151.26	300

As discussed previously, this Study aimed to update these rates based on the latest available data and to ensure future rates reflect the cost to provide service. Based on a preliminary review of the current rate structure, the four key study drivers were identified, along with solutions to address each. These study drivers and solution approaches are outlined in the list below:

- **Driver:** Limited to no documentation on the cost basis for the rate differential between customer classes
    - **Solution:** Ensure adherence to cost-driven rate design principles using COSA results, in accordance with Proposition 218.
- **Driver:** Lack of fixed cost recovery through a fixed customer charge assessed to each account
    - **Solution:** Recover customer-related costs through an annual fixed charge, named the "Customer Charge", to be charged per account.
- **Driver:** Lack of justification for the maximum bill assigned to Residential, Multi-Residential and Private Development customer classes
    - **Solution:** Apply household size characteristics (people per household) within the City to cap water usage applied to sewer bill in an effort to minimize sewer charges for water usage that is not returned to the sewer system
- **Driver:** Lack of justification for reduced rate paid by the Private Development customer class
    - **Solution:** Estimate the Utility's avoided cost for operations and maintenance of private sewer lines using a hybrid of a capacity and volume driven basis, and apply the credit to Private Development customers' Commodity Rate.

Rates for FY 2020 were developed based on the updated COSA, the latest customer and usage data, and addressing the structural changes listed above. Tables ES-3 shows the proposed rates for FY 2020. The complete rate schedule through FY 2024 is provided in Schedule 10 of Appendix C.

Table ES-3: Proposed Sewer Rates for FY 2020

Customer Class	Commodity Rate ($/CCF)	Customer Charge ($/Acct)	Max Bill ($/Unit)	Max Usage (CCF/Unit)
Residential	$0.96	$6.95	$275.75	280
Multi-Residential	$0.96	$6.95	$275.75	280
Commercial	$0.96	$6.95	NA	NA
Private Development	$0.67	$6.95	$194.55	280

ES.5 SYSTEM CONNECTION FEES

A system connection fee is a one-time charge paid by a new customer to recover a portion or all of the cost of constructing sewer system capacity. In general, system connection fees are based upon the costs of utility infrastructure, which in the Utility's case is primarily the wastewater collection system. System connection fees serve as the mechanism by which growth can "pay its own way", and minimize the extent to which existing customers must bear the cost of facilities that will be used to serve new customers.

Based on the analysis conducted as part of this study, Stantec recommends the Utility adopt sewer system connection fees based on the buy-in approach to allow customers to pay for their share of the existing system and associated capacity, and scale the fees by meter size as demonstrated in Table ES-4. It is also recommended that the Utility review it's connection fees at least every five years to ensure that they remain fair and equitable and continue to reflect the current cost of capacity. Lastly it is recommended that as part of the system development fee update, the Utility evaluate the most appropriate accepted methodology for calculating the system unit cost of capacity as the system capacity may change over time.

Table ES-4: Proposed Sewer Rates for FY 2020

Meter Size	Calculated Fee
¾ inch	$1,797
1 inch	$3,001
1 ½ inch	$5,985
2 inch	$9,579
3 inch	$17,972
4 inch	$29,959
6 inch	$59,901
8 inch	$95,845
10 inch	$137,792

ES.6 BILL IMPACTS AND SEWER RATES & FEES SURVEY

The recommended changes to the sewer rates will have an impact on the Utility's sewer customers. To fully understand the impacts of the proposed structural changes, in addition to the projected rate increases, Figure ES.1 illustrates the share of bills in each customer class that will increase or decrease by varying amounts, grouped into bins shown on the y-axis. Orange bars represent bills that will decrease, even as overall rate revenues increase under the plan presented in Tables ES-1. Black bars represent all bills that will increase under the proposed rate structure and plan of rate revenue increases.

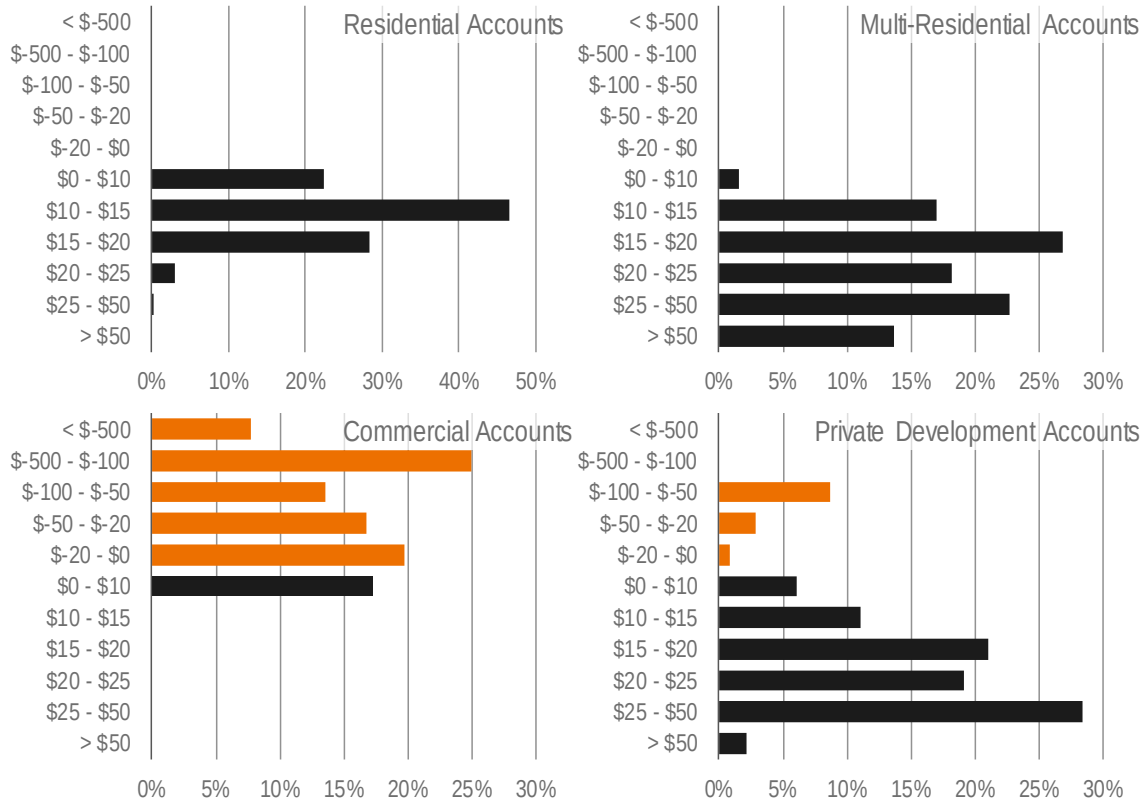


Figure ES.1: FY 2020 Sewer Bill Annual Impacts by Customer Class

As indicated in Figure ES.1, the majority of customers' bills will increase due to the increase in rate revenues needed to fund the Utility's ongoing operations and capital needs. However, many Commercial customers will see a decrease in their bills due to the leveling of the usage rates charged to each customer class. Additionally, the revised maximum bill will lead a small share of Private Development customers to see a reduction in their bill.

Additionally, the Utility's current and proposed rates were compared against comparable neighboring jurisdictions to provide additional insight into the impacts to sewer customers. Figure ES-2 presents the findings of the sewer rate survey, and clearly shows the Utility's sewer customers will remain near the average of neighboring jurisdictions.

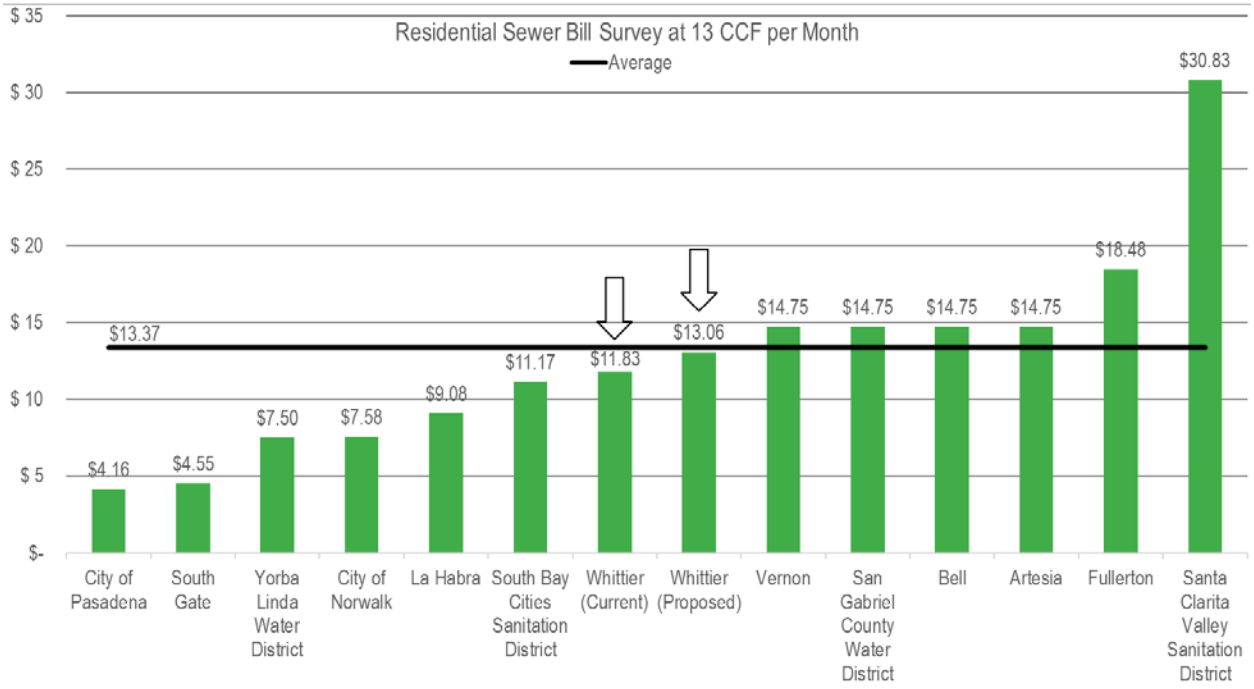


Figure ES.2: Sewer Bill Survey – Single-Family Residential Customers with ¾" Meter

Lastly, this Study included a survey to compare the Utility's new Sewer System Connection Fee to those of neighboring jurisdictions. This survey is presented in Figure ES.3, and indicates the Utility's proposed Sewer System Connection Fee is well below the average of neighboring jurisdictions.

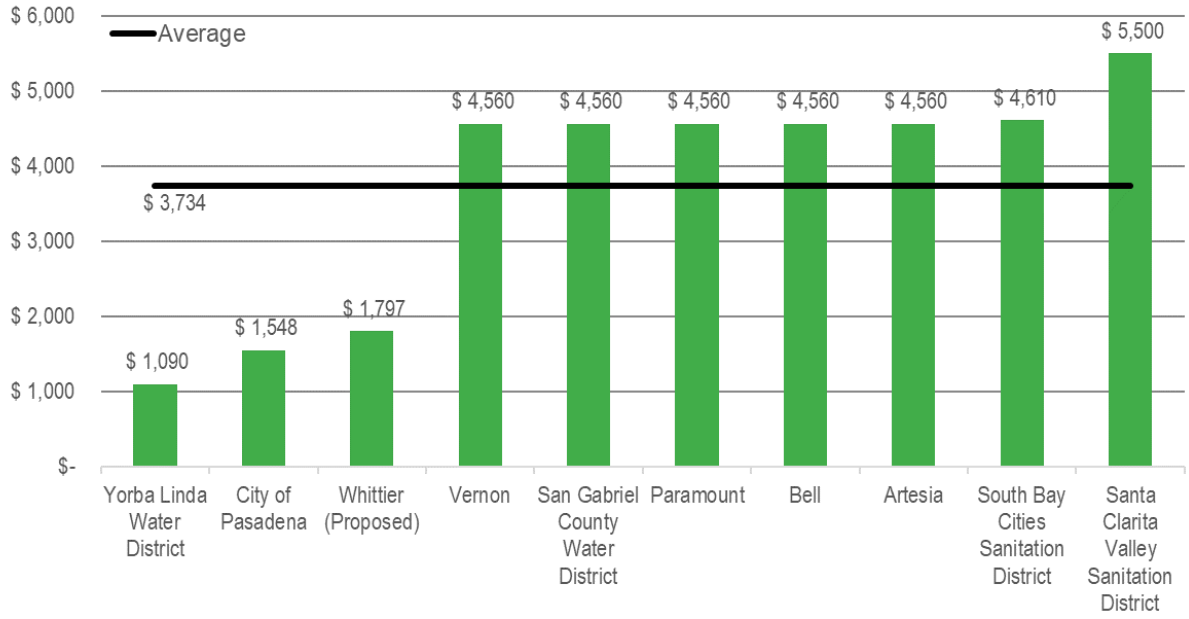


Figure ES.3: Sewer System Connection Fee Survey – Single-Family Residential Customer with ¾" Meter

Abbreviations

AF	Acre-feet
AWWA	American Water Works Association
CAFR	Certified Annual Financial Report
CIP	Capital improvement program
COSA	Cost of service analysis
DCR	Debt service coverage ratio
ERU	Equivalent residential unit
FAMS-XL	Financial Analysis and Management System Model
FTE	Full time equivalent (employee)
FY	Fiscal Year
GPD	Gallons per day
gpm	Gallons per minute
HCF	Hundred cubic feet
JPA	Joint powers authority
Mgd	Millions of gallons per day
PERS	Public Employees Retirement System
RSA	Revenue sufficiency analysis
WUA	Whittier Utility Authority

1.0 INTRODUCTION

Stantec Consulting Services Inc. (Stantec) has conducted a comprehensive cost of service and rate study (Study) for the sewer system of the City of Whittier (City) and the Whittier Utility Authority (WUA) collectively referred to as "the Utility". This report presents the objectives, approach, methodologies, source data, assumptions, and findings and recommendations of the Study.

1.1 BACKGROUND

The Whittier Utility Authority was formed in 2002 as a joint powers authority (JPA) with the City of Whittier. The Utility is located in Los Angeles County, about 12 miles southeast of the City of Los Angeles. The JPA was formed to enable WUA to continue to make lease payments to the City for the provision of the utility services in compliance with legal requirements. However, the City Council is the governing board for the WUA and the City continues to hold ownership and responsibility for the operation and maintenance of the water and sewer systems. The City covers 14.8 square miles and has an estimated population of 87,369 as of January 2018. There are approximately 20,938 sewer accounts, of which 84% are residential, 10% are multi-family residential, and the remaining 6% are commercial and private development customers.

The City's sewer system is a collection-only system and includes approximately 190 miles of sanitary sewer pipelines and 4,300 manholes. All wastewater generated in the City is conveyed to the Los Angeles County Sanitation District (LACSD) for treatment. Customers are charged directly by LACSD for sewer treatment. The Utility bills its sewer customers once a year via the County property tax rolls for sewer collection service based on water use. The current sewer rate structure includes solely a volumetric charge per billing unit equal to 100 cubic feet, or one centum cubic feet (CCF) of water used and does not include a fixed charge.

Sewer rates were updated in 2011 under a two-year plan aimed at reaching funding levels sufficient to meet projected repair and replacement (R&R) capital costs for the Utility's ageing sewer collection system. The hope was that these increases would be sufficient to cover sewer line R&R over the next 53 years. In 2013, the Council agreed in concept to replacing the sewer infrastructure over a 30-year period with four years of rate increases to reach the targeted funding level. The 2013 capital funding target was based on estimates from the 2009 Sanitary Sewer Management Plan and simple calculations based on the amount of linear feet of pipe that needed to be replaced using estimated asset longevity. The rates as implemented in 2013 did not account for other operational cost increases, inflationary pressures on the Utility, changes in usage, nor adequacy of reserves. Since implementation of the 2013 rate adjustments, the Utility has updated its Sewer Master Plan and has assessed the condition of its collection system in targeted areas to provide critical information as to the need and scope for future capital projects.

Based on replacement cost value (in 2019 dollars), over $83 million worth of the Utility's sewer assets have aged beyond their useful life. Nearly an additional $200 million will reach the end of their useful life by 2030. Figure 1-1 illustrates that fact with a summary of the value of assets reaching the end of their

useful life in each decade from the 1980s (assets over 30 years beyond their useful life) to the 2070s (most recently replaced assets with the greatest remaining useful life). The black shading represents assets aged beyond their useful life (as of the end of 2018) while the orange shading represents the value of assets with remaining useful life. The decade of the 2010s includes both shading as almost $10 million in buried assets have not yet reached the end of their useful life but will age beyond their useful life by the end of calendar year 2019.

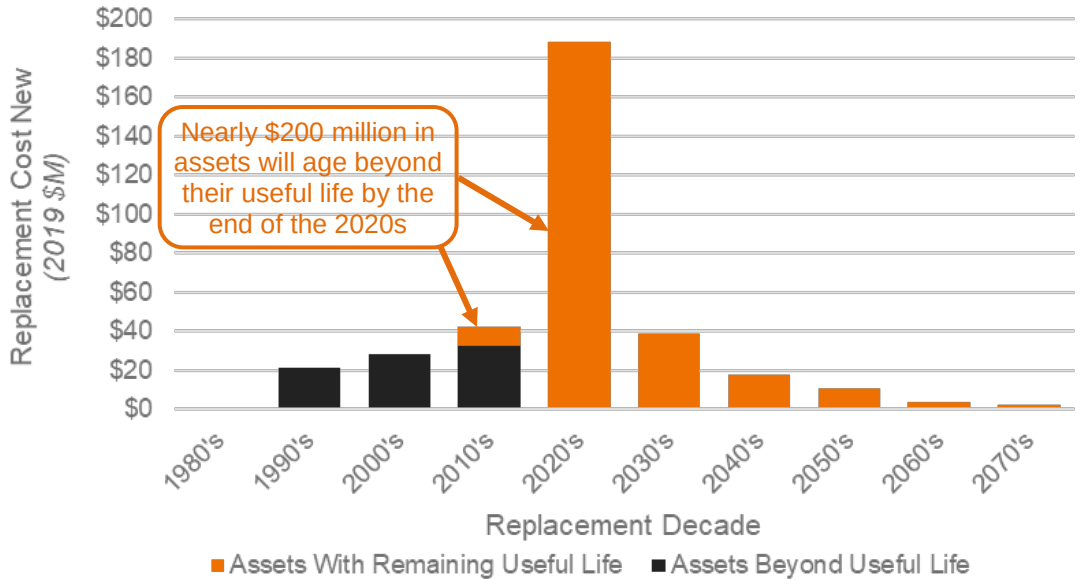


Figure 1-1: Share of Sewer Assets Within and Beyond Estimated Useful Lives

To address the issue of aging infrastructure, the Utility has purchased equipment and hired staff to be able to conduct surveys of existing pipelines using CCTV technology, replaced 15,460 feet of sewer mains, completed 450 spot repairs totaling 3,777 feet of pipe, and reduced the annual average of sanitary sewer overflows from 31 incidents prior to 2011 to 6 incidents as of 2018. Approximately 21,570 of additional sewer pipe will be replaced in 2019.

1.2 OBJECTIVES

This Study was conducted to update the Utility's financial projections with a revenue sufficiency analysis (RSA) based on a full assessment of historical revenues and expenditure needs of the Utility. The RSA was conducted to establish a financial plan incorporating projections of operation and maintenance (O&M) costs, capital improvement program (CIP) project schedules, and the maintenance of operating and capital reserves. The RSA was then used to develop a full cost-of-service analysis based on test year revenue requirements to allocate costs of providing sewer service to each customer class, ensuring cost recovery adhered to principles of inter- and intra-class equity. Finally, this Study examined the existing rate structure and evaluated the potential implementation of a fixed charge in addition to the volumetric charge, an update to the customer class differentiation in rates, and the justification for the maximum charge for customers in the Residential, Multi-Family, and Private Development customer

classes. Updated rates were generated for a five-year period. This Study employed cost-of-service and rate design methodologies that are aligned with industry standard practices for rate setting as promulgated by the American Water Works Association (AWWA), Water Environment Federation (WEF) and all applicable law, including California Constitution Article XIII D, Section 6(b), commonly referred to as Proposition 218.

In addition to updating the sewer rates and charges, this Study also provides a new Sewer system connection fee that would be charged to new developments. This Sewer system connection fee is intended to recover costs for investments in infrastructure needed to provide additional capacity for new customers. This fee will help the City adhere to the policy commonly referred to as "growth pays for growth", promoting equity among existing customers and new customers connecting to the system.

1.3 METHODOLOGY

The methodology followed during the Study was completed in in four phases, as follows:

Revenue Sufficiency Analysis (RSA) – An RSA was completed through the use of a multi-year forecasting models for the Utility's sewer system to determine the level of annual revenue required to satisfy the projected annual operating expenses, debt service, and capital cost requirements while maintaining adequate reserve levels. This portion of the Study was conducted using the revenue sufficiency and financial planning module of Stantec's proprietary Financial Analysis and Management System (FAMS-XL) modeling system. The RSA includes a ten-year financial plan covering fiscal years (FY) 2019 through FY 2028.

Cost of Service Allocations (COSA) – Using the revenue requirements from the RSA for FY 2020, a detailed COSA was completed based upon principles outlined by the WEF and other generally accepted industry practices in order to determine the proper distribution of costs and corresponding revenue requirements. The purpose of a COSA is to determine the cost of providing water services so that the revenue requirements of the utility may be equitably collected through rates. The Study employed methods promulgated in WEF's *Manual of Practice 27: Financing & Charges for Wastewater Systems (MOP 27)* for the sewer system along with general guidance from AWWA's Manual, *Principles of Water Rates, Fees, and Charges, M1 (M1)* [2]. The COSA included the following steps:

- Step 1: Allocate costs to the appropriate activities/functions
- Step 2: Allocate the costs of each function to specific system parameters
- Step 3: Calculate unit costs
- Step 4: Distribute costs to customer classes based on unit costs and each class' usage characteristics
- Step 5: Credit non-rate revenue

[2] Although the AWWA M1 is primarily focused on water rate setting, it is an accepted and well-known manual providing general cost of service and rate setting guidance for water and sewer utilities alike.

Rate Structure Analysis – A rate structure analysis was carried out to evaluate the Utility's current user rate structure. The Study developed specific rate schedules to recover the identified level of required rate revenue from the appropriate customers. The recommended rate schedules were designed to:

- Fairly and equitably recover costs through rates;
- Conform to accepted industry practice and legal requirements;
- Provide fiscal stability and recovery of fixed costs of the system; and
- Promote affordability for customers minimizing their usage.

Sewer system connection fee Analysis – A sewer system connection fee analysis was completed to determine the appropriate connection fee for new customers connecting to the Utility's sewer system.

1.4 REPORT ORGANIZATION

This Report is organized into six sections. Following this introduction, Section 2.0 discusses the Sewer Enterprise Fund RSA, Section 3.0 details the COSA phase of the Study, Section 4.0 presents the rate design process and resulting structure, and Section 5.0 describes the sewer system connection fee analysis and findings. A summary of the proposed rates and fees is provided in Section 6.0 with bill impacts and bill comparison surveys presented in Section 7.0. Detailed tables for the RSA, COSA and resulting rate schedules are presented in Appendix A, Appendix B, and Appendix C, respectively. Appendix D includes source data for the sewer bill benchmark comparison and fee comparison.

2.0 REVENUE SUFFICIENCY ANALYSIS

2.1 DESCRIPTION

This section of the Report presents the financial management plan and corresponding plan of sewer rate revenue adjustments developed in the revenue sufficiency analysis (RSA) phase of the Study. The following sub-sections present a description of the source data, assumptions, and results of the RSA. Appendix A provides detailed supporting schedules for the Utility's financial management plans.

Stantec obtained the Utility's historical and budgeted financial information pertaining to the operation of, and investment in, its sewer system, as well as detailed and summary-level historical customer and flow data by customer class. Utility staff also provided a multi-year capital improvement program (CIP). Stantec also counseled with Utility staff regarding other assumptions and policies that would affect the performance of the Utility, such as trends in demands, expected account growth, capital funding sources, earnings on invested funds, operating cost escalation rates, and targeted key performance indicators (KPI) such target reserve levels.

The information was entered into the financial module of Stantec's Financial Analysis and Management System (FAMS-XL) interactive modeling system. This produced a ten-year projection of the sufficiency of current sewer rate revenue to meet current and projected financial requirements. The FAMS-XL tool also aided in determining the level of rate revenue increases necessary in each year of the projection period to satisfy the system's annual financial requirements.

The RSA phase of the Study included evaluation of several multi-year planning scenarios through interactive work sessions with the Utility staff. This scenario analysis was focused on determining the level of rate revenue increases necessary to meet adjusted levels of capital spending, in addition to other sensitivity analyses. This process ensured staff input was incorporated into the development of the recommended Utility financial management plan and the resulting sewer rate revenue adjustments presented in this report. The result of the RSA is a financial plan that uses the most current data to develop a multi-year projection meeting key financial performance objectives while minimizing rate adjustments to the extent possible.

2.2 SOURCE DATA

The following presents the key source data relied upon in conducting the RSA:

2.2.1 Beginning Fund Balances

The Utility staff provided the FY 2018 beginning fund balance for the Sewer Enterprise Fund in the form of the ending balance from the FY 2017 Comprehensive Annual Financial Report (CAFR). Current assets and liabilities were identified in the CAFR and reviewed with the Utility's financial staff to verify available

cash to be included in the beginning balance. A summary of the FY 2018 Beginning Balance is presented in Table 2-1. Details are provided in Schedule 2 of Appendix A.

Table 2-1: FY 2018 Sewer Enterprise Fund Beginning Balances

Current Assets and Liabilities	Cash & Cash Equivalents
Total Current Unrestricted Assets	$10,000,604
Total Current Liabilities	$(273,658)
UNRESTRICTED WORKING CAPITAL	**$9,726,946**

2.2.2 Revenues

The revised FY 2018 Budget, and the approved FY 2019 Budget served as the basis for Sewer Fund revenue projections. Current Sewer rate revenue consists solely of commodity rate revenue charged based on annual water use. Additional revenue is generated from interest income and inspection fees for fats, oils and grease (FOG).

Projected rate revenue is based upon the FY 2019 rate revenue and the forecasted customer accounts and billed volumes (see Section 2.3.4). The revised FY 2018 Budget, and the approved FY 2019 Budget were used to project other operating revenue. Interest income was calculated annually based upon projected average fund balances and conservatively estimated interest rates (see Section 2.3.3). Schedule 4 and Schedule 7 in Appendix A summarize projected revenues over the projection period.

2.2.3 Operating Expenses & Existing Debt

The Utility's operating expenses include all O&M expenses and non-CIP capital outlays. O&M expenses were based on the Sewer Enterprise Fund's revised FY 2018 and approved FY 2019 Budgets. Figure 2-1 presents a summary of the O&M cost categories and their respective shares of the FY 2019 operating budget, excluding anticipated CIP expenditures[3]. These expenses were projected over the planning period based upon anticipated cost escalation factors which reflect general inflation, industry standard indices, and the Utility staff expectations. Escalation factors are discussed in greater detail in Section 2.3.1.

[3] CIP excluded from summary of budgeted annual expenses due to variability in annual capital expenditures and distinct approaches to annual capital budgeting.

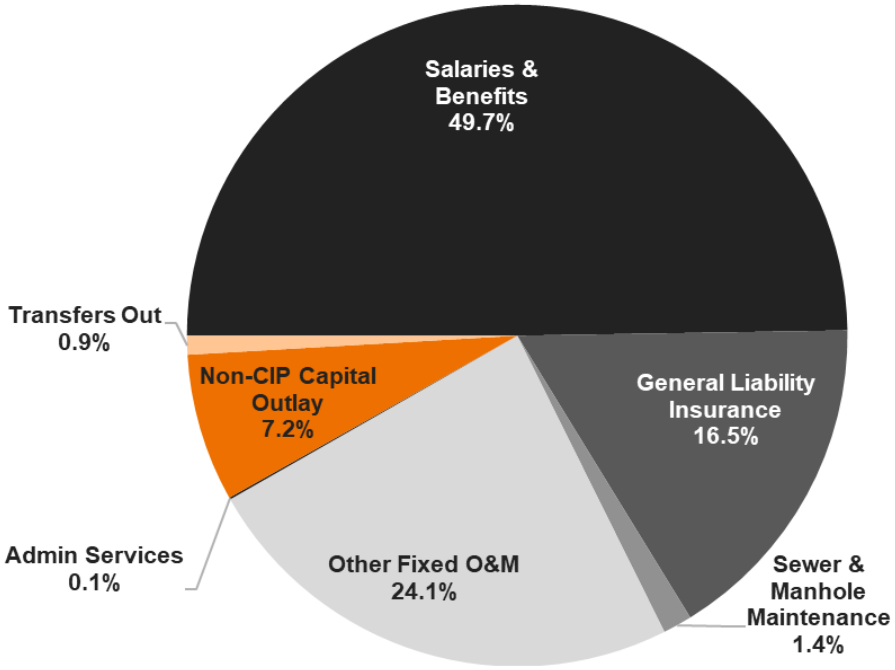


Figure 2-1: FY 2019 Budgeted Expense Categories

The sewer Utility currently has no outstanding debt and plans to cash-fund all future capital expenditures.

Schedule 5 and Schedule 7 in Appendix A summarize projected operating expenses over the projection period.

2.2.4 Transfers

The Utility currently makes transfers of $20,000 per year to the Equipment Replacement Fund where contributions are stored until being used for the purchase of new equipment. These transfers are projected to continue throughout the projection period and will increase with inflation. Schedule 5 and Schedule 7 in Appendix A present transfers over the projection period.

2.2.5 Capital Improvement Program

The Utility staff provided the anticipated cash flow for the ten-year CIP in 2018/2019 dollars. Actual capital expenditures in FY 2018 totaled $1.6 million. Because the Utility's sewer system is a gravity-fed collection system, the vast majority of the projected CIP is made up of targeted sewer line replacement projects. In total, the Sewer Utility's CIP from FY 2019 through FY 2028 is approximately $31.5 million (in 2019 dollars). This equates to an average of $3.15 million per year in pipeline replacement. The CIP project costs and schedule are included in Schedule 3 of Appendix A.

2.3 ASSUMPTIONS

The following presents the key assumptions utilized in the development of the financial plan which are provided on Schedule 1 of Appendix A.

2.3.1 Cost Escalation

Annual cost escalation factors for the various categories of O&M expenses were developed based upon discussions with the Utility staff, a review of historical trends, and published projections of general inflation from the Philadelphia Federal Reserve. Additionally, cost escalation of 3.0% was applied to CIP costs for projects occurring during and after FY 2020. Capital cost escalation was based on recent construction cost escalation trends reported by the Engineering News Record (ENR) Construction Cost Index (CCI). Cost escalation factors are presented in Schedule 6 of Appendix A.

2.3.2 Operation and Maintenance Cost Execution

Historical budgeted and actual O&M expenditures were reviewed in detail with Utility staff during the development of the RSA. This review was intended to ensure cost projections were based on a representative level of spending and reflected typical O&M expenditure levels. During this review it became apparent that budgeted O&M expenses consistently exceeded actual O&M expenses over the previous three years (FY 2016 – FY 2018). Expressed in terms of a percentage of actual to budgeted expenses, the historical relationship has ranged from 73.5% to 85.5%. In other words, actual O&M spending levels have typically been 73.5% to 85.5% of the budgeted expenses. Figure 2-2 presents the previous three years of budget and actual O&M expenses. The percentage shown in each year represents the rate of actual to budgeted O&M.

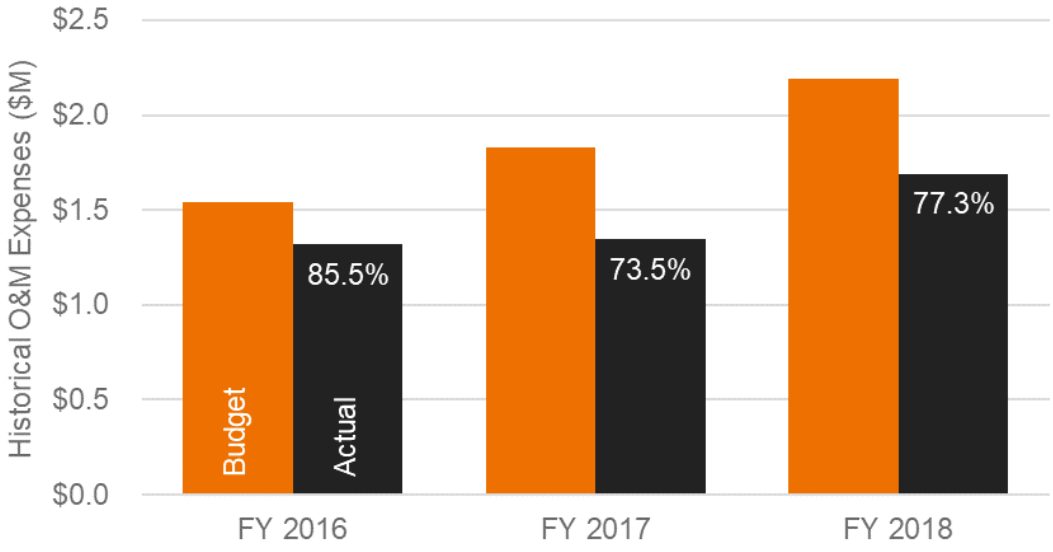


Figure 2-2: Historical Budget and Actual Operation and Maintenance Expenses

Because the FY 2019 budget serves as the basis for projected O&M expenses, projections have been adjusted down to 85% of budgeted levels to reflect the previously discussed historical trend while basing the adjustment on the highest rate of actual to budget to remain conservative in the projection of expenses.

2.3.3 Interest Earnings

The RSA reflects an assumed interest earnings rate of 1.0% on all Sewer Enterprise Fund balances throughout the projection period (FY 2019 - FY 2028). This level of interest earnings is representative of a conservative estimate of interest earnings based on recent historical interest income relative to the Utility's cash balances. Annual interest earnings are detailed in Schedule 4 and Schedule 7 of Appendix A.

2.3.4 Customer Growth & Volume Forecast

Projections of account growth and changes in billed volume are based upon discussions with Utility staff regarding the anticipated number of new service connections and recent trends in water demands. The projection includes expected growth associated with completion of a 700-unit development over the next 10 years, yielding approximately 70 new accounts per year. This yields an average account growth rate of approximately 0.33% per year. Based on a review of historical data and workshop discussions with Utility staff, per-account usage is projected to remain flat over the course of the Study projection period. Account growth and usage trends are further illustrated in Schedule 1 of Appendix A.

2.3.5 Reserve Target Recommendations

Utilities' reserve balances are funds set aside for a specific cash flow requirement, whether that's saving for a specific project or task, adherence to a legal covenant, ensuring the ability to fund emergency repairs to infrastructure, or maintaining the ability to cover O&M expenses under adverse circumstances. Furthermore, ratings agencies and the investment community place a significant emphasis on having sufficient reserves built into financial management policies. The level of reserves maintained by a utility is an important consideration in developing a multi-year financial management plan. As stated in Section 1.1, review of and updates to reserve targets were not included in the 2013 rate ordinance update.

Operating reserves were a key point of discussion during the development of the 10-year financial plan. The Sewer Enterprise Fund does not currently have a formal financial policy regarding Operating Reserves. However, based on discussions with Utility staff, the financial plan was developed to maintain an Operating Reserve target equivalent to three months of O&M expenses to ensure cash on hand for payment of operating expenses. This Operating Reserve is considered an unrestricted reserve as no formal policy governs the use of these funds and cash may be drawn from these funds to temporarily cover O&M expenses without requiring approval from the City Council.

A Capital Reserve was included in the Utility's 10-year financial plan in addition to the Operating Reserve described above. This Capital Reserve was included to assist the Utility in meeting its goal of cash-funding capital beyond the 10-year projection period. This Capital Reserve balance is set at $3.0 million beginning in FY 2019 and increases with capital cost escalation (3.0%) over the course of the projection

period. Including this reserve balance ensures that as the current cash balance is drawn down to cash fund near-term projects, projected rate increases are calculated with the aim of generating sufficient annual revenue to cover $3.0 million (in 2019 dollars) in annual capital expenditures by FY 2028 and later.

The financial plan in this Study ensures reserves are maintained at or very near these reserve targets throughout the projection period. Schedule 7 in Appendix A provides projected annual beginning and ending fund balances for the Sewer Enterprise Fund.

2.3.6 Future Borrowing & Capital Funding

The financial management plan continues the Utility's goal of cash-funding all capital expenditures, and as a result, includes no future borrowing during the 10-year projection period. As discussed in the previous section, the plan also aims to ensure this goal can continue to be met beyond the projection period through the generation of a capital reserve balance of $3.0 million that can be used to fund annual capital needs.

2.4 RESULTS

Based on the RSA it was determined that the current sewer rates and charges will not be sufficient to meet the annual revenue requirements of the system. A preliminary analysis indicated that failing to adjust sewer rates would result in insufficient funds to meet capital funding requirements to complete the Utility's CIP. This diagnostic analysis revealed that without rate adjustments the Sewer Enterprise Fund balance would fall below newly established reserve targets by FY 2023, and all resources would be exhausted by FY 2025 under the current projection of operating and capital costs. As a result, the RSA phase of the study set out to determine the appropriate level of rate revenue increases need to meet the Utility's financial goals while minimizing the impact to customers struggling to afford sewer service.

Based upon the data, assumptions, and policies presented herein, the Utility's current sewer rates will not provide sufficient revenue to meet its ongoing capital, operating, and reserve requirements over a multi-year projection period. An initial diagnostic evaluation of the Utility's Sewer Enterprise Fund indicated continuation of the status quo would result in the Sewer Enterprise Fund balance falling below reserve targets by FY 2023, and exhaustion of all cash resources by FY 2025 under the proposed operating and capital investment projections. Based on the findings of this diagnostic analysis, the RSA developed a financial management plan and corresponding set of sewer rate revenue increases that will meet the Utility's projected cost requirements under the projected conditions described in this report. Those revenue increases are presented in Table 2-2.

Table 2-2: Proposed Sewer Rate Revenue Increases, FY 2020 – FY 2024

Proposed Implementation Date	Rate Adjustment
July 1, 2019 (FY 2020)	5.0%
July 1, 2020 (FY 2021)	5.0%
July 1, 2021 (FY 2022)	5.0%
July 1, 2022 (FY 2023)	5.0%
July 1, 2023 (FY 2024)	5.0%

It is important to note that the projections of future conditions underlying this analysis are not intended to be predictions. Applicable to many water and wastewater utility systems, there are multiple factors beyond the Utility's control, such as i) weather, ii) regulatory changes, iii) national, regional, and local economic conditions, iv) the rate of growth in new customers, v) customer reaction to rate adjustments, vi) operating and capital cost inflation, and vii) changes in the timing and composition of the Utility's CIP, that will have material impacts on the future financial condition. These sources of uncertainty will yield differences between forecasted and actual results, some of which may be material. While Stantec bears no responsibility to update this report for unforeseen events and circumstances occurring after the date of this report, future management actions must be informed by, and adjusted to reflect, future outcomes as they occur. These comments are provided to emphasize the importance of active management informed by the reality of future operations by the Utility. It is Stantec's understanding that the Utility staff intends to use these models and update them to evaluate future projected rate increases annually based upon the most current available data at that time.

3.0 COST OF SERVICE ANALYSIS

The purpose of a Cost-of-Service Allocation (COSA) analysis is to determine the cost of providing sewer service to customer classes so that the proposed rate structure is aligned with those costs. This Study employed well-established industry practices for these types of studies as recognized by the AWWA, WEF, and other accepted industry practices. This section presents a detailed description of the COSA methodology and corresponding results.

The sewer system costs were allocated to functions or activities, and those costs were distributed to the appropriate system parameters to calculate unit costs. The unit costs were then used to distribute system costs to customer classes based on account and usage characteristics to determine the cost to serve each customer class. These class-specific costs served as inputs for the rate design analysis. The Utility provides primarily customer billing functions and sewer collection services as wastewater treatment is provided by and billed separately by Los Angeles County Sanitation District. Therefore, the primary functions are limited to wastewater collection, customer billing, and administrative functions.

3.1 PROCESS

The COSA was based upon the Utility's FY 2020 annualized expenditures and revenue requirements per the RSA, as illustrated in Figure 3-1.

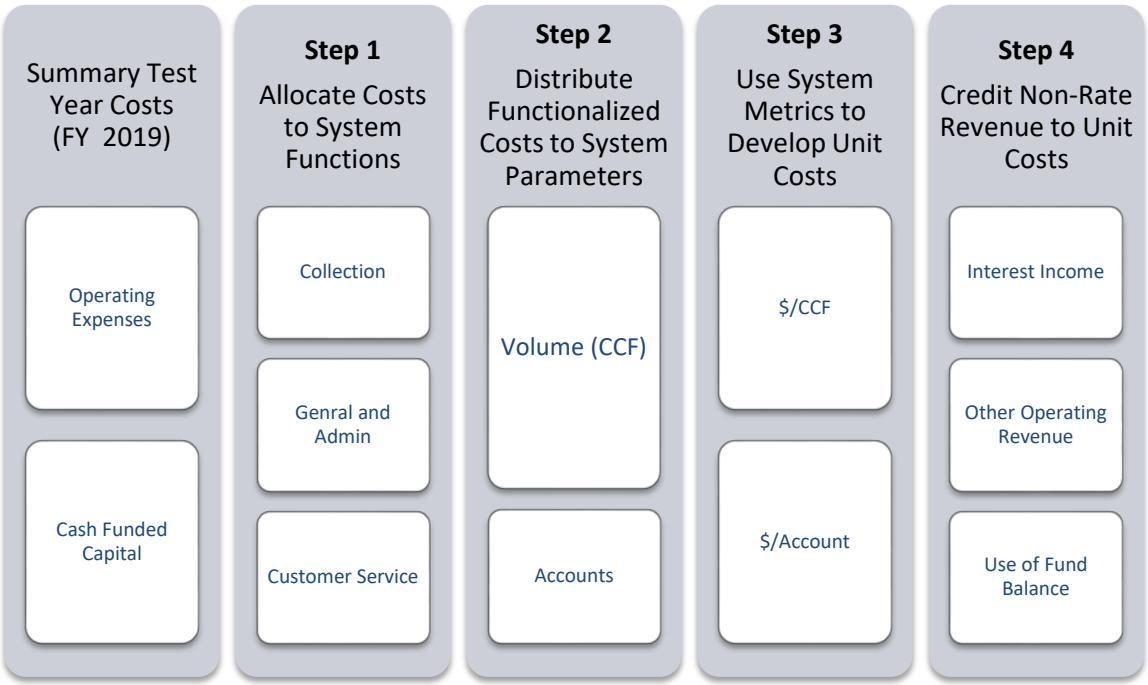


Figure 3-1. Schematic of Cost of Service Cost Allocation Steps

The following sub-sections give a detailed description of the COSA methodology and high-level results, while Appendix B includes detailed schedules of those results.

3.1.1 Step 1: Allocate Cost to System Functions

Revenue requirements from the RSA were first functionalized by grouping costs into major categories to allocate O&M expenses and cash-funded capital requirements to specific activities or functional components of service. These categories were then used to allocate individual line items from the Utility's operating budget and revenue requirements to functional components. Cost categories and the corresponding functional allocation percentages are shown in Table 3-1.

Industry best practices provide a framework for assigning operating and capital expenses to system functions, but because the reality of each utility's cost causation and design can vary, the specific knowledge and insight of Utility staff was relied upon to functionalize all the line item costs to the respective functional components identified above. Because the Utility only provides sewer collection and not treatment, the functional allocation of costs was rather straightforward with only three functions that are wastewater collection, customer, and general & administrative. All cash-funded capital and the change in fund balance associated with funding these projects were entirely functionalized as Wastewater Collection costs.

The detailed summary of all cost allocations to functional components is presented in Schedule 9 of Appendix B.

Table 3-1: Percent Allocation of Cost Categories to Functional Components

	Function		
Functional Allocation Category	**Wastewater Collection**	**Customer**	**General & Admin**
Wastewater Collection	100.0%		
Customer		100.0%	
General & Admin			100.0%
Indirect	70.1%	4.9%	25.0%
Staff FTE Allocation	90.0%	10.0%	
CIP	100.0%		

3.1.2 Step 2: Distribute Functionalized Costs to System Parameters

Costs from each functional component were distributed to system parameters based on sewer system flows and operational metrics. Assigning functionalized costs to system parameters is necessary to determine the cost to serve customers with differing usage or capacity characteristics. This is a critical step in developing a rate structure that is aligned with the cost to provide service (as required by Proposition 218).

Because the sewer system does not include wastewater treatment, the allocation of functionalized costs to system parameters is relatively straightforward. All Wastewater Collection costs were 100% allocated to the Volume parameter. These represent O&M expenses associated with maintaining the Utility's wastewater collection system. Customer costs were 100% allocated to the Accounts parameter. These Customer costs were primarily composed of billing and customer service operating expenses. Lastly, General & Admin costs were indirectly allocated between the Volume and Accounts parameters based on each category's respective proportion of directly allocated costs. As illustrated in Table 3-2, the majority of General & Admin costs were allocated to the Volume parameter.

Table 3-2: Mapping Functional Components to System Parameters

	System Parameters	
Function	**Volume**	**Accounts**
Wastewater Collection	100.0%	
Customer		100%
General & Admin	93.5%	6.5%

3.1.3 Step 3: Use System Units of Service to Develop Unit Costs

Costs allocated to System Parameters were used to determine volumetric and account-related unit costs. The primary units of service for the sewer system are the amount of billed sewer and the number of accounts. These metrics are summarized by customer class in Table 3-3.

Table 3-3: Sewer System Units of Service

Customer Class	Volume (CCF)	Accounts
Residential	2,781,688	17,504
Multi-Residential	908,126	2,101
Commercial	741,720	952
Private Development	48,917	381
Total	**4,480,451**	**20,938**

Dividing the costs allocated to the system parameters (shown in Table 3-2) by the units of service under each parameter (Table 3-3) yields the unit costs presented in Table 3-4.

Table 3-4: Unit Cost Determination

	Volume (CCF)	Accounts
Total Costs (See **Schedule 9**)	$4,391,721	$145,461
Total Units (from **Table 3-3**)	4,480,451	20,938
Cost per Unit (Unit Cost)	**$0.980 per CCF**	**$6.947 per Account**

Unit costs from Table 3-4 were then used to allocate costs to each customer class by multiplying the Volume and Account related unit costs by each customer class' share of the total billed volume or accounts, respectively. In the Utility's case, this was a circular process as there were no costs associated with peaking or effluent strength that would differentiate customer class.

3.1.3.1 Maximum Bill Determination

The Utility's sewer rates currently include a maximum bill for the Residential, Multi-Residential and Private Development customer classes. This maximum bill is intended to minimize charges to customers for water usage that does not return to the sewer system (e.g. landscape irrigation). Due to a lack of documentation on the existing basis for the current maximum bill, a new approach was proposed for an updated maximum bill basis.

The updated basis for maximum bills was calculated based on household size characteristics (number of people per household) and typical per capita indoor water usage. Household size data were collected from the US Census Bureau (USCB) 2017 American Community Survey (ACS) for the City of Whittier[4]. Indoor water use was estimated using the 2016 average per-capita indoor usage from the Water Research Foundation (WRF) End Uses of Water Report[5]. Finally, a contingency of 50% was added to this calculation to ensure high-volume users who returned significant flows to the sewer system were not subsidized by low-volume users. Table 3-5 illustrates the calculation of the maximum usage for Residential, Multi-Residential and Private Development customers.

Table 3-5: Maximum Bill Calculation

Input	Value
Per-Capita Indoor Water Usage (gpd/cap)	58.6
99th Percentile Household Size	6.6
Estimated Daily Indoor Water Usage (gpd)	389
Estimated Annual Indoor Water Usage (CCF/yr)	**190**
Contingency	50%
Calculated Maximum Sewer Usage (CCF/yr)	**280**

It's worth noting that a decrease in the maximum usage for residential accounts will reduce the total billed flow used in determining the unit cost for volume-related expenditures. As a result, the 50% contingency was incorporated to ensure low-volume users who do not reach the maximum usage would not subsidize high-volume users who return significant indoor usage to the sewer system.

3.1.4 Step 4: Credit Non-Rate Revenue

Non-rate revenue is used to offset the annual cost of service that would otherwise need to be recovered in rates or service charges. Non-rate revenue includes interest income and other operating revenue (such as miscellaneous fees). Non-rate revenues are allocated equitability among customer classes

[4] United States Census Bureau, 2017 American Community Survey, Table B25009

[5] Water Research Foundation, Residential End Uses of Water, 2016

based on the billed volume from each class. Billed volume serves as the basis for non-rate revenue allocation because each customer's benefit from use of the system is most directly represented by the flow sent to the collection system.

Table 3-6: Non-Rate Revenue Allocation to Customer Classes

Non-Rate Revenue	TOTAL	Residential	Multi-Residential	Commercial	Private Development
Other Operating Revenue Allocation	**100.0%**	62.1%	20.3%	16.6%	1.1%
Interest and Non-Operating Revenue Allocation	**100.0%**	62.1%	20.3%	16.6%	1.1%
Other Operating Revenue	**$30,000**	$18,626	$6,081	$4,966	$328
Interest and Non-Operating Revenue	**$82,600**	$51,282	$16,742	$13,674	$902
Total Non-Rate Revenue	**$112,600**	**$69,908**	**$22,822**	**$18,640**	**$1,229**

3.1.4.1 Private Development Credit

In addition to non-rate revenue, an adjustment was made to credit the Private Development customer class for the sewer lines under private management. This credit is applied to recognize that a) the Utility and customers outside the Private Development class benefit from the fact that a portion of sewer lines within the Utility service area are under private maintenance, and b) residents living within private developments are paying for the costs to maintain those sewer lines through HOA fees, services fees, etc.

The Private Development credit was calculated using O&M costs directly allocated to Wastewater Collection from the cost functionalization step of the COSA (Section 3.1.1). These costs were then allocated among customer classes using a hybrid of two factors – flow and capacity. These two factors and the method of determining the corresponding credit are described below:

1. **Flow-Based Credit** – Average flow serves as a representation of the typical use, or benefit, customers receive from the Utility operating and maintaining a functioning wastewater collection system. The flow-based credit was calculated as follows:

    a. Directly allocated Wastewater Collection O&M costs calculated during the functionalization step of the COS were allocated among customer classes based on their respective shares of the total billed flow.

    b. The costs allocated to the Private Development class served as an approximation of the average O&M costs associated with serving these customers, and thereby an estimate of the Utility's avoided cost of handling the average flow from Private Development customers. Table 3-7 presents the inputs and results for this calculation.

Table 3-7: Average Flow-Based Private Development Credit

	Credit Calculation
Directly Allocated Wastewater Collection O&M Costs	$586,490
Private Development Average Flow as a Share of Total	1.1%
Private Development Share of Wastewater Collection O&M	**$6,403**

2. **Capacity-Based Credit –** System capacity serves as a representation of the benefit customers receive from having a system sized with sufficient capacity to handle peak flows. The capacity-based credit was calculated as follows:

    a. Total pipe material under Utility and private development management was calculated based on an inventory of sewer lines within the Utility's service area. Total pipe material was calculated in units of square feet of pipe by summing the product of pipeline length and pipe circumference over all pipe sizes in the service area. This calculation is summarized by the formula below, where '*i*' represents each pipe size (diameter) within the Utility service area.

    $$Pipe\ Material\ (SF) = \sum_{i} Pipe\ Circumfrence_i \times Pipe\ Length_i$$

    b. Directly allocated Wastewater Collection O&M costs from the Utility's test year were then divided by the total sewer line material under Utility maintenance to calculate the Utility's unit cost for wastewater collection O&M in units of dollars per square foot (SF) of pipe material.

    c. The Utility's unit cost was then multiplied by the total sewer line material under private management to approximate the total O&M costs avoided by the Utility due to private management of a share of the service area sewer lines.

    d. This avoided cost served as the total capacity-based credit to the Private Development class. The calculation steps and results are presented Table 3-8.

Table 3-8: Capacity-Based Private Development Credit Calculation

	Credit Calculation
Directly Allocated Wastewater Collection O&M Costs	$586,490
Utility Maintained Sewer Line (SF)	2,005,439
Unit Cost for Utility Sewer Line Maintenance ($/SF)	**$0.29**
Privately Maintained Sewer Line (SF)	72,239
Avoided Cost of Privately Maintained Sewer Lines	**$21,126**

The total Private Development credit was then calculated as a hybrid of the two methods discussed above. The two approaches were combined as a weighted average, weighted by the ratio of average flow to peak flow. Peak flows were calculated by applying customer class-specific peaking factors from the Utility's 2018 Sewer Master Plan to the average billed flow from each class. The ratio of average flow to peak flow, and resulting hybrid Private Development credit calculated as a weighted average are presented in Table 3-9.

Table 3-9: Hybrid Private Development Credit

	Volume Basis: Average Flow	Capacity Basis: Peak Flow	TOTAL
Daily Billed Flow and Incremental Peak Flow (CCF/d)	12,275	12,791	**25,067**
Relative Share of Average and Peak Flow as Share of Total Peak Flow	49%	51%	
Total Private Development Credit	**$6,403**	**$21,126**	**$13,916**
Credit Impact to Commodity Rates	**Unit Cost Impact**	**Percent Impact**	**Adjusted Unit Cost ($/CCF)**
Credit to Private Development Customers ($/CCF)	**($0.278)**	**-29.1%**	**$0.677**
Recovery from Non-Private Development Customers ($/CCF)	**$0.003**	**+0.3%**	**$0.958**

3.2 RESULTS – REVENUE REQUIREMENT BY CUSTOMER CLASS

After computing the unit cost and adjusting for non-rate revenues, the revenue by customer could can be determined. The revenue requirement is comprised of two primary components. The first is the volumetric revenue, where the unit cost is multiplied by the total volume for each customer class (shown in Table 3-10). The Private Development Credit outlined in Section 3.1.4.1 is then applied to this volumetric component in determining the total cost to serve each customer class. The second component is the account revenue, where the unit Account costs are multiplied by the number accounts in each customer class as shown in Table 3-11. These two components are summed in Table 3-12 to calculate the overall revenue requirement by class.

Table 3-10: Volumetric Revenue Requirement by Customer Class

	Residential	Multi-Residential	Commercial	Private Development
Total Billed Volume (CCF)	2,781,688	908,126	741,720	48,917
Allocated Volumetric Unit Cost ($/CCF)	$0.955	$0.955	$0.955	$0.955
Private Development Credit ($/CCF)	*$0.003*	*$0.003*	*$0.003*	*($0.278)*
Volumetric Unit Cost ($/CCF)	**$0.958**	**$0.958**	**$0.958**	**$0.677**
Total Volumetric Revenue Requirement	**$2,665,237**	**$870,109**	**$710,669**	**$33,106**

Table 3-11: Account Revenue Requirement by Customer Class

	Residential	Multi-Residential	Commercial	Private Development
Total Billed Volume (EA)	17,504	2,101	952	381
Allocated Volumetric Unit Cost ($/EA)	$6.95	$6.95	$6.95	$6.95
Total Account Revenue Requirement	**$121,605**	**$14,596**	**$6,614**	**$2,647**

Table 3-12: Total Revenue Requirement by Customer Class

	Residential	Multi-Residential	Commercial	Private Development
Total Volumetric Revenue Requirement	$2,665,237	$870,109	$710,669	$33,106
Total Account Revenue Requirement	$121,605	$14,596	$6,614	$2,647
Total Revenue Requirement by Class	**$2,786,876**	**$884,716**	**$717,291**	**$35,753**

These findings allowed for a comparison of the revenue requirements by customer class resulting from the COSA phase of the study to the current rates and total revenue collected from reach customer class. Figure 3-2 presents a graphical representation of this comparison, where current rate revenue by customer class is represented in gray columns and the class cost of service is represented in black. Classes with rate revenue less than the class cost of service are undercharged under the current rate structure, while classes with rate revenue greater than the class cost of service are overcharged. This discrepancy is corrected under the proposed rate structure described in Section 4.0.

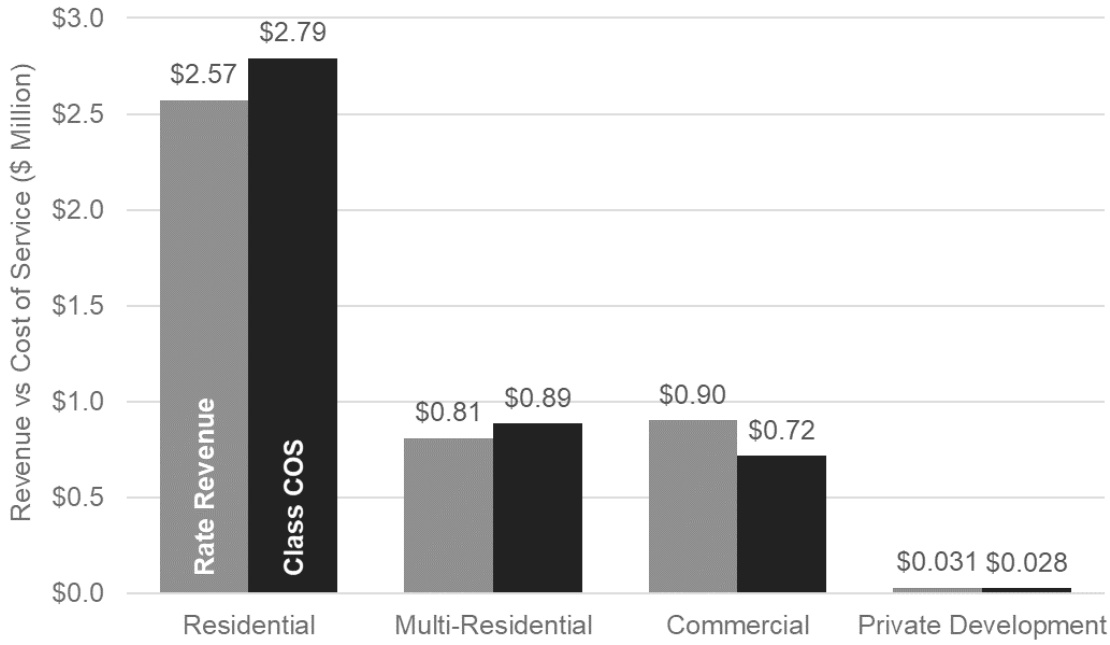


Figure 3-2: Revenue Under Current Rates vs Cost of Service

4.0 PROPOSED RATE STRUCTURE AND RATE SCHEDULE

Upon completion of the COSA, a rate structure analysis was performed to identify potential rate structure modifications and establish rate schedules for implementation in FY 2020 that would:

- Fairly and equitably recover costs through rates;
- Conform to accepted industry practice and legal requirements;
- Provide fiscal stability and recovery of fixed costs of the system; and
- Promote affordability for customers minimizing their usage.

The following sub-sections present a description of the basis of the recommended rate structure and specific rate schedules for implementation in FY 2020 (to be implemented on July 1, 2019). The full recommended rate schedules for FY 2020 through FY 2024 are provided in Schedule 10 of Appendix C.

4.1 CURRENT RATES AND RATE STRUCTURE REVIEW

The Utility currently bills sewer customers annually based on their metered water consumption over the prior calendar year via the County property tax rolls. Not all sewer customers are water customers of the Utility. For those customers who receive water service from another provider, the water supplier provides the consumption records to the Utility, and the Utility bills these customers on the County's annual property tax roll. A maximum bill/usage is assigned to all customer classes excluding the commercial class. This maximum is assigned on a per-unit basis, meaning the maximum scales with the number of housing units associated with a single Multi-Residential account. For example, any residential customer consuming over 300 CCF of water in the calendar year would only be charged for 300 CCF of usage, or $273, for sewer service. This maximum is intended to eliminate excessive sewer charges that could result from water use that is not returned to the sewer system (e.g. landscape irrigation). Table 4-1 summarizes the current sewer rate structure and maximum bill/usage for each class.

Table 4-1: Current Rates by Customer Class

Customer Class	Rate ($/CCF)	Max Bill ($/Unit)	Max Volume (CCF/Unit)
Residential	$0.91	$273.00	300
Multi-Residential	$0.91	$163.00	180
Commercial	$1.22	N/A	N/A
Private Development	$0.50	$273.00	546
Reduced Rate	$0.50	$151.26	300

As presented in Table 4-1, the Utility also has a Reduced Rate customer class for low-income customers. This Study does not calculate a proposed Reduced Rate due to the constraints imposed by the requirements of Proposition 218 which prohibit the redistribution of costs from one class to another unless there is a demonstrated relationship to the cost of providing the service. In this case, there is no

justification for redistributing the cost from the reduced rate customers to other customers as there is no relationship between the cost to serve customers and their household income. However, the Utility can choose to continue offering the program, but it must be funded through a non-rate revenue source, such as the City General Fund, or a non-operating utility revenue (e.g. lease revenues).

4.2 RATE SETTING OBJECTIVES

The rate structure analysis began with a review of the existing rate structure. In addition to the challenges associated with calculating an updated rate for the Reduced Rate customer class, the drivers of the updated rate structure analysis and solutions provided are listed below:

- **Driver:** Limited to no documentation on the cost basis for the rate differential between customer classes
    - **Solution:** Ensure adherence to cost-driven rate design principles using COSA results, in accordance with Proposition 218.
- **Driver:** Lack of fixed cost recovery through a fixed customer charge assessed to each account
    - **Solution:** Recover customer-related costs through an annual fixed charge, named the "Customer Charge", to be charged per account.
- **Driver:** Lack of justification for the maximum bill assigned to Residential, Multi-Residential and Private Development customer classes
    - **Solution:** Apply household size characteristics (people per household) within the City to cap water usage applied to sewer bill in an effort to minimize sewer charges for water usage that is not returned to the sewer system
- **Driver:** Lack of justification for reduced rate paid by the Private Development customer class
    - **Solution:** Estimate the Utility's avoided cost for operations and maintenance of private sewer lines using a hybrid of a capacity and volume driven basis, and apply the credit to Private Development customers' Commodity Rate.

The rate design drivers and solutions were accounted for during the COSA phase of the study, as outlined in Section 3.0. These solutions were implemented in the recommended rates outlined in Section 4.3.

4.3 RECOMMENDED RATES

Based on the RSA (Section 2.0) and COSA (Section 3.0) phases of the study, an updated rate structure was established for the Sewer Utility. Table 4-2 presents the recommended rate structure by class for FY 2020, with the full schedule proposed for the projection period through FY 2024 provided in Schedule 10 of Appendix C.

Table 4-2: Recommended Sewer Rates by Customer Class (FY 2020)

Class	Proposed Max Usage (CCF)	Proposed Commodity Rate ($/CCF)	Proposed Customer Charge ($/Acct)	Proposed Max Bill ($/Unit)
Residential	280	$0.96	$6.95	$275.75
Multi-Residential	280	$0.96	$6.95	$275.75
Commercial	NA	$0.96	$6.95	NA
Private Development	280	$0.68	$6.95	$197.35

5.0 SEWER SYSTEM CONNECTION FEES

This section of the Study has been prepared to establish the sewer system connection fee (Sewer Fee) for the WUA and City in accordance with the procedural guidelines established in AB1600 which is codified in California Government Section 66000 *et seq*. These code sections set forth the procedural requirements for establishing and collecting the fee. These procedures require that a "reasonable relationship or nexus must exist between a governmental exaction and the purpose of the condition. Specifically, each local agency imposing a fee must:

- Identify the purpose of the fee;
- Identify how the fee is to be used;
- Determine how a reasonable relationship exists between the fee's use and the type of development project on which the fee is imposed;
- Determine how a reasonable relationship exists between the need for the public facility and the type of development project on which the fee is imposed; and,
- Demonstrate a reasonable relationship between the amount of the fee and the cost of the public facility or portion of the public facility attributable to the development on which the fee is imposed.

These findings are made in Section 5.5, AB1600 Nexus Findings below. In general, a system connection fee is a one-time charge paid by a new customer to recover a portion or all of the cost of constructing sewer system capacity, for which they derive benefit. The fees are assessed to new customers requiring system capacity and serve as the mechanism by which growth can "pay its own way," and minimize the extent to which existing customers must bear the cost of facilities that will be used to serve new customers.

The system connection fee to be collected for sewer service is calculated based on the proportionate share of the sewer infrastructure costs, for which new customers derive benefit. The sewer system infrastructure includes mainly sewer pipelines, as the sewer system is a collection system only (no treatment). This is a newly proposed Sewer Fee for the City and WUA.

It is recommended that the Utility consider creating a separate fund to manage connection fees. Any interest earned on the connection fees will remain in this fund and will not be transferred to any other fund. Use of the connection fees shall be limited to funding sewer system infrastructure to serve future development within the City. In the event Sewer Fees are collected but remain unused by the Utility over 5 years, the fee balance must either be reviewed and the nexus findings re-established or the funds should be refunded to customers.

5.1 GENERAL METHODOLOGY

There are three primary approaches to calculating system connection fees, each of which is discussed below.

Buy-In Method

This approach determines the system connection fees solely on the existing utility system assets. Specifically, the replacement costs for the system's major functional components serve as the cost basis for the system connection fee calculation. This approach is most appropriate for a system with available capacity, such that most new connections to the system will be served by that existing excess capacity and the customers are effectively "buying-in" to the existing system.

Incremental/Marginal Cost Method

The second approach is to use the portion of the system's multi-year CIP associated with the provision of additional system capacity as the cost basis for the fee calculation. This approach is most appropriate where 1) the existing system has limited or no excess capacity to accommodate growth, and 2) the CIP contains a significant number of projects that provide additional system capacity.

Combined Cost Method

The third approach is a combination of the two approaches described above. This approach is most appropriate when 1) there is excess capacity in the current system that will accommodate some growth, but additional capacity is needed in the near-term as reflected in the CIP, and 2) the CIP includes a significant level of spending on projects that will provide additional system capacity, but does not necessarily have a sufficient number of projects in each functional area to be reflective of a total system. Table 5-1 summarizes each of the three methodologies and their typical application.

Table 5-1: Description of Methodologies & Restriction to Proceeds

Methodology / Approach:	Description:	Often Used by Systems with:
Buy-In Method	New development shares in **capital costs previously incurred** which provided capacity for demand arriving with new development needs.	Excess capacity.
Incremental / Marginal Cost	New development share in **capital costs to be incurred in the future** which will provide capacity for demand arriving with new development needs.	Limited or no excess capacity and a CIP which will provide significant additional capacity.
Combined Cost	Combination of Buy-In and Incremental / Marginal Cost methods	Some excess capacity but short-term additional capacity is needed and identified in the CIP.

Because the Utility's system has available capacity, and the current CIP is not anticipated to create additional capacity, the appropriate methodology for calculation of the new Sewer Fee was deemed to be the buy-in approach.

5.2 BASIS OF ANALYSIS

The first step in calculating connection fees was to determine the cost basis or value for the system. The net system value used in the determination of the Sewer Fee was calculated using the following approach.

1. The existing system assets were analyzed to determine the replacement cost new less depreciation (RCNLD) of the Utility's existing major sewer system components.
2. Any donated assets and/or assets not funded by the Utility (funded by grants, developers, etc.) are removed from the system assets.
3. The assets are further reduced by any outstanding principal on debt for the system.
4. The resulting net system value is used in the determination of the fee.

The following section outlines the details of the analysis completed during the Study to calculate the Sewer Fees.

5.2.1 Total System Value

The Utility provided a detailed asset inventory list which included an asset identification number, a description of the asset, useful life, year placed in service, original cost, net book value and useful life for each sewer system asset installed between 1996 and 2018. The city also provided a GIS shapefile that contained a comprehensive list of buried assets including the pipe material, diameter, segment length and installation date. This information was used to calculate the RCNLD for the Utility's assets, bringing replacement costs into current dollars by escalating costs using the Engineering News Record Construction Cost Index. Schedule 11 in Appendix D shows the RCNLD for the Utility's existing sewer system assets based upon the asset records provided by Utility staff.

No additional capital costs were included in this calculation due to the fact the CIP would not increase system capacity, hence the use of the buy-in approach.

5.2.2 Credits

System connection fee calculations typically include provisions for credits against the value of the system to account for assets that were not funded by the municipality and for assets with outstanding debt liabilities. The credits included in the Study are discussed below.

Principal on Outstanding Debt.

Typically, a credit is given in the form of the principal on outstanding debt, which is usually recovered in usage rates after new customers connect to the sewer systems. The Sewer Enterprise Fund has not outstanding debt.

Contributed and Grant Funded Assets

System assets that were donated to the Utility or funded with grants are also excluded from the system connection fee calculation. If the Utility did not incur the cost of purchasing and/or constructing the asset, they cannot legitimately include the costs in the system value used to determine the system connection fee.

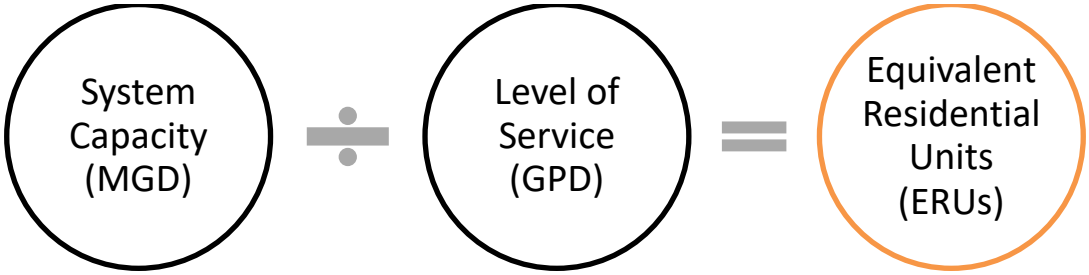
Table 5-2 summarizes the credits applied in the calculation of the Utility's Sewer Fee.

Table 5-2: Credits Applied to Sewer System Asset Value

	Principal Outstanding	Contributed Assets	Total Credits	Net System Value
Amount	$0	$9,506,629	**$9,506,629**	**$47,099,590**

5.3 CAPACITIES

Once the system values were determined and allocated to each system and its functional components, the next step was to determine the system capacity, expressed in units of equivalent residential units (ERUs). Expressing the system capacity in ERUs allows for the development of the unit pricing of capacity which is essential for the determination of a system connection fee. The total system capacity (collection system capacity in million gallons per day) divided by the level of service in gallons per day is equal to the total number of ERUs the Utility can serve with the existing system capacity.



5.3.1 System Capacity

The Utility's sewer system is a collection-only system. While treatment capacities are typically readily available and generally accepted to be the physical or regulatory permitted capacity of such facilities, collection system capacities are more difficult to quantify. As such, this Study used a conservative estimate of future flows provided in the Utility's Sewer Master Plan that describe the City's fully built out condition. Table 5-3 shows the estimated capacity of the Utility's wastewater collection system.

Table 5-3: Estimated Sewer System Capacity

	Sewer System Capacity (MGD) As Permitted
System Capacity	18.72

5.3.2 Level of Service Standards

In the evaluation of the capital facility needs for providing sewer utility services, it is critical that a Level of Service (LOS) standard be developed. The LOS is an indicator of the extent or degrees of service provided by, or proposed to be provided by, a facility based on and related to the operational characteristics of the facility. LOS indicates the capacity per unit for each public facility or service. LOS standards are established to ensure that adequate facility capacity will be provided for future development and for purposes of issuing development orders or permits.

The LOS commonly used in the industry is the amount of capacity allocable to an ERU expressed as the amount of usage on an average day, maximum month or peak day basis. This allocation would generally represent the amount of capacity allowable to an ERU, whether or not such capacity is actually used on an average day basis. This Study calculated the LOS using the 2018 monthly usage per ERU for the sewer system and converted the number into a gallons per day figure, allowing for peaking. The LOS utilized as part of this process represents average daily usage per ERU, and is shown in Table 5-4.

Table 5-4: Sewer System Level of Service

Sewer
Level of Service
693 GPD

5.4 RESULTS

This section summarizes the results of the Sewer Fee Study, a summary of the proposed new fees, and conclusions and recommendations.

5.4.1 Proposed Sewer System Connection Fees

To calculate the Sewer Fee, the net system value described in Section 5.2 for each functional component was divided by the capacity for each functional component stated in ERUs to determine the capacity cost per ERU. The Utility currently defines an ERU as a single-family residential customer with a 3/4" meter size connection. The unit cost per ERU, or Sewer Fee per 3/4" meter connection, is then scaled by meter size to develop the system connection fee schedule for all applicable meter sizes. Schedule 14 in Appendix D provides a summary of the calculated Sewer Fees.

Table 5-5 provides a schedule of proposed Sewer Fees based upon the cost and capacity information discussed herein by meter size. The scaling of the system development fee by meter size is intended to reflect the potential demand associated with each meter. Because the Utility's sewer system is a collection-only system and customers are charged based on water usage, little consideration is given to effluent strength from different customer classes. As a result, it is logical to use hydraulic meter equivalents established by the AWWA to scale Sewer Fees.

Table 5-5: Sewer Fee Schedule

Meter Size	Calculated Fee
¾ inch	$1,797
1 inch	$3,001
1 ½ inch	$5,985
2 inch	$9,579
3 inch	$17,972
4 inch	$29,959
6 inch	$59,901
8 inch	$95,845
10 inch	$137,792

It is important to note that the Utility has discretion regarding the percentage of cost recovery utilized in the establishment of the Sewer Fees. The fees can recover any amount up to, but not in excess of, the full cost recovery amounts identified herein.

Based upon this Sewer Fee analysis, the following conclusions and recommendations could be made:

1) We recommend that the Utility adopt Sewer Fees based on the buy-in approach and scale the fees by meter size as demonstrated in Table 5-5.
2) We recommend that the Utility review its connection fees at least every five years to ensure that they remain fair and equitable and continue to reflect the current cost of capacity. As the Utility continues to expand its facilities, future changes in technology, demands, development patterns, or other factors may necessitate additional adjustments to the Sewer Fees.
3) We recommend that as part of any system connection fee update, the Utility also evaluates the most appropriate accepted methodology for calculating its system unit cost of capacity as system capacity may change over time.

5.5 AB1600 NEXUS FINDINGS

The following describes the justification or Nexus findings for purposes of establishing the fees by the Utility as required by AB1600.

5.5.1 Purpose of the Fees

The Sewer Fee will help maintain adequate levels of Sewer service within the City of Whittier. New development in the City will increase the demand for these services and may require the City to expand its existing facilities. The Sewer Fee will ensure new customers pay for their share of the existing system and fund construction of sewer system facilities necessary to accommodate new residential and commercial development.

5.5.2 Use of the Fees

The Sewer Fee will fund the construction of sewer infrastructure, which primarily include sewer collection facilities.

5.5.3 Relationship Between Use of Fees and Type of Development

New development will increase the demand for sewer service. The extension of existing facilities through construction of collection system pipelines, as well as other capital projects, will ensure that new development is adequately serviced.

5.5.4 Relationship Between Need for Facility and Type of Project

Each new development project will add to the incremental need for sewer service. Sewer infrastructure projects as identified in the Sewer Master Plan Update as well as an allocation of the cost of the existing infrastructure based on RCNLD will be needed to maintain the current level of service and this Sewer Fee will facilitate funding and construction of these projects.

5.5.5 Relationship Between Amount of Fees and Cost of or Portion of Facility Attributed to development Upon Which Fee is Imposed

The methodology used to determine the Sewer Fee is described in Sections 5.2 through 5.4. The fee is based on a proportional share of the facility costs, which were developed based on the Utility's RCNLD for existing facilities. The portion of costs included in the fee calculation is based on in its current sewer system and the level of service currently provided to existing customers. This approach ensures that new development is charged a fee that does not exceed current levels of service and is proportional with the benefit received.

6.0 SUMMARY OF PROPOSED RATES AND FEES

This Report used methodologies that are aligned with industry standard practices for rate setting as promulgated by AWWA, WEF, and all applicable law, including Proposition 218.

Based on the methodologies described above, Table 6-1 summarizes the proposed rate schedules to be adopted on July 1, 2019 (FY 2020). A complete schedule of rates over the 5-year planning period from FY 2020 through FY 2024 are summarized in Appendix C.

Table 6-1: Proposed Sewer Rates, Effective July 1, 2019

Class	Proposed Max Usage (CCF)	Proposed Commodity Rate ($/CCF)	Proposed Customer Charge ($/Acct)	Proposed Max Bill ($/Unit)
Residential	280	$0.96	$6.95	$275.75
Multi-Residential	280	$0.96	$6.95	$275.75
Commercial	NA	$0.96	$6.95	NA
Private Development	280	$0.68	$6.95	$197.35

Table 6-2 presents the schedule of sewer system connection fees (Sewer Fees) to be adopted in FY 2020. Details of the Sewer Fee calculation are provided in Appendix D.

Table 6-2: Proposed Sewer Fees, Effective July 1, 2019

Meter Size	Calculated Fee
¾ inch	$1,797
1 inch	$3,001
1 ½ inch	$5,985
2 inch	$9,579
3 inch	$17,972
4 inch	$29,959
6 inch	$59,901
8 inch	$95,845
10 inch	$137,792

7.0 SEWER BILL BENCHMARKING AND CUSTOMER IMPACTS

The recommended changes to the sewer rates will have an impact on the Utility's customers. This section of the report provides a summary of the bill impacts to customers in all customer classes as well as a comparison of the sewer bill for the median single-family residential customer served by comparable and/or local utilities with in the region. A comparison of availability charges, or Sewer Connection Fees, for new customers joining the system are presented as well.

7.1 SEWER BILL IMPACTS

The proposed adjustments to the rates will provide revenue stability and continue to equitably and proportionately recover costs from the appropriate customers. Figure 7-1 presents a summary of annual bill impacts to each customer class. Figure 7-1 shows the number of bills that will increase or decrease, grouped into bins shown on the y-axis. Orange bars represent bills that will decrease, even as overall rate revenues increase under the plan presented in Table 2-2. Black bars represent all bills that will increase under the proposed rate structure and plan of rate revenue increases.

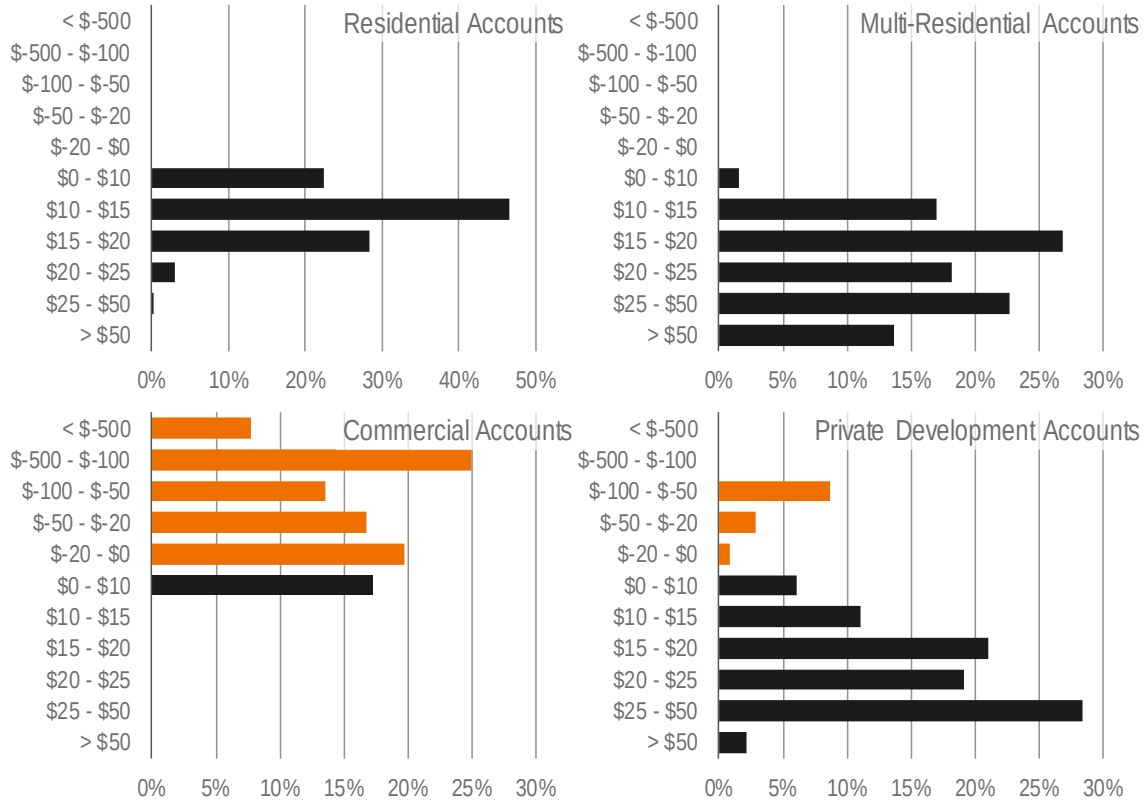


Figure 7-1: FY 2020 Sewer Bill Annual Impacts by Customer Class

As indicated in Figure 7-1, the majority of customers' bills will increase due to the increase in rate revenues needed to fund the Utility's ongoing operations and capital needs. However, many Commercial customers will see a decrease in their bills due to the leveling of the usage rates charged to each customer class. Additionally, the revised maximum bill will lead a small share of Private Development customers to see a reduction in their bill.

7.2 SEWER BILL SURVEY

A sewer bill survey was conducted to compare the Utility's current and proposed sewer bills to those in comparable, neighboring communities. This sewer bill survey is based on a single-family residential customer using 13 CCF per month (156 CCF per year). For those communities whose rates are dependent on meter size, a typical meter size of ¾" was used. Figure 7-2 presents this comparison with communities ordered in ascending order from left to right. This survey indicates the Utility's Single-Family Residential sewer bills will remain very near the average of neighboring jurisdictions.

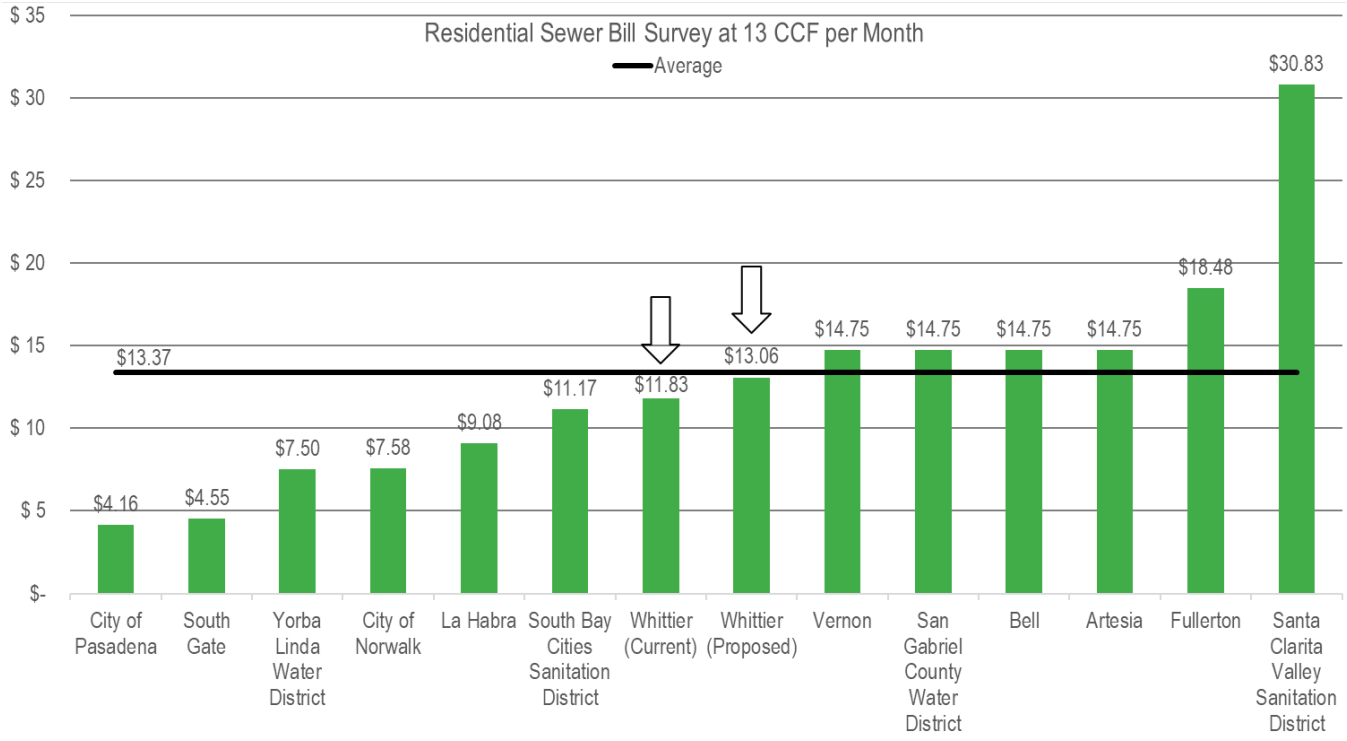


Figure 7-2: Sewer Bill Survey – Single-Family Residential Customers with ¾" Meter

It is worth noting that while bill comparisons are informative, there are a number of factors that influence sewer rates in each community at a given time. Such factors include the level of investment in system rehabilitation and replacement, financial management policies, and the nature of customer classes and usage characteristics in each community.

7.3 SEWER SYSTEM CONNECTION FEE SURVEY

Figure 7-3 presents a comparison of the Utility's proposed Sewer System Connection Fee to similar fees in surrounding jurisdictions. As illustrated, the Utility's newly proposed Sewer System Connection Fee is well below the average of similar fees in neighboring jurisdictions.

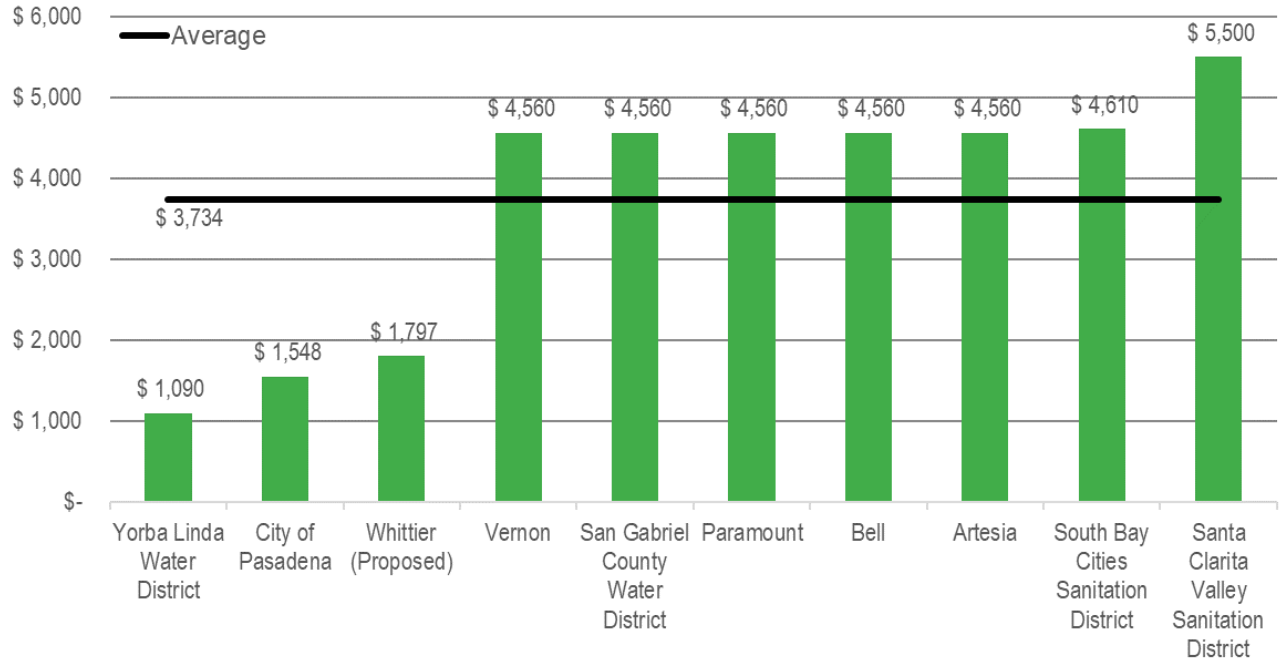


Figure 7-3: Sewer System Connection Fee Survey – Single-Family Residential Customer with ¾" Meter

DISCLAIMER

This document was produced by Stantec Consulting Services, Inc. ("Stantec") for the Whittier Utility Authority ("Utility") and is based on a specific scope agreed upon by both parties. In preparing this report, Stantec utilized information and data obtained from the District or public and/or industry sources. Stantec has relied on the information and data without independent verification, except only to the extent such verification is expressly described in this document. Any projections of future conditions presented in the document are not intended as predictions, as there may be differences between forecasted and actual results, and those differences may be material.

Additionally, the purpose of this document is to summarize Stantec's analysis and findings related to this project, and it is not intended to address all aspects that may surround the subject area. Therefore, this document may have limitations, assumptions, or reliances on data that are not readily apparent on the face of it. Moreover, the reader should understand that Stantec was called on to provide judgments on a variety of critical factors which are incapable of precise measurement. As such, the use of this document and its findings by the Utility should only occur after consultation with Stantec, and any use of this document and findings by any other person is done so entirely at their own risk.

Appendix A REVENUE SUFFICIENCY ANALYSIS DETAILS

Schedule 1 – Assumptions

Schedule 2 – Beginning Balances as of July 1, 2018

Schedule 3 – Capital Improvement Program

Schedule 4 – Projection of Cash Inflows

Schedule 5 – Projection of Cash Outflows

Schedule 6 – Operating Cost Escalation Factors

Schedule 7 – Cash Flow Pro Forma

Schedule 8 – FAMS Control Panel – Proposed Financial Plan

Assumptions

Schedule 1

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Annual Sewer System Growth:											
Beginning Number of Accounts	20,938	20,938	21,008	21,078	21,148	21,218	21,288	21,358	21,428	21,498	21,568
Account Growth	0	0	70	70	70	70	70	70	70	70	70
% Increase in Accounts	0.00%	0.00%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%
Per-Account Usage	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3	19.3
% Increase in Sewer Use	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Annual Sewer Usage	**4,849,241**	**4,849,241**	**4,865,453**	**4,881,665**	**4,897,877**	**4,914,089**	**4,930,301**	**4,946,513**	**4,962,725**	**4,978,937**	**4,995,149**
Capital Spending:											
Annual Capital Spending Execution %	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
CIP Escalation %	0.0%	0.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Average Annual Interest Earnings Rate:											
Sewer Enterprise Fund	0.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Reserves:											
Emergency Operating Reserve Target (months)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Emergency Operating Reserve Target($)	$ 422,793	498,658	519,143	529,658	540,620	556,312	572,579	589,444	606,932	625,071	643,887
Capital Improvement Reserve Target ($)	$ 3,000,000	3,000,000	3,090,000	3,182,700	3,278,181	3,376,526	3,477,822	3,582,157	3,689,622	3,800,310	3,914,320

Beginning Balances as of July 1, 2018 — Schedule 2

	TOTAL	Revenue Fund
CURRENT UNRESTRICTED ASSETS		
Cash and Cash Equivalents	**$ 9,785,368**	$ 9,785,368
Investments	**$ 32,098**	$ 32,098
Receivables:	**$ 183,138**	$ 183,138
TOTAL CURRENT UNRESTRICTED ASSETS	**$ 10,000,604**	**$ 10,000,604**
CURRENT LIABILITIES		
Accounts and Contracts Payable	**$ (235,441)**	$ (235,441)
Other Accrued Liabilities	**$ (15,209)**	$ (15,209)
Current Portion of:		
Accrued Compensated Absences	**$ (23,008)**	$ (23,008)
TOTAL CURRENT LIABILITIES	**$ (273,658)**	**$ (273,658)**
UNRESTRICTED WORKING CAPITAL	**$ 9,726,946**	**$ 9,726,946**

Source: FY 2017 - Summary Trial Balance

Capital Improvement Program

Schedule 3

	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
Pipeline Replacement		3,300,000	3,300,000	3,300,000	3,300,000	3,300,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
2018 Actual CIP from Budget/Actual Data	$ 1,608,526										
Total CIP Budget (Current $)	**$ 1,608,526**	**$ 3,300,000**	**$ 3,300,000**	**$ 3,300,000**	**$ 3,300,000**	**$ 3,300,000**	**$ 3,000,000**	**$ 3,000,000**	**$ 3,000,000**	**$ 3,000,000**	**$ 3,000,000**
Use of Operating Fund / Cash	$ 1,608,526	3,300,000	3,300,000	3,300,000	3,300,000	3,300,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
Total CIP Budget (Escalated $)	**$ 1,608,526**	**$ 3,300,000**	**$ 3,399,000**	**$ 3,500,970**	**$ 3,605,999**	**$ 3,714,179**	**$ 3,477,822**	**$ 3,582,157**	**$ 3,689,622**	**$ 3,800,310**	**$ 3,914,320**
Use of Operating Fund / Cash	$ 1,608,526	3,300,000	3,399,000	3,500,970	3,605,999	3,714,179	3,477,822	3,582,157	3,689,622	3,800,310	3,914,320
Use of Debt Financing	$ -	-	-	-	-	-	-	-	-	-	-
Annual Capital Spending Execution %	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*	*100%*
Final CIP Funding Level (Future $)	**$ 1,608,526**	**$ 3,300,000**	**$ 3,399,000**	**$ 3,500,970**	**$ 3,605,999**	**$ 3,714,179**	**$ 3,477,822**	**$ 3,582,157**	**$ 3,689,622**	**$ 3,800,310**	**$ 3,914,320**

(1) The annual escalation factor of 3%, Starting in FY 2020

Projection of Cash Inflows

Schedule 4

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
	Rate Revenue Growth Assumptions:											
1	Growth in Sewer Accounts	N/A	0.00%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%
2	Growth in Sewer Usage	N/A	0.00%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%	0.33%
	Projected Rate Revenue Increases:											
3	**Projected Sewer Rate Increase**	**N/A**	**0.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**	**5.0%**
	Rate Revenue:											
4	Sewer Rate Revenue											
5	Usage Charges	$ 4,072,624	4,199,831	4,424,565	4,661,274	4,910,592	5,173,188	5,449,768	5,741,072	6,047,883	6,371,021	6,711,355
6	**Total Rate Revenue**	**$ 4,072,624**	**$ 4,199,831**	**$ 4,424,565**	**$ 4,661,274**	**$ 4,910,592**	**$ 5,173,188**	**$ 5,449,768**	**$ 5,741,072**	**$ 6,047,883**	**$ 6,371,021**	**$ 6,711,355**
	Other Operating Revenue:											
7	NPDES FOG INSPECTIONS	$ 27,088	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
8	**Total Other Operating Revenue**	**$ 27,088**	**$ 30,000**	**$ 30,000**	**$ 30,000**	**$ 30,000**	**$ 30,000**	**$ 30,000**	**$ 30,000**	**$ 30,000**	**$ 30,000**	**$ 30,000**
	Non-Operating Revenue:											
9	SEWER REPAIR FEE	$ 935	-	-	-	-	-	-	-	-	-	-
10	COUNTY ADMIN	$ (5,448)	(5,513)	(5,513)	(5,513)	(5,513)	(5,513)	(5,513)	(5,513)	(5,513)	(5,513)	(5,513)
11	PR YR ACCTS COLLECTD	$ 53,582	-	-	-	-	-	-	-	-	-	-
12	N INTEREST INCOME	$ 62,549	-	-	-	-	-	-	-	-	-	-
13	REIMBURSEMENT	$ 1,398	-	-	-	-	-	-	-	-	-	-
14	**Total Non-Operating Revenue**	**$ 113,015**	**$ (5,513)**	**$ (5,513)**	**$ (5,513)**	**$ (5,513)**	**$ (5,513)**	**$ (5,513)**	**$ (5,513)**	**$ (5,513)**	**$ (5,513)**	**$ (5,513)**
	Interest Income:											
15	Interest Income	$ -	99,461	88,130	77,330	67,352	58,198	51,621	47,786	45,119	43,734	43,750
16	**Total Interest Income**	**$ -**	**$ 99,461**	**$ 88,130**	**$ 77,330**	**$ 67,352**	**$ 58,198**	**$ 51,621**	**$ 47,786**	**$ 45,119**	**$ 43,734**	**$ 43,750**
	Transfers In:											
17	Transfers In	$ -	-	-	-	-	-	-	-	-	-	-
18	**Total Transfers In**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
19	**Total Restricted Revenue**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
20	**TOTAL CASH INFLOWS**	**$ 4,212,726**	**$ 4,323,779**	**$ 4,537,182**	**$ 4,763,091**	**$ 5,002,431**	**$ 5,255,873**	**$ 5,525,876**	**$ 5,813,345**	**$ 6,117,489**	**$ 6,439,242**	**$ 6,779,592**

Projection of Cash Outflows

Schedule 5

	Expense Description	Expense ID	CEF	Expense Type	FY 2018 Actual	FY 2019 Budget	FY 2020 Budget	FY 2021 Budget	FY 2022 Budget	FY 2023 Budget	FY 2024 Budget	FY 2025 Budget	FY 2026 Budget	FY 2027 Budget	FY 2028 Budget
1	SEWER REG FULL TIME WAGES	410-30-342-000-2 511000	PS	PS	$ 332,062	481,219	481,219	481,219	481,219	490,844	500,660	510,674	520,887	531,305	541,931
2	SEWER WORK COMP WAGES	410-30-342-000-2 511010	PS	PS	$ 1,253	-	-	-	-	-	-	-	-	-	-
3	SEWER WRK CMP WGS-CONTRA	410-30-342-000-2 511012	PS	PS	$ (1,253)	-	-	-	-	-	-	-	-	-	-
4	SEWER TEMP EXTRA HELP	410-30-342-000-2 513000	PS	PS	$ 40,295	31,857	31,857	31,857	31,857	32,494	33,144	33,807	34,483	35,173	35,876
5	SEWER OVERTIME WAGES	410-30-342-000-2 514000	PS	PS	$ 33,818	5,247	5,247	5,247	5,247	5,352	5,459	5,568	5,680	5,793	5,909
6	SEWER VACATION PAY	410-30-342-000-2 521000	PS	PS	$ 25,828	-	-	-	-	-	-	-	-	-	-
7	SEWER VACATION TAKEN	410-30-342-000-2 521100	PS	PS	$ (20,767)	-	-	-	-	-	-	-	-	-	-
8	SEWER SICK LEAVE PAY	410-30-342-000-2 522000	PS	PS	$ 3,010	-	-	-	-	-	-	-	-	-	-
9	SEWER VESTED SICK TAKEN	410-30-342-000-2 522100	PS	PS	$ (2,299)	-	-	-	-	-	-	-	-	-	-
10	SEWER COMPENSATORY O/T	410-30-342-000-2 526000	PS	PS	$ 585	-	-	-	-	-	-	-	-	-	-
11	SEWER COMP TIME TAKEN	410-30-342-000-2 526100	PS	PS	$ (106)	-	-	-	-	-	-	-	-	-	-
12	SEWER COMPENSATED ABSENCES	410-30-342-000-2 528000	PS	PS	$ -	4,715	4,715	4,715	4,715	4,809	4,905	5,004	5,104	5,206	5,310
13	SEWER LAB CHG-CONTRLR JV	410-30-342-000-2 536000	PS	PS	$ 380,130	449,146	449,146	449,146	449,146	458,129	467,291	476,637	486,170	495,893	505,811
14	SEWER FT-LBR CHG/DIST	410-30-342-000-2 537000	PS	PS	$ 1,561	20,392	20,392	20,392	20,392	20,800	21,216	21,640	22,073	22,514	22,965
15	SEWER PT-LBR CHG/DIST	410-30-342-000-2 537030	PS	PS	$ -	99	99	99	99	101	103	105	108	110	112
16	SEWER OH-LBR CHG/DIST	410-30-342-000-2 537040	PS	PS	$ 811	10,602	10,602	10,602	10,602	10,814	11,030	11,251	11,476	11,705	11,940
17	SEWER FT-LBR CR/DIST	410-30-342-000-2 547000	PS	PS	$ (34,906)	-	-	-	-	-	-	-	-	-	-
18	SEWER PT-LBR CR/DIST	410-30-342-000-2 547030	PS	PS	$ (2,795)	-	-	-	-	-	-	-	-	-	-
19	SEWER OH-LBR CR/DIST	410-30-342-000-2 547040	PS	PS	$ (18,077)	-	-	-	-	-	-	-	-	-	-
20	SEWER PENSION-PERS	410-30-342-000-2 551000	PERS	PS	$ 37,090	96,244	101,056	106,109	111,414	116,985	122,834	128,976	135,425	142,196	149,306
21	SEWER WORKERS COMP INS	410-30-342-000-2 552000	INS	PS	$ 31,658	53,707	56,392	59,212	62,173	65,281	68,545	71,973	75,571	79,350	83,317
22	SEWER GROUP INSURANCE	410-30-342-000-2 553000	HINS	PS	$ 73,042	104,541	109,768	115,256	121,019	127,070	133,424	140,095	147,100	154,454	162,177
23	SEWER RETIREE HLTH INS	410-30-342-000-2 553030	HINS	PS	$ -	4,980	5,229	5,490	5,765	6,053	6,356	6,674	7,007	7,358	7,726
24	SEWER PROF SVC HLTH INS	410-30-342-000-2 553040	HINS	PS	$ 429	656	689	723	759	797	837	879	923	969	1,018
25	SEWER MEDICARE INS-FTE	410-30-342-000-2 556000	HINS	PS	$ 5,004	6,978	7,327	7,693	8,078	8,482	8,906	9,351	9,819	10,310	10,825
26	SEWER MEDICARE-PTE & OT	410-30-342-000-2 556100	HINS	PS	$ -	340	357	375	394	413	434	456	478	502	527
27	SEWER DUES & MEMBERSHIPS	410-30-342-000-2 560010	DEF	OMF	$ 540	1,457	1,489	1,522	1,555	1,590	1,624	1,660	1,697	1,734	1,772
28	SEWER PUBLICATIONS	410-30-342-000-2 560070	DEF	OMF	$ -	50	51	52	53	55	56	57	58	60	61
29	SEWER RENTAL	410-30-342-000-2 581010	DEF	OMF	$ -	3,000	3,066	3,133	3,202	3,273	3,345	3,418	3,494	3,570	3,649
30	SEWER BAD DEBT EXPENSE	410-30-342-000-2 583100	DEF	OMF	$ -	100	102	104	107	109	111	114	116	119	122
31	SEWER LIABILITY INSURANCE	410-30-342-000-2 592010	INS	OMF	$ 364,860	421,005	442,055	464,158	487,366	511,734	537,321	564,187	592,396	622,016	653,117
32	SEWER PROPERTY/OTHER INS	410-30-342-000-2 592910	INS	OMF	$ 435	351	369	387	406	427	448	470	494	519	545
33	SEWER ACCOUNT'G & AUDIT'G	410-30-342-000-2 611000	MAINT	OMF	$ 2,635	1,800	1,818	1,836	1,855	1,873	1,892	1,911	1,930	1,949	1,969
34	SEWER LEGAL SERVICES	410-30-342-000-2 615000	MAINT	OMF	$ 820	-	-	-	-	-	-	-	-	-	-
35	SEWER OTHER PROF SVCS	410-30-342-000-2 619000	DEF	OMF	$ 50,768	129,500	132,349	135,261	138,236	141,278	144,386	147,562	150,809	154,126	157,517
36	SEWER SEWER MGT PROGM	410-30-342-000-2 619016	NONE	OMF	$ -	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000	50,000
37	SEWER SPEC PUR-PEST CNTRL	410-30-342-000-2 619740	NONE	OMF	$ -	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000	60,000
38	SEWER TELEPHONE	410-30-342-000-2 625000	DEF	OMF	$ 1,062	2,101	2,147	2,194	2,243	2,292	2,343	2,394	2,447	2,501	2,556
39	SEWER MISC TRAVEL/MEETINGS	410-30-342-000-2 631000	DEF	OMF	$ -	100	102	104	107	109	111	114	116	119	122
40	SEWER CONVENTION EXPENSE	410-30-342-000-2 632000	DEF	OMF	$ 193	2,500	2,555	2,611	2,669	2,727	2,787	2,849	2,911	2,975	3,041
41	SEWER OFF-JOB TRAINING	410-30-342-000-2 643000	DEF	OMF	$ 395	1,000	1,022	1,044	1,067	1,091	1,115	1,139	1,165	1,190	1,216
42	SEWER MISC NON-PROF SERV	410-30-342-000-2 649000	DEF	OMF	$ 1,970	2,379	2,431	2,485	2,539	2,595	2,652	2,711	2,770	2,831	2,894
43	SEWER IMPRVMNT REP MNT	410-30-342-000-2 652000	DEF	OMV	$ 2,247	21,500	21,973	22,456	22,950	23,455	23,971	24,499	25,038	25,589	26,151
44	SEWER VALUE & MANHOLE ADJ CO	410-30-342-000-2 652040	DEF	OMV	$ 1,104	15,000	15,330	15,667	16,012	16,364	16,724	17,092	17,468	17,852	18,245
45	SEWER NPDES	410-30-342-000-2 652190	DEF	OMF	$ -	50,000	51,100	52,224	53,373	54,547	55,747	56,974	58,227	59,508	60,817
46	SEWER IMPRVMNT R-M STREET	410-30-342-000-2 652320	DEF	CO	$ 100,101	184,258	188,312	192,455	196,689	201,016	205,438	209,958	214,577	219,297	224,122
47	SEWER EQUIP-REP & MAINT	410-30-342-000-2 654000	DEF	OMF	$ 2,322	4,233	4,326	4,421	4,519	4,618	4,720	4,823	4,930	5,038	5,149
48	SEWER IT EQ MAINT CHGS	410-30-342-000-2 654090	DEF	OMF	$ 8,048	8,048	8,225	8,406	8,591	8,780	8,973	9,171	9,372	9,578	9,789
49	SEWER ROAD MATERIALS	410-30-342-000-2 661000	DEF	OMF	$ 11,744	5,000	5,110	5,222	5,337	5,455	5,575	5,697	5,823	5,951	6,082
50	SEWER MISC OFF FURNISHNG	410-30-342-000-2 666020	DEF	OMF	$ 500	500	511	522	534	545	557	570	582	595	608
51	SEWER SMALL TOOLS	410-30-342-000-2 670010	DEF	OMF	$ 65	1,000	1,022	1,044	1,067	1,091	1,115	1,139	1,165	1,190	1,216
52	SEWER FUNCTIONAL SUPPLIES	410-30-342-000-2 670030	DEF	OMF	$ 26,358	26,000	26,572	27,157	27,754	28,365	28,989	29,626	30,278	30,944	31,625
53	SEWER OFFICE SUPPLIES	410-30-342-000-2 671030	DEF	OMF	$ 150	250	256	261	267	273	279	285	291	298	304
54	SEWER WEARING APPAREL & ID	410-30-342-000-2 674000	DEF	OMF	$ 2,606	1,850	1,891	1,932	1,975	2,018	2,063	2,108	2,154	2,202	2,250
55	SEWER UNIF CLN-PERS	410-30-342-000-2 674010	DEF	OMF	$ -	204	209	213	218	223	228	233	238	243	249
56	SEWER PHOTOCOPIES	410-30-342-000-2 678010	DEF	OMF	$ 1	-	-	-	-	-	-	-	-	-	-
57	SEWER CONTR FOR GEN GOVT	410-30-342-000-2 687100	DEF	OMF	$ 77,565	157,887	161,361	164,910	168,538	172,246	176,036	179,909	183,867	187,912	192,046
58	SEWER MOBILE EQMT MAINT	410-30-342-000-2 691010	DEF	OMF	$ 111,369	109,088	111,488	113,941	116,447	119,009	121,627	124,303	127,038	129,833	132,689
59	SEWER PERS-UAL	410-30-342-000-2 551200	DEF	OMF	$ 37,043	-	-	-	-	-	-	-	-	-	-
60	SEWER SEWER CLEANING	410-30-342-000-2 821008	DEF	OMF	$ 100,000	-	50,000	51,100	52,224	53,373	54,547	55,747	56,974	58,227	59,508
61	**Sub-Total Operations & Maintenance Expenses**				**$ 1,791,272**	**$ 2,530,885**	**$ 2,631,337**	**$ 2,684,963**	**$ 2,740,781**	**$ 2,818,956**	**$ 2,899,927**	**$ 2,983,810**	**$ 3,070,727**	**$ 3,160,806**	**$ 3,254,180**
62	Personal Services Execution				100.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%
63	Variable Operating Cost Execution				100.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%
64	Fixed Operating Cost Execution				100.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%
65	Capital Outlay				100.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%	85.0%
66	**Total Operations & Maintenance Expenses**				**$ 1,791,272**	**$ 2,151,252**	**$ 2,236,636**	**$ 2,282,219**	**$ 2,329,664**	**$ 2,396,113**	**$ 2,464,938**	**$ 2,536,238**	**$ 2,610,118**	**$ 2,686,685**	**$ 2,766,053**
	Long-Term Debt Service Payments:														
67	Existing Debt Service				$ -	-	-	-	-	-	-	-	-	-	-
68	Cumulative New Debt Service				$ -	-	-	-	-	-	-	-	-	-	-
69	**Total Long-Term Debt Service Payments**				**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
	Other Below the Line Expenses:														
70	Transfers Out				$ 20,000	20,000	20,440	20,890	21,349	21,819	22,299	22,790	23,291	23,803	24,327
71	**Total Other Below the Line Expenses**				**$ 20,000**	**$ 20,000**	**$ 20,440**	**$ 20,890**	**$ 21,349**	**$ 21,819**	**$ 22,299**	**$ 22,790**	**$ 23,291**	**$ 23,803**	**$ 24,327**
72	**TOTAL CASH OUTFLOWS**				**$ 1,811,272**	**$ 2,171,252**	**$ 2,257,076**	**$ 2,303,108**	**$ 2,351,013**	**$ 2,417,932**	**$ 2,487,237**	**$ 2,559,028**	**$ 2,633,409**	**$ 2,710,488**	**$ 2,790,380**

Operating Cost Escalation Factors

Schedule 6

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
1	Personal Services	N/A	0.00%	0.00%	0.00%	0.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
2	Variable Operations & Maintenance Costs	N/A	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
3	Fixed Operations & Maintenance Costs	N/A	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
4	Pensions	N/A	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
5	Transfers Out	N/A	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
6	Other Below the Line Expenses	N/A	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
7	Capital Improvement Project	N/A	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
8	Fuel, Utilities, Chemicals	N/A	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
9	Health Insurance	N/A	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
10	Other Insurance	N/A	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
11	Contract Repair & Maintenance	N/A	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
12	Admin Services	N/A	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%

Cash Flow Pro Forma

Schedule 7

		FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028
1	**Rate Revenue Increase**	**0.00%**	**0.00%**	**5.00%**	**5.00%**	**5.00%**	**5.00%**	**5.00%**	**5.00%**	**5.00%**	**5.00%**	**5.00%**
	Revenues											
2	Rate Revenue Before Adjustments	$ 4,073,000	4,200,000	4,200,000	4,425,000	4,661,000	4,911,000	5,173,000	5,450,000	5,741,000	6,048,000	6,371,000
3	Additional Rate Revenue From Growth	$ -	-	14,000	15,000	15,000	16,000	17,000	18,000	19,000	20,000	21,000
4	Additional Rate Revenue From Rate Adjustment	$ -	-	211,000	222,000	234,000	246,000	260,000	273,000	288,000	303,000	320,000
5	Other Operating Revenues	$ 27,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000
6	Interest Income	$ -	99,000	88,000	77,000	67,000	58,000	52,000	48,000	45,000	44,000	44,000
7	Other Non-Operating Revenue	$ 113,000	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)	(6,000)
8	**Total Revenues**	**$ 4,213,000**	**$ 4,323,000**	**$ 4,537,000**	**$ 4,763,000**	**$ 5,001,000**	**$ 5,255,000**	**$ 5,526,000**	**$ 5,813,000**	**$ 6,117,000**	**$ 6,439,000**	**$ 6,780,000**
	Operating Expenses											
9	Personal Services	$ 739,000	853,000	853,000	853,000	853,000	870,000	887,000	905,000	923,000	942,000	960,000
10	Variable Operations & Maintenance Costs	$ 3,000	31,000	32,000	32,000	33,000	34,000	35,000	35,000	36,000	37,000	38,000
11	Fixed Operations & Maintenance Costs	$ 433,000	524,000	576,000	586,000	597,000	608,000	620,000	631,000	643,000	655,000	667,000
12	Pensions	$ 37,000	82,000	86,000	90,000	95,000	99,000	104,000	110,000	115,000	121,000	127,000
13	Fuel, Utilities, Chemicals	$ -	-	-	-	-	-	-	-	-	-	-
14	Health Insurance	$ 78,000	100,000	105,000	110,000	116,000	121,000	127,000	134,000	141,000	148,000	155,000
15	Other Insurance	$ 397,000	404,000	424,000	445,000	467,000	491,000	515,000	541,000	568,000	597,000	626,000
16	Contract Repair & Maintenance	$ 3,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000	2,000
17	Admin Services	$ -	-	-	-	-	-	-	-	-	-	-
18	Capital Outlay	$ 100,000	157,000	160,000	164,000	167,000	171,000	175,000	178,000	182,000	186,000	191,000
19	**Total Operating Expenses**	**$ 1,790,000**	**$ 2,153,000**	**$ 2,238,000**	**$ 2,282,000**	**$ 2,330,000**	**$ 2,396,000**	**$ 2,465,000**	**$ 2,536,000**	**$ 2,610,000**	**$ 2,688,000**	**$ 2,766,000**
20	**Net Revenues**	**$ 2,423,000**	**$ 2,170,000**	**$ 2,299,000**	**$ 2,481,000**	**$ 2,671,000**	**$ 2,859,000**	**$ 3,061,000**	**$ 3,277,000**	**$ 3,507,000**	**$ 3,751,000**	**$ 4,014,000**
	Debt Service											
21	Existing Debt Service	$ -	-	-	-	-	-	-	-	-	-	-
22	New Debt Service	$ -	-	-	-	-	-	-	-	-	-	-
23	**Total Debt Service**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**
	Capital Expenses											
24	**Total Capital Spending**	**$ 1,609,000**	**$ 3,300,000**	**$ 3,399,000**	**$ 3,501,000**	**$ 3,606,000**	**$ 3,714,000**	**$ 3,478,000**	**$ 3,582,000**	**$ 3,690,000**	**$ 3,800,000**	**$ 3,914,000**
25	Cash-funded Capital (Rate Revenue)	$ 1,609,000	3,300,000	3,399,000	3,501,000	3,606,000	3,714,000	3,478,000	3,582,000	3,690,000	3,800,000	3,914,000
26	Cash-funded Capital (Capacity Charges)	$ -	-	-	-	-	-	-	-	-	-	-
27	Capital Projects Paid with Debt Proceeds	$ -	-	-	-	-	-	-	-	-	-	-
28	**Total Capital Funding**	**$ 1,609,000**	**$ 3,300,000**	**$ 3,399,000**	**$ 3,501,000**	**$ 3,606,000**	**$ 3,714,000**	**$ 3,478,000**	**$ 3,582,000**	**$ 3,690,000**	**$ 3,800,000**	**$ 3,914,000**
	Transfers											
29	Balance of Transfer (In)/Out	$ 20,000	20,000	20,000	21,000	21,000	22,000	22,000	23,000	23,000	24,000	24,000
30	**Revenues Over (Under) Expenses**	**$ 794,000**	**$ (1,150,000)**	**$ (1,120,000)**	**$ (1,041,000)**	**$ (956,000)**	**$ (877,000)**	**$ (439,000)**	**$ (328,000)**	**$ (206,000)**	**$ (73,000)**	**$ 76,000**
31	Operating Fund - Beginning Balance	$ 9,727,000	10,520,000	9,372,000	8,254,000	7,213,000	6,258,000	5,382,000	4,943,000	4,615,000	4,409,000	4,338,000
32	**Operating Fund - Ending Balance**	**$ 10,521,000**	**$ 9,370,000**	**$ 8,252,000**	**$ 7,213,000**	**$ 6,257,000**	**$ 5,381,000**	**$ 4,943,000**	**$ 4,615,000**	**$ 4,409,000**	**$ 4,336,000**	**$ 4,414,000**
33	**Total Target Reserves**	**$ 3,423,000**	**$ 3,499,000**	**$ 3,609,000**	**$ 3,712,000**	**$ 3,819,000**	**$ 3,933,000**	**$ 4,050,000**	**$ 4,172,000**	**$ 4,297,000**	**$ 4,425,000**	**$ 4,558,000**
34	Operating Reserve	$ 423,000	499,000	519,000	529,000	541,000	556,000	572,000	590,000	607,000	625,000	644,000
35	Capital Improvement/Replacement Reserve	$ 3,000,000	3,000,000	3,090,000	3,183,000	3,278,000	3,377,000	3,478,000	3,582,000	3,690,000	3,800,000	3,914,000
36	**Debt Service Coverage (1.5 Req.)**	-	-	-	-	-	-	-	-	-	-	-

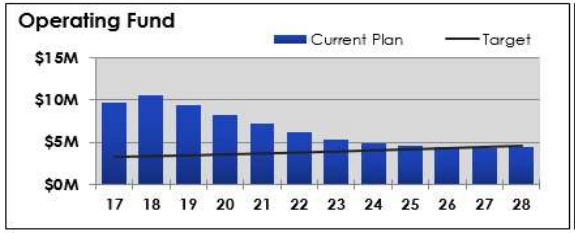
CALC LAST2 SAVE OVR2 CTRL

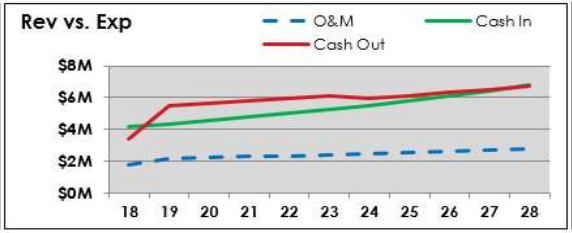
FAMS-XL
Whittier, CA

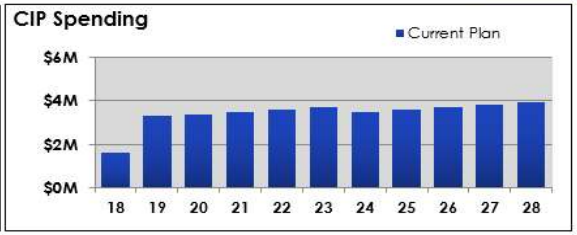
Stantec

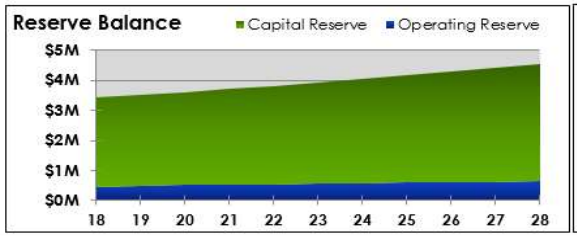
	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027	FY 2028	FY 2022 FY 2027 Cumulative
Override ▶	0.00%	0.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	
Sewer Rate Plan	**0.00%**	**0.00%**	**5.00%**	**5.00%**	**5.00%**	**5.00%**	**5.00%**	**5.00%**	**5.00%**	**5.00%**	**5.00%**	**15.82% 47.84%**
Senior-Lien DSC	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	
Scenario Management												
Oper Reserve Mos	3	3	3	3	3	3	3	3	3	3	3	
PS Execution	100%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	
OMV Execution	100%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	
OMF Execution	100%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	
CO Execution	100%	85%	85%	85%	85%	85%	85%	85%	85%	85%	85%	
Capital Reserve Bal. (2018 $M)	$3.00	$3.00	$3.00	$3.00	$3.00	$3.00	$3.00	$3.00	$3.00	$3.00	$3.00	
CIP Escalation	0.00%	0.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	
Pipe Repl Cost ($M/mi)	$0.00	$3.30	$3.30	$3.30	$3.30	$3.30	$3.00	$3.00	$3.00	$3.00	$3.00	

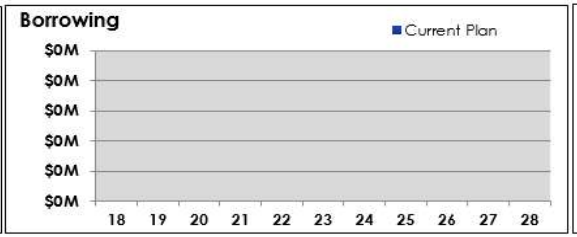
↑ Insert New Panel Controls Above this Row ↑

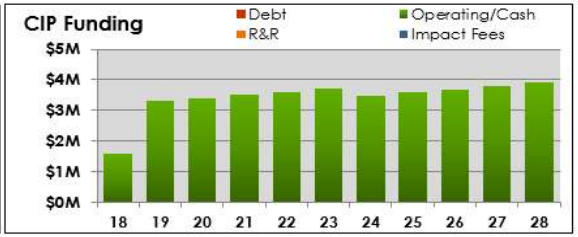












Appendix B COST OF SERVICE ANALYSIS DETAILS

Schedule 9 – Allocation of Costs to Functional Component

Wastewater System Operating & Capital Expense Allocation to Functions

Schedule 9

	Department		Test Year COS	Allocation Basis/Factor	Wastewater Collection % Allocation	Customer % Allocation	General & Admin % Allocation	Wastewater Collection $ Allocation	Customer $ Allocation	General & Admin $ Allocation
	O&M EXPENSE ALLOCATIONS							**1,568,823**	**109,148**	**558,666**
	Operating Costs									
1	**Sewer O&M**		-					-	-	-
2	SEWER REG FULL TIME WAGES	410-30-342-000-2 511000	409,036	Staff FTE Allocation	90.00%	10.00%	0.00%	368,133	40,904	-
3	SEWER WORK COMP WAGES	410-30-342-000-2 511010	-	Staff FTE Allocation	90.00%	10.00%	0.00%	-	-	-
4	SEWER WRK CMP WGS-CONTRA	410-30-342-000-2 511012	-	Staff FTE Allocation	90.00%	10.00%	0.00%	-	-	-
5	SEWER TEMP EXTRA HELP	410-30-342-000-2 513000	27,078	Staff FTE Allocation	90.00%	10.00%	0.00%	24,371	2,708	-
6	SEWER OVERTIME WAGES	410-30-342-000-2 514000	4,460	Staff FTE Allocation	90.00%	10.00%	0.00%	4,014	446	-
7	SEWER VACATION PAY	410-30-342-000-2 521000	-	Staff FTE Allocation	90.00%	10.00%	0.00%	-	-	-
8	SEWER VACATION TAKEN	410-30-342-000-2 521100	-	Staff FTE Allocation	90.00%	10.00%	0.00%	-	-	-
9	SEWER SICK LEAVE PAY	410-30-342-000-2 522000	-	Staff FTE Allocation	90.00%	10.00%	0.00%	-	-	-
10	SEWER VESTED SICK TAKEN	410-30-342-000-2 522100	-	Staff FTE Allocation	90.00%	10.00%	0.00%	-	-	-
11	SEWER LEAVE PAYOFF	410-30-342-000-2 523000	-	Staff FTE Allocation	90.00%	10.00%	0.00%	-	-	-
12	SEWER LEAVE PAYOFF-CONTRA	410-30-342-000-2 523009	-	Staff FTE Allocation	90.00%	10.00%	0.00%	-	-	-
13	SEWER COMPENSATORY O/T	410-30-342-000-2 526000	-	Staff FTE Allocation	90.00%	10.00%	0.00%	-	-	-
14	SEWER COMP TIME TAKEN	410-30-342-000-2 526100	-	Staff FTE Allocation	90.00%	10.00%	0.00%	-	-	-
15	SEWER COMPENSATED ABSENCES	410-30-342-000-2 528000	4,008	Staff FTE Allocation	90.00%	10.00%	0.00%	3,607	401	-
16	SEWER PAID LEAVE CREDIT	410-30-342-000-2 529000	-	Staff FTE Allocation	90.00%	10.00%	0.00%	-	-	-
17	SEWER LAB CHG-CONTRLR JV	410-30-342-000-2 536000	381,774	Staff FTE Allocation	90.00%	10.00%	0.00%	343,597	38,177	-
18	SEWER FT-LBR CHG/DIST	410-30-342-000-2 537000	17,333	Staff FTE Allocation	90.00%	10.00%	0.00%	15,600	1,733	-
19	SEWER PT-LBR CHG/DIST	410-30-342-000-2 537030	84	Staff FTE Allocation	90.00%	10.00%	0.00%	76	8	-
20	SEWER OH-LBR CHG/DIST	410-30-342-000-2 537040	9,012	Staff FTE Allocation	90.00%	10.00%	0.00%	8,111	901	-
21	SEWER FT-LBR CR/DIST	410-30-342-000-2 547000	-	Staff FTE Allocation	90.00%	10.00%	0.00%	-	-	-
22	SEWER PT-LBR CR/DIST	410-30-342-000-2 547030	-	Staff FTE Allocation	90.00%	10.00%	0.00%	-	-	-
23	SEWER OH-LBR CR/DIST	410-30-342-000-2 547040	-	Staff FTE Allocation	90.00%	10.00%	0.00%	-	-	-
24	SEWER PENSION-PERS	410-30-342-000-2 551000	85,898	Staff FTE Allocation	90.00%	10.00%	0.00%	77,308	8,590	-
25	SEWER WORKERS COMP INS	410-30-342-000-2 552000	47,933	Staff FTE Allocation	90.00%	10.00%	0.00%	43,140	4,793	-
26	SEWER GROUP INSURANCE	410-30-342-000-2 553000	93,303	Staff FTE Allocation	90.00%	10.00%	0.00%	83,972	9,330	-
27	SEWER RETIREE HLTH INS	410-30-342-000-2 553030	4,445	Staff FTE Allocation	90.00%	10.00%	0.00%	4,000	444	-
28	SEWER PROF SVC HLTH INS	410-30-342-000-2 553040	585	Staff FTE Allocation	90.00%	10.00%	0.00%	527	59	-
29	SEWER DISABILITY-PAY	410-30-342-000-2 555000	-	Staff FTE Allocation	90.00%	10.00%	0.00%	-	-	-
30	SEWER MEDICARE INS-FTE	410-30-342-000-2 556000	6,228	Staff FTE Allocation	90.00%	10.00%	0.00%	5,605	623	-
31	SEWER MEDICARE-PTE & OT	410-30-342-000-2 556100	303	Staff FTE Allocation	90.00%	10.00%	0.00%	273	30	-
32	SEWER DUES & MEMBERSHIPS	410-30-342-000-2 560010	1,266	General & Admin	0.00%	0.00%	100.00%	-	-	1,266
33	SEWER PUBLICATIONS	410-30-342-000-2 560070	43	General & Admin	0.00%	0.00%	100.00%	-	-	43
34	SEWER RENTAL	410-30-342-000-2 581010	2,606	General & Admin	0.00%	0.00%	100.00%	-	-	2,606
35	SEWER MISC PENALTIES	410-30-342-000-2 582120	-	General & Admin	0.00%	0.00%	100.00%	-	-	-
36	SEWER BAD DEBT EXPENSE	410-30-342-000-2 583100	87	General & Admin	0.00%	0.00%	100.00%	-	-	87
37	SEWER LIABILITY INSURANCE	410-30-342-000-2 592010	375,747	General & Admin	0.00%	0.00%	100.00%	-	-	375,747
38	SEWER PROPERTY/OTHER INS	410-30-342-000-2 592910	313	General & Admin	0.00%	0.00%	100.00%	-	-	313
39	SEWER ACCOUNT'G & AUDIT'G	410-30-342-000-2 611000	1,545	General & Admin	0.00%	0.00%	100.00%	-	-	1,545
40	SEWER LEGAL SERVICES	410-30-342-000-2 615000	-	General & Admin	0.00%	0.00%	100.00%	-	-	-
41	SEWER OTHER PROF SVCS	410-30-342-000-2 619000	112,497	Wastewater Collection	100.00%	0.00%	0.00%	112,497	-	-
42	SEWER PROF SERV-SSO CHGS	410-30-342-000-2 619014	-	Wastewater Collection	100.00%	0.00%	0.00%	-	-	-
43	SEWER PROF SERV-SEWER VIDEO	410-30-342-000-2 619015	-	Wastewater Collection	100.00%	0.00%	0.00%	-	-	-
44	SEWER SEWER MGT PROGM	410-30-342-000-2 619016	42,500	Wastewater Collection	100.00%	0.00%	0.00%	42,500	-	-
45	SEWER SPEC PUR-PEST CNTRL	410-30-342-000-2 619740	51,000	Wastewater Collection	100.00%	0.00%	0.00%	51,000	-	-
46	SEWER TELEPHONE	410-30-342-000-2 625000	1,825	General & Admin	0.00%	0.00%	100.00%	-	-	1,825
47	SEWER MISC TRAVEL/MEETINGS	410-30-342-000-2 631000	87	General & Admin	0.00%	0.00%	100.00%	-	-	87
48	SEWER CONVENTION EXPENSE	410-30-342-000-2 632000	2,172	General & Admin	0.00%	0.00%	100.00%	-	-	2,172
49	SEWER OFF-JOB TRAINING	410-30-342-000-2 643000	869	General & Admin	0.00%	0.00%	100.00%	-	-	869
50	SEWER MISC NON-PROF SERV	410-30-342-000-2 649000	2,067	General & Admin	0.00%	0.00%	100.00%	-	-	2,067
51	SEWER IMPRVMNT REP MNT	410-30-342-000-2 652000	18,677	Wastewater Collection	100.00%	0.00%	0.00%	18,677	-	-
52	SEWER VALUE & MANHOLE ADJ CO	410-30-342-000-2 652040	13,031	Wastewater Collection	100.00%	0.00%	0.00%	13,031	-	-
53	SEWER NPDES	410-30-342-000-2 652190	43,435	Wastewater Collection	100.00%	0.00%	0.00%	43,435	-	-
54	SEWER IMPRVMNT R-M STREET	410-30-342-000-2 652320	160,065	Wastewater Collection	100.00%	0.00%	0.00%	160,065	-	-
55	SEWER REPAIRS	410-30-342-000-2 653100	-	Wastewater Collection	100.00%	0.00%	0.00%	-	-	-
56	SEWER EQUIP-REP & MAINT	410-30-342-000-2 654000	3,677	Wastewater Collection	100.00%	0.00%	0.00%	3,677	-	-

Wastewater System Operating & Capital Expense Allocation to Functions

Schedule 9

		Department	Test Year COS	Allocation Basis/Factor	Wastewater Collection % Allocation	Customer % Allocation	General & Admin % Allocation	Wastewater Collection $ Allocation	Customer $ Allocation	General & Admin $ Allocation
57	SEWER IT EQ MAINT CHGS	410−30−342−000−2 654090	6,991	General & Admin	0.00%	0.00%	100.00%	-	-	6,991
58	SEWER ROAD MATERIALS	410−30−342−000−2 661000	4,344	Wastewater Collection	100.00%	0.00%	0.00%	4,344	-	-
59	SEWER MISC OFF FURNISHNG	410−30−342−000−2 666020	434	General & Admin	0.00%	0.00%	100.00%	-	-	434
60	SEWER SMALL TOOLS	410−30−342−000−2 670010	869	General & Admin	0.00%	0.00%	100.00%	-	-	869
61	SEWER FUNCTIONAL SUPPLIES	410−30−342−000−2 670030	22,586	General & Admin	0.00%	0.00%	100.00%	-	-	22,586
62	SEWER OFFICE SUPPLIES	410−30−342−000−2 671030	217	General & Admin	0.00%	0.00%	100.00%	-	-	217
63	SEWER WEARING APPAREL & ID	410−30−342−000−2 674000	1,607	General & Admin	0.00%	0.00%	100.00%	-	-	1,607
64	SEWER UNIF CLN−PERS	410−30−342−000−2 674010	178	General & Admin	0.00%	0.00%	100.00%	-	-	178
65	SEWER PHOTOCOPIES	410−30−342−000−2 678010	-	General & Admin	0.00%	0.00%	100.00%	-	-	-
66	SEWER CONTR FOR GEN GOVT	410−30−342−000−2 687100	137,156	General & Admin	0.00%	0.00%	100.00%	-	-	137,156
67	SEWER MOBILE EQMT MAINT	410−30−342−000−2 691010	94,765	Wastewater Collection	100.00%	0.00%	0.00%	94,765	-	-
68	SEWER SEWER CLEANING	410−30−342−000−2 821008	42,500	Wastewater Collection	100.00%	0.00%	0.00%	42,500	-	-
69	**TOTAL O&M EXPENDITURES**		**2,236,636**					**1,568,823**	**109,148**	**558,666**
70	***% Allocation***	***(% O&M Allocated to Rates)***	***100%***					***70.1%***	***4.9%***	***25.0%***
71	**CAPITAL COST ALLOCATIONS**									
72	**Capital Costs**									
73	Cash Funded Capital		3,399,000	Wastewater Collection	100.00%	0.00%	0.00%	3,399,000	-	-
74	Transfers		20,440	Wastewater Collection	100.00%	0.00%	0.00%	20,440	-	-
75	Change in Fund Balance		(1,118,894)	CIP	100.00%	0.00%	0.00%	(1,118,894)	-	-
76	**TOTAL CAPITAL COSTS**		**2,300,546**					**2,300,546**	**0**	**0**
77	***% of Expenditures***	***(% Capital Allocated to Rates)***	***100%***					***100.00%***	***0.00%***	***0.00%***

Appendix C PROPOSED RATE SCHEDULES

Schedule 10 – Proposed Rates, FY 2020 through FY 2024

FY 2020 Rates

Class	Proposed Max Usage (CCF/Unit)	Proposed Commodity Rate ($/CCF)	Proposed Customer Charge ($/Acct)	Proposed Max Bill ($/Unit)
Residential	280	$0.96	$6.95	$275.75
Multi-Residential	280	$0.96	$6.95	$275.75
Commercial	NA	$0.96	$6.95	NA
Private Development	280	$0.68	$6.95	$197.35

FY 2021 Rates

Class	Proposed Max Usage (CCF/Unit)	Proposed Commodity Rate ($/CCF)	Proposed Customer Charge ($/Acct)	Proposed Max Bill ($/Unit)
Residential	280	$1.01	$7.30	$290.10
Multi-Residential	280	$1.01	$7.30	$290.10
Commercial	NA	$1.01	$7.30	NA
Private Development	280	$0.71	$7.30	$206.10

FY 2022 Rates

Class	Proposed Max Usage (CCF/Unit)	Proposed Commodity Rate ($/CCF)	Proposed Customer Charge ($/Acct)	Proposed Max Bill ($/Unit)
Residential	280	$1.06	$7.67	$304.47
Multi-Residential	280	$1.06	$7.67	$304.47
Commercial	NA	$1.06	$7.67	NA
Private Development	280	$0.75	$7.67	$217.67

FY 2023 Rates

Class	Proposed Max Usage (CCF/Unit)	Proposed Commodity Rate ($/CCF)	Proposed Customer Charge ($/Acct)	Proposed Max Bill ($/Unit)
Residential	280	$1.11	$8.05	$318.85
Multi-Residential	280	$1.11	$8.05	$318.85
Commercial	NA	$1.11	$8.05	NA
Private Development	280	$0.79	$8.05	$229.25

FY 2024 Rates

Class	Proposed Max Usage (CCF/Unit)	Proposed Commodity Rate ($/CCF)	Proposed Customer Charge ($/Acct)	Proposed Max Bill ($/Unit)
Residential	280	$1.17	$8.45	$336.05
Multi-Residential	280	$1.17	$8.45	$336.05
Commercial	NA	$1.17	$8.45	NA
Private Development	280	$0.83	$8.45	$240.85

Appendix D CONNECTION FEE SCHEDULES

Schedule 11 – Summary of System Fixed Assets & Administration Cost Allocation

Schedule 12 – Capital Improvement Summary

Schedule 13 – Sewer System Value and Capacity Summary

Schedule 14 – Sewer System Connection Fee Calculation

Summary of System Fixed Assets & Administration Cost Allocation Schedule 11

Function			RCNLD	% of Total	Allocated Admin Costs	Function Costs + Allocated Admin
Water	**Source of Supply / Treatment**	$	7,224,044	7.16%	$ 79,078	$ 7,303,122
Water	**Transmission / Distribution**	$	53,333,240	52.85%	$ 583,810	$ 53,917,050
Sewer	**Collection**	$	40,357,815	39.99%	$ 441,775	$ 40,799,590
Total Costs		**$**	**100,915,099**		**$ 1,104,664**	**$ 102,019,762**
Donated/Contributed Assets		$	9,509,973			$ 9,509,973
Total System		**$**	**110,425,072**		**$ 1,104,664**	**$ 111,529,735**

Capital Improvement Summary

Schedule 12

Function		Capital Improvement Costs	% of Total	Allocated Admin Cost	Function Costs + Allocated Admin
Water	**Source of Supply / Treatment**	$ -	0.00%	$ -	$ -
Water	**Transmission / Distribution**	$ 4,611,600	42.26%	$ -	$ 4,611,600
Sewer	**Collection**	$ 6,300,000	57.74%	$ -	$ 6,300,000
Total Expansion CIP		**$ 10,911,600**		**$ -**	**$ 10,911,600**
Excluded Non Expansion CIP					$ 82,892,103
Total System CIP					**$ 93,803,703**

Sewer System Value and Capacity Summary Schedule 13

		System Value	Total Capacity (MGD)
Collection			
Plant-in-Service	$	40,799,590	18.72
Capital Improvements	$	6,300,000	0.00
Total Collection	$	47,099,590	18.72
Sewer			
Plant-in-Service	$	40,799,590	N/A
Capital Improvements	$	6,300,000	N/A
Total Sewer	**$**	**47,099,590**	**N/A**

Sewer System Connection Fee Calculation - FY 2020 — Schedule 14

Functional Component:	**Collection**	**Total**
Plant in Service Value	$40,799,590	$40,799,590
Donated & Contributed Assets	$9,506,629	$9,506,629
Capital Improvement Cost	$6,300,000	$6,300,000
Total System Value (incl. CIP)	**$56,606,220**	**$56,606,220**
Credits:		
Outstanding Principal	$0	$0
Donated & Contributed Assets	($9,506,629)	($9,506,629)
Net System Value	**$47,099,590**	**$47,099,590**
Credit % Used in Fee Determination		16.8%
Fee Calculation:		
Capacity [Peak]		
Million Gallons Per Day (MGD)	18.72	
Level of Service (gpd)	693	
Equivalent Residential Units (ERUs) @	26,997	
Calculated Cost per ERU	$2,097	$2,097
Credit for Contributions included in Usage Rate	($352)	($352)
Calculated Fee per ERU After Credit	**$1,745**	**$1,745**
Reduction for Contingency [0.00%]	$1,745	$1,745
Percentage of Full Cost Recovery		100.00%
Escalation Factor to Effective Year		3.00%
Calculated Fee per ERU	**$1,797**	**$1,797**

Appendix E SEWER RATE AND FEE BENCHMARKING INFORMATION SOURCES

Schedule 15 – Sewer Rate and Fee Benchmarking Information Sources

Jurisdiction	Water & Sewer Rates	Connection Fees
Artesia	https://www.gswater.com/central-basin-east/download/rates_accountability/ME-1-R-Jul.pdf	https://www.lacsd.org/civicax/filebank/blobdload.aspx?blobid=2601
	https://www.lacsd.org/civicax/filebank/blobdload.aspx?blobid=13181	
Bell	https://www.gswater.com/central-basin-east/download/rates_accountability/ME-1-R-Jul.pdf	https://www.lacsd.org/civicax/filebank/blobdload.aspx?blobid=2601
	https://www.lacsd.org/civicax/filebank/blobdload.aspx?blobid=13181	
City of Norwalk	https://www.norwalk.org/home/showdocument?id=9347	(562) 929-5511 Left a voicemail; no reply
	https://www.norwalk.org/home/showdocument?id=20248	
City of Pasadena	https://ww5.cityofpasadena.net/water-and-power/wp-content/uploads/sites/54/2018/09/Summary-Rates-2018_09.pdf	https://library.municode.com/ca/pasadena/codes/code_of_ordinances?nodeId=TIT13UTSE_CH13.20WASERA
City of Pico Rivera	Called water billing @ (562) 801-4316 for rates - customer rep said they are not online	Called Water Supervisor (562) 755-0954 about system development/connection fees but no answer. Left a message
Fullerton	https://www.cityoffullerton.com/civicax/filebank/blobdload.aspx?blobid=5877	https://www.cityoffullerton.com/civicax/filebank/blobdload.aspx?BlobID=23219
	https://www.cityoffullerton.com/gov/departments/public_works/sewer_system/sewer_service_fee_faqs.asp	
Golden State Water Company	https://www.gswater.com/central-basin-east/download/rates_accountability/ME-1-R-Jul.pdf	
La Habra	http://www.lhcm.org/DocumentCenter/View/7296/2017-La-Habra-Water-Sewer-Rate-Noticepdf	http://lahabraca.gov/DocumentCenter/View/7826/Master-Schedule-of-Fees---Effective-July-1-2018
Montebello Land and Water	http://www.mtblw.com/Water-Rates-Sept-1-2018.pdf	*Called (323) 722-8654 - representative was unsure, took the message for superintendant and will get a call back -KM 1/16/19
Orchard Dale Water District	https://www.odwd.com/#Water_Service_Rates	Called (562) 941-0114 - they rarely have new development, rep said no set development/impact fee but they do charge meter installation and connection fees
Paramount	http://www.paramountcity.com/home/showdocument?id=1494	https://www.lacsd.org/civicax/filebank/blobdload.aspx?blobid=13181
Rowland Water District	https://www.rowlandwater.com/rates-fees/	http://www.rowlandwater.com/wp-content/uploads/2013/04/Resolution-No.-5.1-Adopting-Potable-Water-Capacity-Fee-SIGNED.pdf
San Gabriel County Water District	http://sgcwd.com/water-rates	http://sgcwd.com/water-rates
	https://www.lacsd.org/civicax/filebank/blobdload.aspx?blobid=13181	
San Gabriel Valley Water Co.	https://www.sgvwater.com/wp-content/uploads/2018/10/LA-1-10-1-18.pdf	https://www.sgvwater.com/rates-regulatory/tariff-book/
San Jose Hills Service Area	http://files.swwc.com/ca/tariff/Schedule-SJ1-Residential-Metered-Service.pdf	(626) 543-2640 Left voicemail and emailed customer service; no reply
Santa Clarita Valley Sanitation District	https://www.lacsd.org/civicax/filebank/blobdload.aspx?blobid=13199	https://www.lacsd.org/civicax/filebank/blobdload.aspx?blobid=5061
Santa Fe Springs	https://www.santafesprings.org/civicax/filebank/blobdload.aspx?blobid=9172	https://www.santafesprings.org/civicax/filebank/blobdload.aspx?blobid=9293
South Bay Cities Sanitation District	https://www.lacsd.org/civicax/filebank/blobdload.aspx?blobid=13200	https://www.lacsd.org/civicax/filebank/blobdload.aspx?blobid=3695
South Gate	https://www.cityofsouthgate.org/DocumentCenter/View/1458/Utilities-FY-2015-16-PDF?bidId=	
Suburban Water Systems - SouthWest Water Company	http://files.swwc.com/ca/tariff/Schedule-WLM1-Residential-Metered-Service.pdf	
Vernon	http://www.cityofvernon.org/images/community-services/water/Water_Rates_01-01-2018.pdf	http://www.cityofvernon.org/images/community-services/water/Water_Rates_01-01-2018.pdf
	https://www.lacsd.org/civicax/filebank/blobdload.aspx?blobid=13181	
Yorba Linda Water District	https://ylwd.com/your-water-service/water-rates-fees	https://ylwd.com/about-the-water-district/for-developers/development-fees
	https://ylwd.com/your-sewer-service/sewer-rates-fees	