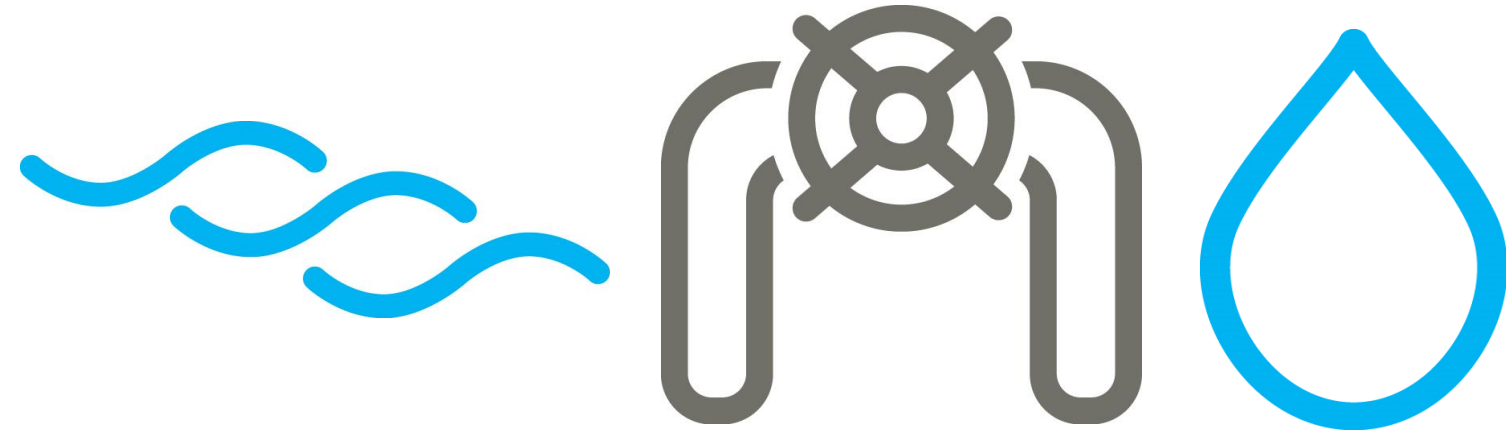


City of Coachella

Sanitation Rate Study

November 1, 2017

Stantec

November 1, 2017

Mr. Bill Pattison
City Manager
City of Coachella
53462 Enterprise Way
Coachella, CA 92236

Re: **Sanitation** Rate Study

Dear Mr. Pattison,

Stantec Consulting (formerly Hawksley Consulting) is pleased to present this of the **Sanitation** Rate Study (Study) that we performed for the City of Coachella's (City) Sanitation District. We appreciate the fine assistance provided by you and all of the members of the City staff who participated in the Study.

If you or others at the City have any questions, please do not hesitate to call me at (510) 316-0621 or email me at mark.hildebrand@stantec.com. We appreciate the opportunity to be of service to the City, and look forward to the possibility of doing so again in the near future.

Sincerely,

Mark Hildebrand
Principal Consultant

Enclosure

Executive Summary

This Executive Summary presents an overview of the results of the Sanitation Rate Study (Study) that was conducted for City of Coachella (hereafter referred to as the "City") by Stantec Consulting.

ES. 1 – STUDY OBJECTIVES

The principal objectives or components of the Study are as follows:

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

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

iii. Determine the cost of providing sewer sanitation service to each identified Customer Class using industry accepted methodologies; and

iv. Propose specific rate structures that equitably recover the cost of service from each Customer Class while promoting affordability and comporting with industry practices and legal requirements.

ES. 2 – GENERAL METHODOLOGY

This Study consisted of the following phases:

Perform a Revenue Sufficiency Analysis (RSA) – Develop and populate a multi-year forecasting model for the City 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) – Using the revenue requirements from the revenue sufficiency analysis for Fiscal Year (FY) ending 2018, we performed a detailed cost of service allocation based upon principles outlined by the American Water Works Association (AWWA) and the Water Environment Federation (WEF) and other generally accepted industry practices in order to

determine the proper distribution of costs and corresponding revenue requirements between the respective Customer Classes.

Rate Structure Analysis – The rate structure analysis phase developed specific rates that would recover the identified level of required revenue from each Customer Class. The proposed rate schedules were designed to ensure that the sanitation rates conform to accepted industry practices and reflect the appropriate distribution of system costs, while working towards the City's policy objectives, such as fiscal stability and affordability to the greatest extent possible.

ES.3 – REVENUE SUFFICIENCY ANALYSIS

In the RSA, Stantec evaluated the sufficiency of the Sanitation District's rate revenues to meet all of its current and projected financial requirements over a 10-year projection period, and determined the level of any rate revenue increases necessary in the next 5 years to provide sufficient revenues to fund cost requirements. With City staff, we thoroughly discussed the base data and assumptions of the analysis, and reviewed several alternative capital spending scenarios. Stantec worked with staff to identify existing debt and capital projects that could be (temporarily) paid with Connection Fee reserves and planned capital projects that could be deferred. Through this process, we have proposed a financial management plan and associated plan of annual rate increases. It is worth noting that the Sanitation Fund is starting with a negative fund balance, which will remain negative until FY2020. This Financial Plan will position the Sewer Revenue Fund to meet its cash reserve targets by 2020.

The proposed financial management plan and associated rate revenue adjustments are based upon the revenue and expense information, beginning balances, and assumptions as described in the full report. The four-year rate revenue adjustment plan proposed herein is presented in the following table.

Proposed Sanitary Rate Increases

Implementation Date	Rate Adjusment
January 1, 2018	4.0%
July 1, 2018	4.0%
July 1, 2019	4.0%
July 1, 2020	4.0%

The above rate increases are designed to *eventually* meet the Sanitation District's financial policies over the course of the planning period. The reserves will have a negative balance for three years and won't achieve the reserve target until 2020. The debt service requirement of 1.2 won't be met until 2019. It is important to note that Stantec has advised the City that higher rate increases are needed to meet short-term reserve needs and bond covenant requirements. The rate increases proposed by this report are consistent with the maximum rate increases that are expected to be approved by the City Council in order to maintain affordability.

ES.4 – COST-OF-SERVICE ANALYSIS

The purpose of a COSA is to determine the cost differences in serving each respective Customer Class so that the revenue requirements of the utility may then be distributed accordingly. The Study employed the "base-extra capacity" cost-of-service method promulgated in AWWA's Manual M1: Principles of Water Rates, Fees, and Charges (M1) for the water system, whereby costs are first allocated to individual functions or activities then the cost of each function are distributed to appropriate system parameters to calculate unit costs. The unit costs are then used to distribute system costs to each Customer Class based on their usage characteristics.

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 and calculate unit costs

- Step 3: Identify Customer Classes
- Step 4: Quantify units of service for each Customer Class for each defined system parameter
- Step 5: Distribute costs to Customer Classes based upon the unit costs for each system parameter and the units of service for each respective class
- Step 6: Credit non-rate revenue to Customer Classes

The following table compares the relative distribution of rate revenue among Customer Classes, comparing current rate revenue to proposed rate revenue based on the results of this Study. The shifting of cost responsibilities between Customer Classes is modest, and is a normal phenomenon as utility service use patterns change and better data becomes available over time.

Comparison of Actual Revenue vs. COS Results

	Current Rate (calculated)		Cost of Service (proposed)		Percent
	Dollars	Percent	Dollars	Percent	Change
Single Family Residential	$3,004,578	55.7%	$3,305,456	60.5%	4.8%
Multi-Family/Mobile Units	$1,094,105	20.3%	$933,371	17.1%	-3.2%
Commercial Low	$387,675	7.2%	$383,718	7.0%	-0.2%
Commercial Medium	$240,333	4.5%	$221,997	4.1%	-0.4%
Commercial High	$614,813	11.4%	$535,232	9.8%	-1.6%
Institutional	$48,822	0.9%	$84,541	1.5%	0.6%
Totals:	**$5,390,865**		**$5,464,313**		

ES.5 – RATE STRUCTURE RECOMMENDATION

Upon completion of the COSA, a rate structure analysis was performed to identify potential rate structure modifications and specific rate schedules that would:

i. Fairly and equitably recover the cost of providing service and revenue requirements for each Customer Class;
ii. Conform to accepted industry practice and legal requirements;
iii. Provide fiscal stability and recovery of fixed costs of the system; and
iv. Improve affordability to low volume and average users to the extent possible.

Current sanitation rates for all non-residential customers are made up of a Fixed Service Charge, based on the customer's meter size, and a Variable Commodity

Charge (consumption-based) rate. There are four different uniform Variable Commodity Charges based on the type of Commercial or Industrial customer (i.e. based on the strength of their sewage). All residential customers are charged a Fixed Monthly Charge per living unit.

This Study recommends that the Variable Commodity Charges also be applied to Multi-Family/Mobile accounts, and that Industrial customer classification be replaced with an Institutional designation (see below).

ES.6 – RATE SCHEDULE

The following tables show the proposed rates for FY 2019 (effective July 1, 2018). The complete report provides the proposed rates through FY 2022.

Proposed Year 1 Sanitary Rates, effective July 1, 2018

Single Family Residential Customers

Fixed Monthly Charge
$44.22

Commercial and Multi-Family/Mobile Unit Customers

Fixed Service Charge	
Meter Size	Rate
3/4"	**$21.40**
1"	**$35.66**
1.5"	**$71.33**
2"	**$114.13**
3"	**$228.25**
4"	**$356.65**
6"	**$713.30**
8"	**$1,141.27**

Variable Commodity Charge	
Classification	Rate ($/HCF)
Multi-Family/Mobile Units	**$3.15**
Commercial Low	**$2.75**
Commercial Medium	**$3.56**
Commercial High	**$7.91**
Institutional	**$2.70**

TABLE OF CONTENTS

Section 1. INTRODUCTION

Stantec Consulting, has been retained by the City of Coachella (City) to conduct a Sanitary Rate Study (Study). This report describes in detail the assumptions, procedures, and results of the Study, including our conclusions and recommendations.

1.1 UTILITY BACKGROUND

The City of Coachella's Sanitation District is administered and managed by the Utilities General Manager under direct supervision of the City Manager. The City is responsible for most of the sewer service for its residents (the City limits extend beyond its current sewer collection area). The Sewer District currently serves a population of over forty-three thousand.

1.2 OBJECTIVES

The primary objectives of this Study are to:

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

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

iii. Determine the cost of providing sewer service to each identified Customer Class using industry accepted methodologies; and

iv. Propose specific rate structures that equitably recover the cost of service from each Customer Class while promoting affordability and comporting with industry practices and legal requirements.

1.3 GENERAL METHODOLOGY

To begin the Study, we first developed a multi-year financial management plan that determined the level of annual rate revenue required to satisfy projected annual operating, debt service (including coverage), and capital cost requirements as well as maintain adequate reserves. This portion of the Study was

conducted using the revenue sufficiency and financial planning module of Stantec's proprietary FAMS-XL modeling system. We customized our model to reflect the financial dynamics and most current data available for the City's operations in order to develop a long-term financial management plan, inclusive of projected annual revenue requirements and corresponding annual rate adjustments.

Using the cost of service and net revenue requirements from the revenue sufficiency analysis for Fiscal Year[1] (FY) ending June 2018, we then performed a detailed cost-of-service allocation (COSA) analysis based upon principles as outlined by the American Water Works Association (AWWA), the Water Environment Federation (WEF), and other generally accepted industry practices in order to determine the proper allocation of costs and corresponding revenue requirements between the respective Customer Classes.

Once all FY 2017/18 costs and revenue requirements were properly allocated to each Customer Class, we then developed specific rates that would recover the identified level of required revenue from each Customer Class. The proposed rate schedules presented herein are designed to ensure that the City's sanitation rates conform to accepted industry practice, legal requirements, and reflect the equitable distribution of system costs, while also working towards achieving the City's policy objectives, such as fiscal stability and affordability.

1.4 ACRONYMS

AF	acre-feet
AWWA	American Water Works Association
CIP	capital improvement program
COSA	cost of service analysis
DCR	debt service coverage ratio
EM	equivalent meter

[1] Fiscal years are indicated by their ending years. For example FY 2017 starts on July 1, 2016 and ends on June 30, 2017

FAMS-XL	Financial Analysis and Management System model
FY	fiscal year ending June 30
HCF	hundred cubic feet
HCF/D	hundreds of cubic feet per day
lbs	pounds
RSA	revenue sufficiency analysis
SRF	State Revolving Fund (loan)
WEF	Water Environment Federation

Section 2. REVENUE SUFFICIENCY ANALYSIS

This section presents the financial management plan and corresponding plan of sanitation rate adjustments developed in the revenue sufficiency analysis (RSA) that was conducted as part of the Study. This section presents a description of the source data, assumptions, and policies reflected in the RSA, as well as the results of the RSA. Appendix A includes detailed schedules supporting the financial management plan identified herein.

During the RSA we reviewed alternative multi-year financial management plans and corresponding sanitation rate revenue adjustment plans through several interactive work sessions with City staff. As an outcome to this process, the Study has produced a proposed financial management plan and corresponding plan of annual rate revenue adjustments that will allow the City to work towards meeting its financial performance objectives throughout the projection period.

2.1 DATA & ASSUMPTIONS

The City provided historical and budgeted financial information regarding the operation of the utility, including multi-year capital improvement program (CIP) and current debt service obligations and covenants. City staff also assisted in providing other assumptions and policies, such as demands and customer growth, debt coverage requirements, operating reserve targets, earnings on invested funds, and escalation rates for operating costs. The following presents the key source data relied upon in conducting the RSA.

2.1.1 BEGINNING FUND BALANCES

The ending cash balances for FY 2016 was used to establish the beginning FY 2017 balances and are provided in Table 1. The ending cash balance for the Sewer Revenue Fund is negative, which will impact the City's ability to issue debt, and will also necessitate a material rate adjustment in Year 1 of the planning period.

Table 1 – FY 2017 Beginning Cash Balance

	361 Sewer Revenue Fund	Debt Restricted Reserve	360 Sewer Connection Fees
Current Unrestricted Assets			
Cash and Cash Equivalents	$ (1,060,743)	-	7,220,241
Receivables	222,565	-	-
Due from other governments	55,130	-	-
Prepaid Expenses	28,408	-	-
Total Assets	**(754,640)**	**-**	**7,220,241**
Less: Accounts Payable	(134,331)	-	-
Less: Compensated absences	(189,983)	-	-
Less: Payroll Payable	(27,105)	-	-
Fund Balance (Assets-Liabilities)	**(1,106,059)**	**-**	**7,220,241**
Transfer for Debt Reserve	-	635,403	(635,403)
Net Unrestricted Fund Balance	**(1,106,059)**	**635,403**	**6,584,838**

2.1.2 CUSTOMER GROWTH & VOLUME FORECAST

Based upon a review of recent capacity charges revenues the RSA assumes that the customer base will grow at a pace of 1.5% per year. That being said, the City has expressed optimism that significant new developments will be added to the City and that rate revenue will increase as a result. In the interest of being conservative, this study maintains the assumption of 1.5% growth per year.

Forecasting the future usage of water is relevant for Sanitation rates since the Sanitation rates for some customers has a variable commodity component that is based on the customers' potable water usage. As with the water rate study (being completed concurrently to this Study), we have assumed that the average future water usage by individual City customers will remain flat over the course of the four-year study period (equal to FY 2016 usage).

2.1.3 RATE REVENUES

The revenues utilized in the RSA reflect an evaluation of multiple years of historical results and the FY 2017 Projected Budget. Revenues consist of rate revenue, impact fees, interest income, and other minor revenue from miscellaneous service

charges. Rate revenue is based upon FY 2017 budget, adjusted annually to reflect assumed customer growth and changes in demand. Budgeted and projected rate revenues are listed in detail in **Schedule 1** of Appendix A.

2.1.4 NON-RATE REVENUES

In addition to sanitation rate revenue, the Sanitation District receives a limited amount of non-rate revenue related to property taxes, miscellaneous service fees, Redevelopment Property Tax Trust Fund (RPTTF) pass-through revenue, and interest revenue (when applicable). Projections of all non-rate revenues were based on FY 2017 budget values, with the exception of interest income (which was calculated annually based upon projected average fund balances and assumed interest rates).

2.1.5 USE OF CONNECTION FEE REVENUE FOR EXISTING DEBT

California State law restricts the use of Capacity Charge revenue (Connection Fees) to only growth-related capital projects. Historically the Sanitation District has not used Connection Fee revenue to pay for its existing debt despite the fact that a number of debt issues were associated with projects that were growth related. As such, as direct by City staff, this Study makes the **material assumption** that the Sanitation District will pay the debt service for the 2005 Refunding Bond, the 2005 SRF loan, and half of the 2015 Refunding Bond with funds from Connection Fee reserves and revenue. In FY 2017 this amounts to $1.9 million in debt service that is eligible to be for with Connection Fee reserves. This strategy will help the Sewer Revenue Fund for about three years (until 2021), after which time the Connection Fee reserve will be exhausted and the debt will again need to be paid for with rate revenue. As a result, it is anticipated that additional (potentially significant) rate increases will be needed after 2020 in order to avoid material decreases in the Sewer Revenue Fund's reserve levels.

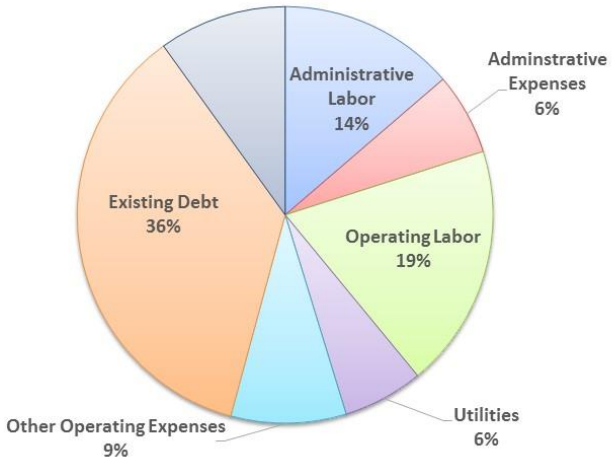
2.1.6 OPERATING EXPENSES & EXISTING DEBT

The Sanitation District's operating expenses include all operating and maintenance expenses, debt service requirements, and minor capital outlay. Future operating expenses were projected based upon the individual expense

categories and the budgeted expenditures in FY 2017 and adjusted for inflation (see Section 2.1.7). Budgeted operating costs categories for FY 2017 are depicted in Figure 1. Budgeted and projected operating costs are listed in detail in **Schedule 1** of Appendix A.

The Sanitation District's existing loans include a 2011 USDA loan for Ave 54 ($3.0 million), a 2015 Refunding Bond ($4.5 million), a 2005 Refunding Bond ($5.0 million), and a 2005 SRF loan ($23.7 million). The annual debt service expenses for these loans are identified in **Schedule 1**.

Figure 1 – FY 2017 Budgeted Expense Categories



2.1.7 COST ESCALATION

Annual cost escalation factors for the various types of operating and maintenance expenses were developed based upon a review of historical trends, our industry experience, and detailed discussions with City staff. This study assumes that all operating expenses, including the cost of capital projects, will escalate at a rate of 3% per year, with the exception of Salary and Benefit expenses in FY 2018 which are anticipated to escalate at 2.24% for that year only.

2.1.8 CAPITAL IMPROVEMENT PROGRAM

City staff provided the forecasted spending on the CIP from FY 2018 through FY 2021. As reflected in Section 2.1.7, the RSA includes an annual cost escalation factor for capital costs of 3.0% based upon historical increases observed in the Engineering News Record 20-City Construction Cost Index. The forecasted CIP spending after FY 2021 is not based on individual projects but rather based on the average cost of projects during that time period as identified by the 2015 Sewer System Master Plan.

In total, the CIP (including inflation) from FY 2017 – FY 2021 is approximately $2.1 million. A detailed list of projects and costs by year are provided in **Schedule 2** of Appendix A. Schedule 2 provides two versions of the CIP; the first is the planned spending schedule per the City's Master Plan, while the second is the reduced CIP spending schedule, as adjusted by City staff in order to minimize the need for rate increases.

2.1.9 INTEREST EARNINGS ON INVESTED FUNDS

The RSA reflects interest earnings on invested funds at a rate of 0.5%, based on the recent historical performance of the City's investment earnings as well as input from City staff.

2.1.10 MINIMUM OPERATING RESERVE BALANCE

Reserve balances for utility systems are funds set aside for a specific cash flow requirement, financial need, or debt covenant. These balances are maintained in order to meet short-term cash flow requirements, and at the same time, minimize the risk associated with meeting the financial obligations and continued operational and capital needs under adverse conditions. The level of reserves maintained by a utility is an important component and consideration of developing a multi-year financial plan.

Many utilities, rating agencies, and the investment community as a whole place a significant emphasis on having sufficient reserves available for potentially adverse conditions. The rationale related to the maintenance of adequate reserves is twofold. First, it helps to ensure that a utility will have adequate funds

available to meet its financial obligations during unusual periods (i.e. when revenues are unusually low and/or expenditures are unusually high). Second, it provides funds that can be used for emergency repairs or replacements to the system that can occur as a result of natural disasters or unanticipated system failures.

Financial policies should articulate how these balances are established, their use, and how to determine the adequacy of the reserve fund balances. Once reserve targets are established, they should be reviewed annually during the budgeting process to monitor current levels and assure conformance with stated policies and practices. Decisions can be made to maintain, increase, or spend down the reserve balances, as appropriate, depending upon the impact of such decisions to the upcoming budget period.

For purposes of this Study, we have assumed a 3-month Operating Reserve policy, which means that 90 days of operating costs are kept available in cash reserves. This reserve ensures continuity of service regardless of short-term changes in cash flow or sudden increases in operating costs. Since this reserve target is set relative to the Sanitation District's operating budget, the target will change as the budget changes. As detailed in **Schedule 3** the Operating Reserve target will increase from approximately $846 thousand in FY 2018 to $1.1 million in FY 2027.

The City also maintains a Debt Service reserve which is required by the covenants of existing outstanding debt (and is assumed to be required by any future debt issued by the City. For existing debt, this reserve requirement is equal to approximately $670 thousand (the SRF loan does not require a debt service reserve).

Going forward, the City may wish to consider adopting more comprehensive reserve policies that may include components such as:

- A "Rate Stabilization" reserve designed to smooth rate volatility during short to mid-term rate revenue loss.
- A "Capital Improvement Program" reserve designated for funding capital assets and designed to stabilize funding for capital by accumulating "pay as you go" reserves.

These levels of reserves are consistent with 1) our industry experience for similar systems, 2) the findings of reserve studies conducted by the AWWA, and 3) a healthy level of reserves for a municipal utility system per the evaluation criteria published by the municipal utility rating agencies (Fitch, Moody's, and Standard & Poor's).

2.1.11 FUTURE BORROWING ASSUMPTIONS

This Study assumed that no debt would be issued to support capital projects during the planning period. This assumptions was based on the fact that it would be a challenge for the Sanitation District to qualify for a revenue bond (or similar) given the fund's current negative fund balance. The projects are also largely driven by growth, making it hard to qualify for other types of loans. It was assumed that, in the short-term, the negative fund balance in the Sewer Revenue Fund would be supported by the positive balance in the Connection Fee fund (at least until the Connection Fee fund is exhausted by using it to pay for existing debt).

2.1.12 DEBT COVERAGE

The covenants for existing debt require the City to maintain a debt service coverage ratio (DCR) of 1.2 (including Connection Fee revenue). For purposes of this Study, Stantec has targeted a higher coverage level in order to enable the utility to access low interest rates from the debt market should the need arise in the future. Per recently published guidance from Fitch Ratings[2], utility systems with *midrange* financial profiles should maintain debt service coverage greater than 1.50 times net revenue. As such, Stantec recommends that the Sewer Revenue Fund achieve and maintain a DCR that is greater than 1.5 over the long term (although that level will not be achieved during the planning period with the rate increases that have been accepted by the City at this time).

[2] As published on July 31, 2013.

2.2 ANALYSIS

All of the above information was entered into Stantec's Financial Analysis and Management System (FAMS-XL) interactive modeling system. This module of FAMS-XL produced a ten-year projection of the sufficiency of revenues to meet current and projected financial requirements, and determined the level of rate revenue increases necessary in each year of the projected period.

2.2.1 PROPOSED RATE INCREASES

Based upon the data, assumptions, and policies presented herein, the existing sanitation rates will not provide sufficient rate revenue to meet the Sanitation District's revenue requirements. City staff worked to defer the capital spending program in order to reduce impacts on rates (see "Reduced" CIP in Schedule 2). Given that deferred capital spending schedule, Table 2 summarizes the sanitation rate increases identified over the next four years that will be proposed to the City Council.

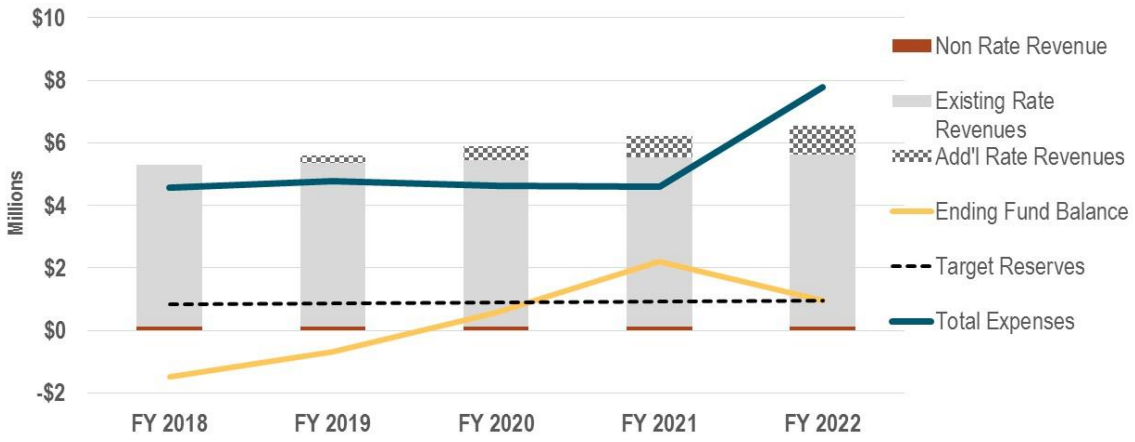
Table 2: Proposed Sanitation Rate Revenue Increase

Implementation Date	Rate Adjusment
January 1, 2018	4.0%
July 1, 2018	4.0%
July 1, 2019	4.0%
July 1, 2020	4.0%

The above rate increases are designed to *eventually* meet the Sanitation District's financial policies over the course of the planning period. The reserves will have a negative balance for three years and won't achieve the reserve target until 2020. The debt service requirement of 1.2 won't be met until 2022. It is important to note that Stantec has advised the City that higher rate increases are needed to meet short-term reserve needs and bond covenant requirements. Stantec has also advised the City that the use of Connection Fee reserves to pay for existing debt (see Section 2.1.5) will only temporarily improve the Sewer Revenue Fund reserve levels (until 2021), after which time the Connection Fee reserve will be exhausted and the Sewer Revenue Fund's reserves will begin to drop (barring a significant

growth or a significant rate increase). The rate increases proposed by this report are consistent with the maximum rate increases that are expected to be approved by the City Council in order to maintain affordability. **Schedule 3** at the end of this report is a cash flow proforma that summarizes the forecasted rate revenues, non-rate revenues, operating expenses, existing debt service, capital expenses, cash balances, and DCRs. Note that the drop in reserve levels beyond FY 2022 are due to the fact that this report is limited to a four year forecast of rate increases. **Additional (and potentially significant) rate increases will be needed after FY2020**. The numbers provided in **Schedule 3** are summarized graphically in Figure 2.

Figure 2 – Financial Projection with Proposed Rate Increases



Section 3. COST-OF-SERVICE ALLOCATION

Cost-of-service ratemaking is a process of allocating the utility system user-charge revenue requirements to customers based on the demands they place on the system. Individual customer demands vary depending on they use the utility service. For example, sewer service demand for a family residing in a typical single-family home is different than the sewer service demand for a large restaurant in terms of the volume of the wastewater, and the strength of sewage, discharged. As a practical matter, it is not feasible to allocate system revenue requirements at the individual account level. As such, the industry standard, as promulgated by WEF's Manual No. 27[3], is to group customers with similar system needs into Customer Classes. Rates are then developed for each Customer Class, with each individual customer paying the Customer Class' average allocated cost of service for each unit of specific usage.

Generally speaking, Sewer customers place the following demands on the Sanitation District sewer system:

- The system capacity (both collection and treatment) that must be maintained to provide reliable service to all customers at all times;
- The quantity of wastewater (i.e., flow)[4] that must be moved through the sewer system;
- The strength or concentration of the sewage; and
- The number and size of customers requiring customer services, such as bill processing, customer service support, and other administrative services.

[3] Financing and Charges for Wastewater Systems, WEF, 2004

[4] Wastewater flows are not under pressure and therefore must be estimated since they cannot be metered directly.

3.1 PROCESS

The COSA was based upon the City's FY 2019 annualized expenditure and revenue requirements per the RSA, and 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 and calculate unit costs
- Step 3: Use Metrics to Develop Unit Costs
- Step 4: Identify Customer Classes
- Step 5: Quantify units of service for each Customer Class for each defined system parameter
- Step 6: Distribute costs to Customer Classes based upon the unit costs for each system parameter and the units of service for each respective class
- Step 7: Credit non-rate revenue to Customer Classes

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: FUNCTIONAL COST ALLOCATIONS

The operating expenses, debt service, and cash-funded capital requirements within the sanitary system were distributed to specific activities or functional components of service. The functional components of the City's system were identified as:

- General and Administration
- Treatment
- Collection
- Customer Service
- Meters and Services

The specific knowledge and insight of City staff was relied upon to functionalize all the line item costs to the respective functional components identified above. A departmental-level summary of cost functionalization is presented in Table 3. The

Staff Cost percentages presented in Table 3 were calculated based a detailed analysis of the amount of time spent by Sanitary District staff on various tasks. The Capital Asset percentages were assigned based on the net value of existing assets.

The detailed summary of all cost allocations to functional components is presented in **Schedule 4** of Appendix B. As a final step, the General and Administrative costs are allocated among the other Functional Components based on the indirect allocation method (see the last row of Schedule 4).

Table 3: Allocation of Cost Categories to Functional Components

	Functional Components				
Cost Categories	General & Admin	Treatment	Collection	Customer Service	Connections
General & Admin	100.0%				
Treatment		100.0%			
Collection			100.0%		
Customer Service				100.0%	
Meters & Services					100.0%
Admin Staff Cost Distribution	100.0%				
Sanitation Staff Cost Distribution	34.4%	18.0%	15.6%	21.3%	10.6%
Capital Assets	10.0%	57.0%	32.9%	0.0%	0.0%

3.1.2 STEP 2: DISTRIBUTE FUNCTION COSTS TO SYSTEM PARAMETERS

The costs of providing wastewater services are incurred as a result of customer demands on specific system parameters. This notion of cost causation means that the Sanitation District incurs a cost of providing service as a result of a particular kind of customer demand. As explained below, the Report allocated the (previously defined) functionalized costs to the system parameters of flow, strength and meter size so that (in Step 6) those cost can then be allocated to each respective Customer Class based on their respective demands.

- **Treatment:** The costs of operating and maintaining the wastewater treatment facility was allocated to Customer Classes based on flow as well as two strength components: biological oxygen demand (BOD) and total suspended solids (TSS). In simple terms, the BOD is a measure of how much oxygen is needed to neutralize the organic matter and the TSS is a measure of how much solid material will need to be removed from the water and disposed of. Ideally a study such as this can directly measure the value of the physical assets that treat BOD and TSS in order to understand the costs associated with each process. However, since the Sanitation District has insufficient data to perform that analysis, this study used the results from other (comparable) utilities that do have that data available[5]. These proportionate value of existing assets (35.7% Flow, 30.2% TSS, and 34.1% BOD) was used to apportion the capital and operations cost associated with wastewater treatment. As explained in Section 3.1.5, sewage strength assumptions were made for each respective Customer Class.
- **Collection**: The cost of collecting wastewater is proportionate to the quantity of hydraulic flow of the wastewater. Collection costs include the operating, maintenance, and capital costs associated with collection lines and lift stations, which are designed to accommodate maximum hydraulic flow rates. These costs were assigned to the Customer Classes based on each class' wastewater production (as inferred by potable water usage and a "return to sewer" factor, see Section 3.1.5).
- **Customer Service Costs:** Costs associated with customer service were allocated to Customer Classes based on the size of the meters (as measured by meter equivalencies).
- **Meter Costs:** Costs associated with managing and maintaining the customers' service lateral and meter were allocated to Customer Classes based on the size of the meters (as measured by meter equivalencies).
- **General and Administration**: General and Administration costs were not directly allocated to a System Parameter, but rather were distributed among the System Parameters using the indirect cost allocation (based on

[5] These sewer systems all have "secondary treatment" like the Coachella Sanitation District, and included Northeast Ohio Regional Sewer District, the city of Akron (OH), the city of Loveland (CO), and Mobile Area Water & Sewer System. The results among these studies was relatively consistent, indicating that the use of an average value is a valid approach.

the proportionate allocation of costs from the above Functional Components, see the last row of Schedule 4).

Table 4 summarizes the allocation of functional components to System Parameters.

Table 4: Mapping Functional Components to System Parameters

Functional Component	System Parameters			
	Flow (HCF)	Total TSS (LBS)	Total BOD (LBS)	Meter Size (EM)
Treatment	35.7%	30.2%	34.1%	
Collection	80.0%			20.0%
Customer Service				100.0%
Connections				100.0%
Indirect Allocation	36.3%			

3.1.3 STEP 3: USE METRICS TO DEVELOP UNIT COSTS

The functionalized costs for operating, debt service and capital spending from **Step 1** are allocated to system parameters based on the values shown in Table 4. The results are summarized in **Schedule 5** in Appendix B. For example at the top of Schedule 5, the $1,727,114 in Treatment operating expenses are allocated 35% to the Flow parameter (yielding $617,273). The total operating expenses allocated to the Flow parameter ($1,214,339 in this example) are then converted to unit costs by dividing by the relevant system metric as listed at the top of Schedule 5. In the case of the Base Capacity parameter, the relevant system metric is the sanitary system's average daily wastewater flows (2,460 hundred cubic feet (HCF), see Table 6) and the resultant unit rate is $493.69 / HCF (see Row 9 of Schedule 5). When adding the capital expenses and debt expenses, the total unit rate for Flow costs is $644.67 / HCF (see Row 45 of Schedule 5).

3.1.4 STEP 4: DETERMINATION OF CUSTOMER CLASSES

A Customer Class consists of a group of customers, with common characteristics, who share responsibility for certain costs incurred by the utility. Joint costs are shared proportionately among all customers in the system based on their service requirements that drive costs; some customers create specific costs, and those specific costs are borne by specific classes based on the characteristics of that

group alone. Among the Sanitation District's existing Customer Classes there is an "Industrial/Special" class, which this Report recommends to eliminate since that class only has one customer, and that customer should be reclassified as a commercial customer. This report also recommends the creation of an "Institutional" class, based on the fact that school and government offices do not fall under a commercial designation.

As such, the proposed Customer Classes are as follows:

- Single Family Residential
- Multifamily Residential – Including RV/Trailer Parks
- Commercial Class Low
- Commercial Class Medium
- Commercial Class High
- Institutional

3.1.5 STEP 5: QUANTIFY UNITS OF SERVICE BY CUSTOMER CLASS

The Report allocates costs to Customer Classes based on the number of accounts, meter equivalencies, and wastewater flows/strength. The proposed methodology for estimating the discharge of wastewater from each respective Customers Class is based on actual potable water usage, combined with an assumption of the "return-to-sewer" factor for each respective Customer Class. The return-to-sewer factor estimates how much of a Customer Class' potable water usage is subsequently discharged to the sewer system (on average).

The return-to-sewer factor for all customers that have indoor water meters (all Customer Classes except for Single Family Residential) was assumed to be 90% based on Stantec's experience of standard industry practice, and confirmed by a review of the policies employed by a number of other California sewer utilities with similar sewer rate structures.

Single Family Residential has a significantly lower return-to-sewer factor due to the fact that those customers have a single meter ("dual-use meter") for both indoor and outdoor water usage, which means that a significant quantity of water is used for irrigation and is not discharged to the sewer. In order to estimate the return-to-

sewer factor for Single Family Residential, City staff completed a calculation of a hydraulically-isolated housing development where the total amount of potable water being used could be compared to the amount of wastewater being discharged. Based on these results, the City directed Stantec to use a return-to-sewer factor of 40% for Single Family Residential customers.

BOD and TSS characteristics (for sewage strength) were based on published data[6] for the typical strength of different types of customers. The assumed strength by Customer Class is summarized in Table 5.

Table 5: Sewage Strength by Customer Class

Customer Class	BOD (mg/L)	TSS (mg/L)
Single Family Residential	175	175
Multi-Family/Mobile Units	175	175
Commercial Low	139	103
Commercial Medium	180	280
Commercial High	976	624
Institutional	130	100

Based on the wastewater flows and sewage concentrations, the total mass of BOD and TSS was calculated for each Customer Class (see Table 6). Other customer demands are measured by the number of accounts and collective meter count and size (meter equivalency). The meter equivalency metric allows us to express all meter sizes in terms of multiples of a ¾" meter and then calculate the number of "equivalent meters" (EM) by Customer Class. Equivalent Meters are an industry-standard factor used to represent the proportional demand that a connection places on the system based on the design capacity necessary to serve it. The meter equivalency table adopted by this Study, including sources, is shown in Table 7.

[6] California State Resources Control Board Revenue Program Guidelines (March 1998).

A summary of all customer demand data for all Customer Classes is provided in Table 6.

Table 6 - Wastewater Customer Demand by Customer Class

	Number of Accounts	Equivalent Meters	Average Daily Wastewater Flows (HCF/day)	Total BOD (lbs/year)	Total TSS (lbs/year)
Single Family Residential	6,228	6,229	1,335	532,367	532,367
Multi-Family/Mobile Units	317	834	563	224,421	224,421
Commercial Low	195	503	229	72,595	53,921
Commercial Medium	24	122	132	54,110	84,172
Commercial High	29	122	157	349,302	223,049
Institutional	25	141	44	13,105	10,081
Totals	**6,818**	**7,951**	**2,460**	**1,245,900**	**1,128,009**

Table 7: Meter Equivalencies

Meter Size	Existing Ratio	Meter Type	GPM	Proposed Meter Equivalence
3/4"	1.0	Displacement	30	1.0
1"	1.4	Displacement	50	1.7
1 1/2"	1.8	Displacement	100	3.3
2"	2.9	Displacement	160	5.3
3"	11.0	Compound	320	10.7
4"	14.0	Compound	500	16.7
6"	21.0	Compound	1,000	33.3
8"	29.0	Compound	1,600	53.3

(1) Source: Table B-1, Appendix B, AWWA M1 Manual, 6th Ed.

The following sections explain the steps that were followed to assign costs to each respective Customer Class. Details regarding the source of the following financial values can be found in Stantec's cost of service model ("City of Coachella Sanitation COS Model_Final").

3.1.6 STEP 6: ALLOCATE SERVICE COSTS TO CUSTOMER CLASSES

Next each Customer Class is allocated service costs based on the respective units of service shown in Step 4 and the unit costs calculated in Step 2. Results are

shown in Table 8. By way of example, the $860,679 allocated to Single Family for Flow was calculated by multiplying the total unit cost for Flow listed in Schedule 5 ($644.67/HCF, see Row 45) by the Flow units of service for Single Family Residential customers (1,335 HCF).

Table 8: Customer Class Cost Allocation by System Parameter

System Parameter	Total	Single Family Residential	Multi-Family/Mobile Units	Commercial Low	Commercial Medium	Commercial High	Institutional
Flow	**$1,585,716**	$860,679	$362,823	$147,436	$85,050	$101,207	$28,521
Total TSS	**657,533**	310,324	130,818	31,431	49,065	130,018	5,876
Total BOD	**743,572**	317,724	133,938	43,326	32,294	208,469	7,821
Meter Size	**1,781,881**	1,395,941	186,972	112,677	27,327	27,402	31,560
Total Cost Allocation	**$4,768,702**	**$2,884,668**	**$814,552**	**$334,870**	**$193,736**	**$467,096**	**$73,779**

3.1.7 STEP 7: CREDIT NON-RATE REVENUE TO CUSTOMER CLASSES

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 using the *same proportions used when allocating costs*, as summarized by Table 8.

The non-rate revenue is credited to each Customer Class as shown in below in Table 9 and yields the total rate revenue requirement by Customer Class.

Table 9: Total Rate Revenue Requirement[7]

		Total	Single Family Residential	Multi-Family/Mobile Units	Commercial Low	Commercial Medium	Commercial High	Institutional
Total Cost Allocation	**$**	**4,570,796**	$2,769,890	$778,803	$320,709	$184,982	$445,644	$70,767
Change in Fund Balance	**$**	**822,585**	$498,484	$140,158	$57,717	$33,290	$80,201	$12,736
Total Revenue Requirement	**$**	**5,393,381**	**$3,268,375**	**$918,961**	**$378,426**	**$218,272**	**$525,845**	**$83,503**
Non-Rate Revenue	**$**	**114,202**	$69,206	$19,459	$8,013	$4,622	$11,134	$1,768
Rate Revenue Requirement	**$**	**5,279,179**	**$3,199,168**	**$899,502**	**$370,413**	**$213,651**	**$514,710**	**$81,735**

Finally, for reasons that will be explained in Section 4 (Rate Structure Analysis), the rate revenue requirement by Customer Class is expressed in terms of System Parameters as shown in Table 10.

Table 10: Total Rate Revenue Requirement by System Parameter

System Parameter	Total	Single Family Residential	Multi-Family/Mobile Units	Commercial Low	Commercial Medium	Commercial High	Institutional
Flow	**$1,817,025**	$986,226	$415,748	$168,943	$97,457	$115,970	$32,681
Total TSS	**753,447**	355,591	149,901	36,016	56,222	148,984	6,733
Total BOD	**852,037**	364,071	153,476	49,645	37,005	238,878	8,962
Meter Size	**2,041,804**	1,599,567	214,246	129,114	31,314	31,399	36,164
Total Rate Revenue Requirement	**$5,464,313**	**$3,305,456**	**$933,371**	**$383,718**	**$221,997**	**$535,232**	**$84,541**

3.2 COST-OF-SERVICE RESULTS

Table 11 compares the relative distribution of rate revenue among Customer Classes, comparing current rate revenue to proposed rate revenue based on the results of this Study. The shifting of cost responsibilities between Customer Classes

7 Note that the total rate revenue requirement in this table matches the rate revenue requirement for FY 2018 shown in Schedule 3.

is modest, and is a normal phenomenon as utility service use patterns change and better data becomes available over time.

Table 11: COS Comparison [8]

	Current Rate (calculated)		Cost of Service (proposed)		Percent
	Dollars	Percent	Dollars	Percent	Change
Single Family Residential	$3,004,578	55.7%	$3,305,456	60.5%	4.8%
Multi-Family/Mobile Units	$1,094,105	20.3%	$933,371	17.1%	-3.2%
Commercial Low	$387,675	7.2%	$383,718	7.0%	-0.2%
Commercial Medium	$240,333	4.5%	$221,997	4.1%	-0.4%
Commercial High	$614,813	11.4%	$535,232	9.8%	-1.6%
Institutional	$48,822	0.9%	$84,541	1.5%	0.6%
Totals:	**$5,390,865**		**$5,464,313**		

[8] Comparison of Study results with FY 2016 actual rate revenue (based on billing data).

Section 4. RATE STRUCTURE ANALYSIS

The following explains how the proposed rates were designed in a manner that complies with the cost-of-service results and is responsive to the City's pricing objectives. The rate design analysis was performed to identify a rate structure 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; and
- Provide fiscal stability and recovery of fixed costs of the system.

4.1 CURRENT SANITATION RATES AND PROPOSED CHANGES

Current sanitation rates are as follows:

- Single Family, Multi-family, and Mobile Unit customers pay a Flat Monthly Rate, based on the number of units.
- Commercial customers pay:
    1) A Fixed Service Charge based on meter size; and
    2) A Variable Commodity Charge (per HCF of potable water usage) with is uniform (not tiered) and specific to the type of commercial customers (High, Medium or Low).

This Report recommends billing **Multi-family / Mobile Unit** customers in the same manner as Commercial customers (with a Variable Commodity component). One of the benefits is that that Multi-family accounts with high rates of vacancy will experience a lower bill.

4.2 BASIS OF RATES

The following described how the cost-of-service results were used to develop a cost-based rate structure.

4.2.1 COMMERCIAL AND MULTI-FAMILY/MOBILE UNITS

The cost-of-service analysis resulted in the costs associated with the five "System Parameters" being allocated to each Customer Class (see Table 10). Those System Parameters are used in calculating the final rates, as explained below.

4.2.1.1 Fixed Service Charge

The cost from the Meter Size parameter was used to calculate the Fixed Service Charge. The Meter Size costs were divided by the total Meter Equivalents within each Customer Class. For example Multi-family was assigned $209,152 in Meter Size costs and that Customer Class has 834 equivalent meters, therefore the meter portion of the monthly Service Charge will be $250.68 per year (or $20.89 per month) for the smallest meter (¾" meter). The Service Charge for larger meters increases based on the meter equivalency schedule (see Table 7).

4.2.1.2 Variable Charge

While the Fixed Service Charge schedule is the same for all Commercial and Multi-Family customers, the Variable Commodity Charge schedule is different for each respective Customer Class based on the sewage strength assumption (see Table 5). The total costs allocated to the Flow, BOD and TSS Service Parameters for a given Customer Class are divided by the total wastewater flows for that Customers Class, which yield Variable Commodity Charge for those customers. For example the totals Flow, BOD and TSS costs for Multi-family ($398,727, $144,093, and $147,529 respectively) are divided by the total flows for Multi-family (228,247 HCF), which yields a variable rate of $3.02/HCF.

4.2.2 SINGLE FAMILY RESIDENTIAL

The rate for Single Family Residential is calculated on the same basis as described in Section 4.2.1, with the key differences that the monthly wastewater flows from each account is assumed to the same every month and all Single Family Residential accounts are assumed to have a ¾" meter. The average monthly wastewater flow for Single Family Residential is 17.5 HCF, which is multiplied by a Variable Commodity Charge of $1.34, which yields $21.91 per month. With the

$20.89 Fixed Service Charge (for ¾" meters) the total Fixed Monthly Charge comes to $42.80.

The current Fixed Monthly Charge for Single Family Residential is $41.81, which represents a 4.0% increase.

4.3 PROPOSED RATES

Based on the above methodology, the following sanitation rate schedule is proposed for FY2019 (effective on July 1, 2018).

A complete schedule of rates through FY 2022 (based on the annual rate adjustment described in Section 2.2.1) is provided as Schedule 6 through Schedule 9.

Table 12 – Proposed Sanitary Rates, effective July 1, 2018

Single Family Residential Customers

Fixed Monthly Charge
$44.22

Commercial and Multi-Family/Mobile Unit Customers

Fixed Service Charge	
Meter Size	Rate
3/4"	**$21.40**
1"	**$35.66**
1.5"	**$71.33**
2"	**$114.13**
3"	**$228.25**
4"	**$356.65**
6"	**$713.30**
8"	**$1,141.27**

Variable Commodity Charge	
Classification	Rate ($/HCF)
Multi-Family/Mobile Units	**$3.15**
Commercial Low	**$2.75**
Commercial Medium	**$3.56**
Commercial High	**$7.91**
Institutional	**$2.70**

4.4 CONCLUSION

This Report used methodologies that are aligned with industry standard practices for rate setting as promulgated by WEF and all applicable law, including Proposition 218. The proposed adjustments to the rates will provide revenue stability and continue to equitably and proportionately recover costs from the appropriate customers.

DISCLAIMER

This document was produced by Stantec Consulting Services, Inc. ("Stantec") for the City of Coachella ("City") and is based on a specific scope agreed upon by both parties. In preparing this report, Stantec utilized information and data obtained from the City 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 City 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: RSA SCHEDULES

Schedule 1 Budgeted and Projected Cash Outflows

Schedule 2 – Capital Improvement Program

Schedule 3 – Cash Flow Proforma

Schedule 1 - Budgeted and Projected Cash Outflows

			FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
1	**Administration**												
2	Regular employees	$	527,633	539,459	555,643	572,312	589,482	607,166	625,381	644,143	663,467	683,371	703,872
3	Benefit and leave cash-in	$	56,794	58,067	59,809	61,603	63,451	65,355	67,315	69,335	71,415	73,557	75,764
4	Stand-by time/overtime	$	3,820	3,906	4,023	4,143	4,268	4,396	4,528	4,664	4,803	4,948	5,096
6	Other benefits	$	14,098	14,414	14,846	15,291	15,750	16,223	16,709	17,211	17,727	18,259	18,807
7	Employer's share of group insuranc	$	117,190	119,816	123,411	127,113	130,927	134,854	138,900	143,067	147,359	151,780	156,333
8	Payroll tax deductions	$	8,590	8,782	9,046	9,317	9,597	9,885	10,181	10,487	10,801	11,125	11,459
9	PERS contributions	$	105,613	107,981	111,220	114,557	117,993	121,533	125,179	128,934	132,803	136,787	140,890
10	Official/administrative	$	80,000	82,400	84,872	87,418	90,041	92,742	95,524	98,390	101,342	104,382	107,513
11	County administrative charges	$	3,000	3,090	3,183	3,278	3,377	3,478	3,582	3,690	3,800	3,914	4,032
15	Other professional/contract servic	$	50,000	51,500	53,045	54,636	56,275	57,964	59,703	61,494	63,339	65,239	67,196
17	Franchise Fee Expense	$	102,000	105,060	108,212	111,458	114,802	118,246	121,793	125,447	129,211	133,087	137,079
18	In Lieu Taxes Exp	$	99,996	102,996	106,086	109,268	112,546	115,923	119,400	122,982	126,672	130,472	134,386
19	Communications	$	5,500	5,665	5,835	6,010	6,190	6,376	6,567	6,764	6,967	7,176	7,392
20	Advertising	$	15,000	15,450	15,914	16,391	16,883	17,389	17,911	18,448	19,002	19,572	20,159
21	Meetings, conferences and travel	$	11,000	11,330	11,670	12,020	12,381	12,752	13,135	13,529	13,934	14,353	14,783
22	General supplies	$	3,000	3,090	3,183	3,278	3,377	3,478	3,582	3,690	3,800	3,914	4,032
23	Minor Equip, Furnit, <5,000	$	3,000	3,090	3,183	3,278	3,377	3,478	3,582	3,690	3,800	3,914	4,032
24	Minor Software <5,000	$	5,000	5,150	5,305	5,464	5,628	5,796	5,970	6,149	6,334	6,524	6,720
26	Books and periodicals	$	1,000	1,030	1,061	1,093	1,126	1,159	1,194	1,230	1,267	1,305	1,344
27	Dues and subscriptions	$	9,000	9,270	9,548	9,835	10,130	10,433	10,746	11,069	11,401	11,743	12,095
													-
33	**Operations**			-	-	-	-	-	-	-	-	-	-
34	Regular employees	$	696,929	712,550	733,927	755,944	778,623	801,981	826,041	850,822	876,347	902,637	929,716
35	Benefit and leave cash-in	$	67,198	68,705	70,766	72,889	75,075	77,328	79,647	82,037	84,498	87,033	89,644
37	Temporary/part-time employees	$	50,000	51,121	52,654	54,234	55,861	57,537	59,263	61,041	62,872	64,758	66,701
38	Other benefits	$	9,323	9,532	9,818	10,113	10,416	10,729	11,051	11,382	11,724	12,075	12,437
39	Employer's share of group insuranc	$	152,891	156,318	161,007	165,837	170,813	175,937	181,215	186,651	192,251	198,019	203,959
40	Payroll tax deductions	$	11,009	11,255	11,593	11,941	12,299	12,668	13,048	13,439	13,843	14,258	14,686
41	PERS contributions	$	164,761	168,454	173,508	178,713	184,074	189,596	195,284	201,143	207,177	213,392	219,794
42	Other professional/contract servic	$	125,000	128,750	132,613	136,591	140,689	144,909	149,257	153,734	158,346	163,097	167,990
43	Lab Services	$	55,000	56,650	58,350	60,100	61,903	63,760	65,673	67,643	69,672	71,763	73,915
44	Repair and maintenance services	$	145,000	149,350	153,831	158,445	163,199	168,095	173,138	178,332	183,682	189,192	194,868
45	Rental of equipment and vehicles	$	10,000	10,300	10,609	10,927	11,255	11,593	11,941	12,299	12,668	13,048	13,439
46	Meetings, conferences and travel	$	11,000	11,330	11,670	12,020	12,381	12,752	13,135	13,529	13,934	14,353	14,783
47	Minor Equip, Furnit, <5,000	$	5,000	5,150	5,305	5,464	5,628	5,796	5,970	6,149	6,334	6,524	6,720
48	General supplies	$	189,000	194,670	200,510	206,525	212,721	219,103	225,676	232,446	239,420	246,602	254,000
49	Software	$	5,000	5,150	5,305	5,464	5,628	5,796	5,970	6,149	6,334	6,524	6,720
50	Energy & Utility Charges	$	380,000	391,400	403,142	415,236	427,693	440,524	453,740	467,352	481,373	495,814	510,688
69	**Transfers**												
	Transfers Out - Gen Gov't Admin Fe	$	509,070	542,170	558,435	575,188	592,443	610,217	628,523	647,379	666,800	686,804	707,408
	Transfers Out - PUb Works Admin Fe	$	95,451	-	-	-	-	-	-	-	-	-	-
70	**Total Operating Expense**	**$**	**3,902,866**	**$ 3,935,987**	**$ 4,053,716**	**$ 4,174,979**	**$ 4,299,879**	**$ 4,419,483**	**$ 4,549,455**	**$ 4,685,939**	**$ 4,826,517**	**$ 4,971,312**	**$ 5,120,452**
71	**Long-Term Debt Service Payments:**												
72	Existing Debt	$	2,178,547	2,189,327	2,184,786	2,183,644	2,182,349	2,184,205	2,183,990	2,183,272	1,926,845	1,930,170	1,927,876
73	New Bond Issue		-	-	-	-	-	-	-	-	-	-	-
74	**Total Long-Term Debt Service Payn**	**$**	**2,178,547**	**$ 2,189,327**	**$ 2,184,786**	**$ 2,183,644**	**$ 2,182,349**	**$ 2,184,205**	**$ 2,183,990**	**$ 2,183,272**	**$ 1,926,845**	**$ 1,930,170**	**$ 1,927,876**
75	**TOTAL CASH OUTFLOWS**	**$**	**6,081,412**	**6,125,314**	**6,238,502**	**6,358,622**	**6,482,228**	**6,603,688**	**6,733,445**	**6,869,211**	**6,753,362**	**6,901,482**	**7,048,328**

Schedule 2 - Capital Improvement Program

Original Spending Plan per Sewer Master Plan

Project	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Replace 8-inch to 15-inch in Tyler from Ave 53 to Ave 54	$ 259,750	802,628	-	-	-	-	-
Replace 8-inch to 15-inch in Ave 54 from Van Buren to Harrison, section of Van Buren	-	675,423	2,087,056	-	-	-	-
Coachella Valley High School Lift Station Upgrades or Replacement	50,000	506,760	-	-	-	-	-
Replace 8-inch to 10-inch in Ave 50 from Balboa to Harrison	-	-	298,113	-	-	-	-
Replace 8-inch to 10-inch in Airport Blvd 450ft west of Van Buren	-	-	-	125,664	-	-	-
Replace 12-inch to 15-inch in Frederick from Julia to Westfield Way	-	-	-	1,681,707	-	-	-
Replace 10-inch to 15-inch in Ave 52 from Nelson to Sunset	-	-	-	-	1,413,076	-	-
Intermediate CIP from 2015 Sewer System Master Plan	-	-	-	-	-	2,428,679	2,501,540
Total Projects Paid	**$ 309,750**	**$ 1,984,810**	**$ 2,385,168**	**$ 1,807,370**	**$ 1,413,076**	**$ 2,428,679**	**$ 2,501,540**

Reduced Spending per City Staff

Project	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023
Replace 8-inch to 15-inch in Tyler from Ave 53 to Ave 54	$ 259,750	401,314	413,353	-	-	-	-
Coachella Valley High School Lift Station Upgrades or Replacement	-	-	53,045	218,545	-	-	-
Replace 8-inch to 10-inch in Ave 50 from Balboa to Harrison	-	-	298,113	-	-	-	-
Replace 8-inch to 10-inch in Airport Blvd 450ft west of Van Buren	-	-	-	125,664	-	-	-
Replace 12-inch to 15-inch in Frederick from Julia to Westfield Way	-	-	-	-	337,653	-	-
Intermediate CIP from 2015 Sewer System Master Plan	-	-	-	-	-	2,058,001	2,425,269
Total Projects Paid	**$ 259,750**	**$ 401,314**	**$ 764,511**	**$ 344,209**	**$ 337,653**	**$ 2,058,001**	**$ 2,425,269**

Schedule 3 - Cash Flow Proforma

		FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	FY 2025	FY 2026	FY 2027
1	**Rate Revenue Increase**	**NA**	**0.00%**	**4.00%**	**4.00%**	**4.00%**	**4.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**	**0.00%**
2	**Revenues**											
3	Rate Revenue Before Adjustments	$ 5,100,000	5,100,000	5,177,000	5,464,000	5,768,000	6,089,000	6,427,000	6,524,000	6,622,000	6,721,000	6,822,000
4	Additional Rate Revenue From Growth	-	77,000	78,000	82,000	87,000	91,000	96,000	98,000	99,000	101,000	102,000
5	Additional Rate Revenue From Rate Adjustment	-	-	210,000	222,000	234,000	247,000	-	-	-	-	-
6	Non-Operating Revenue	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000	110,000
7	Other Operating Revenues	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
8	Interest Income	(5,000)	(6,000)	(2,000)	3,000	10,000	8,000	(5,000)	(17,000)	(27,000)	(38,000)	(49,000)
9	Transfers In	-	-	-	-	-	-	-	-	255,000	-	-
10	**Total Revenues**	**$ 5,215,000**	**5,291,000**	**5,583,000**	**5,891,000**	**6,219,000**	**6,555,000**	**6,638,000**	**6,725,000**	**7,069,000**	**6,904,000**	**6,995,000**
11	**Operating Expenses**											
12	Administrative Labor	$ 834,000	852,000	878,000	904,000	931,000	959,000	988,000	1,018,000	1,048,000	1,080,000	1,112,000
13	Adminstrative Expenses	387,000	399,000	411,000	423,000	436,000	449,000	463,000	477,000	491,000	506,000	521,000
14	Operating Labor	1,152,000	767,000	790,000	814,000	839,000	864,000	890,000	916,000	944,000	972,000	1,001,000
15	Utilities	380,000	391,000	403,000	415,000	428,000	441,000	454,000	467,000	481,000	496,000	511,000
16	Other Operating Expenses	545,000	973,000	1,002,000	1,031,000	1,061,000	1,093,000	1,126,000	1,161,000	1,195,000	1,231,000	1,268,000
17	Transfers	605,000	554,000	570,000	587,000	604,000	613,000	629,000	647,000	667,000	687,000	707,000
18	**Total Operating Expenses**	**$ 3,903,000**	**3,936,000**	**4,054,000**	**4,174,000**	**4,299,000**	**4,419,000**	**4,550,000**	**4,686,000**	**4,826,000**	**4,972,000**	**5,120,000**
19	**Net Revenues**	**$ 1,312,000**	**1,355,000**	**1,529,000**	**1,717,000**	**1,920,000**	**2,136,000**	**2,088,000**	**2,039,000**	**2,243,000**	**1,932,000**	**1,875,000**
20	Total Existing Debt Service	$ 2,179,000	2,189,000	2,185,000	2,184,000	2,182,000	2,184,000	2,184,000	2,183,000	1,927,000	1,930,000	1,928,000
21	… Existing DS paid with Connection Fees	-	(1,916,000)	(1,914,000)	(1,914,000)	(1,914,000)	(870,000)	(472,000)	(478,000)	(485,000)	(493,000)	(500,000)
22	New Debt Service	-	-	-	-	-	-	-	-	-	-	-
23	Projects Paid with Cash	234,000	361,000	444,000	187,000	34,000	3,430,000	2,910,000	2,577,000	2,654,000	2,733,000	2,816,000
24	**Total Revenue Requirement**	**$ 6,316,000**	**$ 4,570,000**	**$ 4,769,000**	**$ 4,631,000**	**$ 4,601,000**	**$ 9,163,000**	**$ 9,172,000**	**$ 8,968,000**	**$ 8,922,000**	**$ 9,142,000**	**$ 9,364,000**
25	**Revenues Over (Under) Expenses**	**$ (1,101,000)**	**721,000**	**814,000**	**1,260,000**	**1,618,000**	**(2,608,000)**	**(2,534,000)**	**(2,243,000)**	**(1,853,000)**	**(2,238,000)**	**(2,369,000)**
26	Operating Fund - Beginning Balance	$ (1,106,000)	(2,206,000)	(1,487,000)	(673,000)	586,000	2,203,000	(406,000)	(2,939,000)	(5,182,000)	(7,036,000)	(9,274,000)
27	**Operating Fund - Ending Balance**	**(2,207,000)**	**(1,485,000)**	**(673,000)**	**587,000**	**2,204,000**	**(405,000)**	**(2,940,000)**	**(5,182,000)**	**(7,035,000)**	**(9,274,000)**	**(11,643,000)**
28	Operating Fund - Target Reserves	$ 825,000	$ 846,000	$ 871,000	$ 897,000	$ 924,000	$ 952,000	$ 980,000	$ 1,010,000	$ 1,040,000	$ 1,071,000	$ 1,103,000
29	Debt Service Coverage (1.2 required)	1.08	1.07	1.16	1.26	1.37	1.47	1.46	1.45	1.63	1.61	1.60

APPENDIX B: COST-OF-SERVICE SCHEDULES

Schedule 4 – Allocation of Costs to Functional Components

Schedule 5 – Allocation of Costs to System Parameters

Schedule 4 – Allocation of Costs to Functional Components (1 of 2)

	General & Admin	Treatment	Collection	Customer Service	Connections
Administration					
Regular employees	$191,143	$100,094	$86,670	$118,592	$59,143
Benefit and leave cash-in	$20,574	$10,774	$9,329	$12,765	$6,366
Stand-by time/overtime	$1,384	$725	$627	$859	$428
Temporary/part-time employees	$0	$0	$0	$0	$0
Other benefits	$5,107	$2,674	$2,316	$3,169	$1,580
Employer's share of group insurance	$42,454	$22,231	$19,250	$26,340	$13,136
Payroll tax deductions	$3,112	$1,630	$1,411	$1,931	$963
PERS contributions	$38,260	$20,035	$17,348	$23,738	$11,838
Official/administrative	$84,872	$0	$0	$0	$0
County administrative charges	$3,183	$0	$0	$0	$0
Audit services	$0	$0	$0	$0	$0
Miscellaneous	$0	$0	$0	$0	$0
Other legal services	$0	$0	$0	$0	$0
Other professional/contract services	$53,045	$0	$0	$0	$0
Merchant Account Fees	$0	$0	$0	$0	$0
Franchise Fee Expense	$108,212	$0	$0	$0	$0
In Lieu Taxes Exp	$106,086	$0	$0	$0	$0
Communications	$0	$0	$0	$5,835	$0
Advertising	$0	$0	$0	$15,914	$0
Meetings, conferences and travel	$11,670	$0	$0	$0	$0
General supplies	$3,183	$0	$0	$0	$0
Minor Equip, Furnit, <5,000	$3,183	$0	$0	$0	$0
Minor Software <5,000	$5,305	$0	$0	$0	$0
Computer software	$0	$0	$0	$0	$0
Books and periodicals	$1,061	$0	$0	$0	$0
Dues and subscriptions	$9,548	$0	$0	$0	$0
Miscellaneous	$0	$0	$0	$0	$0
Repair and maintenance services	$0	$0	$0	$0	$0
Machinery and equipment	$0	$0	$0	$0	$0
Pension Expense	$0	$0	$0	$0	$0
Amortization expense	$0	$0	$0	$0	$0
Depreciation expense	$0	$0	$0	$0	$0
Administration Total	**$691,381**	**$158,164**	**$136,952**	**$209,142**	**$93,454**
Operations					
Regular employees	$252,474	$132,211	$114,479	$156,644	$78,119
Benefit and leave cash-in	$24,344	$12,748	$11,038	$15,104	$7,532
Stand-by time/overtime	$0	$0	$0	$0	$0
Temporary/part-time employees	$18,113	$9,485	$8,213	$11,238	$5,605
Other benefits	$3,378	$1,769	$1,531	$2,096	$1,045
Employer's share of group insurance	$55,387	$29,004	$25,114	$34,364	$17,138
Payroll tax deductions	$3,988	$2,088	$1,808	$2,474	$1,234
PERS contributions	$59,687	$31,256	$27,064	$37,032	$18,468
Other professional/contract services	$132,613	$0	$0	$0	$0
Lab Services	$0	$58,350	$0	$0	$0
Repair and maintenance services	$153,831	$0	$0	$0	$0
Rental of equipment and vehicles	$10,609	$0	$0	$0	$0
Meetings, conferences and travel	$11,670	$0	$0	$0	$0
Minor Equip, Furnit, <5,000	$5,305	$0	$0	$0	$0
General supplies	$56,914	$143,596	$0	$0	$0
Software	$5,305	$0	$0	$0	$0
Energy & Utility Charges	$0	$403,142	$0	$0	$0
Operations Total	**$793,616**	**$823,648**	**$189,249**	**$258,952**	**$129,141**

Schedule 4 – Allocation of Costs to Functional Components (2 of 2)

			General & Admin	Treatment	Collection	Customer Service	Connections
91	**Existing Debt Service**						
92	Debt Paid With Operating Fund		$27,207	$154,373	$89,141	$0	$0
93		0	$0	$0	$0	$0	$0
94		0	$0	$0	$0	$0	$0
95		0	$0	$0	$0	$0	$0
96		0	$0	$0	$0	$0	$0
97		0	$0	$0	$0	$0	$0
98		0	$0	$0	$0	$0	$0
99		0	$0	$0	$0	$0	$0
100	**Existing Debt Service Total**		**$27,207**	**$154,373**	**$89,141**	**$0**	**$0**
101	**Transfers**						
102	Transfers		$558,435	$0	$0	$0	$0
104	Transfers		$11,584	$0	$0	$0	$0
105	**Transfers Subtotal**		**$570,019**	**$0**	**$0**	**$0**	**$0**
106	**Capital Projects**						
108	Projects designated to be Cash Funded		$44,648	$253,333	$146,284	$0	$0
110	**Capital Projects Subtotal**		**$44,648**	**$253,333**	**$146,284**	**$0**	**$0**
111	Sum of Operating Expenses		**2,055,015**	$981,812	**326,200**	$468,094	**222,595**
112	Sum of Existing Debt Service		**27,207**	$154,373	**89,141**	$0	**-**
113	Sum of Capital Projects		44,648	$253,333	146,284	$0	-
114	**Total Revenue Requirements**		**$2,126,869**	**$1,389,518**	**$561,625**	**$468,094**	**$222,595**
115	**Revenue Requirement after Indirect Allocation of G&A Costs**			**$2,180,372**	**$1,008,061**	**$1,070,979**	**$509,289**

Schedule 5 – Allocation of Costs to System Parameters

		System Parameter			
		Flow	Total TSS	Total BOD	Meter Size
		(per HCF)	(per lbs TSS/yr)	(per lbs BOD/yr)	(per meter equivalent)
Total System Metrics		2,460	1,128,009	1,245,900	7,951
Operating Expenses					
Treatment	$ 1,727,114	$ 617,273	$ 520,844	$ 588,998	$ -
Collection	746,333	597,067	-	-	149,267
Customer Service	1,070,979	-	-	-	1,070,979
Connections	509,289	-	-	-	509,289
Total Costs	**$ 4,053,716**	**$ 1,214,339**	**$ 520,844**	**$ 588,998**	**$ 1,729,535**
% Allocation		*30.0%*	*12.8%*	*14.5%*	*42.7%*
Unit Cost of Service		**$493.69**	**$0.46**	**$0.47**	**$217.51**
(Unit of measure)		(per HCF)	(per lbs TSS/yr)	(per lbs BOD/yr)	(per meter equivalent)
Treatment		$250.95	$0.46	$0.47	$0.00
Collection		$242.74	$0.00	$0.00	$18.77
Customer Service		$0.00	$0.00	$0.00	$134.69
Connections		$0.00	$0.00	$0.00	$64.05
Debt Service					
Treatment	$ 171,621	$ 61,337	$ 51,755	$ 58,528	$ -
Collection	99,100	79,280	-	-	19,820
Customer Service	-	-	-	-	-
Connections	-	-	-	-	-
Total Costs	**$ 270,721**	**$ 140,617**	**$ 51,755**	**$ 58,528**	**$ 19,820**
% Distribution		*51.9%*	*19.1%*	*21.6%*	*7.3%*
Unit Cost of Service		**$57.17**	**$0.05**	**$0.05**	**$2.49**
(Unit of measure)		(per HCF)	(per lbs TSS/yr)	(per lbs BOD/yr)	(per meter equivalent)
Treatment		$24.94	$0.05	$0.05	$0.00
Collection		$32.23	$0.00	$0.00	$2.49
Customer Service		$0.00	$0.00	$0.00	$0.00
Connections		$0.00	$0.00	$0.00	$0.00
Cash Funded Capital					
Treatment	$ 281,637	$ 100,658	$ 84,933	$ 96,047	$ -
Collection	162,628	130,102	-	-	32,526
Customer Service	-	-	-	-	-
Connections	-	-	-	-	-
Total Costs	**$ 444,265**	**$ 230,760**	**$ 84,933**	**$ 96,047**	**$ 32,526**
% Distribution		*51.9%*	*19.1%*	*21.6%*	*7.3%*
Unit Cost of Service		**$93.82**	**$0.08**	**$0.08**	**$4.09**
(Unit of measure)		(per HCF)	(per lbs TSS/yr)	(per lbs BOD/yr)	(per meter equivalent)
Treatment		$40.92	$0.08	$0.08	$0.00
Collection		$52.89	$0.00	$0.00	$4.09
Customer Service		$0.00	$0.00	$0.00	$0.00
Connections		$0.00	$0.00	$0.00	$0.00

Summary Totals	Total Costs	Unit Costs			
Operating	$ 4,053,716	$493.69	$0.46	$0.47	$217.51
Debt Service	270,721	$57.17	$0.05	$0.05	$2.49
Rate Funded Capital	444,265	$93.82	$0.08	$0.08	$4.09
Total	**$ 4,768,702**	**$644.67**	**$0.58**	**$0.60**	**$224.10**

APPENDIX C: PROPOSED RATES

Schedule 6 – Proposed Rate Schedule for FY 2019

Schedule 7 – Proposed Rate Schedule for FY 2020

Schedule 8 – Proposed Rate Schedule for FY 2021

Schedule 9 – Proposed Rate Schedule for FY 2022

Schedule 6 – Proposed rate schedule effective July 1, 2018

Single Family Residential Customers

Fixed Monthly Charge
$44.22

Commercial and Multi-Family/Mobile Unit Customers

Fixed Service Charge	
Meter Size	Rate
3/4"	**$21.40**
1"	**$35.66**
1.5"	**$71.33**
2"	**$114.13**
3"	**$228.25**
4"	**$356.65**
6"	**$713.30**
8"	**$1,141.27**

Variable Commodity Charge	
Classification	Rate ($/HCF)
Multi-Family/Mobile Units	**$3.15**
Commercial Low	**$2.75**
Commercial Medium	**$3.56**
Commercial High	**$7.91**
Institutional	**$2.70**

Schedule 7– Proposed rate schedule effective July 1, 2019

Single Family Residential Customers

Fixed Monthly Charge
$45.99

Commercial and Multi-Family/Mobile Unit Customers

Fixed Service Charge	
Meter Size	Rate
3/4"	**$22.26**
1"	**$37.09**
1.5"	**$74.18**
2"	**$118.70**
3"	**$237.38**
4"	**$370.92**
6"	**$741.83**
8"	**$1,186.92**

Variable Commodity Charge	
Classification	Rate ($/HCF)
Multi-Family/Mobile Units	**$3.28**
Commercial Low	**$2.86**
Commercial Medium	**$3.70**
Commercial High	**$8.23**
Institutional	**$2.81**

Schedule 8– Proposed rate schedule effective July 1, 2020

Single Family Residential Customers

Fixed Monthly Charge
$47.83

Commercial and Multi-Family/Mobile Unit Customers

Fixed Service Charge	
Meter Size	Rate
3/4"	**$23.15**
1"	**$38.57**
1.5"	**$77.15**
2"	**$123.45**
3"	**$246.88**
4"	**$385.76**
6"	**$771.50**
8"	**$1,234.40**

Variable Commodity Charge	
Classification	Rate ($/HCF)
Multi-Family/Mobile Units	**$3.41**
Commercial Low	**$2.97**
Commercial Medium	**$3.85**
Commercial High	**$8.56**
Institutional	**$2.92**

Schedule 9– Proposed rate schedule effective July 1, 2021

Single Family Residential Customers

Fixed Monthly Charge
$49.74

Commercial and Multi-Family/Mobile Unit Customers

Fixed Service Charge	
Meter Size	Rate
3/4"	**$24.08**
1"	**$40.11**
1.5"	**$80.24**
2"	**$128.39**
3"	**$256.76**
4"	**$401.19**
6"	**$802.36**
8"	**$1,283.78**

Variable Commodity Charge	
Classification	Rate ($/HCF)
Multi-Family/Mobile Units	**$3.55**
Commercial Low	**$3.09**
Commercial Medium	**$4.00**
Commercial High	**$8.90**
Institutional	**$3.04**