

FINAL  
Wastewater Utility Financial Plan and Rates Study

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Prepared for  
City of Fresno, California  
September 2018



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Owner  
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Date

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## List of Abbreviations

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ADA	Average Daily Attendance
AF	acre feet (equal to 325,851 gallons)
BOD	Biochemical Oxygen Demand
CAFR	Comprehensive Annual Financial Report
CIP	Capital Improvement Program
City	City of Fresno
DPU	Department of Public Utilities
DSC	debt service coverage
FY	Fiscal year (July 1 to June 30)
FY20	July 1, 2019 to June 30, 2020
GASB	Governmental Accounting Standards Board
gpd	gallons per day
HCF	Hundred Cubic Feet (equal to ~ 748.1 gallons)
mgd	million gallons per day
mg/L	milligrams per Liter
O&M	Operation and maintenance
PCWD	Pinedale County Water District
PPUD	Pinedale Public Utility District
RWRF	Regional Wastewater Reclamation Facility
SRF	State Revolving Fund
SSMP	Sewer System Management Plan
TSS	Total Suspended Solids
WACP	Water Affordability Credit Program
WDR	Waste Discharge Requirements

# Executive Summary

The City of Fresno, in conjunction with Municipal Financial Services, has analyzed the adequacy of revenues to meet projected expenditures of the wastewater enterprise fund to determine whether revenues will be adequate to cover operating and maintenance costs as well as needed capital costs while supporting debt service obligations and meeting goals found in the Financial Management Plan and Guiding Principles (Financial Management Plan) for the City of Fresno's Department of Public Utilities (DPU). Rates and charges were developed for the five-year period Fiscal Year 2019 – 20 (FY20) through FY24.

## Prior Rate Study and Current Rates and Charges

The previous rate study was in 2006 and resulted in three increases of 18.9% each on April 1, 2007, September 1, 2008, and September 1, 2009; and a 3.1% increase in September 1, 2010. Prior to 2007, the previous rate increases were during 1990 to 1997 and raised monthly bills from \$4.38 per month in 1990 to \$16.50 per month in 1997.

Current rates are the same as in 2010 and are summarized in the table below along with the number of accounts or dwelling units paying each rate as of June 2017.<sup>1</sup> Pages from the Master Fee Schedule (MFS) that list wastewater rates are included in Appendix A.

Table ES-1. Current Rates					
Customer Class	Approximate Number of Accts/Units	Rate	Customer Class	Approximate Number of Accts/Units	Rate
<b>Residential, \$ per month</b>			<b>Schools (ADA), \$/ADA/year</b>		
Single Family account	105,053	\$25.75	K-garten/Elementary	17	\$15.957
Senior Citizen account	12,946	\$23.16	Middle	1	\$24.762
Multiple Family 1st Unit	7,236	\$25.75	Senior	4	\$29.866
Multiple Family Add'l Units	63,216	\$17.29	Parochial	5	\$8.632
<b>Commercial</b>			College	2	\$10.646
<b>Potable Water, \$/HCF</b>			<b>Industrial</b>		
High: BOD or TSS >= 501 mg/L	710	\$3.514	High Potable Water	2	
Medium: BOD or TSS 201-500 mg/L	766	\$1.792	Volume, \$/HCF		\$0.507
Low: BOD or TSS 0-200 mg/L	6,204	\$1.077	BOD, \$/pound		\$0.261
<b>Sewage Effluent, \$/HCF</b>			TSS, \$/pound		\$0.296
High: BOD or TSS >= 501 mg/L	16	\$3.864	High Sewage Effluent	38	
Medium: BOD or TSS 201-500 mg/L	25	\$1.973	Volume, \$/HCF		\$0.559
Low: BOD or TSS 0-200 mg/L	140	\$1.184	BOD, \$/pound		\$0.261
All Commercial Users, \$/month (minimum)		\$25.75	TSS, \$/pound		\$0.296
			Low Potable Water, \$/HCF	128	\$1.077
			Low Sewage Effluent, \$/HCF	36	\$1.185
			All Industrial Users, \$/month (minimum)		\$25.75

Legend: ADA-Average Daily Attendance; BOD-Biochemical Oxygen Demand; HCF-hundred cubic feet; mg/L-milligrams per liter; TSS-Total Suspended Solids

<sup>1</sup> In the Master Fee Schedule, each rate consists of two components that are applicable only to Pinedale Public Utility District and Pinedale County Water District.

## Projected Capital Improvement Program Expenditures and Funding

CIP expenditures for FY18 through FY24, by project category, are summarized in the pair of tables below. Expenditures for FY18 are actual values. Expenditures for FY19-23 are based on the adopted FY19-FY23 budget and updates from Wastewater Division capital improvement program planning documents. Expenditures for FY24 are from Wastewater Division long term capital improvement program projections.

Table ES-2. Projected CIP Expenditures, FY18 – FY24									
Project Costs in \$millions Project Category	Actual	Budget	Projected					Total	
	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY20 - FY24	
Treatment Plant Rehabilitation/Operation	\$3.9	\$30.0	\$11.8	\$7.4	\$7.2	\$6.7	\$9.4	\$42.5	24%
Collection System/Lift Stations	9.7	8.3	4.0	8.2	6.7	6.7	6.7	\$32.3	18%
Collection System Capacity	0.6	2.7	1.1	0.5	28.1	0.5	0.5	\$30.7	17%
Discharge Permit/Regulatory Requirements	0.0	0.5	0.0	0.0	3.8	0.0	26.8	\$30.6	17%
Treatment/Digester Capacity	0.0	0.0	0.0	0.0	0.0	21.7	0.0	\$21.7	12%
Recycled Water Treatment & Distribution	13.1	48.1	2.0	4.1	3.1	3.6	4.1	\$16.9	10%
DPU Administration & Maintenance Facility	0.0	4.0	3.7	0.5	0.0	0.0	0.0	\$4.2	2%
<b>Total Expenditures</b>	<b>\$27.3</b>	<b>\$93.6</b>	<b>\$22.6</b>	<b>\$20.7</b>	<b>\$48.9</b>	<b>\$39.2</b>	<b>\$47.5</b>	<b>\$178.9</b>	<b>100%</b>

Between FY20 and FY24 (five fiscal years), total projected CIP expenditures are approximately \$178.9 million. Approximately 70 percent of the CIP expenditures are projected to be funded with cash from wastewater rates and charges. The remainder of the expenditures will be funded from low interest State Revolving Fund (SRF) loans or revenue bonds that are repaid with rate revenues. CIP expenditures for FY20 through FY24 are summarized by funding source in the table below.

Table ES-3. Projected CIP Expenditures Funding Summary, FY20 – FY24				
Project Costs in \$millions				
<u>Cash/Grant Funded Projects</u>		<u>Bond Funded Projects</u>		
Treatment Facility Rehabilitation/Operation	\$42.5	Discharge Permit/Regulatory Requirements		\$26.8
Collection System/Lift Stations	\$32.3	Treatment/Digester Capacity		\$21.7
Collection System Capacity	\$30.7	<u>Design Recycled Water/Reclamation in SE Fresno</u>		<u>\$4.0</u>
Recycled Water Treatment & Distribution	\$11.1	Total		\$52.5 29%
Discharge Permit/Regulatory Requirements	\$3.8	<u>SRF Funded Projects</u>		
<u>DPU Administration &amp; Maintenance Facility</u>	<u>\$4.2</u>	SW Recycled Water Distribution System		\$1.8 1%
Total	\$124.6 70%			
CIP Total FY20 - FY24	\$178.9			



## Revenue Required from Wastewater Rates

As shown in the table below, the approximate revenues required from rates (treatment charges) for the five-year period, FY20 through FY24, is \$382.2 million. Another \$42.8 million in revenues is projected from other sources. Expenditures during the same period are projected to be approximately \$413.1 million. The operating fund balance is projected to increase from approximately \$11.9 to \$15.1 million during the five-year period. The budgeted minimum reserve balance in FY24 is \$10.1 million.

Table ES-4. Projected FY18 – FY24 Cash Flow

All Cash Flow in \$millions	Actual	Budget	Projected Five-Year Plan					FY20 -
	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY24
<b>REVENUES</b>								
Treatment Charges	\$73.9	\$73.4	\$73.4	\$74.9	\$76.4	\$77.9	\$79.5	\$382.2
Clovis Payments	4.3	3.8	3.8	3.9	4.0	4.1	4.2	20.0
Pretreatment	0.4	0.4	0.4	0.4	0.4	0.4	0.4	2.1
All Other	4.6	2.5	3.0	3.9	5.0	4.4	4.4	20.7
Total Revenues	83.2	80.1	80.7	83.1	85.8	86.8	88.5	424.9
<b>EXPENDITURES</b>								
Operating	\$38.7	\$43.5	\$44.9	\$46.2	\$47.6	\$49.0	\$50.5	\$238.2
Debt Service	18.7	19.9	5.6	11.5	11.2	12.8	15.1	56.2
Capital (cash); less Clovis portion	16.3	65.7	19.6	20.1	48.3	17.3	13.4	118.7
Total Expenditures	73.6	129.1	70.0	77.8	107.0	79.1	79.0	413.1
<b>NET TRANSFERS</b>	11.0	18.8	(5.9)	1.9	8.4	(5.9)	(5.9)	(7.5)
Operating Fund Ending Balance	41.2	11.9	16.4	23.3	10.2	11.7	15.1	
<i>Minimum Balance (75 Days O&amp;M)</i>	<i>\$7.7</i>	<i>\$8.7</i>	<i>\$9.0</i>	<i>\$9.2</i>	<i>\$9.5</i>	<i>\$9.8</i>	<i>\$10.1</i>	
<i>Debt Service Coverage Ratio</i>	<i>2.39x</i>	<i>1.84x</i>	<i>6.41x</i>	<i>3.20x</i>	<i>3.41x</i>	<i>2.95x</i>	<i>2.52x</i>	

## Wastewater System Capital Asset Valuation

The City reports wastewater capital asset values according to Governmental Accounting Standards Board (GASB) accounting pronouncements. Capital assets values are reported in the City's Comprehensive Annual Financial Report (CAFR). Capital asset values are based on "book" values. The book value of an asset is its original purchase cost, adjusted for any subsequent changes, such as for impairment or depreciation. The replacement value of an asset is the cost of a new, comparable asset.

As of June 30, 2017, wastewater system capital assets had a book value of approximately \$923.5 million and accumulated depreciation of approximately \$265.0 million. Comparable wastewater systems in California have a replacement value to book value ratio of approximately 2.2 : 1.<sup>2</sup> The replacement value of wastewater system capital assets is approximately \$2,032 million (\$923.5 x 2.2).

If wastewater system capital assets are assigned an average useful life of 50 years and a replacement value of approximately \$2,032 million, the average expense for replacement of the wastewater system capital assets would be approximately \$40.6 million per year. This calculation shows the projected CIP by the City is reasonable as compared to the estimated average annual replacement expense.

This annual expense for capital asset replacements supports evaluation of the Financial Management Plan goal to "provide adequate funds to construct, maintain, rehabilitate and replace assets and infrastructure as required."

<sup>2</sup> Based on the best professional judgment of Municipal Financial Services, the replacement value to book value ratio for wastewater assets generally varies from 2:1 to 2.5:1.

## Wastewater System Financial Management Plan Goals

The purpose of the Financial Management Plan is to outline the strategic financial management plan and guiding principles for the City of Fresno's water, wastewater and solid waste utility funds. The strategic financial management plan is intended to establish basic guidance for fiscal management. The goals of the fiscal management policies are categorized in the Financial Management Plan into the categories of general financial; asset management; debt management; rates, fees and charges; customer care; and annual budget process.

Measures of attainment of targets for each goal are listed in the table below. Years in which a target is not met show the measurement value in light red highlight.

**Table ES-5. Financial Management Plan Goals, FY18 – FY24**

<b>GENERAL FINANCIAL</b>								
<i>Operating Reserves</i>	<u>Minimum</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
Minimum Balance as a Percent of O&M	=>20%	106%	27%	36%	50%	21%	23%	29%
Minimum Balance as Days of O&M Expenditures	75	385	98	131	182	76	86	107
Minimum Balance		7,700	8,700	9,000	9,200	9,500	9,800	10,100
<b>RATES, FEES AND CHARGES</b>								
<i>Operating Rate Stabilization Reserve</i>	<u>Minimum</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
Reserve as a Percent of Operating Revenues	=>5%	11%	6%	7%	7%	5%	7%	10%
Minimum Balance		4,200	4,000	4,000	4,200	4,300	4,300	4,400
<b>ASSET MANAGEMENT POLICIES</b>								
<i>Capital Improvements Reserve</i>	<u>Minimum</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
Reserve as a Percent of Net Total Capital Assets	=>2%	1%	1%	1%	1%	1%	2%	3%
Minimum Balance		13,300	14,700	14,600	14,600	15,100	15,400	15,900
<b>DEBT MANAGEMENT</b>								
<i>Debt Service Coverage Ratio</i>	<u>Minimum</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
Coverage Ratio	1.60x	2.39x	1.84x	6.41x	3.20x	3.41x	2.95x	2.52x
<i>Debt Service as a Percent of Revenue</i>	<u>Minimum</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
Debt Service as a Percent of Revenue	<=35%	22%	25%	7%	14%	13%	15%	17%
<i>Cash Financing of Capital</i>	<u>Minimum</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
Cash for Capital Projects	=>30%	59%	70%	91%	100%	100%	45%	35%
<i>Debt Burden to Asset Value</i>	<u>Maximum</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
Debt Burden to Asset Value Ratio	<=50%	11%	17%	17%	16%	15%	17%	20%

## Non-reserve Funds and Reserve Funds Balances

Projected fiscal year ending balances for three non-reserve and three reserve funds are shown in the figure below. The three non-reserve funds are: 1) Operating; Wastewater Facility Fees; and Lateral, Oversize, House Branch and Connection. The three reserve funds are: 1) Capital Improvement, Operating Rate Stabilization and SRF Debt Service. The projected annual debt service coverage ratio is shown as a line with corresponding data labels.

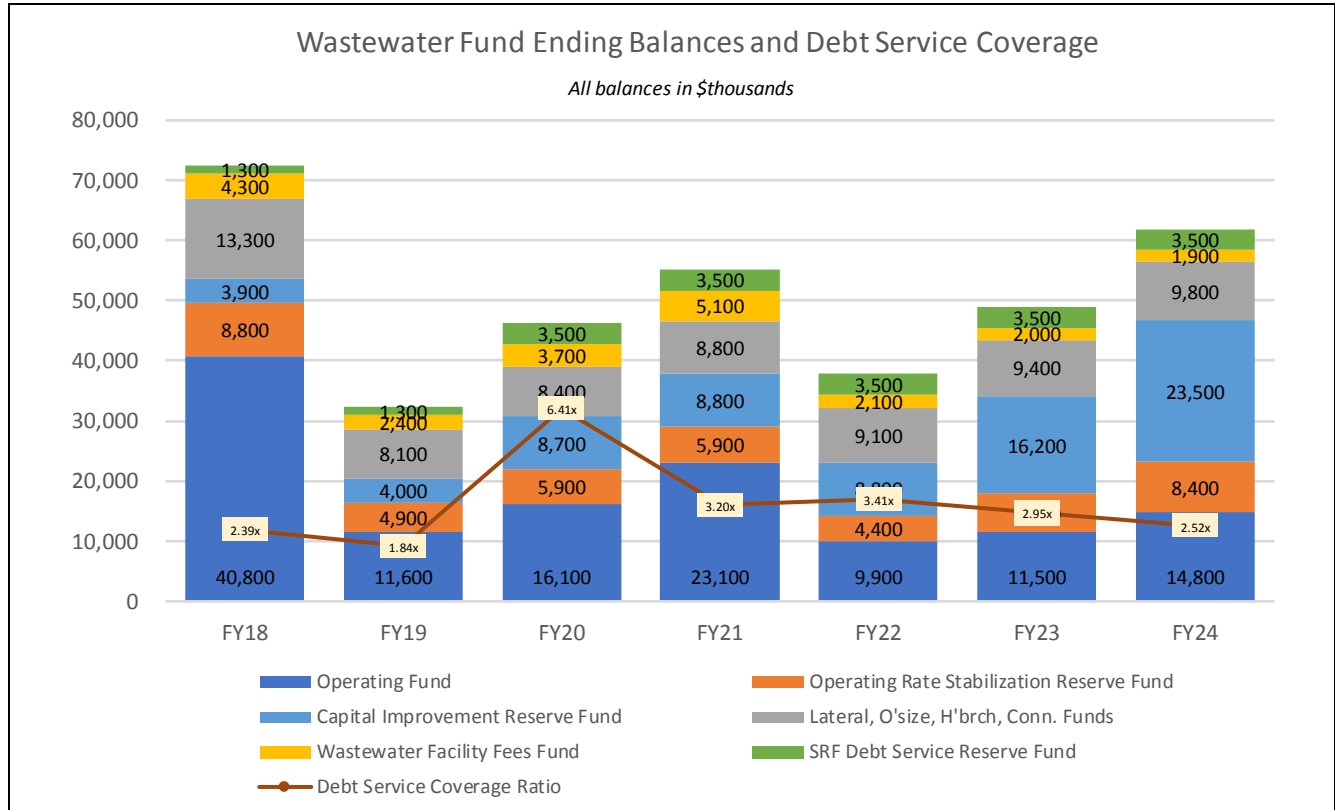


Figure ES-1. Wastewater Fund Ending Balances and Debt Service Coverage, FY18 – FY24

## Recommended Wastewater Rates

The current (FY19) and recommended rates for FY20 – FY24 are shown in the table below. The effective dates are July 1 of each fiscal year. Note that customer class descriptions include the terms “BOD” and “TSS”. BOD is an acronym for Biochemical Oxygen Demand. TSS is an acronym for Total Suspended Solids. BOD and TSS are the two primary conventional pollutants removed during the treatment process.

Table ES-6. Current and Recommended FY20 – FY24 Wastewater Rates												
Customer Class	Number of Accts/Units	Current FY19	Recommended Five-Year Rate Plan					FY20	FY21	FY22	FY23	FY24
			FY20	FY21	FY22	FY23	FY24					
<b>Residential, \$ per month</b>												
Single Family account	105,053	\$25.75	\$24.55	\$24.80	\$25.05	\$25.30	\$25.50	-5%	1%	1%	1%	1%
Senior Citizen account	12,946	\$23.16	\$24.55	\$24.80	\$25.05	\$25.30	\$25.50	6%	1%	1%	1%	1%
Multiple Family 1st Unit	7,236	\$25.75	\$16.70	\$17.10	\$17.55	\$17.95	\$18.40	-35%	2%	3%	2%	3%
Multiple Family Add'l Units	63,216	\$17.29	\$16.70	\$17.10	\$17.55	\$17.95	\$18.40	-3%	2%	3%	2%	3%
<b>Commercial</b>												
<b>Potable Water, \$/HCF</b>												
High: BOD or TSS >= 501 mg/L	710	\$3.514	\$3.40	\$3.49	\$3.58	\$3.68	\$3.77	-3%	3%	3%	3%	3%
Medium: BOD or TSS 201-500 mg/L	766	\$1.792	\$2.30	\$2.36	\$2.42	\$2.49	\$2.55	28%	3%	3%	3%	3%
Low: BOD or TSS 0-200 mg/L	6,204	\$1.077	\$1.79	\$1.84	\$1.89	\$1.94	\$2.00	67%	3%	3%	3%	3%
<b>Sewage Effluent, \$/HCF</b>												
High: BOD or TSS >= 501 mg/L	16	\$3.864	\$3.40	\$3.49	\$3.58	\$3.68	\$3.77	-12%	3%	3%	3%	3%
Medium: BOD or TSS 201-500 mg/L	25	\$1.973	\$2.30	\$2.36	\$2.42	\$2.49	\$2.55	16%	3%	3%	3%	3%
Low: BOD or TSS 0-200 mg/L	140	\$1.184	\$1.79	\$1.84	\$1.89	\$1.94	\$2.00	52%	3%	3%	3%	3%
<b>Volumetric Rates, \$/HCF</b>												
High: BOD or TSS >= 501 mg/L	726	na	\$3.40	\$3.49	\$3.58	\$3.68	\$3.77	na	3%	3%	3%	3%
Medium: BOD or TSS 201-500 mg/L	791	na	\$2.30	\$2.36	\$2.42	\$2.49	\$2.55	na	3%	3%	3%	3%
Low: BOD or TSS 0-200 mg/L	6,343	na	\$1.79	\$1.84	\$1.89	\$1.94	\$2.00	na	3%	3%	3%	3%
All Users, \$/month (minimum)		\$25.75										
All Users, \$/month (per account/unit)			\$4.98	\$5.07	\$5.16	\$5.26	\$5.35	na	2%	2%	2%	2%
<b>Industrial</b>												
<b>High Potable Water</b>												
Volume, \$/HCF	2	\$0.507	\$1.415	\$1.453	\$1.493	\$1.533	\$1.575	179%	3%	3%	3%	3%
BOD, \$/pound		\$0.261	\$0.187	\$0.192	\$0.197	\$0.202	\$0.207	-28%	3%	3%	3%	3%
TSS, \$/pound		\$0.296	\$0.215	\$0.221	\$0.227	\$0.233	\$0.239	-27%	3%	3%	3%	3%
<b>High Sewage Effluent</b>												
Volume, \$/HCF	38	\$0.559	\$1.415	\$1.453	\$1.493	\$1.533	\$1.575	153%	3%	3%	3%	3%
BOD, \$/pound		\$0.261	\$0.187	\$0.192	\$0.197	\$0.202	\$0.207	-28%	3%	3%	3%	3%
TSS, \$/pound		\$0.296	\$0.215	\$0.221	\$0.227	\$0.233	\$0.239	-27%	3%	3%	3%	3%
<b>Low Potable Water, \$/HCF</b>												
Low Sewage Effluent, \$/HCF	128	\$1.077	\$1.79	\$1.84	\$1.89	\$1.94	\$2.00	67%	3%	3%	3%	3%
All Users, \$/month (minimum)	36	\$1.185	\$1.79	\$1.84	\$1.89	\$1.94	\$2.00	51%	3%	3%	3%	3%
All Users, \$/month (per account/unit)		\$25.75	\$4.98	\$5.07	\$5.16	\$5.26	\$5.35	na	2%	2%	2%	2%
<b>Schools (ADA), \$/ADA/year</b>												
K-garten/Elementary	17	\$15.96	\$9.60	\$9.85	\$10.15	\$10.40	\$10.70	-40%	3%	3%	2%	3%
Middle	1	\$24.76	\$9.60	\$9.85	\$10.15	\$10.40	\$10.70	-61%	3%	3%	2%	3%
Senior	4	\$29.87	\$16.80	\$17.25	\$17.70	\$18.20	\$18.65	-44%	3%	3%	3%	2%
Parochial	5	\$8.63	\$9.60	\$9.85	\$10.15	\$10.40	\$10.70	11%	3%	3%	2%	3%
College	2	\$10.65	\$16.80	\$17.25	\$17.70	\$18.20	\$18.65	58%	3%	3%	3%	2%
All Users, \$/month (per account/unit)		na	\$4.98	\$5.07	\$5.16	\$5.26	\$5.35	na	2%	2%	2%	2%

Legend: ADA-Average Daily Attendance; BOD-Biochemical Oxygen Demand; HCF-hundred cubic feet; mg/L-milligrams per liter; TSS-Total Suspended Solids

## Section 1

# Introduction

This section describes the organization of the report, rate-making objectives, the rate-setting process, and a general description of the wastewater system.

## 1.1 Organization of the Report

This report is divided into seven sections. This introduction provides an overview of the study objectives and description of the City's wastewater system.

Section 2 discusses the wastewater discharge characteristics of customers. The number and type of connections and wastewater flow and strength projected for FY18 – FY24 is developed in this section.

Section 3 summarizes the five-year Financial Plan for the wastewater enterprise and describes the development of revenue required from wastewater rates.

Section 4 describes the allocation of revenue requirements to defined billable parameters.

Section 5 describes the development of the wastewater rate structure and wastewater rates.

Section 6 describes the impact of recommended wastewater rates upon customer bills.

Section 7 describes the limitations of the study document.

## 1.2 Rate-Making Objectives

There are numerous rate-making objectives that must be considered when developing rates and rate structures.

**Revenue sufficiency.** Generate sufficient revenue to fund operating costs, capital costs, bonded debt, and adequate reserves.

**Revenue stability.** Recover revenue from rates that will cover fixed and variable costs.

**Meet Fiscal Management Goals.** Meet the goals of the policies that are in the City's Financial Management Plan.

**Administrative ease and cost of implementation.** Enable easy and cost efficient implementation and ongoing administration, including monitoring and updating.

**Affordability.** Be as affordable as possible while maintaining the utilities sound financial position and credit rating.

**Customer acceptance.** Be as simple as possible to facilitate customer understanding and acceptance.

**Fairness.** Provide for each customer class to pay its proportionate share of the required revenue in compliance with legal rate-making requirements.

### 1.3 Overview of Utility Rate Setting Process

Rate studies classically have three categories of technical analysis – the development of revenue required from rates, the allocation of costs among billable parameters (cost-of-service analysis) and the design of a rate structure. An overview of the rate-setting analytical steps is shown in Figure 1-1.

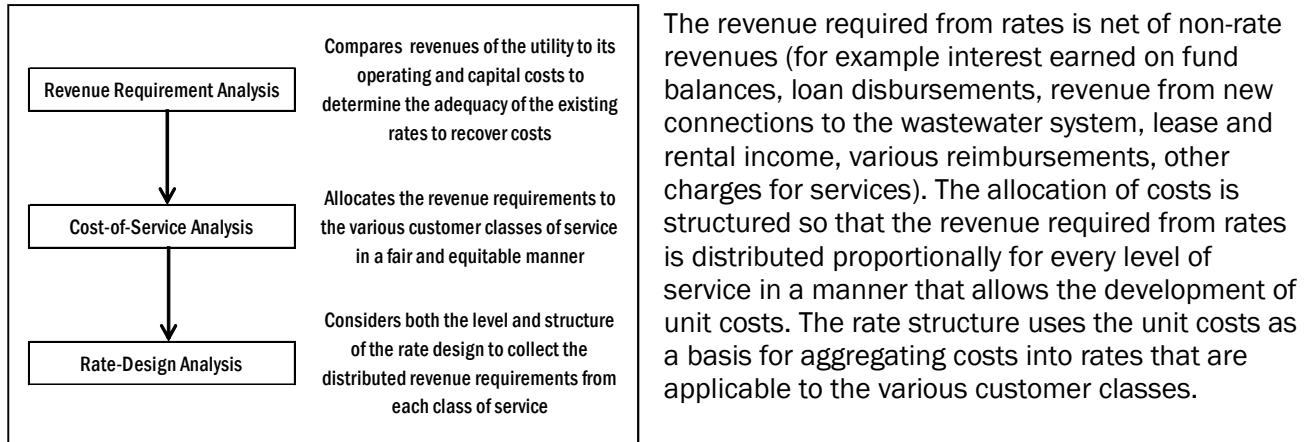


Figure 1-1. Overview of Rate Setting Analytical Steps

Information and data for the development of rates and preparation of this report comes from many documents provided by the City. The list of documents, and the key information and data from each used in this study, are summarized below.

**City of Fresno Fiscal Year 2018-2019 Adopted Budget (FY2019 Budget).** The City of Fresno Annual Budget is the most important document the City produces. It outlines the City’s spending plan and priorities for the fiscal year, which runs from July 1st to June 30th. Each year, the city’s budget is developed in conjunction with the Mayor, City Manager and all city departments. The budget is then reviewed and approved by the City Council. The result is a budget that closely matches the community's highest priorities each fiscal year.

All revenue, expenditure and fund balance data used in the development of wastewater rates and charges in this study were provided by the City.

**City of Fresno Fiscal Year 2017-2018 Comprehensive Annual Financial Report (FY18 CAFR).** The City of Fresno *Comprehensive Annual Financial Report* shows the financial position and results of the City’s operations as represented by the financial activity of its various funds.

**Utility Billing System data.** The City provided billing data from its Utility Billing system for connections.

## 1.4 Fresno Wastewater Utility

The Fresno-Clovis Regional Wastewater Reclamation Facility (RWRf) serves the cities of Fresno and Clovis, the Pinedale County Water District (PCWD) and Pinedale Public Utilities District (PPUD) and some unincorporated areas of the County of Fresno. It is the 7th largest system in California.

The RWRf transports and treats wastewater from domestic, commercial and industrial sources. The collection system consists of over 1,500 miles of gravity sewers, 15 lift stations, 11 miles of associated force mains and 55 junction structures/flow diversions that collect and convey wastewater to the RWRf.

The collection system is under the State's General Order for Sanitary Sewer Systems that requires a Sewer System Management Plan (SSMP). The City's SSMP which was approved in 2009, and updated in 2014, includes plans for infrastructure assessment, operational procedures, capital improvement plan projections and a Fats, Oils and Grease program.

The treatment facility is located southwest of Fresno, on approximately 3,200 acres of land in which 1,700 of those acres are disposal ponds. The treatment facility is rated to treat 80 million gallons per day (mgd) of wastewater at a secondary treatment level.

The RWRf is under Waste Discharge Requirements (WDR) Order 5-01-254 issued by the California Regional Water Quality Control Board, Central Valley Region. The order was issued November 20, 2001 with specific discharge limitations and provisions to comply. Most recently, The City of Fresno submitted a Report of Waste Discharge for the issuance of an updated WDR (2015) that would rate the RWRf at 92 mgd achieved after an organic upgrade of existing facilities was completed and including the addition of the new tertiary treatment and disinfection train capable of processing up to 5 mgd of Title 22 disinfected tertiary treated wastewater that can be used for unrestricted irrigation of crops and urban landscape irrigation.

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## Section 2

# User Characteristics

The purpose of this section is to summarize use of the wastewater system by all customers, connected to the system. The data used in this section comes from the City's Utility Billing system, invoices for services provided by the Wastewater Management Division and data bases with customer discharge data and treatment plant operating data. Customer data is used for the allocation of costs, development of rates and analysis of the impact on customer bills.

### 2.1 Customer Class Flows and BOD/TSS Concentrations

Listed in the table below are flows and BOD/TSS concentrations for each customer class. Residential wastewater flow is based on metered winter water use records. Commercial wastewater flow is based on potable metered water use records. Water use records are from FY16 and FY17. Except for Industrial users, BOD/TSS values are based on estimates.

Table 2-1. Assigned Flows and BOD/TSS Concentrations				
Customer Class	Approximate Number of Accts/Units	Flow gpd	BOD mg/L	TSS mg/L
<b>Residential</b>				
Single Family account	105,053	220	290	320
Senior Citizen account	12,946	220	290	320
Multiple Family 1st Unit	7,236	132	290	320
Multiple Family Add'l Units	63,216	132	290	320
<b>Commercial</b>				
<b>Potable Water</b>				
High: BOD or TSS >= 501 mg/L	710	<i>based on water meter usage</i>	1,000	600
Medium: BOD or TSS 201-500 mg/L	766		350	350
Low: BOD or TSS 0-200 mg/L	6,204		140	160
<b>Sewage Effluent</b>				
High: BOD or TSS >= 501 mg/L	16	<i>based on effluent meter usage</i>	1,000	600
Medium: BOD or TSS 201-500 mg/L	25		350	350
Low: BOD or TSS 0-200 mg/L	140		140	160
<b>Industrial</b>				
High Potable Water	2	<i>based on water meter usage and measured BOD/TSS</i>		
High Sewage Effluent	38	<i>based on FY17 measured effluent meter usage and BOD/TSS</i>		
Low Potable Water	0	<i>same as Com. Potable</i>	140	160
Low Sewage Effluent	0	<i>same as Com. Effluent</i>	140	160
<b>Schools (ADA Rates)</b>				
		<i>gpd/pupil-staff</i>		
K-garten/Elementary	17	8	350	350
Middle	1	15	350	350
Senior	4	15	350	350
Parochial	5	8	350	350
College	2	15	350	350

Legend: BOD-Biochemical Oxygen Demand; gpd-gallons per day; mg/L-milligrams per liter; TSS-Total Suspended Solids

The flows for Single Family and Senior Citizen accounts are projected to decrease by two percent per year (four gpd per year) from 220 gpd in FY20 to 204 gpd in FY24. The BOD and TSS concentrations increase in proportion inversely to flow so that the pounds of BOD and TSS remain near the current amounts.

## 2.2 Customer Class Volume and BOD/TSS Load

Flows and BOD/TSS concentrations shown in the previous section for the various customer classes are the basis for development of projected wastewater discharge volumes and BOD/TSS loads (in pounds). Wastewater discharge volumes and BOD/TSS loads for Clovis were provided by the City. Calculation of projected customer wastewater discharge volumes and BOD/TSS loads and number of Accounts – Dwelling Units for FY18 – FY24 are shown in Appendix B, Table B-1 (Wastewater Discharge Volume, Million Gallons per Day), Table B-2 (Wastewater Discharge BOD, Pounds per Day), Table B-3 (Wastewater Discharge TSS, Pounds per Day) and Table B-4 (Accounts – Dwelling Units (Includes PCWD and PPUD)).

The sum of the projected FY20 wastewater discharge volumes and BOD/TSS loads for the various customer classes and Clovis are compared to projected FY20 regional treatment plant influent flow in Figure 2-1.

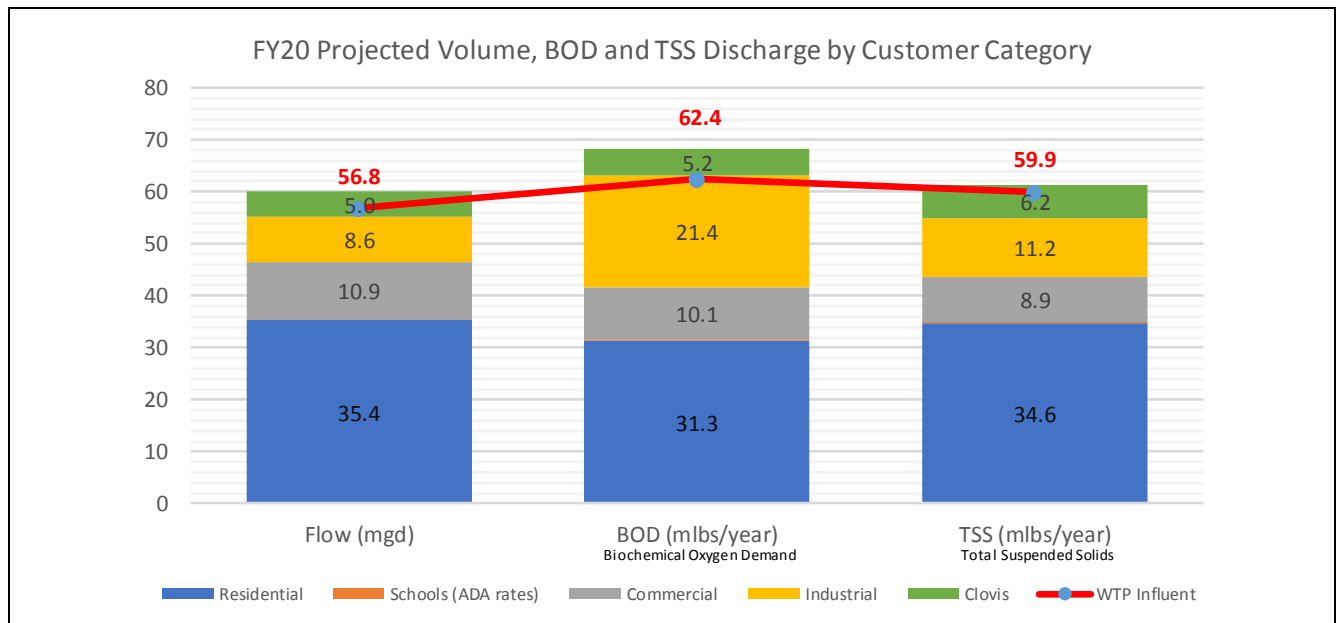


Figure 2-1. Projected FY20 Volume, BOD and TSS Discharge by Customer Category

## 2.3 Inflow/Infiltration

Inflow and infiltration (I/I) adds clear water to sewer systems increasing the load on the systems. Infiltration is the seepage of ground water into the sewer system through defects in sewer piping or into loose sewer connections. Inflow is water or sewage draining directly into the sewer line through a sewer connection.<sup>3</sup>

State of California *Revenue Program Guidelines* state that, “The user charge system shall provide that costs of O. M. & R. [operation, maintenance, and replacement] for all infiltration and inflow (I/I) not directly attributable to users be distributed among all users based upon either of the following: a.) In the same manner that it distributes the costs for their actual use; or b.) Under a system which uses one or any combination of the following factors on a reasonable basis: (i) Flow volume of the users; (ii) Land area of the users; (iii) Number of hookups or discharges of the users; (iv) Property valuation of the users (if A/V [*ad valorem*] taxes are used)”.<sup>4</sup>

The City’s sewer system is not significantly impacted by I/I. The City takes daily flow measurements at the point where sewer flow enters the regional treatment plant (influent). Those measurements indicate that flow variation from the annual average influent flow was less than +/- one percent during FY17. In absolute terms, the three-month average for January, February and March was 1,721 mgd which is 0.6 percent less than the 12-month (fiscal year) average of 1,731 mgd. The three-month average for July, August and September was 1,749 mgd which is 1.0 percent more than the 12-month average.

Note that regional treatment plant influent flow peaks in the summer and fall months when I/I is typically at a minimum. Influent flow is lowest in the winter months when I/I typically is at a maximum. These phenomena demonstrate that discharge from industrial users may be the greatest source of flow fluctuation in the regional treatment plant influent and that I/I is not a meaningful source of flow load on the wastewater system.

Based on regional treatment plant influent flow patterns, no costs for “O. M. & R. [operation, maintenance, and replacement]” are directly attributable to I/I or “distributed among all users.”

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<sup>3</sup> Clear water from Inflow and infiltration belongs in stormwater sewers or on the surface of the ground, and not in the sanitary sewers. A stormwater sewer is a pipe system designed to carry rainwater away.

<sup>4</sup> See Section 1-4 - Allocation of Annual Revenue Requirements and Rate Determination from the *Revenue Program Guidelines* (Appendix G) March 1998 Edition from the Policy for Implementing The State Revolving Fund For Construction Of Wastewater Treatment Facilities.

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## Section 3

# Financial Plan and Revenue Requirements

Revenue from rates must be sufficient to meet the following financial planning criteria:

1. Provide funds for operating, capital and debt service expenditures;
2. Maintain annual fund balances that meet annual target fund balances;
3. Meet debt service coverage requirements;
4. Meet the goals of the policies that are in the City's Financial Management Plan;
5. Satisfy City Council rate increase goals; and
6. Meet legal requirements.

## 3.1 Capital Improvement Program Expenditures

As part of the FY 2020-2024 Rate Plan, capital improvements are proposed for the on-going capital budget to provide necessary rehabilitation and improvements to facilities and comply with regulatory mandates. Additional debt financing (revenue bonds, state loans, etc.) is anticipated.

The benefits of a proactive asset management program include:

- Prolonging asset life and improving decisions about asset rehabilitation, repair, and replacement
- Meeting consumer demands with a focus on system sustainability
- Setting rates based on sound operational and financial planning
- Budgeting focused on critical activities for sustained performance
- Meeting customer service expectations and regulatory requirements
- Improving responses to emergencies
- Improving the security and safety of assets
- Reducing overall costs for both operations and capital expenditures

CIP expenditures for FY18 through FY24, by project category, are summarized in the pair of tables below. Expenditures for FY18 are actual values. Expenditures for FY19-23 are based on the adopted FY19-FY23 budget and updates from Wastewater Division capital improvement program planning documents. Expenditures for FY24 are from Wastewater Division long term capital improvement program projections.

Table 3-1. Projected CIP Expenditures, FY18 – FY24									
Project Costs in \$millions Project Category	Actual	Budget	Projected					Total	
	FY18	FY19	FY20	FY21	FY22	FY23	FY24	FY20 - FY24	
Treatment Plant Rehabilitation/Operation	\$3.9	\$30.0	\$11.8	\$7.4	\$7.2	\$6.7	\$9.4	\$42.5	24%
Collection System/Lift Stations	9.7	8.3	4.0	8.2	6.7	6.7	6.7	\$32.3	18%
Collection System Capacity	0.6	2.7	1.1	0.5	28.1	0.5	0.5	\$30.7	17%
Discharge Permit/Regulatory Requirements	0.0	0.5	0.0	0.0	3.8	0.0	26.8	\$30.6	17%
Treatment/Digester Capacity	0.0	0.0	0.0	0.0	0.0	21.7	0.0	\$21.7	12%
Recycled Water Treatment & Distribution	13.1	48.1	2.0	4.1	3.1	3.6	4.1	\$16.9	10%
DPU Administration & Maintenance Facility	0.0	4.0	3.7	0.5	0.0	0.0	0.0	\$4.2	2%
<b>Total Expenditures</b>	<b>\$27.3</b>	<b>\$93.6</b>	<b>\$22.6</b>	<b>\$20.7</b>	<b>\$48.9</b>	<b>\$39.2</b>	<b>\$47.5</b>	<b>\$178.9</b>	<b>100%</b>

Between FY20 and FY24 (five fiscal years), total projected CIP expenditures are approximately \$178.9 million. Approximately 70 percent of the CIP expenditures are projected to be funded with cash from wastewater rates and charges. The remainder of the expenditures will be funded from low interest State Revolving Fund (SRF) loans or revenue bonds that are repaid with rate revenues. CIP expenditures for FY20 through FY24 are summarized by funding source in the table below.

Table 3-2 Projected CIP Expenditures Funding Summary, FY20 – FY24				
Project Costs in \$millions				
<u>Cash/Grant Funded Projects</u>		<u>Bond Funded Projects</u>		
Treatment Facility Rehabilitation/Operation	\$42.5	Discharge Permit/Regulatory Requirements		\$26.8
Collection System/Lift Stations	\$32.3	Treatment/Digester Capacity		\$21.7
Collection System Capacity	\$30.7	<u>Design Recycled Water/Reclamation in SE Fresno</u>		\$4.0
Recycled Water Treatment & Distribution	\$11.1	Total		\$52.5 29%
Discharge Permit/Regulatory Requirements	\$3.8	<u>SRF Funded Projects</u>		
<u>DPU Administration &amp; Maintenance Facility</u>	<u>\$4.2</u>	SW Recycled Water Distribution System		\$1.8 1%
Total	\$124.6 70%			
CIP Total FY20 - FY24	\$178.9			

## 3.2 Operation and Maintenance Expenditures

O&M expenditures include the cost of employee services, professional and other services, supplies, interdepartmental charges and recycled water.<sup>5</sup> O&M expenditures also include the costs of providing technical services such as water quality testing services and other administrative costs of the wastewater system. These costs are a normal obligation of the system and are met from operating revenues as they are incurred. They enable the City to provide wastewater collection, treatment and disposal services that meets all current State and Federal quality mandates and satisfy wastewater discharge needs of residential, commercial, industrial, municipal, and institutional customers. Projected O&M expenditures for FY18 – FY24 are summarized in the table below and shown in detail in Table C-1 in Appendix C.

Interdepartmental charges consist of expenses provided by other DPU divisions or City departments for services such as utility billing and collection; fleet fuel, maintenance and acquisition; telephone and computer equipment, maintenance and support; and DPU and general City administrative services.

Category	Actual	Budget	Projected				
	FY18	FY19	FY20	FY21	FY22	FY23	FY24
<b>Operating</b>							
Employee Services	\$13.5	\$16.3	\$16.8	\$17.3	\$17.9	\$18.4	\$19.0
Professional & Other Services	4.0	5.0	5.1	5.3	5.5	5.6	5.8
Utilities & Property Services	6.9	7.4	7.7	7.9	8.1	8.4	8.6
Supplies, Property & Other	6.2	6.4	6.6	6.8	7.0	7.2	7.4
Interdepartment charges	8.0	8.3	8.6	8.8	9.1	9.4	9.7
<u>Recycled Water</u>	<u>0.0</u>	<u>0.1</u>	<u>0.1</u>	<u>0.1</u>	<u>0.1</u>	<u>0.1</u>	<u>0.1</u>
Total Operating Costs	38.7	43.5	44.9	46.2	47.6	49.0	50.5
Total Debt Service	18.7	19.9	5.6	11.5	11.2	12.8	15.1
CIP (cash), less Clovis portion	16.3	65.7	19.6	20.1	48.3	17.3	13.4
<b>Total Expenditures</b>	<b>73.6</b>	<b>129.1</b>	<b>70.0</b>	<b>77.8</b>	<b>107.0</b>	<b>79.1</b>	<b>79.0</b>

<sup>5</sup> FY18 values are from the accounting trail balance. FY19 values are from the City of Fresno Mayor's Adopted Fiscal Year 2019 Budget. Values for FY20 – FY24 are based on projections from FY19.

### 3.3 Revenue Required from Rates

The approximate amount of revenues required from rates (treatment charges) for the five-year period, FY20 through FY24, is \$382.2 million. Another \$42.8 million in revenues is projected from other sources. Expenditures during the same period are projected to be approximately \$413.1 million. The operating fund balance is projected to increase from approximately \$11.9 to \$15.1 million during the five-year period. The budgeted minimum reserve balance in FY24 is \$10.1 million.

Cash flow for FY19 includes a transfer of \$3.1 million to the General Fund as a short-term loan. The loan terms are 1.3489 percent interest and annual payments over five years beginning FY19. The interest rate is slightly higher than the interest rate for monies deposited in the City's pooled reserves. The loan is paid by FY24 and does not impact the rate increase recommendations. The Wastewater Fund earns interest of approximately \$127,000 for making the loan.

Projected revenue required from treatment charges for FY20 – FY24 are summarized in the table below. Revenues from treatment charges for FY18 and FY19 using the current rates are shown for comparison.

Detailed revenues, expenditures and transfers are shown in Table C-1 in Appendix C.

**Table 3-4. Projected FY18 – FY24 Cash Flow**

All Cash Flow in \$millions	Actual	Budget	Projected Five-Year Plan					FY20 - FY24
	FY18	FY19	FY20	FY21	FY22	FY23	FY24	
<b>REVENUES</b>								
Treatment Charges	\$73.9	\$73.4	\$73.4	\$74.9	\$76.4	\$77.9	\$79.5	\$382.2
Clovis Payments	4.3	3.8	3.8	3.9	4.0	4.1	4.2	20.0
Pretreatment	0.4	0.4	0.4	0.4	0.4	0.4	0.4	2.1
All Other	4.6	2.5	3.0	3.9	5.0	4.4	4.4	20.7
<b>Total Revenues</b>	<b>83.2</b>	<b>80.1</b>	<b>80.7</b>	<b>83.1</b>	<b>85.8</b>	<b>86.8</b>	<b>88.5</b>	<b>424.9</b>
<b>EXPENDITURES</b>								
Operating	\$38.7	\$43.5	\$44.9	\$46.2	\$47.6	\$49.0	\$50.5	\$238.2
Debt Service	18.7	19.9	5.6	11.5	11.2	12.8	15.1	56.2
Capital (cash); less Clovis portion	16.3	65.7	19.6	20.1	48.3	17.3	13.4	118.7
<b>Total Expenditures</b>	<b>73.6</b>	<b>129.1</b>	<b>70.0</b>	<b>77.8</b>	<b>107.0</b>	<b>79.1</b>	<b>79.0</b>	<b>413.1</b>
<b>NET TRANSFERS</b>	<b>11.0</b>	<b>18.8</b>	<b>(5.9)</b>	<b>1.9</b>	<b>8.4</b>	<b>(5.9)</b>	<b>(5.9)</b>	<b>(7.5)</b>
Operating Fund Ending Balance	41.2	11.9	16.4	23.3	10.2	11.7	15.1	
<i>Minimum Balance (75 Days O&amp;M)</i>	<i>\$7.7</i>	<i>\$8.7</i>	<i>\$9.0</i>	<i>\$9.2</i>	<i>\$9.5</i>	<i>\$9.8</i>	<i>\$10.1</i>	
<i>Debt Service Coverage Ratio</i>	<i>2.39x</i>	<i>1.84x</i>	<i>6.41x</i>	<i>3.20x</i>	<i>3.41x</i>	<i>2.95x</i>	<i>2.52x</i>	



### 3.4 Enterprise Fund Minimum Balance

A minimum fund balance (reserves) was developed for the enterprise fund. The fund balance should provide for levels of working capital that will enable the City to adjust to unexpected changes in the timing of accounts receivable from ratepayers, payments for unexpected increases in O&M expenses or other fluctuations in cash flow. The minimum fund balance developed by City staff is based on 75 days of annual operating expenditures. In FY20, 75 days of cash is estimated to equal approximately \$10.7 million. Cash flow for FY18 – FY24 is summarized in the figure below and shown in detail in Table C-1 in Appendix C.

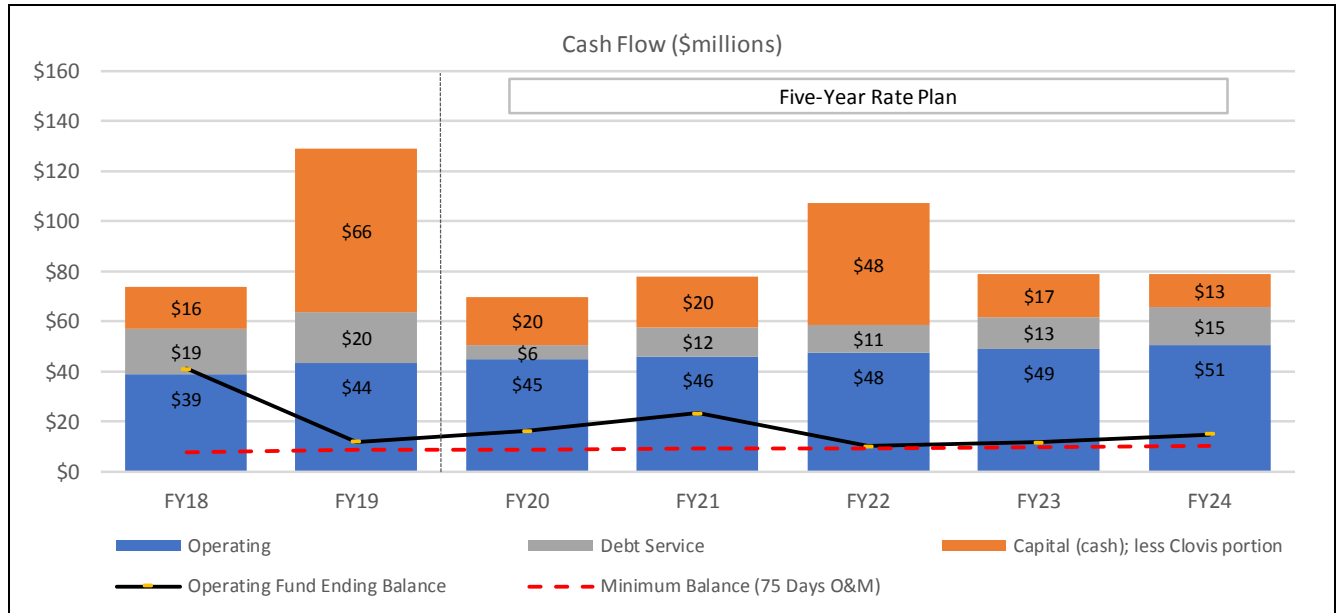


Figure 3-2. Projected Operating and Capital (Cash) Expenditures and Debt Service, FY18 – FY24

### 3.5 Wastewater System Financial Management Plan Goals

The purpose of the Financial Management Plan is to outline the strategic financial management plan and guiding principles for the City of Fresno's water, wastewater and solid waste utility funds. The strategic financial management plan is intended to establish basic guidance for fiscal management. The goals of the fiscal management policies are categorized in the Financial Management Plan into the categories of general financial; asset management; debt management; rates, fees and charges; customer care; and annual budget process.

Measures of attainment of balances for each goal are listed in the table below for FY18 – FY24 and shown in detail in Table C-1 in Appendix C.

**Table 3-5. Financial Management Plan Goals, FY18 – FY24**

<b>GENERAL FINANCIAL</b>								
<i>Operating Reserves</i>	<u>Minimum</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
Minimum Balance as a Percent of O&M	=>20%	106%	27%	36%	50%	21%	23%	29%
Minimum Balance as Days of O&M Expenditures	75	385	98	131	182	76	86	107
Minimum Balance		7,700	8,700	9,000	9,200	9,500	9,800	10,100
<b>RATES, FEES AND CHARGES</b>								
<i>Operating Rate Stabilization Reserve</i>	<u>Minimum</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
Reserve as a Percent of Operating Revenues	=>5%	11%	6%	7%	7%	5%	7%	10%
Minimum Balance		4,200	4,000	4,000	4,200	4,300	4,300	4,400
<b>ASSET MANAGEMENT POLICIES</b>								
<i>Capital Improvements Reserve</i>	<u>Minimum</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
Reserve as a Percent of Net Total Capital Assets	=>2%	1%	1%	1%	1%	1%	2%	3%
Minimum Balance		13,300	14,700	14,600	14,600	15,100	15,400	15,900
<b>DEBT MANAGEMENT</b>								
<i>Debt Service Coverage Ratio</i>	<u>Minimum</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
Coverage Ratio	1.60x	2.39x	1.84x	6.41x	3.20x	3.41x	2.95x	2.52x
<i>Debt Service as a Percent of Revenue</i>	<u>Minimum</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
Debt Service as a Percent of Revenue	<=35%	22%	25%	7%	14%	13%	15%	17%
<i>Cash Financing of Capital</i>	<u>Minimum</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
Cash for Capital Projects	=>30%	59%	70%	91%	100%	100%	45%	35%
<i>Debt Burden to Asset Value</i>	<u>Maximum</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
Debt Burden to Asset Value Ratio	<=50%	11%	17%	17%	16%	15%	17%	20%

## Section 4

# Cost of Service Analysis

The total amount of revenue required from rates is allocated between amounts to be recovered from the billable parameters of flow, BOD, TSS and accounts/units. Allocation is accomplished by the development of percentage allocations among the four parameters. The four parameters and the allocations are based on principles and methodology found in the State of California *Revenue Program Guidelines*. The use of these industry standard principles and methods ensures that revenue requirements are equitably recovered from classes of customers in proportion to the cost of serving those customers.

The general cost of service process includes the following steps:

1. Identification of annual revenue requirements;
2. Allocation of annual revenue requirements to billable parameters;
3. Development of unit costs of service for each billable parameter; and
4. Distribution of costs to customer classes.

Annual revenues required from rates were identified in Section 3. Development of unit costs of service and distribution of costs to customer classes is presented in this section.

## 4.1 Billable Parameters

The billable parameters are flow, BOD, TSS and accounts/units. Each of the billable parameters is described below.

**Flow.** Flow is the rate at which wastewater is discharged to the sanitary sewer. Units of measure include gallons per day (gpd), million gallons per day (mgd). Flow is often expressed in terms of volume. Volume units of measure include hundred cubic feet (HCF) and million gallons. The two terms are used interchangeably with their corresponding unit of measure. For example, average monthly wastewater discharge for a customer could be expressed as a volume of 9 HCF or a flow of 221 gpd.

**BOD.** BOD is an acronym for Biochemical Oxygen Demand. BOD is one of the two primary conventional pollutants removed during the treatment process.

**TSS.** TSS is an acronym for Total Suspended Solids. TSS is one of the two primary conventional pollutants removed during the treatment process.

**Account/Dwelling Unit.** The source of the wastewater discharge with a connection (direct or indirect) to the sanitary sewer. Dwelling units in multiple family dwellings are connected to the sanitary sewer through an account with a direct connection to the sanitary sewer. Account/Dwelling Unit charges are based on costs of serving every account regardless of the flow or strength (BOD and TSS levels) of wastewater discharge.

## 4.2 Allocation of Revenue Requirements to Billable Parameters

The allocation of FY18 O&M expenses, debt service, capital improvements (cash funded) and transfers to billable parameters is summarized in the table below. Allocations to billable parameters for FY18 total expenditures are used to allocate annual revenue requirements to billable parameters for rate development.

The allocation of revenue requirements to billable parameters for FY18 expenditures is summarized in the table below. Operating & Maintenance and Capital Improvements allocations are based on industry standard principles and methods.

**Table 4-1. Allocation of FY18 Expenditures to Billable Parameters**

	FY18				Account/ Dwelling Unit	Basis of Allocation [1, 2, 3]			Account/ Dwelling Unit
	Total	Flow	BOD	TSS		Flow	BOD	TSS	
<b>Operating &amp; Maintenance</b>									
Employee svcs, treatment	10,857	3,909	2,931	2,931	1,086	36.0%	27.0%	27.0%	10.0%
Employee svcs, collection	2,686	2,417	0	0	269	90.0%	0.0%	0.0%	10.0%
Purchased professional svcs	3,783	530	397	397	2,459	14.0%	10.5%	10.5%	65.0%
Purchased property svcs, xUtilities	1,452				1,452				100.0%
Utilities	5,465	2,186	1,640	1,640		40.0%	30.0%	30.0%	
Other purchased services	218				218				100.0%
Supplies	5,315	1,913	1,435	1,435	532	36.0%	27.0%	27.0%	10.0%
Property	413	165	124	124		40.0%	30.0%	30.0%	
Other Objects	461				461				100.0%
Interdept charges, treatment	5,981				5,981				100.0%
Interdept charges, collection	2,063				2,063				100.0%
Recycled water treatment	0	0	0	0		40.0%	30.0%	30.0%	
Recycled water distribution	3	1	1	1		40.0%	30.0%	30.0%	
<b>Debt Service</b>	18,658	11,405	3,626	3,626		61.1%	19.4%	19.4%	
<b>Capital Improvements, Cash</b>									
CIP: treatment plant	5,992	2,397	1,798	1,798		40.0%	30.0%	30.0%	
CIP: collection system	10,297	10,297				100.0%			
<b>Transfers (In)/Out</b>	(12,673)	(3,642)	(2,138)	(2,138)	(4,755)	28.7%	16.9%	16.9%	37.5%
<b>Total Expenditures</b>	60,971	31,579	9,814	9,814	9,765	51.8%	16.1%	16.1%	16.0%
Notes									
1 Operating & Maintenance and Capital Improvements allocations are based on industry standard principles and methods.									
2 Debt service allocation is based on the composite allocation of treatment plant and collection system CIPs for FY20 - FY24.									
					Account/ Dwelling Unit				Account/ Dwelling Unit
<u>Expenditure Category (\$x1000)</u>	<u>Total</u>	<u>Flow</u>	<u>BOD</u>	<u>TSS</u>	<u>Unit</u>	<u>Flow</u>	<u>BOD</u>	<u>TSS</u>	<u>Unit</u>
CIP: treatment plant	115,900	46,360	34,770	34,770		40.0%	30.0%	30.0%	
CIP: collection system	63,000	63,000				100.0%			
CIP: composite	178,900	109,360	34,770	34,770		61.1%	19.4%	19.4%	
3 The Transfers composite allocation is based on the composite of Operating & Maintenance expenditures.									
Operating & Maintenance	38,697	11,121	6,528	6,528	14,520	28.7%	16.9%	16.9%	37.5%

The allocation of annual revenue required from rates to billable parameters is summarized in the table below.

Table 4-2. Allocation of Annual Revenue Required from Rates to Billable Parameters						
Item		FY20	FY21	FY22	FY23	FY24
Revenue Required						
From Rates (x\$1000)		73,430	74,900	76,400	77,930	79,490
Allocation	<i>from Table 4-1</i>					
	<i>% of Total</i>					
Flow	51.8%	38,031	38,793	39,570	40,362	41,170
BOD	16.1%	11,819	12,056	12,297	12,544	12,795
TSS	16.1%	11,819	12,056	12,297	12,544	12,795
Accounts/Units	16.0%	11,760	11,995	12,236	12,481	12,731

### 4.3 Billable Parameter Unit Costs

Unit costs for each billable parameter are calculated by dividing the annual revenue requirement for each parameter (listed in Table 4-2) by the annual amount of discharge for each parameter or the number of accounts/dwelling units (listed in Tables B-1 through B-4). The calculation of billable parameters unit costs for FY20 – FY24 is summarized in the table below.

Table 4-3. Billable Parameters Unit Costs						
Item		FY20	FY21	FY22	FY23	FY24
Flow						
Revenue Required	<i>see Table 4-2</i>	\$38,031,327	\$38,792,679	\$39,569,568	\$40,361,995	\$41,169,960
Flow, HCF	<i>see Table B-1</i>	26,879,124	26,693,928	26,508,146	26,321,779	26,134,826
Unit Costs, \$/HCF	<i>(round to \$0.01)</i>	\$1.41	\$1.45	\$1.49	\$1.53	\$1.58
BOD						
Revenue Required	<i>see Table 4-2</i>	\$11,819,347	\$12,055,959	\$12,297,400	\$12,543,670	\$12,794,769
BOD, pounds	<i>see Table B-2</i>	63,050,495	62,719,452	62,387,346	62,054,175	61,719,941
Unit Costs, \$/pound	<i>(round to \$0.01)</i>	\$0.19	\$0.19	\$0.20	\$0.20	\$0.21
TSS						
Revenue Required	<i>see Table 4-2</i>	\$11,819,347	\$12,055,959	\$12,297,400	\$12,543,670	\$12,794,769
TSS, pounds	<i>see Table B-3</i>	54,974,358	54,602,786	54,230,040	53,856,120	53,481,027
Unit Costs, \$/pound	<i>(round to \$0.01)</i>	\$0.21	\$0.22	\$0.23	\$0.23	\$0.24
Account/Dwelling Unit						
Revenue Required	<i>see Table 4-2</i>	\$11,759,979	\$11,995,403	\$12,235,632	\$12,480,664	\$12,730,502
Accts/Dwelling Units	<i>see Table B-4</i>	196,962	197,253	197,544	197,835	198,126
Unit Costs, \$/month	<i>(round to \$0.01)</i>	\$4.98	\$5.07	\$5.16	\$5.26	\$5.35

The unit costs for each billable parameter listed in the table above are used to develop rates or monthly bills for every customer. Use of these unit costs to develop rates and monthly bills ensures that revenue requirements are equitably recovered from customers in proportion to the cost of serving those customers.

## 4.4 Distribution of Flow, BOD and TSS Revenue Requirements to Customer Classes

Annual flow, BOD and TSS revenue requirements for each customer class are developed by multiplying the unit costs for each billable parameter (listed in Table 4-3) by the annual amount of discharge for each customer class each parameter (listed in Tables B-1 through B-3). The calculation of annual revenue requirements for each customer class for FY20 – FY24 is summarized in the table below. Calculation of annual revenue requirements for each customer class are included in Appendix D, Table D-1 (flow), Table D-2 (BOD), Table D-3 (TSS) and Table D-4 (flow + BOD + TSS).

**Table 4-4. Annual Flow, BOD and TSS Revenue Requirements for Each Customer Class**

Customer Category	FY20	FY21	FY22	FY23	FY24
Revenue Allocation (round to \$10,000)					
Residential	\$37,720,000	\$38,270,000	\$38,820,000	\$39,370,000	\$39,920,000
Schools (ADA rates)	\$250,000	\$260,000	\$270,000	\$280,000	\$280,000
Commercial	\$11,360,000	\$11,710,000	\$12,080,000	\$12,460,000	\$12,850,000
Industrial	\$12,340,000	\$12,660,000	\$13,000,000	\$13,350,000	\$13,700,000
Total	\$61,670,000	\$62,900,000	\$64,170,000	\$65,460,000	\$66,750,000
Percent of Total					
Residential	61%	61%	60%	60%	60%
Schools (ADA rates)	0.4%	0.4%	0.4%	0.4%	0.4%
Commercial	18%	19%	19%	19%	19%
Industrial	20%	20%	20%	20%	21%
Total	100%	100%	100%	100%	100%

## 4.5 Distribution of Account/Dwelling Unit Revenue Requirements to Customer Classes

Annual account/dwelling revenue requirements for each customer class are developed by multiplying the unit costs for accounts/dwelling units (listed in Table 4-3) by the number of accounts/dwelling units (listed in Table B-4). The calculation of annual revenue requirements for each customer class for FY20 – FY24 is shown in Appendix D, Table D-5 and summarized in the table below.

**Table 4-5. Annual Account/Dwelling Unit Revenue Requirements for Each Customer Class**

Customer Category	FY20	FY21	FY22	FY23	FY24
Revenue Allocation (round to \$10,000)					
Residential	\$11,280,000	\$11,510,000	\$11,740,000	\$11,970,000	\$12,210,000
Schools (ADA rates)	\$2,000	\$2,000	\$2,000	\$2,000	\$2,000
Commercial	\$470,000	\$480,000	\$490,000	\$500,000	\$510,000
Industrial	\$2,000	\$2,000	\$2,000	\$3,000	\$3,000
Total	\$11,754,000	\$11,994,000	\$12,234,000	\$12,475,000	\$12,725,000
Percent of Total					
Residential	96%	96%	96%	96%	96%
Schools (ADA rates)	0.02%	0.02%	0.02%	0.02%	0.02%
Commercial	4%	4%	4%	4%	4%
Industrial	0.02%	0.02%	0.02%	0.02%	0.02%
Total	100%	100%	100%	100%	100%

## Section 5

# Rates and Monthly Bills

Distribution of costs to billable parameters and customer classes shown in the preceding section is followed by the calculation of rates and monthly bills in this section.

### 5.1 Recommended Changes to Rate Structure

The current wastewater rate structure has been in place for over 20 years. Current wastewater rates and the rate structure are listed in the Master Fee Schedule (MFS), pages 130 – 136, in Appendix A. The term “rate structure” refers to the selection of customer classes and corresponding Flow, BOD and TSS assignments and the type of rate applied to recover costs – volumetric (in units of \$/HCF, for example) or fixed (in units of \$/month, for example). Recommended changes to the rate structure are described below.

**Replace the “Senior Citizen” reduced monthly charge with access to a DPU Affordability Credit Program (ACP).** The current rate structure provides Senior Citizen customers a monthly charge that is 10 percent lower than for Single Family customers. It is recommended that the Senior Citizen customer category be eliminated and that Senior Citizens be given access to a DPU Affordability Credit Program applicable to wastewater. The Affordability Credit Program is funded with non-rate revenues.

**Set the “Multi Family First Unit” monthly charge equal to the “Multi Family Each Additional Unit” monthly charge.** The current rate structure recognizes two types of Multi Family customers - “Multi Family First Unit” and “Multi Family Each Additional Unit”. Multi Family First Unit customers pay a monthly charge equal to that for Single Family customers. Multi Family Each Additional Unit customers pay a monthly charge that is 33 percent lower than for Single Family customers. All Multiple Family customers have the same flow, BOD and TSS wastewater discharge characteristics for each unit regardless of the number of units. Based on wastewater discharge characteristics described in Section 2, it is recommended that Multi Family First Unit monthly charge be set equal to the Multi Family Each Additional Unit monthly charge.

**Replace the “Minimum Charge” with an “Account/Dwelling Unit Charge”.** Currently, there is a Minimum Charge applied to every account regardless of the flow or strength characteristics of the customer. The Minimum Charge is equal to the Single Family customers’ monthly charge. It is recommended that an Account/Dwelling Unit Charge be applied to every account or dwelling unit. The Account/Dwelling Unit Charge would be in addition to any charges for Flow, BOD and TSS discharges.

**Eliminate the Industrial and Commercial customer classes “potable” vs “effluent” rate difference.** The current rate structure recognizes two classes of customers - “Potable water, metered” (potable) and “Sewage effluent, metered” (effluent). Rates for “potable” customer (wastewater flow based on metered water use) are lower than those for “effluent” customers (wastewater measured with a flow meter).

The difference represents an estimate of the average metered water use that is not discharged to the sanitary sewer (mainly outdoor irrigation) by “potable” customers. Note that not all 7,700 “potable” commercial customers have outdoor irrigation through their meter and not all irrigation use is the same for each user. It is recommended that the “potable” vs “effluent” rate distinction be eliminated. “Potable” customers with outdoor irrigation will be encouraged to establish a new irrigation meter connection to reduce potable metered water use and increase accuracy of wastewater flow estimation.

**Eliminate the Industrial Low customer class.** Currently, the “Industrial Low” and the “Commercial Low” classes have the same potable and effluent rates. “Industrial Low” is mostly used for industrial users that require a flow estimate of their sanitary discharge because of the use of an effluent meter measuring their process discharge only. It is recommended that the “Industrial Low” class/rate be eliminated and that “Commercial Low” class/rates be used instead.

## 5.2 Customer Class Rates for Account/Dwelling Unit

Rates are developed for each customer class that recover the revenue requirements for accounts/dwelling units. The rates are the same as the unit cost for accounts/dwelling units shown in Table 4-3. Account/Dwelling Unit charges are based on costs of serving every account regardless of the flow or strength (BOD and TSS levels) of wastewater discharge. The rates are expressed in \$/month and are shown in the table below.

## 5.3 Customer Class Rates for Flow-BOD-TSS

Rates are developed for each customer class that recover the revenue requirements for the flow, BOD and TSS billable parameters. The rates are developed by dividing the sum of the revenue requirements for the flow, BOD and TSS billable parameters (listed in Table 4-4) by the flow for each customer class (listed in Table B-1). The rates are in units of \$/HCF and are shown in the table below. The rates for each customer class vary depending on the assignments of BOD and TSS concentrations to each customer class (see Section 2).

**Table 5-1. Customer Class Rates for Flow-BOD-TSS and Monthly Charges**

	FY20	FY21	FY22	FY23	FY24
<b>Rates for Flow-BOD-TSS</b>					
Residential	<i>all rates are in \$/HCF</i>				
Single Family	\$2.187	\$2.245	\$2.305	\$2.368	\$2.432
Senior Citizen	\$2.187	\$2.245	\$2.305	\$2.368	\$2.432
Multiple Family 1st	\$2.187	\$2.245	\$2.305	\$2.368	\$2.432
Multiple Family Add'l Units	\$2.187	\$2.245	\$2.305	\$2.368	\$2.432
Commercial/Industrial Low	<i>all rates are in \$/HCF</i>				
Potable Water	<i>all rates are in \$/HCF</i>				
High	\$3.397	\$3.487	\$3.580	\$3.675	\$3.773
Medium	\$2.297	\$2.359	\$2.422	\$2.487	\$2.554
Low	\$1.795	\$1.843	\$1.893	\$1.944	\$1.997
Sewage Effluent	<i>all rates are in \$/HCF</i>				
High	\$3.397	\$3.487	\$3.580	\$3.675	\$3.773
Medium	\$2.297	\$2.359	\$2.422	\$2.487	\$2.554
Low	\$1.795	\$1.843	\$1.893	\$1.944	\$1.997
Schools (ADA Rates)	<i>all rates are in \$/HCF</i>				
K-garten/Elem	\$2.294	\$2.355	\$2.418	\$2.483	\$2.550
Middle	\$2.294	\$2.355	\$2.418	\$2.483	\$2.550
Senior	\$2.294	\$2.355	\$2.418	\$2.483	\$2.550
Parochial	\$2.294	\$2.355	\$2.418	\$2.483	\$2.550
College	\$2.294	\$2.355	\$2.418	\$2.483	\$2.550
Industrial Low	<i>all rates are in \$/HCF</i>				
Potable Water	\$1.795	\$1.843	\$1.893	\$1.944	\$1.997
Sewage Effluent	\$1.795	\$1.843	\$1.893	\$1.944	\$1.997
Monthly Charge per	<i>all rates are in \$/month</i>				
Account/Dwelling Unit	\$4.98	\$5.07	\$5.16	\$5.26	\$5.35



## 5.4 Single Family and Senior Citizen Monthly Charges

For Single Family and Senior Citizen customer classes, the monthly charge has two components - the customer class rate for flow, BOD and TSS billable parameters (listed in Table 5-1) and the account/dwelling unit rate (listed in Table 5-1). Development of the monthly charge for both customer classes is shown in the table below.

Charges for both customer classes will be the same because both customer classes are assigned the same flow, BOD and TSS wastewater discharge characteristics (see Table 2-1).

The current monthly charge for Single Family customers is \$25.75. The current monthly charge for Senior Citizen customers is \$23.16. The recommended monthly charge for Single Family and Senior Citizen customers for FY20 is \$24.55.

It is recommended to replace the “Senior Citizen” customer category with the Single Family rate and access to a DPU Affordability Credit Program applicable to wastewater.

**Table 5-2. Single Family and Senior Citizen Monthly Charges**

Item	FY20	FY21	FY22	FY23	FY24
<b>Flow/BOD/TSS Component</b>					
Flow/BOD/TSS \$/HCF	\$2.187	\$2.245	\$2.305	\$2.368	\$2.432
<b>Flow, HCF</b>					
Single Family	11,298,464	11,103,577	10,908,299	10,712,631	10,516,573
Senior Citizen	1,400,442	1,380,249	1,359,861	1,339,278	1,318,499
Total	12,698,906	12,483,826	12,268,160	12,051,909	11,835,072
<b>Flow/BOD/TSS \$ Allocation</b>					
Single Family	\$24,704,122	\$24,928,781	\$25,148,686	\$25,363,169	\$25,571,540
Senior Citizen	\$3,062,070	\$3,098,814	\$3,135,110	\$3,170,867	\$3,205,993
Total	\$27,766,192	\$28,027,595	\$28,283,796	\$28,534,036	\$28,777,532
<b>Accounts</b>					
Single Family	105,253	105,353	105,453	105,553	105,653
Senior Citizen	13,046	13,096	13,146	13,196	13,246
Total	118,299	118,449	118,599	118,749	118,899
Flow/BOD/TSS Charge	\$19.56	\$19.72	\$19.87	\$20.02	\$20.17
<b>Account Component</b>					
Account, \$/month	\$4.98	\$5.07	\$5.16	\$5.26	\$5.35
Total Monthly Charge	\$24.53	\$24.79	\$25.04	\$25.28	\$25.52
(rounded to \$0.05)	\$24.55	\$24.80	\$25.05	\$25.30	\$25.50

## 5.5 Multiple Family Monthly Charges

For the Multiple Family customer class, the monthly charge has two components - the customer class rate for flow, BOD and TSS billable parameters (listed in Table 5-1) and the account/dwelling unit rate (listed in Table 5-1).

Development of the monthly charge is shown in the table below. The current monthly charge for Multiple Family - 1<sup>st</sup> Unit customers is \$25.75. The current monthly charge for Multiple Family - Additional Unit customers is \$17.29.

It is recommended to replace both current Multiple Family charges – 1<sup>st</sup> Unit and Additional Units. Currently, Multiple Family - 1<sup>st</sup> Unit customers pay the same monthly charge as Single Family customers. Multiple Family - Additional Unit pay a monthly charge that is approximately 33 percent less than that for a Multiple Family - 1<sup>st</sup> Unit customer.

All Multiple Family customers have the same flow, BOD and TSS wastewater discharge characteristics for each unit regardless of the number of units. As shown in Table 2-1 and discussed in Section 2, all Multiple Family customers (whether 1<sup>st</sup> Unit or Additional Unit) will be assigned the same flow, BOD and TSS wastewater discharge characteristics and, therefore, will have the same monthly charge. Development of the monthly charge for all Multiple Family accounts and dwelling units is shown in the table below.

**Table 5-3. Multiple Family Monthly Charges**

Item	FY20	FY21	FY22	FY23	FY24
<b>Flow/BOD/TSS Component</b>					
Flow/BOD/TSS \$/HCF	\$2.187	\$2.245	\$2.305	\$2.368	\$2.432
<b>Flow, HCF</b>					
Multiple Family 1st Unit	468,602	469,890	471,178	472,466	473,754
Multiple Family Add'l Units	4,084,490	4,090,931	4,097,372	4,103,813	4,110,253
Total	4,553,092	4,560,821	4,568,550	4,576,279	4,584,008
<b>Flow/BOD/TSS \$ Allocation</b>					
Multiple Family 1st Unit	\$1,024,599	\$1,054,956	\$1,086,284	\$1,118,609	\$1,151,956
Multiple Family Add'l Units	\$8,930,749	\$9,184,601	\$9,446,341	\$9,716,165	\$9,994,273
Total	\$9,955,348	\$10,239,557	\$10,532,625	\$10,834,774	\$11,146,229
<b>Accounts</b>					
Multiple Family 1st Unit	7,276	7,296	7,316	7,336	7,356
Multiple Family Add'l Units	63,416	63,516	63,616	63,716	63,816
Total	70,692	70,812	70,932	71,052	71,172
Flow/BOD/TSS Charge	\$11.74	\$12.05	\$12.37	\$12.71	\$13.05
<b>Account Component</b>					
Account, \$/month	\$4.98	\$5.07	\$5.16	\$5.26	\$5.35
Total Monthly Charge	\$16.71	\$17.12	\$17.54	\$17.96	\$18.41
(rounded to \$0.05)	\$16.70	\$17.10	\$17.55	\$17.95	\$18.40

## 5.6 School (ADA) Monthly Charges

For the Schools (ADA) customer class, the monthly charge has two components - the customer class rate for flow, BOD and TSS billable parameters (listed in Table 5-1) and the account/dwelling unit rate (listed in Table 5-1).<sup>6</sup> The customer class rate is in units of \$/ADA.

Development of the monthly charge is shown in the table below. The current monthly charge for Schools (ADA) is different for each of the five categories of schools. The five categories of schools are: Kindergarten-Elementary, Middle, Senior, College and Parochial.

The consultant recommended two changes: 1) update of the gallons per day assigned to each student in daily attendance; and 2) include staff (teachers, maintenance workers, administrators) in the count of daily attendance. Kindergarten-Elementary, Middle and Parochial categories share the same average wastewater flow characteristic which is different from the average wastewater flow characteristic for Senior and College categories.

As shown in Table 2-1 and discussed in Section 2, each of the five categories of schools is assigned one of two Flow, BOD and TSS wastewater discharge characteristics and, therefore, there will be two different monthly charges (instead of five for the current rates). Development of the monthly charge for all School (ADA) accounts is shown in the table below.

Table 5-4. School (ADA) Monthly Charges					
Item	FY20	FY21	FY22	FY23	FY24
<i>K-garten-Elementary/Parochial</i>					
Flow/BOD/TSS Component					
Flow/BOD/TSS, \$/HCF	\$2.294	\$2.355	\$2.418	\$2.483	\$2.550
Flow, HCF	50,113	50,113	50,113	50,113	50,113
Revenue Required	\$114,945	\$118,021	\$121,189	\$124,450	\$127,807
ADA/Year	11,961	11,961	11,961	11,961	11,961
Annual Charge, \$/ADA	\$9.61	\$9.87	\$10.13	\$10.41	\$10.69
(rounded to \$0.05)	\$9.60	\$9.85	\$10.15	\$10.40	\$10.70
Account Component, \$/month per Account	\$4.98	\$5.07	\$5.16	\$5.26	\$5.35
<i>Middle/Senior/College</i>					
Flow/BOD/TSS Component					
Flow/BOD/TSS \$/HCF	\$2.294	\$2.355	\$2.418	\$2.483	\$2.550
Flow, HCF	60,667	60,667	60,667	60,667	60,667
Revenue Required	\$139,152	\$142,877	\$146,712	\$150,659	\$154,723
ADA/Year	8,289	8,289	8,289	8,289	8,289
Annual Charge, \$/ADA	\$16.79	\$17.24	\$17.70	\$18.18	\$18.67
(rounded to \$0.05)	\$16.80	\$17.25	\$17.70	\$18.20	\$18.65
Account Component, \$/month per Account	\$4.98	\$5.07	\$5.16	\$5.26	\$5.35
<i>Annual Wastewater Discharge and ADA</i>					
Flow, HCF					
K-garten/Elementary	36,105	36,105	36,105	36,105	36,105
Middle	7,341	7,341	7,341	7,341	7,341
Senior	44,829	44,829	44,829	44,829	44,829
Parochial	6,667	6,667	6,667	6,667	6,667
College	15,838	15,838	15,838	15,838	15,838
Total	110,781	110,781	110,781	110,781	110,781
ADA/Year*					
K-garten/Elementary	9,250	9,250	9,250	9,250	9,250
Middle	1,003	1,003	1,003	1,003	1,003
Senior	6,125	6,125	6,125	6,125	6,125
Parochial	1,708	1,708	1,708	1,708	1,708
College	2,164	2,164	2,164	2,164	2,164
Total	20,250	20,250	20,250	20,250	20,250

\* Actual values may be higher and will include teachers, maintenance workers and administrators.

<sup>6</sup> Schools that are not billed using ADA-based rates are billed at appropriate Commercial customer class rates.

## 5.7 Commercial Rates and Monthly Charges

Rates are developed for each Commercial customer class that recover the revenue requirements for the flow, BOD and TSS billable parameters. The rates are developed by dividing the sum of the revenue requirements for the flow, BOD and TSS billable parameters (listed in Table 4-4) by the flow for each customer class (listed in Table B-1). The rates are in units of \$/HCF and are shown in the table below. The rates for each customer class vary depending on the assignments of BOD and TSS concentrations to each customer class (see Section 2). An account/dwelling unit rate (listed in Table 5-1) applies to each account.

**Table 5-5. Commercial Rates and Monthly Charges**

	FY20	FY21	FY22	FY23	FY24
<b>Rates for Flow-BOD-TSS</b>					
<b>Potable Water</b>					
<b>High</b>					
Flow/BOD/TSS \$ Allocation	\$2,094,118	\$2,152,587	\$2,212,836	\$2,274,909	\$2,338,848
Flow, mgd	1.263	1.265	1.267	1.269	1.270
Flow/BOD/TSS Rate, \$/HCF	\$3.40	\$3.49	\$3.58	\$3.68	\$3.77
<b>Medium</b>					
Flow/BOD/TSS \$ Allocation	\$2,960,419	\$3,078,348	\$3,200,702	\$3,327,628	\$3,459,273
Flow, mgd	2.641	2.675	2.708	2.742	2.775
Flow/BOD/TSS Rate, \$/HCF	\$2.30	\$2.36	\$2.42	\$2.49	\$2.55
<b>Low</b>					
Flow/BOD/TSS \$ Allocation	\$5,457,545	\$5,613,492	\$5,774,314	\$5,940,135	\$6,111,082
Flow, mgd	6.232	6.242	6.252	6.262	6.272
Flow/BOD/TSS Rate, \$/HCF	\$1.79	\$1.84	\$1.89	\$1.94	\$2.00
<b>Sewage Effluent</b>					
<b>High</b>					
Flow/BOD/TSS \$ Allocation	\$26,653	\$27,359	\$28,085	\$28,832	\$29,601
Flow, mgd	0.016	0.016	0.016	0.016	0.016
Flow/BOD/TSS Rate, \$/HCF	\$3.40	\$3.49	\$3.58	\$3.68	\$3.77
<b>Medium</b>					
Flow/BOD/TSS \$ Allocation	\$588,629	\$604,384	\$620,605	\$637,305	\$654,492
Flow, mgd	0.525	0.525	0.525	0.525	0.525
Flow/BOD/TSS Rate, \$/HCF	\$2.30	\$2.36	\$2.42	\$2.49	\$2.55
<b>Low</b>					
Flow/BOD/TSS \$ Allocation	\$231,084	\$237,305	\$243,713	\$250,311	\$257,103
Flow, mgd	0.264	0.264	0.264	0.264	0.264
Flow/BOD/TSS Rate, \$/HCF	\$1.79	\$1.84	\$1.89	\$1.94	\$2.00
Account/Dwelling Unit, \$ per month	\$4.98	\$5.07	\$5.16	\$5.26	\$5.35

## 5.8 Industrial Rates and Monthly Charges

Industrial High strength customers are charged for Flow, BOD and TSS at unit costs for each of those parameters. There are currently 40 Industrial High strength customers.

Unit costs for each billable parameter are calculated by dividing the annual revenue requirement for each parameter (listed in Table 4-2) by the annual amount of discharge for each parameter or the number of accounts/dwelling units (listed in Tables B-1 through B-4). The calculation of billable parameters unit costs for FY18 – FY24 is summarized Table 4-3. The unit costs for each billable parameter listed in Table 4-3 are used to calculate monthly bills for each Industrial High strength customer.

## 5.9 Current and Recommended Rates and Charges Summary

Table below lists current and recommended rates and charges and the number of Accounts/Units for each of the existing customer classes.

Table 5-6. Current and Recommended Wastewater Rates and Charges, FY19 – FY24												
Customer Class	Number of Accts/Units	Current FY19	Recommended Five-Year Rate Plan					FY20	FY21	FY22	FY23	FY24
			FY20	FY21	FY22	FY23	FY24					
<b>Residential, \$ per month</b>												
Single Family account	105,053	\$25.75	\$24.55	\$24.80	\$25.05	\$25.30	\$25.50	-5%	1%	1%	1%	1%
Senior Citizen account	12,946	\$23.16	\$24.55	\$24.80	\$25.05	\$25.30	\$25.50	6%	1%	1%	1%	1%
Multiple Family 1st Unit	7,236	\$25.75	\$16.70	\$17.10	\$17.55	\$17.95	\$18.40	-35%	2%	3%	2%	3%
Multiple Family Add'l Units	63,216	\$17.29	\$16.70	\$17.10	\$17.55	\$17.95	\$18.40	-3%	2%	3%	2%	3%
<b>Commercial</b>												
<b>Potable Water, \$/HCF</b>												
High: BOD or TSS >= 501 mg/L	710	\$3.514	\$3.40	\$3.49	\$3.58	\$3.68	\$3.77	-3%	3%	3%	3%	3%
Medium: BOD or TSS 201-500 mg/L	766	\$1.792	\$2.30	\$2.36	\$2.42	\$2.49	\$2.55	28%	3%	3%	3%	3%
Low: BOD or TSS 0-200 mg/L	6,204	\$1.077	\$1.79	\$1.84	\$1.89	\$1.94	\$2.00	67%	3%	3%	3%	3%
<b>Sewage Effluent, \$/HCF</b>												
High: BOD or TSS >= 501 mg/L	16	\$3.864	\$3.40	\$3.49	\$3.58	\$3.68	\$3.77	-12%	3%	3%	3%	3%
Medium: BOD or TSS 201-500 mg/L	25	\$1.973	\$2.30	\$2.36	\$2.42	\$2.49	\$2.55	16%	3%	3%	3%	3%
Low: BOD or TSS 0-200 mg/L	140	\$1.184	\$1.79	\$1.84	\$1.89	\$1.94	\$2.00	52%	3%	3%	3%	3%
<b>Volumetric Rates, \$/HCF</b>												
High: BOD or TSS >= 501 mg/L	726	na	\$3.40	\$3.49	\$3.58	\$3.68	\$3.77	na	3%	3%	3%	3%
Medium: BOD or TSS 201-500 mg/L	791	na	\$2.30	\$2.36	\$2.42	\$2.49	\$2.55	na	3%	3%	3%	3%
Low: BOD or TSS 0-200 mg/L	6,343	na	\$1.79	\$1.84	\$1.89	\$1.94	\$2.00	na	3%	3%	3%	3%
All Users, \$/month (minimum)		\$25.75										
All Users, \$/month (per account/unit)			\$4.98	\$5.07	\$5.16	\$5.26	\$5.35	na	2%	2%	2%	2%
<b>Industrial</b>												
High Potable Water	2											
Volume, \$/HCF		\$0.507	\$1.415	\$1.453	\$1.493	\$1.533	\$1.575	179%	3%	3%	3%	3%
BOD, \$/pound		\$0.261	\$0.187	\$0.192	\$0.197	\$0.202	\$0.207	-28%	3%	3%	3%	3%
TSS, \$/pound		\$0.296	\$0.215	\$0.221	\$0.227	\$0.233	\$0.239	-27%	3%	3%	3%	3%
High Sewage Effluent	38											
Volume, \$/HCF		\$0.559	\$1.415	\$1.453	\$1.493	\$1.533	\$1.575	153%	3%	3%	3%	3%
BOD, \$/pound		\$0.261	\$0.187	\$0.192	\$0.197	\$0.202	\$0.207	-28%	3%	3%	3%	3%
TSS, \$/pound		\$0.296	\$0.215	\$0.221	\$0.227	\$0.233	\$0.239	-27%	3%	3%	3%	3%
Low Potable Water, \$/HCF	128	\$1.077	\$1.79	\$1.84	\$1.89	\$1.94	\$2.00	67%	3%	3%	3%	3%
Low Sewage Effluent, \$/HCF	36	\$1.185	\$1.79	\$1.84	\$1.89	\$1.94	\$2.00	51%	3%	3%	3%	3%
All Users, \$/month (minimum)		\$25.75										
All Users, \$/month (per account/unit)			\$4.98	\$5.07	\$5.16	\$5.26	\$5.35	na	2%	2%	2%	2%
<b>Schools (ADA), \$/ADA/year</b>												
K-garten/Elementary	17	\$15.96	\$9.60	\$9.85	\$10.15	\$10.40	\$10.70	-40%	3%	3%	2%	3%
Middle	1	\$24.76	\$9.60	\$9.85	\$10.15	\$10.40	\$10.70	-61%	3%	3%	2%	3%
Senior	4	\$29.87	\$16.80	\$17.25	\$17.70	\$18.20	\$18.65	-44%	3%	3%	3%	2%
Parochial	5	\$8.63	\$9.60	\$9.85	\$10.15	\$10.40	\$10.70	11%	3%	3%	2%	3%
College	2	\$10.65	\$16.80	\$17.25	\$17.70	\$18.20	\$18.65	58%	3%	3%	3%	2%
All Users, \$/month (per account/unit)		na	\$4.98	\$5.07	\$5.16	\$5.26	\$5.35	na	2%	2%	2%	2%

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## Section 6

# Proposition 218 Notice and Impact of Rate Changes on Customer Bills

The impact on customers is summarized in terms of annual changes in revenue required from each customer class, annual changes in wastewater rates and charges, and annual changes in monthly bills.

### 6.1 Recommended Wastewater Rates and Charges

Recommended wastewater rates and charges and percent changes in rates and charges are shown in the table below.

The percent change in recommended FY20 rates versus current rates FY19 rates are not shown in this table because of consolidation of customer categories. Consolidation within the Commercial and Industrial customer categories results in different percent changes for those current categories that are combined. Table 5-6 lists percent changes in recommended FY20 rates versus current rates FY19 rates for all customer classes.

**Table 6-1. Recommended Wastewater Rates and Charges, FY20 – FY24**

Customer Class	Recommended Five-Year Rate Plan					FY20	FY21	FY22	FY23	FY24
	FY20	FY21	FY22	FY23	FY24					
<b>Residential, \$ per month</b>										
Single Family account	\$24.55	\$24.80	\$25.05	\$25.30	\$25.50	-5%	1%	1%	1%	1%
Multiple Family 1st Unit	\$16.70	\$17.10	\$17.55	\$17.95	\$18.40	-35%	2%	3%	2%	3%
Multiple Family Add'l Units	\$16.70	\$17.10	\$17.55	\$17.95	\$18.40	-3%	2%	3%	2%	3%
<b>Commercial</b>										
<b>Volumetric Rates, \$/HCF</b>										
High: BOD or TSS >= 501 mg/L	\$3.40	\$3.49	\$3.58	\$3.68	\$3.77	na	3%	3%	3%	3%
Medium: BOD or TSS 201-500 mg/L	\$2.30	\$2.36	\$2.42	\$2.49	\$2.55	na	3%	3%	3%	3%
Low: BOD or TSS 0-200 mg/L	\$1.79	\$1.84	\$1.89	\$1.94	\$2.00	na	3%	3%	3%	3%
All Users, \$/month (per account/unit)	\$4.98	\$5.07	\$5.16	\$5.26	\$5.35	na	2%	2%	2%	2%
<b>Industrial</b>										
<b>High Potable Water/Effluent, \$/HCF</b>										
Volume, \$/HCF	\$1.415	\$1.453	\$1.493	\$1.533	\$1.575	179%	3%	3%	3%	3%
BOD, \$/pound	\$0.187	\$0.192	\$0.197	\$0.202	\$0.207	-28%	3%	3%	3%	3%
TSS, \$/pound	\$0.215	\$0.221	\$0.227	\$0.233	\$0.239	-27%	3%	3%	3%	3%
<b>Low Potable Water/Effluent, \$/HCF</b>										
All Users, \$/month (per account/unit)	\$4.98	\$5.07	\$5.16	\$5.26	\$5.35	na	2%	2%	2%	2%
<b>Schools (ADA), \$/ADA-Staff/year</b>										
K-garten/Elementary	\$9.60	\$9.85	\$10.15	\$10.40	\$10.70	-40%	3%	3%	2%	3%
Middle	\$9.60	\$9.85	\$10.15	\$10.40	\$10.70	-61%	3%	3%	2%	3%
Senior	\$16.80	\$17.25	\$17.70	\$18.20	\$18.65	-44%	3%	3%	3%	2%
Parochial	\$9.60	\$9.85	\$10.15	\$10.40	\$10.70	11%	3%	3%	2%	3%
College	\$16.80	\$17.25	\$17.70	\$18.20	\$18.65	58%	3%	3%	3%	2%
All Users, \$/month (per account)	\$4.98	\$5.07	\$5.16	\$5.26	\$5.35	na	2%	2%	2%	2%

## 6.2 Impact on Residential Monthly Bills

The impact on residential bills varies depending on the customer class. The impact on Single Family, Senior Citizen, Multiple Family 1<sup>st</sup> Units and Multiple Family Each Additional Unit customer classes is shown in the table below.

Customer Class	Number of Accts/Units	Current FY19	Recommended Five-Year Rate Plan									
			FY20	FY21	FY22	FY23	FY24	FY20	FY21	FY22	FY23	FY24
Residential, \$ per month												
Single Family account	105,053	\$25.75	\$24.55	\$24.80	\$25.05	\$25.30	\$25.50	-5%	1%	1%	1%	1%
Senior Citizen account	12,946	\$23.16	\$24.55	\$24.80	\$25.05	\$25.30	\$25.50	6%	1%	1%	1%	1%
Multiple Family 1st Unit	7,236	\$25.75	\$16.70	\$17.10	\$17.55	\$17.95	\$18.40	-35%	2%	3%	2%	3%
Multiple Family Add'l Units	63,216	\$17.29	\$16.70	\$17.10	\$17.55	\$17.95	\$18.40	-3%	2%	3%	2%	3%

If the City Council updates the Affordability Credit Program (ACP) to include wastewater rates, Senior Citizens that qualify for the updated program could receive credits to their water, wastewater and solid waste bills that would reduce their charges

## 6.3 Impact on Commercial Rates and Monthly Bills

Development of Commercial Rates and Monthly Charges was shown in the previous section. The impact upon each of the six Commercial customer classes is summarized in the figure below. The figure shows the percent increase in a monthly bill at each unit of wastewater discharge (in units of HCF). Detailed data for the figure is included in Table E-1 in Appendix E. Labels for each of the customer classes show the number of accounts in each class in parenthesis.

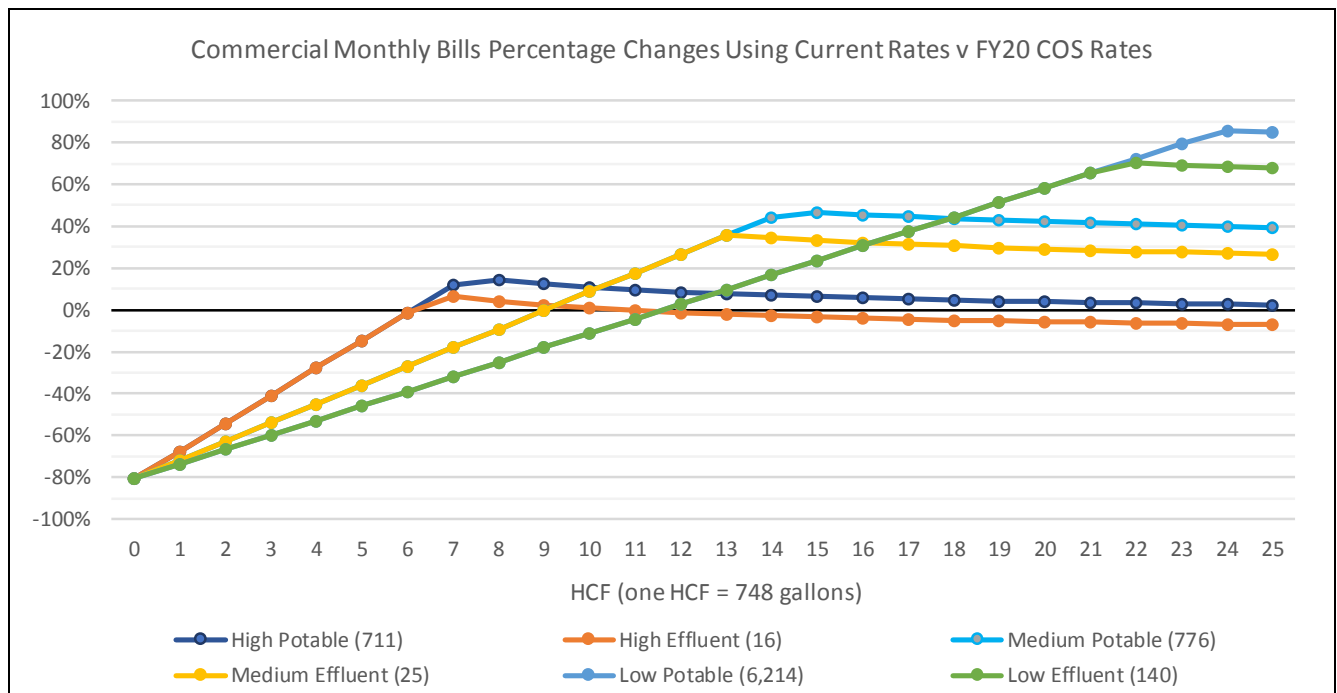


Figure 6-1. Commercial Customer Class Monthly Bills



## 6.4 Impact on Industrial High Rates and Annual Charges

Development of Industrial Rates and Monthly Charges was shown in the previous section. The impact upon each of the 38 Industrial High customers is summarized in the table below. The table shows the units of wastewater discharge (in units of HCF and lbs) for each of the customers for FY17. Annual charges are calculated by multiplying the units of use times the current and recommended FY20 rates. The dollar and percent difference in annual charges is shown for each customer.

Annual charges for each customer would increase by approximately 3 percent per year during the next four years of the Five-Year Rate Plan, FY21 – FY24, given the same (FY17) wastewater discharge characteristics.

**Table 6-3. Industrial High Customer Class Annual Bills, Current vs Recommended Rates FY20**

	FY17 Discharge Characteristics			Current (FY19) Rates				FY20 COS Rates				\$ Diff.	% Diff.
				Flow (\$/HCF)	BOD (\$/lb)	TSS (\$/lb)	Total	Flow (\$/HCF)	BOD (\$/lb)	TSS (\$/lb)	Total		
	Flow (HCF)	BOD (lbs)	TSS (lbs)	\$0.559	\$0.261	\$0.296		\$1.415	\$0.187	\$0.215			
User 1	41,614	208,017	214,238	\$23,262	\$54,292	\$63,415	\$140,969	\$58,884	\$38,899	\$46,061	\$143,844	\$2,875	2%
User 2	73,414	64,708	42,052	\$41,038	\$16,889	\$12,447	\$70,375	\$103,881	\$12,100	\$9,041	\$125,022	\$54,648	78%
User 3	88,560	558,157	389,276	\$49,505	\$145,679	\$115,226	\$310,410	\$125,312	\$104,375	\$83,694	\$313,382	\$2,972	1%
User 4	319,832	311,074	1,323,211	\$178,786	\$81,190	\$391,670	\$651,647	\$452,562	\$58,171	\$284,490	\$795,223	\$143,577	22%
User 5	4,400	39,670	6,486	\$2,460	\$10,354	\$1,920	\$14,733	\$6,226	\$7,418	\$1,394	\$15,039	\$306	2%
User 6	385,822	1,441,690	528,550	\$215,674	\$376,281	\$156,451	\$748,406	\$545,938	\$269,596	\$113,638	\$929,172	\$180,766	24%
User 7	4,023	8,192	19,378	\$2,249	\$2,138	\$5,736	\$10,123	\$5,693	\$1,532	\$4,166	\$11,391	\$1,268	13%
User 8	74,545	940,640	627,774	\$41,671	\$245,507	\$185,821	\$472,999	\$105,481	\$175,900	\$134,971	\$416,352	-\$56,647	-12%
User 9	37,454	946,416	52,247	\$20,937	\$247,015	\$15,465	\$283,417	\$52,997	\$176,980	\$11,233	\$241,210	-\$42,206	-15%
User 10	1,878	98,918	3,599	\$1,050	\$25,818	\$1,065	\$27,933	\$2,657	\$18,498	\$774	\$21,929	-\$6,004	-21%
User 11	23,640	70,454	55,242	\$13,215	\$18,388	\$16,352	\$47,955	\$33,451	\$13,175	\$11,877	\$58,502	\$10,548	22%
User 12	862,071	4,171,700	2,084,584	\$481,898	\$1,088,814	\$617,037	\$2,187,748	\$1,219,830	\$780,108	\$448,186	\$2,448,124	\$260,376	12%
User 13	610,036	721,935	232,337	\$341,010	\$188,425	\$68,772	\$598,207	\$863,201	\$135,002	\$49,952	\$1,048,155	\$449,948	75%
User 14	1,558	827	1,816	\$871	\$216	\$537	\$1,624	\$2,205	\$155	\$390	\$2,750	\$1,125	69%
User 15	9,086	168,640	22,717	\$5,079	\$44,015	\$6,724	\$55,818	\$12,857	\$31,536	\$4,884	\$49,277	-\$6,542	-12%
User 16	405,539	1,105,249	2,925,663	\$226,696	\$288,470	\$865,996	\$1,381,162	\$573,838	\$206,681	\$629,017	\$1,409,537	\$28,374	2%
User 17	39,729	958,932	12,977	\$22,209	\$250,281	\$3,841	\$276,331	\$56,217	\$179,320	\$2,790	\$238,327	-\$38,004	-14%
User 18	11,231	169,796	158,014	\$6,278	\$44,317	\$46,772	\$97,367	\$15,892	\$31,752	\$33,973	\$81,617	-\$15,750	-16%
User 19	8,343	177,131	136,033	\$4,664	\$46,231	\$40,266	\$91,160	\$11,805	\$33,123	\$29,247	\$74,176	-\$16,985	-19%
User 20	183,159	781,679	399,880	\$102,386	\$204,018	\$118,365	\$424,769	\$259,170	\$146,174	\$85,974	\$491,318	\$66,550	16%
User 21	171,772	3,855,594	365,396	\$96,021	\$1,006,310	\$108,157	\$1,210,488	\$243,057	\$720,996	\$78,560	\$1,042,614	-\$167,874	-14%
User 22	34,035	186,772	93,719	\$19,026	\$48,747	\$27,741	\$95,514	\$48,160	\$34,926	\$20,150	\$103,235	\$7,722	8%
User 23	5,319	4,899	7,908	\$2,973	\$1,279	\$2,341	\$6,593	\$7,526	\$916	\$1,700	\$10,143	\$3,550	54%
User 24	54,028	442,066	158,353	\$30,202	\$115,379	\$46,873	\$192,453	\$76,450	\$82,666	\$34,046	\$193,162	\$709	0%
User 25	114,645	917,098	339,683	\$64,087	\$239,363	\$100,546	\$403,995	\$162,223	\$171,497	\$73,032	\$406,752	\$2,757	1%
User 26	55,081	824,894	132,826	\$30,790	\$215,297	\$39,316	\$285,404	\$77,940	\$154,255	\$28,558	\$260,752	-\$24,652	-9%
User 27	29,899	239,563	81,828	\$16,714	\$62,526	\$24,221	\$103,461	\$42,307	\$44,798	\$17,593	\$104,698	\$1,238	1%
User 28	15,176	32,872	33,352	\$8,483	\$8,579	\$9,872	\$26,935	\$21,474	\$6,147	\$7,171	\$34,792	\$7,857	29%
User 29	5,491	116,916	23,207	\$3,069	\$30,515	\$6,869	\$40,454	\$7,770	\$21,863	\$4,990	\$34,623	-\$5,831	-14%
User 30	24,773	443,957	38,024	\$13,848	\$115,873	\$11,255	\$140,976	\$35,054	\$83,020	\$8,175	\$126,249	-\$14,727	-10%
User 31	1,697	13,454	4,443	\$949	\$3,511	\$1,315	\$5,775	\$2,401	\$2,516	\$955	\$5,872	\$97	2%
User 32	28,903	49,360	67,295	\$16,157	\$12,883	\$19,919	\$48,959	\$40,898	\$9,230	\$14,468	\$64,597	\$15,637	32%
User 33	42,966	279,209	52,812	\$24,018	\$72,874	\$15,632	\$112,524	\$60,797	\$52,212	\$11,355	\$124,364	\$11,840	11%
User 34	6,931	275,391	25,015	\$3,874	\$71,877	\$7,404	\$83,156	\$9,807	\$51,498	\$5,378	\$66,684	-\$16,472	-20%
User 35	15,191	61,632	22,133	\$8,492	\$16,086	\$6,551	\$31,129	\$21,495	\$11,525	\$4,759	\$37,779	\$6,650	21%
User 36	83,676	117,558	75,892	\$46,775	\$30,683	\$22,464	\$99,922	\$118,402	\$21,983	\$16,317	\$156,702	\$56,780	57%
User 37	238,286	567,209	362,841	\$133,202	\$148,042	\$107,401	\$388,644	\$337,175	\$106,068	\$78,011	\$521,254	\$132,609	34%
Total	4,113,803	21,372,266	11,120,803	\$2,299,616	\$5,578,161	\$3,291,758	\$11,169,535	\$5,821,031	\$3,996,614	\$2,390,973	\$12,208,617	\$1,039,083	9%

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## Section 7

# Limitations

This document was prepared solely for City of Fresno in accordance with professional standards at the time the services were performed and in accordance with the contract between City of Fresno and Municipal Financial Services dated June 27, 2016. This document is governed by the specific scope of work authorized by City of Fresno; it is not intended to be relied upon by any other party. We have relied on information or instructions provided by City of Fresno and, unless otherwise expressly indicated, have made no independent investigation as to the validity, completeness, or accuracy of such information.

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## Appendix A: Master Fee Schedule #539

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**CITY OF FRESNO  
MASTER FEE SCHEDULE**

**PUBLIC UTILITIES DEPARTMENT**

**WASTEWATER RATES\*\***

*Each Wastewater rate below consists of two components, Capital and Operation and Maintenance (O&M). This breakdown is listed below each rate for your information.*

<u>Fee Description &amp; Unit/Time *</u>	<u>Current</u>	<u>Amnd</u>
<b>Sewer Service Charges, Industrial Users</b> (as defined in Section 6-302 of the FMC)		
<b>High Industrial:</b> Sewage effluent volume of 25,000 gallons in a single day, or Biochemical Oxygen Demand (BOD) greater than 265 mg/liter (mg/l), or Total Suspended Solids (TSS) greater than 300 (mg/l).		
Total fee amount is based on three components:		
Flow (in hundred cubic feet (HCF) or gallons), pounds of BOD, and pounds of TSS.		
Potable water, metered		Amend
<b>Per HCF<sup>1</sup></b>	0.507	effective
Capital	0.173	9/1/2010
O&M	0.334	
=+ BOD / pound	0.261	
Capital	0.089	
O&M	0.172	
=+ TSS / pound	0.296	
Capital	0.101	
O&M	0.195	
or		
<b>Per 1,000 gallons<sup>2</sup></b>	0.678	
Capital	0.231	
O&M	0.447	
=+BOD / pound	0.261	
Capital	0.089	
O&M	0.172	
=+ TSS / pound	0.296	
Capital	0.101	
O&M	0.195	

<sup>1</sup>There are 748 gallons in a hundred cubic feet.

<sup>2</sup>Rates per 1,000 gallons are approximate as they have been rounded to the 3rd decimal place.

\* Rates are effective 9/1/10

\*\* Rates shall be adjusted annually by staff during the budget process to reflect the rates in effect as per Reso. No. 2007-79

**CITY OF FRESNO  
MASTER FEE SCHEDULE**

**PUBLIC UTILITIES DEPARTMENT**

**WASTEWATER RATES\*\***

<u>Fee Description &amp; Unit/Time *</u>	<u>Current</u>	<u>Amnd</u>
<b>High Industrial (continued)</b>		
Sewage effluent, metered		Amend
Per HCF <sup>1</sup>	0.559	Effective 9/1/2010
Capital	0.191	
O&M	0.368	
=+ BOD / pound	0.261	
Capital	0.089	
O&M	0.172	
=+ TSS / pound	0.296	
Capital	0.101	
O&M	0.195	
or		
Per 1,000 gallons <sup>2</sup>	0.749	
Capital	0.256	
O&M	0.493	
=+ BOD / pound	0.261	
Capital	0.089	
O&M	0.172	
=+ TSS / pound	0.296	
Capital	0.101	
O&M	0.195	
<i>Pounds of BOD or TSS can be calculated using the following formulas: Pounds BOD = (W ÷ 1,000,000) * 8.345 * BOD concentration in mg/l Pounds TSS = (W ÷ 1,000,000) * 8.345 * TSS concentration in mg/l Note: BOD concentration can be based on the actual or estimated value W=sewer or water flow in gallons/day</i>		
<b>Low Industrial:</b>		
Potable water, metered		
HCF <sup>1</sup>	1.077	
Capital	0.368	
O&M	0.709	
1,000 Gallons <sup>2</sup>	1.44	
Capital	0.492	
O&M	0.948	
Sewage effluent, metered		
HCF <sup>1</sup>	1.185	
Capital	0.405	
O&M	0.780	
1,000 Gallons <sup>2</sup>	1.583	
Capital	0.541	
O&M	1.042	

<sup>1</sup> There are 748 gallons in a hundred cubic feet.

<sup>2</sup> Rates per 1,000 gallons are approximate as they have been rounded to the 3rd decimal place.

\* Rates are effective 9/1/10

\*\* Rates shall be adjusted annually by staff during the budget process to reflect the rates in effect as per Reso. No. 2007-79



**CITY OF FRESNO  
MASTER FEE SCHEDULE**

**PUBLIC UTILITIES DEPARTMENT**

**WASTEWATER RATES\*\***

<u>Fee Description &amp; Unit/Time *</u>	<u>Current</u>	<u>Amnd</u>
Minimum Charge		Amend
<b>Month</b>	25.75	Effective
Capital	8.80	9/1/2010
O&M	16.95	
<b>Sewer Service Charges, Commercial Users</b> - classification determined by concentration (mg/l) of Biochemical Oxygen Demand (BOD) or Total Suspended Solids (TSS) present in flow.		
<b>High:</b> BOD or TSS greater than or equal to 501 mg.		
Portable water, metered		
<b>HCF<sup>1</sup></b>	3.514	
Capital	1.201	
O&M	2.313	
<b>1,000 Gallons<sup>2</sup></b>	4.698	
Capital	1.605	
O&M	3.093	
or		
Sewage effluent, metered		
<b>HCF<sup>1</sup></b>	3.864	
Capital	1.320	
O&M	2.544	
<b>1,000 Gallons<sup>2</sup></b>	5.167	
Capital	1.766	
O&M	3.401	
Minimum Charge		
<b>Month</b>	25.75	
Capital	8.80	
O&M	16.95	
<b>Medium:</b> BOD or TSS without a range of 201-500 mg/l		
Portable water, metered		
<b>HCF<sup>1</sup></b>	1.792	
Capital	0.612	
O&M	1.180	
<b>1,000 Gallons<sup>2</sup></b>	2.398	
Capital	0.819	
O&M	1.579	

<sup>1</sup> There are 748 gallons in a hundred cubic feet.

<sup>2</sup> Rates per 1,000 gallons are approximate as they have been rounded to the 3rd decimal place.

\* Rates are effective 9/1/10

\*\* Rates shall be adjusted annually by staff during the budget process to reflect the rates in effect as per Reso. No. 2007-79

**CITY OF FRESNO  
MASTER FEE SCHEDULE**

**PUBLIC UTILITIES DEPARTMENT**

**WASTEWATER RATES\*\***

<u>Fee Description &amp; Unit/Time *</u>	<u>Current</u>	<u>Amnd</u>
Sewage effluent, metered		Amend
<b>HCF<sup>1</sup></b>	1.973	Effective
Capital	0.674	9/1/2010
O&M	1.299	
<b>1,000 Gallons<sup>2</sup></b>	2.637	
Capital	0.901	
O&M	1.736	
Minimum charge		
<b>Month</b>	25.75	
Capital	8.80	
O&M	16.95	
<b>Low:</b> BOD or TSS within the range of 0-200 mg/l		
Potable water, metered		
<b>HCF<sup>1</sup></b>	1.077	
Capital	0.368	
O&M	0.709	
<b>1,000 Gallons<sup>2</sup></b>	1.440	
Capital	0.492	
O&M	0.948	
or		
Sewage effluent, metered		
<b>HCF<sup>1</sup></b>	1.184	
Capital	0.405	
O&M	0.779	
<b>1,000 Gallons<sup>2</sup></b>	1.583	
Capital	0.541	
O&M	1.042	
Minimum Charge		
<b>Month</b>	25.75	
Capital	8.80	
O&M	16.95	
<b>Sewer Service Charges, Residential Users</b>		
Single Family:		
<b>Unit per month</b>	25.75	
Capital	8.80	
O&M	16.95	

<sup>1</sup> There are 748 gallons in a hundred cubic feet.

<sup>2</sup> Rates per 1,000 gallons are approximate as they have been rounded to the 3rd decimal place.

\* Rates effective 9/1/10

\*\* Rates shall be adjusted annually by staff during the budget process to reflect the rates in effect as per Reso. No. 2007-79

**CITY OF FRESNO  
MASTER FEE SCHEDULE**

**PUBLIC UTILITIES DEPARTMENT**

**WASTEWATER RATES\*\***

<b><u>Fee Description &amp; Unit/Time *</u></b>	<b><u>Current</u></b>	<b><u>Amnd</u></b>
Senior Citizen (62 years or older) meeting all the conditions listed below / per month:	23.16	Amend Effective 9/1/2010
1. Single-family residents only;		
2. Service must be in name of senior citizen;		
3. Occupants of residence must be senior citizen or dependants of senior citizen (not to exceed		
4. Benefitting senior citizen must notify the City when they no longer qualify.		
Multi-family:		
<b>First unit / per month</b>	25.75	
Capital           8.80		
O&M             16.95		
<b>Each Additional unit / per month</b>	17.29	
Capital           5.91		
O&M             11.38		
<b>Sewer Service Charges, Schools</b> (on the basis of average daily attendance):		Amend Effective 9/1/2010
Kindergarten/elementary		
<b>Student/Year</b>	15.957	
Capital           5.453		
O&M             10.504		
Middle		
<b>Student/Year</b>	24.762	
Capital           8.462		
O&M             16.300		
Senior high		
<b>Student/Year</b>	29.866	
Capital           10.206		
O&M             19.660		
Parochial		
<b>Student/Year</b>	8.632	
Capital           2.950		
O&M             5.682		
College		
<b>Student/Year</b>	10.646	
Capital           3.638		
O&M             7.008		

\* Rates are effective 9/1/10

\*\* Rates shall be adjusted annually by staff during the budget process to reflect the rates in effect as per Res. No. 2007-79

**CITY OF FRESNO  
MASTER FEE SCHEDULE**

**PUBLIC UTILITIES DEPARTMENT**

**WASTEWATER RATES\*\***

<b>Fee Description &amp; Unit/Time</b>	<b>Current</b>	<b>Amnd</b>
<b>Hauled Waste Disposal</b>		464
Septage Waste		In-lieu
<b>1,000 gallons<sup>1</sup></b>	69.812	06/05
Capital	13.496	
O&M	56.316	
<b>Non Domestic Waste - per gallon</b>	0.03	489
<b>Hauled Waste disposal station badge:</b>		464
Replacement / per badge	25.00	
<b>Pretreatment Surcharges (monthly charges)</b>		
Category I - Individual permit*	27.54	
Category II - General permit**	4.05	
Category III - No permit required***	1.29	
Category IV - All residential users	0.06	
<b>Special Charges and Penalties</b>		435
Television Inspection/Sewer		
CCTV Inspection		
per hour (one hour minimum)	182.73	539
CCTV Standby		
15- minute period	45.68	539
CCTV Inspection lateral tie-in (sewer mains less than 15"		
in diameter) per hour (one hour minimum)	116.88	539
Inspection cleaning for minor debris		
per hour (30 minutes minimum)	179.45	539
Video Inspection Sit-In per hour (one hour minimum)	114.63	539
Disconnection or reconnection inspection fee / per inspection	12.50	
Discharge flow dye test / per-hour	129.23	539
Combo Truck rate / per hour	204.40	539

<sup>1</sup> There are 748 gallons in a hundred cubic feet.

<sup>2</sup> Rates per 1,000 gallons are approximate as they have been rounded to the 3rd decimal place.

\*\* Rates shall be adjusted annually by staff during the budget process to reflect the rates in effect as per Res. No. 2007-79

**CITY OF FRESNO  
MASTER FEE SCHEDULE**

**PUBLIC UTILITIES DEPARTMENT**

**WASTEWATER RATES\*\***

<u>Fee Description &amp; Unit/Time *</u>	<u>Current</u>	<u>Amnd</u>
<b>Pretreatment Administrative Penalties</b>		464
Notice of Non-compliance	250.00	480
Warning Notice	250.00	
Notice of Violation	500.00	
Consent Order	750.00	
Compliance Order	1,000.00	
Show Cause Order	1,000.00	
 Administrative cost recovery charges for failure to meet reporting deadlines:		464
First day late	45.00	521
Each additional day late	22.50	
 <b>Pretreatment Administrative Penalties - continued</b>		464
General inorganic and bacteriological analysis/per hour	50.00	
Composite Sampler Rental / per day	75.00	
Pretreatment enforcement charges/per hour	45.00	
Miscellaneous non-enforcement charges/per hour	45.00	

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## Appendix B: Customer Wastewater Discharge Characteristics Tables

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Table B-4  
 Accounts - Units (Includes PCWD and PPUD)

Notes:

1 Projected new Residential units per year for the City of Fresno.

	<u>FY17</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
<i>Single Family</i>	100	100	100	100	100	100	100	100
<i>Senior Citizen</i>	50	50	50	50	50	50	50	50
<i>Multiple Family 1st</i>	20	20	20	20	20	20	20	20
<i>Multiple Family Add'l</i>	100	100	100	100	100	100	100	100

2 Projected new Commercial accounts per year for the City of Fresno. PCWD and PPUD are projected with no increases

	<u>FY17</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
<i>Potable Water</i>								
<i>High</i>	1	1	1	1	1	1	1	1
<i>Medium</i>	10	10	10	10	10	10	10	10
<i>Low</i>	10	10	10	10	10	10	10	10
<i>Sewage Effluent</i>								
<i>High</i>	0	0	0	0	0	0	0	0
<i>Medium</i>	0	0	0	0	0	0	0	0
<i>Low</i>	0	0	0	0	0	0	0	0

3 The projected number of new Schools (ADA) based and Industrial accounts is zero.



## Appendix C: Cash Flow Table

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Table C-1  
Wastewater Funds Cash Flow and Financial Metrics

<b>BEGINNING FUND BALANCES</b>									
	<u>Fund</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>	
Operating Fund *	40501/40529/40531/40533/40536	20,635	42,084	11,634	16,148	23,052	9,937	11,490	
Sewer Non-Domestic Waste Fee Fund	40530	134	272	6	239	472	705	939	
Operating Rate Stabilization Reserve Fund	40512	10,074	8,786	4,888	5,913	5,942	4,372	6,394	
Lateral, O'size, H'brch, Conn. Funds	40502/40595	12,837	11,741	8,082	8,423	8,764	9,105	9,446	
Wastewater Facility Fees Funds	40502/40523/40519/40520/40521/40522	8,692	5,804	2,389	3,693	5,124	2,062	1,985	
Capital Improvements Reserve Fund	40510	3,879	3,931	3,970	8,720	8,764	8,808	16,152	
SRF Debt Service Reserve Fund	40534	0	1,303	1,316	3,477	3,494	3,512	3,529	
<b>Total Beginning Fund Balances</b>		<b>56,251</b>	<b>73,922</b>	<b>32,285</b>	<b>46,612</b>	<b>55,613</b>	<b>38,501</b>	<b>49,935</b>	
<i>* The FY19 Beginning Fund Balance reflects carryovers and any adjustments from FY18.</i>									
<b>REVENUES</b>									
		<b>ANNUAL RATE INCREASES &gt;</b>	<b>0.0%</b>	<b>0.0%</b>	<b>2.0%</b>	<b>2.0%</b>	<b>2.0%</b>	<b>2.0%</b>	
		<b>ANNUAL INTEREST RATES &gt;</b>	<b>1.0%</b>	<b>0.5%</b>	<b>0.5%</b>	<b>0.5%</b>	<b>0.5%</b>	<b>0.5%</b>	
<u>Operating Revenues</u>	<u>Fund</u>	<u>Acct</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
Misc--Other Charges Svcs & Fac	40501	34115	245	151	151	151	151	151	151
Wastewater Treatment Charges	40501	34401	73,873	73,430	73,430	74,900	76,400	77,930	79,490
Clovis Share O & M	40501	34402	3,065	2,520	2,600	2,680	2,760	2,840	2,930
Sewer Pre-Treatment Surcharge	40501	34405	412	419	419	419	419	419	419
Plan Check (PW) - Sewer	40501	34554	86	60	60	60	60	60	60
Subdivision Inspection	40501	34555	1	0	0	0	0	0	0
Return Of Capital	40501	34852	1,243	901	977	558	629	140	133
Biomethane Generation Credit Sales	40536	36005		400	1,000	2,000	3,000	3,000	3,000
Interest (Fund 40501, 40531, 40533)	501/40531/40533	36101	1,863	219	58	81	115	50	57
Loan Repay - Int/Ot. W/in City	40501	36104	25	25	25	25	25	25	25
Leases	40501	36304	424	424	424	424	424	424	424
Refunds--Current Year	40501	39008	135	5	5	5	5	5	5
Loan Repayment--Oth Thn wi City	40501	39012	4	2	2	2	2	2	2
Miscellaneous--Other Revenue	40501	39015	199	65	65	65	65	65	65
Sale of Obsolete Items	40501	39202	27	0	0	0	0	0	0
Sale of Scrap/Junk (Nontaxable)	40501	39203	22	10	10	10	10	10	10
Anaerobic Digester Material (Including Interest)	40530	34425/36101	308	233	233	233	233	233	233
Clovis bond payments	40531	33804	1,235	1,233	1,233	1,233	1,233	1,233	1,233
Interest (Fund 40512)	40512		133	102	24	30	30	22	32
Recycled Water User Charges (Including Interest)	40529	34226/36101	1	2	2	250	250	250	250
General Fund Loan Reimbursement				0	0	0	0	0	0
<b>Subtotal Operating Revenues</b>			<b>83,300</b>	<b>80,202</b>	<b>80,720</b>	<b>83,126</b>	<b>85,811</b>	<b>86,859</b>	<b>88,520</b>
<u>Capital Revenues</u>			<b>ANNUAL GROWTH INCREASES &gt;</b>	<b>0.5%</b>	<b>0.5%</b>	<b>0.5%</b>	<b>0.5%</b>	<b>0.5%</b>	<b>0.5%</b>
Wastewater facilities fees	40502	34119	1,676	1,600	1,610	1,620	1,630	1,640	1,650
STEP program receipts	523/40519/40520/40521/40522		1,463	1,413	1,413	1,413	1,413	1,413	1,413
Oversize/lateral/other charges	40502/40595		440	341	341	341	341	341	341
Interest, Wastewater facilities fees	40502/40595/40523/40519/40520/40521/40522		318	172	12	18	26	10	10
Interest, Capital Improvement Reserve Fund	40510		51	39	20	44	44	44	81
Interest, Debt Service Reserve Fund	40534		17	13	7	17	17	18	18
<b>Subtotal Capital Revenues</b>			<b>3,965</b>	<b>3,577</b>	<b>3,402</b>	<b>3,453</b>	<b>3,470</b>	<b>3,465</b>	<b>3,512</b>
<b>TOTAL REVENUES</b>			<b>87,265</b>	<b>83,779</b>	<b>84,121</b>	<b>86,579</b>	<b>89,282</b>	<b>90,324</b>	<b>92,032</b>

Table C-1  
Wastewater Funds Cash Flow and Financial Metrics

<b>EXPENSES</b>			<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
<i>Annual Percent Changes</i>									
		<b>ANNUAL EXPENSE INCREASES &gt;</b>		<b>3%</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>	<b>3%</b>
<b><u>Operating &amp; Maintenance</u></b>	<u>Section (4140X)</u>	<u>Acct</u>							
Employee svcs, treatment	04/06/07/09	51000	10,857	12,980	13,370	13,770	14,180	14,610	15,050
Employee svcs, collection	08	51000	2,686	3,369	3,470	3,570	3,680	3,790	3,900
Purchased professional svcs	04/06/07/08/09	53000	3,783	4,735	4,880	5,030	5,180	5,340	5,500
Purchased property svcs, xUtilities	04/06/07/08/09	54000	1,452	1,250	1,290	1,330	1,370	1,410	1,450
Utilities	04/06/07/08/09	54101	5,465	6,172	6,360	6,550	6,750	6,950	7,160
Other purchased services	04/06/07/08/09	55000	218	255	260	270	280	290	300
Supplies	04/06/07/08/09	56000	5,315	5,499	5,660	5,830	6,000	6,180	6,370
Property	04/06/08/09	57000	413	324	330	340	350	360	370
Other Objects	04/06/07/08/09	58000	461	540	560	580	600	620	640
Interdept charges, treatment	04/06/07/09	59000	5,981	6,122	6,310	6,500	6,700	6,900	7,110
Interdept charges, collection	08	59000	2,063	2,205	2,270	2,340	2,410	2,480	2,550
Recycled water distribution	from Water Division		3	100	100	100	100	100	100
<b>Subtotal Operating &amp; Maintenance</b>			<b>38,697</b>	<b>43,550</b>	<b>44,860</b>	<b>46,210</b>	<b>47,600</b>	<b>49,030</b>	<b>50,500</b>
<b><u>Debt Service</u></b>									
1993 Series A, Senior			10,704	10,690	373	6,233	40	905	0
2008 Series A, Subordinate			7,953	7,948	1,849	1,849	7,714	6,843	7,736
CWSRF Agreement #14-817-550			0	1,286	1,286	1,286	1,286	1,286	1,286
CWSRF Agreement #D15-01011					1,002	1,002	1,002	1,002	1,002
2019 SRF, Projected (CWSRF Agreement #D15-01011)				0	1,083	1,083	1,083	1,083	1,083
2020 SRF, Projected					0	69	69	69	69
2021 SRF, Projected					0	0	0	0	0
2022 SRF, Projected					0	0	0	0	0
2023 SRF, Projected					0	0	0	0	0
2024 SRF, Projected					0	0	0	0	0
2020 Bonds, Projected					0	0	0	0	0
2021 Bonds, Projected					0	0	0	0	0
2022 Bonds, Projected					0	0	0	0	0
2023 Bonds, Projected					0	0	0	1,616	1,616
2024 Bonds, Projected					0	0	0	0	2,299
<b>Subtotal Debt Service</b>			<b>18,658</b>	<b>19,924</b>	<b>5,593</b>	<b>11,522</b>	<b>11,194</b>	<b>12,805</b>	<b>15,092</b>
<b><u>Capital Improvements, Pay As You Go</u></b>									
CIP: treatment plant			5,992	54,640	15,759	11,999	14,128	10,295	9,520
CIP: collection system			10,297	11,022	4,809	8,655	34,751	7,150	7,150
Less Clovis CIP contribution			0	0	(977)	(558)	(629)	(140)	(3,251)
<b>Subtotal Capital Improvements</b>			<b>16,289</b>	<b>65,662</b>	<b>19,591</b>	<b>20,096</b>	<b>48,250</b>	<b>17,305</b>	<b>13,419</b>
<b>TOTAL EXPENSES</b>			<b>73,644</b>	<b>129,136</b>	<b>70,044</b>	<b>77,828</b>	<b>107,044</b>	<b>79,140</b>	<b>79,011</b>
<b><u>Capital Improvements, Debt Funded</u></b>									
CIP: treatment plant			11,099	27,951	1,778	0	0	21,668	30,820
CIP: collection system			0	0	338	20	0	0	0

Table C-1

Wastewater Funds Cash Flow and Financial Metrics

	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
<b>REVENUES LESS EXPENSES (EXCLUDING DEBT FUNDED CIP)</b>	13,621	(45,357)	14,077	8,750	(17,762)	11,184	13,021
<b>TRANSFERS</b>							
Transfer from Op Rate Stabl Rsrv Fund to General Fund	-1,420	0					
Transfer from Op Fund to General Fund	-1,680	0					
Transfer from Non-Domestic Waste Fee Fund to Op Fund	170	500	0	0	0	0	0
Transfer from WW Facility Fees Funds to Op Fund	7,826	6,600	0	1,620	6,130	3,140	3,150
Transfer from Capital Reserve Fund to Op Fund	0	0	-3,000	0	0	-7,300	-7,300
Transfer from Lateral, O'size, H'brch, Conn. Funds to Op Fund	0	4,000	0	0	0	0	0
Transfer from Trunk Funds to Op Fund for Debt Svc	5,964	3,720	250	250	650	250	250
Transfer from Op Fund to Op Rate Stabl Rsrv Fund	0	4,000	-1,000		1,600	-2,000	-2,000
Transfer from Op Fund to SRF Debt Svc Rsrv	-1,286	0	-2,154	0	0	0	0
Transfer from WW Facility Fees Funds to Cap Imprv Rsrv Fund	0	0	1,730	0	0	0	0
<b>ENDING FUND BALANCES</b>							
Operating Fund	40,843	11,634	16,148	23,052	9,937	11,490	14,834
Sewer Non-Domestic Waste Fee Fund	273	6	239	472	705	939	1,172
Operating Rate Stabilization Reserve Fund	8,786	4,888	5,913	5,942	4,372	6,394	8,426
Lateral, O'size, H'brch, Conn. Funds	13,278	8,082	8,423	8,764	9,105	9,446	9,787
Wastewater Facility Fees Funds	4,323	2,389	3,693	5,124	2,062	1,985	1,907
Capital Improvements Reserve Fund	3,931	3,970	8,720	8,764	8,808	16,152	23,533
SRF Debt Service Reserve Fund	1,303	1,316	3,477	3,494	3,512	3,529	3,547
<b>Total Ending Fund Balances</b>	<b>72,737</b>	<b>32,285</b>	<b>46,612</b>	<b>55,613</b>	<b>38,501</b>	<b>49,935</b>	<b>63,206</b>
<b>Operating Reserves</b>							
Total Operating O&M	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
	38,697	43,550	44,860	46,210	47,600	49,030	50,500
Operating Fund Ending Balance	<u>Minimum</u>	40,843	11,634	16,148	23,052	9,937	11,490
Minimum Balance as a Percent of O&M	=>20%	106%	27%	36%	50%	21%	23%
Minimum Balance as Days of O&M Expenditures	75	385	98	131	182	76	86
Minimum Balance	7,700	8,700	9,000	9,200	9,500	9,800	10,100
<b>Operating Rate Stabilization Reserve</b>							
Operating Rate Stabilization Reserve	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
	8,786	4,888	5,913	5,942	4,372	6,394	8,426
Operating Revenues	<u>Minimum</u>	83,300	80,202	80,720	83,126	85,811	86,859
Reserve as a Percent of Operating Revenues	=>5%	11%	6%	7%	7%	5%	7%
Minimum Balance	4,200	4,000	4,000	4,200	4,300	4,300	4,400
<b>Capital Improvements Reserve</b>							
Net Total Capital Assets	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
	662,531	732,784	732,108	729,422	754,941	770,694	794,824
Capital Improvements Reserve	<u>Minimum</u>	3,931	3,970	8,720	8,764	8,808	16,152
Reserve as a Percent of Net Total Capital Assets	=>2%	1%	1%	1%	1%	2%	3%
Minimum Balance	13,300	14,700	14,600	14,600	15,100	15,400	15,900

Table C-1  
Wastewater Funds Cash Flow and Financial Metrics

<b>Debt Service Coverage Ratio</b>		<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>		
Net Revenues										
Operating Revenues		83,300	80,202	80,720	83,126	85,811	86,859	88,520		
Operating O&M		<u>38,697</u>	<u>43,550</u>	<u>44,860</u>	<u>46,210</u>	<u>47,600</u>	<u>49,030</u>	<u>50,500</u>		
Net Revenues		44,603	36,652	35,860	36,916	38,211	37,829	38,020		
Debt Service		18,658	19,924	5,593	11,522	11,194	12,805	15,092		
Coverage Ratio										
Net Revenues		44,603	36,652	35,860	36,916	38,211	37,829	38,020		
Debt Service	<u>Minimum</u>	18,658	19,924	5,593	11,522	11,194	12,805	15,092		
Coverage Ratio	1.60x	2.39x	1.84x	6.41x	3.20x	3.41x	2.95x	2.52x		
<b>Debt Service as a Percent of Revenue</b>		<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>		
Debt Service		18,658	19,924	5,593	11,522	11,194	12,805	15,092		
Operating Revenues	<u>Minimum</u>	83,300	80,202	80,720	83,126	85,811	86,859	88,520		
Debt Service as a Percent of Revenue	<=35%	22%	25%	7%	14%	13%	15%	17%		
<b>Cash Financing of Capital</b>		<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>		
Capital Expenditures - Total	7-Year	27,388	93,613	22,684	20,674	48,879	39,113	47,490		
Capital Expenditures - Cash Funded	<u>\$ Weighted</u> <u>Minimum</u>	16,289	65,662	20,568	20,654	48,879	17,445	16,670		
Cash Financing of Capital	69% =>30%	59%	70%	91%	100%	100%	45%	35%		
<b>Debt Burden to Asset Value</b>		<u>FY16</u>	<u>FY17</u>	<u>FY18</u>	<u>FY19</u>	<u>FY20</u>	<u>FY21</u>	<u>FY22</u>	<u>FY23</u>	<u>FY24</u>
Principal Portion Outstanding										
1993A Revenue Bonds	35,752	25,752	15,752	5,752	0					
2008A Revenue Bonds	162,684	33,684	27,684	26,684	26,684	25,684	24,584	23,484	22,284	
CWSRF Agreement #14-817-550	24,686	33,213	32,250	31,286	30,313	29,330	28,337	27,334	26,321	
CWSRF Agreement #D15-01011	0	0	0	36,398	35,310	34,211	33,101	31,980	30,847	
2019 SRF, Projected (CWSRF Agreement #D15-01011)				27,951	27,147	26,336	25,516	24,688	23,852	
2020 SRF, Projected				0	1,778	1,727	1,675	1,623	1,570	
2021 SRF, Projected				0	0	0	0	0	0	
2022 SRF, Projected				0	0	0	0	0	0	
2023 SRF, Projected				0	0	0	0	0	0	
2024 SRF, Projected				0	0	0	0	0	0	
2020 Bonds, Projected						0	0	0	0	
2021 Bonds, Projected						0	0	0	0	
2022 Bonds, Projected						0	0	0	0	
2023 Bonds, Projected						0	0	0	23,618	23,292
2024 Bonds, Projected						0	0	0	0	33,594
Debt Burden	223,122	92,649	75,686	128,070	121,232	117,287	113,213	132,727	161,760	
Total Capital Assets, Net *										
CAFR FY17										
Capital Assets, w/o CIP		829,213	923,545	950,933	1,044,546	1,067,230	1,087,904	1,136,783	1,175,896	
Construction in Progress (CIP)		94,332	27,388	93,613	22,684	20,674	48,879	39,113	47,490	
Accumulated Depreciation		(265,042)	(288,402)	(311,762)	(335,122)	(358,482)	(381,842)	(405,202)	(428,562)	
Total Capital Assets, Net	<u>Maximum</u>	658,503	662,531	732,784	732,108	729,422	754,941	770,694	794,824	
Debt Burden to Asset Value Ratio	<=50%	14%	11%	17%	17%	16%	15%	17%	20%	

\* "Total Capital Assets, Net" for FY17 are from the "Statement of Net Position Proprietary Funds" on page 54 of the 2017 CAFR (Comprehensive Annual Financial Report).  
Values for FY18 and onward are increased to account for construction in progress and accumulated depreciation.  
Projected accumulated depreciation is based on annual depreciation from the "Statement of Revenues, Expenses and Changes in Fund Net Position" on page 58 of the 2017 CAFR.

## Appendix D: Flow, BOD and TSS Revenue Requirement by Customer Class Tables

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Table D-1  
Flow Revenue Allocation by Customer Class

Customer Category	FY20	FY21	FY22	FY23	FY24
<b>Residential</b>					
Single Family	\$15,986,219	\$16,136,160	\$16,283,171	\$16,426,822	\$16,566,664
Senior Citizen	\$1,981,488	\$2,005,833	\$2,029,908	\$2,053,657	\$2,077,020
Multiple Family 1st	\$663,026	\$682,863	\$703,343	\$724,483	\$746,301
Multiple Family Add'l Units	\$5,779,154	\$5,945,104	\$6,116,280	\$6,292,814	\$6,474,846
<b>Total Residential</b>	<b>\$24,409,886</b>	<b>\$24,769,959</b>	<b>\$25,132,702</b>	<b>\$25,497,776</b>	<b>\$25,864,831</b>
<b>Commercial</b>					
<b>Potable Water</b>					
High	\$872,109	\$896,998	\$922,667	\$949,136	\$976,425
Medium	\$1,823,255	\$1,896,496	\$1,972,520	\$2,051,420	\$2,133,294
Low	\$4,302,296	\$4,425,970	\$4,553,542	\$4,685,110	\$4,820,778
<b>Total</b>	<b>\$6,997,661</b>	<b>\$7,219,464</b>	<b>\$7,448,728</b>	<b>\$7,685,666</b>	<b>\$7,930,497</b>
<b>Sewage Effluent</b>					
High	\$11,100	\$11,401	\$11,710	\$12,029	\$12,358
Medium	\$362,523	\$372,346	\$382,465	\$392,886	\$403,618
Low	\$182,168	\$187,104	\$192,189	\$197,426	\$202,818
<b>Total</b>	<b>\$555,791</b>	<b>\$570,851</b>	<b>\$586,364</b>	<b>\$602,341</b>	<b>\$618,794</b>
<b>Total Commercial</b>	<b>\$7,553,452</b>	<b>\$7,790,315</b>	<b>\$8,035,092</b>	<b>\$8,288,007</b>	<b>\$8,549,291</b>
<b>Schools (ADA Rates)</b>					
K-garten/Elem	\$51,086	\$52,470	\$53,896	\$55,364	\$56,876
Middle	\$10,387	\$10,668	\$10,958	\$11,257	\$11,564
Senior	\$63,429	\$65,147	\$66,918	\$68,741	\$70,619
Parochial	\$9,433	\$9,689	\$9,952	\$10,223	\$10,503
College	\$22,410	\$23,017	\$23,642	\$24,287	\$24,950
<b>Total Schools (ADA Rates)</b>	<b>\$156,744</b>	<b>\$160,991</b>	<b>\$165,366</b>	<b>\$169,872</b>	<b>\$174,512</b>
<b>Industrial</b>					
<b>Potable Water</b>					
High	\$90,227	\$92,672	\$95,190	\$97,784	\$100,455
Low	\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$90,227</b>	<b>\$92,672</b>	<b>\$95,190</b>	<b>\$97,784</b>	<b>\$100,455</b>
<b>Sewage Effluent</b>					
High	\$5,821,017	\$5,978,742	\$6,141,217	\$6,308,555	\$6,480,871
Low	\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$5,821,017</b>	<b>\$5,978,742</b>	<b>\$6,141,217</b>	<b>\$6,308,555</b>	<b>\$6,480,871</b>
<b>Total Industrial</b>	<b>\$5,911,244</b>	<b>\$6,071,414</b>	<b>\$6,236,408</b>	<b>\$6,406,339</b>	<b>\$6,581,326</b>
<b>Summary</b>					
<b>Revenue Allocation</b>					
Residential	\$24,409,886	\$24,769,959	\$25,132,702	\$25,497,776	\$25,864,831
Schools (ADA rates)	\$156,744	\$160,991	\$165,366	\$169,872	\$174,512
Commercial	\$7,553,452	\$7,790,315	\$8,035,092	\$8,288,007	\$8,549,291
Industrial	\$5,911,244	\$6,071,414	\$6,236,408	\$6,406,339	\$6,581,326
<b>Total</b>	<b>\$38,031,327</b>	<b>\$38,792,679</b>	<b>\$39,569,568</b>	<b>\$40,361,995</b>	<b>\$41,169,960</b>
<b>Percent of Total</b>					
Residential	64%	64%	64%	63%	63%
Schools (ADA rates)	0.4%	0.4%	0.4%	0.4%	0.4%
Commercial	20%	20%	20%	21%	21%
Industrial	16%	16%	16%	16%	16%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Table D-2  
BOD Revenue Allocation by Customer Class

Customer Category	FY20	FY21	FY22	FY23	FY24
<b>Residential</b>					
Single Family	\$3,848,024	\$3,877,715	\$3,906,495	\$3,934,261	\$3,960,907
Senior Citizen	\$476,962	\$482,026	\$486,995	\$491,856	\$496,593
Multiple Family 1st	\$159,596	\$164,100	\$168,739	\$173,515	\$178,432
Multiple Family Add'l Units	\$1,391,093	\$1,428,680	\$1,467,356	\$1,507,143	\$1,548,064
Total Residential	\$5,875,676	\$5,952,521	\$6,029,586	\$6,106,776	\$6,183,996
<b>Commercial</b>					
<b>Potable Water</b>					
High	\$723,877	\$743,308	\$763,300	\$783,863	\$805,009
Medium	\$529,675	\$550,044	\$571,136	\$592,972	\$615,574
Low	\$499,945	\$513,469	\$527,385	\$541,701	\$556,425
Total	\$1,753,497	\$1,806,822	\$1,861,821	\$1,918,536	\$1,977,008
<b>Sewage Effluent</b>					
High	\$9,213	\$9,447	\$9,688	\$9,935	\$10,189
Medium	\$105,317	\$107,992	\$110,741	\$113,566	\$116,466
Low	\$21,169	\$21,706	\$22,259	\$22,827	\$23,410
Total	\$135,699	\$139,146	\$142,688	\$146,327	\$150,064
Total Commercial	\$1,889,196	\$1,945,967	\$2,004,509	\$2,064,863	\$2,127,072
<b>Schools (ADA Rates)</b>					
K-garten/Elem	\$14,779	\$15,154	\$15,540	\$15,936	\$16,343
Middle	\$3,005	\$3,081	\$3,160	\$3,240	\$3,323
Senior	\$18,350	\$18,816	\$19,295	\$19,787	\$20,292
Parochial	\$2,729	\$2,798	\$2,870	\$2,943	\$3,018
College	\$6,483	\$6,648	\$6,817	\$6,991	\$7,169
Total Schools (ADA Rates)	\$45,346	\$46,497	\$47,681	\$48,897	\$50,146
<b>Industrial</b>					
<b>Potable Water</b>					
High	\$2,718	\$2,787	\$2,858	\$2,931	\$3,006
Low	\$0	\$0	\$0	\$0	\$0
Total	\$2,718	\$2,787	\$2,858	\$2,931	\$3,006
<b>Sewage Effluent</b>					
High	\$4,006,411	\$4,108,186	\$4,212,766	\$4,320,203	\$4,430,549
Low	\$0	\$0	\$0	\$0	\$0
Total	\$4,006,411	\$4,108,186	\$4,212,766	\$4,320,203	\$4,430,549
Total Industrial	\$4,009,130	\$4,110,973	\$4,215,624	\$4,323,134	\$4,433,555
<b>Summary</b>					
<b>Revenue Allocation</b>					
Residential	\$5,875,676	\$5,952,521	\$6,029,586	\$6,106,776	\$6,183,996
Schools (ADA rates)	\$45,346	\$46,497	\$47,681	\$48,897	\$50,146
Commercial	\$1,889,196	\$1,945,967	\$2,004,509	\$2,064,863	\$2,127,072
Industrial	\$4,009,130	\$4,110,973	\$4,215,624	\$4,323,134	\$4,433,555
Total	\$11,819,347	\$12,055,959	\$12,297,400	\$12,543,670	\$12,794,769
<b>Percent of Total</b>					
Residential	50%	49%	49%	49%	48%
Schools (ADA rates)	0.4%	0.4%	0.4%	0.4%	0.4%
Commercial	16%	16%	16%	16%	17%
Industrial	34%	34%	34%	34%	35%
Total	100%	100%	100%	100%	100%

Table D-3  
TSS Revenue Allocation by Customer Class

Customer Category	FY20	FY21	FY22	FY23	FY24
<b>Residential</b>					
Single Family	\$4,869,879	\$4,914,907	\$4,959,020	\$5,002,086	\$5,043,969
Senior Citizen	\$603,620	\$610,956	\$618,206	\$625,354	\$632,380
Multiple Family 1st	\$201,977	\$207,993	\$214,202	\$220,610	\$227,223
Multiple Family Add'l Units	\$1,760,502	\$1,810,817	\$1,862,705	\$1,916,207	\$1,971,364
<b>Total Residential</b>	<b>\$7,435,979</b>	<b>\$7,544,672</b>	<b>\$7,654,134</b>	<b>\$7,764,257</b>	<b>\$7,874,934</b>
<b>Commercial</b>					
<b>Potable Water</b>					
High	\$498,132	\$512,280	\$526,870	\$541,910	\$557,414
Medium	\$607,488	\$631,808	\$657,047	\$683,235	\$710,405
Low	\$655,304	\$674,052	\$693,388	\$713,325	\$733,879
<b>Total</b>	<b>\$1,760,924</b>	<b>\$1,818,141</b>	<b>\$1,877,304</b>	<b>\$1,938,470</b>	<b>\$2,001,698</b>
<b>Sewage Effluent</b>					
High	\$6,340	\$6,511	\$6,687	\$6,868	\$7,055
Medium	\$120,789	\$124,045	\$127,399	\$130,853	\$134,408
Low	\$27,747	\$28,495	\$29,265	\$30,059	\$30,876
<b>Total</b>	<b>\$154,876</b>	<b>\$159,051</b>	<b>\$163,351</b>	<b>\$167,780</b>	<b>\$172,339</b>
<b>Total Commercial</b>	<b>\$1,915,800</b>	<b>\$1,977,192</b>	<b>\$2,040,655</b>	<b>\$2,106,250</b>	<b>\$2,174,036</b>
<b>Schools (ADA Rates)</b>					
K-garten/Elem	\$16,950	\$17,407	\$17,878	\$18,362	\$18,861
Middle	\$3,446	\$3,539	\$3,635	\$3,733	\$3,835
Senior	\$21,045	\$21,613	\$22,197	\$22,799	\$23,418
Parochial	\$3,130	\$3,214	\$3,301	\$3,391	\$3,483
College	\$7,435	\$7,636	\$7,842	\$8,055	\$8,274
<b>Total Schools (ADA Rates)</b>	<b>\$52,007</b>	<b>\$53,409</b>	<b>\$54,853</b>	<b>\$56,340</b>	<b>\$57,871</b>
<b>Industrial</b>					
<b>Potable Water</b>					
High	\$24,617	\$25,281	\$25,964	\$26,668	\$27,393
Low	\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$24,617</b>	<b>\$25,281</b>	<b>\$25,964</b>	<b>\$26,668</b>	<b>\$27,393</b>
<b>Sewage Effluent</b>					
High	\$2,390,944	\$2,455,405	\$2,521,793	\$2,590,155	\$2,660,534
Low	\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$2,390,944</b>	<b>\$2,455,405</b>	<b>\$2,521,793</b>	<b>\$2,590,155</b>	<b>\$2,660,534</b>
<b>Total Industrial</b>	<b>\$2,415,561</b>	<b>\$2,480,686</b>	<b>\$2,547,758</b>	<b>\$2,616,823</b>	<b>\$2,687,927</b>
<b>Summary</b>					
<b>Revenue Allocation</b>					
Residential	\$7,435,979	\$7,544,672	\$7,654,134	\$7,764,257	\$7,874,934
Schools (ADA rates)	\$52,007	\$53,409	\$54,853	\$56,340	\$57,871
Commercial	\$1,915,800	\$1,977,192	\$2,040,655	\$2,106,250	\$2,174,036
Industrial	\$2,415,561	\$2,480,686	\$2,547,758	\$2,616,823	\$2,687,927
<b>Total</b>	<b>\$11,819,347</b>	<b>\$12,055,959</b>	<b>\$12,297,400</b>	<b>\$12,543,670</b>	<b>\$12,794,769</b>
<b>Percent of Total</b>					
Residential	63%	63%	62%	62%	62%
Schools (ADA rates)	0.4%	0.4%	0.4%	0.4%	0.5%
Commercial	16%	16%	17%	17%	17%
Industrial	20%	21%	21%	21%	21%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Table D-4  
Flow, BOD and TSS Revenue Allocation by Customer Class

Customer Category	FY20	FY21	FY22	FY23	FY24
<b>Residential</b>					
Single Family	\$24,704,122	\$24,928,781	\$25,148,686	\$25,363,169	\$25,571,540
Senior Citizen	\$3,062,070	\$3,098,814	\$3,135,110	\$3,170,867	\$3,205,993
Multiple Family 1st	\$1,024,599	\$1,054,956	\$1,086,284	\$1,118,609	\$1,151,956
Multiple Family Add'l Units	\$8,930,749	\$9,184,601	\$9,446,341	\$9,716,165	\$9,994,273
<b>Total Residential</b>	<b>\$37,721,541</b>	<b>\$38,267,153</b>	<b>\$38,816,421</b>	<b>\$39,368,809</b>	<b>\$39,923,762</b>
<b>Commercial</b>					
<b>Potable Water</b>					
High	\$2,094,118	\$2,152,587	\$2,212,836	\$2,274,909	\$2,338,848
Medium	\$2,960,419	\$3,078,348	\$3,200,702	\$3,327,628	\$3,459,273
Low	\$5,457,545	\$5,613,492	\$5,774,314	\$5,940,135	\$6,111,082
<b>Total</b>	<b>\$10,512,082</b>	<b>\$10,844,426</b>	<b>\$11,187,853</b>	<b>\$11,542,672</b>	<b>\$11,909,202</b>
<b>Sewage Effluent</b>					
High	\$26,653	\$27,359	\$28,085	\$28,832	\$29,601
Medium	\$588,629	\$604,384	\$620,605	\$637,305	\$654,492
Low	\$231,084	\$237,305	\$243,713	\$250,311	\$257,103
<b>Total</b>	<b>\$846,366</b>	<b>\$869,048</b>	<b>\$892,403</b>	<b>\$916,448</b>	<b>\$941,197</b>
<b>Total Commercial</b>	<b>\$11,358,448</b>	<b>\$11,713,474</b>	<b>\$12,080,256</b>	<b>\$12,459,120</b>	<b>\$12,850,399</b>
<b>Schools (ADA Rates)</b>					
K-garten/Elem	\$82,814	\$85,031	\$87,313	\$89,663	\$92,081
Middle	\$16,838	\$17,289	\$17,753	\$18,230	\$18,722
Senior	\$102,824	\$105,576	\$108,410	\$111,327	\$114,330
Parochial	\$15,292	\$15,702	\$16,123	\$16,557	\$17,004
College	\$36,328	\$37,301	\$38,302	\$39,333	\$40,393
<b>Total Schools (ADA Rates)</b>	<b>\$254,097</b>	<b>\$260,898</b>	<b>\$267,901</b>	<b>\$275,110</b>	<b>\$282,529</b>
<b>Industrial</b>					
<b>Potable Water</b>					
High	\$117,563	\$120,740	\$124,013	\$127,384	\$130,854
Low	\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$117,563</b>	<b>\$120,740</b>	<b>\$124,013</b>	<b>\$127,384</b>	<b>\$130,854</b>
<b>Sewage Effluent</b>					
High	\$12,218,373	\$12,542,332	\$12,875,777	\$13,218,913	\$13,571,953
Low	\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$12,218,373</b>	<b>\$12,542,332</b>	<b>\$12,875,777</b>	<b>\$13,218,913</b>	<b>\$13,571,953</b>
<b>Total Industrial</b>	<b>\$12,335,935</b>	<b>\$12,663,073</b>	<b>\$12,999,790</b>	<b>\$13,346,297</b>	<b>\$13,702,807</b>
<b>Summary</b>					
<b>Revenue Allocation</b>					
Residential	\$37,721,541	\$38,267,153	\$38,816,421	\$39,368,809	\$39,923,762
Schools (ADA rates)	\$254,097	\$260,898	\$267,901	\$275,110	\$282,529
Commercial	\$11,358,448	\$11,713,474	\$12,080,256	\$12,459,120	\$12,850,399
Industrial	\$12,335,935	\$12,663,073	\$12,999,790	\$13,346,297	\$13,702,807
<b>Total</b>	<b>\$61,670,021</b>	<b>\$62,904,597</b>	<b>\$64,164,368</b>	<b>\$65,449,336</b>	<b>\$66,759,498</b>
<b>Percent of Total</b>					
Residential	61%	61%	60%	60%	60%
Schools (ADA rates)	0.4%	0.4%	0.4%	0.4%	0.4%
Commercial	18%	19%	19%	19%	19%
Industrial	20%	20%	20%	20%	21%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

Table D-5  
Units/Accounts Revenue Allocation by Customer Class

Customer Category	FY20	FY21	FY22	FY23	FY24
<b>Residential</b>					
Single Family	\$6,284,324	\$6,406,755	\$6,531,629	\$6,658,941	\$6,788,689
Senior Citizen	\$778,940	\$796,403	\$814,252	\$832,491	\$851,121
Multiple Family 1st	\$434,402	\$443,661	\$453,118	\$462,774	\$472,630
Multiple Family Add'l Units	\$3,786,394	\$3,862,578	\$3,940,322	\$4,019,629	\$4,100,497
<b>Total Residential</b>	<b>\$11,284,061</b>	<b>\$11,509,397</b>	<b>\$11,739,321</b>	<b>\$11,973,835</b>	<b>\$12,212,937</b>
<b>Commercial</b>					
<b>Potable Water</b>					
High	\$42,496	\$43,344	\$44,209	\$45,091	\$45,990
Medium	\$46,905	\$48,381	\$49,897	\$51,452	\$53,048
Low	\$371,595	\$379,083	\$386,725	\$394,520	\$402,469
<b>Total</b>	<b>\$460,997</b>	<b>\$470,809</b>	<b>\$480,831</b>	<b>\$491,063</b>	<b>\$501,507</b>
<b>Sewage Effluent</b>					
High	\$960	\$978	\$996	\$1,015	\$1,033
Medium	\$1,508	\$1,536	\$1,564	\$1,593	\$1,622
Low	\$8,334	\$8,488	\$8,646	\$8,806	\$8,969
<b>Total</b>	<b>\$10,802</b>	<b>\$11,002</b>	<b>\$11,206</b>	<b>\$11,413</b>	<b>\$11,625</b>
<b>Total Commercial</b>	<b>\$471,799</b>	<b>\$481,811</b>	<b>\$492,036</b>	<b>\$502,477</b>	<b>\$513,132</b>
<b>Schools (ADA Rates)</b>					
K-garten/Elem	\$1,015	\$1,034	\$1,053	\$1,072	\$1,092
Middle	\$60	\$61	\$62	\$63	\$64
Senior	\$239	\$243	\$248	\$252	\$257
Parochial	\$299	\$304	\$310	\$315	\$321
College	\$119	\$122	\$124	\$126	\$129
<b>Total Schools (ADA Rates)</b>	<b>\$1,731</b>	<b>\$1,764</b>	<b>\$1,796</b>	<b>\$1,830</b>	<b>\$1,863</b>
<b>Industrial</b>					
<b>Potable Water</b>					
High	\$119	\$122	\$124	\$126	\$129
Low	\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$119</b>	<b>\$122</b>	<b>\$124</b>	<b>\$126</b>	<b>\$129</b>
<b>Sewage Effluent</b>					
High	\$2,269	\$2,311	\$2,354	\$2,397	\$2,442
Low	\$0	\$0	\$0	\$0	\$0
<b>Total</b>	<b>\$2,269</b>	<b>\$2,311</b>	<b>\$2,354</b>	<b>\$2,397</b>	<b>\$2,442</b>
<b>Total Industrial</b>	<b>\$2,388</b>	<b>\$2,432</b>	<b>\$2,478</b>	<b>\$2,523</b>	<b>\$2,570</b>
<b>Summary</b>					
<b>Revenue Allocation</b>					
Residential	\$11,284,061	\$11,509,397	\$11,739,321	\$11,973,835	\$12,212,937
Schools (ADA rates)	\$1,731	\$1,764	\$1,796	\$1,830	\$1,863
Commercial	\$471,799	\$481,811	\$492,036	\$502,477	\$513,132
Industrial	\$2,388	\$2,432	\$2,478	\$2,523	\$2,570
<b>Total</b>	<b>\$11,759,979</b>	<b>\$11,995,403</b>	<b>\$12,235,632</b>	<b>\$12,480,664</b>	<b>\$12,730,502</b>
<b>Percent of Total</b>					
Residential	96%	96%	96%	96%	96%
Schools (ADA rates)	0.01%	0.01%	0.01%	0.01%	0.01%
Commercial	4%	4%	4%	4%	4%
Industrial	0.02%	0.02%	0.02%	0.02%	0.02%
<b>Total</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>	<b>100%</b>

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## Appendix E: Commercial Customer Class Monthly Bills Table

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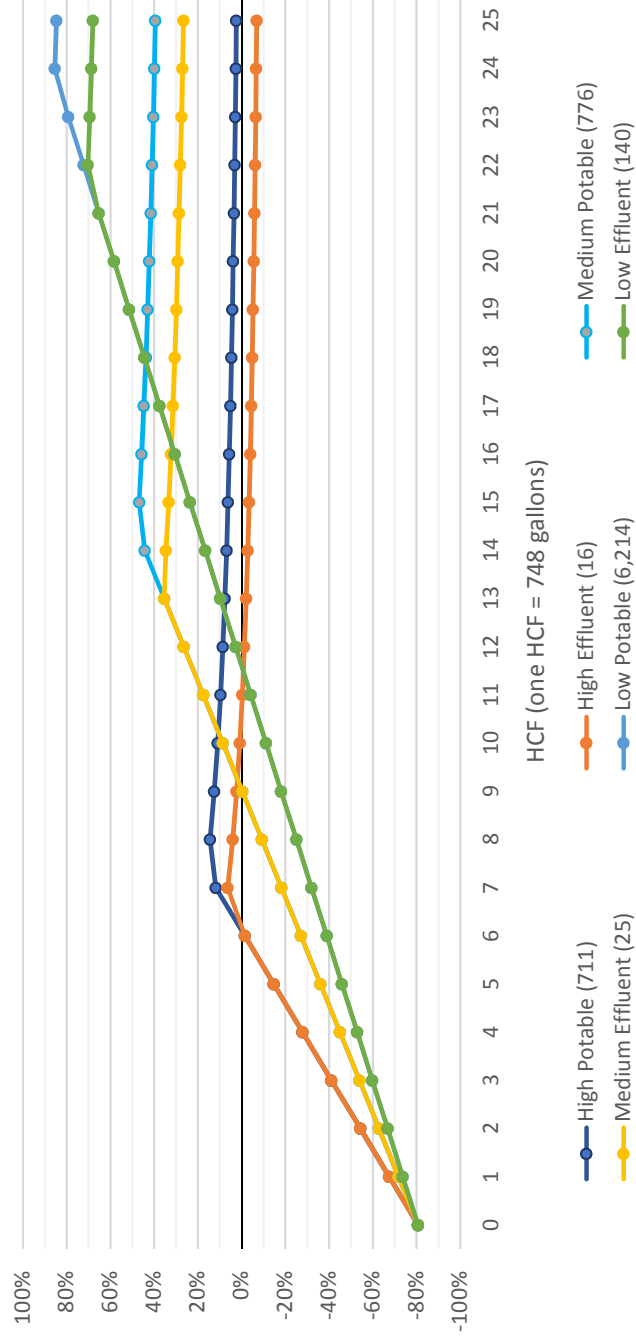
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Table E-1  
Commercial Monthly Bills for Each Unit of Wastewater Discharge (HCF)

Units (HCF) of Discharge>>	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
gallons per day>	0	25	49	74	98	123	148	172	197	221	246	271	295	320	344	369	393	418	443	467	492	516	541	566	590	615
Current High Potable-\$3.514	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$28.11	\$31.63	\$35.14	\$38.65	\$42.17	\$45.68	\$49.20	\$52.71	\$56.22	\$59.74	\$63.25	\$66.77	\$70.28	\$73.79	\$77.31	\$80.82	\$84.34	\$87.85
Current High Effluent-\$3.864	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$27.05	\$30.91	\$34.78	\$38.64	\$42.50	\$46.37	\$50.23	\$54.10	\$57.96	\$61.82	\$65.69	\$69.55	\$73.42	\$77.28	\$81.14	\$85.01	\$88.87	\$92.74	\$96.60
COS High Potable-\$3.40	\$4.98	\$8.38	\$11.78	\$15.18	\$18.58	\$21.98	\$25.38	\$28.78	\$32.18	\$35.58	\$38.98	\$42.38	\$45.78	\$49.18	\$52.58	\$55.98	\$59.38	\$62.78	\$66.18	\$69.58	\$72.98	\$76.38	\$79.78	\$83.18	\$86.58	\$89.98
COS High Effluent-\$3.40	\$4.98	\$8.38	\$11.78	\$15.18	\$18.58	\$21.98	\$25.38	\$28.78	\$32.18	\$35.58	\$38.98	\$42.38	\$45.78	\$49.18	\$52.58	\$55.98	\$59.38	\$62.78	\$66.18	\$69.58	\$72.98	\$76.38	\$79.78	\$83.18	\$86.58	\$89.98
High Potable (711)	-81%	-67%	-54%	-41%	-28%	-15%	-1%	6%	12%	18%	24%	30%	36%	42%	48%	54%	60%	66%	72%	78%	84%	90%	96%	100%	100%	100%
High Effluent (16)	-81%	-67%	-54%	-41%	-28%	-15%	-1%	6%	12%	18%	24%	30%	36%	42%	48%	54%	60%	66%	72%	78%	84%	90%	96%	100%	100%	100%
Units (HCF) of Discharge>>	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Current Medium Potable-\$1.792	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$26.88	\$28.67	\$30.46	\$32.26	\$34.05	\$35.84	\$37.63	\$39.42	\$41.22
Current Medium Effluent-\$1.973	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$27.62	\$29.60	\$31.57	\$33.54	\$35.51	\$37.49	\$39.46	\$41.43	\$43.41
COS Medium Potable-\$2.30	\$4.98	\$7.28	\$9.58	\$11.88	\$14.18	\$16.48	\$18.78	\$21.08	\$23.38	\$25.68	\$27.98	\$30.28	\$32.58	\$34.88	\$37.18	\$39.48	\$41.78	\$44.08	\$46.38	\$48.68	\$50.98	\$53.28	\$55.58	\$57.88	\$60.18	\$62.48
COS Medium Effluent-\$2.30	\$4.98	\$7.28	\$9.58	\$11.88	\$14.18	\$16.48	\$18.78	\$21.08	\$23.38	\$25.68	\$27.98	\$30.28	\$32.58	\$34.88	\$37.18	\$39.48	\$41.78	\$44.08	\$46.38	\$48.68	\$50.98	\$53.28	\$55.58	\$57.88	\$60.18	\$62.48
Medium Potable (776)	-81%	-72%	-63%	-54%	-45%	-36%	-27%	-18%	-9%	0%	9%	18%	27%	35%	44%	52%	60%	68%	76%	84%	92%	100%	100%	100%	100%	100%
Medium Effluent (25)	-81%	-72%	-63%	-54%	-45%	-36%	-27%	-18%	-9%	0%	9%	18%	27%	35%	44%	52%	60%	68%	76%	84%	92%	100%	100%	100%	100%	100%
Units (HCF) of Discharge>>	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Current Low Potable-\$1.077	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75
Current Low Effluent-\$1.184	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75	\$25.75
COS Low Potable-\$1.79	\$4.98	\$6.77	\$8.56	\$10.35	\$12.14	\$13.93	\$15.72	\$17.51	\$19.30	\$21.09	\$22.88	\$24.67	\$26.46	\$28.25	\$30.04	\$31.83	\$33.62	\$35.41	\$37.20	\$38.99	\$40.78	\$42.57	\$44.36	\$46.15	\$47.94	\$49.73
COS Low Effluent-\$1.79	\$4.98	\$6.77	\$8.56	\$10.35	\$12.14	\$13.93	\$15.72	\$17.51	\$19.30	\$21.09	\$22.88	\$24.67	\$26.46	\$28.25	\$30.04	\$31.83	\$33.62	\$35.41	\$37.20	\$38.99	\$40.78	\$42.57	\$44.36	\$46.15	\$47.94	\$49.73
Low Potable (6,214)	-81%	-74%	-67%	-60%	-53%	-46%	-39%	-32%	-25%	-18%	-11%	-4%	3%	10%	17%	24%	31%	37%	44%	51%	58%	65%	72%	79%	85%	85%
Low Effluent (140)	-81%	-74%	-67%	-60%	-53%	-46%	-39%	-32%	-25%	-18%	-11%	-4%	3%	10%	17%	24%	31%	37%	44%	51%	58%	65%	70%	69%	69%	68%

Commercial Monthly Bills Percentage Changes Using Current Rates v FY20 COS Rates



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