CITY OF WATSONVILLE

2015 Water, Wastewater, and Solid Waste Rate Study Report

August 28, 2015

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August 28, 2015

Steve Palmisano
Director of Public Works and Utilities
City of Watsonville Department of Public Works and Utilities
250 Main Street
Watsonville, CA 95076

Subject: 2015 Water, Wastewater and Solid Waste Rate Study Report

Dear Mr. Palmisano

Raftelis Financial Consultants, Inc. (RFC) is pleased to provide this 2015 Water, Wastewater, and Solid Waste Rate Study Report (Report) for the City of Watsonville (City) to develop water, wastewater and solid waste rates that are equitable and in compliance with Proposition 218.

The major objectives of the study include the following:

1. Develop financial plans for the water, wastewater, and solid waste enterprises to ensure financial sufficiency, meet operation and maintenance (O&M) costs, ensure sufficient funding for capital replacement and refurbishment (R&R) needs; In addition, the analysis contained in this Report makes assumptions regarding customer water usage during the current drought conditions and ensures that the City is financially prepared for.
2. Conduct a cost-of-service analysis for the water, wastewater and solid waste services; and
3. Develop fair and equitable 5-year water, wastewater, and solid waste rates to enhance revenue stability for recovering fixed costs while in compliance with Proposition 218 requirements.

The Report summarizes the key findings and recommendations related to the development of the financial plans for water, wastewater, and solid waste utilities and the development of the associated water, wastewater, and solid waste rates.

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

Sincerely,

RAFTELIS FINANCIAL CONSULTANTS, INC.

Sanjay Gaur
Vice President

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1. INTRODUCTION

1.1. BACKGROUND OF THE STUDY

The City of Watsonville operates three independent and self-supporting utility enterprises, which are run by the Water, Wastewater, and Solid Waste Divisions.

The Water Division is responsible for the providing safe, reliable, and affordable drinking water to 65,000 customers in our community. Staff operates and maintains 12 wells, one surface water treatment plant, 6 reservoirs, and 178 miles of water distribution lines. Due to ongoing drought conditions and reduced surface flows, the City currently receives the majority of its water from the 12 wells. Many of these wells will require extensive capital expenditures in order to continue operating within the State of California's Chromium 6 treatment guidelines.

The Wastewater Division is responsible for providing wastewater treatment services to the City and three surrounding Sanitary Districts. The wastewater is highly treated, to either the Secondary level of treatment and discharged to the Monterey Bay National Marine Sanctuary, or is treated to the Tertiary level and is distributed for direct food crop irrigation as Recycled Water. Staff also maintains over 175 miles of sewer and storm water lines and 33 sewer and storm water pump stations.

The Solid Waste Division collects and disposes of the City's refuse, recycling, and green waste. Staff also maintains a City-owned landfill, operates the highly-used public drop-off facility at 320 Harvest Drive, and completes over 10,000 miles of street sweeping per year. The Solid Waste Division is expecting high levels of capital spending in the Study Period as it is anticipating closing its current landfill. The capital costs associated with the landfill closure represent nearly 50% of the utility's anticipated capital spending over the Study Period.

To determine the City's financial needs for the upcoming 5-year period, RFC completed financial plans and cost of service (COS) studies for the City's water, wastewater, and solid waste enterprises. This Report includes the assumptions used in the study, findings and proposed staff recommendations, as well as the resulting rates.

1.2. OBJECTIVES OF THE STUDY

This report was prepared using the principles established by the American Water Works Association. The American Water Works Association "Principles of Water Rates, Fees, and Charges: Manual of Water Supply Practices M1 (the "M1 Manual") establishes commonly accepted professional standards for cost of service studies. The M1 Manual general principles of rate structure design and the objectives of the Study are described below.

According to the M1 Manual, the first step in the ratemaking analysis is to determine the adequate and appropriate funding of a utility. This is referred to as the "revenue requirements" analysis. This analysis considers the short-term and long-term service objectives of the utility over a given planning horizon, including capital facilities and system operations and maintenance, to determine the adequacy of a utility's existing rates to recover its costs. A number of factors may affect these projections, including the

number of customers served, water-use trends, nonrecurring sales, weather, conservation, use restrictions, inflation, interest rates, wholesale contracts, capital finance needs, changes in tax laws, and other changes in operating and economic conditions.

After determining a utility's revenue requirements, a utility's next sjtep is determining the cost of service. Utilizing a public agency's approved budget, financial reports, operating data, and capital improvement plans, a rate study generally categorizes (functionalizes) the costs (such as treatment, storage, and pumping), expenses, and assets of the water system among major operating functions to determine the cost of service.

After the assets and the costs of operating those assets are properly categorized by function, the rate study allocates those "functionalized costs" to the various customer classes (e.g., single-family residential, multi-family residential and commercial) by determining the characteristics of those classes and the contribution of each to incurred costs such as peaking factors or different delivery costs, service characteristics and demand patterns. Rate design is the final part of the M1 Manual's rate-making procedure and generally uses the revenue requirement and cost of service analysis to determine appropriate rates for each customer class.

The major objectives of the study include the following:

1. Develop financial plans for the water, wastewater, and solid waste enterprises to ensure financial sufficiency, meet operation and maintenance (O&M) costs, ensure sufficient funding for capital replacement and refurbishment (R&R) needs; In addition, the analysis contained in this Report makes assumptions regarding customer water usage during the current drought conditions and ensures that the City is financially prepared for a period of reduced sales.
2. Conduct a cost-of-service analysis for the water, wastewater, and solid waste services; and
3. Develop fair and equitable 5-year water, wastewater, and solid waste rates to enhance revenue stability for recovering fixed costs while in compliance with Proposition 218 requirements.

This Report provides an overview of the study and includes findings and recommendations for water, wastewater, and solid waste financial plan and rates.

1.3. LEGAL REQUIREMENTS AND RATE SETTING METHODOLOGY

1.3.1. LEGAL REQUIREMENTS

There are two Constitutional provisions that govern and impact water rates — Article X, Section 2 ("Article X) and Article XIII D, Section 6 ("Article XIII D"). Article X was added to the California Constitution in 1928 as former Article XIV, Section 3, and amended in 1976. Article provides that:

> *"It is hereby declared that because of the conditions prevailing in this State the general welfare requires that the water resources of the State be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare."*

In November 1996, California voters approved Proposition 218, which amended the California Constitution by adding Article XIII C and Article XIII D. Article XIII D placed substantive limitations on the use of the revenue collected from property-related fees and on the amount of the fee that may be imposed on each parcel. Additionally, it established procedural requirements for imposing new, or increasing existing, property-related fees. Water and wastewater service fees are property-related fees.

In accordance with these provisions, a property-related fee must meet all of the following requirements: (1) revenues derived from the fee must not exceed the funds required to provide the property-related service; (2) revenues from the fee must not be used for any purpose other than that for which the fee is imposed; (3) the amount of a fee imposed upon any parcel or person as an incident of property ownership must not exceed the proportional cost of the service attributable to the parcel; (4) the fee may not be imposed for a service, unless the service is actually used by, or immediately available to, the owner of the property subject to the fee. A fee based on potential or future use of a service is not permitted, and stand-by charges must be classified as assessments subject to the ballot protest and proportionality requirements for assessments; (5) no fee may be imposed for general governmental services, such as police, fire, ambulance, or libraries, where the service is available to the public in substantially the same manner as it is to property owners. The five substantive requirements in Article XIII D are structured to place limitations on (1) the use of the revenue collected from property-related fees and (2) the allocation of costs recovered by such fees to ensure that they are proportionate the cost of providing the service attributable to each parcel.

1.3.2. RATE SETTING PROCESS

Revenue Requirements. The Study used the revenue requirements method for allocating costs. This methodology is consistent with industry standards established by the American Water Works Association, Principles of Water Rates, Fees and Charges: Manual of Water Supply Practices M1 (the "M1 Manual"). The revenue requirements analysis "compares the revenues of the utility to its operating and capital costs to determine the adequacy of the existing rates to recover the utility's costs." American Water Works Association, Principles of Water Rates, Fees and Charges: Manual of Water Supply Practices M1 (6th ed. 2012). The revenue requirements are analyzed through the development of a long-term financial plan. Based on the best information currently available, the financial plan incorporates projected operations and maintenance costs, capital expenditures, debt service, growth, and conservation assumptions to estimate annual required revenues.

Cost of Service. After determining a utility's revenue requirements, the next step in the analysis is determining the cost of service. The Study arranged the costs, expenses, and assets of the water system by major operating functions to determine the cost of service. After the assets and the costs of operating those assets were properly categorized by function, the Study classified them and allocated the revenue requirements to the various customer classes (e.g., single-family residential, irrigation, and commercial) by determining the characteristics of those classes and the customer class's contribution to the incurred costs such as peaking factors or different delivery costs, service characteristics and demand patterns. This analysis included a review of such matters as system operations and water usage data—e.g., capacity

(peak demand),1 commodity (average demand),2 number of customers,3 customer service and accounting,4 equivalent meter size, and public fire protection services.5 The impact that these matters have on system operations determined how the costs were allocated among the various customer classes.

Rate Design. The final part of the analysis was the rate design. The rate design involved developing a rate structure that proportionately recovers costs from customers. The final rate structure and rate recommendations were designed to fund the utility's long-term projected costs of providing service; proportionally allocate costs to all customers; provide a reasonable and prudent balance of revenue stability while encouraging conservation; and comply with the substantive requirements of Article XIII D.

[1] System capacity is the system's ability to supply water to all delivery points at the time when demanded. It is measured by each customer's water demand at the time of greatest system demand. The time of greatest demand is known as peak demand. Peak demand costs recover the costs of facilities needed to meet the peak use, or demands, placed on the system by each customer class. Both the operating costs and the capital assets related costs incurred to accommodate the peak flows are allocated to each customer class based upon the class's contribution to the peak day event.

[2] Commodity refers to the amount of metered water usage over a specific time period, typically a twelve-month period.

[3] Some operating and administrative costs vary directly with the number of customers.

[4] Some customer classes may require more effort and time to provide accounting services.

[5] This refers to the need to increase the size of mainlines to provide public fire protection requirements.

2. GENERAL ASSUMPTIONS

2.1. INFLATION

The Study Period is from Fiscal Year (FY) 2016 to 2020. Various types of assumptions and inputs were incorporated into the Study based on discussions with and/or direction from City staff. These include the projected number of accounts and annual growth rates in consumption for different customer classes, and inflation factors and other assumptions. The utility operating cost escalation assumptions are presented in Table 2-1, below.

Table 2-1: Utility Operating Cost Escalation Assumptions

Cost Escalation Factors	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water Utility	10.33%	7.12%	7.15%	7.18%	7.21%
Wastewater Utility	5.58%	6.58%	6.63%	6.68%	6.72%
Solid Waste Utility	6.34%	6.29%	6.31%	6.34%	6.37%

These Cost Escalation Factors show projected Operations and Maintenance increases across the Study Period for each utility. RFC worked with City staff to escalate individual budget line items according to appropriate escalation factors, which resulted in the above aggregate escalation factors.

2.2. PROJECTED DEMAND AND GROWTH

To estimate future water, wastewater and solid waste usage, two primary factors are used – account growth and the water demanded per account. Given that the City is not expecting a high level of growth, it is estimated that the total number of accounts will grow by slightly more than .5 percent each year across the Study Period. In consideration of the current drought conditions and the City's assigned mandatory water usage cutback of 8 percent from the State Water Resources Control Board (SWRCB), total water demand is projected to decrease by 8 percent for FY 2016. For FY 2017 through FY 2020 usage is expected to stay relatively neutral, increasing by roughly .57 percent annually, at the same rate as the City's expected growth. This decrease will be shown below, and is captured by the water demand factor.

In addition, in order to predict non-operating revenues, the study assumed that the interest rate recovered by enterprise reserves would be .3 percent. These revenue growth assumptions are show below in Table 2-2.

Table 2-2: Revenue Growth Assumptions

Revenues	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Interest	0.3%	0.3%	0.3%	0.3%	0.3%
Acct Growths	0.6%	0.6%	0.6%	0.6%	0.6%

[6] *FY 2016: Fiscal year 2015/2016 (From July 1, 2015 to June 30, 2016)*

2.3. DEBT TERMS

The Utilities have the ability to issue debt. In addition the City is anticipating receiving two loans from the State Revolving Fund (SRF). The terms of debt issuances are described below in Table 2-3. This table compares the terms of both non-SRF ("Market") debt issuances and SRF loans.

Table 2-3: Assumed Debt Terms

Debt Terms	Market	SRF Loans
Term (years)	30	20
Interest	5.0%	1.6%
Issuance Costs	2.0%	0.0%
Debt Reserve Requirements	6.5%	5.9%

3. WATER FUND- FINANCIAL PLAN AND RATES

3.1. WATER REVENUE REQUIREMENTS

A review of a utility's revenue requirements is a key first step in the rate study process. The review involves an analysis of annual operating revenues under the status quo, operation and maintenance (O&M) expenses, transfers between funds, and reserve requirements. This section of the report provides a discussion of the projected revenues, O&M expenses, other reserve funding and revenue adjustments estimated as required to ensure the fiscal sustainability and solvency of the Water Utility.

3.1.1. REVENUES FROM CURRENT RATES

The current rates, last updated on July 1, 2015, were originally developed in the 2010 Rate Study. The City's water service charges have two components – a fixed component (monthly base fee) and a volumetric component (water usage sales). The monthly base fee increases along with meter size because it is assumed that customers with larger meter sizes consume more water and the costs to provide service to these customers is also higher. A typical single family home with a 5/8" or ¾" meter has a monthly base fee of $12.56. However, the City also has different monthly fixed charges for customers residing outside of City limits to reflect the additional cost associated with serving these customers. These Outside City charges tend to be higher than the corresponding Inside City charges, with the exception of the 4" meter monthly charge. This discrepancy was due to a data entry error. These fees are shown in Table 3-1 and Table 3-2 below.

Table 3-1: Inside City Service Charges

Inside City Service Charges	FY 2014	FY 2015	FY 2016	FY 2017
5/8" & 3/4"	$12.56	$13.69	$14.78	$15.97
1"	$18.61	$20.28	$21.91	$23.66
1 1/2"	$33.73	$36.76	$39.71	$42.88
2"	$51.87	$56.53	$61.06	$65.94
3"	$100.22	$109.24	$117.98	$127.42
4"	$154.64	$168.56	$182.04	$196.61
6"	$250.69	$273.26	$295.12	$318.73
8"	$566.57	$617.57	$666.97	$720.33
10"	$697.90	$760.71	$821.57	$887.29
Additional Unit Charge	$3.12	$3.31	$3.51	$3.72

Table 3-2: Outside City Service Charges

Outside City Service Charges	FY 2014	FY 2015	FY 2016	FY 2017
5/8" & 3/4"	$16.31	$17.94	$19.37	$20.92
1"	$23.90	$26.29	$28.39	$30.66
1 1/2"	$36.53	$40.18	$43.39	$46.87
2"	$51.77	$56.95	$61.51	$66.43
3"	$108.20	$119.02	$128.54	$138.82
4"	$135.26	$148.78	$160.69	$173.54
6"	$264.48	$290.93	$314.21	$339.34
8"	$593.62	$652.98	$705.22	$761.63
10"	$730.31	$803.35	$867.61	$937.02
Additional Unit Charge	$4.95	$5.24	$5.56	$5.89

In addition to the monthly service charges, customers with fire service connections also pay for this service. Again, customers located outside of City limits pay a premium on the Fire Service Charge. These charges are shown in Table 3-3 and Table 3-4 below.

Table 3-3: Inside City Fire Service Charges

Inside City Fire Service Charges	FY 2014	FY 2015	FY 2016	FY 2017
2" or smaller	$15.98	$16.43	$17.91	$19.52
4"	$44.26	$45.49	$49.58	$54.05
6"	$49.18	$50.55	$55.10	$60.06
8"	$54.65	$56.17	$61.23	$66.74
10"	$60.12	$61.80	$67.36	$73.42

Table 3-4: Outside City Fire Service Charges

Outside City Fire Service Charges	FY 2014	FY 2015	FY 2016	FY 2017
2" or smaller	$19.33	$19.87	$21.66	$23.61
4"	$51.77	$53.21	$58.00	$63.22
6"	$56.83	$58.41	$63.67	$69.40
8"	$62.31	$64.05	$69.81	$76.10
10"	$67.77	$69.66	$75.93	$82.76

The volumetric component of the water service charge is the number of units consumed (measured in hundred cubic feet[7]) multiplied by rates that vary by customer class and, for residential customers, the tier that the marginal unit is consumed in. The current tier widths set by the City are shown in Table 3-5 below.

Table 3-5: Current Residential Tier Widths

Tier	Tier Definition
Tier 1	1 - 8 hcf
Tier 2	9 - 11 hcf
Tier 3	12 - 15 hcf
Tier 4	Above 15 hcf

In addition to residential tiers, the City has two tiers for irrigation usage. The first tier of irrigation usage encompasses the first 8 units of usage, while all other consumption was billed at the second tier's rate.

The City also has differing commodity rates for customers inside and outside of the city. The rates for the commodity usage charges are summarized in Table 3-6 and Table 3-7 below. These rates are all charged on a per hcf basis.

Table 3-6: Inside City Commodity Charges

Inside City Rates	FY 2014	FY 2015	FY 2016	FY 2017
Residential Tier 1	$1.71	$1.81	$1.92	$2.03
Residential Tier 2	$2.44	$2.58	$2.74	$2.90
Residential Tier 3	$3.26	$3.45	$3.66	$3.88
Residential Tier 4	$4.67	$4.95	$5.25	$5.57
Non-residential	$2.07	$2.28	$2.50	$2.75
Industrial	$1.78	$1.88	$1.99	$2.11
Irrigation Tier 1	$1.88	$2.06	$2.27	$2.50
Irrigation Tier 2	$2.63	$2.89	$3.18	$3.49

[7] *Hundred cubic feet (hcf) are commonly used by water utilities as a standard billing unit. One hcf is equivalent to slightly more than 748 gallons. Occasionally hcf are abbreviated as ccf as well. While these terms are equivalent, this report will use the hcf acronym.*

Table 3-7: Outside City Commodity Charges

Outside City Rates	FY 2014	FY 2015	FY 2016	FY 2017
Residential Tier 1	$2.28	$2.42	$2.56	$2.72
Residential Tier 2	$3.20	$3.39	$3.60	$3.81
Residential Tier 3	$4.34	$4.60	$4.87	$5.17
Residential Tier 4	$6.28	$6.66	$7.06	$7.48
Non-residential	$2.77	$3.05	$3.35	$3.69
Industrial	$2.37	$2.51	$2.66	$2.82
Irrigation Tier 1	$2.28	$2.42	$2.56	$2.72
Irrigation Tier 2	$3.20	$3.39	$3.60	$3.81

In addition to the water usage reduction, the City is anticipating account growth (0.57%) for FY 2016 through FY 2020 and slightly higher growth (0.73 percent) for fiscal years 2021 through FY 2025. Table 3-8 and Table 3-9 below summarizes the projected number of accounts by meter size for the Study Period. In addition, these totals show "additional units" which are additional accounts attached to multi-residential meters. As of FY 2015 the City had 14,382 meters as well as 6,346 additional accounts. The meter totals in fiscal years in the tables below escalate by the account growth percentage.

Table 3-8: Inside City Accounts by Meter Size

Inside City Accounts	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
5/8"	7,893	7,893	7,938	7,983	8,029	8,075	8,121
3/4"	713	713	717	721	725	729	733
1"	1,628	1,628	1,637	1,646	1,655	1,664	1,674
1 1/2"	244	244	245	246	247	248	249
2"	261	261	262	263	265	267	269
3"	36	36	36	36	36	36	36
4"	29	29	29	29	29	29	29
6"	6	6	6	6	6	6	6
8"	1	1	1	1	1	1	1
10"	1	1	1	1	1	1	1
Additional Units	5,103	5,103	5,132	5,161	5,191	5,221	5,251
Account Totals	10,812	10,812	10,872	10,932	10,994	11,056	11,119

Table 3-9: Outside City Accounts by Meter Size

Outside City Accounts	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
5/8"	2,651	2,651	2,666	2,681	2,696	2,711	2,727
3/4"	240	240	241	242	243	244	245
1"	563	563	566	569	572	575	578
1 1/2"	43	43	43	43	43	43	43
2"	57	57	57	57	57	57	57
3"	8	8	8	8	8	8	8
4"	6	6	6	6	6	6	6
6"	1	1	1	1	1	1	1
8"	0	0	0	0	0	0	0
10"	0	0	0	0	0	0	0
Additional Units	1,243	1,243	1,250	1,257	1,264	1,271	1,278
Account Totals	3,569	3,569	3,588	3,607	3,626	3,645	3,665

The City's fire meter totals are shown below in Table 3-10 and Table 3-11 below. These meters also escalate by the City's anticipated growth rate.

Table 3-10: Inside City Fire Meters by Meter Size

Fire Meters Inside City	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
2" or smaller	27	27	27	27	27	28	28
4"	106	106	107	107	108	108	109
6"	121	121	122	122	123	124	125
8"	61	61	61	62	62	62	63
10"	5	5	5	5	5	5	5

Table 3-11: Outside City Fire Meters by Meter Size

Fire Meters Outside City	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
2" or smaller	16	16	16	16	16	16	16
4"	10	10	10	10	10	10	10
6"	7	7	7	7	7	7	7
8"	5	5	5	5	5	5	5
10"	1	1	1	1	1	1	1

A significant difficulty that the City anticipates is the reduction in rate revenue expected as a result of the ongoing drought. Due to the current drought conditions, California Governor Brown issued executive order B-29-15 on January 17 2015, which mandated a 25% reduction of urban water use statewide. The State Water Resources Control Board (SWRCB) determined that the City of Watsonville must reduce water consumption by 20% based on 2013 levels. In April 2015, the State Water Resources Control Board of California issued a mandatory statewide water usage cutback of 25% in response to the extended drought conditions. In order to achieve the statewide cutback, each water agency was assigned a water usage reduction factor based on its calendar year 2013 usage. The City had already been in the process of reducing consumption and as such the City was assigned a mandatory cutback factor of 8%.

In light of the drought conditions, many of the City's customers had already taken steps to reduce their consumption. Even after the drought has ended, it is projected that water usage will be lower than 2013 sales because of the permanent changes customers have made to reduce water usage such as turf removal and fixture replacement. After the reduction in FY 2016 it is expected that water sales will grow at the same rate as the account growth rate. These projections can be seen in Table 3-12, Table 3-13, and Table 3-14 below.

Table 3-12: Inside City Projected Usage by Account Type

Inside City Usage (HCF)	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
	Calculated	Projected	Projected	Projected	Projected	Projected	Projected
Residential Tier 1	1,076,560	1,076,560	996,100	1,001,797	1,007,526	1,013,289	1,019,084
Residential Tier 2	152,487	152,487	141,091	141,898	142,709	143,526	144,346
Residential Tier 3	97,655	97,655	90,356	90,873	91,393	91,915	92,441
Residential Tier 4	100,084	100,084	92,604	93,134	93,666	94,202	94,741
Non-residential	422,279	422,279	390,718	392,953	395,201	397,461	399,734
Industrial	195,650	195,650	181,027	182,063	183,104	184,151	185,205
Irrigation Tier 1	16,806	16,806	15,550	15,639	15,729	15,819	15,909
Irrigation Tier 2	133,673	133,673	123,682	124,390	125,101	125,817	126,536
Total	2,195,194	2,195,194	2,031,129	2,042,746	2,054,429	2,066,179	2,077,997

Table 3-13: Outside City Projected Usage by Account Type

Outside City Usage (HCF)	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
	Calculated	Projected	Projected	Projected	Projected	Projected	Projected
Residential Tier 1	353,034	353,034	326,649	328,517	330,396	332,285	334,186
Residential Tier 2	59,480	59,480	55,034	55,349	55,665	55,984	56,304
Residential Tier 3	48,589	48,589	44,958	45,215	45,473	45,734	45,995
Residential Tier 4	95,848	95,848	88,684	89,192	89,702	90,215	90,731
Non-residential	63,417	63,417	58,677	59,012	59,350	59,689	60,031
Industrial	0	0	0	0	0	0	0
Irrigation Tier 1	4,063	4,063	3,760	3,781	3,803	3,824	3,846
Irrigation Tier 2	49,873	49,873	46,146	46,410	46,675	46,942	47,210
Total	674,303	674,303	623,907	627,475	631,064	634,673	638,303

Table 3-14: Total Projected Usage by Account Type

Total Usage (HCF)	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
	Calculated	Projected	Projected	Projected	Projected	Projected	Projected
Residential Tier 1	1,429,594	1,429,594	1,322,748	1,330,314	1,337,922	1,345,574	1,353,270
Residential Tier 2	211,967	211,967	196,125	197,247	198,375	199,509	200,650
Residential Tier 3	146,244	146,244	135,314	136,088	136,866	137,649	138,436
Residential Tier 4	195,932	195,932	181,289	182,325	183,368	184,417	185,472
Non-residential	485,695	485,695	449,395	451,966	454,551	457,150	459,765
Industrial	195,650	195,650	181,027	182,063	183,104	184,151	185,205
Irrigation Tier 1	20,870	20,870	19,310	19,420	19,531	19,643	19,755
Irrigation Tier 2	183,546	183,546	169,828	170,799	171,776	172,759	173,747
Total	2,869,497	2,869,497	2,655,036	2,670,221	2,685,493	2,700,853	2,716,300

The above rates, meter counts, and sales figures result in the following projected revenues. Note that, while revenue does increase slightly in FY 2016, it does not increase as much as it would without the mandatory reduction in sales the utility is facing. It is anticipated that without a rate increase, this reduction in sales will reduce operating revenue by $650,000 compared to the status quo: a reduction of over 5 percent of operating revenue. The utility's actual rate revenues were $9.9 million in FY 2014, and are estimated to be $10.8 million in FY 2015. The Utility's projected operating revenues are shown in Table 3-15 below.

Table 3-15: Projected Operating Water Revenues

Total Revenues	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Inside Fixed Charges	$2,439,425	$2,644,158	$2,865,875	$2,881,447	$2,897,019	$2,912,875
Outside Fixed Charges	$963,465	$1,044,123	$1,131,602	$1,137,218	$1,142,833	$1,148,700
Inside Fire Meters	$181,410	$198,867	$218,005	$219,252	$220,506	$221,767
Outside Fire Meters	$19,786	$21,690	$23,777	$23,913	$24,050	$24,187
Inside Commodity	$4,925,869	$4,881,859	$5,261,056	$5,291,146	$5,321,408	$5,351,843
Outside Commodity	$2,290,157	$2,252,515	$2,409,236	$2,423,016	$2,436,874	$2,450,811
Total Revenues	**$10,820,112**	**$11,043,212**	**$11,909,551**	**$11,975,991**	**$12,042,690**	**$12,110,184**

The utility also derives some non-operating revenues as well. These are summarized in the table below. The largest non-operating revenue is the PVWMA Reimbursement which is a yearly debt service repayment paid out by the Pajaro Water Management Authority (Pajaro) as a repayment for the recycled water facility that the City and Pajaro built as a collaborative project. Non-Operating revenues are shown in Table 3-16 below.

Table 3-16: Projected Non-Operating Water Revenues

Non-Operating Revenues	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
CONSTRUCTION DEPOSITS	$65,000	$108,000	$108,000	$108,000	$108,000	$108,000	$108,000
WATER USE REDUCTION FEES	$13,000	$13,000	$13,000	$13,000	$13,000	$13,000	$13,000
WATER RESERVE	$40,000	$40,000	$40,000	$40,000	$40,000	$40,000	$40,000
INTEREST EARNINGS	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000	$100,000
PVWMA REIMBURSEMENT	$1,294,059	$1,294,059	$1,294,059	$2,094,059	$2,093,259	$2,090,419	$2,090,219
OTHER REVENUE	$35,000	$35,000	$35,000	$35,000	$35,000	$35,000	$35,000

3.1.2. WATER O&M EXPENSES

The City currently gets the majority of its water supply by pumping groundwater; in the current drought conditions the City only gets a nominal amount of water from surface flows. The City pays a Water Augmentation fee to the Pajaro Valley Water Management Authority (PVWMA) per acre foot of groundwater pumped. In FY 2015 this fee was $179/ AF. The Augmentation Fee is projected to increase by 6% per year. These expenses are shown in Table 3-17 below.

Table 3-17: Projected Water Augmentation Expenses

Water Augmentation Expenses	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Water Usage (AF)	6,587	6,587	6,095	6,130	6,165	6,200	6,236
Water Loss Factor							
Lost Water (AF)	417	417	386	388	390	392	395
Total Water Needed (AF)	7,004	7,004	6,481	6,518	6,555	6,593	6,630
Fees							
PVWMA Augmentation Cost ($/AF)	$174	$179	$190	$201	$213	$226	$240
PVWMA Augmentation	$1,218,773	$1,253,796	$1,229,695	$1,310,931	$1,397,535	$1,489,860	$1,588,283

Total Projected O&M expenses are shown in Table 3-18 below. These expenses are sorted by utility department. The Water Utilities department has negative operations expenses because that department handles billing for all other departments. The Solid Waste and Wastewater utilities transfer funds to the Water Utility in order to pay for these services.

Table 3-18: Projected Water Augmentation Expenses

City of Watsonville	*Estimated* FY 2014	*Budgeted* FY 2015	*Projected* FY 2016	*Projected* FY 2017	*Projected* FY 2018	*Projected* FY 2019	*Projected* FY 2020
Water Augmentation	$1,218,773	$1,253,796	$1,229,695	$1,310,931	$1,397,535	$1,489,860	$1,588,283
WATER OPERATIONS							
Personnel	$661,641	$729,194	$787,530	$850,532	$918,574	$992,060	$1,071,425
Operations	$3,629,040	$3,813,270	$4,454,568	$4,761,308	$5,091,337	$5,446,598	$5,829,213
WATER CUSTOMER SERVICE							
Personnel	$532,830	$540,707	$583,919	$630,585	$680,982	$735,408	$794,186
Operations	$265,538	$266,588	$281,466	$297,258	$314,028	$331,845	$350,781
WATER FIELD SERVICES							
Personnel	$930,865	$963,343	$1,040,410	$1,123,643	$1,213,535	$1,310,618	$1,415,467
Operations	$667,304	$680,213	$713,200	$747,822	$784,164	$822,313	$862,361
WATER UTILITIES							
Personnel	$661,941	$671,469	$724,977	$782,754	$845,143	$912,511	$985,257
Operations	-$415,671	-$457,635	-$480,517	-$504,543	-$529,770	-$556,258	-$584,071
Totals							
Personnel	$2,787,277	$2,904,713	$3,136,835	$3,387,514	$3,658,234	$3,950,598	$4,266,335
Operations	$4,146,211	$4,302,436	$4,968,717	$5,301,846	$5,659,760	$6,044,498	$6,458,283
Total	**$8,152,261**	**$8,460,945**	**$9,335,246**	**$10,000,292**	**$10,715,529**	**$11,484,955**	**$12,312,902**

3.2. PROJECTED CAPITAL IMPROVEMENT PROJECTS

The City has programmed approximately $45 million in capital expenditures during the Study Period for the water enterprise, as shown in Table 3-19. (A full list of projects and costs can be found in Section 6.1 of the Appendix). The CIP costs for future years is determined by using the programmed/budgeted costs and inflating the value by the capital cost inflation factor shown in Table 2-1. A significant portion of the City's projected capital expenditures are for building Chromium 6 treatment plants.

One of the significant obstacles facing the City's water utility is the amount of Capital Improvement spending the City is planning to undertake in the next several years. The City is anticipating spending

nearly $50 million in Capital Improvement Projects (CIP) through FY 2020. Of these projects, nearly $22 million of the total are allocated to constructing Chromium 6 treatment plants.

The City has two main methods of funding CIP. The first approach is a "pay as you go" (PAYGO), and the second is by issuing debt. The PAYGO approach consists of paying for CIP with a mix of net revenues and reserves, while debt funding consists of issuing debt to pay for the project. In addition to these two main funding mechanisms, the City is receiving a grant of $3.2 million for the funding of the Corralitos Filter Plant. There is the possibility of the City receiving more grant funding in the future, but it is not currently known if this will happen; the financial plan does not include any more grant funding.

Table 3-19: CIP Funding Summary

Water CIP	FY 2015 Cost	FY 2016 Escalated Cost	FY 2017 Escalated Cost	FY 2018 Escalated Cost	FY 2019 Escalated Cost	FY 2020 Escalated Cost
Chromium 6 Projects	$500,000	$927,000	$1,060,900	$9,834,543	$10,129,579	$0
Other Priority 1 Projects	$765,000	$5,008,035	$4,221,677	$3,379,340	$3,806,386	$5,438,763
Anticipated Grant Funding	$0	-$3,200,000	$0	$0	$0	$0
Total	$1,265,000	$2,735,035	$5,282,577	$13,213,883	$13,935,966	$5,438,763

3.3. CURRENT DEBT SERVICE

The City currently has two outstanding long-term debts: 2007 Bond and City Placement 2010. The debt service payments for these two loans are summarized in Table 3-20 below. The 2007 Bond expires in FY 2037.

Table 3-20: Existing Debt Summary

Water Existing Debt	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
2007 Bond	$1,294,059	$1,294,059	$1,294,059	$2,094,059	$2,093,259	$2,090,419	$2,090,219
2010 City Placement	$616,989	$616,989	$247,079	$0	$0	$0	$0
Total Existing Debt	**$1,911,048**	**$1,911,048**	**$1,541,138**	**$2,094,059**	**$2,093,259**	**$2,090,419**	**$2,090,219**

3.4. STATUS QUO WATER PROFORMA

Table 3-21 displays the proforma of the City's Water Fund under current rates over the Study Period. All projections shown in the table are based upon the City's current rate structure and do not include any rate adjustments or pass-through increases on wholesale water costs. The pro-forma incorporates the water utility data shown in the tables above.

Under the "status-quo" scenario, revenues generated from rates and other miscellaneous revenues are inadequate to sufficiently recover operating and capital expenses of the utility beginning in FY 2016. While

the utility's operating revenue does cover operating expenses, it is not enough to fund the sizable CIP expenditures expected during the Study Period, and much of the CIP spending would have to be funded from reserves. While the ending reserve balance is already below target levels, it becomes negative in FY 2017 under this scenario. In short, the City is unable to maintain fiscal sustainability and solvency under the current rates. Additionally, the utility's debt coverage dips below the required Coverage Ratio for that year.

Table 3-21: Status Quo Water Proforma

Water Proforma Line #	Descriptions	FY 2015 Budgeted	FY 2016 Projected	FY 2017 Projected	FY 2018 Projected	FY 2019 Projected	FY 2020 Projected
1	**Revenues**						
2	Existing Rev from Rates	$10,820,112	$11,043,212	$11,909,551	$11,975,991	$12,042,690	$12,110,184
3	Rev from Rev Adjustments	$0	$0	$0	$0	$0	$0
4	Other Revenues	$1,490,059	$1,490,059	$2,290,059	$2,289,259	$2,286,419	$2,286,219
5	**Total Revenues**	$12,310,171	$12,533,271	$14,199,610	$14,265,250	$14,329,109	$14,396,403
6							
7	**Revenue Requirements**						
8	Total Water Required	7,004 AF	6,481 AF	6,518 AF	6,555 AF	6,593 AF	6,630 AF
9	PVWMA Augmentation Fee ($/ AF)	$179	$190	$201	$213	$226	$240
10	**Water Augmentation Costs**	$1,253,796	$1,229,695	$1,310,931	$1,397,535	$1,489,860	$1,588,283
11							
12	**Fixed Water Costs**						
13	WATER OPERATIONS	$4,542,464	$5,242,098	$5,611,840	$6,009,911	$6,438,659	$6,900,638
14	WATER CUSTOMER SERVICE	$807,295	$865,384	$927,843	$995,010	$1,067,253	$1,144,967
15	WATER FIELD SERVICES	$1,643,556	$1,753,610	$1,871,466	$1,997,699	$2,132,931	$2,277,828
16	WATER UTILITIES	$213,834	$244,460	$278,212	$315,373	$356,253	$401,186
17	**Total**	**$8,460,945**	**$9,335,246**	**$10,000,292**	**$10,715,529**	**$11,484,955**	**$12,312,902**
18							
19	**Net Revenues**	$3,849,227	$3,198,025	$4,199,318	$3,549,721	$2,844,153	$2,083,500
20							
21	**Debt Proceeds to Fund**	$0	$0	$0	$0	$0	$0
22							
23	**Water CIP**	$1,265,000	$6,707,535	$6,078,252	$14,033,428	$14,780,097	$6,308,219
24	**CIP Grant**	$0	$3,200,000	$0	$0	$0	$0
25	**Water CIP (Net)**	$1,265,000	$3,507,535	$6,078,252	$14,033,428	$14,780,097	$6,308,219
26							
27	Current Debt Service	$1,911,048	$1,541,138	$2,094,059	$2,093,259	$2,090,419	$2,090,219
28	Proposed Debt Service	$0	$0	$0	$0	$0	$0
29	Debt Reserve Used for Payment	$0	$247,079	$0	$0	$0	$0
30	**Total Debt Service**	$1,911,048	$1,294,059	$2,094,059	$2,093,259	$2,090,419	$2,090,219
31							
32	**Interest On Reserves**	$21,959	$9,589	$9,521	$8,547	$7,493	$6,353
33							
34	Net Annual Cash Balance	$695,137	-$1,593,980	-$3,963,472	-$12,568,419	-$14,018,869	-$6,308,585
35	Beginning Reserve Balances	$3,982,417	$4,677,554	$3,083,575	-$879,897	-$13,448,316	-$27,467,185
36	**Ending Reserve Balance:**	$4,677,554	$3,083,575	-$879,897	-$13,448,316	-$27,467,185	-$33,775,770
37							
38							
39	Coverage Ratio	201%	247%	201%	170%	136%	100%

3.5. PROPOSED WATER FINANCIAL PLAN

The City already has rate increases implemented for FY 2016. However, as discussed above, these rate increases are projected to be insufficient to cover the City's CIP expenditures. RFC proposes that the City adopts 7 percent rate increases in FY 2016 and FY 2017 and 14 percent rate increases in FY 2018 through FY 2020. Note that the FY 2016 and FY 2017 rate increases are in addition to the current planned rate

increases, and that the FY 2016 increase is projected to go into effect January 1 2016, whereas every other rate increase is projected to go into effect in July 1 at the beginning of the Fiscal Year.

In addition to the above rate increases, it was necessary to plan for debt issuances in order to meet projected CIP costs. The Proposed Financial Plan has two $15 million proposed issuances, one in FY 2017 and one in FY 2019. These debt issuances are projected to be non SRF debt issuances, and thus have 2% issuance costs, and require a debt reserve of 6.5% (equivalent to a single payment) resulting in a total issuance to fund of $13.7 million per issuance.

Table 3-22: Proposed Debt Issuances

Issuance Year	Proposed Issuance	Issuance Cost	Debt Reserve Held	Total Issuance
FY 2015	$0	$0	$0	$0
FY 2016	$0	$0	$0	$0
FY 2017	$15,000,000	-$300,000	-$975,772	$13,724,228
FY 2018	$0	$0	$0	$0
FY 2019	$15,000,000	-$300,000	-$975,772	$13,724,228
FY 2020	$0	$0	$0	$0

Table 3-23 shows the proforma for the Water Fund with revenues from the rate increases and additional proceeds from debt issuances. With these rate increases and debt issuances the utility is able to fund all Operating and CIP expenses and retain a positive ending balance through the Study Period.

Figure 3-1 through Figure 3-4 show a snapshot of the financial plan in graphical form.

Figure 3-1 shows the proposed rate adjustments as blue bars, the resulting debt coverage ratio as a green line, and required debt coverage ratio of 125% is the red line.

Figure 3-2 shows the proposed water operating financial plan. The stacked bars are the utility's projected revenue requirements, the blue line shows the projected revenues without the revenue adjustments, and the green line is the projected revenue with proposed revenue adjustments.

Figure 3-3 shows the water utility fund's projected annual CIP spending and the source of the funding. Green bars indicate pay-as-you go (PAYGo) funding, purple bars indicate debt funded projects, and gold bars indicate grant funded projects.

Figure 3-4 shows the water utility fund's yearly ending balance. The blue lines indicate the ending balance, the red line indicates the utility's target balance. The red dots indicate when the utility's ending balance is below the target balance.

Table 3-23: Proposed Water Financial Plan

Water Proforma Line #	Descriptions	FY 2015 Budgeted	FY 2016 Projected	FY 2017 Projected	FY 2018 Projected	FY 2019 Projected	FY 2020 Projected
1	**Revenues**						
2	Existing Rev from Rates	$10,820,112	$11,043,212	$11,909,551	$11,975,991	$12,042,690	$12,110,184
3	Rev from Rev Adjustments	$0	$386,512	$1,725,694	$3,654,905	$5,875,773	$8,431,349
4	Other Revenues	$1,490,059	$1,490,059	$2,290,059	$2,289,259	$2,286,419	$2,286,219
5	**Total Revenues**	$12,310,171	$12,919,784	$15,925,304	$17,920,155	$20,204,882	$22,827,751
6							
7	**Revenue Requirements**						
8	Total Water Required	7,004 AF	6,481 AF	6,518 AF	6,555 AF	6,593 AF	6,630 AF
9	PVWMA Augmentation Fee ($/ AF)	$179	$190	$201	$213	$226	$240
10	**Water Augmentation Costs**	$1,253,796	$1,229,695	$1,310,931	$1,397,535	$1,489,860	$1,588,283
11							
12	**Fixed Water Costs**						
13	WATER OPERATIONS	$4,542,464	$5,242,098	$5,611,840	$6,009,911	$6,438,659	$6,900,638
14	WATER CUSTOMER SERVICE	$807,295	$865,384	$927,843	$995,010	$1,067,253	$1,144,967
15	WATER FIELD SERVICES	$1,643,556	$1,753,610	$1,871,466	$1,997,699	$2,132,931	$2,277,828
16	WATER UTILITIES	$213,834	$244,460	$278,212	$315,373	$356,253	$401,186
17	**Total**	**$8,460,945**	**$9,335,246**	**$10,000,292**	**$10,715,529**	**$11,484,955**	**$12,312,902**
18							
19	**Net Revenues**	$3,849,227	$3,584,538	$5,925,012	$7,204,626	$8,719,927	$10,514,849
20							
21	**Debt Proceeds to Fund**	$0	$0	$13,724,228	$0	$13,724,228	$0
22							
23	**Water CIP**	$1,265,000	$5,935,035	$5,282,577	$13,213,883	$13,935,966	$5,438,763
24	**CIP Grant**	$0	$3,200,000	$0	$0	$0	$0
25	**Water CIP (Net)**	$1,265,000	$2,735,035	$5,282,577	$13,213,883	$13,935,966	$5,438,763
26							
27	Current Debt Service	$1,911,048	$1,541,138	$2,094,059	$2,093,259	$2,090,419	$2,090,219
28	Proposed Debt Service	$0	$0	$975,772	$975,772	$1,951,543	$1,951,543
29	Debt Reserve Used for Payment	$0	$247,079	$0	$0	$0	$0
30	**Total Debt Service**	$1,911,048	$1,294,059	$3,069,831	$3,069,031	$4,041,962	$4,041,762
31							
32	**Interest On Reserves**	$21,959	$10,169	$12,109	$16,957	$19,234	$24,854
33							
34	Net Annual Cash Balance	$695,137	-$434,387	$11,308,943	-$9,061,331	$4,485,462	$1,059,178
35	Beginning Reserve Balances	$3,982,417	$4,677,554	$4,243,167	$15,552,110	$6,490,779	$10,976,241
36	**Ending Reserve Balance:**	$4,677,554	$4,243,167	$15,552,110	$6,490,779	$10,976,241	$12,035,419
37							
38							
39	Coverage Ratio	201%	277%	193%	235%	216%	260%

Figure 3-1: Water Utility Revenue and Debt Coverage

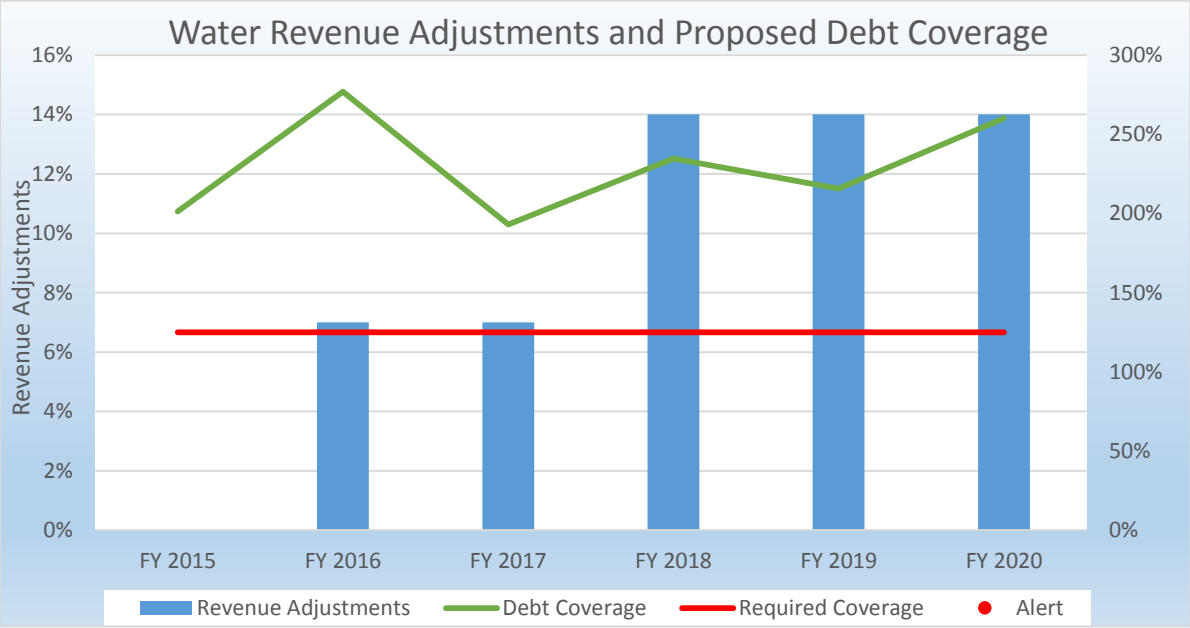


Figure 3-2: Water Utility Operating Financial Plan

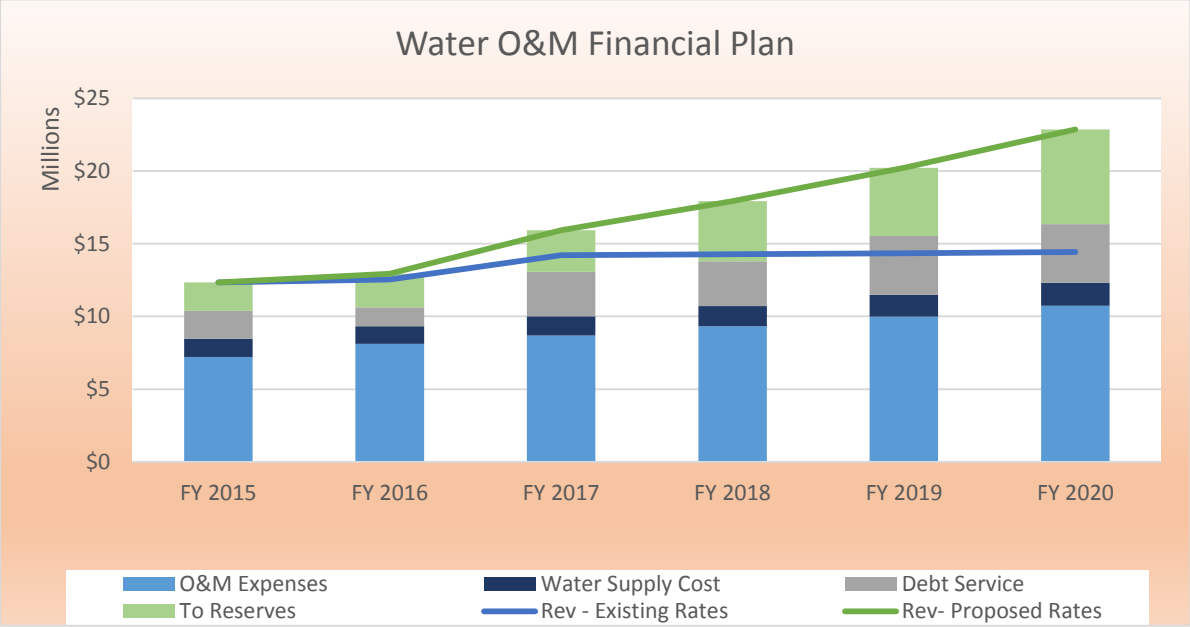


Figure 3-3: Water Utility Fund CIP Funding

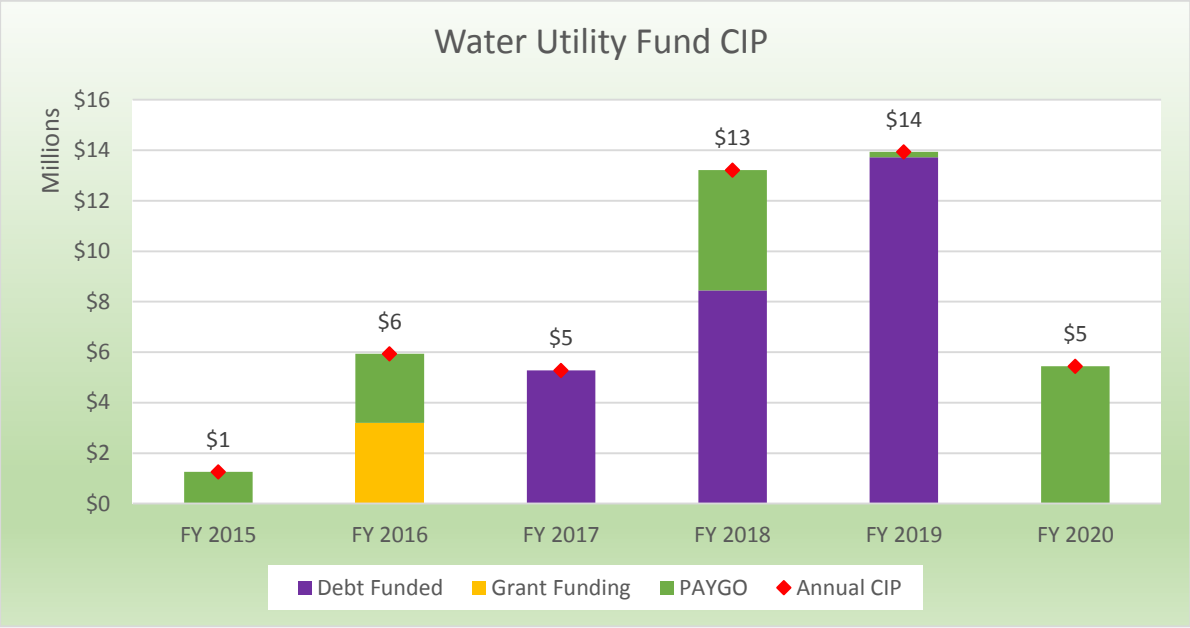
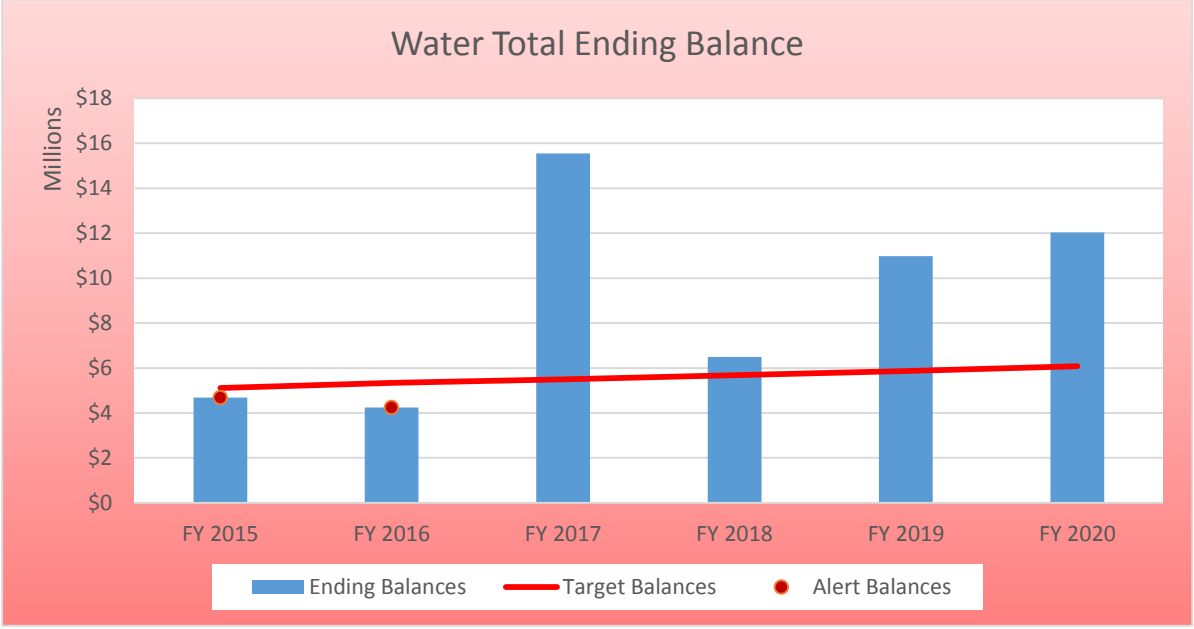


Figure 3-4: Water Utility Ending Balances



3.6. COST OF SERVICE ANALYSIS AND WATER RATE DESIGN

3.6.1. WATER COST OF SERVICE ANALYSIS

Proposition 218 requires a nexus between the rates charged and the costs of providing service. Based on the proposed financial plan, the cost of service analysis translates this financial requirement into actual

rates. The first step in the cost of service analysis is to determine how much revenue is required to be collected from rates. The methodology used is based upon the premise that the utility must generate annual revenues adequate to meet its estimated annual expenses. As part of the cost of service analysis, several adjustments are made to the appropriate cost elements to ensure adequate collection of revenues by determining the annual revenues needed from rates. Revenues from sources other than water rates and charges (e.g. revenues from miscellaneous services) are deducted. The financial plan shows the required revenue for FY 2016.

Table 3-24: FY 2016 Revenue Requirements

Cost Categories	FY 2016 Revenue Requirements
Base	$2,202,748
Peak Cost Demand	$1,689,041
Water Augmentation Cost	$1,101,400
Treatment	$2,563,084
Conservation	$84,641
Customer Service*	$827,865
Fixed Demand*	$1,346,941
Distribution*	$2,111,840
Fire*	$504,204
Total Cost of Service	**$12,431,764**

*Revenue requirements marked with stars are those that will be recovered by fixed charges. All other requirements are allocated to commodity charges.

According AWWA M1 Manual, the costs incurred in a water utility are generally responsive to the specific service requirements or cost drivers imposed on the system by its customers. Each of the various water utility facilities are designed and sized to meet one or more of these cost drivers, and the capital costs incurred in the construction/installation of these facilities as well as the O&M expenses incurred in running the system are, in turn, linked to these service requirements. The principal service requirements that drive costs include the annual volume of water consumed, the peak water demands incurred, the number of customers in the system, and the number of fire services required to maintain adequate fire protection. Accordingly, these service requirements are the basis for the selection of the cost categories or cost components used in the second step in the cost-of-service allocation process.

The AWWA recommends two methods for classifying costs among various customers: (1) the Base-Extra Capacity method in which costs are allocated to the different customer categories proportionate to their use of the water system; and (2) the Commodity-Demand method in which costs are proportionately allocated to each customer category based on their peak demand. Although the two methods vary in the way in which costs are allocated, both result in rates designed to recover the reasonable cost of service during periods of both average and peak demands. This Study uses the Base-Extra Capacity method, which is widely used in the water industry to serve retail customers.

The second step in the cost of service analysis is to functionalize the revenue requirements into cost components. This analysis employs the "Base-Extra Capacity" method, under which water utility costs of service are assigned to basic functional cost components including: water supply costs; base costs (fixed costs incurred to meet average demand); extra capacity or peaking costs (fixed water system costs to meet maximum day and maximum hour, or peaking, demand); and conservation, meter service and customer-service related costs as described in the M1 Manual. Base costs include fixed water supply costs and operations and maintenance costs, capital costs under average (base) demand conditions, a portion of operations and maintenance costs associated with storage, treatment, pumping and distributions facilities, and certain water capital cost investments. Extra capacity costs are costs associated with meeting water demands that exceed average (base) levels of use by system customers. These costs are incurred because of water use variations and peak demands of customers

Table 3-25 summarizes the peaking characteristics of the City's water system as determined by City Staff. The Average Daily Flow is the volume of water delivered to the system over the course of a year divided by 365 days. The Peak Day Demand is the largest volume of water delivered to the system in a single day. Similarly, the Peak Hour Demand is the maximum volume of water delivered to the system in a single hour. The Max Day peaking factor, which is the ratio of Peak Day Demand over Average Daily Flow, is 1.49 and the Max Hour peaking factor, or Peak Hour Demand over Average Hourly Flow, is 2.24. The Average Daily Flow was calculated by taking the average of daily water use during the years 2012, 2013 and 2014 which was 7,018,318 gallons per day (GPD). The Peak Day value was calculated by averaging the Peak Day water use in these same years which was 10,480,927 GPD, and the Max Hour value was assumed to be the same value increase by a factor of half.

Table 3-25: System Wide Peaking Factors

Peaking Factors	System Wide
Base	1
Max Day	1.49
Max Hour	2.24

During the course of the Study, City staff and RFC chose to revise the City's residential tier structure. The proposed tier structure can be seen in Table 3-26 below. The rationale for the tiers is as follows: the majority of the water allocated for Tier 1 can come from the City's water supply that does not need to be treated for Chromium 6. Tier 2 represents the City's remaining average indoor water need with a slight margin for increased usage. Indoor monthly water need was calculated by multiplying the State of California's indoor efficient water usage standard of 55 gallons per capita per day (GPCD) by the average size of household in the City, which was reported by the state at 3.78[8] but rounded to 4, by 30.42 (365 days divided by 12 months). This final number was divided by 748.05[9] in order to determine the number of hcf a household needs on average. Indoor water need was found to be 8.95 units, an additional unit

[8] *Household density for Single Family as reported by E-5 by California Department of Finance on May 2015, "E-5 Population and Housing Estimates for Cities, Counties, and the State, January 1, 2011-2015, with 2010 Benchmark"*

[9] *There are 748.05 gallons in each hcf of water.*

was added to keep the tiers uniform size. Any usage above 10 hcf was deemed "inefficient usage" and will be billed at the highest rate.

Table 3-26: Current and Revised Residential Tiers

Residential	Current Tiers	Proposed Tiers
Tier 1	1 - 8 hcf	1 - 5 hcf
Tier 2	9 - 11 hcf	6 - 10 hcf
Tier 3	12 - 15 hcf	≥ 11 hcf
Tier 4	≥ 16 hcf	N/A

Additionally, at the City's direction, RFC removed the current tiered structure for irrigation customers. Irrigation customers are proposed to pay the same commodity price regardless of consumption.

After changing tier definitions, projected usage was recalculated using the new tier definitions, resulting in the following projected usage for FY 2016. Usage in the current tier structure can be seen for comparison in Table 3-14.

Table 3-27: Projected Usage in FY 2016 with Revised Tiers

	FY 2016 Projected Usage
Residential	
Tier 1	907,583
Tier 2	514,739
Tier 3	413,154
Subtotal Residential	**1,835,476**
Non-Residential	449,395
Industrial	181,027
Irrigation	189,138
Total Usage (hcf)	4,490,512
Total Usage (AF)	10,309

The revenue to be recovered from rates of $12,431,764 is allocated according to the categories listed in Table 3-24 above. For further detail please see Section 6.2 of the Appendix, which shows the step-by-step allocations.

According to the M1 Manual, the cost-of-service approach to setting water rates results in the proportionate distribution of costs to each customer or customer class based on the costs that each incurs. A dual set of fees—fixed and variable—is an extension of this cost causation theory. For example, a utility incurs some costs associated with serving customers irrespective of the amount or rate of water they use, such as billing and customer service costs. These types of costs are referred to as customer-related costs and typically are costs that would be recovered through a fixed charge. These costs are usually recovered

on a per-customer basis or some other non-consumptive basis. Regardless of the level of a customer's consumption, a customer will be charged this minimum amount in each bill.

Utilities invest in and continue to maintain facilities to provide capacity to meet all levels of desired consumption including the peak[10] demand plus fire protection, and these costs must be recovered regardless of the amount of water used during a given period. Thus, peaking costs along with base costs and fixed water system costs to meet average demand are generally considered as fixed water system costs. To balance between affordability and revenue stability, it is a common practice that a portion of the base costs and peaking costs are recovered in the monthly base fee along with the customer-related costs and meter-related costs.

The most common method for levying base fees is by meter size. Meter size is a proxy for the estimated demand that each customer places on the water system. The City's base meter is most commonly a ¾-inch meter. The ratio at which the meter charge increases is typically a function of either meter investment (estimated cost) or the meter's safe operating capacity. For example, based on the AWWA meter capacity ratios, a customer that has a 2-inch meter has the capacity equivalency of 5.33 ¾-inch meters. (A 2-inch meter has a safe operating capacity of 160 gallons per minute (gpm) compared to a ¾-inch meter which has a safe operating capacity of 30 gpm as listed in Table B-1 in the M1 Manual).

Billing and customer service costs related to meter reading, billing and collections are distributed among customers based on the total number of bills rendered in a test year, which is FY 2016 for this Study. Meter service costs, costs related to meters and services, are distributed to customers in proportion to estimated costs for meters and services installed. Capacity costs, costs related to capital, and costs related to customer meters and services, are distributed in proportion to meter demand capacity as provided by the M1 Manual. According to the M1 Manual, distribution of meter service costs and capacity costs by equivalent meter and service ratios recognizes that meter and service costs vary, depending on considerations such as the size of service pipe, materials used, locations of meters and other local characteristics for various size meters as compared to ¾-inch meters and services.

3.6.2. MONTHLY FIXED CHARGES

In order to create parity across the various meter sizes, each meter size is assigned a factor relative to a 5/8" or ¾" meter, which has a value of 1. A particular meter size's ratio of meter and capacity servicing costs relative to that of a ¾" meter is its "Equivalent Meter Units" (EMU). For this study, RFC used the below capacity ratios that were supplied by City Staff. The total EMU calculation was done by multiplying the number of meters by their relative capacity ratios. It was found that inside of the City there were 13,685 EMUs, and outside there were 4,254 EMUs resulting in a (rounded) total of 17,940 EMUs. In addition to these EMUs, there are projected to be 6,382 Additional Units, or additional billed customer units. These are used for determining the number of accounts the customer service costs are split amongst.

[10] *Peaking costs are the costs related to providing water during high-demand periods.*

Table 3-28: Equivalent Meter Unit Calculation

Meter Size	Meter Count	Capacity Ratio	Equivalent Meters
Inside City Meters			
5/8"	7,938	1.00	7,938
3/4"	717	1.00	717
1"	1,637	1.48	2,426
1.5"	245	2.69	658
2"	262	4.13	1,082
3"	36	7.98	287
4"	29	12.31	357
6"	6	19.96	120
8"	1	45.11	45
10"	1	55.57	56
Subtotal Inside Meters	**10,872**		**13,685**
Outside City Meters			
5/8"	2,666	1.00	2,666
3/4"	241	1.00	241
1"	566	1.48	839
1 1/2"	43	2.69	115
2"	57	4.13	235
3"	8	7.98	64
4"	6	12.31	74
6"	1	19.96	20
8"	0	45.11	0
10"	0	55.57	0
Subtotal Outside Meters	**3,588**		**4,254**
Additional Units (both inside & outside)	**6,382**		
Total Accounts	**20,842**	**Total EMUs**	**17,940**

Monthly Fixed Charges were calculated by adding the Customer Service Costs, Capacity Costs and Distribution costs.

The Customer Service component of the fixed charge was found by dividing total Customer Service Costs ($827,865) by the number of billing units (20,842) multiplied by their number of bills per year (the City bills monthly, so this number is 12). This calculation results in a bill of $3.31 per billing cycle. This calculation is shown below in Table 3-29.

Table 3-29: Customer Service Cost Calculation

Customer Service Cost per Account	FY 2016
Total Customer Service Cost	$827,865
Number of Units	20,842
Monthly Service Charge	$3.31

The fire cost allocation calculation was done by multiplying the number of hydrants by their capacity in gallons per minute capacity and finding the ratio of public fire equivalent connections to private fire equivalent connections. There were found to be 7,578 public fire equivalent connections and 1,906 private fire equivalent connections, totaling 9,484 total connections. Thus the public fire equivalent connections represent 80% of the total. The total fire allocation ($504,204) was multiplied by 80% to find the total Public Fire Cost, equivalent to $402,874. This allocation is shown in Table 3-30.

Table 3-30: Fire Cost Allocation

Connection Size	Demand Factor	Gallons Per Minute	Unit Counts	Fire Equivalent Connections	Percent Allocation	Fire Protection Costs
Public Hydrants			1,263			
2.5"	11	3		0		
4"	38	4		0		
6"	111	6	1,263	7,578		
10"	427	10		0		
Total				7,578	80%	$402,874
Private Fire Lines			362			
2" or smaller	6	2	43	86		
4"	38	4	116	464		
6"	111	6	128	768		
8"	237	8	66	528		
10"	427	10	6	60		
				1,906	20%	$101,330

The Capacity Cost Calculation was done by adding the Capacity Cost to the Public portion of the Fire Cost (determined above in Table 3-30) and dividing by the number of EMUs multiplied by the number of billing periods per year. The sum of Capacity Cost and the public portion of Fire Cost is $1,749,941. The Monthly Capacity Charge was determined by dividing this number by 17,940 EMUs multiplied by 12 billing periods per year. The resulting cost was $8.13 per year.

Table 3-31: Capacity Cost Allocation

Capacity Cost Calculation	FY 2016
Total Capacity Cost	$1,346,941
Public Fire Cost	$402,874
Number of Equivalent Meters	17,940
Monthly Capacity Charge	$8.13

The Distribution Cost was calculated to be different for customers inside and outside of the City, as the cost of distributing to customers outside of City limits tends to be higher than the cost to distribute to those inside of the City. In order to calculate the amount of Distribution cost to distribute to each set of customers, RFC first calculated the percentage of water mains inside the city and outside the City. According to City Staff there are 123 miles of distribution mains inside of the City and 49 miles of distribution mains outside of the City. The City has 71 percent of mains inside of City Limits, the remaining 29 percent are outside. The cost each set of customers would pay in fixed charges was allocated to these percentages; Inside Customers would pay 71 percent of $2,111,840 and Outside Customers would pay 29 percent. These costs were divided by the number of EMUs in each locale (shown in Table 3-28 above) multiplied by the number of billing units to find the total monthly Distribution Charge. These calculations can be seen in Table 3-32.

Table 3-32: Distribution Cost Allocation

Distribution Cost Calculation	FY 2016
Total Distribution Cost	$2,111,840
Inside Equivalent Meters	13,685
Outside Equivalent Meters	4,254
Percentage of Distribution Mains Inside	71%
Percentage of Distribution Mains Outside	29%
Cost to be paid by Inside Customers	$1,509,509
Cost to be Paid by Outside Customers	$602,331
Monthly Inside Distribution Charge	$9.19
Monthly Outside Distribution Charge	$11.80

In order to determine the Total Fixed Charge per meter, the distribution charge and capacity charge were multiplied by the relevant capacity ratio in Table 3-33 and the account charge, which remains constant for all meter sizes was added to the result. The resulting proposed fixed charges can be seen in Table 3-34.

Table 3-33: EMU Fixed Charge Calculation

Meter Size	EMU Ratio	Distribution Charge per EMU	Distribution Charge per Meter	Capacity Charge per EMU	Capacity Charge per Meter
Inside City					
5/8"	1.00	$9.19	$9.19	$8.13	$8.13
3/4"	1.00	$9.19	$9.19	$8.13	$8.13
1"	1.48	$9.19	$13.62	$8.13	$12.04
1.5"	2.69	$9.19	$24.69	$8.13	$21.83
2"	4.13	$9.19	$37.96	$8.13	$33.57
3"	7.98	$9.19	$73.35	$8.13	$64.86
4"	12.31	$9.19	$113.18	$8.13	$100.08
6"	19.96	$9.19	$183.48	$8.13	$162.25
8"	45.11	$9.19	$414.66	$8.13	$366.69
10"	55.57	$9.19	$510.78	$8.13	$451.68
Outside City					
5/8"	1.00	$11.80	$11.80	$8.13	$8.13
3/4"	1.00	$11.80	$11.80	$8.13	$8.13
1"	1.48	$11.80	$17.48	$8.13	$12.04
1 1/2"	2.69	$11.80	$31.69	$8.13	$21.83
2"	4.13	$11.80	$48.73	$8.13	$33.57
3"	7.98	$11.80	$94.15	$8.13	$64.86
4"	12.31	$11.80	$145.28	$8.13	$100.08
6"	19.96	$11.80	$235.52	$8.13	$162.25
8"	45.11	$11.80	$532.27	$8.13	$366.69
10"	55.57	$11.80	$655.64	$8.13	$451.68

Table 3-34: Proposed FY 2016 Fixed Charges

Meter Size	Account Charge	Distribution Charge per Meter	Capacity Charge per Meter	Total Proposed Fixed Charge[11]
Inside City				
5/8"	$3.31	$9.19	$8.13	$20.63
3/4"	$3.31	$9.19	$8.13	$20.63
1"	$3.31	$13.62	$12.04	$28.98
1.5"	$3.31	$24.69	$21.83	$49.83
2"	$3.31	$37.96	$33.57	$74.84
3"	$3.31	$73.35	$64.86	$141.52
4"	$3.31	$113.18	$100.08	$216.58
6"	$3.31	$183.48	$162.25	$349.04
8"	$3.31	$414.66	$366.69	$784.66
10"	$3.31	$510.78	$451.68	$965.77
Additional units	$3.31	$0.00	$0.00	$3.32
Outside City				
5/8"	$3.31	$11.80	$8.13	$23.24
3/4"	$3.31	$11.80	$8.13	$23.24
1"	$3.31	$17.48	$12.04	$32.84
1 1/2"	$3.31	$31.69	$21.83	$56.83
2"	$3.31	$48.73	$33.57	$85.61
3"	$3.31	$94.15	$64.86	$162.33
4"	$3.31	$145.28	$100.08	$248.68
6"	$3.31	$235.52	$162.25	$401.08
8"	$3.31	$532.27	$366.69	$902.27
10"	$3.31	$655.64	$451.68	$1,110.64
Additional units	$3.31	$0.00	$0.00	$3.32

The Fixed Charges for FY 2016 through FY 2020 with the proposed revenue adjustments can be seen in Table 3-35 below.

[11] *Fixed Charges were rounded up after being added.*

Table 3-35: Proposed Fixed Charges

	FY 2016 Adopted	Proposed				
		FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Inside Fixed Meter Charges						
5/8"	$14.78	$20.63	$22.63	$25.80	$29.42	$33.54
3/4"	$14.78	$20.63	$22.63	$25.80	$29.42	$33.54
1"	$21.91	$28.98	$31.79	$36.25	$41.33	$47.12
1 1/2"	$39.71	$49.83	$54.66	$62.32	$71.05	$81.00
2"	$61.06	$74.84	$82.09	$93.59	$106.70	$121.64
3"	$117.98	$141.52	$155.23	$176.97	$201.75	$230.00
4"	$182.04	$216.58	$237.55	$270.81	$308.73	$351.96
6"	$295.12	$349.04	$382.83	$436.43	$497.54	$567.20
8"	$666.97	$784.66	$860.63	$981.12	$1,118.48	$1,275.07
10"	$821.57	$965.77	$1,059.27	$1,207.57	$1,376.63	$1,569.36
Additional Units	$3.51	$3.32	$3.65	$4.17	$4.76	$5.43
Outside Fixed Meter Charges						
5/8"	$19.37	$23.24	$25.49	$29.06	$33.13	$37.77
3/4"	$19.37	$23.24	$25.49	$29.06	$33.13	$37.77
1"	$28.39	$32.84	$36.02	$41.07	$46.82	$53.38
1 1/2"	$43.39	$56.83	$62.34	$71.07	$81.02	$92.37
2"	$61.51	$85.61	$93.90	$107.05	$122.04	$139.13
3"	$128.54	$162.33	$178.05	$202.98	$231.40	$263.80
4"	$160.69	$248.68	$272.76	$310.95	$354.49	$404.12
6"	$314.21	$401.08	$439.91	$501.50	$571.71	$651.75
8"	$705.22	$902.27	$989.62	$1,128.17	$1,286.12	$1,466.18
10"	$867.61	$1,110.64	$1,218.16	$1,388.71	$1,583.13	$1,804.77
Additional Units	$5.56	$3.32	$3.65	$4.17	$4.76	$5.43

3.6.3. WATER USAGE CHARGE COMPONENTS

In meeting Proposition 218 requirements, RFC conducted a cost of service analysis and identified the different rate components for the water usage charge, including Conservation, Water Supply, Peaking, and Delivery.

Water Supply Costs are the costs associated with obtaining and treating water. In the City's case these costs are closely tied to the PVWMA Water Augmentation Fee and the costs associated with Chromium 6 treatment.

Delivery Costs are the costs associated with transporting the water to the end user. These costs tend to be power and other utility related.

Conservation Costs are the costs associated with running the City's various conservation programs. These costs were allocated based on the peaking characteristics of the various customer classes.

Finally, the Peaking cost component represents the costs associated with the additional strain that peaking behaviors put on the system.

Table 3-36 shows the total allocation of water for FY 2016. It also shows the allocation of groundwater versus the allocation of groundwater that requires Chromium 6 treatment. The Utility gets roughly 20% of its groundwater from sources that do not require Chromium 6 treatment. This groundwater is allocated to Residential customers, Irrigation customers, and Non-Residential customers. The entirety of the Residential groundwater that does not require treatment is allocated to Tier 1.

Table 3-36: Demand Allocated to Tiers

	Total Demand	Allocated Groundwater	Groundwater Requiring Chromium 6 Treatment
Residential			
Tier 1	907,583	393,956	513,627
Tier 2	514,739	0	514,739
Tier 3	413,154	0	413,154
Subtotal Residential	**1,835,476**	**393,956**	**1,441,519**
Non-Residential	449,395	96,456	352,940
Irrigation	189,138	40,595	148,542
Industrial	181,027	0	181,027
Total	**2,655,036**	**531,007**	**2,124,029**

One of the components of commodity charges is the Delivery cost component. This rate was calculated by taking the total delivery cost ($2,202,748) and dividing by the annual usage, less the industrial usage component (totaling 2,474,009 units). Since Industrial customers tend to have redundant systems or sources of supply, they do not need to pay for the Delivery cost component. The cost, as shown in Table 3-37, is $0.90 per hcf.

Table 3-37: Delivery Unit Rate Calculation

	Annual Usage	Delivery Costs	Unit Rate
Total*	2,474,009	$2,202,748	$0.90

The next two cost components, Peaking and Conservation costs, are allocated based on the peaking characteristics of the customer class or tier. Due to their redundant systems, Industrial customers are left out of these costs. It is assumed that the peaking impacts of Industrial customers are negligible. Peaking

factors were calculated by dividing the maximum month's usage by the minimum month's usage for that customer class.

Peaking factors are shown below in Table 3-38.

Table 3-38: Peaking Factor Calculation

Customer Classes	Max Month Total Usage	Min Month Total Usage	Peaking Factors
Residential	236,969	121,046	1.96
Non-Residential	63,081	24,832	2.54
Irrigation	28,015	4,251	6.59

The Peaking and Conservation components of Commodity rates for customer classes were determined by multiplying the peaking factor found above by the customer class annual usage to determine the class weighted peaking factor. Then, once these were totaled, the relative percentage of the Peaking costs were determined. The Unit Rate (column (F)) is obtained by dividing column (E) by column (A). For Residential units these costs were allocated to Residential Tiers. The allocation calculations can be seen in Table 3-39 and Table 3-40. The Conservation costs in Table 3-40 were obtained by dividing the totals in the "Allocated Conservation Costs" column by the values in Table 3-39's column (A).

Table 3-39: Peaking Cost Allocation

Customer Classes	Annual Usage	Peaking Factors	Weighted Peak Factor	Percentage of Peak	Allocated Peak Costs	Unit Rate
	(A)	(B)	(C)	(D)	(E)	(F)
Residential	1,835,476	1.96	3,593,272	60%	$1,014,668	allocated to tiers
Non-Residential	449,395	2.54	1,141,600	19%	$322,364	$0.72
Irrigation	189,138	6.59	1,246,574	21%	$352,007	$1.86
Total	**2,474,009**		**5,981,445**	100%	**$1,689,040**	

Table 3-40: Conservation Cost Allocation

Customer Classes	Weighted Peak Factor	Percentage of Peak	Allocated Conservation Costs	Unit Rate
Residential	3,593,272	60%	$50,847	allocated to tiers
Non-Residential	1,141,600	19%	$16,154	$0.04
Irrigation	1,246,574	21%	$17,640	$0.10
Total	**5,981,445**	100%	$84,641	

Residential Tiered Peaking and Conservation costs were found in a similar way to the costs for the customer classes show above. First, peaking factors for the residential tiers were calculated. These are shown in Table 3-41 below.

Table 3-41: Residential Tier Peaking Factor Calculation

Residential Classes	Max Month Consumption	Min Month Consumption	Peaking Factors (Tier 1 = 1.00)
Tier 1	87,125	77,640	1.12
Tier 2	64,576	30,714	2.10
Tier 3	85,411	12,692	6.73

The Peaking and Conservation components of Commodity rates for residential tiers were determined by multiplying the peaking factor found above by the tier's annual usage to determine the tier's weighted peaking factor. Then, once these were totaled, the relative percentage of the Peaking costs were determined. The allocation calculations can be seen in Table 3-42 and Table 3-43. Tier 1 does not have an allocation for conservation costs.

Table 3-42: Residential Peaking Component Calculation

Residential Tiers	Usage	Peaking Factors	Weighted Peak Factor	Percent of Weighted Peak Factor	Allocated Peak Cost	Unit Rate
Tier 1	907,583	1.12	1,018,457	21%	$211,720	$0.24
Tier 2	514,739	2.10	1,082,252	22%	$224,982	$0.44
Tier 3	413,154	6.73	2,780,248	57%	$577,966	$1.40
Total	**1,835,476**		**4,880,957**	**100%**	**$1,014,668**	

Table 3-43: Residential Conservation Component Calculation

Residential Tiers	Usage	Peaking Factors	Weighted Peak Factor	Percent of Weighted Peak Factor	Allocated Conservation Cost	Unit Rate
Tier 1	907,583				$0	$0.00
Tier 2	514,739	2.10	1,082,252	28%	$14,247	$0.03
Tier 3	413,154	6.73	2,780,248	72%	$36,600	$0.09
Total	**1,835,476**		**3,862,500**	**100%**	**$50,847**	

Water Acquisition costs are calculated below in Table 3-44. The City has to treat 80 percent of its water for Chromium 6, the remaining 20 percent has to be treated to a lesser degree. The Water Supply Costs in the below table are the costs associated with paying for PVWMA Augmentation. These per unit costs are equal for each source of supply. The Treatment portion of the costs below is calculated by taking the Treatment cost component and subtracting the debt service portion of the Treatment cost (since the debt

issuances is associated with Chromium 6 CIP), and allocating those costs proportionally, then allocating the rest of the Treatment cost to Groundwater with Chromium 6. The costs per acre foot were obtained by dividing total Treatment costs by the production quantity, and the costs per hcf were determined by dividing the cost per AF by the hcf to acre foot conversion factor.

Table 3-44: Water Acquisition Component Calculation

Source of Supply	Production Quantity (AF)	Water Supply	Treatment	Cost per AF	Cost/hcf
Groundwater	1,219	$220,280	$317,462	$441.13	$1.02
Groundwater with Chromium 6	4,876	$881,120	$2,245,622	$641.24	$1.48

These costs were then allocated based on the amount of Groundwater and Chromium 6 Treated Groundwater allocated to each class and tier. These water sources were allocated equally to each class except the Industrial class which did not receive an allocation. The unit cost for each class was determined by multiplying the percentage of water from each source by the cost of water determined in Table 3-44. The costs can be seen in Table 3-45 below.

Table 3-45: Water Acquisition Class and Tier Unit Cost

Class	Total Demand	Groundwater	Chromium 6 Treated Groundwater	Groundwater/ Chromium 6 Water Split	Acquisition Unit Cost
Residential					
Tier 1	907,583	393,956	513,627	43% / 57%	$1.28
Tier 2	514,739	0	514,739	0% / 100%	$1.48
Tier 3	413,154	0	413,154	0% / 100%	$1.48
Total	1,835,476	393,956	1,441,519	21% / 79%	
Non- Residential	449,395	96,456	352,940	21% / 79%	$1.38
Industrial	181,027	0	181,027	21% / 79%	$1.48
Irrigation	189,138	40,595	148,542	21% / 79%	$1.38

Finally, in order to determine total rates, these components were added together. The resulting rates can be seen in bold in Table 3-46 below. The tables that these charges originate from are also shown in Table 3-46. The City's current rates can be seen in the column on the far right.

Table 3-46: Component Charge Calculation

Tier/ Customer Class	Water Acquisition	Delivery	Conservation	Peak Demand	FY 2016 Total Proposed Rate	FY 2016 Current Rates
	Table 3-46	Table 3-37	Table 3-40 & Table 3-43	Table 3-39 & Table 3-42		
Residential Tiers						
Tier 1	$1.28	$0.90	$0.00	$0.24	**$2.42**	$1.92
Tier 2	$1.48	$0.90	$0.03	$0.44	**$2.85**	$2.74
Tier 3	$1.48	$0.90	$0.09	$1.40	**$3.87**	$3.66
Tier 4 (phased out)						$5.25
Non-Residential	$1.38	$0.90	$0.04	$0.72	**$3.04**	$2.50
Industrial	$1.48	$0.90	$0.00	$0.00	**$2.38**	$1.99
Irrigation	$1.38	$0.90	$0.10	$1.86	**$4.24**	$2.27

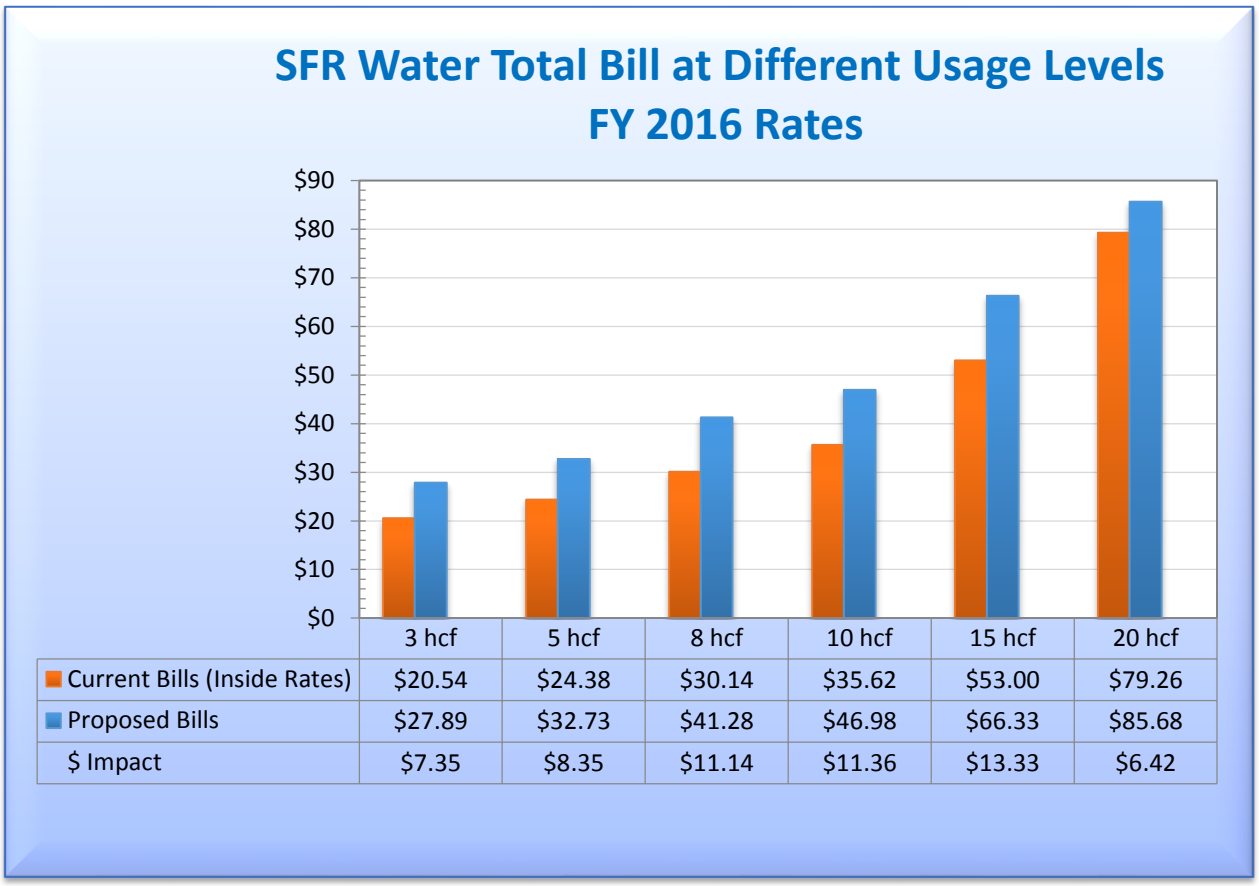
Table 3-47 below shows the rates for the following Fiscal Years with the proposed rate increases from FY 2016 through FY 2020.

Table 3-47: Proposed Commodity Charges

		Proposed				
	FY 2016 Current	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Residential Tier 1	$1.92	$2.42	$2.64	$2.99	$3.39	$3.84
Residential Tier 2	$2.74	$2.85	$3.11	$3.53	$4.00	$4.53
Residential Tier 3	$3.66	$3.87	$4.22	$4.78	$5.42	$6.14
Residential Tier 4	$5.25	N/A	N/A	N/A	N/A	N/A
Non-Residential	$2.50	3.04	3.32	3.76	4.26	4.83
Industrial	$1.99	2.38	2.60	2.95	3.34	3.79
Irrigation Tier 1	$2.27	4.24	4.62	5.24	5.94	6.73
Irrigation Tier 2	$3.18	N/A	N/A	N/A	N/A	N/A

Customer Impacts from the proposed new rates can be seen below in Figure 3-5. The City's average Residential customer uses between 5 and 8 units of water, and therefore will likely see between a $8.35 and $11.14 increase in their monthly bill.

Figure 3-5: SFR Water Bill Impacts at Different Usage Levels



	3 hcf	5 hcf	8 hcf	10 hcf	15 hcf	20 hcf
Current Bills (Inside Rates)	$20.54	$24.38	$30.14	$35.62	$53.00	$79.26
Proposed Bills	$27.89	$32.73	$41.28	$46.98	$66.33	$85.68
$ Impact	$7.35	$8.35	$11.14	$11.36	$13.33	$6.42

4. WASTEWATER FUND- FINANCIAL PLAN AND RATES

4.1. WASTEWATER REVENUE REQUIREMENTS

A review of a utility's revenue requirements is a key first step in the rate study process. The review involves an analysis of annual operating revenues under the status quo, operation and maintenance (O&M) expenses, transfers between funds and reserve requirements. This section of the report provides a discussion of the projected revenues, O&M expenses, other reserve funding and revenue adjustments estimated as required to ensure the fiscal sustainability and solvency of the Wastewater Fund.

4.1.1. REVENUES FROM CURRENT SEWER RATES

The City provides sewer collection services within its service area for both residential and commercial use. In addition, the utility also provides collection for three areas outside of City limits. These areas are Pajaro, Freedom, and Salsipuedes. Treatment of the City's flow is performed by the City's Wastewater Department. All residential customers pay a flat rate of $26.40 for wastewater collection service. All other customers pay a minimum monthly fee of $26.40 per month in FY 2016 plus a volumetric fee that varies depending on commercial type for water usage beyond 11 hcf. Current charges are shown in Table 4-1 below.

Table 4-1: Current Wastewater Charges

Wastewater Charges	FY 2014	FY 2015	FY 2016	FY 2017
Service Charges				
Residential	$24.67	$26.40	$28.25	$30.22
Minimum Monthly	$24.67	$26.40	$28.25	$30.22
Usage Rates (per HCF in excess of 11 HCF)				
Residential	$0.00	$0.00	$0.00	$0.00
Churches, Schools, Institutional Users	$3.00	$3.21	$3.44	$3.68
Restaurants, food prep	$7.18	$7.68	$8.22	$8.80
Bakeries	$7.18	$7.68	$8.22	$8.80
Laundries	$4.00	$4.28	$4.57	$4.89
Other Commercial	$3.01	$3.21	$3.45	$3.69
Ground water clean-up	$5.28	$5.65	$6.05	$6.47

The City has a different set of charges for Industrial users. These charges have both a flow and strengths components. For example, in FY 2015 Industrial users would pay $915.97 per million gallons of water sent to the treatment plant, $245.33 per 1000 pounds of bio-oxygen demand (BOD), and $267.43 per 1000 lbs. of suspended solids (abbreviated as total suspended solids, TSS). These adopted charges are shown in Table 4-2 below.

Table 4-2: Current Industrial Wastewater Charges

Wastewater Charges		FY 2014	FY 2015	FY 2016	FY 2017
Industrial Charges	/unit				
Volume	MG	$889.29	$915.97	$943.44	$971.75
BOD	1000 lbs	$238.18	$245.33	$252.69	$260.27
TSS	1000 lbs	$259.64	$267.43	$275.46	$283.72

City staff provided RFC with the estimated number of accounts for FY 2014. These figures were then inflated by the annual growth percentage factor as set in Section 2.2 for City customers. Table 4-3 provides a summary of the projected number of sewer accounts by customer type.

Table 4-3: Account Summary

Account Summary	FY 2014 *Estimated*	FY 2015 *Projected*	FY 2016 *Projected*	FY 2017 *Projected*	FY 2018 *Projected*	FY 2019 *Projected*	FY 2020 *Projected*
Residential	14,394	14,394	14,476	14,559	14,642	14,726	14,810
All others	1,471	1,471	1,479	1,487	1,496	1,505	1,514

City staff also provided RFC with water usage data from FY 2014. From there, again using growth data provided in Section 2.2, RFC projected usage for the usage for the Study Period. Projected usage is summarized in. The usage totals in Table 4-4 show tiers. Tier 1 shows the 11 hcf that non-residential accounts do not have to pay commodity charges for.

Table 4-4: Usage Summary

Usage Summary	FY 2014 *Estimated*	FY 2015 *Projected*	FY 2016 *Projected*	FY 2017 *Projected*	FY 2018 *Projected*	FY 2019 *Projected*	FY 2020 *Projected*
Residential							
Tier 1	799,975	799,975	804,550	809,152	813,780	818,434	823,115
Tier 2	1,041,479	1,041,479	1,047,436	1,053,427	1,059,452	1,065,511	1,071,605
Churches							
Tier 1	7,745	7,745	7,790	7,834	7,879	7,924	7,969
Tier 2	50,674	50,674	50,964	51,255	51,548	51,843	52,140
Restaurants							
Tier 1	11,040	11,040	11,103	11,166	11,230	11,295	11,359
Tier 2	39,360	39,360	39,585	39,812	40,040	40,269	40,499
Bakeries							
Tier 1	1,819	1,819	1,830	1,840	1,851	1,861	1,872

Tier 2	8,527	8,527	8,576	8,625	8,674	8,724	8,774
Laundries							
Tier 1	1,782	1,782	1,792	1,802	1,813	1,823	1,834
Tier 2	45,181	45,181	45,439	45,699	45,961	46,224	46,488
Other Commercial							
Tier 1	48,159	48,159	48,434	48,711	48,990	49,270	49,552
Tier 2	133,511	133,511	134,275	135,043	135,815	136,592	137,373

Industrial usage was assumed to be constant across the Study Period and therefore does not escalate. Projected Industrial usage can be seen in Table 4-5 below.

Table 4-5: Industrial Usage Summary

Industrial Usage Summary		FY 2014 *Estimated*	FY 2015 *Projected*	FY 2016 *Projected*	FY 2017 *Projected*	FY 2018 *Projected*	FY 2019 *Projected*	FY 2020 *Projected*
Volume	MG	366	366	366	366	366	366	366
BOD	1000 lbs	2,368	2,368	2,368	2,368	2,368	2,368	2,368
TSS	1000 lbs	935	935	935	935	935	935	935

By multiplying the charges outlined above by the relevant number of accounts or amount of usage, RFC projected revenues for the utility for the Study Period. Projected operating revenues are shown in Table 4-6 below. Additionally, the utility takes in $440,000 per year in septic load charges from emptying septic tanks at the City's wastewater facility. City staff advised RFC not to escalate these revenues. Projected operating revenues increase significantly through FY 2017 but do not increase by more than 1% in years following. This is due to the current rate increase in effect, which expires after FY 2017.

The usage revenues are categorized in Table 4-6 by tiers. There are no volumetric revenues associated with Tier 1 usage because those usage figures are part of the usage covered by the minimum monthly charge that non-residential accounts pay.

Table 4-6: Projected Operating Revenues

Fixed Charge Revenues	FY 2014 *Estimated*	FY 2015 *Projected*	FY 2016 *Projected*	FY 2017 *Projected*	FY 2018 *Projected*	FY 2019 *Projected*	FY 2020 *Projected*
Residential	$4,261,200	$4,560,019	$4,906,549	$5,280,109	$5,310,210	$5,340,675	$5,371,139
All others	$435,475	$466,013	$501,298	$539,290	$542,554	$545,818	$549,082

Usage Revenues	FY 2014 *Estimated*	FY 2015 *Projected*	FY 2016 *Projected*	FY 2017 *Projected*	FY 2018 *Projected*	FY 2019 *Projected*	FY 2020 *Projected*
Churches							
Tier 1	$0	$0	$0	$0	$0	$0	$0
Tier 2	$152,021	$162,663	$175,084	$188,411	$189,489	$190,573	$191,663
Restaurants							
Tier 1	$0	$0	$0	$0	$0	$0	$0
Tier 2	$282,607	$302,287	$325,437	$350,209	$352,212	$354,227	$356,253
Bakeries							
Tier 1	$0	$0	$0	$0	$0	$0	$0
Tier 2	$61,223	$65,487	$70,502	$75,868	$76,302	$76,739	$77,178
Laundries							
Tier 1	$0	$0	$0	$0	$0	$0	$0
Tier 2	$180,724	$193,375	$207,871	$223,694	$224,973	$226,260	$227,554
Other Commercial							
Tier 1	$0	$0	$0	$0	$0	$0	$0
Tier 2	$401,868	$428,570	$463,311	$498,578	$501,430	$504,298	$507,182

Industrial Usage Revenues	FY 2014 *Estimated*	FY 2015 *Projected*	FY 2016 *Projected*	FY 2017 *Projected*	FY 2018 *Projected*	FY 2019 *Projected*	FY 2020 *Projected*
Volume	$325,299	$335,058	$345,108	$355,462	$355,462	$355,462	$355,462
BOD	$563,986	$580,916	$598,333	$616,283	$616,283	$616,283	$616,283
Suspended Solids	$242,844	$250,130	$257,637	$265,366	$265,366	$265,366	$265,366
Septic Load Charges	$440,000	$440,000	$440,000	$440,000	$440,000	$440,000	$440,000

Total Revenues	FY 2014 *Estimated*	FY 2015 *Projected*	FY 2016 *Projected*	FY 2017 *Projected*	FY 2018 *Projected*	FY 2019 *Projected*	FY 2020 *Projected*
Revenues	$7,347,247	$7,784,519	$8,291,129	$8,833,270	$8,874,281	$8,915,699	$8,957,160

4.1.2. OTHER WASTEWATER REVENUES

The utility also collects various other revenues. These are shown in Table 4-7 below. These revenues include operating and CIP offset revenue from the three areas outside of the City that the utility also services: Freedom, Pajaro and Salsipuedes. Additionally the utility receives nearly $1.5 million annually from the Pajaro Valley Water Management Authority (PVWMA) in operational charges. A summary of other revenues is presented in Table 4-7 below.

Table 4-7: Projected Other Revenues

Other Revenues	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
CONNECTION FEES· GENERAL CITY	$40,000	$40,000	$40,000	$40,000	$40,000	$40,000
INTEREST EARNINGS	$0	$0	$0	$0	$0	$0
FREEDOM SHARE· OPERATIONS COSTS	$271,200	$279,336	$287,716	$296,348	$305,238	$314,395
PAJARO SHARE - OPERATIONS COSTS	$375,898	$387,175	$398,790	$410,754	$423,076	$435,769
SASIPUEDES SHARE - OPERAT. COSTS	$77,908	$80,246	$82,653	$85,133	$87,687	$90,317
GRANT REVENUES - PG&E	$0	$0	$0	$0	$0	$0
OTHER REVENUE - SCIENCE WORKSHOP	$45,000	$45,000	$45,000	$45,000	$45,000	$45,000
PVWMA OPERATIONAL CHARGES	$1,890,535	$2,019,729	$2,159,962	$2,312,294	$2,477,896	$2,658,056
CCLEAN PROGRAM REVENUE	$290,262	$304,775	$320,014	$336,015	$352,815	$370,456
FREEDOM SHARE· CIP COSTS	$19,050	$19,622	$20,210	$20,816	$21,441	$22,084
PAJARO SHARE - CIP COSTS	$74,330	$76,560	$78,857	$81,222	$83,659	$86,169
SALSIPUEDES SHARE - CIP COSTS	$6,620	$6,819	$7,023	$7,234	$7,451	$7,674

4.1.3. WASTEWATER OPERATIONS AND MAINTENANCE EXPENSES

The City's FY 2014 and FY 2015 budget values and the assumed inflation factors for the Study Period (as detailed in Section 2.1) were used as the basis for projecting O&M costs. RFC worked closely with City Staff to identify any non-recurring costs and other anticipated expenses for the Study Period. Table 4-8 summarizes budgeted and projected O&M expenses for the Wastewater Fund.

The Utilities Engineering & Administration department receives transfers from the other utility funds to stay essentially revenue neutral, as this department provides engineering services for the other two utilities. Additionally, the Utilities Laboratory is reimbursed for all of its expenses and remains revenue neutral through the Study Period.

Table 4-8: Wastewater O&M Summary

Wastewater O&M	FY 2015 *Projected*	FY 2016 *Projected*	FY 2017 *Projected*	FY 2018 *Projected*	FY 2019 *Projected*	FY 2020 *Projected*
WASTEWATER TREATMENT						
Personnel	$1,812,982	$1,957,965	$2,114,544	$2,283,646	$2,466,274	$2,663,508
Operations	$4,712,218	$5,027,650	$5,320,729	$5,632,564	$5,964,489	$6,317,940
COLLECTION SYSTEMS						
Personnel	$391,894	$422,270	$455,027	$490,354	$528,453	$569,544
Operations	$222,790	$235,383	$248,793	$263,080	$278,310	$294,556
WATER RECYCLING OPERATIONS						
Personnel	$77,067	$83,232	$89,891	$97,082	$104,849	$113,237
Operations	$1,813,468	$1,936,497	$2,070,071	$2,215,212	$2,373,047	$2,544,820
UTILITIES LABORATORY CCLEAN						
Personnel	$0	$0	$0	$0	$0	$0
Operations	$290,262	$304,775	$320,014	$336,015	$352,815	$370,456
UTILITIES ENG& ADMIN						
Personnel	$2,252,213	$2,432,246	$2,626,675	$2,836,650	$3,063,415	$3,308,313
Operations	-$2,131,293	-$2,431,723	-$2,621,130	-$2,825,600	-$3,046,333	-$3,284,626
UTILITIES LABORATORY						
Personnel	$405,663	$425,946	$447,243	$469,606	$493,086	$517,740
Operations	-$405,663	-$425,946	-$447,243	-$469,606	-$493,086	-$517,740
Totals						
Personnel	$4,939,819	$5,321,660	$5,733,380	$6,177,338	$6,656,077	$7,172,342
Operations	$4,501,782	$4,646,636	$4,891,232	$5,151,664	$5,429,242	$5,725,405
Total	$9,441,601	$9,968,295	$10,624,612	$11,329,002	$12,085,319	$12,897,748

4.1.4. PROJECTED CAPITAL IMPROVEMENT PLAN

While the wastewater utility has a less capital intensive CIP than the water utility, it still has a significant slate of projects upcoming. The City is anticipating spending nearly $14.5 million in Wastewater CIP through FY 2020. A summary of the inflated cost of the Wastewater CIP is shown in Table 4-9.

Table 4-9: Wastewater CIP Summary

CIP Summary	FY 2015 *Inflated*	FY 2016 *Inflated*	FY 2017 *Inflated*	FY 2018 *Inflated*	FY 2019 *Inflated*	FY 2020 *Inflated*
Inflated CIP Schedule						
Wastewater	$350,000	$3,237,728	$2,872,651	$1,852,172	$3,106,404	$3,057,875

4.1.5. CURRENT DEBT

Currently the Wastewater Utility only has one debt obligation outstanding. This is the 2009 Private Placement. The annual debt service for this loan totals $570,490 annually and will be retiring in FY 2016. This obligation can be seen in Table 4-10 below.

Table 4-10: Wastewater Existing Debt

Existing Debt	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
2009 Private Placement	$570,490	$570,490	$0	$0	$0	$0

4.2. WASTEWATER STATUS QUO FINANCIAL PLAN

4.2.1. SRF LOANS

The Utility is anticipating receiving two loans from the State Revolving Fund (SRF). Debt terms for SRF loans are detailed in Section 2.3. The proposed issuances are detailed in Table 4-11. The reserve requirement is a general debt requirement that holds the last year's debt payment as a reserve as a condition of the issuance.

Table 4-11: Anticipated SRF Loans

Year	Proposed Issuance	Issuance Cost	Reserve Requirement	Issuance Total
FY 2015				$0
FY 2016	$1,300,000	$0	-$76,468	$1,223,532
FY 2017	$2,300,000	$0	-$135,290	$2,164,710
FY 2018				$0
FY 2019				$0
FY 2020				$0

4.2.2. WASTEWATER PROFORMA

Table 4-12 displays the proforma of the City's Wastewater Fund under current rates over the Study Period. All projections shown in the table are based upon the current rate structure and do not include any rate adjustments. The pro-forma incorporates the data shown in Section 4.1 and Section 4.2.1.

Under the "status-quo" scenario, revenues generated from rates and other miscellaneous revenues are inadequate to sufficiently recover operating and capital expenses of the utility beginning in FY 2016. Though current operating revenues do exceed operating costs, they are insufficient to also fund the utility's capital program and would require high extensive reserve funding. While the ending reserve balance is already below target levels, it dives further below target levels under the status quo scenario and eventually goes negative in FY 2020. In short, the City is unable to maintain fiscal sustainability and solvency under the current sewer rates.

Table 4-12: Status Quo Wastewater Proforma

Wastewater Proforma		FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Line #	Descriptions	Budgeted	Projected	Projected	Projected	Projected	Projected
1	**Revenues**						
2	Existing Rev from Rates	$7,784,519	$8,291,129	$8,833,270	$8,874,281	$8,915,699	$8,957,160
3	Rev from Rev Adjustments	$0	$0	$0	$0	$0	$0
4	Freedom Sanitation District Reimbursement	$271,200	$279,336	$287,716	$296,348	$305,238	$314,395
5	Pajaro Sanitation District Reimbursement	$375,898	$387,175	$398,790	$410,754	$423,076	$435,769
6	Salsipuedes Sanitation District Reimbursement	$77,908	$80,246	$82,653	$85,133	$87,687	$90,317
7	PVWMA Operational Charges	$1,890,535	$2,019,729	$2,159,962	$2,312,294	$2,477,896	$2,658,056
8	CCLEAN Program Revenue	$290,262	$304,775	$320,014	$336,015	$352,815	$370,456
9	Other Revenues	$185,000	$188,000	$191,090	$194,273	$197,551	$200,927
10	**Total Revenues**	**$10,875,322**	**$11,550,391**	**$12,273,495**	**$12,509,097**	**$12,759,962**	**$13,027,081**
11							
12	**Fixed Wastewater Costs**						
13	WASTEWATER TREATMENT	$6,525,200	$6,985,615	$7,435,273	$7,916,210	$8,430,762	$8,981,448
16	COLLECTION SYSTEMS	$614,684	$657,653	$703,820	$753,434	$806,764	$864,100
17	WATER RECYCLING OPERATIONS	$1,890,535	$2,019,729	$2,159,962	$2,312,294	$2,477,896	$2,658,056
18	UTILITIES LABORATORY CCLEAN	$290,262	$304,775	$320,014	$336,015	$352,815	$370,456
12	UTILITIES ENG& ADMIN	$120,920	$523	$5,544	$11,049	$17,082	$23,687
13	UTILITIES LABORATORY	$0	$0	$0	$0	$0	$0
14	**Total**	**$9,441,601**	**$9,968,295**	**$10,624,612**	**$11,329,002**	**$12,085,319**	**$12,897,748**
15							
16	**Net Revenues**	$1,433,721	$1,582,095	$1,648,883	$1,180,095	$674,643	$129,334
17							
18	**Debt Proceeds to Fund**	$0	$1,223,532	$2,164,710	$0	$0	$0
19							
20	**Wastewater CIP**	$350,000	$3,237,728	$2,872,651	$1,852,172	$3,106,404	$3,057,875
21							
22	Current Debt Service	$570,490	$570,490	$0	$0	$0	$0
23	Proposed Debt Service	$0	$76,468	$211,757	$211,757	$211,757	$211,757
24	Debt Reserve Used for Payment	$0	$67,661	$0	$0	$0	$0
25	**Total Debt Service**	$570,490	$579,297	$211,757	$211,757	$211,757	$211,757
26							
27	**Interest On Reserves**	$1,498	$1,707	$2,385	$2,088	$1,330	$512
28							
29	Net Annual Cash Balance	$514,729	-$1,009,690	$731,570	-$881,747	-$2,642,189	-$3,139,787
30	Beginning Reserve Balances	$4,228,539	$4,743,268	$3,733,577	$4,465,148	$3,583,400	$941,211
31	**Ending Reserve Balance:**	$4,743,268	$3,733,577	$4,465,148	$3,583,400	$941,211	-$2,198,576
32							
33							
34	Coverage Ratio	251%	273%	779%	557%	319%	61%

4.3. PROPOSED FINANCIAL PLAN

4.3.1. PROPOSED REVENUE ADJUSTMENTS

As shown in the proforma above, the City's current capital improvement plan cannot be completed under current rates without significant reserve drawdown, which would result in a negative reserve balance by FY 2020. However, the current rate adjustment in sufficient to allow the utility to put off raising rates until FY 2018. RFC proposes the following through FY 2020 which will allow the sewer enterprise to meet its obligations: these are a 9 percent revenue adjustment for FY 2018, FY 2019, and FY 2020. These revenue adjustments are scheduled to go into effect on July 1 of the year listed, at the beginning of the Fiscal Year. Note that these proposed rate adjustments below do not include the City's current adopted rate adjustments.

4.3.2. PROPOSED DEBT ISSUANCES

In addition to the two SRF debt issuances, it is proposed that the utility will issue another a Market rate loan in FY 2019 with a value of $5 million. The other two issuances (FY 2016 and FY 2017) were already included in the status quo financial plan.

Table 4-13: Proposed Wastewater Debt Issuances

Year	Proposed Issuance	Issuance Cost	Reserve Requirement	Issuance Total
FY 2015				
FY 2016	$1,300,000	$0	-$76,468	$1,223,532
FY 2017	$2,300,000	$0	-$135,290	$2,164,710
FY 2018				
FY 2019	$5,000,000	-$100,000	-$325,257	$4,574,743
FY 2020				

4.3.3. PROPOSED WASTEWATER PROFORMA

Table 4-14 shows the proforma for the Wastewater enterprise under proposed revenue adjustments and with the additional proposed debt issuance. These revenue adjustments and the addition of the debt issuance allows the utility to maintain financial viability through the Study Period and begin to build its reserves so that funding its capital program does not result in significant reserve drawdown.

Table 4-14: Proposed Wastewater Proforma

Wastewater Proforma Line #	Descriptions	FY 2015 Budgeted	FY 2016 Projected	FY 2017 Projected	FY 2018 Projected	FY 2019 Projected	FY 2020 Projected
1	**Revenues**						
2	Existing Rev from Rates	$7,784,519	$8,291,129	$8,833,270	$8,874,281	$8,915,699	$8,957,160
3	Rev from Rev Adjustments	$0	$0	$0	$798,685	$1,677,043	$2,642,622
4	Freedom Sanitation District Reimbursement	$271,200	$279,336	$287,716	$296,348	$305,238	$314,395
5	Pajaro Sanitation District Reimbursement	$375,898	$387,175	$398,790	$410,754	$423,076	$435,769
6	Salsipuedes Sanitation District Reimbursement	$77,908	$80,246	$82,653	$85,133	$87,687	$90,317
7	PVWMA Operational Charges	$1,890,535	$2,019,729	$2,159,962	$2,312,294	$2,477,896	$2,658,056
8	CCLEAN Program Revenue	$290,262	$304,775	$320,014	$336,015	$352,815	$370,456
9	Other Revenues	$185,000	$188,000	$191,090	$194,273	$197,551	$200,927
10	**Total Revenues**	**$10,875,322**	**$11,550,391**	**$12,273,495**	**$13,307,782**	**$14,437,005**	**$15,669,703**
11							
12	**Fixed Wastewater Costs**						
13	WASTEWATER TREATMENT	$6,525,200	$6,985,615	$7,435,273	$7,916,210	$8,430,762	$8,981,448
16	COLLECTION SYSTEMS	$614,684	$657,653	$703,820	$753,434	$806,764	$864,100
17	WATER RECYCLING OPERATIONS	$1,890,535	$2,019,729	$2,159,962	$2,312,294	$2,477,896	$2,658,056
18	UTILITIES LABORATORY CCLEAN	$290,262	$304,775	$320,014	$336,015	$352,815	$370,456
12	UTILITIES ENG& ADMIN	$120,920	$523	$5,544	$11,049	$17,082	$23,687
13	UTILITIES LABORATORY	$0	$0	$0	$0	$0	$0
14	**Total**	**$9,441,601**	**$9,968,295**	**$10,624,612**	**$11,329,002**	**$12,085,319**	**$12,897,748**
15							
16	**Net Revenues**	$1,433,721	$1,582,095	$1,648,883	$1,978,780	$2,351,686	$2,771,956
17							
18	**Debt Proceeds to Fund**	$0	$1,223,532	$2,164,710	$0	$4,574,743	$0
19							
20	**Wastewater CIP**	$350,000	$3,237,728	$2,872,651	$1,852,172	$3,106,404	$3,057,875
21							
22	Current Debt Service	$570,490	$570,490	$0	$0	$0	$0
23	Proposed Debt Service	$0	$76,468	$211,757	$211,757	$537,015	$537,015
24	Debt Reserve Used for Payment	$0	$67,661	$0	$0	$0	$0
25	**Total Debt Service**	$570,490	$579,297	$211,757	$211,757	$537,015	$537,015
26							
27	**Interest On Reserves**	$1,498	$1,707	$2,385	$3,286	$3,357	$4,963
28							
29	Net Annual Cash Balance	$514,729	-$1,009,690	$731,570	-$81,864	$3,286,367	-$817,971
30	Beginning Reserve Balances	$4,228,539	$4,743,268	$3,733,577	$4,465,148	$4,383,284	$7,669,651
31	**Ending Reserve Balance:**	$4,743,268	$3,733,577	$4,465,148	$4,383,284	$7,669,651	$6,851,680
32							
33							
34	Coverage Ratio	251%	273%	779%	934%	438%	516%

Figure 4-1 through Figure 4-4 show a snapshot of the financial plan in graphical form.

Figure 4-1 shows the proposed rate adjustments as blue bars, the resulting debt coverage ratio as a green line, and the required debt coverage of 125% of debt service as a red line.

Figure 4-2 shows the proposed wastewater operating financial plan. The stacked bars are the utility's projected revenue requirements, the blue line are the projected revenues without the revenue adjustments, and the green line is the projected revenue with proposed revenue adjustments.

Figure 4-3 shows the wastewater utility fund's projected annual CIP spending and the source of the funding. Green bars indicate pay-as-you go (PAYGo) funding, and purple bars indicate debt funded projects.

Figure 4-4 shows the wastewater utility fund's yearly ending balance. The blue lines indicate the ending balance, the red line indicates the utility's target balance. The red dots indicate when the utility's ending balance is below the target balance.

Figure 4-1: Wastewater Revenue Adjustments and Debt Coverage

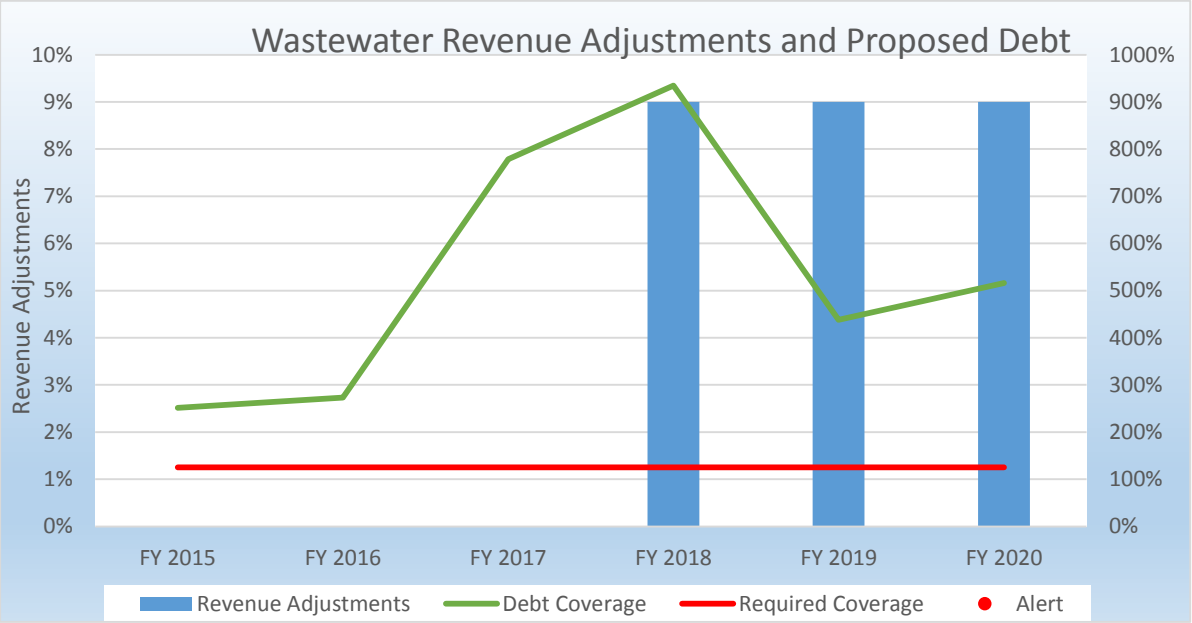


Figure 4-2: Wastewater Operating Financial Plan

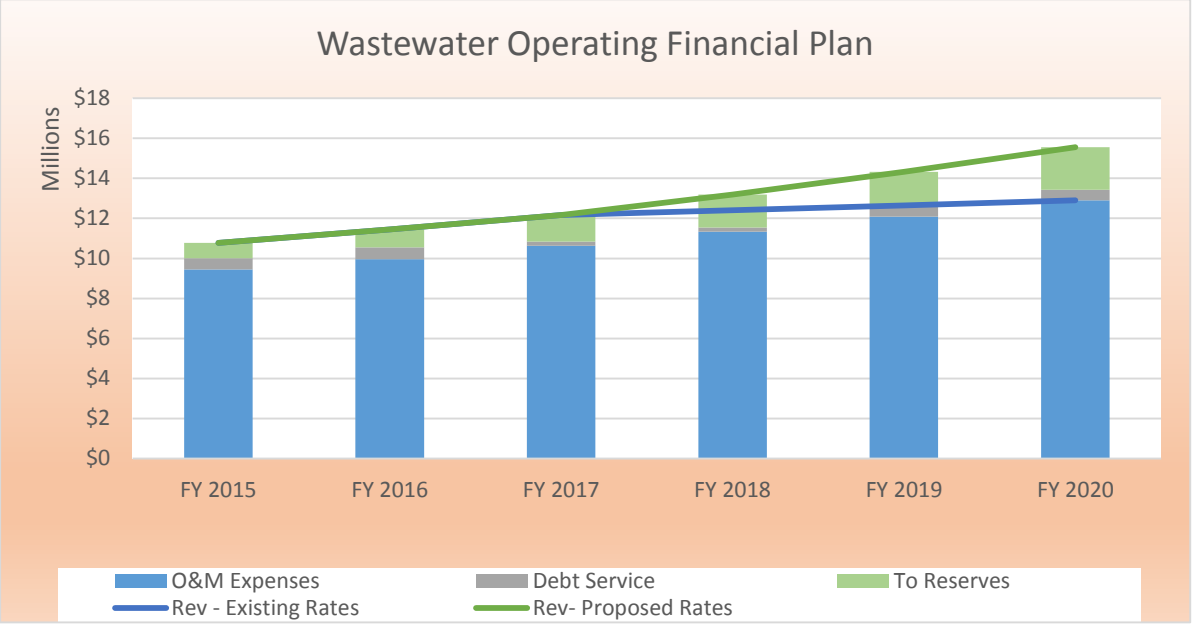


Figure 4-3: Wastewater Utility CIP Funding

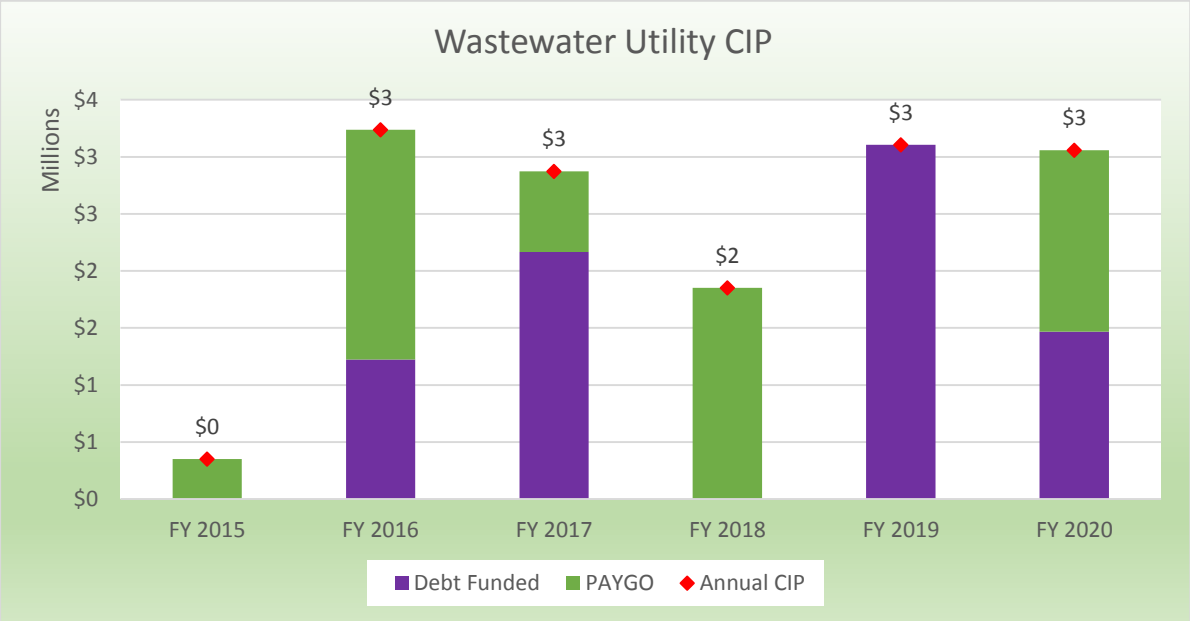
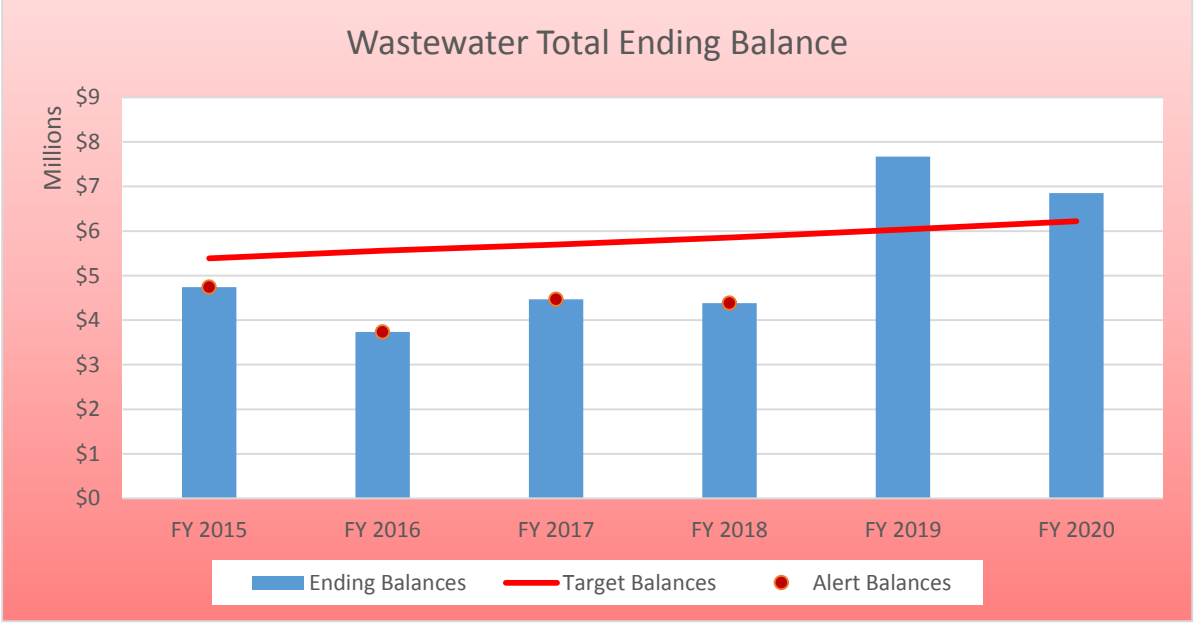


Figure 4-4: Wastewater Utility Ending Balances



4.4. WASTEWATER COST OF SERVICE AND RATE DEVELOPMENT

Government Code Section 54999 requires agencies to perform a cost of service analysis at least once every ten years. A cost of service analysis ensures that rates properly reflect the cost of providing service to the customer, and are thus fair to customers.

For the analysis, a "test" year was established in which revenue requirements for that year were evaluated and the resulting rates for that year were calculated. The following analysis uses FY 2016 as the test year

4.4.1. WASTEWATER COST OF SERVICE ALLOCATION

Proposition 218 requires a nexus between the rates charged and the costs of providing service. Based on the proposed financial plan, the cost of service analysis translates this financial requirement into actual rates. The City's last cost of service analysis was completed by City Staff in FY 2010.

The first step in the cost of service analysis is to determine how much revenue is required to be collected from rates. The methodology used is based upon the premise that the utility must generate annual revenues adequate to meet its estimated annual expenses. As part of the cost of service analysis, several adjustments are made to the appropriate cost elements to ensure adequate collection of revenue by determining the annual revenues needed from rates: revenues from sources other than rates and charges (e.g. revenues from miscellaneous services) are deducted. Table 4-15 shows the initial allocation process. This process was done closely in conjunction with City Staff. The cost of service analysis is dependent on each customer class's flow and pollutant loading (also known as wastewater strength) as measured by the BOD and TSS of each classes' wastewater. The cost of service for each class also depends on the revenue requirement for the utility. The following section describes the methodology used to allocate the utility's operating and capital costs to four cost causation components – 1) wastewater flow, 2) TSS, 3) BOD and 4) fixed costs.

RFC worked with City Staff to functionalize O&M costs. The results are shown below in Table 4-15.

Table 4-15: Initial Wastewater Cost Allocation

Description	Total Wastewater Expenses	BOD %	TSS %	Flow %	Fixed %
WASTEWATER TREATMENT					
Personnel	$1,957,965		0%	0%	100%
Operations	$5,027,650	20%	30%	50%	0%
COLLECTION SYSTEMS					
Personnel	$422,270	0%	0%	0%	100%
Operations	$235,383	0%	20%	80%	0%
WATER RECYCLING OPERATIONS					
Personnel	$83,232		0%	0%	100%
Operations	$1,936,497	20%	20%	60%	0%
UTILITIES LABORATORY CCLEAN					
Personnel	$0	0%	0%	0%	100%
Operations	$304,775	0%	0%	0%	100%
UTILITIES ENG& ADMIN					
Personnel	$2,432,246	0%	0%	0%	100%
Operations	-$2,431,723	0%	0%	0%	100%
UTILITIES LABORATORY					
Personnel	$425,946	0%	0%	0%	100%
Operations	-$425,946	0%	0%	0%	100%
Total	**$9,968,295**				

Table 4-16 shows the calculated results of the cost allocation process.

Table 4-16: Initial Wastewater Cost Allocation Amounts

Description	Variable			Fixed
	BOD	TSS	Flow	Customer Service
WASTEWATER TREATMENT				
Personnel	$0	$0	$0	$1,957,965
Operations	$1,005,530	$1,508,295	$2,513,825	$0
COLLECTION SYSTEMS	$0	$0	$0	$0
Personnel	$0	$0	$0	$422,270
Operations	$0	$47,077	$188,306	$0
WATER RECYCLING OPERATIONS	$0	$0	$0	$0
Personnel	$0	$0	$0	$83,232
Operations	$387,299	$387,299	$1,161,898	$0
UTILITIES LABORATORY CCLEAN	$0	$0	$0	$0
Personnel	$0	$0	$0	$0
Operations	$0	$0	$0	$304,775
UTILITIES ENG& ADMIN	$0	$0	$0	$0
Personnel	$0	$0	$0	$2,432,246
Operations	$0	$0	$0	-$2,431,723
UTILITIES LABORATORY	$0	$0	$0	$0
Personnel	$0	$0	$0	$425,946
Operations	$0	$0	$0	-$425,946
Total	**$1,392,829**	**$1,942,671**	**$3,864,030**	**$2,768,765**
Grand Total	**$9,968,295**			

RFC worked with City staff to functionalize the projects in the utility's CIP and assigned those values to the relevant categories. After doing so, each cost center's total was divided by the enterprise's total operating and capital cost, $13.2 million, to determine what percentage of operating costs should go to each center. These can be seen at the bottom of Table 4-17. The utility's total costs are driven by the percentages in each cost center shown below; 11.2% of the utility's costs are BOD related, 16.4% are TSS related, etc.

Table 4-17: Revenue Recovery Percentage Calculation

		BOD	TSS	Flow	Customer Service
CIP Percentage		3%	7%	5%	85%
CIP Allocation	$3,237,728	$82,562	$228,260	$174,837	$2,752,069
Total Allocation	$13,206,023	$1,475,391	$2,170,931	$4,038,867	$5,520,834
Total Allocation Percentage		**11.2%**	**16.4%**	**30.6%**	**41.8%**

The next step was to allocate FY 2016's projected revenues to the correct cost center. This was done by taking the utility's FY 2016 expected revenue and multiplying by its total allocation percentage to calculate the final Revenue Allocation for the. FY 2016's expected revenue from Septic Load Charges was then subtracted from each cost center's total according to the percentages determined in Table 4-17. The resulting Revenue Requirement was $7.85 million, and was allocated amongst the cost centers in the percentages shown in Table 4-18.

Table 4-18: FY 2016 Total Revenue Recovery Calculation

		Variable			Fixed
	Rate Revenue	BOD	TSS	Flow	Customer Account
		11%	16%	31%	42%
		58%			42%
FY 2016 Projected Revenues	$8,291,129	$926,294	$1,362,974	$2,535,719	$3,466,142
FY 2016 Revenue Offsets	-$440,000	-$49,157	-$72,331	-$134,567	-$183,944
FY 2016 Revenue Allocation	$7,851,129	$877,137	$1,290,643	$2,401,152	$3,282,198

4.4.2. WASTEWATER RATE DEVELOPMENT

Table 4-19 shows the utility's FY 2016 projected accounts, strengths and flows alongside the relevant revenue requirement for each cost center, as well as the costs per unit. The unit costs in column (C) are obtained by dividing the allocation in column (B) by the unit totals in column (A).

Table 4-19: Total Revenue Requirement and FY 2016 Projected Totals

Customer Class	FY 2016 Projected Unit Totals (A)	FY 2016 Projected Allocation (B)	FY 2016 Per Unit Costs (C)
All Accounts			
Accounts/Units	15,957	$3,282,198	$17.15 / account
Flow (CCF)	1,797,181	$2,401,152	$1.34 /hcf
BOD	5,478,081	$877,137	$0.16 /lb
TSS	3,349,099	$1,290,643	$0.39 /lb
		$7,851,129	

The unit costs shown in Table 4-19 are then applied to the wastewater flow and estimated loadings from each customer class, shown in Table 4-20, Table 4-21, Table 4-22, and Table 4-23 to determine the cost to serve (or cost of service) for each class.

These loadings are derived from the LADWP calculated loading factors. If a particular class contributes more flow, or has a higher strength sewage (as evidenced by their strength), it will realize a higher cost of service. Note that the strengths values are reported in milligrams per liter, and therefore require unit conversion to calculate the relevant cost per CCF.[12]

It was assumed that the average residential customer would contribute 6 CCF of wastewater to the treatment plant. Residential customers therefore pay the average and do not pay an additional volumetric wastewater component.

Commercial and non-industrial customers are assumed to pass 90% of their water use through as wastewater.

[12] *This conversion factor is .00624. That is, 1 mg/L converts to .00624 lb/hcf. Here's how to use this conversion factor to determine Residential BOD Projected Loadings:* $.00624 * 338 * 1{,}042{,}272 = 2{,}163{,}498$

Table 4-20: FY 2016 Residential Allocation

Customer Class	Loading Factor	FY 2016 Projected	FY 2016 Per Unit Costs	FY 2016 Projected
Residential		**Totals**		**Class Allocation**
Accounts/Units		14,476	$17.15 / account	$2,977,571
Flow (CCF)	6	1,042,272	$1.34 /hcf	$1,392,544
BOD (mg/L)	338	2,196,498	$0.16 /lb	$351,698
TSS (mg/L)	272	1,770,401	$0.39 /lb	$682,260
				$5,404,073

Table 4-21: FY 2016 Laundry, Institutional, and Other Commercial Allocation

Customer Class	Loading Factor	FY 2016 Projected	FY 2016 Per Unit Costs	FY 2016 Projected
Laundries, Institutional, and Other Commercial		**Totals**		**Class Allocation**
Accounts/Units		1,283	$17.15 / account	$263,900
Flow (CCF)		259,824	$1.34 /hcf	$347,143
BOD (mg/L)	309	501,778	$0.16 /lb	$80,343
TSS (mg/L)	270	437,597	$0.39 /lb	$168,637
				$860,023

Table 4-22: FY 2016 Restaurant, Food Prep, and Bakeries Allocation

Customer Class	Loading Factor	FY 2016 Projected	FY 2016 Per Unit Costs	FY 2016 Projected
Restaurants, Food Prep and Bakeries		**Totals**		**Class Allocation**
Accounts/Units		192	$17.15 / account	$39,493
Flow (CCF)		54,985	$1.34 /hcf	$73,463
BOD (mg/L)	1200	411,908	$0.16 /lb	$65,954
TSS (mg/L)	600	205,789	$0.39 /lb	$79,305
				$258,214

Table 4-23: FY 2016 Industrial Loading Allocation

Customer Class	Loading Factor	FY 2016 Projected	FY 2016 Per Unit Costs	FY 2016 Projected
Industrial		**Totals**		**Class Allocation**
Accounts/Units		6	$17.15 / account	$1,234
Flow	366 MG	440,099	$1.34 /hcf	$588,002
BOD	2,368 (1000 lbs)	2,367,897	$0.16 /lb	$379,142
TSS	935 (1000 lbs)	935,311	$0.39 /lb	$360,441
				$1,328,819

For FY 2017 rates, the percentages calculated in the FY 2016 revenue recovery calculation (from Table 4-17) were applied to that year's projected revenues. The results are shown in Table 4-24 below.

Table 4-24: FY 2017 Total Revenue Recovery Calculation

	Rate Revenue	Variable			Fixed
		BOD	TSS	Flow	Customer Account
		11%	16%	31%	42%
		58.0%			42.0%
FY 2017 Projected Revenues	$8,833,270	$986,863	$1,452,096	$2,701,525	$3,692,786
FY 2017 Revenue Offsets	-$440,000	-$49,157	-$72,331	-$134,567	-$183,944
2017 Revenue Allocation	$8,393,270	$937,705	$1,379,765	$2,566,958	$3,508,842

Table 4-25 shows the allocation process. It is a three step process that occurs four times in the table. First, the totals recovered by each customer class for the cost center described on Row I are totaled in column E. Row II shows each customer class's allocation percentage. This was calculated by dividing the allocation on Row I by the total in Column (E). The third step was calculating the FY 2017 class allocation. This is done on Row III by multiplying the percentage calculated in Row II by the FY 2017 total allocation (from Table 4-24) in Row (E). The calculations repeat for each cost center. The Row numbers also repeat in each calculation for ease of understanding.

Table 4-25: FY 2017 Allocation Process

	FY 2017 Allocation Process	Residential	Laundries, Institutional, and Other Commercial	Restaurants, Food Prep and Bakeries	Industrial	Total
		(A)	(B)	(C)	(D)	(E)
I	Accounts/Units	$2,977,571	$263,900	$39,493	$1,234	$3,282,198
II	*Allocation Percentage*	91%	8%	1%	0%	100%
III	**FY 2017 Allocation**	$3,183,180	$282,123	$42,220	$1,319	$3,508,842
I	Flow (CCF)	$1,392,544	$347,143	$73,463	$588,002	$2,401,152
II	*Allocation Percentage*	58%	14%	3%	24%	100%
III	**FY 2017 Allocation**	$1,488,703	$371,114	$78,536	$628,605	$2,566,958
I	BOD	$351,698	$80,343	$65,954	$379,142	$877,137
II	*Allocation Percentage*	40%	9%	8%	43%	100%
III	**FY 2017 Allocation**	$375,983	$85,891	$70,508	$405,322	$937,705
I	TSS	$682,260	$168,637	$79,305	$360,441	$1,290,643
II	*Allocation Percentage*	53%	13%	6%	28%	100%
III	**FY 2017 Allocation**	$729,372	$180,282	$84,781	$385,330	$1,379,765

The FY 2017 Residential allocation is shown in Table 4-26 below. The remaining FY 2017 allocations are shown in Table 4-26 through Table 4-29.

Table 4-26: Residential FY 2017 Allocation

Customer Class	FY 2016 Percentage of Total	FY 2017 Projected	FY 2017 Projected
Residential	**Totals**	**Totals**	**Allocation**
Accounts/Units	90.72%	14,559	$3,183,180
Flow (CCF)	57.99%		$1,488,703
BOD (mg/L)	40.10%		$375,983
TSS (mg/L)	52.86%		$729,372
			$5,777,238

Table 4-27: Laundry, Institutional, and Other Commercial FY 2017 Allocation

Customer Class	FY 2016 Percentage of Total	FY 2017 Projected	FY 2017 Projected
Laundries, Institutional, and Other Commercial	**Totals**	**Totals**	**Allocation**
Accounts/Units	8.04%	1290	$282,123
Flow (CCF)	14.46%	261,310	$371,114
BOD (mg/L)	9.16%		$85,891
TSS (mg/L)	13.07%		$180,282
			$919,410

Table 4-28: Restaurant, Food Prep, and Bakeries FY 2017 Allocation

Customer Class	FY 2016 Percentage of Total	FY 2017 Projected	FY 2017 Projected
Restaurants, Food Prep and Bakeries	**Totals**	**Totals**	**Allocation**
Accounts/Units	8.04%	193	$42,220
Flow (CCF)	14.46%	55,299	$78,536
BOD (mg/L)	9.16%		$70,508
TSS (mg/L)	13.07%		$84,781
			$276,045

Table 4-29: Industrial FY 2017 Allocation

Customer Class	FY 2017 Projected	FY 2017 Projected	FY 2017 Projected
Industrial	**Totals**	**Totals**	**Allocation**
Accounts/Units	0.04%	6	$1,319
Flow	24.49%	366	$628,605
BOD	43.22%	2,368	$405,323
TSS	27.93%	935	$385,330
			$1,420,577

Residential Rates for FY 2016 and FY 2017 were calculated by dividing total residential costs by the number of accounts multiplied by the number of billing periods in the fiscal year. The residential cost for FY 2017 was found to be $31.11 per month.

For FY 2016 and FY 2017 non-residential rates have both a fixed and volumetric charge. The fixed charge component for FY 2016 is shown in Table 4-19 above. For FY 2017, the fixed charge can be calculated by dividing the total allocation by the number of accounts in each class. The volumetric component was calculated by dividing the total variable costs allocated to the customer class by the class's projected flow in the relevant year.

Industrial rates are assessed based both strength and flow, in addition to paying the same monthly fixed charge other non-residential accounts pay. Industrial customers are billed on a volumetric basis (per million gallons), and on the basis of their strengths (per 1000 pounds of pollutant). The costs associated with each pollutant category was determined by taking the total cost allocated to each cost center and dividing by the billing unit (1000 lbs for pollutants, million gallons for flow).

The rates for FY 2018 through FY 2020 were calculated by multiplying the rates for the previous year by the proposed rate increases for that year. For example, FY 2018 rates were determined by taking the rates for FY 2017 and increasing them by 9%. The rates in Table 4-30 show the resulting rates.

Table 4-30: Intermediate Rates

City of Watsonville Wastewater Rates	Adopted FY 2016	Proposed FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Wastewater Rates						
Service Charges						
Residential	$28.25	$31.11	$33.07	$36.05	$39.30	$42.84
Non-Residential	$28.25	$17.15	$18.23	$19.88	$21.67	$23.63
Usage Rates (per CCF)						
Laundries, Institutional, and Other Commercial	$3.44	$2.30	$2.44	$2.66	$2.90	$3.17
Restaurants, Food Prep and Bakeries	$8.22	$3.98	$4.23	$4.62	$5.04	$5.50
Industrial						
Volume (MG)	$943.44	$1,607.46	$1,718.46	$1,873.13	$2,041.72	$2,225.48
BOD (1000 lbs)	$252.69	$160.12	$171.18	$186.59	$203.39	$221.70
TSS (1000 lbs)	$275.46	$385.38	$411.99	$449.07	$489.49	$533.55

However, due to the rate increase currently in effect, the City has decided to phase these new rates in over 5 years. The phased-in rates were calculated using the formula shown in Equation 4-1. Note that for calculating FY 2016's phased-in rate, the previous FY's rate is replaced with the adopted FY 2016 rate.

Equation 4-1: Phased-In Rate Calculation

$$Rate_{Current\ FY} = Rate_{Previous\ FY} + \frac{Proposed\ Rate_{FY2020} - Adopted\ Rate_{FY\ 2016}}{5\ Years}$$

The resulting rates can be seen in Table 4-31.

Table 4-31: Proposed Rates

City of Watsonville Wastewater Rates	Adopted FY 2016	Proposed FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Wastewater Rates						
Service Charges						
Residential	$28.25	$31.16	$34.08	$37.00	$39.92	$42.84
Non-Residential	$28.25	$27.32	$26.40	$25.48	$24.55	$23.63
Usage Rates (per CCF)						
Laundries, Institutional, and Other Commercial	$3.44	$3.38	$3.33	$3.28	$3.22	$3.17
Restaurants, Food Prep and Bakeries	$8.22	$7.68	$7.13	$6.59	$6.04	$5.50
Industrial						
Volume (per MG)	$943.44	$1,199.85	$1,456.26	$1,712.67	$1,969.07	$2,225.48
BOD (per 1000 lbs)	$252.69	$246.49	$240.29	$234.09	$227.90	$221.70
TSS (per 1000 lbs)	$275.46	$327.07	$378.69	$430.31	$481.93	$533.55

5. SOLID WASTE FUND- FINANCIAL PLAN AND RATES

The following subsections present the findings and recommendations of the rate study pertaining to the solid waste utility. The City is planning some significant changes to the operations by closing its current landfill and relocating to a different landfill. As a result the City is expecting the utility to have higher Capital costs over the course of the Study Period.

The City's Solid Waste Enterprise Fund (Fund 740) funds all operations and maintenance needed to properly operate and maintain the solid waste system and make necessary capital investments in the solid waste system's infrastructure. In 2012, City Council adopted rate increases for fiscal years 2012 through 2017. These rate adjustments consist of service charge and one time pickup increases of 6% in FY 2013, FY 2016 and FY 2017, and 7% for FY 2014 and FY 2015.

The utility derives revenues from two services. The solid waste utility provides garbage, compactor, recycling, and yard waste services for residential and commercial customers as well as landfill disposal. The majority of the utility's revenue is obtained from weekly solid waste collection service. The other portion of the utility's revenues is one time collection. The utility's actual rate revenues in FY 2014 were $8.7 million, in addition to $.7 million in non-operating revenue. The utility's operating expenses in FY 2014 were $8 million. In FY 2015 rate revenues are projected to be $9.5 million. In FY 2015 expenses were projected to be $8.3 million.

It is projected that the utility's expenses will increase by 6.3% in FY 2016, while the utility's revenues are projected to increase by 6.5 percent. This 6.5 percent increase in revenues is a result of the adopted rate increases the utility already has adopted as well as the .57 percent overall growth the City is expecting. In FY 2017 the utility's expenses and revenues will increase by roughly the same percentage as the year before (6.5 percent revenue increase, 6.3 percent operating expense increase) but after the adopted rate increases expire, revenues are projected to increase by only .57 percent per year while expenses will continue to increase at 6.3 percent per year.

5.1. SOLID WASTE REVENUE REQUIREMENTS

5.1.1. REVENUES FROM CURRENT RATES

Customers are currently charged a monthly fixed charge for all garbage, recycling, and yard waste services, depending on the size of the garbage containers. The monthly service component includes weekly pickups. The current rates are shown in Table 5-1, Table 5-2, and Table 5-3 below.

Table 5-1: Current Solid Waste Weekly Pickup Rates

Monthly Service Charges	FY 2014	FY 2015	FY 2016	FY 2017
Weekly pickup				
32 gallons (min)	$25.61	$27.40	$29.04	$30.78
68 gallons	$35.97	$38.49	$40.80	$43.25
95 gallons	$44.55	$47.67	$50.53	$53.57
1 cubic yard	$119.33	$127.68	$135.34	$143.46
1.5 cubic yards	$148.71	$159.12	$168.67	$178.79
2 cubic yards	$187.51	$200.63	$212.67	$225.43
3 cubic yards	$264.20	$282.70	$299.66	$317.64
4 cubic yards	$332.39	$355.66	$377.00	$399.62
6 cubic yards	$477.27	$510.68	$541.32	$573.80
8 cubic yards	$605.11	$647.47	$686.32	$727.50
Drop-box service				
20 cubic yards	$1,875.02	$2,006.28	$2,126.65	$2,254.25
25 cubic yards	$2,215.94	$2,371.05	$2,513.32	$2,664.12
30 cubic yards	$2,556.85	$2,735.83	$2,899.98	$3,073.98
35 cubic yards	$2,897.76	$3,100.61	$3,286.64	$3,483.84
40 cubic yards	$3,068.21	$3,282.99	$3,479.97	$3,688.77
Compactor drop box services				
3 cubic yards	$634.64	$679.06	$719.81	$763.00
4 cubic yards	$809.58	$866.25	$918.23	$973.32
10 cubic yards	$2,556.85	$2,735.83	$2,899.98	$3,073.98
15 cubic yards	$3,409.13	$3,647.77	$3,866.63	$4,098.63
20 cubic yards	$4,261.42	$4,559.72	$4,833.31	$5,123.31
22 cubic yards	$4,559.90	$4,879.09	$5,171.84	$5,482.15
25 cubic yards	$5,040.58	$5,393.42	$5,717.02	$6,060.04
30 cubic yards	$5,880.77	$6,292.43	$6,669.97	$7,070.17
35 cubic yards	$6,652.68	$7,118.37	$7,545.47	$7,998.20
40 cubic yards	$7,457.96	$7,980.02	$8,458.82	$8,966.35

Table 5-2: Current Temporary Use Pickup Rates

On-call Services	FY 2014	FY 2015	FY 2016	FY 2017
Temporary Use Containers				
1 cubic yard	$93.96	$100.53	$106.57	$112.96
1.5 cubic yards	$102.51	$109.68	$116.26	$123.24
2 cubic yards	$110.80	$118.55	$125.67	$133.21
3 cubic yards	$136.35	$145.89	$154.65	$163.93
4 cubic yards	$153.41	$164.14	$173.99	$184.43
6 cubic yards	$196.03	$209.76	$222.34	$235.68
8 cubic yards	$247.71	$265.05	$280.95	$297.80
Drop Box Service				
20 cubic yards (half full)	$357.97	$383.03	$406.01	$430.37
20 cubic yards	$542.04	$579.98	$614.78	$651.67
25 cubic yards	$639.19	$683.93	$724.97	$768.46
30 cubic yards	$738.07	$789.73	$837.11	$887.34
35 cubic yards	$836.94	$895.53	$949.26	$1,006.22
40 cubic yards	$886.36	$948.40	$1,005.31	$1,065.62
50 cubic yards	$919.94	$984.34	$1,043.40	$1,106.00
10 cubic yards (7 days)	$310.78	$332.54	$352.49	$373.64
15 cubic yards (7 days)	$380.29	$406.91	$431.32	$457.20
20 cubic yards (7 days)	$441.14	$472.02	$500.34	$530.36
30 cubic yards (7 days)	$593.24	$634.77	$672.85	$713.22
40 cubic yards (7 days)	$722.54	$773.12	$819.50	$868.67
Compactor drop-box service				
3 cubic yards	$277.85	$297.31	$315.15	$334.05
4 cubic yards	$359.66	$384.84	$407.93	$432.40
10 cubic yards	$738.07	$789.74	$837.13	$887.35
12 cubic yards	$850.42	$909.96	$964.55	$1,022.43
15 cubic yards	$983.53	$1,052.37	$1,115.51	$1,182.44
20 cubic yards	$1,230.68	$1,316.83	$1,395.84	$1,479.59
22 cubic yards	$1,316.25	$1,408.39	$1,492.89	$1,582.46
25 cubic yards	$1,455.69	$1,557.59	$1,651.05	$1,750.11
30 cubic yards	$1,697.76	$1,816.60	$1,925.60	$2,041.13
40 cubic yards	$2,123.90	$2,272.57	$2,408.92	$2,553.46

Table 5-3: Current Special Use Pickup Rates

Special Use Containers	FY 2014	FY 2015	FY 2016	FY 2017
Wood waste, yard trimmings, scrap metal				
4 cubic yards	$76.72	$82.09	$87.01	$92.24
6 cubic yards	$98.02	$104.88	$111.18	$117.85
20 cubic yards	$271.02	$289.99	$307.39	$325.83
25 cubic yards	$319.61	$341.98	$362.50	$384.25
30 cubic yards	$369.04	$394.85	$418.54	$443.66
35 cubic yards	$418.45	$447.75	$474.61	$503.09
40 cubic yards	$443.19	$474.22	$502.67	$532.83
Recycling				
3 cubic yards	$63.72	$68.17	$72.26	$76.60
6 cubic yards	$91.61	$98.01	$103.89	$110.13
15 cubic yards	$205.28	$219.63	$232.81	$246.77
30 cubic yards	$394.87	$422.47	$447.82	$474.69

Solid waste customer accounts and pickups information for FY 2014 are used as the basis for projecting revenues during the Study Period. As with the water and wastewater utilities, the City is anticipating account growth (0.57 percent) for FY 2016 through FY 2020 and slightly higher growth (0.73 percent) for fiscal years 2021 through FY 2025, as shown in Table 2-2. The majority of the City's customers are serviced by the 32 gallon, 68 gallon, and 95 gallon collection service. Account totals are shown in Table 5-4, Table 5-5, and Table 5-6 below.

Table 5-4: Solid Waste Projected Weekly Pickup Account Totals

Monthly Service Accounts	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
32 gallons (min)	4,942	4,942	4,970	4,998	5,027	5,056	5,085
68 gallons	4,892	4,892	4,920	4,948	4,976	5,004	5,033
95 gallons	1,137	1,137	1,144	1,151	1,158	1,165	1,172
1 cubic yard	52	52	52	52	52	52	52
1.5 cubic yards	25	25	25	25	25	25	25
2 cubic yards	158	158	159	160	161	162	163
3 cubic yards	193	193	194	195	196	197	198
4 cubic yards	209	209	210	211	212	213	214
6 cubic yards	189	189	190	191	192	193	194
8 cubic yards	67	67	67	67	67	67	67
Drop-box service							
20 cubic yards	10	10	10	10	10	10	10
25 cubic yards	0	0	0	0	0	0	0
30 cubic yards	0	0	0	0	0	0	0
35 cubic yards	0	0	0	0	0	0	0
40 cubic yards	1	1	1	1	1	1	1
Compactor drop box services							
3 cubic yards	0	0	0	0	0	0	0
4 cubic yards	0	0	0	0	0	0	0
10 cubic yards	0	0	0	0	0	0	0
15 cubic yards	0	0	0	0	0	0	0
20 cubic yards	0	0	0	0	0	0	0
22 cubic yards	0	0	0	0	0	0	0
25 cubic yards	2	2	2	2	2	2	2
30 cubic yards	0	0	0	0	0	0	0
35 cubic yards	0	0	0	0	0	0	0
40 cubic yards	0	0	0	0	0	0	0

Table 5-5: Solid Waste Projected On Call Service Totals

On-call Services	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Temporary Use Containers							
1 cubic yard	9	9	9	9	9	9	9
1.5 cubic yards	0	0	0	0	0	0	0
2 cubic yards	9	9	9	9	9	9	9
3 cubic yards	40	40	40	40	40	40	40
4 cubic yards	33	33	33	33	33	33	33
6 cubic yards	98	98	99	100	101	102	103
8 cubic yards	2	2	2	2	2	2	2
Drop Box Service							
20 cubic yards (half full)	9	9	9	9	9	9	9
20 cubic yards	103	103	104	105	106	107	108
25 cubic yards	112	112	113	114	115	116	117
30 cubic yards	156	156	157	158	159	160	161
35 cubic yards	63	63	63	63	63	63	63
40 cubic yards	112	112	113	114	115	116	117
50 cubic yards	0	0	0	0	0	0	0
10 cubic yards (7 days)	1	1	1	1	1	1	1
15 cubic yards (7 days)	37	37	37	37	37	37	37
20 cubic yards (7 days)	59	59	59	59	59	59	59
30 cubic yards (7 days)	25	25	25	25	25	25	25
40 cubic yards (7 days)	21	21	21	21	21	21	21
Compactor drop-box service							
3 cubic yards	0	0	0	0	0	0	0
4 cubic yards	0	0	0	0	0	0	0
10 cubic yards	0	0	0	0	0	0	0
12 cubic yards	0	0	0	0	0	0	0
15 cubic yards	27	27	27	27	27	27	27

20 cubic yards	58	58	58	58	58	58	58
22 cubic yards	0	0	0	0	0	0	0
25 cubic yards	0	0	0	0	0	0	0
30 cubic yards	48	48	48	48	48	48	48
40 cubic yards	21	21	21	21	21	21	21

Table 5-6: Solid Waste Projected Special Use Totals

Special Use Containers	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Wood waste, yard trimmings, and scrap metal							
4 cubic yards	53	53	53	53	53	53	53
6 cubic yards	13	13	13	13	13	13	13
20 cubic yards	52	52	52	52	52	52	52
25 cubic yards	13	13	13	13	13	13	13
30 cubic yards	10	10	10	10	10	10	10
35 cubic yards	34	34	34	34	34	34	34
40 cubic yards	0	0	0	0	0	0	0
Recycling							
3 cubic yards	3	3	3	3	3	3	3
6 cubic yards	4	4	4	4	4	4	4
15 cubic yards	20	20	20	20	20	20	20
30 cubic yards	1	1	1	1	1	1	1

The City's projected operating revenue from the utility can be calculated by multiplying the projected account totals by the charges outlined above. The charges for the utility in years beyond FY 2017 are kept constant at FY 2017 levels. These operating revenues are shown in Table 5-7, Table 5-8, and Table 5-9.

Table 5-7: Projected Monthly Service Charge Revenues

Monthly Service Charge Revenues	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Weekly pickup							
32 gallons (min)	$1,518,775	$1,624,930	$1,731,946	$1,846,061	$1,856,773	$1,867,484	$1,878,196
68 gallons	$2,111,583	$2,259,517	$2,408,832	$2,568,012	$2,582,544	$2,597,076	$2,612,127
95 gallons	$607,840	$650,409	$693,676	$739,909	$744,409	$748,909	$753,408
1 cubic yard	$74,462	$79,672	$84,452	$89,519	$89,519	$89,519	$89,519
1.5 cubic yards	$44,613	$47,736	$50,601	$53,637	$53,637	$53,637	$53,637
2 cubic yards	$355,519	$380,394	$405,774	$432,826	$435,531	$438,236	$440,941
3 cubic yards	$611,887	$654,733	$697,608	$743,278	$747,089	$750,901	$754,713
4 cubic yards	$833,634	$891,995	$950,040	$1,011,838	$1,016,633	$1,021,429	$1,026,224
6 cubic yards	$1,082,448	$1,158,222	$1,234,210	$1,315,150	$1,322,035	$1,328,921	$1,335,806
8 cubic yards	$486,508	$520,566	$551,801	$584,910	$584,910	$584,910	$584,910
Subtotal	**$7,727,271**	**$8,268,175**	**$8,808,940**	**$9,385,139**	**$9,433,080**	**$9,481,021**	**$9,529,481**
Drop-box service							
20 cubic yards	$225,002	$240,754	$255,198	$270,510	$270,510	$270,510	$270,510
25 cubic yards	$0	$0	$0	$0	$0	$0	$0
30 cubic yards	$0	$0	$0	$0	$0	$0	$0
35 cubic yards	$0	$0	$0	$0	$0	$0	$0
40 cubic yards	$36,819	$39,396	$41,760	$44,265	$44,265	$44,265	$44,265
Subtotal	**$261,821**	**$280,149**	**$296,958**	**$314,775**	**$314,775**	**$314,775**	**$314,775**
Compactor drop box services							
3 cubic yards	$0	$0	$0	$0	$0	$0	$0
4 cubic yards	$0	$0	$0	$0	$0	$0	$0
10 cubic yards	$0	$0	$0	$0	$0	$0	$0
15 cubic yards	$0	$0	$0	$0	$0	$0	$0
20 cubic yards	$0	$0	$0	$0	$0	$0	$0
22 cubic yards	$0	$0	$0	$0	$0	$0	$0
25 cubic yards	$120,974	$129,442	$137,208	$145,441	$145,441	$145,441	$145,441
30 cubic yards	$0	$0	$0	$0	$0	$0	$0
35 cubic yards	$0	$0	$0	$0	$0	$0	$0
40 cubic yards	$0	$0	$0	$0	$0	$0	$0
Subtotal	**$120,974**	**$129,442**	**$137,208**	**$145,441**	**$145,441**	**$145,441**	**$145,441**

Table 5-8: Projected On-Call Service Charge Revenues

On-call Services	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Temporary Use Containers							
1 cubic yard	$846	$905	$959	$1,017	$1,017	$1,017	$1,017
1.5 cubic yards	$0	$0	$0	$0	$0	$0	$0
2 cubic yards	$997	$1,067	$1,131	$1,199	$1,199	$1,199	$1,199
3 cubic yards	$5,454	$5,836	$6,186	$6,557	$6,557	$6,557	$6,557
4 cubic yards	$5,063	$5,417	$5,742	$6,086	$6,086	$6,086	$6,086
6 cubic yards	$19,211	$20,556	$22,012	$23,568	$23,804	$24,039	$24,275
8 cubic yards	$495	$530	$562	$596	$596	$596	$596
Subtotal	**$32,066**	**$34,311**	**$36,591**	**$39,023**	**$39,258**	**$39,494**	**$39,730**
Drop Box Service							
20 cubic yards (half full)	$3,222	$3,447	$3,654	$3,873	$3,873	$3,873	$3,873
20 cubic yards	$55,830	$59,738	$63,937	$68,425	$69,077	$69,729	$70,380
25 cubic yards	$71,589	$76,600	$81,922	$87,604	$88,373	$89,141	$89,910
30 cubic yards	$115,139	$123,198	$131,426	$140,200	$141,087	$141,974	$142,862
35 cubic yards	$52,727	$56,418	$59,803	$63,392	$63,392	$63,392	$63,392
40 cubic yards	$99,272	$106,221	$113,600	$121,481	$122,546	$123,612	$124,678
50 cubic yards	$0	$0	$0	$0	$0	$0	$0
Subtotal	**$397,780**	**$425,622**	**$454,343**	**$484,975**	**$488,348**	**$491,722**	**$495,095**
10 cubic yards (7 days)	$311	$333	$352	$374	$374	$374	$374
15 cubic yards (7 days)	$14,071	$15,056	$15,959	$16,916	$16,916	$16,916	$16,916
20 cubic yards (7 days)	$26,027	$27,849	$29,520	$31,291	$31,291	$31,291	$31,291
30 cubic yards (7 days)	$14,831	$15,869	$16,821	$17,831	$17,831	$17,831	$17,831
40 cubic yards (7 days)	$15,173	$16,236	$17,210	$18,242	$18,242	$18,242	$18,242
Subtotal	**$70,413**	**$75,342**	**$79,862**	**$84,654**	**$84,654**	**$84,654**	**$84,654**
Compactor drop-box service							
3 cubic yards	$0	$0	$0	$0	$0	$0	$0
4 cubic yards	$0	$0	$0	$0	$0	$0	$0
10 cubic yards	$0	$0	$0	$0	$0	$0	$0

12 cubic yards	$0	$0	$0	$0	$0	$0	$0
15 cubic yards	$26,555	$28,414	$30,119	$31,926	$31,926	$31,926	$31,926
20 cubic yards	$71,379	$76,376	$80,959	$85,816	$85,816	$85,816	$85,816
22 cubic yards	$0	$0	$0	$0	$0	$0	$0
25 cubic yards	$0	$0	$0	$0	$0	$0	$0
30 cubic yards	$81,492	$87,197	$92,429	$97,974	$97,974	$97,974	$97,974
40 cubic yards	$44,602	$47,724	$50,587	$53,623	$53,623	$53,623	$53,623
Subtotal	**$224,029**	**$239,711**	**$254,094**	**$269,339**	**$269,339**	**$269,339**	**$269,339**

Table 5-9: Projected Special Use Service Charge Revenues

Special Use Containers	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Wood waste, yard trimmings, and scrap metal							
4 cubic yards	$4,066	$4,351	$4,612	$4,889	$4,889	$4,889	$4,889
6 cubic yards	$1,274	$1,363	$1,445	$1,532	$1,532	$1,532	$1,532
20 cubic yards	$14,093	$15,079	$15,984	$16,943	$16,943	$16,943	$16,943
25 cubic yards	$4,155	$4,446	$4,713	$4,995	$4,995	$4,995	$4,995
30 cubic yards	$3,690	$3,949	$4,185	$4,437	$4,437	$4,437	$4,437
35 cubic yards	$14,227	$15,224	$16,137	$17,105	$17,105	$17,105	$17,105
40 cubic yards	$0	$0	$0	$0	$0	$0	$0
Subtotal	**$41,506**	**$44,411**	**$47,076**	**$49,901**	**$49,901**	**$49,901**	**$49,901**
Recycling							
3 cubic yards	$191	$205	$217	$230	$230	$230	$230
6 cubic yards	$366	$392	$416	$441	$441	$441	$441
15 cubic yards	$4,106	$4,393	$4,656	$4,935	$4,935	$4,935	$4,935
30 cubic yards	$395	$422	$448	$475	$475	$475	$475
Subtotal	**$5,058**	**$5,412**	**$5,736**	**$6,080**	**$6,080**	**$6,080**	**$6,080**

These operating revenues are totaled in Table 5-10 below. Non-Operating Revenues are shown in Table 5-11 below.

Table 5-10: Projected Operating Revenues

Total Solid Waste Revenues	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
	Estimated	*Projected*	*Projected*	*Projected*	*Projected*	*Projected*	*Projected*
Total	$8,880,917	$9,502,576	$10,120,808	$10,779,327	$10,830,877	$10,882,427	$10,934,496

Table 5-11: Projected Non-Operating Revenues

Other Revenues	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
DROP OFF FACILITY	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000	$210,000
INTEREST EARNINGS	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000
OTHER REVENUE	$450,000	$500,000	$500,000	$500,000	$500,000	$500,000	$500,000
GRANTS	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000	$20,000
OTHER REVENUE	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000	$10,000

5.1.2. SOLID WASTE O&M

O&M expenditures include the cost of operating and maintaining collections, recycling, street sweep, and landfill disposal facilities. The comprehensive forecasted annual O&M expenditures for the study are based upon the City's budgeted FY 2014 expenditures, adjusted for changes since the budget was developed and for anticipated changes in operations and the effect of inflation in future years. These totals are escalated using the inflation factors found in Table 2-1 starting in FY 2015. Projected O&M expenditures for the Study Period are summarized by functions in Table 5-12.

Table 5-12: Solid Waste Projected O&M

	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
COLLECTIONS							
Personnel	$2,040,762	$2,153,905	$2,326,145	$2,512,161	$2,713,055	$2,930,016	$3,164,330
Operations	$4,018,517	$4,106,618	$4,334,997	$4,569,900	$4,818,258	$5,080,888	$5,358,660
STREET SWEEP							
Personnel	$80,396	$116,948	$126,304	$136,408	$147,321	$159,106	$171,835
Operations	$103,412	$84,241	$88,055	$92,049	$96,229	$100,606	$105,189
MATERIAL RECYCLING							
Personnel	$532,786	$492,307	$531,692	$574,227	$620,165	$669,778	$723,360
Operations	$423,393	$450,860	$474,403	$499,223	$525,394	$552,995	$582,109
LANDFILL							
Personnel	$300,807	$304,562	$328,927	$355,241	$383,660	$414,353	$447,501
Operations	$545,669	$546,409	$568,574	$591,748	$615,981	$641,329	$667,851
Totals							
Personnel	$2,954,751	$3,067,722	$3,313,068	$3,578,038	$3,864,201	$4,173,254	$4,507,027
Operations	$5,090,991	$5,188,128	$5,466,030	$5,752,920	$6,055,863	$6,375,819	$6,713,810
Total	**$8,045,742**	**$8,255,850**	**$8,779,098**	**$9,330,957**	**$9,920,064**	**$10,549,073**	**$11,220,836**

5.1.3. SOLID WASTE CAPITAL IMPROVEMENT PLAN

The solid waste utility's capital improvement plan is less extensive than that of both the wastewater and water utilities. However, it does have a spike of spending in FY 2017 and FY 2018 when the landfill closure will occur.

The solid waste utility is anticipating spending $19 million between FY 2015 and FY 2020. Of this $19 million, $7 million is allocated towards the expenses associated with the City's current landfill. The utility's CIP is shown below in Table 5-13.

Table 5-13: Solid Waste Projected CIP

City of Watsonville	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Inflated CIP Schedule							
Solid Waste	$0	$1,102,000	$3,105,450	$4,551,261	$8,184,525	$945,427	$1,321,572

5.1.4. CURRENT DEBT

The utility currently has one debt outstanding. This debt, the 2009 Private Placement, will retire after FY 2019. It is currently $807,605 per year and will be reduced to $243,007 in FY 2017. A summary of the utility's CIP are shown in Table 5-14.

Table 5-14: Solid Waste Existing Debt

Solid Waste Existing Debt	FY 2014	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
2009 Private Placement	$807,605	$807,605	$807,605	$243,007	$243,007	$243,006	$0

5.2. STATUS QUO SOLID WASTE PROFORMA

Table 5-15 displays the proforma of the City's Solid Waste Fund under current rates over the Study Period. All projections shown in the table are based upon the current rate structure and do not include any rate adjustments. The pro-forma incorporates the data shown in Section 5.1.

Under the "status-quo" scenario, revenues generated from rates and other miscellaneous revenues are inadequate to sufficiently recover operating and capital expenses of the utility beginning in FY 2016. Though current operating revenues do exceed operating costs, they are insufficient to also fund the utility's capital program and would require extensive reserve funding. While the ending reserve balance is already below target levels, it dives further below target levels under the status quo scenario and will be negative in FY 2020. In short, the utility is unable to maintain fiscal sustainability and solvency under the current solid waste rates.

Table 5-15: Status Quo Solid Waste Proforma

Solid Waste Proforma		FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Line #	Descriptions	Budgeted	Projected	Projected	Projected	Projected	Projected
1	**Revenues**						
2	Existing Rev from Rates	$9,502,576	$10,120,808	$10,779,327	$10,830,877	$10,882,427	$10,934,496
3	Rev from Rev Adjustments	$0	$0	$0	$0	$0	$0
4	Other Revenues	$740,000	$740,000	$740,000	$740,000	$740,000	$740,000
5	**Total Revenues**	$10,242,576	$10,860,808	$11,519,327	$11,570,877	$11,622,427	$11,674,496
6							
7	**Fixed Solid Waste Costs**						
8	SOLID COLLECTIONS	$6,260,523	$6,661,142	$7,082,062	$7,531,313	$8,010,904	$8,522,990
9	STREET SWEEP	$201,189	$214,359	$228,457	$243,550	$259,713	$277,024
10	MATERIAL RECYCLING	$943,167	$1,006,095	$1,073,450	$1,145,559	$1,222,773	$1,305,469
11	LANDFILL	$850,971	$897,501	$946,989	$999,641	$1,055,683	$1,115,353
12	**Total**	**$8,255,850**	**$8,779,098**	**$9,330,957**	**$9,920,064**	**$10,549,073**	**$11,220,836**
13							
14	**Net Revenues**	$1,986,726	$2,081,711	$2,188,370	$1,650,813	$1,073,354	$453,660
15							
16	**Debt Proceeds to Fund**	$0	$0	$0	$0	$0	$0
17							
18	Solid Waste CIP	$1,102,000	$3,105,450	$4,551,261	$8,184,525	$945,427	$1,321,572
19	Grant Funding	$0	$0	$0	$0	$0	$0
20	Solid Waste CIP (Net)	$1,102,000	$3,105,450	$4,551,261	$8,184,525	$945,427	$1,321,572
21							
22	Current Debt Service	$807,605	$807,605	$243,007	$243,007	$243,006	$0
23	Proposed Debt Service	$0	$0	$0	$0	$0	$0
24	Debt Reserve Used for Payment	$0	$0	$0	$0	$95,029	$0
25	**Total Debt Service**	$807,605	$807,605	$243,007	$243,007	$147,977	$0
26							
27	**Interest On Reserves**	$14,001	$2,196	$3,203	$2,397	$1,673	$680
28							
29	Net Annual Cash Balance	$91,122	-$1,829,148	-$2,602,695	-$6,774,322	-$18,377	-$867,232
30	Beginning Reserve Balances	$5,717,192	$5,808,314	$3,979,166	$1,376,470	-$5,397,852	-$5,416,229
31	**Ending Reserve Balance:**	$5,808,314	$3,979,166	$1,376,470	-$5,397,852	-$5,416,229	-$6,283,461
32							
33							
34	Coverage Ratio	246%	258%	901%	679%	725%	#N/A

5.3. PROPOSED SOLID WASTE FINANCIAL PLAN

As shown in the proforma above, the City's current capital improvement plan cannot be completed under current rates without significant reserve drawdown, which would result in negative reserve balance by FY 2018. However, the current rate adjustment in sufficient to allow the utility to put off raising rates until FY 2018. RFC proposes the following revenue adjustments through FY 2020 which will allow the solid waste enterprise to meet its obligations. It includes an 8 percent revenue adjustment for FY 2018, FY 2019, and FY 2020. These revenue adjustments are scheduled to go into effect on July 1 of the year listed, at the beginning of the Fiscal Year. Note that the current adopted rate adjustments are not included in the aforementioned adjustments, but are still adopted by the utility.

Another part of the proposed financial plan is a debt issuance. This proposed debt issuance will be issued in FY 2017 in order to avoid a significant drawdown in reserves as a result of the landfill closure. Table 5-16 gives the details of the proposed debt issuance, which is a market rate loan that carries the associated issuance costs.

Table 5-16: Proposed Debt Issuance

Year	Proposed Issuance	Issuance Cost	Reserve Requirement	Issuance Total
FY 2015				
FY 2016				
FY 2017	$12,000,000	-$240,000	-$780,617	$10,979,383
FY 2018				
FY 2019				
FY 2020				

Table 5-17 shows the proforma for the Solid Waste enterprise under proposed revenue adjustments and with the additional proposed debt issuance. These revenue adjustments and the addition of the debt issuance allows the utility to maintain financial viability through the Study Period and begin to build its reserves so that funding the landfill closure does not result in significant reserve drawdown.

Table 5-17: Proposed Financial Plan Proforma

Solid Waste Proforma Line #	Descriptions	FY 2015 Budgeted	FY 2016 Projected	FY 2017 Projected	FY 2018 Projected	FY 2019 Projected	FY 2020 Projected
1	**Revenues**						
2	Existing Rev from Rates	$9,502,576	$10,120,808	$10,779,327	$10,830,877	$10,882,427	$10,934,496
3	Rev from Rev Adjustments	$0	$0	$0	$866,470	$1,810,836	$2,839,820
4	Other Revenues	$740,000	$740,000	$740,000	$740,000	$740,000	$740,000
5	**Total Revenues**	$10,242,576	$10,860,808	$11,519,327	$12,437,347	$13,433,263	$14,514,316
6							
7	**Fixed Solid Waste Costs**						
8	SOLID COLLECTIONS	$6,260,523	$6,661,142	$7,082,062	$7,531,313	$8,010,904	$8,522,990
9	STREET SWEEP	$201,189	$214,359	$228,457	$243,550	$259,713	$277,024
10	MATERIAL RECYCLING	$943,167	$1,006,095	$1,073,450	$1,145,559	$1,222,773	$1,305,469
11	LANDFILL	$850,971	$897,501	$946,989	$999,641	$1,055,683	$1,115,353
12	**Total**	**$8,255,850**	**$8,779,098**	**$9,330,957**	**$9,920,064**	**$10,549,073**	**$11,220,836**
13							
14	**Net Revenues**	$1,986,726	$2,081,711	$2,188,370	$2,517,283	$2,884,190	$3,293,479
15							
16	**Debt Proceeds to Fund**	$0	$0	$10,979,383	$0	$0	$0
17							
18	Solid Waste CIP	$1,102,000	$3,105,450	$4,551,261	$8,184,525	$945,427	$1,321,572
19	Grant Funding	$0	$0	$0	$0	$0	$0
20	Solid Waste CIP (Net)	$1,102,000	$3,105,450	$4,551,261	$8,184,525	$945,427	$1,321,572
21							
22	Current Debt Service	$807,605	$807,605	$243,007	$243,007	$243,006	$0
23	Proposed Debt Service	$0	$0	$780,617	$780,617	$780,617	$780,617
24	Debt Reserve Used for Payment	$0	$0	$0	$0	$95,029	$0
25	**Total Debt Service**	$807,605	$807,605	$1,023,624	$1,023,624	$928,594	$780,617
26							
27	**Interest On Reserves**	$14,001	$2,196	$2,032	$4,867	$5,560	$6,111
28							
29	Net Annual Cash Balance	$91,122	-$1,829,148	$7,594,900	-$6,685,999	$1,015,729	$1,197,401
30	Beginning Reserve Balances	$5,717,192	$5,808,314	$3,979,166	$11,574,065	$4,888,066	$5,903,795
31	**Ending Reserve Balance:**	$5,808,314	$3,979,166	$11,574,065	$4,888,066	$5,903,795	$7,101,196
32							
33							
34	Coverage Ratio	246%	258%	214%	246%	311%	422%

Figure 5-1 through Figure 5-4 show a snapshot of the financial plan in graphical form.

Figure 5-1 shows the proposed rate adjustments as blue bars, the resulting debt coverage ratio as a green line, and the required debt coverage ratio is shown by the red line.

Figure 5-2 shows the proposed solid waste operating financial plan. The stacked bars are the utility's projected revenue requirements, the blue line are the projected revenues without the revenue adjustments, and the green line is the projected revenue with proposed revenue adjustments.

Figure 5-3 shows the solid waste utility fund's projected annual CIP spending and the source of the funding. Green bars indicate pay-as-you go (PAYGo) funding and purple bars indicate debt funded projects.

Figure 5-4 shows the solid waste utility fund's yearly ending balance. The blue lines indicate the ending balance, the red line indicates the utility's target balance. The red dots indicate when the utility's ending balance is below the target balance.

Figure 5-1: Solid Waste Revenue Adjustments and Debt Coverage

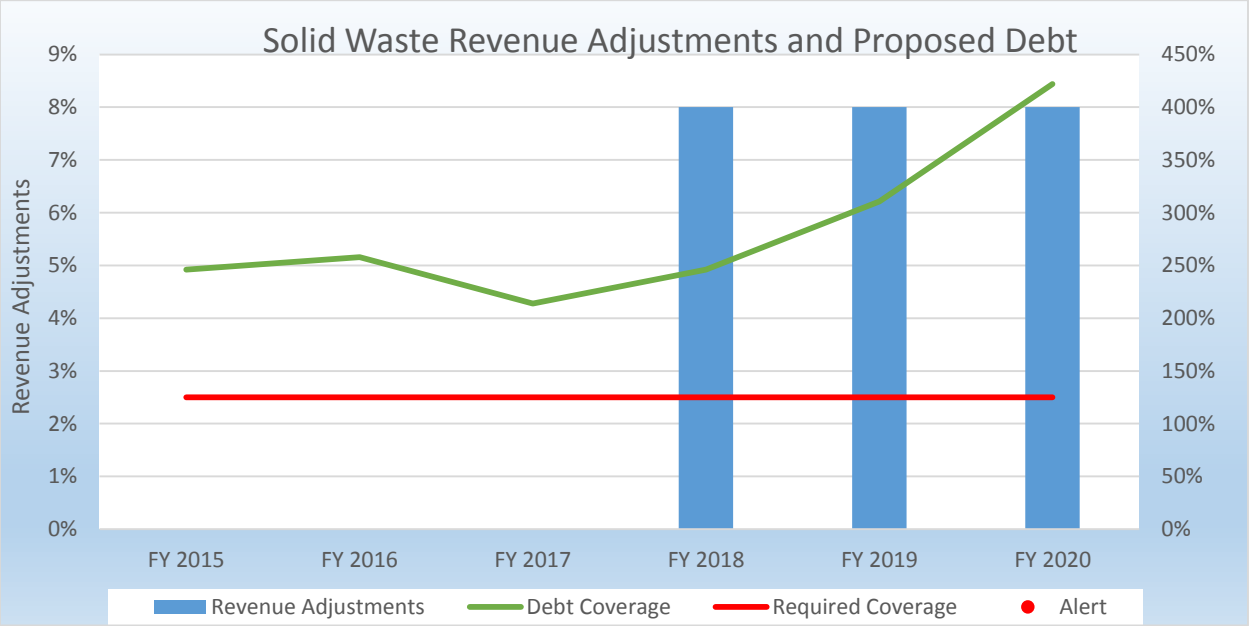


Figure 5-2: Solid Waste Operating Financial Plan

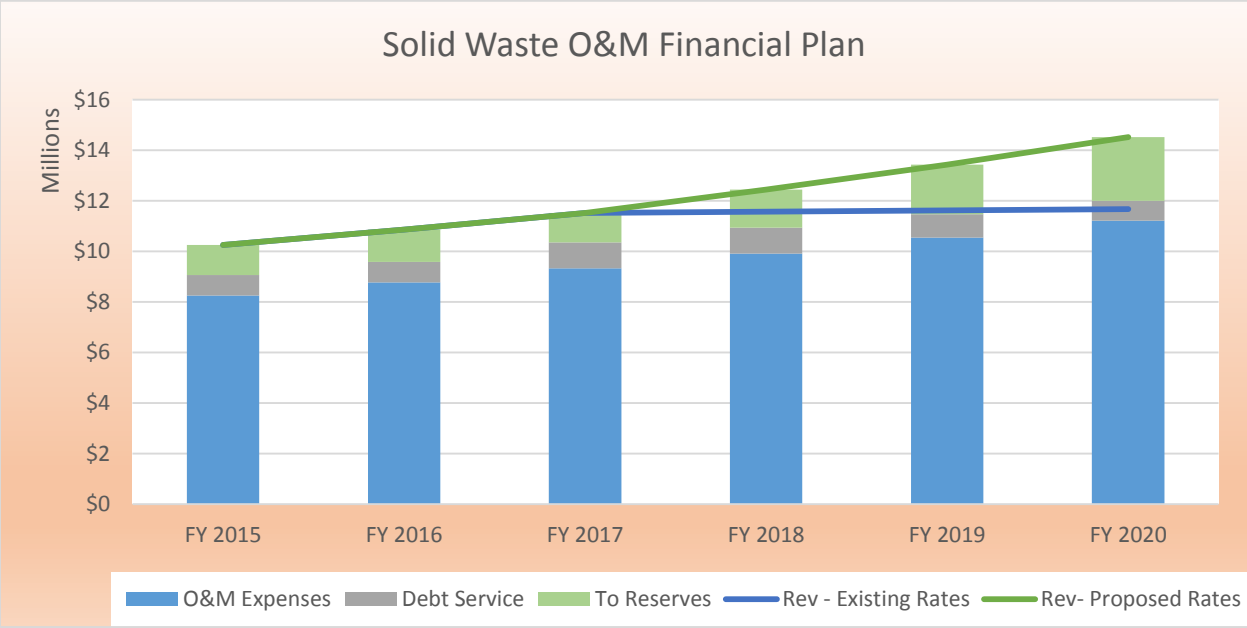


Figure 5-3: Solid Waste Capital Improvement Plan

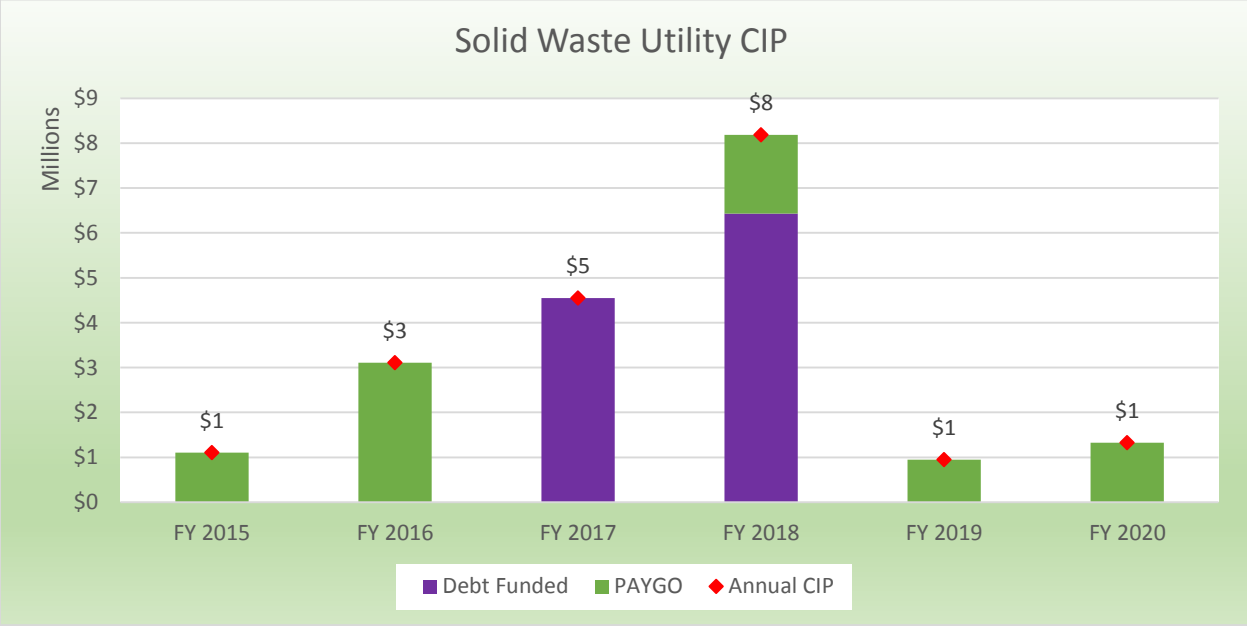
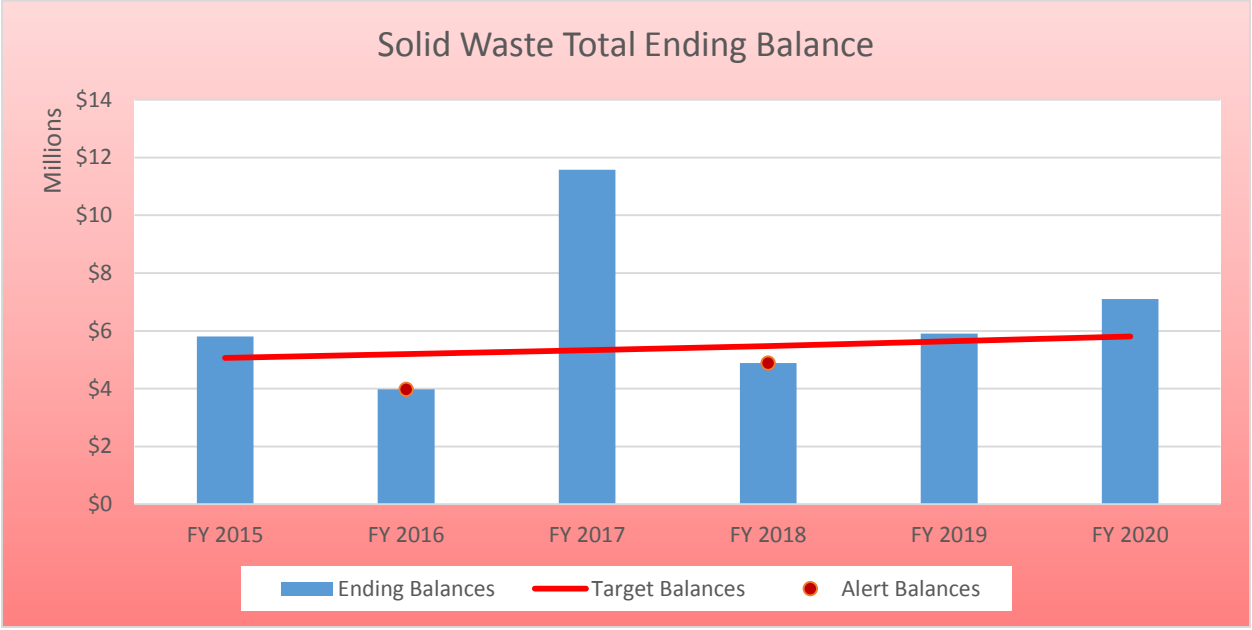


Figure 5-4: Solid Waste Ending Balances



5.4. SOLID WASTE COST OF SERVICE AND RATE DEVELOPMENT

The process for cost of service analysis for solid waste is similar to that for the water and wastewater utilities. First, expenses are allocated to two different cost functions: collection and disposal. Next, the revenue requirements from rates are determined. Finally, the required revenues are proportionally allocated to the proper functions. Upon discussion with City staff and after a thorough review of the cost allocation process, the City determined that though there are no further revenue adjustments for the solid waste utility for 2015 through 2017, it is best to revisit the rate structure.

RFC's first step was to functionalize the costs found in the budget. As discussed above, RFC functionalized the budget to two functions. These are shown in Table 5-18 below. RFC worked closely with City Staff to functionalize the budget. General functions are allocated to collection costs while landfill & material recycling functions are allocated to disposal costs.

Table 5-18: Functionalization of Operating Budget

Descriptions		2016	General	Landfill & Material Recycling Cost
COLLECTIONS				
	Personnel	$2,326,145	$1,511,995	$814,150.89
	Operations	$4,334,997	$0	$4,334,997
	Subtotal Collections	**$6,661,142**	**$1,511,995**	**$5,149,148**
			17%	59%
STREET SWEEP				
	Personnel	$126,304	$0	$126,304
	Operations	$88,055	$0	$88,055
	Subtotal Street Sweeping	**$214,359**	**$0**	**$214,359**
			0%	2%
MATERIAL RECYCLING				
	Personnel	$531,692	$0	$531,692
	Operations	$474,403	$0	$474,403
	Subtotal Material Recycling	**$1,006,095**	**$0**	**$1,006,095**
			0%	11%
LANDFILL				
	Personnel	$328,927		$328,927
	Operations	$568,574		$568,574
	Subtotal Landfill	**$897,501**	**$0**	**$897,501**
			0%	10%
Annual Operating Impact from CIP		$0		
TOTAL O&M EXPENSES		**$8,779,098**	**17.2%**	**82.8%**

The next step RFC undertook was to determine what the utility's revenue requirements were. This was done by subtracting non-rate (non-operating) revenue and the annual cash balance[13] from the total. The allocation can be seen in Table 5-19, with the total revenue of $10.1 million to be recovered from rates shown in the bottom right of the Table.

[13] The Annual Cash Balance in this chart is the difference between the utility's operating revenues and its operating expenses. FY 2016 operating revenues can be found in the financial plan.

Table 5-19: Allocation of Revenue Requirement

Allocation of Revenue Requirements	FY 2016		
	Operating	Capital	Total
Revenue Requirements			
Direct O&M Expenses less Landfill	$7,881,596		**$7,881,596**
Landfill Disposal Cost	$897,501		**$897,501**
CIP Funded		$3,105,450	**$3,105,450**
Debt	$807,605		**$807,605**
Subtotal	**$9,586,703**	**$3,105,450**	**$12,692,153**
Less Non-Rate Revenues			
Interest Earnings	$19,637		**$19,637**
DROP OFF FACILITY	$210,000		**$210,000**
Other Revenues	$510,000		**$510,000**
Grants	$20,000		**$20,000**
Subtotal	**$759,637**	**$0**	**$759,637**
Less Adjustments			
Adjustment for Annual Cash Balance	$1,811,708		**$1,811,708**
Adjustment for Annualized Rate Increase	$0		**$0**
Subtotal	**$1,811,708**	**$0**	**$1,811,708**
TOTAL REVENUE REQUIRED FROM RATES	**$7,015,358**	**$3,105,450**	**$10,120,808**

The next step was to determine the total units of service. Since the two cost centers are collections and disposal, RFC chose collection trips (or "pickups") and gallons disposed as the two units of service to quantify.

Note that Table 5-20 shows the number of gallons per cubic yard, and the assumption for reduction in volume as a result of compacting.

Table 5-20: Cubic Yard and Compactor Conversions

Unit Conversion	
1 cubic yard =	201.97 gallons
Weighting for Compacting =	3 x multiple

5.4.1. FY 2016 RATE CALCULATION

Table 5-21 through Table 5-24 shows the units of service calculation for FY 2016. For weekly collection purposes it was assumed that there would be 4 collections per month for 12 months per year. Therefore "# of pickups per year" is 48 (4 multiplied by 12) multiplied by the number of accounts. City Staff advised RFC to not use 52 pickups per year. For all other collection types it is assumed that only one collection per year would occur. Gallons per year is calculated as the number of pickups per year multiplied by the number of gallons per container. Table 5-24 shows the total unit of service calculation for FY 2016.

Table 5-21: FY 2016 Weekly Collection Unit of Service Calculation

City of Watsonville
Weekly Collection Units of Service

	# of Accounts (Containers)	# of Pickups per year	Gallons per Container	Gallons per Year	Percentage of Pickups	Percentage of Gallons
Weekly pickup	**11,931**	**572,688**	**5,345**	**62,894,398**	**99.67%**	**85.12%**
32 gallons (min)	4,970	238,560	32	7,633,920	41.52%	10.33%
68 gallons	4,920	236,160	68	16,058,880	41.10%	21.73%
95 gallons	1,144	54,912	95	5,216,640	9.56%	7.06%
1 cubic yard	52	2,496	202	504,127	0.43%	0.68%
1.5 cubic yards	25	1,200	303	363,553	0.21%	0.49%
2 cubic yards	159	7,632	404	3,082,932	1.33%	4.17%
3 cubic yards	194	9,312	606	5,642,346	1.62%	7.64%
4 cubic yards	210	10,080	808	8,143,593	1.75%	11.02%
6 cubic yards	190	9,120	1,212	11,052,019	1.59%	14.96%
8 cubic yards	67	3,216	1,616	5,196,388	0.56%	7.03%
Drop-box service	**11**	**528**	**30,296**	**2,326,741**	**0.09%**	**3.15%**
20 cubic yards	10	480	4,039	1,938,951	0.08%	2.62%
25 cubic yards	0	0	5,049	0	0.00%	0.00%
30 cubic yards	0	0	6,059	0	0.00%	0.00%
35 cubic yards	0	0	7,069	0	0.00%	0.00%
40 cubic yards	1	48	8,079	387,790	0.01%	0.52%
Compactor drop box services	**2**	**96**	**123,608**	**1,454,213**	**0.02%**	**1.97%**
3 cubic yards	0	0	1,818	0	0.00%	0.00%
4 cubic yards	0	0	2,424	0	0.00%	0.00%
10 cubic yards	0	0	6,059	0	0.00%	0.00%
15 cubic yards	0	0	9,089	0	0.00%	0.00%
20 cubic yards	0	0	12,118	0	0.00%	0.00%
22 cubic yards	0	0	13,330	0	0.00%	0.00%
25 cubic yards	2	96	15,148	1,454,213	0.02%	1.97%
30 cubic yards	0	0	18,178	0	0.00%	0.00%
35 cubic yards	0	0	21,207	0	0.00%	0.00%
40 cubic yards	0	0	24,237	0	0.00%	0.00%

Table 5-22: FY 2016 On-Call Unit of Service Calculation

City of Watsonville
On-call Services Collection Units of Service

	# of Accounts (Containers)	# of Pickups per year	Gallons per Container	Gallons per Year	Percentage of Pickups	Percentage of Gallons
Temporary Use Containers	**192**	**192**	**5,150**	**179,555**	**0.03%**	**0.24%**
1 cubic yard	9	9	202	1,818	0.00%	0.00%
1.5 cubic yards	0	0	303	0	0.00%	0.00%
2 cubic yards	9	9	404	3,636	0.00%	0.00%
3 cubic yards	40	40	606	24,237	0.01%	0.03%
4 cubic yards	33	33	808	26,661	0.01%	0.04%
6 cubic yards	99	99	1,212	119,973	0.02%	0.16%
8 cubic yards	2	2	1,616	3,232	0.00%	0.00%
Drop Box Service	**702**	**702**	**65,642**	**3,992,017**	**0.12%**	**5.40%**
20 cubic yards (half full)	9	9	2,020	18,178	0.00%	0.02%
20 cubic yards	104	104	4,039	420,106	0.02%	0.57%
25 cubic yards	113	113	5,049	570,577	0.02%	0.77%
30 cubic yards	157	157	6,059	951,298	0.03%	1.29%
35 cubic yards	63	63	7,069	445,353	0.01%	0.60%
40 cubic yards	113	113	8,079	912,923	0.02%	1.24%
50 cubic yards	0	0	10,099	0	0.00%	0.00%
10 cubic yards (7 days)	1	1	2,020	2,020	0.00%	0.00%
15 cubic yards (7 days)	37	37	3,030	112,096	0.01%	0.15%
20 cubic yards (7 days)	59	59	4,039	238,329	0.01%	0.32%
30 cubic yards (7 days)	25	25	6,059	151,481	0.00%	0.21%
40 cubic yards (7 days)	21	21	8,079	169,658	0.00%	0.23%
Compactor drop-box service	**154**	**154**	**109,672**	**2,329,770**	**0.03%**	**3.15%**
3 cubic yards	0	0	1,818	0	0.00%	0.00%
4 cubic yards	0	0	2,424	0	0.00%	0.00%
10 cubic yards	0	0	6,059	0	0.00%	0.00%
12 cubic yards	0	0	7,271	0	0.00%	0.00%
15 cubic yards	27	27	9,089	245,398	0.00%	0.33%
20 cubic yards	58	58	12,118	702,870	0.01%	0.95%
22 cubic yards	0	0	13,330	0	0.00%	0.00%
25 cubic yards	0	0	15,148	0	0.00%	0.00%
30 cubic yards	48	48	18,178	872,528	0.01%	1.18%
40 cubic yards	21	21	24,237	508,975	0.00%	0.69%

Table 5-23: FY 2016 Special Use Unit of Service Calculation

City of Watsonville Special Use Units of Service	# of Accounts (Containers)	# of Pickups per year	Gallons per Container	Gallons per Year	Percentage of Pickups	Percentage of Gallons
Special Use Containers	**175**	**175**	**32,316**	**635,208**	**0.03%**	**0.86%**
4 cubic yards	53	53	808	42,818	0.01%	0.06%
6 cubic yards	13	13	1,212	15,754	0.00%	0.02%
20 cubic yards	52	52	4,039	210,053	0.01%	0.28%
25 cubic yards	13	13	5,049	65,642	0.00%	0.09%
30 cubic yards	10	10	6,059	60,592	0.00%	0.08%
35 cubic yards	34	34	7,069	240,349	0.01%	0.33%
40 cubic yards	0	0	8,079	0	0.00%	0.00%
Recycling	**28**	**28**	**10,907**	**73,317**	**0.00%**	**0.10%**
3 cubic yards	3	3	606	1,818	0.00%	0.00%
6 cubic yards	4	4	1,212	4,847	0.00%	0.01%
15 cubic yards	20	20	3,030	60,592	0.00%	0.08%
30 cubic yards	1	1	6,059	6,059	0.00%	0.01%

Table 5-24: FY 2016 Total Unit of Service Calculation

City of Watsonville FY 2016 Total Units of Service	# of Accounts (Containers)	# of Pickups per Year	Gallons per Year
Totals	**13,195**	**574,563**	**73,885,218**

Table 5-24 shows the total number of pickups per year, as well as the total number of gallons to be disposed on an annual basis.

The next step RFC undertook was to allocate total revenue requirements to the proper functions and divide the total costs for each allocation by the total units of service to determine the individual cost of service per unit. Table 5-25 shows this calculation. Column (A) shows the percentage of total costs to be allocated to each cost center, the Column (B) shows the total cost, which was calculated by multiplying the figure from Table 5-19 (also located in cell B3) by the percentages in the Column (A). Column (C) shows the unit of service totals from Table 5-32, and Column (D) shows the values in Column (B) by the values in Column (C).

Table 5-25: FY 2016 Unit of Service Cost Calculation

Row		Percentage of Total Costs	FY 2016 Costs	FY 2016 Units of Service	FY 2016 Unit Cost of Service	Unit
		(A)	(B)	(C)	(D)	
1	General Costs	17.2%	$1,743,073	574,563	$3.03	per pickup
2	Collection, Landfill Disposal & Material Recycling Costs	82.8%	$8,377,735	73,885,218	$0.11	per gallon per year
3	**Total Revenue Required**		**$10,120,808**			

Table 5-26 through Table 5-28 show the FY 2016 rate calculations. These calculations were completed by multiplying the number of gallons associated with the unit by the per gallon disposal cost, and adding these to the collection cost, which are calculated by multiplying the total number of pickups by the cost per pickup. The rates are rounded up to the nearest whole cent.

Table 5-26: Rate Calculation for Weekly Pickup

Weekly pickup	Monthly Gallons	Cost Associated with Volume	Monthly Pickups	Cost Associated with Pickups	FY 2016 Proposed Charge
32 gallons (min)	128	$14.51	4	$12.13	$26.65
68 gallons	272	$30.84	4	$12.13	$42.98
95 gallons	380	$43.09	4	$12.13	$55.23
1 cubic yard	808	$91.61	4	$12.13	$103.75
1.5 cubic yards	1212	$137.41	4	$12.13	$149.55
2 cubic yards	1616	$183.21	4	$12.13	$195.35
3 cubic yards	2424	$274.82	4	$12.13	$286.96
4 cubic yards	3232	$366.42	4	$12.13	$378.56
6 cubic yards	4847	$549.64	4	$12.13	$561.78
8 cubic yards	6463	$732.85	4	$12.13	$744.99
Drop-box service					
20 cubic yards	16158	$1,832.12	4	$12.13	$1,844.26
25 cubic yards	20197	$2,290.15	4	$12.13	$2,302.29
30 cubic yards	24237	$2,748.18	4	$12.13	$2,760.32
35 cubic yards	28276	$3,206.21	4	$12.13	$3,218.35
40 cubic yards	32316	$3,664.25	4	$12.13	$3,676.39
Compactor drop box services					
3 cubic yards	7271	$824.46	4	$12.13	$825.92
4 cubic yards	9695	$1,099.27	4	$12.13	$1,101.22
10 cubic yards	24237	$2,748.18	4	$12.13	$2,753.04
15 cubic yards	36355	$4,122.28	4	$12.13	$4,129.56
20 cubic yards	48474	$5,496.37	4	$12.13	$5,506.08
22 cubic yards	53321	$6,046.01	4	$12.13	$6,056.69
25 cubic yards	60592	$6,870.46	4	$12.13	$6,882.60
30 cubic yards	72711	$8,244.55	4	$12.13	$8,259.12
35 cubic yards	84829	$9,618.64	4	$12.13	$9,635.64
40 cubic yards	96948	$10,992.74	4	$12.13	$11,012.16

Table 5-27: Rate Calculation for On-Call Services

On-call services/Temporary Use Containers	Monthly Gallons	Cost Associated with Volume	Monthly Pickups	Cost Associated with Pickups	FY 2016 Proposed Charge
1 cubic yard	202	$22.90	1	$3.03	$25.94
1.5 cubic yards	303	$34.35	1	$3.03	$37.39
2 cubic yards	404	$45.80	1	$3.03	$48.84
3 cubic yards	606	$68.70	1	$3.03	$71.74
4 cubic yards	808	$91.61	1	$3.03	$94.64
6 cubic yards	1212	$137.41	1	$3.03	$140.45
8 cubic yards	1616	$183.21	1	$3.03	$186.25
Drop Box Service					
20 cubic yards (half full)	2020	$229.02	1	$3.03	$232.05
20 cubic yards	4039	$458.03	1	$3.03	$461.07
25 cubic yards	5049	$572.54	1	$3.03	$575.58
30 cubic yards	6059	$687.05	1	$3.03	$690.08
35 cubic yards	7069	$801.55	1	$3.03	$804.59
40 cubic yards	8079	$916.06	1	$3.03	$919.10
50 cubic yards	10099	$1,145.08	1	$3.03	$1,148.12
10 cubic yards (7 days)	2020	$229.02	1	$3.03	$232.05
15 cubic yards (7 days)	3030	$343.52	1	$3.03	$346.56
20 cubic yards (7 days)	4039	$458.03	1	$3.03	$461.07
30 cubic yards (7 days)	6059	$687.05	1	$3.03	$690.08
40 cubic yards (7 days)	8079	$916.06	1	$3.03	$919.10
Compactor drop-box service					
3 cubic yards	1818	$206.11	1	$3.03	$209.15
4 cubic yards	2424	$274.82	1	$3.03	$277.86
10 cubic yards	6059	$687.05	1	$3.03	$690.08
12 cubic yards	7271	$824.46	1	$3.03	$827.49
15 cubic yards	9089	$1,030.57	1	$3.03	$1,033.61
20 cubic yards	12118	$1,374.09	1	$3.03	$1,377.13
22 cubic yards	13330	$1,511.50	1	$3.03	$1,514.54
25 cubic yards	15148	$1,717.62	1	$3.03	$1,720.65
30 cubic yards	18178	$2,061.14	1	$3.03	$2,064.18
40 cubic yards	24237	$2,748.18	1	$3.03	$2,751.22

Table 5-28: Rate Calculation for Special Use Containers

Special Use Containers	Monthly Gallons	Cost Associated with Volume	Monthly Pickups	Cost Associated with Pickups	FY 2016 Proposed Charge
4 cubic yards	808	$91.61	1	$3.03	$94.64
6 cubic yards	1212	$137.41	1	$3.03	$140.45
20 cubic yards	4039	$458.03	1	$3.03	$461.07
25 cubic yards	5049	$572.54	1	$3.03	$575.58
30 cubic yards	6059	$687.05	1	$3.03	$690.08
35 cubic yards	7069	$801.55	1	$3.03	$804.59
40 cubic yards	8079	$916.06	1	$3.03	$919.10
Recycling					
3 cubic yards	606	$68.70	1	$3.03	$71.74
6 cubic yards	1212	$137.41	1	$3.03	$140.45
15 cubic yards	3030	$343.52	1	$3.03	$346.56
30 cubic yards	6059	$687.05	1	$3.03	$690.08

5.4.2. FY 2017 RATE CALCULATION

The City already has a rate increase in place for FY 2017. Since the rate increase for FY 2017 is in effect for current rates, RFC performed an additional COS analysis for FY 2017.

Table 5-29 through Table 5-24 shows the units of service calculation for FY 2017. For weekly collection purposes it was assumed that there would be 4 collections per month for 12 months per year. Therefore "# of pickups per year" is 48 (4 multiplied by 12) multiplied by the number of accounts. For all other collection types it is assumed that only one collection per year would occur. Gallons per year is calculated as the number of pickups per year multiplied by the number of gallons per container.

Table 5-24 shows the total unit of service calculation for FY 2017.

Table 5-29: FY 2017 Weekly Collection Unit of Service Calculation

City of Watsonville
FY 2017 Weekly Collection
Units of Service

	# of Accounts (Containers)	# of Pickups per year	Gallons per Container	Gallons per Year	Percentage of Pickups	Percentage of Gallons
Weekly pickup	**11,998**	**575,904**	**5,345**	**63,206,139**	**99.67%**	**85.16%**
32 gallons (min)	4,998	239,904	32	7,676,928	41.52%	10.34%
68 gallons	4,948	237,504	68	16,150,272	41.11%	21.76%
95 gallons	1,151	55,248	95	5,248,560	9.56%	7.07%
1 cubic yard	52	2,496	202	504,127	0.43%	0.68%
1.5 cubic yards	25	1,200	303	363,553	0.21%	0.49%
2 cubic yards	160	7,680	404	3,102,321	1.33%	4.18%
3 cubic yards	195	9,360	606	5,671,431	1.62%	7.64%
4 cubic yards	211	10,128	808	8,182,372	1.75%	11.02%
6 cubic yards	191	9,168	1,212	11,110,187	1.59%	14.97%
8 cubic yards	67	3,216	1,616	5,196,388	0.56%	7.00%
Drop-box service	**11**	**528**	**30,296**	**2,326,741**	**0.09%**	**3.13%**
20 cubic yards	10	480	4,039	1,938,951	0.08%	2.61%
25 cubic yards	0	0	5,049	0	0.00%	0.00%
30 cubic yards	0	0	6,059	0	0.00%	0.00%
35 cubic yards	0	0	7,069	0	0.00%	0.00%
40 cubic yards	1	48	8,079	387,790	0.01%	0.52%
Compactor drop box services	**2**	**96**	**123,608**	**1,454,213**	**0.02%**	**1.96%**
3 cubic yards	0	0	1,818	0	0.00%	0.00%
4 cubic yards	0	0	2,424	0	0.00%	0.00%
10 cubic yards	0	0	6,059	0	0.00%	0.00%
15 cubic yards	0	0	9,089	0	0.00%	0.00%
20 cubic yards	0	0	12,118	0	0.00%	0.00%
22 cubic yards	0	0	13,330	0	0.00%	0.00%
25 cubic yards	2	96	15,148	1,454,213	0.02%	1.96%
30 cubic yards	0	0	18,178	0	0.00%	0.00%
35 cubic yards	0	0	21,207	0	0.00%	0.00%
40 cubic yards	0	0	24,237	0	0.00%	0.00%

Table 5-30: FY 2017 On-Call Unit of Service Calculation

City of Watsonville
FY 2017 On-call Services
Collection Units of Service

	# of Accounts (Containers)	# of Pickups per year	Gallons per Container	Gallons per Year	Percentage of Pickups	Percentage of Gallons
On-call services/Temporary U	**193**	**193**	**5,150**	**180,767**	**0.03%**	**0.24%**
1 cubic yard	9	9	202	1,818	0.00%	0.00%
1.5 cubic yards	0	0	303	0	0.00%	0.00%
2 cubic yards	9	9	404	3,636	0.00%	0.00%
3 cubic yards	40	40	606	24,237	0.01%	0.03%
4 cubic yards	33	33	808	26,661	0.01%	0.04%
6 cubic yards	100	100	1,212	121,184	0.02%	0.16%
8 cubic yards	2	2	1,616	3,232	0.00%	0.00%
Drop Box Service	**706**	**706**	**65,642**	**4,015,244**	**0.12%**	**5.41%**
20 cubic yards (half full)	9	9	2,020	18,178	0.00%	0.02%
20 cubic yards	105	105	4,039	424,145	0.02%	0.57%
25 cubic yards	114	114	5,049	575,626	0.02%	0.78%
30 cubic yards	158	158	6,059	957,357	0.03%	1.29%
35 cubic yards	63	63	7,069	445,353	0.01%	0.60%
40 cubic yards	114	114	8,079	921,002	0.02%	1.24%
50 cubic yards	0	0	10,099	0	0.00%	0.00%
10 cubic yards (7 days)	1	1	2,020	2,020	0.00%	0.00%
15 cubic yards (7 days)	37	37	3,030	112,096	0.01%	0.15%
20 cubic yards (7 days)	59	59	4,039	238,329	0.01%	0.32%
30 cubic yards (7 days)	25	25	6,059	151,481	0.00%	0.20%
40 cubic yards (7 days)	21	21	8,079	169,658	0.00%	0.23%
Compactor drop-box service	**154**	**154**	**109,672**	**2,329,770**	**0.03%**	**3.14%**
3 cubic yards	0	0	1,818	0	0.00%	0.00%
4 cubic yards	0	0	2,424	0	0.00%	0.00%
10 cubic yards	0	0	6,059	0	0.00%	0.00%
12 cubic yards	0	0	7,271	0	0.00%	0.00%
15 cubic yards	27	27	9,089	245,398	0.00%	0.33%
20 cubic yards	58	58	12,118	702,870	0.01%	0.95%
22 cubic yards	0	0	13,330	0	0.00%	0.00%
25 cubic yards	0	0	15,148	0	0.00%	0.00%
30 cubic yards	48	48	18,178	872,528	0.01%	1.18%
40 cubic yards	21	21	24,237	508,975	0.00%	0.69%

Table 5-31: FY 2017 Special Use Unit of Service Calculation

City of Watsonville FY 2017 Special Use Units of Service	# of Accounts (Containers)	# of Pickups per year	Gallons per Container	Gallons per Year	Percentage of Pickups	Percentage of Gallons
Special Use Containers (wood waste, yard trimmings, and scrap metal)	**175**	**175**	**32,316**	**635,208**	**0.03%**	**0.86%**
4 cubic yards	53	53	808	42,818	0.01%	0.06%
6 cubic yards	13	13	1,212	15,754	0.00%	0.02%
20 cubic yards	52	52	4,039	210,053	0.01%	0.28%
25 cubic yards	13	13	5,049	65,642	0.00%	0.09%
30 cubic yards	10	10	6,059	60,592	0.00%	0.08%
35 cubic yards	34	34	7,069	240,349	0.01%	0.32%
40 cubic yards	0	0	8,079	0	0.00%	0.00%
Recycling	**28**	**28**	**10,907**	**73,317**	**0.00%**	**0.10%**
3 cubic yards	3	3	606	1,818	0.00%	0.00%
6 cubic yards	4	4	1,212	4,847	0.00%	0.01%
15 cubic yards	20	20	3,030	60,592	0.00%	0.08%
30 cubic yards	1	1	6,059	6,059	0.00%	0.01%

Table 5-32: FY 2017 Total Unit of Service Calculation

City of Watsonville FY 2017 Total Units of Service	# of Accounts (Containers)	# of Pickups per year	Gallons per Year
Totals	**13,267**	**577,784**	**74,221,398**

Table 5-32 shows the total number of pickups per year, as well as the total number of gallons to be disposed on an annual basis.

As with the FY 2016 rates, the next step RFC undertook was to allocate total revenue requirements to the proper functions and divide the total costs for each allocation by the total units of service to determine the individual cost of service per unit. Table 5-33 shows this calculation. The Column (A) shows the percentage of total costs to be allocated to each cost center, the Column (B) shows the total cost, which was calculated by multiplying the figure from Table 5-19 (also located in cell B3) by the percentages in the Column (A). Column (C) shows the unit of service totals from Table 5-32, and Column (D) shows the values in Column (B) by the values in Column (C).

Table 5-33: FY 2017 Unit of Service Cost Calculation

Row		Percentage of Total Costs	FY 2017 Costs	FY 2017 Units of Service	FY 2017 Unit Cost of Service	Unit
		(A)	(B)	(C)	(D)	
1	General Costs	17.2%	$1,856,487	577,784	$3.21	per pickup
2	Collection, Landfill Disposal & Material Recycling Costs	82.8%	$8,922,840	74,221,398	$0.12	per gallon per year
3	**Total Revenue Required**		**$10,779,327**			

Table 5-34 through Table 5-36 show the FY 2017 rate calculations. These calculations were completed by multiplying the number of gallons associated with the unit by the per gallon disposal cost, and adding these to the collection cost, which are calculated by multiplying the total number of pickups by the cost per pickup. The rates are rounded up.

Table 5-34: FY 2017 Rate Calculation for Weekly Pickup

Weekly pickup	Monthly Gallons	Cost Associated with Volume	Monthly Pickups	Cost Associated with Pickups	FY 2017 Proposed Charge
32 gallons (min)	128	$15.39	4	$12.85	$28.25
68 gallons	272	$32.70	4	$12.85	$45.56
95 gallons	380	$45.68	4	$12.85	$58.54
1 cubic yard	808	$97.12	4	$12.85	$109.98
1.5 cubic yards	1212	$145.69	4	$12.85	$158.54
2 cubic yards	1616	$194.25	4	$12.85	$207.11
3 cubic yards	2424	$291.37	4	$12.85	$304.23
4 cubic yards	3232	$388.50	4	$12.85	$401.36
6 cubic yards	4847	$582.75	4	$12.85	$595.61
8 cubic yards	6463	$777.00	4	$12.85	$789.85
Drop-box service					
20 cubic yards	16158	$1,942.49	4	$12.85	$1,955.35
25 cubic yards	20197	$2,428.12	4	$12.85	$2,440.97
30 cubic yards	24237	$2,913.74	4	$12.85	$2,926.60
35 cubic yards	28276	$3,399.36	4	$12.85	$3,412.22
40 cubic yards	32316	$3,884.99	4	$12.85	$3,897.84
Compactor drop box services					
3 cubic yards	7271	$874.12	4	$12.85	$825.92
4 cubic yards	9695	$1,165.50	4	$12.85	$1,101.22
10 cubic yards	24237	$2,913.74	4	$12.85	$2,753.04
15 cubic yards	36355	$4,370.61	4	$12.85	$4,129.56
20 cubic yards	48474	$5,827.48	4	$12.85	$5,506.08
22 cubic yards	53321	$6,410.23	4	$12.85	$6,056.69
25 cubic yards	60592	$7,284.35	4	$12.85	$7,297.21
30 cubic yards	72711	$8,741.22	4	$12.85	$8,259.12
35 cubic yards	84829	$10,198.09	4	$12.85	$9,635.64
40 cubic yards	96948	$11,654.96	4	$12.85	$11,012.16

Table 5-35: FY 2017 Rate Calculation for On-Call Services

On-call services/Temporary Use Containers	Monthly Gallons	Cost Associated with Volume	Monthly Pickups	Cost Associated with Pickups	FY 2017 Proposed Charge
1 cubic yard	202	$24.28	1	$3.21	$27.50
1.5 cubic yards	303	$36.42	1	$3.21	$39.64
2 cubic yards	404	$48.56	1	$3.21	$51.78
3 cubic yards	606	$72.84	1	$3.21	$76.06
4 cubic yards	808	$97.12	1	$3.21	$100.34
6 cubic yards	1212	$145.69	1	$3.21	$148.91
8 cubic yards	1616	$194.25	1	$3.21	$197.47
Drop Box Service					
20 cubic yards (half full)	2020	$242.81	1	$3.21	$246.03
20 cubic yards	4039	$485.62	1	$3.21	$488.84
25 cubic yards	5049	$607.03	1	$3.21	$610.25
30 cubic yards	6059	$728.43	1	$3.21	$731.65
35 cubic yards	7069	$849.84	1	$3.21	$853.06
40 cubic yards	8079	$971.25	1	$3.21	$974.46
50 cubic yards	10099	$1,214.06	1	$3.21	$1,217.28
10 cubic yards (7 days)	2020	$242.81	1	$3.21	$246.03
15 cubic yards (7 days)	3030	$364.22	1	$3.21	$367.44
20 cubic yards (7 days)	4039	$485.62	1	$3.21	$488.84
30 cubic yards (7 days)	6059	$728.43	1	$3.21	$731.65
40 cubic yards (7 days)	8079	$971.25	1	$3.21	$974.46
Compactor drop-box service					
3 cubic yards	1818	$218.53	1	$3.21	$221.75
4 cubic yards	2424	$291.37	1	$3.21	$294.59
10 cubic yards	6059	$728.43	1	$3.21	$731.65
12 cubic yards	7271	$874.12	1	$3.21	$877.34
15 cubic yards	9089	$1,092.65	1	$3.21	$1,095.87

20 cubic yards	12118	$1,456.87	1	$3.21	$1,460.09
22 cubic yards	13330	$1,602.56	1	$3.21	$1,605.77
25 cubic yards	15148	$1,821.09	1	$3.21	$1,824.31
30 cubic yards	18178	$2,185.30	1	$3.21	$2,188.52
40 cubic yards	24237	$2,913.74	1	$3.21	$2,916.96

Table 5-36: FY 2017 Rate Calculation for Special Use Containers

Special Use Containers	Monthly Gallons	Cost Associated with Volume	Monthly Pickups	Cost Associated with Pickups	FY 2017 Proposed Charge
4 cubic yards	808	$97.12	1	$3.21	$100.34
6 cubic yards	1212	$145.69	1	$3.21	$148.91
20 cubic yards	4039	$485.62	1	$3.21	$488.84
25 cubic yards	5049	$607.03	1	$3.21	$610.25
30 cubic yards	6059	$728.43	1	$3.21	$731.65
35 cubic yards	7069	$849.84	1	$3.21	$853.06
40 cubic yards	8079	$971.25	1	$3.21	$974.46
Recycling					
3 cubic yards	606	$72.84	1	$3.21	$76.06
6 cubic yards	1212	$145.69	1	$3.21	$148.91
15 cubic yards	3030	$364.22	1	$3.21	$367.44
30 cubic yards	6059	$728.43	1	$3.21	$731.65

5.4.3. PROPOSED FUTURE RATES

To calculate the rates in FY 2018 and beyond, the rates determined in Section 5.4.2 were escalated by multiplying them by the rate increases found in included in the aforementioned adjustments added to 1. The resulting rates are shown in Table 5-37, Table 5-38 and Table 5-39.

Table 5-37: Proposed Rates for Weekly Pickup

	Adopted	Proposed				
Weekly pickup	FY 2016	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
32 gallons (min)	$29.04	$26.65	$28.25	$30.51	$32.96	$35.60
68 gallons	$40.80	$42.98	$45.56	$49.21	$53.15	$57.41
95 gallons	$50.53	$55.23	$58.54	$63.23	$68.29	$73.76
1 cubic yard	$135.34	$103.75	$109.98	$118.78	$128.29	$138.56
1.5 cubic yards	$168.67	$149.55	$158.54	$171.23	$184.93	$199.73
2 cubic yards	$212.67	$195.35	$207.11	$223.68	$241.58	$260.91
3 cubic yards	$299.66	$286.96	$304.23	$328.57	$354.86	$383.25
4 cubic yards	$377.00	$378.56	$401.36	$433.47	$468.15	$505.61
6 cubic yards	$541.32	$561.78	$595.61	$643.26	$694.73	$750.31
8 cubic yards	$686.32	$744.99	$789.85	$853.04	$921.29	$995.00
Drop-box service						
20 cubic yards	$2,126.65	$1,844.26	$1,955.35	$2,111.78	$2,280.73	$2,463.19
25 cubic yards	$2,513.32	$2,305.33	$2,444.19	$2,639.73	$2,850.91	$3,078.99
30 cubic yards	$2,899.98	$2,766.39	$2,933.03	$3,167.68	$3,421.10	$3,694.79
35 cubic yards	$3,286.64	$3,227.46	$3,421.87	$3,695.62	$3,991.27	$4,310.58
40 cubic yards	$3,479.97	$3,676.39	$3,897.84	$4,209.67	$4,546.45	$4,910.17
Compactor drop box services						
3 cubic yards	$719.81	$825.92	$875.67	$945.73	$1,021.39	$1,103.11
4 cubic yards	$918.23	$1,101.22	$1,167.56	$1,260.97	$1,361.85	$1,470.80
10 cubic yards	$2,899.98	$2,753.04	$2,918.89	$3,152.41	$3,404.61	$3,676.98
15 cubic yards	$3,866.63	$4,129.56	$4,378.33	$4,728.60	$5,106.89	$5,515.45
20 cubic yards	$4,833.31	$5,506.08	$5,837.77	$6,304.80	$6,809.19	$7,353.93
22 cubic yards	$5,171.84	$6,056.69	$6,421.55	$6,935.28	$7,490.11	$8,089.32
25 cubic yards	$5,717.02	$6,882.60	$7,297.21	$7,880.99	$8,511.47	$9,192.39
30 cubic yards	$6,669.97	$8,259.12	$8,756.66	$9,457.20	$10,213.78	$11,030.89
35 cubic yards	$7,545.47	$9,635.64	$10,216.10	$11,033.39	$11,916.07	$12,869.36
40 cubic yards	$8,458.82	$11,012.16	$11,675.54	$12,609.59	$13,618.36	$14,707.83

Table 5-38: Proposed Rates for On-Call Services

On-call services/Temporary Use Containers	Adopted	Proposed				
	FY 2016	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
1 cubic yard	$106.57	$25.94	$27.50	$29.70	$32.08	$34.65
1.5 cubic yards	$116.26	$38.91	$41.25	$44.55	$48.12	$51.97
2 cubic yards	$125.67	$48.84	$51.78	$55.93	$60.41	$65.25
3 cubic yards	$154.65	$71.74	$76.06	$82.15	$88.73	$95.83
4 cubic yards	$173.99	$94.64	$100.34	$108.37	$117.04	$126.41
6 cubic yards	$222.34	$140.45	$148.91	$160.83	$173.70	$187.60
8 cubic yards	$280.95	$186.25	$197.47	$213.27	$230.34	$248.77
Drop Box Service						
20 cubic yards (half full)	$406.01	$232.05	$246.03	$265.72	$286.98	$309.94
20 cubic yards	$614.78	$461.07	$488.84	$527.95	$570.19	$615.81
25 cubic yards	$724.97	$575.58	$610.25	$659.07	$711.80	$768.75
30 cubic yards	$837.11	$690.08	$731.65	$790.19	$853.41	$921.69
35 cubic yards	$949.26	$804.59	$853.06	$921.31	$995.02	$1,074.63
40 cubic yards	$1,005.31	$919.10	$974.46	$1,052.42	$1,136.62	$1,227.55
50 cubic yards	$1,043.40	$1,148.88	$1,218.08	$1,315.53	$1,420.78	$1,534.45
10 cubic yards (7 days)	$352.49	$232.05	$246.03	$265.72	$286.98	$309.94
15 cubic yards (7 days)	$431.32	$346.56	$367.44	$396.84	$428.59	$462.88
20 cubic yards (7 days)	$500.34	$461.07	$488.84	$527.95	$570.19	$615.81
30 cubic yards (7 days)	$672.85	$690.08	$731.65	$790.19	$853.41	$921.69
40 cubic yards (7 days)	$819.50	$919.10	$974.46	$1,052.42	$1,136.62	$1,227.55
Compactor drop-box service						
3 cubic yards	$315.15	$206.73	$219.18	$236.72	$255.66	$276.12
4 cubic yards	$407.93	$275.63	$292.24	$315.62	$340.87	$368.14
10 cubic yards	$837.13	$689.08	$730.58	$789.03	$852.16	$920.34
12 cubic yards	$964.55	$826.89	$876.70	$946.84	$1,022.59	$1,104.40
15 cubic yards	$1,115.51	$1,033.61	$1,095.87	$1,183.54	$1,278.23	$1,380.49
20 cubic yards	$1,395.84	$1,377.13	$1,460.09	$1,576.90	$1,703.06	$1,839.31
22 cubic yards	$1,492.89	$1,515.97	$1,607.28	$1,735.87	$1,874.74	$2,024.72
25 cubic yards	$1,651.05	$1,722.69	$1,826.45	$1,972.57	$2,130.38	$2,300.82
30 cubic yards	$1,925.60	$2,064.18	$2,188.52	$2,363.61	$2,552.70	$2,756.92
40 cubic yards	$2,408.92	$2,751.22	$2,916.96	$3,150.32	$3,402.35	$3,674.54

Table 5-39: Proposed Rates for On-Call Services

Special Use Containers	Adopted FY 2016	Proposed FY 2016	Proposed FY 2017	Proposed FY 2018	Proposed FY 2019	Proposed FY 2020
4 cubic yards	$87.01	$94.64	$100.34	$108.37	$117.04	$126.41
6 cubic yards	$111.18	$140.45	$148.91	$160.83	$173.70	$187.60
20 cubic yards	$307.39	$461.07	$488.84	$527.95	$570.19	$615.81
25 cubic yards	$362.50	$575.58	$610.25	$659.07	$711.80	$768.75
30 cubic yards	$418.54	$690.08	$731.65	$790.19	$853.41	$921.69
35 cubic yards	$474.61	$804.59	$853.06	$921.31	$995.02	$1,074.63
40 cubic yards	$502.67	$919.54	$974.93	$1,052.93	$1,137.17	$1,228.15
Recycling						
3 cubic yards	$72.26	$71.74	$76.06	$82.15	$88.73	$95.83
6 cubic yards	$103.89	$140.45	$148.91	$160.83	$173.70	$187.60
15 cubic yards	$232.81	$346.56	$367.44	$396.84	$428.59	$462.88
30 cubic yards	$447.82	$690.08	$731.65	$790.19	$853.41	$921.69

6. APPENDIX

6.1. FULL UNINFLATED WATER CIP

Projects in the City's CIP schedule were assigned a priority of 1 through 3. For the Water utility, only projects that are listed as Priority 1, the most pressing priority, have been planned for.

CIP Schedules Water CIP		City of Watsonville	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Source:		Water Budget.xls						
Priority								
	1	Well 8 Emergency Power	$125,000					
	1	Maintenance Management Software	$75,000					
	1	SCADA System Upgrade	$100,000					
	1	Chromium 6 Treatment Plants	$500,000					
	1	UCMR 3 Sampling	$50,000					
	1	Backhoe	$125,000					
	1	Utility Trailer	$35,000					
	1	College Rd. Water Main Replacement	$150,000					
	1	Grizzly Flat Box Culvert	$40,000					
	1	MSC Asphalt Demo	$65,000					
	1	Chromium 6 Treatment Plants		$900,000				
	1	Well Discharge to Sanitary Sewer		$165,000				
	1	Fowle Station Rehab		$150,000				

1	Zone 1 or 2 Well (moved to 2019)	$0		$2,000,000
3	Well 18 Emergency Power	$130,000		
1	Corralitos Filter Plant	$3,000,000		
3	Main Street Water Main Replacement	$200,000		
3	Sunny Hills Dr. Water Main Replacement	$500,000		
3	East Beach Water Main Replacement	$275,000		
1	Water Main Replacement (2nd mile)	$750,000		
3	Valve Exercising Truck	$75,000		
1	12 Yard Dump Truck	$200,000		
1	5/8" x 3/4" Meter Change Out	$197,000		
1	1" Meter Change Out	$21,775		
1	1.5" Meter Change Out	$8,670		
1	2" Meter Change Out	$9,750		
1	Cellular End Points	$129,975		
1	Utility Trailer	$45,000		
1	Compaction Roller	$40,000		
1	Utility Beds (3)	$45,000		
1	Chromium 6 Treatment Plants		$1,000,000	
3	Holm Rd. Water Main Replacement		$250,000	
1	Asphalt Grinding Machine		$250,000	
1	5/8" x 3/4" Meter Change Out		$207,000	

3	Linden Rd. Water Main Replacement	$175,000	
1	Cover for Corralitos WTP	$150,000	
1	Cellular End Points	$129,975	
3	Miller Ave. Water Main Replacement	$75,000	
3	Freedom Blvd Water Main Replacement	$50,000	
3	Kralj Dr. Water Main Replacement	$40,000	
3	Oakridge St. Water Main Replacement	$30,000	
1	1" Meter Change Out	$23,000	
1	2" Meter Change Out	$10,250	
1	1.5" Meter Change Out	$9,110	
1	Zone 1 or 2 Well	$2,000,000	
1	Water Main Replacement (2nd mile)	$750,000	
1	Rider Reservoir Painting	$350,000	
3	Pajaro Dunes Reservoir Roof	$400,000	
3	Replace Well 10 Building	$275,000	
3	Replace Well 8 Building	$275,000	
3	Water System Security Upgrades	$200,000	
3	Eureka Canyon Intake Line	$200,000	
1	Chromium 6 Treatment Plants		$9,000,000

1	Water Main Replacement (2nd mile)	$750,000	
1	5/8" x 3/4" Meter Change Out	$218,000	
1	New Cover at Fowle	$200,000	
1	Excavator	$165,000	
1	Cellular End Points	$129,975	
1	Low-Boy Transport Trailer	$65,000	
1	1" Meter Change Out	$24,200	
1	2" Meter Change Out	$10,800	
1	1.5" Meter Change Out	$9,600	
1	Reservoir and Booster Pump at Airport	$1,320,000	
3	Water Main Replacement	$1,000,000	
3	New Reservoirs at Fowle	$3,300,000	
3	Well 14 Emergency Power	$150,000	
1	Road Maintenance at Reservoirs	$100,000	
3	Replace Decking CFP	$50,000	
1	Chromium 6 Treatment Plants		$9,000,000
3	Water Main Replacement		$2,000,000
1	5/8" x 3/4" Meter Change Out		$230,000
1	Cellular End Points		$129,975
1	12 Yard Dump Truck		$125,000
1	1" Meter Change Out		$25,500
1	2" Meter Change Out		$11,350
1	1.5" Meter Change Out		$10,100

1	Water Main Replacement (2nd mile)				$750,000	
1	Electrical/Instrumentation Upgrade				$100,000	
1	Fowle Station Nitrate Treatment Plant					$2,750,000
1	Water Main Replacement (2nd mile)					$750,000
1	Booster Pump at Fowle					$500,000
3	Service Truck					$150,000
1	Cellular End Points					$129,975
1	12 Yard Dump Truck					$125,000
1	Service Truck					$45,000
2	Water Main Replacement (3rd mile)					$750,000
3	Browns Valley Intake Line					$300,000
1	5/8" x 3/4" Meter Change Out					$242,000
1	1" Meter Change Out					$27,000
1	2" Meter Change Out					$11,950
1	1.5" Meter Change Out					$10,600
1	Electrical/Instrumentation Upgrade					$100,000
1	Electrical/Instrumentation Upgrade	$100,000				
1	Electrical/Instrumentation Upgrade		$100,000			
1	Electrical/Instrumentation Upgrade			$100,000		

2	Water Main Replacement (3rd mile)	$750,000			
2	Water Main Replacement (3rd mile)		$750,000		
2	Water Main Replacement (3rd mile)			$750,000	
2	Water Main Replacement (3rd mile)				$750,000

6.2. WATER COS ALLOCATION PROCESS

Cost Category	Personnel/ Operations	Description	Total Water Expenses	
		% Allocation		
		Total Budget Allocation	**$9,335,246**	
				Total Expense
Max Hour	Personnel	WATER OPERATIONS	**REGULAR SALARIES & WAGES**	$491,048
Max Hour	Personnel	WATER OPERATIONS	**OVERTIME**	$46,440
Max Hour	Personnel	WATER OPERATIONS	**TEMPORARY & CASUAL WAGES**	$48,600
Max Hour	Personnel	WATER OPERATIONS	**STANDBY PAY**	$12,960
Max Hour	Personnel	WATER OPERATIONS	**RETIREMENT PLAN CHARGES**	$58,862
Max Hour	Personnel	WATER OPERATIONS	**GROUP HEALTH INSURANCE**	$89,778

Max Hour	Personnel	WATER OPERATIONS	SOCIAL SECURITY	$37,940
Max Hour	Personnel	WATER OPERATIONS	ALT - 457 DEFERRED COMP	$632
Max Hour	Personnel	WATER OPERATIONS	EMPLOYEE BOOT REIMBURSEMENT	$1,269
Max Hour	Operations	WATER OPERATIONS	ELECTRICITY & GAS	$885,476
General/Admin	Operations	WATER OPERATIONS	POSTAGE & SHIPPING	$2,100
General/Admin	Operations	WATER OPERATIONS	TELEPHONE SERVICE	$26,250
General/Admin	Operations	WATER OPERATIONS	TRAVEL & SUBSISTENCE	$5,250
General/Admin	Operations	WATER OPERATIONS	LEGAL SERVICES	$10,500
General/Admin	Operations	WATER OPERATIONS	EXPERT & CONSULTATION SERVICES	$42,000
General/Admin	Operations	WATER OPERATIONS	EXPERT & CONSULTATION SERVICES	$21,000
Max Hour	Operations	WATER OPERATIONS	REP & MAINT	$30,900
General/Admin	Operations	WATER OPERATIONS	REP & MAINT-UNIFORMS & ACCESS	$4,200
General/Admin	Operations	WATER OPERATIONS	DUES & SUBSCRIPTIONS	$7,350
General/Admin	Operations	WATER OPERATIONS	PRINTING, BINDING & DUPLICATING	$7,350
General/Admin	Operations	WATER OPERATIONS	PERSONNEL TRAINING	$10,500
Max Hour	Operations	WATER OPERATIONS	0 OTHER _CONTRACT SERVICES	$372,600
Water Supply	Operations	WATER OPERATIONS	FEES & PERMITS	$1,229,695
Max Hour	Operations	WATER OPERATIONS	CONST & MAINT MATEFMLS	$72,100
Max Hour	Operations	WATER OPERATIONS	INFRASTUCTURE MATERIALS	$20,600
Treatment	Operations	WATER OPERATIONS	CHEMICALS	$20,265
Max Hour	Operations	WATER OPERATIONS	REPLACEMENT OF EQUIPMENT	$63,000
Max Hour	Operations	WATER OPERATIONS	OTHER SUPPLIES & MATERIALS	$94,500
General/Admin	Operations	WATER OPERATIONS	FUELS & LUBRICANTS	$29,487
General/Admin	Operations	WATER OPERATIONS	RENT OF LAND - LAND LEASE	$726,086
General/Admin	Operations	WATER OPERATIONS	GENERAL INSURANCE	$163,901
General/Admin	Operations	WATER OPERATIONS	COMPENSATION INSURANCE	$49,140
Max Hour	Operations	WATER OPERATIONS	COST ALLOCATION CHARGES	$682,899
General/Admin	Operations	WATER OPERATIONS	MSC CHARGES	$13,650

General/Admin	Operations	WATER OPERATIONS	TAXES & INTEREST	$15,750
General/Admin	Operations	WATER OPERATIONS	CHARGESIN-INTERDEPARTMENT	$0
General/Admin	Operations	WATER OPERATIONS	City Manager (150-120)	$4,950
Fixed Demand	Operations	WATER OPERATIONS	PW Utilities Eng & Admln (710-5-40)	$931,170
General/Admin	Operations	WATER OPERATIONS	Utilities Lab (710-5-41}	$31,500
General/Admin	Operations	WATER OPERATIONS	Non-departmental - City News Letter (150-280)	$3,500
General/Admin	Operations	WATER OPERATIONS	Computer Replacement Fund (785-550)	$13,650
General/Admin	Operations	WATER OPERATIONS	Airport (730-560)	$15,750
General/Admin	Operations	WATER OPERATIONS	Volunteer Program Support(150-685)	$5,250
General/Admin	Operations	WATER OPERATIONS	Civic Center Common Area (150-221)	$12,044
General/Admin	Operations	WATER OPERATIONS	IS(150-250)	$25,472
Fire	Operations	WATER OPERATIONS	Fire (150-450)	$3,851
General/Admin	Operations	WATER OPERATIONS	CHARGES OUT- INTERDEPARTMENT	$0
Capital	Operations	WATER OPERATIONS	RDA Debt Service (515-729)	-$49,229
Capital	Operations	WATER OPERATIONS	RDA Debt Service (515-731)	-$14,692
Conservation	Operations	WATER OPERATIONS	TOILET REBATE PROGRAM	$10,500
Conservation	Operations	WATER OPERATIONS	CLOTHES WASHER REBATE PROGRAM	$21,000
Conservation	Operations	WATER OPERATIONS	TOILET RETROFIT PROGRAM	$31,500
Conservation	Operations	WATER OPERATIONS	LANDSCAPE REBATE PROGRAM	$31,500
Customer Service	Personnel	WATER CUSTOMER SERVICE	REGULAR SALARIES & WAGES	$371,298
Customer Service	Personnel	WATER CUSTOMER SERVICE	OVERTIME	$16,200
Customer Service	Personnel	WATER CUSTOMER SERVICE	TEMPORARY & CASUAL WAGES	$32,400
Customer Service	Personnel	WATER CUSTOMER SERVICE	RETIREMENT PLAN CHARGES	$45,017

Customer Service	Personnel	WATER CUSTOMER SERVICE	GROUP HEALTH INSURANCE	$88,134
Customer Service	Personnel	WATER CUSTOMER SERVICE	SOCIAL SECURITY	$28,874
Customer Service	Personnel	WATER CUSTOMER SERVICE	ALT - 457 DEFERRED COMP	$421
Customer Service	Personnel	WATER CUSTOMER SERVICE	EMPLOYEE BOOT REIMBURSEMENT	$1,575
Customer Service	Operations	WATER CUSTOMER SERVICE	ELECTRICITY & GAS	$33,000
Customer Service	Operations	WATER CUSTOMER SERVICE	POSTAGE & SHIPPING	$10,500
Customer Service	Operations	WATER CUSTOMER SERVICE	TELEPHONE SERVICE	$6,050
Customer Service	Operations	WATER CUSTOMER SERVICE	TRAVEL & SUBSISTENCE	$1,575
Customer Service	Operations	WATER CUSTOMER SERVICE	REP & MAINT	$4,725
Customer Service	Operations	WATER CUSTOMER SERVICE	REP & MAINT-UNIFORMS & ACCESS	$3,150
Customer Service	Operations	WATER CUSTOMER SERVICE	DUES & SUBSCRIPTIONS	$263
Customer Service	Operations	WATER CUSTOMER SERVICE	PERSONNEL TRAINING	$2,625
Customer Service	Operations	WATER CUSTOMER SERVICE	OTHER CONTRACT SERVICES	$33,600
Customer Service	Operations	WATER CUSTOMER SERVICE	INFRASTRUCTURE MATERIALS	$15,750
Customer Service	Operations	WATER CUSTOMER SERVICE	OTHER SUPPLIES & MATERIALS	$349,664
Customer Service	Operations	WATER CUSTOMER SERVICE	FUELS & LUBRICANTS	$11,670

Customer Service	Operations	WATER CUSTOMER SERVICE	COMPENSATION INSURANCE	$55,283
Customer Service	Operations	WATER CUSTOMER SERVICE	MSC CHARGES	$10,500
Customer Service	Operations	WATER CUSTOMER SERVICE	CHARGES IN - INTERDEPARTMENT	$33,586
Customer Service	Operations	WATER CUSTOMER SERVICE	CHARGES OUT - INTERDEPARTMENT	$0
Customer Service	Operations	WATER CUSTOMER SERVICE	Solid Waste(740-570)	-$138,543
Customer Service	Operations	WATER CUSTOMER SERVICE	Waste Water (710-530)	-$96,281
Customer Service	Operations	WATER CUSTOMER SERVICE	Water - Utility Billing (720-600)	-$55,650
Distribution	Personnel	WATER FIELD SERVICES	REGULAR SALARIES & WAGES	$660,700
Distribution	Personnel	WATER FIELD SERVICES	OVERTIME	$27,000
Distribution	Personnel	WATER FIELD SERVICES	TEMPORARY & CASUAL WAGES	$27,000
Distribution	Personnel	WATER FIELD SERVICES	STANDBY PAY	$7,560
Distribution	Personnel	WATER FIELD SERVICES	OFF DUTY s RECALL PAY	$7,560
Distribution	Personnel	WATER FIELD SERVICES	RETIREMENT PLAN CHARGES	$79,962
Distribution	Personnel	WATER FIELD SERVICES	GROUP HEALTH INSURANCE	$176,102
Distribution	Personnel	WATER FIELD SERVICES	SOCIAL SECURITY	$50,936
Distribution	Personnel	WATER FIELD SERVICES	ALT - 457 DEFERRED COMP	$351
Distribution	Personnel	WATER FIELD SERVICES	EMPLOYEE REIMBURSEMENT	$3,240
Distribution	Operations	WATER FIELD SERVICES	TELEPHONE SERVICE	$5,500
Distribution	Operations	WATER FIELD SERVICES	TRAVEL & SUBSISTENCE	$2,100
Distribution	Operations	WATER FIELD SERVICES	REP & MAINT	$3,150
Distribution	Operations	WATER FIELD SERVICES	REP & MAINT-UNIFORMS & ACCESS	$8,400
Distribution	Operations	WATER FIELD SERVICES	DUES & SUBSCRIPTIONS	$2,100

Distribution	Operations	WATER FIELD SERVICES	PERSONNEL TRAINING	$4,200
Distribution	Operations	WATER FIELD SERVICES	OTHER CONTRACT SERVICES	$39,900
Distribution	Operations	WATER FIELD SERVICES	INFRASTRUCTURE MATERIALS	$146,384
Distribution	Operations	WATER FIELD SERVICES	REPLACEMENT OF EQUIPMENT	$8,400
Distribution	Operations	WATER FIELD SERVICES	OTHER SUPPLIES & MATERIALS	$294,000
Distribution	Operations	WATER FIELD SERVICES	FUELS & LUBRICANTS	$65,611
Distribution	Operations	WATER FIELD SERVICES	RENT OF EQUIPMENT	$2,100
Distribution	Operations	WATER FIELD SERVICES	COMPENSATION INSURANCE	$67,568
Distribution	Operations	WATER FIELD SERVICES	MSC CHARGES	$63,000
Distribution	Operations	WATER FIELD SERVICES	CHARGES IN - INTERDEPARTMENT	$0
Distribution	Operations	WATER FIELD SERVICES	Utilities Lab (710-541)	$788
Max Hour	Personnel	WATER UTILITIES	REGULAR SALARIES & WAGES	$468,558
Max Hour	Personnel	WATER UTILITIES	OVERTIME	$2,160
Max Hour	Personnel	WATER UTILITIES	TEMPORARY & CASUAL WAGES	$21,600
Max Hour	Personnel	WATER UTILITIES	EMPL SHARE RETIRE- CITY PAID	$0
Max Hour	Personnel	WATER UTILITIES	RETIREMENT PLAN CHARGES	$56,808
Max Hour	Personnel	WATER UTILITIES	GROUP HEALTH INSURANCE	$132,062
Max Hour	Personnel	WATER UTILITIES	SOCIAL SECURITY	$36,157
Max Hour	Personnel	WATER UTILITIES	ALT-457 DEFERRED COMP	$281
General/Admin	Personnel	WATER UTILITIES	TRAVEL & SUBSISTENCE	$1,575
General/Admin	Personnel	WATER UTILITIES	REP & MAINT-OTHER EQUIPMENT/FURN'T	$525
General/Admin	Personnel	WATER UTILITIES	PRINTING, BINDING & DUPLICATING	$2,100
General/Admin	Personnel	WATER UTILITIES	PERSONNEL TRAINING	$3,150
General/Admin	Operations	WATER UTILITIES	OTHER CONTRACT SERVICES	$525
General/Admin	Operations	WATER UTILITIES	OTHER CONTRACT SERVICES	$147,000
General/Admin	Operations	WATER UTILITIES	· OFFICE & COMPUTER SUPPLIES	$3,675
General/Admin	Operations	WATER UTILITIES	GENERAL INSURANCE	$3,287

General/Admin	Operations	WATER UTILITIES	**COMPENSATION INSURANCE**	$1,439
General/Admin	Operations	WATER UTILITIES	**CHARGES IN - INTERDEPARTMENT**	$0
Customer Service	Operations	WATER UTILITIES	**PW Customer Svc (720-597)**	$55,650
General/Admin	Operations	WATER UTILITIES	**CHARGES OUT - INTERDEPARTMENT**	$0
General/Admin	Operations	WATER UTILITIES	**Sewer (710-530)**	-$292,209
General/Admin	Operations	WATER UTILITIES	**Solid Waste (740-570)**	-$399,883
			Subtotal O&M	$9,335,246
Capital			***Existing Debt Service***	$1,294,059
Capital			***Net Revenues before CIP***	$2,676,991
Treatment			New Debt	$975,772
			Subtotal Revenue Requirements	$14,282,068
			Less Revenue Offset	
			Non-Operating (Other) Revenues	$1,490,059
			Subtotal Revenue Offsets	$1,490,059
			Total Cost of Service to be Recovered from Proposed Rates	$12,792,009

6.3. FULL UNINFLATED WASTEWATER CIP

Projects in the City's CIP schedule were assigned a priority of 1 through 3. For the Wastewater utility, only projects that are listed as Priority 1 and 2 have been planned for.

CIP Schedules Wastewater CIP	City of Watsonville	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020

Source: Waste Water budget.xls

Priority				
1	Arthur Sewer Laterals	$70,000		
1	Grove St SD Pump Generator	$130,000		
1	Westgate SS PS Generator	$150,000		
1	Scada Radio Upgrade		$35,000	
1	Easement Machine		$55,000	
3	Baron Ct. Sewer		$100,000	
2	Boom Upgrade		$20,000	
1	Cogeneration steam separator		$90,000	
1	Replace influent pump motors		$180,000	
2	10,000 gallon grease holding tank		$100,000	
2	Rehab corroded concrete		$300,000	
2	Manhole Lid Raising		$100,000	
1	Mañana Lane SS Replacement		$1,300,000	
2	Coolidge Ave SD Pump Station		$213,425	
3	Collection System Infrastructure Repairs		$60,000	
3	WWTP Infrastructure Repairs/Replacement		$150,000	
1	Digester #1 mixing		$750,000	
2	Sewer Manhole Installation and Repair			$100,000
2	Fencing at Pump Stations			$7,000
1	Roughing filter fan frame replacement			$100,000
2	Final clarifier cat walk replacement			$225,000
2	Manhole Lid Raising			$100,000
3	Center Street Sewers			$500,000
1	Freedom Sanitation District Trunk Sewer			$1,285,000
1	Freedom at Airport Storm Drain Upsize			$250,000
3	Collection System Infrastructure Repairs			$60,000

3	WWTP Infrastructure Repairs/Replacement	$150,000			
1	Lincoln St SD Pump Station	$318,937			
1	Marchant St SD Pump Station	$321,812			
2	Manhole Lid Raising		$100,000		
1	Longview SS Replace		$625,000		
3	Collection System Infrastructure Repairs		$60,000		
3	WWTP Infrastructure Repairs/Replacement		$250,000		
3	East Lake at Main Storm Drain		$75,000		
2	Longview Sewer Abandonment		$70,000		
1	3 Sanitary Sewer Projects		$750,000		
2	Upgrade Storm Pump Station #2 at Delta Way		$150,000		
3	Davis Sewer		$200,000		
2	Replace Vactor Series 2100			$400,000	
1	Sanitary Sewer Main Replacement			$750,000	
3	800 KW Cogeneration replacement			$1,500,000	
1	Manhole Lid Raising			$100,000	
2	Collection System Infrastructure Repairs			$150,000	
1	West Beach / Union To Walker - MWH#14			$1,360,000	
3	WWTP Infrastructure Repairs/Replacement			$250,000	
1	Sanitary Sewer Main Replacement				$750,000
3	Effluent flow meter				$100,000
2	Solids dewatering equipment				$500,000
3	Gravity belt sludge thickener				$550,000
3	WWTP Infrastructure Repairs/Replacement				$250,000
2	East Lake SS Replacement				$1,287,750

2	Manhole Lid Raising	$100,000

6.4. FULL UNINFLATED SOLID WASTE CIP

Projects in the City's CIP schedule were assigned a priority of 1 through 3. The City anticipates funding projects of all 3 priority levels.

CIP Schedules City of Watsonville Solid Waste CIP		FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020
Source:	Solid Waste Budget.xls						
Priority							
1	Front Load Collection Vehicle	$340,000					
1	Side Load Collection Vehicle	$340,000					
2	Replace 2 HVAC Units @ MSC	$12,000					
1	MSC Paving	$300,000					
1	Gas Blower / Gas Wells	$60,000					
1	Waste & Recycle Center Building	$50,000					
1	Collection Vehicles		$1,110,000				
2	MSC MASTERPLAN + Paving		$450,000				
1	Stormwater Upgrades		$500,000				
2	Relocate Truck Barn		$20,000				
2	Container Truck		$90,000				
2	2-Way Radio System		$20,000				
3	Carts		$50,000				
3	Containers		$70,000				
2	Truck Wash Sewer Upgrade		$150,000				
1	Mini-Loader		$80,000				
2	Solid Waste Info System		$75,000				
2	Pressure Washer/Steam Cleaner		$100,000				
2	PDO Break Room		$50,000				
2	Loader		$250,000				

1	Collection Vehicles	$740,000			
3	Carts	$50,000			
3	Containers	$70,000			
1	Street Sweeper	$300,000			
2	MSC Office Remodel	$500,000			
3	Building Over PDO	$500,000			
2	Truck Wash Upgrade	$200,000			
2	MSC Gates and Fences	$130,000			
1	Roll-Off Truck	$180,000			
2	Pick-Up Trucks	$70,000			
2	Container Storage at WWTP	$150,000			
1	Collection Vehicles		$740,000		
1	Carts		$50,000		
1	Containers		$50,000		
2	Landfill Water Truck		$200,000		
2	Loader for MRF		$350,000		
2	Container Storage Property		$500,000		
1	Landfill Closure	$1,400,000			
1	Collection Vehicles			$740,000	
3	Carts			$50,000	
3	Containers			$50,000	
1	Landfill Closure		$5,600,000		
1	Collection Vehicles				$740,000
2	Street Sweeper				$300,000
3	Carts				$50,000
3	Containers				$50,000