



City of Redding Utility Rate Program Update

Draft Report

November 2019

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Section 1. Executive Summary

A. Background and Purpose

Background – The City of Redding (City) provides water, wastewater and solid waste services to its residents and commercial businesses, and last updated rates for these services in 2016 after NBS prepared cost-of-service rate studies. The City again retained NBS in October 2018 to update these studies as well as review alternative rate structures and consider other rate-related issues, such as funding capital improvements and changes in costs and how costs are allocated to each customer class.

Purpose – The overall purpose of this study is to provide a thorough review of rates and confirm the City’s broader rate-related goals and objectives, including key financial parameters. Rate studies in general should reflect the City’s unique characteristics and provide sustainable plans for each utility that promote long-term revenue stability, while also ensuring overall fairness and equity.

The rates developed and discussed in this report are intended to meet the requirements of Proposition 218 (Prop 218), originally referred to as the “Right to Vote on New Taxes Act,”¹ and were developed in a manner that is consistent with industry standards. This report is also part of the City’s continuing effort to promote transparent communications with the residents and businesses it serves and to document the basis for adopting new rates as required under Prop 218.

In developing the proposed utility rates, NBS and City staff worked cooperatively in evaluating various rate alternatives and developing study recommendation. After review by the City’s Utility Rate Advisory Group (URAG), NBS and City staff refined the study results and rate alternatives which are reflected in the recommendations to the City Council.

B. Key Findings

Revenue Requirements and Projected Rates – Although all three utilities are financially sound, both the water and wastewater utilities are facing rising costs and significant long-term capital improvements. Without the recommended rates increases, these utilities would see annual deficits by the end of the 4-year period and would make it difficult to complete ongoing capital projects and maintain healthy reserve levels. The proposed rate increases, or more specifically the increases in the total rate revenue collected each year, are shown in **Figure 1**. It is important to understand that a 4-percent sewer rate increase shown in Figure 1 does not mean all sewer rates increase by 4 percent; due to the cost-of-service analysis, individual sewer rates, such as residential vs. commercial, may increase by more or less than 4 percent.

Figure 1. Recommended Annual Rate Increases

Utility	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Water	4%	4%	4%	4%
Sewer	4%	4%	4%	4%
Solid Waste	3%	3%	3%	3%

¹ California Constitution article XIII D, Section 6 (commonly called Proposition 218, also referred to as Prop 218). The City’s attorney provided the opinion that recommended rates comply with Prop 218.

Water Rates – During that last rate study, California was in a “state of emergency” due to a severe drought and water shortages.² Since then, the City’s annual consumption levels have been steadily increasing, although new per-capita standards may affect future consumption levels and raise questions about whether they will ever return to “normal levels.” Because of this, NBS and City staff carefully considered the projected consumption levels along with the significant capital repair and replacement needs when developing the proposed rates and the 4-percent rate increases. Along with the Water Utility’s capital reserves, these rates will allow the City to fund necessary capital improvements. Even with the recommended rate increases, customer bills still compare favorably to other communities in the region.

At this time, continuing with the City’s current uniform-tier rate design is recommended. This is based on advice from the City’s attorney during the last rate study related to legal concerns about recent court rulings,³ as well as concerns about conservation-related revenue instability that can be intensified by tiered rates.

Wastewater Rates – The current wastewater rate design was largely retained, with 4% annual rate increases recommended for each of the next four years. While the City’s sewer rates are not the highest in the regional comparison provided in Section 4, they are on the higher end when compared to other communities in the region.

Solid Waste Rates – The full cost-of-service study performed in 2016 evaluated cost allocations for equipment, administration, transfer station operations, street sweeping, and disposal services. Compared to the results of the 2016 study, the percentage of costs allocated to various customer classes has shifted slightly due to higher than normal, and unexpected, increases in the “cost-of-service” of commercial vs. residential customers, as explained in more detail in Sections 2 and 5. These kinds of changes also explain larger increases in commercial vs. residential rates and why rates do not increase in an “across-the-board” manner in the first year of rate adjustments. The proposed solid waste rates still compare favorably with other communities in the region.

C. Frequently Asked Questions About the Rate Study

Members of the general public, who are not typically familiar with utility rate studies, often have basic questions about what the rate study is and how it might affect their monthly utility bills. This section on frequently asked questions is an attempt to answer those basic questions.

Q: What is a rate study and why was it done? A: This rate study is a comprehensive analysis of the City’s water, wastewater and solid waste rates (“utility rates”) that addresses a number of key factors, such as the financial plan and revenue requirements, the cost-of-service for each customer class, and the fairness and equity of the rate design.

² State Water Resources Control Board Resolution No. 2017-0024, Paragraph 16 states: “On April 7, 2017, the Governor issued Executive Order B-40-17, directing the State Water Board to rescind portions of its existing emergency regulations that require a water supply stress test or mandatory conservation standard for urban water agencies.”

³ See *Capistrano Taxpayers Association V. City of San Juan Capistrano, Fourth District Court of Appeal, Division three, April 18, 2016*. This court ruling requires that tiered water rates demonstrate a clear “cost-basis”.

Q: How was the study conducted and who was involved? A: The City selected and retained NBS in 2018 to work with City staff to begin evaluating its utility rates. During this process, the City's Utility Rate Advisory Group (URAG) reviewed the initial study results and provided recommendations to City staff and the City Council. After the public hearings are held to discuss the proposed rates, the City Council will ultimately decide whether or not to adopt the new utility rates.

What are the benefits of conducting such a study? A: First and foremost, it provides an independent, unbiased evaluation of the City's utility rates. The study reviews the fairness and equity of the water, wastewater and solid waste utility rates among the customer classes which are key requirements of Prop 218. The utility rate models are also intended to both document the study and ensure that the City's utility rates are properly aligned with generally accepted rate study methodology.

What were the results of the rate study? A: The study resulted in several findings: (1) the water and wastewater utilities show that they will need rate increases in order to generate enough rate revenue to effectively fund capital projects and maintain adequate reserve levels; (2) the solid waste utility will continue to run annual deficits without the recommended rate increases; (3) moderate increases in rate revenue are recommended for each utility over the next four years in order to maintain their financial health; and lastly, (4) no changes to the overall rate structures of the utilities are being recommended.

How and when will the recommended rate changes be implemented? A: In order to implement the new rates, the City will need to: (1) mail written notices of the proposed rate adjustments to property owners as mandated by Prop 218, and (2) after a 45-day protest period, hold a public hearing to adopt and implement the new rates. Assuming there is no successful challenge during the Prop 218 process, the City Council would implement the new rates in **January 2020**.

How can someone learn more about the rate study and the URAG's recommendations? A: The City's website⁴ provides useful information about the rate study and the presentations and reports made before the URAG and the City Council on this topic. (*website to be provided*)

D. Study Recommendations

NBS recommends the City take the following actions:

- Review and adopt the long-term financial plans for the water, wastewater and solid waste utilities.
- Evaluate current reserve fund targets and adjust based on NBS' recommendations or per industry standards.
- Retain the City's current rate design for the water, wastewater and solid waste utilities.
- Conduct a legal review of the proposed rates.
- Proceed with Prop 218 noticing requirements and the 45-day protest period.
- Assuming a successful Prop 218 process (that is, there is no majority protest of the rates), adopt the rates summarized in this report.

The next section discusses the rate study.

⁴ <http://www.cityofredding.org/departments/public-works/public-works-utilities>

Section 2. Overview of the Study Methodology

Comprehensive rate studies, such as this one, typically include three components: (1) preparation of a financial plan which identifies the net revenue requirements for the utility; (2) analysis of the cost to service each customer class; and, (3) the rate structure design. These steps are shown in **Figure 2** and are intended to follow industry standards and reflect the fundamental principles of cost-of-service rate-making embodied in the American Water Works Association (AWWA) manual, *Principles of Water Rates, Fees, and Charges*,⁵ also referred to as *Manual M1*.

Figure 2. Primary Components of a Rate Study



This methodology also addresses requirements under Prop 218 that rates not exceed the cost of providing the service and be proportionate to the cost of providing service to all customers. In terms of the chronology of the study, these three steps represent the order in which they were performed in this study for all three utilities.

As part of this rate study, NBS projected revenues and expenditures, developed net revenue requirements, performed cost-of-service rate analyses, and prepared new utility rates for the City to consider. Annual rate increases – or more accurately, increases in the total revenue collected from rates – are recommended for each utility.

The City provided NBS with the data necessary to conduct the studies, including historical, current and projected revenues and expenditures, number of customer accounts, and water consumption data along with other operational and capital cost information.

Rate Design Criteria – It is important for utilities to send proper price signals to its customers about the actual cost of providing service. This objective is typically addressed through both the magnitude of the rates and the rate structure design. In other words, both the amount of revenue collected and the way in which the revenue is collected from customers are important.

Several criteria are typically considered in setting rates and developing sound rate structures. The fundamentals of this process have been well documented in a number of rate-setting manuals, such as

⁵ *Principles of Water Rates, Fees, and Charges*, Manual of Water Supply Practices, M1, AWWA, seventh edition, 2017.

James C. Bonbright's *Principles of Public Utility Rates*⁶ which outlines pricing policies, theories, and economic concepts along with various rate designs.

The following is a simplified list of the attributes of a sound rate structure that applies to most water, wastewater and solid waste utilities:

- Rates should be easy to understand from the customer's perspective.
- Rates should be easy to administer from the utility's perspective.
- Rates should promote the efficient allocation of the resource.
- Rates should be equitable and non-discriminating (i.e., cost based).
- There should be continuity in the rate making philosophy over time.
- Other utility policies should be considered (e.g., encouraging conservation and economic development).
- Rates should consider the customer's ability to pay.
- Rates should provide month-to-month and year-to-year revenue stability.

Rate Structure Terminology – One of the most fundamental points in considering rate structures is the relationship between fixed costs and variable costs. The vast majority of water and wastewater rate structures contain a fixed, or minimum charge, and a volumetric charge, while solid waste rates have similar assumptions built into the per-container rates.

The City's rate design criteria are unique to the characteristics of its utilities. The following discussion summarizes general industry rate study practices in California.

Fixed Charges – Fixed charges can be called base charges, minimum monthly charges, customer charges, fixed meter charges, etc. Although fixed charges are typically a significant percentage of the utility's overall cost structure, utilities rarely collect 100% of their fixed costs through fixed charges. In general, customers prefer to be charged on a volumetric basis, as there is an inherent equity in a "pay-for-what-you-use" philosophy.

For a water utility, fixed charges typically increase by meter size. For example, a customer with a 2" meter may have a fixed meter charge that is eight times greater than the 5/8" or 3/4" meter based on its safe operating capacity.⁷ Because a large portion of water utility costs are typically related to meeting capacity requirements, individual capacity demands are important in establishing equitable rates for customers.

Variable (Consumption-Based) Charges – In contrast, variable costs, such as the cost of electricity used in pumping water and the chemicals used in the water and wastewater treatment facilities, tend to change with the quantity of water produced (or wastewater effluent treated). For a water utility, variable charges are generally based on metered consumption and charged on a dollar-per-unit cost (per Hundred Cubic Feet, or CCF, in the City's case). Wastewater volumetric rates often rely on metered water consumption, which can serve as a proxy for sanitary sewer effluent generation.

⁶ James C. Bonbright, Albert L. Danielsen, and David R. Kamerschen, *Principles of Public Utility Rates*, (Arlington, VA: Public Utilities Report, Inc., Second Edition, 1988), p. 383-384.

⁷ *Principles of Water Rates, Fees, and Charges*, Manual of Water Supply Practices, M1, AWWA, seventh edition, 2017, pp. 151-152.

There are significant variations in the basic philosophy of rate structure alternatives for variable charges. For instance, under a uniform (single-tier) rate structure, the cost per unit does not change with consumption and the rate design provides a straightforward approach that is easy to understand from the customer's perspective and simple to administer from the utility's perspective.

Key Financial Assumptions – The following is a summary of the key assumptions used in the water, wastewater and solid waste rate analyses. Capital and operational reserve fund targets reflect input from City staff in order to meet specific utility objectives.

- **Funding Capital Projects** – The analysis for all three utilities assumes:
 - ✓ Capital costs attributable to existing customers are funded with rate revenue.
 - ✓ Capital costs attributable to growth are assumed to be funded through development impact fee revenue.
 - ✓ All capital projects listed in the financial plans are the City's projections.
- **Reserve Targets for Water** – Reserves for operations and capital needs are set at levels jointly recommended by City staff and NBS. Reserve targets used in the analysis are as follows:
 - ✓ Operating and Maintenance Reserve – One hundred and twenty (120) days of operating expenses.
 - ✓ Capital Rehabilitation and Replacement Reserve – Equal to 5% minimum of the water utility's total expenses (i.e., O&M, Personnel, Interdepartmental, Debt Service, and Capital Expenditures). For most other utilities, capital reserves are based on a percentage of net asset values according to industry standards.
- **Reserve Targets for Wastewater** – Reserves for operations and capital needs are set at levels recommended by City staff and NBS:
 - ✓ Operating and Maintenance Reserve – Ninety (90) days of operating expenses which adheres to industry standards.
 - ✓ Capital Rehabilitation and Replacement Reserve – The reserve target is set at 8% of operating expenses plus \$1 million capital. The typical industry standard target is based on a selected percentage of infrastructure replacement values.
- **Reserve Targets for Solid Waste** – Reserves for operations and capital needs are set at levels recommended by City staff and NBS:
 - ✓ Operating and Maintenance Reserve – Thirty (30) days of operating expenses less administrative costs and utility expenses, such as tipping fees.
 - ✓ Capital Rehabilitation and Replacement Reserve – Equal to 7% of net assets which assumes an average asset life expectancy of approximately 14 years. This represents rolling stock and larger equipment used in transfer station and processing activities.
- **Solid Waste Rolling Stock Purchases** – All rolling stock purchases for the solid waste utility will be paid from reserves or rates; no debt financing is assumed.
- **Inflation and Growth Projections (per City estimates):**

- ✓ General inflation – 3% annually for water and wastewater and 2.5% for solid waste.
- ✓ Customer growth – Averages 0.34% annually for all utilities.
- ✓ Labor cost inflation – 3% annually for water and wastewater and 3.5% for solid waste.

The next three sections discuss the water, wastewater and solid waste rate studies in further detail.

Section 3. Water Rate Study

A. Developing Recommended Water Rates

The water rate analysis was undertaken with a few specific objectives, including:

- Generating sufficient revenue needed to meet projected capital funding requirements;
- Providing revenue stability;
- Providing equity among customer classes; and,
- Incorporating projected water consumption levels.

NBS developed several water rate alternatives as requested by City staff over the course of this study. All rate structure alternatives were developed using industry standards and cost-of-service principles. The rate alternative recommended in this report was selected by City staff with input from the Utility Rate Advisory Group. This analysis includes the following basic components:

- **Developing Cost Allocations:** The water revenue requirements were “functionalized” into three categories: (1) customer service costs; (2) fixed capacity costs; and, (3) variable (or volume-based) costs. Unit costs for each of these functions were determined based on the allocations to functional areas, water consumption, peaking factors, number of accounts by meter size, and customer class.
- **Determining Revenue Requirements by Customer Class:** The total revenue that should be collected from each customer class was determined using the costs allocated to each class. For example, customer costs are allocated based on the number of meters, while volume-related costs are allocated based on the water consumption of each class. Once the costs are allocated and the net revenue requirement for each customer class is determined, collecting the revenue requirements from each customer class is addressed within the rate design.
- **Rate Design and Fixed vs. Variable Costs:** Fixed costs, such as customer service, billing, and general administrative costs, are typically collected through a fixed monthly charge, while variable costs, such as pumping costs and water supply, are typically collected through volumetric charges. California law⁸ and industry practices provide flexibility regarding the actual percentages collected from fixed vs. variable rates. After evaluating various rate alternatives, the current rate structure that recovers 60% of revenue from variable charges and 40% from fixed charges is recommended based on input from City staff and the URAG.

B. Water Utility Revenue Requirements

It is important for municipal utilities to maintain reasonable reserves in order to handle emergencies, fund working capital, maintain a good credit rating, and generally follow sound financial management

⁸ For example, AB 2882 allows a variety of conservation-oriented rate structures, including tiered water rates. While the California Urban Water Conservation Council recommends recovering 70 percent of rate revenue through volume-based rates, water utilities generally develop their own policy and conservation objectives which the City has done in this case.

practices. Rate increases are governed by the need to meet these objectives. The current state of the City's water utility, with regard to these objectives, is as follows:

- **Expected Consumption:** At the time of the last study, the City asked for extraordinary conservation (36 percent) from its customers in accordance with the State mandate. Between March 2015 and February of 2016, only 8.1 million CCF of water was sold which equates to a 24% reduction in water consumption compared to 2013 levels as a direct result of the City's conservation efforts. That State mandate has since been rescinded and consumption levels have returned to the levels from before the mandate. This recent increase in consumption has a discernable impact on the budgeted rate revenue. After careful consideration and review of the water utility's Proforma, the rate study used 10 million CCF⁹ as the best estimate for projecting the rate revenue that should be collected from volumetric charges.
- **Meeting Operating Costs:** For Fiscal Years 2019/20 through 2022/23, the net revenue requirement (i.e., total annual expenses plus debt service and rate-funded capital costs, less non-rate revenues) is estimated to be approximately \$15.2 to \$23.6 million. If no rate increases are implemented, the City would continue to generate enough revenue to cover operating costs and planned capital improvements. However, by FY 2022/23, the City would be faced with annual deficits that would only increase over time and require more aggressive rate increases in the future.
- **Maintaining Adequate Bond Coverage:** The City is required by its bond covenant to maintain a debt service coverage ratio of at least 1.20 for the water utility's share of the outstanding 2013 Revenue Bonds. The added benefit of maintaining a higher coverage ratio is that it strengthens the City's credit rating, which can help lower the interest rates for debt-funded capital projects and, in turn, reduce annual debt service payments. This analysis assumes that the City will not be incurring new debt in order to fund the planned capital expenses. It is projected that, with or without the recommended rate increases, the City will meet the debt coverage ratio for all existing and anticipated debt through FY 2022/23 when final payment is due.
- **Building and Maintaining Reserve Funds:** If no rate increases are implemented, reserves (excluding the Pump House 1 reserve) are expected to be depleted by FY 2021/22. This is due to the City's planned capital improvements which are estimated at \$45.3 million over the next four years. By implementing 4% annual rate increases, the water utility will be able to keep reserves above the target balance and provide some leeway if consumption levels fail to rise to the expected 10 million CCF target. The City staff has chosen to set the following reserve targets:
 - ✓ **Operating Reserve** equal to 33.3% of the Utility's budgeted annual operating expenses. This reserve target is equal to a 4-month (or 120-day) cash cushion for normal operations. For FY 2019/20, the operating reserve is estimated to be \$5.3 million. This reserve is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures, including fluctuations due to weather patterns, natural

⁹ The City calculated the estimated water usage by multiplying the number of housing equivalents by 266 CCF. Source file: *Water Proforma Working Version 7 2 2019.xlsx*.

billing cycle cash flows, variability in volume-based rates, and changes in the age of receivables.

- ✓ **Capital Reserve** equal to 5% minimum of total expenses, which in FY 2019/20 is approximately \$1.6 million. If ratepayers can generate revenues at this level and pace, the City will have reserved a partial cash resource that can be applied toward future capital replacement and rehabilitation needs.
- ✓ **Pump House 1 Reserve** will continue to receive 6% of all fixed and commodity rate revenue which will be used to fund capital improvements related to Pump House 1. This 6% is the City’s established approach to funding the Pump House 1 Reserve.
- ✓ **Debt Reserve** is not a requirement of the 2013 Revenue Bonds and, therefore, the City need not hold any reserves for outstanding debt.

Figure 3 summarizes the sources and uses of funds and net revenue requirements for the next four years, and includes the recommended annual rate increases for the water utility.

Figure 3. Summary of Water Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget	Projected			
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Sources of Water Funds					
Rate Revenue Under Prevailing Rates	\$ 22,557,780	\$ 22,631,854	\$ 22,708,121	\$ 22,786,581	\$ 22,866,991
Other Operating Revenue	508,490	520,798	535,291	550,282	565,793
Interest Earnings	118,530	542,063	510,160	440,566	415,435
Total Sources of Funds	\$ 23,184,800	\$ 23,694,715	\$ 23,753,572	\$ 23,777,430	\$ 23,848,219
Uses of Water Funds					
Operating Expenses	\$ 15,095,122	\$ 15,909,610	\$ 16,346,700	\$ 16,764,519	\$ 17,203,674
Debt Service	342,061	354,924	354,924	354,439	355,895
Rate-Funded Capital Expenses	-	-	190,974	3,717,372	2,546,505
Total Use of Funds	\$ 15,437,183	\$ 16,264,534	\$ 16,892,598	\$ 20,836,331	\$ 20,106,074
Surplus (Deficiency) before Rate Increase	\$ 7,747,617	\$ 7,430,181	\$ 6,860,974	\$ 2,941,099	\$ 3,742,144
Additional Revenue from Rate Increases	-	452,637	1,852,983	2,845,224	3,884,154
Surplus (Deficiency) after Rate Increase	\$ 7,747,617	\$ 7,882,818	\$ 8,713,957	\$ 5,786,323	\$ 7,626,299
Projected Annual Rate Increase	0.00%	4.00%	4.00%	4.00%	4.00%
<i>Cumulative Rate Increases</i>	<i>0.00%</i>	<i>4.00%</i>	<i>8.16%</i>	<i>12.49%</i>	<i>16.99%</i>
Net Revenue Requirement ¹	\$ 14,810,163	\$ 15,201,673	\$ 15,847,147	\$ 19,845,482	\$ 19,124,847
Total Rate Revenue (Current & Add'l.)	\$ 22,557,780	\$ 23,084,491	\$ 24,561,104	\$ 25,631,805	\$ 26,751,145
<i>Debt Coverage With Rate Increase</i>	<i>23.6</i>	<i>23.2</i>	<i>26.1</i>	<i>27.8</i>	<i>29.6</i>

1. Total Use of Funds less non-rate revenues and interest earnings. This is the annual amount needed from water rates

Figure 4 summarizes the projected reserve fund balances and reserve targets. A summary of the water utility’s proposed 10-year financial plan is included in *Appendix A – Additional Water Rate Study Tables*. The appendix tables include more detailed summaries of the revenue requirements, reserve funds, revenue sources, proposed rate increases, and the City’s capital improvement program.

Figure 4. Summary of Water Reserve Funds

Ending Reserve Fund Balances and Recommended Reserve Targets	Budget		Projected		
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Operating Reserve					
Ending Balance	\$ 5,031,707	\$ 5,303,203	\$ 5,448,900	\$ 5,588,173	\$ 5,734,558
<i>Recommended Minimum Target</i>	<i>5,031,707</i>	<i>5,303,203</i>	<i>5,448,900</i>	<i>5,588,173</i>	<i>5,734,558</i>
Capital Rehabilitation & Replacement Reserve					
Ending Balance	\$ 18,645,837	\$ 14,975,393	\$ 8,963,018	\$ 5,699,459	\$ 7,418,764
<i>Recommended Minimum Target</i>	<i>1,334,526</i>	<i>1,589,510</i>	<i>1,469,279</i>	<i>1,255,235</i>	<i>1,340,057</i>
Total Ending Balance	\$ 23,677,544	\$ 20,278,597	\$ 14,411,918	\$ 11,287,632	\$ 13,153,322
<i>Total Recommended Minimum Target</i>	<i>\$ 6,366,233</i>	<i>\$ 6,892,713</i>	<i>\$ 6,918,179</i>	<i>\$ 6,843,409</i>	<i>\$ 7,074,615</i>
Rolling Stock Reserve (9193-70)					
Ending Balance	\$ 491,308	\$ 569,091	\$ 623,106	\$ 522,977	\$ 648,762
Pump House 1 Reserve					
Ending Balance	\$ 10,539,496	\$ 11,924,565	\$ 13,398,231	\$ 14,936,140	\$ 16,541,208
Impact Fee - Restricted Reserve					
Beginning Balance	\$ 1,867,057	\$ 2,185,368	\$ 2,440,579	\$ 1,637,199	\$ 1,409,408
Uses of Funds and Add'l. Revenues	318,311	255,210	(803,380)	(227,791)	27,793
Ending Balance (Impact Fees Only)	2,185,368	2,440,579	1,637,199	1,409,408	1,437,201

C. Characteristics of Water Customers by Class

Both water consumption levels and number of accounts by customer class are used in allocating costs as part of the cost-of-service analysis. The City’s most recent consumption data by customer class, including an adjustment to reflect more normal consumption levels, are summarized in **Figure 5** while **Figure 6** summarizes the peak consumption (peaking factors) by customer class. **Figure 7** then compares the total number of accounts by customer class.

Figure 5. Water Consumption by Customer Class

Development of the BASE COMMODITY Allocation Factor				
Meter Size	Water Consumption FY 2018/19 (ccf) ¹	Adjustment to Annual Consumption ²	Adjusted Annual Consumption ³	Variable Cost Allocations (% of Total Volume)
Single Family	5,743,516	4.58%	6,006,798	60.1%
Multi-Family	1,027,601	4.58%	1,074,707	10.7%
Commercial	1,475,794	4.58%	1,543,444	15.4%
Industrial	435,506	4.58%	455,470	4.6%
Institutional	881,732	4.58%	922,151	9.2%
Total	9,564,149		10,002,569	100.0%
<i>Projected Consumption ⁴</i>			<i>10,002,569</i>	
Hydrant	43,666	0%	43,666	N/A
Grand Total	9,607,815		10,046,235	

1. Consumption rates and customer class from Source file: *REDDING_Summary Revenue - UPDATED 06-19-2019.xlsx*.
2. Adjustment factor to match City's projected annual consumption for FY 2019/20.
3. Adjusted to match City's projection.
4. City's projected consumption. Source file: *Water Proforma for NBS.xlsx*.

Figure 6. Peaking Factors by Customer Class

Development of the PEAK CAPACITY (MAX MONTH) Allocation Factors				
Meter Size	Average Monthly Use (ccf)	Peak Monthly Use (ccf) ¹	Peak Month Factor ¹	Max Month Capacity Factor
Single Family	478,626	910,580	1.90	63.4%
Multi-Family	85,633	120,400	1.41	8.4%
Commercial	122,983	193,937	1.58	13.5%
Industrial	36,292	73,961	2.04	5.2%
Institutional	73,478	136,731	1.86	9.5%
Total	797,012	1,435,610	1.80	100.0%
Hydrant				
Grand Total	797,012	1,435,610		

1. Based on June 2017-May 2018 average peak monthly data (peak day data not available).

Figure 7. Number of Accounts by Customer Class

Development of the CUSTOMER Allocation Factor		
Meter Size	Number of Meters ¹	Percent of Total
Single Family	23,346	81.5%
Multi-Family	2,161	7.5%
Commercial	2,105	7.3%
Industrial	374	1.3%
Institutional	656	2.3%
Total	28,642	100.0%
Hydrant	47	
Grand Total	28,689	

1. Number of meters by customer class from Source file:

REDDING_Summary Revenue - UPDATED 06-19-2019.xlsx

D. Cost-of-Service Analysis

As previously noted in Figure 2, the purpose of the cost-of-service analysis is to fairly and equitably allocate annual revenue requirements to customer classes, while the rate design determines the actual rates within each customer class. The first step in developing the recommended fixed and volumetric rates is to allocate costs between fixed charges, which include capacity-related and customer-related costs, and variable charges (or commodity-related costs). These results are summarized in **Figure 8** below and presented in more detail along with several other alternatives in *Appendix A*.

Figure 8. Summary of Rate Revenue Requirements

Customer Class	Rate Revenue June 2018 - May 2019		Current Rate Design (40% Fixed / 60% Variable)	
	Rate Revenue	% of Revenue	COS Rev. Req't	% of COS Rev. Req't.
Single Family	\$ 14,064,462	63.4%	\$ 14,902,383	63.3%
Multi-Family	2,341,317	10.6%	2,285,987	9.7%
Commercial	3,212,314	14.5%	3,297,715	14.0%
Industrial	806,417	3.6%	1,032,401	4.4%
Institutional	1,759,819	7.9%	2,018,643	8.6%
Total	\$ 22,184,328	100.0%	\$ 23,537,128	100%

Developing revenue requirements by customer class is based on the allocation factors previously shown in Figures 5 through 7, and the fixed and variable revenue requirements shown in Figure 8. The following is a summary of the cost-allocation process, whereby each customer class is allocated a percentage of the fixed and variable costs:

- Allocation percentages for water consumption (from Figure 5) are used to allocate commodity-related variable costs (shown in **Figure 9**); single-family commodity-related costs are 60.1% of \$14.122 million = \$8,480,788.¹⁰
- Allocation percentages for peaking factors (from Figure 6) are used to allocate capacity-related costs (shown in Figure 9); single-family capacity-related costs are 63.4% of \$6.926 million = \$4,393,343.
- Allocation percentages for the number of meters (from Figure 7) are used to allocate customer-related costs (shown in Figure 9); single-family customer-related costs are 81.5% of \$2.488 million = \$2,028,251.

Figure 9. Summary of Adjusted Rate Revenue Requirements by Customer Class

Current Rate Design (40% Fixed / 60% Variable)					
Customer Class	Cost Classification Components			COS Net Rev. Req'ts ¹	% of COS Net Revenue Req'ts
	Commodity	Capacity	Customer		
Single Family	\$ 8,480,788	\$ 4,393,343	\$ 2,028,251	\$ 14,902,383	63.3%
Multi-Family	1,517,340	580,904	187,743	2,285,987	9.7%
Commercial	2,179,134	935,703	182,878	3,297,715	14.0%
Industrial	643,061	356,847	32,492	1,032,401	4.4%
Institutional	1,301,952	659,698	56,992	2,018,643	8.6%
Total	\$ 14,122,277	\$ 6,926,495	\$ 2,488,357	\$ 23,537,128	100.0%
Total Vol. and Fixed Rate Rev.	\$ 14,122,277	\$9,414,851		\$ 23,537,128	

1. This total is higher than shown in the financial plan, which reflects revenue expected for a partial year, whereas the revenue used to set rates needs to assume an entire year of rate revenue.

As previously shown in Figure 3, the projected additional rate revenue from rate increases expected to be collected in FY 2019/20 would be \$452,637 which assumes rates are effective January 2020. When added to the expected rate revenue from current rates (i.e., \$22,631,854), the projected rate revenue for FY 2019/20 is \$23,084,491, whereas Figure 9 reflects the adjusted rate revenue used to calculate rates assuming a full year of rate revenue.¹¹

¹⁰ Results shown may not exactly duplicate the actual calculation because there are more decimal places used in the calculations.

¹¹ That is, the revenue for a full year is used to set rates vs. the actual revenue collected for only part of the year.

E. Current vs. Proposed Water Rate Structures

Water rate design considers broader rate-design objectives and policies, including revenue stability, equity among customer classes, and water conservation. During this analysis, City staff and NBS developed several rate design alternatives with varying combinations of fixed and variable cost allocations:

1. 40% Fixed and 60% Volumetric
2. 45% Fixed and 55% Volumetric
3. 64% Fixed and 36% Volumetric
4. 71% Fixed and 29% Volumetric

After considering these options, City staff is recommending the City continue with the current rate design of 40% fixed and 60% volumetric (#1 above) and also retain the uniform volumetric rate. As previously noted, it is the opinion of City staff, the City’s legal counsel, and NBS that a uniform volumetric rate is the most defensible rate structure, because of the following: (1) it best represents the City’s single-source of water supply, and (2) it applies equally to all customer classes. The results of this analysis, including the other rate structure alternatives, can be found in *Appendix A*.

Figure 10 compares the current and proposed rates for FY 2019/20 through FY 2022/23. The cost-of-service adjustments are reflected in the FY 2019/20 rates; thereafter, rates reflect an across-the-board increase of 4% annually.

Figure 10. Current and Proposed Water Rates for Fiscal Years 2019/20 – 2022/23

Alternative #1 - Current Rate Design (40% Fixed / 60% Variable)					
Water Rate Schedule	Current Rates	Recommended Rates			
		FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
<i>ected Increase in Rate Revenue per Financial Plan:</i>		4.00%	4.00%	4.00%	4.00%
Fixed Service Charge					
Monthly Fixed Service Charge - Standard Meters:					
5/8 inch	\$21.17	\$22.15	\$23.04	\$23.96	\$24.92
3/4 inch	\$28.04	\$29.61	\$30.79	\$32.02	\$33.30
1 inch	\$41.77	\$44.52	\$46.30	\$48.15	\$50.08
1.5 inch	\$76.09	\$81.79	\$85.06	\$88.47	\$92.01
2 inch	\$117.27	\$126.52	\$131.59	\$136.85	\$142.32
3 inch	\$227.10	\$245.81	\$255.64	\$265.87	\$276.50
4 inch	\$350.66	\$380.00	\$395.20	\$411.01	\$427.45
6 inch	\$693.88	\$752.77	\$782.88	\$814.19	\$846.76
8 inch	\$1,105.75	\$1,200.08	\$1,248.08	\$1,298.01	\$1,349.93
Commodity Charges for All Water Consumed					
Uniform Rate	\$1.43	\$1.41	\$1.47	\$1.53	\$1.59

Appendix A provides more detailed tables showing the development of the proposed water rates.

F. Comparison of Current and Proposed Monthly Bills

Single-Family Water Customers

Figure 11 compares monthly water bills under the current and proposed rates for single-family residential customers in the first year of the new rate period.

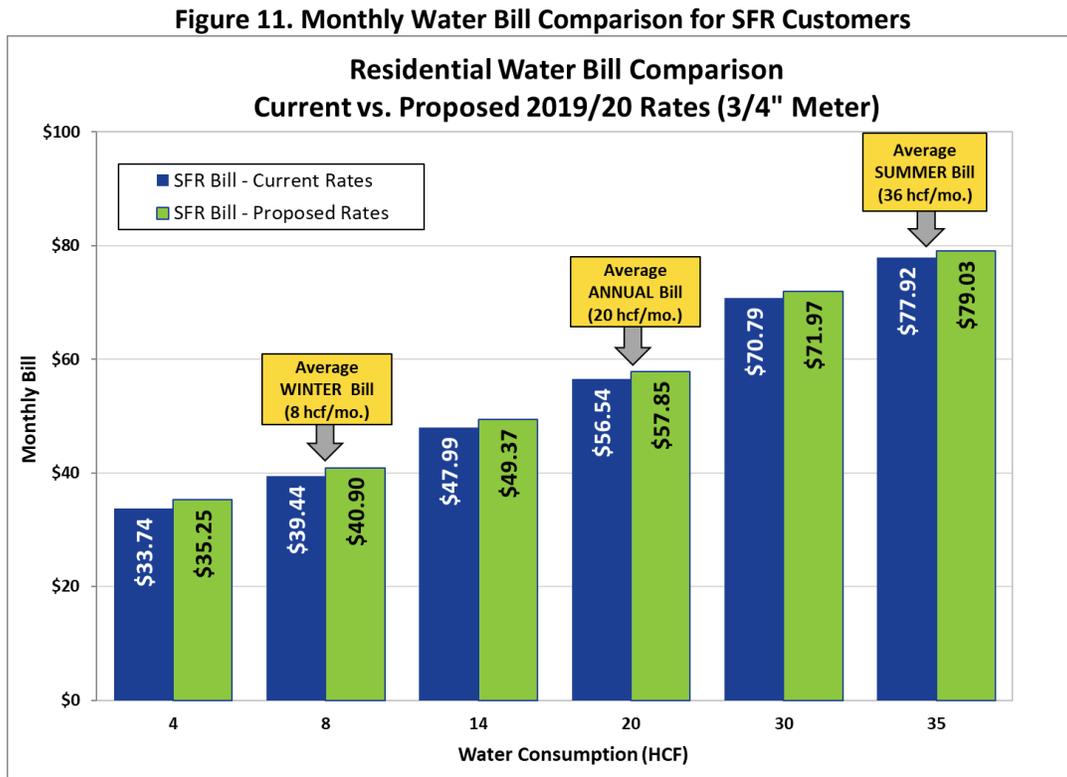


Figure 12 and **Figure 13** compare the current and proposed monthly water bills for the typical single-family to those of other surrounding communities.

In reviewing the bill comparisons under current vs. new rates, it should be noted that the average residential customer’s water use is higher than in previous years. Because of this, comparing monthly bills under new rates should reflect a slightly higher average water consumption, while bills under current rates should use a slightly lower average consumption.

Figure 12. Regional Monthly Water Bill Comparisons

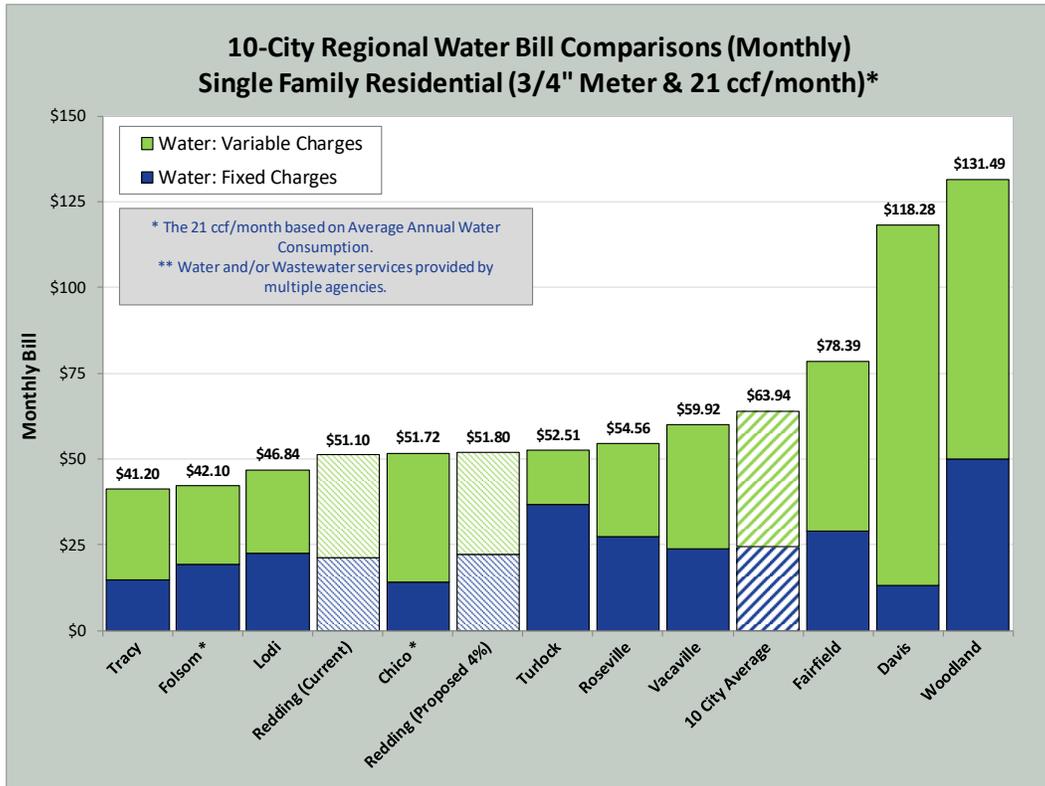
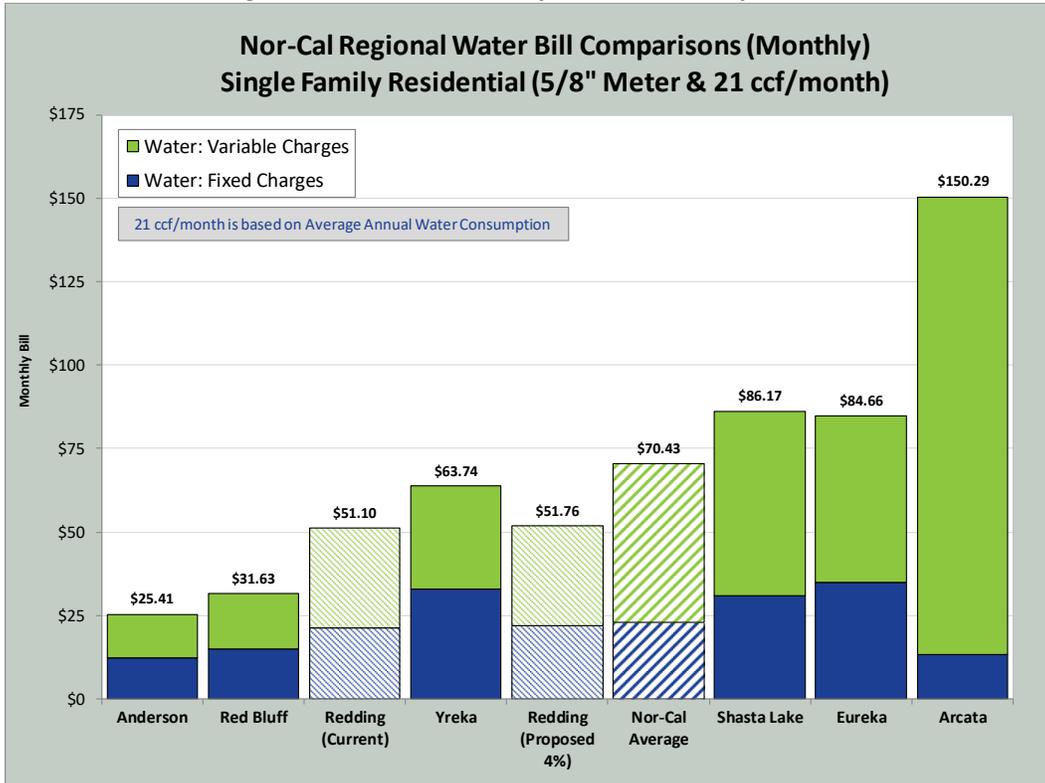


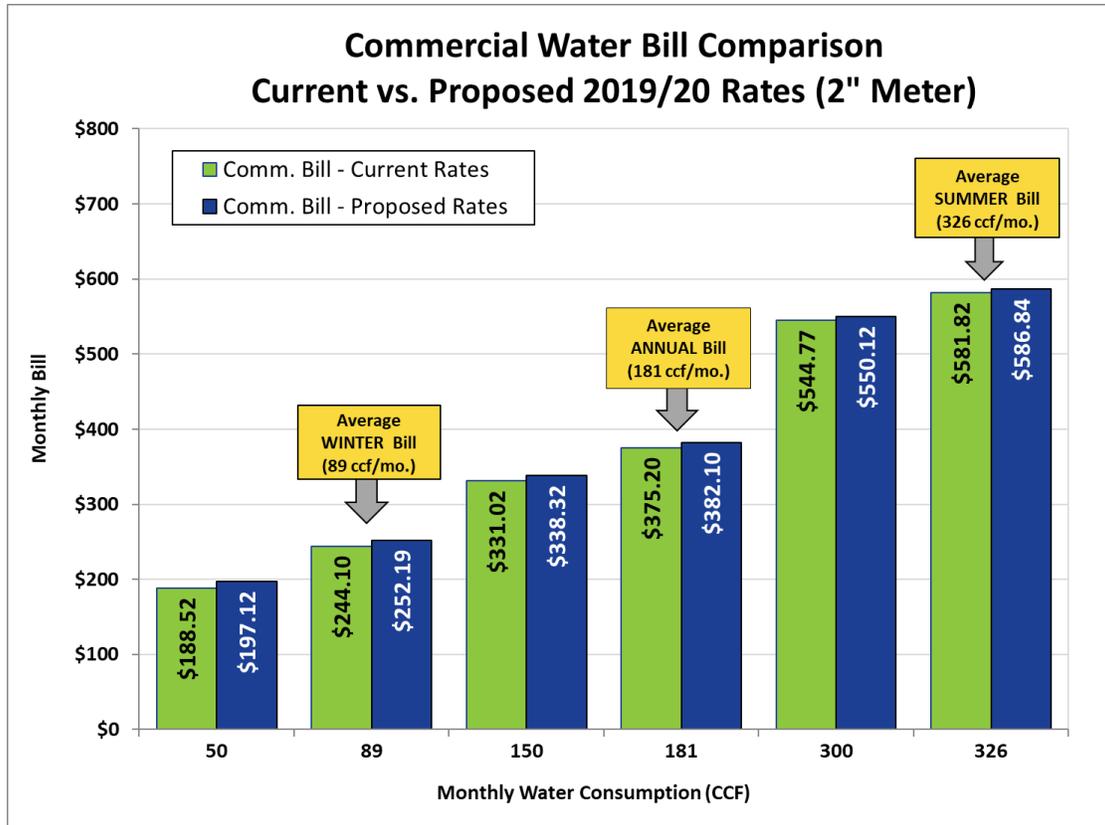
Figure 13. Nor-Cal Monthly Water Bill Comparisons



Commercial Water Customers

Commercial customers are currently subject to the same fixed monthly charges and uniform volumetric rate as single-family customers. Since the level of consumption for commercial customers varies significantly within the commercial class and from residential customers, a uniform volumetric rate most fairly reflects their actual cost-of-service (i.e., vs. a multi-tiered volumetric rate). **Figure 14** compares current and proposed monthly bills for commercial customers with a 2-inch meter at various levels of consumption.

Figure 14. Monthly Water Bill Comparison for Commercial Users



Section 4. Wastewater Rate Study

A. Developing Recommended Wastewater Rates

The wastewater rate study focused on key objectives similar to those considered in the water rate study. One of the main concerns of the wastewater rate analysis was maintaining the financial health of the Utility in light of project increases in capital improvement and replacement costs.

In addition, the study also performed similar tasks as the water rate study when determining the proposed sewer rates, including the following: (1) developing cost allocations for each customer class; (2) developing revenue requirements by customer class; and, (3) determining rates within the customer classes. Detailed tables showing the step-by-step development of the analysis are presented in *Appendix B - Additional Wastewater Rate Study Tables*.

B. Wastewater Utility Revenue Requirements

To identify the wastewater utility's long-term financial needs, including funding for its planned capital improvements, NBS developed a 10-year financial plan that forecasts wastewater revenues, expenditures, and reserves. This plan is based on the Utility's current operating budget, discussions with City staff and the URAG, and other related information provided by the City, such as debt service schedules and capital improvement plans. The financial plan addresses four primary objectives:

- **Meeting Operating Costs:** The wastewater utility must generate enough revenue to cover the expenses of its operations, including administration, maintenance, collection system, and wastewater treatment plant costs.
- **Maintaining Adequate Bond Coverage:** The wastewater utility just recently paid off its 2002 Series A Revenue Bonds, but it still has multiple outstanding State Revolving Fund (SRF) loans. These loans have no specific coverage requirements yet maintaining adequate bond coverage capacity demonstrates the Utility's ability to issue new debt, if and when it becomes necessary.
- **Meeting Capital Improvement Costs:** The wastewater utility plans to adequately fund necessary capital improvements, which includes roughly \$50.2 million in planned capital improvements over the next four years through the use of both capital reserve funds and rate revenue.
- **Maintaining Reserve Funds:** The wastewater utility is not required to maintain a debt reserve fund for the outstanding SRF loans; nevertheless, it has decided to do so in the amount of \$4.1 million in order to cover debt payments should revenues not be adequate. Currently, the Utility is financially healthy; however, the reserve balances will significantly decline within a few years without the proposed rate increases and therefore require larger increases in the future.

After discussions with City staff and the URAG, the following target reserve levels are recommended:

- **Operating Reserve** equal to 25% of the Utility's annual operating expenses. This reserve target is equal to a 3-month (or 90-day) cash cushion for normal operations. An operating reserve is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures.
- **Capital Reserve** equal to 8% of the Utility's annual operating expenses plus \$1.0 million capital.

- **Debt Reserve** equal to the existing SRF loan payments which have been factored into this analysis. Even though the Utility is not legally obligated to maintain a specific reserve balance for the outstanding loans, the City considers it prudent practice to do so in order to ensure the Utility's ability to make its annual debt service payments.

For FY 2019/20, the net revenue requirement is approximately \$27.7 million. The Utility is currently in good financial health and annual revenues are sufficient to cover current operating expenditures, meet debt service payments, and contribute towards planned capital improvement costs. However, considering the planned capital improvements, modest rate increases are recommended. Otherwise, the Utility will find itself facing a deficit of almost \$1.5 million within two-years (by FY 2021/22).

Figure 15 summarizes the four-year financial plan that shows the sources and uses of funds along with the net revenue requirements and the proposed annual rate increases of 4 percent. **Figure 16** summarizes the Utility's projected reserve funds and target reserve balances.

Figure 15. Summary of Wastewater Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget	Projected			
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Sources of Sewer Funds					
Rate Revenue Under Prevailing Rates	\$ 28,961,550	\$ 29,056,653	\$ 29,154,571	\$ 29,255,304	\$ 29,358,541
Non-Rate Revenues	(11,040)	(9,192)	(9,152)	(9,071)	(8,988)
Interest Earnings	-	280,300	195,210	254,862	249,204
Total Sources of Funds	\$ 28,950,510	\$ 29,327,761	\$ 29,340,628	\$ 29,501,095	\$ 29,598,757
Uses of Sewer Funds					
Operating Expenses	\$ 15,143,480	\$ 15,245,120	\$ 15,960,750	\$ 16,387,235	\$ 16,825,237
Debt Service	7,666,240	4,463,740	4,463,740	4,463,740	5,788,071
Rate-Funded Capital Expenses	-	8,288,921	5,583,628	7,124,394	5,630,265
Transfer to Rolling Stock	(350,000)	(300,000)	(300,000)	(300,000)	(300,000)
Total Use of Funds	\$ 22,459,720	\$ 27,697,781	\$ 25,708,118	\$ 27,675,368	\$ 27,943,573
Surplus (Deficiency) before Rate Increase	\$ 6,490,790	\$ 1,629,981	\$ 3,632,510	\$ 1,825,727	\$ 1,655,184
Additional Revenue from Rate Increases	\$ -	\$ 1,162,266	\$ 2,379,013	\$ 3,652,934	\$ 4,986,799
Surplus (Deficiency) after Rate Increase	\$ 6,490,790	\$ 2,792,247	\$ 6,011,523	\$ 5,478,662	\$ 6,641,984
<i>Projected Annual Rate Increase</i>	<i>0.00%</i>	<i>4.00%</i>	<i>4.00%</i>	<i>4.00%</i>	<i>4.00%</i>
<i>Cumulative Rate Increases</i>	<i>0.00%</i>	<i>4.00%</i>	<i>8.16%</i>	<i>12.49%</i>	<i>16.99%</i>
Net Revenue Requirement¹	\$ 22,820,760	\$ 27,726,672	\$ 25,822,061	\$ 27,729,577	\$ 28,003,356

1. Total Use of Funds less non-rate revenues and interest earnings. This is the annual amount needed from sewer rates.

Figure 16. Summary of Wastewater Reserve Funds

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget	Projected			
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Operating Reserve					
Beginning Balance	\$ 17,163,681	\$ 3,821,000	\$ 4,000,000	\$ 4,107,000	\$ 4,217,000
<i>Recommended Minimum Target</i>	<i>3,786,000</i>	<i>3,821,000</i>	<i>4,000,000</i>	<i>4,107,000</i>	<i>4,217,000</i>
Capital Rehab & Replacement Reserve (Rates)					
Beginning Balance	\$ -	\$ 9,814,587	\$ 4,264,352	\$ 7,922,803	\$ 7,455,680
<i>Recommended Minimum Target</i>	<i>2,240,000</i>	<i>2,210,000</i>	<i>2,240,000</i>	<i>2,300,000</i>	<i>2,330,000</i>
Debt Reserve					
Beginning Balance	\$ 4,058,000	\$ 4,058,000	\$ 4,058,000	\$ 4,058,000	\$ 4,058,000
<i>Recommended Minimum Target</i>	<i>4,058,000</i>	<i>4,058,000</i>	<i>4,058,000</i>	<i>4,058,000</i>	<i>4,058,000</i>
Total Beginning Balance	\$ 21,221,681	\$ 17,693,587	\$ 12,322,352	\$ 16,087,803	\$ 15,730,680
<i>Total Recommended Minimum Target</i>	<i>\$ 10,084,000</i>	<i>\$ 10,089,000</i>	<i>\$ 10,298,000</i>	<i>\$ 10,465,000</i>	<i>\$ 10,605,000</i>

A summary of the financial plan through FY 2029/30 showing the revenue requirements, revenue sources (including rate revenue), and necessary rate increases is presented in *Appendix B*, along with a summary of the Utility’s capital improvement program.

C. Cost-of-Service Analysis

Due to the limitations of the wastewater utility billing system, the detailed customer data linking water use to individual wastewater customer accounts is not available. The issue with the wastewater billing system data is the reason why a full cost-of-service analysis has never been performed. As a result, NBS reviewed and evaluated the Utility’s revenue requirements and current rate design from a broader perspective. In NBS’ opinion, absent of the detailed customer data, the City’s current rate design is reasonably fair and equitable, and we and the City staff are not aware of any apparent inequities that would necessitate a more detailed analysis.

In light of these factors, City staff has determined that across-the-board adjustments to current rates are acceptable, with the provision that the City will work on acquiring the necessary billing data so that a more detailed cost-of-service analysis can be performed in the future.

D. Current vs. Proposed Wastewater Rates

Currently, the City’s wastewater rates consist of a fixed monthly charge per residence for single-family dwellings and a fixed monthly charge per unit for multi-family dwellings. Standard commercial and commercial food preparation customers are billed in two different ways; standard commercial customers are charged either a volumetric (\$/CCF) rate based on water consumption or a fixed charge per month based on the number of equivalent housing units per location/account. The commercial food preparation rate is twice the residential and commercial rates to account for the higher conveyance and treatment costs associated with higher biochemical oxygen demand (BOD), total suspended solids (TSS), and oil and grease from food preparation effluent.

As mentioned earlier, the City decided to continue using the current rate structure. The proposed rates reflect the necessary increases in rate revenue each year.

Figure 17 shows the current and proposed wastewater rates through FY 2022/23. Figure 18 and Figure 19 compare the FY 2019/20 monthly wastewater bill of the typical single-family residence to that of surrounding communities.

Figure 17. Current and Proposed Wastewater Rates for Fiscal Year 2019/20 – 2022/23

SEWER RATE SCHEDULE	Current Rates ¹	Proposed Rates			
		FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
<i>Annual Rate increases as shown in Financial Plan:</i>		4.00%	4.00%	4.00%	4.00%
Monthly Service Charges:					
Single Family Dwelling (\$/residence)	\$54.86	\$57.05	\$59.33	\$61.70	\$64.17
Multi Family Dwelling (\$/unit)	\$40.59	\$42.21	\$43.90	\$45.66	\$47.49
Standard Commercial billed monthly (\$/ccf)	\$5.64	\$5.87	\$6.10	\$6.34	\$6.59
Standard Commercial calculated annually (\$/# HE) ²	\$54.86	\$57.05	\$59.33	\$61.70	\$64.17
Commercial Food Preparation billed monthly (\$/ccf)	\$11.28	\$11.73	\$12.20	\$12.69	\$13.20
Commercial Food Preparation calculated annually (\$/# HE)	\$109.72	\$114.11	\$118.67	\$123.42	\$128.36

1. Current rates are from source file: REDDING_Wastewater Fee Schedule.pdf.

2. Includes Industrial, Other and Unknown customers.

Figure 18. Regional Monthly Single-Family Wastewater Bill Comparisons

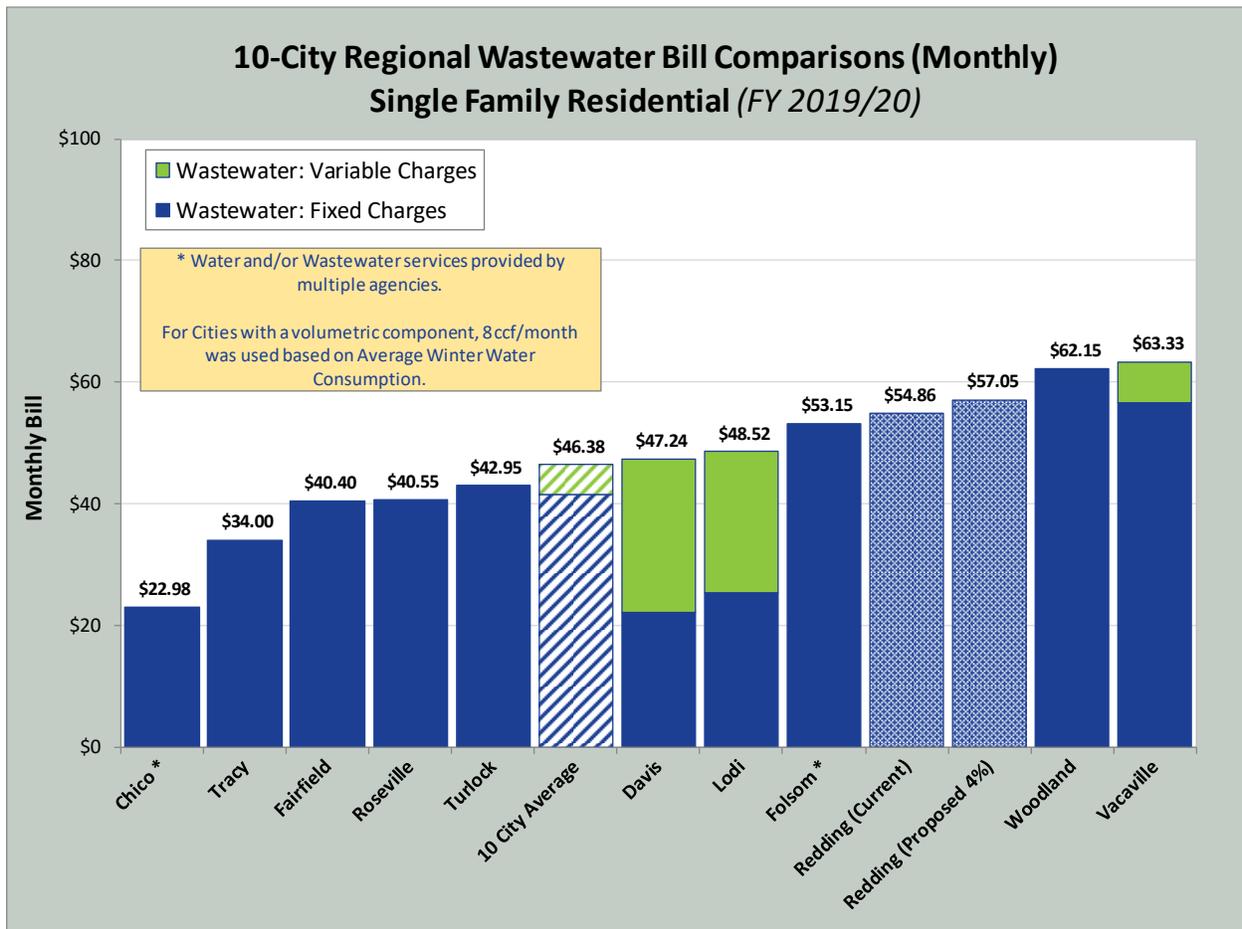
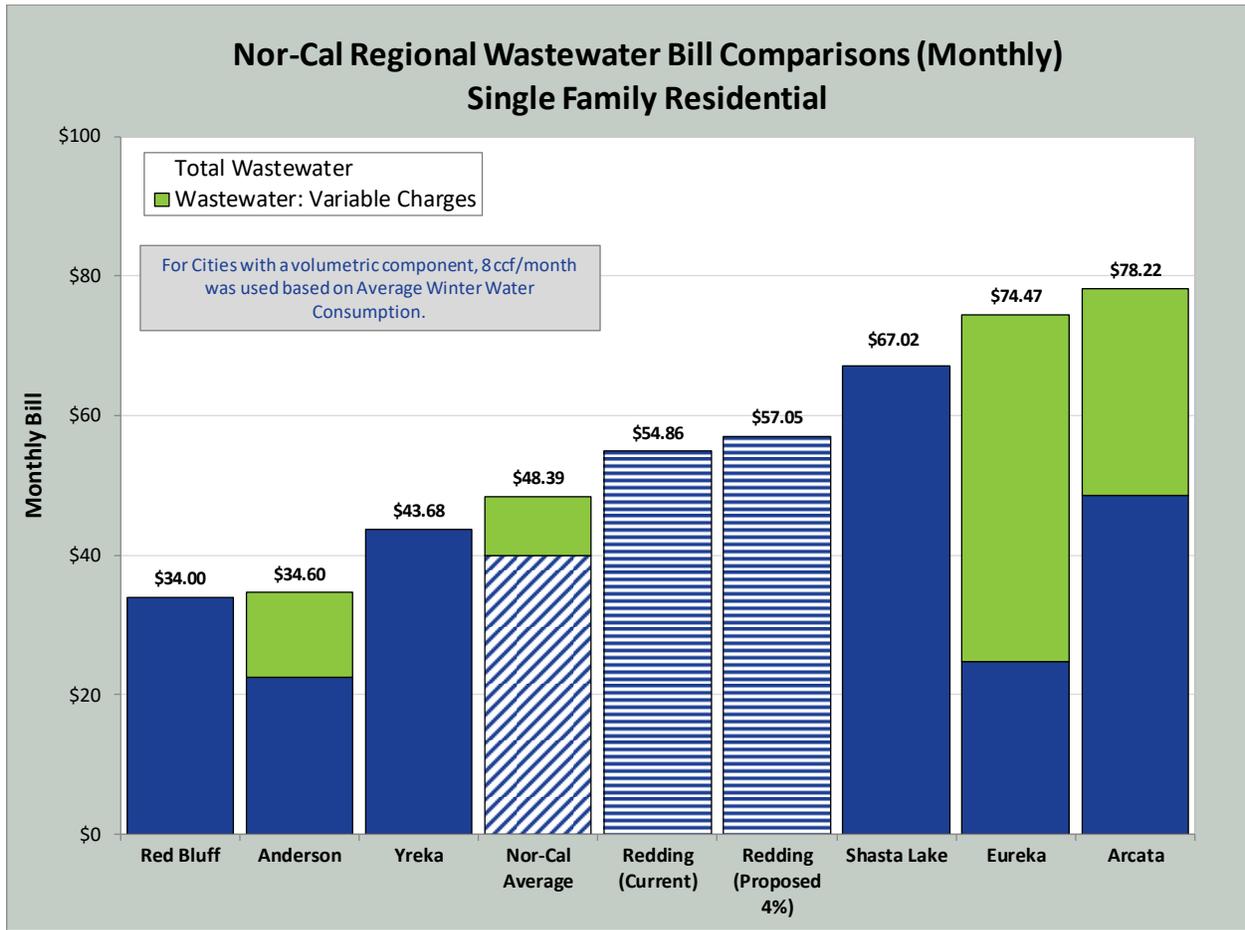


Figure 19. Nor-Cal Monthly Single-Family Wastewater Bill Comparisons



Section 5. Solid Waste Rate Study

A. Key Solid Waste Rate Study Issues

In evaluating solid waste rates, two of the City's key concerns were: (1) ensuring that rates adequately considered new costs related to new programs and equipment needs, and (2) verifying that rates are cost-based according to Prop 218 requirements. As a result of this rate study, there are cost-of-service based adjustments to individual residential and commercial rates that better reflect the level of service based on size and number of pickups per week.

The following sections summarize these results. More detailed tables showing the step-by-step development of the analysis are documented in *Appendix C – Additional Solid Waste Rate Study Tables*.

Rate Study Methodology and Assumptions

The basic steps in a solid waste rate analysis are similar to that of the water and wastewater utilities but, whereas water rates use a fixed charge plus a volume-related charge based on water consumption, solid waste rates are determined by the fixed and variable costs based on the level of service provided to the customer. The level of service refers to the number and size of containers, the number of pickups per week, and the tonnage of waste collected.

Similar to the water and wastewater rate studies, the solid waste rate analysis addressed revenue requirements and the cost-of-service and rate design analyses previously noted in Figure 2. In particular, the cost-of-service analysis evaluated whether or not the current rates properly recover revenue from each customer class, resulting in adjustments to individual rates attributable to their levels of service.

B. Solid Waste Utility Revenue Requirements

The solid waste utility's long-term financial needs are summarized in the 10-year financial plan in *Appendix C*. It forecasts the amount of revenue needed to cover operating expenses, rolling stock replacements, planned capital improvements, reserves, and other obligations. This plan is based on the Utility's current operating budget and other planning projections, such as capital improvement projects and rolling stock needs. The three basic objectives of the financial plan are:

- **Meeting Operating Costs:** The solid waste utility must generate enough revenue to cover the expenses of its operations, including transfer station and street sweeping services. For FY 2019/20, the net revenue requirement (i.e., total annual expenses, less non-rate revenues) is approximately \$17.7 million.
- **Meeting Capital Costs:** The solid waste utility will need to fund approximately \$1.7 million in capital improvements over the next four years (*see Appendix C, Table 14*).
- **Maintaining Reserve Funds:** The solid waste utility had a strong reserve fund balance of almost \$6.8 million at the start of FY 2019/20. Without the recommended rate increases, this balance will dramatically decline over the next four years and the Utility would be faced with a deficit by the end of FY 2022/23.

As with the water and wastewater utilities, City staff worked with NBS to set the reserve targets according to industry standards. The City recommended the following reserve levels that correspond to the Utility's 10-year financial plan:

- **Operating Reserve** equal to 10% of the Utility's budgeted annual operating expenses less utility expenses, such as tipping fees and administration costs. This reserve target is equal to a 1-month (or 30-day) cash cushion for normal operations.
- **Capital Reserve** equal to 7% of net assets, which assumes an average asset life expectancy of 14 years.
- **Rolling Stock Reserve** equal to the average annual rolling stock replacement costs of approximately \$1.5 million for the next four years.

Figure 20 summarizes the Utility's financial plan, including the sources and uses of funds along with the estimated annual surplus assuming that rate increases are implemented. **Figure 21** shows a summary of the projected reserves for the solid waste utility.

Figure 20. Summary of the Revenue Requirements for the Solid Waste Utility

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget	Projected			
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Sources of Solid Waste Funds					
Rate Revenue Under Prevailing Rates	\$16,905,190	\$16,960,702	\$17,017,858	\$17,076,658	\$17,136,918
Fee Revenue	2,059,130	2,127,868	2,199,090	2,272,889	2,349,337
Other Revenue	1,547,160	1,552,180	1,557,348	1,562,664	1,568,113
Interest Earnings	161,740	122,017	90,354	83,582	84,765
Total Sources of Funds	\$20,673,220	\$20,762,768	\$20,864,650	\$20,995,793	\$21,139,134
Uses of Solid Waste Funds					
Operating Expenses	\$20,136,650	\$20,512,810	\$20,610,470	\$21,209,110	\$21,821,640
Debt Service	-	-	-	-	-
Rate-Funded Capital Expenses	51,000	1,035,000	243,450	-	-
Total Uses of Funds	\$20,187,650	\$21,547,810	\$20,853,920	\$21,209,110	\$21,821,640
Surplus (Deficiency) before Rate Increase	\$ 485,570	\$ (785,042)	\$ 10,730	\$ (213,317)	\$ (682,506)
Additional Revenue from Rate Increases	\$ -	\$ 286,329	\$ 1,168,333	\$ 1,788,027	\$ 2,432,755
Surplus (Deficiency) after Rate Increase	\$ 485,570	\$ (498,714)	\$ 1,179,063	\$ 1,574,710	\$ 1,750,248
<i>Projected Annual Rate Increase</i>	0.00%	3.00%	3.00%	3.00%	3.00%
<i>Cumulative Rate Increases</i>	0.00%	3.00%	6.09%	9.27%	12.55%
Net Revenue Requirement ¹	\$16,419,620	\$17,745,745	\$17,007,128	\$17,289,975	\$17,819,424
Total Rate Revenue After Rate Increases	\$16,905,190	\$17,247,031	\$18,186,191	\$18,864,685	\$19,569,673

1. Total Use of Funds less non-rate revenues and interest earnings. This is the annual amount needed from solid waste rates.

Figure 21. Summary of the Reserve Funds for the Solid Waste Utility

Ending Reserve Fund Balances and Recommended Reserve Targets	Budget		Projected		
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
Operating Reserve					
Ending Balance	\$ 6,833,634	\$ 4,534,921	\$ 3,813,984	\$ 3,388,694	\$ 3,138,942
<i>Recommended Minimum Target</i>	<i>3,320,000</i>	<i>3,447,000</i>	<i>3,474,000</i>	<i>3,575,000</i>	<i>3,677,000</i>
Capital Rehab & Replacement Reserve					
Ending Balance	\$ 868,550	\$ 1,168,550	\$ 1,462,000	\$ 1,962,000	\$ 2,011,000
<i>Recommended Minimum Target</i>	<i>1,252,000</i>	<i>1,232,000</i>	<i>1,162,000</i>	<i>1,081,000</i>	<i>1,034,000</i>
Rolling Stock Reserve					
Ending Balance	\$ 1,002,081	\$ 1,427,935	\$ 1,466,737	\$ 1,382,273	\$ 1,061,690
<i>Recommended Minimum Target</i> ¹	<i>1,002,081</i>	<i>1,427,935</i>	<i>1,466,737</i>	<i>1,382,273</i>	<i>1,061,690</i>
Total Ending Balance	\$ 8,704,265	\$ 7,131,406	\$ 6,742,721	\$ 6,732,967	\$ 6,211,633
<i>Total Recommended Minimum Target</i>	<i>\$ 5,574,081</i>	<i>\$ 6,106,935</i>	<i>\$ 6,102,737</i>	<i>\$ 6,038,273</i>	<i>\$ 5,772,690</i>

1. The Rolling Stock Reserve receives annual transfers-in to meet expenditures, so the ending balance is the target reserve.

A summary of the Utility’s entire financial plan, including revenue requirements, revenue sources (including rate revenue), and necessary rate increases, is presented in *Appendix C*. Summaries of the solid waste utility’s capital improvement program and rolling stock replacement plan are also included in *Appendix C*.

C. Customer Class Characteristics and Cost-of-Service

Similar to the cost-of-service analysis for the water utility, the solid waste cost-of-service analysis relies on specific allocation factors for each customer class and determines how costs are divided into various types of service (e.g., collection, disposal, and transfer station). A detailed allocation of costs was prepared based on input from City staff and a thorough review of collection, disposal, and transfer station operations. **Figure 22** through **Figure 26** below summarize the basic allocation factors used in the cost-of-service analysis. These figures also provide a comparison to the 2013-2015 annual averages used in the previous rate study and indicate that commercial customers have significantly increased their level of service compared to residential customers; this impacts the rate adjustments.

Figure 22. Summary of Solid Waste Tonnage Allocation Factors

Customer Class	Avg. 2016-18 Tonnage	Tonnage Allocation Factors (% of Total)	Avg. 2013-15 Tonnage	Tonnage Allocation Factors (% of Total)
Residential	32,508	44%	28,459	48%
Commercial	30,522	41%	21,284	36%
Roll Off	9,414	13%	8,659	15%
Street Sweeper	1,138	2%	1,117	2%
Total	73,581	100%	59,519	100%

75.0% Percent of TS greenwaste allocated to Residential Carts

Figure 23. Comparison of Solid Waste Tonnages

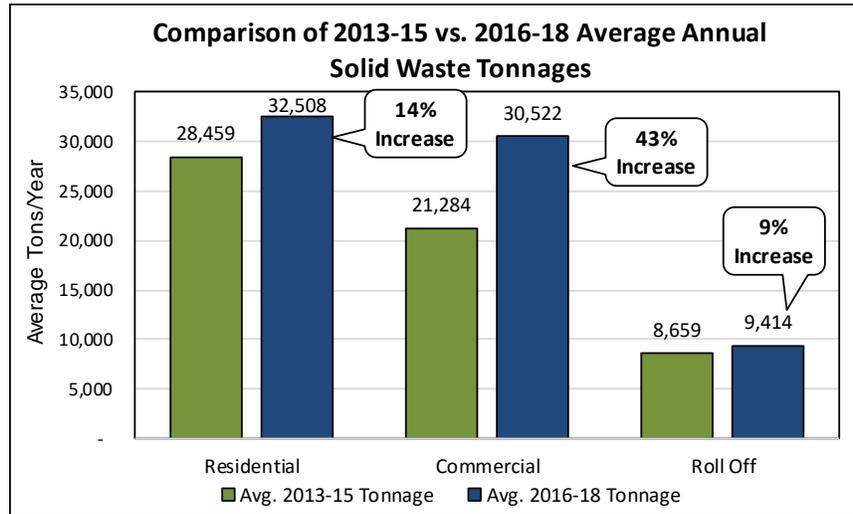
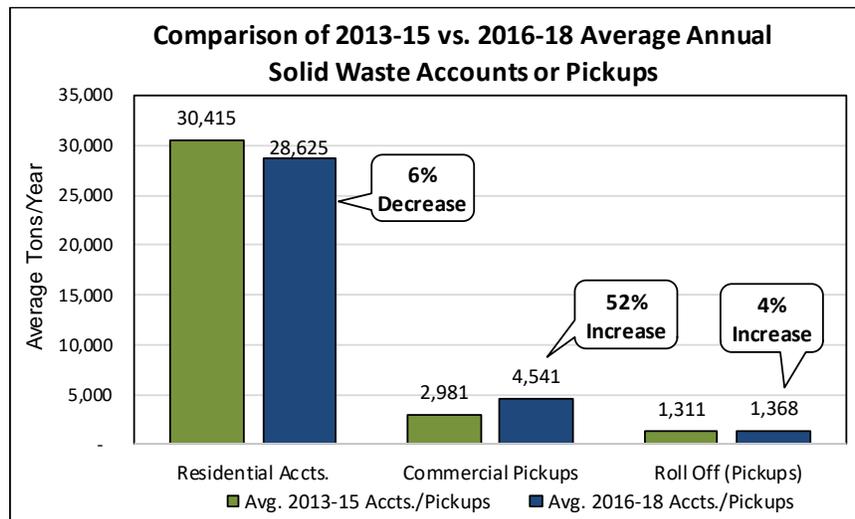


Figure 24. Summary of Solid Waste Account/Pickups-Per-Week Allocation Factors

Type of Account/Service	# of Accounts (or Unsch. Lifts)	% of Total Accounts/Pickups	# of Accounts (or Unsch. Lifts)	% of Total Accounts/Pickups
Residential (Includes Comm. Carts)	28,625	83%	30,415	88%
Commercial (Compactor & Container Accts)	4,541	13%	2,981	9%
Drop Boxes (No. of Unscheduled Pickups)	1,368	4%	1,311	4%
Total	34,534	100%	34,707	100%

Data is from source file: June 2018 Waste Wheeler Revenue.pdf and June 2018 Fixed Charge Report with notes.pdf.

Figure 25. Comparison of Solid Waste Account/Pickups-Per-Week



Since some of the solid waste operating costs are not easily allocated to the various types of services, the average tonnage and the number of accounts/pickups were used to develop a combined allocation factor. These factors are shown in **Figure 26**.

Figure 26. Summary of Solid Waste Combined Allocation Factors

Customer Class	Tonnage Allocation Factor	Accounts / Pickups Allocation Factor	Combined Allocation Factor ¹
Residential	44.2%	82.9%	57.0%
Commercial	41.5%	13.1%	32.0%
Roll Off	12.8%	4.0%	10.0%
Street Sweeper	1.5%	0.0%	1.0%
Total	100.0%	100.0%	100.0%

1. This is the weighted average of the Tonnage (2/3) and Accounts/pickups (1/3) factors.

In general, costs from street sweeping and recycling operations are not directly assigned to individual customers through monthly rates, but instead are included in other rates based on the level of service provided to each customer class.

Figure 27 summarizes the methodology and various allocations used for each customer class.

Figure 27. Summary of Solid Waste Allocation Methodology

Summary of Solid Waste Cost Allocations						
Acct.	Budget Category	Residential	Commercial	Roll-Off	Transfer Station	Basis for Allocation
550	Admin.	✓	✓	✓	✓	Avg. % of Tonnage & No. of Accounts
551	Residential Collection	✓				Customers served
552	Commercial Collection		✓			Customers served
553	Roll-Off Collection			✓		Customers served
556	Resource Recovery	✓	✓		✓	Avg. of Resid/Comm Accts. & Recy. tons
557	Transfer Station	✓	✓	✓	✓	Annual T.S. Tonnage
558	Household Hazardous Waste	✓	✓		✓	6,886 Resid. vs. 186 Comm. HHW customers
559	Street Sweeping	✓	✓			Miles of Streets Swept (46 Res./54 Comm.)
	Less Non-Rate Rev.	✓	✓	✓	✓	Allocated As All Operating Costs

The total revenue requirements for each customer class were calculated using the allocation factors and target revenue requirements. **Figure 28** summarizes these calculations and indicates that, overall, 52% of the rate revenue should be collected from residential customers, 38% from commercial customers, and 10% from roll-off customers. As noted previously, as a result of the cost-of-service analysis, adjustments were made to both the amount of revenue required and the individual rates based on the level of service.

Figure 29 provides a comparison of the revenue currently collected by customer class and the costs allocated to each customer class under the proposed rates. As this figure shows, residential customers now pay a slightly smaller percentage of the total revenue requirements, commercial customers pay a larger percentage under the proposed rates, and drop boxes pay less than their current revenue requirement.

Figure 28. Summary of Revenue Requirements by Customer Class

Summary of Solid Waste Cost Allocations to Customer Classes						
Acct.	Budget Category*	Residential	Commercial	Drop Box	Total	Basis for Allocation
550	Solid Waste Administration ¹	\$ 1,633,029	\$ 924,796	\$ 284,203	\$ 2,842,028	Avg. % of Tonnage & No. of Accounts
551	Residential Collection	3,261,958	-	-	3,261,958	Customers served
552	Commercial Collection ²	-	3,262,949	-	3,262,949	Customers served
553	Roll-Off Collection	-	-	1,083,444	1,083,444	Customers served
552	Commercial Container Costs	-	78,490	78,490	156,980	50/50 between commercial & roll-offs ⁴
556	Resource Recovery	3,370,701	1,530,925	80,575	4,982,200	Avg. of Resid/Comm Accts. & Recy. tons
557	Transfer Station ³	1,103,948	1,422,177	292,665	2,818,790	Annual T.S. Tonnage
558	Hhld Hazardous Waste	497,629	15,391	-	513,019	6,886 Resid. vs. 186 Comm. HHW customers
559	Street Sweeping	491,908	587,890	119,978	1,199,776	Miles of Streets Swept
	Rate-Funded Capital	524,631	403,322	115,236	1,043,188	Allocated As All Operating Costs
	Less Non-Rate Rev.	(1,841,819)	(1,504,037)	(348,953)	(3,694,809)	Various - Changes by type of revenue
Total		9,041,985	6,721,902	1,705,638	17,469,524	Adjusted to meet Target Rate Revenue
% of Total		52%	38%	10%	100%	\$ 17,469,524 Target Rev. (Func. & Alloc.)

- * Note: Total budgets by account number have been adjusted from "Net Revenue Req'ts." to 2019/20 Target Rate Revenue reflecting recommended rate increases.
- 46% of the Street Sweeping Costs in Admin. are allocated to Residential and 54% to Commercial.
 - Total Commercial budgeted costs less sanitation container costs.
 - 46% of the Street Sweeping Costs in Transfer Station Expenses are allocated to Residential and 54% to Commercial.
 - Although there are fewer roll-offs, City staff felt an equal split was appropriate because of their larger size and cost vs. commercial containers.

Figure 29. Summary of Current vs. Proposed Revenue Requirements by Customer Class

Current vs. Proposed Budget	Residential	Commercial	Drop Box	Total
Current Rates (FY 2019/20 Budget)	\$ 9,075,093	\$ 6,038,564	\$ 1,847,045	\$ 16,960,702
Proposed Rates (FY 2019/20)	\$ 9,041,985	\$ 6,721,902	\$ 1,705,638	\$ 17,469,524
<i>Percent Change</i>	-0.4%	11.3%	-7.7%	3.0%
<i>Current Rates - % of Total</i>	54%	36%	11%	100%
<i>Proposed Rates - % of Total</i>	52%	38%	10%	100%

D. Rate Design and Proposed Solid Waste Rates

Residential Container Rates – Based on the revenue requirements by customer class (see Figure 28), rate design analysis determines the individual rates within each customer class. **Figure 30** below summarizes the calculations and basis for residential container rates. This includes various adjustments, such as the inclusion of revenue from a second green waste cart.

Figure 30 also shows the residential programs costs, including the costs for recycling (resource recovery) and the household hazardous waste program, and how these costs were allocated to each container size. The recommended residential solid waste rates are provided in **Figure 31**. A comparison of the typical single-family monthly solid waste bill with that of other communities is provided in **Figure 32**.

Figure 30. Summary of Proposed Residential Container Rates

Calculation of Residential Service Charges					
	Residential Containers ¹			Total (or average)	Allocation Basis
	45-Gal Cont.	64-Gal Cont.	96-Gal Cont.		
Residential Account Data					
No. of Carts ² (Incl. Comm. Carts)					
Standard Service (All Carts)	981	4,269	23,375	28,625	From City's Waste Wheeler Revenue Report (Adjusted to better match current '18/19 rate revenue)
Additional Cart (No longer offered)	0	0	0	0	
Total No. of Carts	981	4,269	23,375	28,625	
No. of "Equivalent Carts" ³	461	2,860	23,375	26,696	45-gal. = 47% of 96-gal., 64-gal = 67% of 96-gal.
No. of Lifts/yr.	50,990	221,973	1,215,523	1,488,486	One lift/week for all containers.
Residential Program Costs					
Admin. Costs	\$55,942	\$243,528	\$1,333,560	\$1,633,029	Allocated by number of accounts
Residential Collection					
Cost of Containers ⁴ (\$/yr.)	170	1,054	8,616	9,840	Proportional to current container costs.
Cost of Disposal	259	1,607	13,134	15,000	Proportional to number of "Equivalent Carts".
Cost of Collection ⁵	110,801	482,341	2,641,301	3,234,443	Cost are same regardless of size container.
Resource Recovery	115,468	502,661	2,752,572	3,370,701	Cost are same regardless of size container.
Transfer Station	19,058	118,268	966,622	1,103,948	Proportional to number of "Equivalent Carts".
HHW Program	17,047	74,210	406,372	497,629	Cost are same regardless of size container.
Street Sweeping	16,851	73,356	401,701	491,908	Cost are same regardless of size container.
Rate-Funded Capital	17,972	78,236	428,422	524,631	Cost are same regardless of size container.
less Non-Rate Rev. Credits	(59,274)	(265,223)	(1,517,322)	(1,841,819)	Cost are proportional to % of other costs.
Add-back (NCC Surcharges) ⁶	N.A.	N.A.	N.A.	\$ 2,675	
Total Annual Costs	\$ 294,293	\$ 1,310,038	\$ 7,434,978	\$ 9,041,985	
less 2nd GW Cart Revenue ⁷	\$ (8,952)	\$ (38,970)	\$ (213,399)	\$ (261,321)	
Net Revenue from Rates	\$ 285,341	\$ 1,271,068	\$ 7,221,579	\$ 8,780,663	Current vs. New Rates as % of 45-Gal. Rate
Total Costs (\$/mo./container)	\$24.25	\$24.81	\$25.74	\$25.56	45-Gal Cont. 64-Gal Cont. 96-Gal Cont.
Proportional New Rates ⁸	\$23.16	\$24.20	\$25.90		100% 105% 112%
Increase vs. 45-Gal. Rate	N.A.	\$1.05	\$2.74		
Current Rates	\$22.36	\$23.37	\$25.01		100% 105% 112%
% Increase vs. Current Rates	3.6%	3.6%	3.6%		

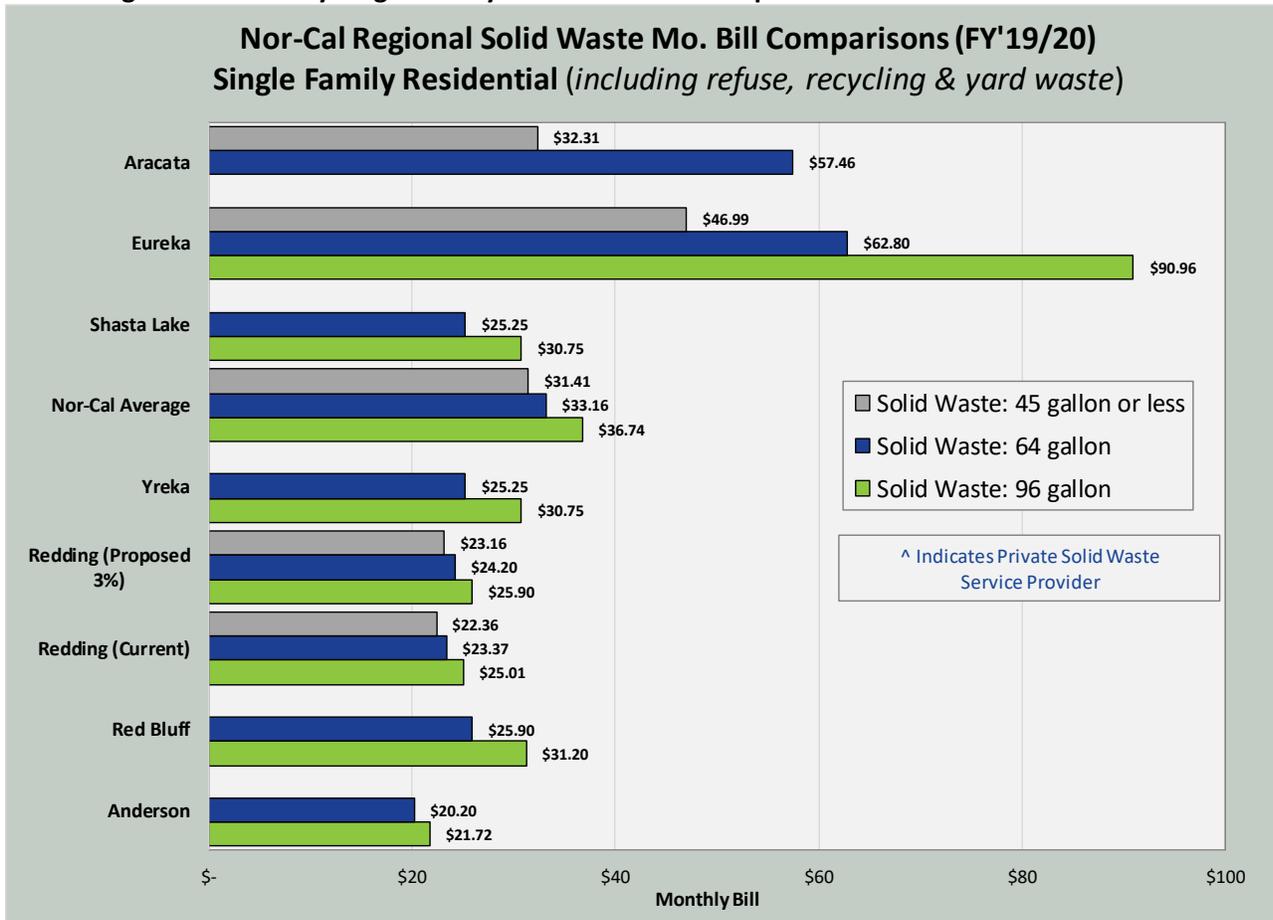
1. Includes both residential and commercial cans (carts).
2. Source file: City's Waste Wheeler Revenue Report for June 2018 dated 07/03/2018 (File: June 2018 Waste Wheeler Revenue.pdf).
3. Assumes a 45-gal. cart is 47% of a 96-gal cart and a 64-gal. cart is 67% of a 96-gal cart.
4. Budgeted cost for "Waste Wheelers."
5. Total Residential Collection budget less the cost of containers, disposal, and NCC charges.
6. Non-Curbside Collection (NCC) surcharge revenue is assumed to be about the same and is deducted from the Cost of Collection revenue requirements and added back here. This cost is not included when calculating residential rates.
7. Assumes the City begins charging for the second green waste cart at \$4.00/mo. and the current number of GW carts is 5,077. Revenue is allocated to residential carts based on total carts in each size.
8. This maintains the current proportional differences between 45-, 64- and 96-gallon carts.

Figure 31. Current and Proposed Solid Waste Rates Fiscal Year 2019/20 – 2022/23

SOLID WASTE RATE SCHEDULE	Current Rates ('18/19)	Proposed Rates			
		FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
<i>Annual Rate increases as shown in Financial Plan:</i>		3.00%	3.00%	3.00%	3.00%
Residential Wheeled Cart Monthly Rate ¹					
45-Gal Container	\$22.36	\$23.16	\$23.85	\$24.57	\$25.30
64-Gal Container	\$23.37	\$24.20	\$24.93	\$25.68	\$26.45
96-Gal Container	\$25.01	\$25.90	\$26.68	\$27.48	\$28.30
Additional Green Waste Container	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00
Landfill Monitoring			(\$0.22/month - no increases)		
Automated Cart Special Collection Rate (per cart)					
45-gallon					
Same Day (50% of monthly fee)	\$11.18	\$11.58	\$11.93	\$12.28	\$12.65
Not Same Day (65% of monthly fee)	\$14.53	\$15.05	\$15.50	\$15.97	\$16.45
64-gallon					
Same Day (50% of monthly fee)	\$11.69	\$12.10	\$12.46	\$12.84	\$13.22
Not Same Day (65% of monthly fee)	\$15.19	\$15.73	\$16.20	\$16.69	\$17.19
96-gallon					
Same Day (50% of monthly fee)	\$12.51	\$12.95	\$13.34	\$13.74	\$14.15
Not Same Day (65% of monthly fee)	\$16.26	\$16.84	\$17.34	\$17.86	\$18.40

1. Residential Service includes trash, recycling, and green waste containers.

Figure 32. Monthly Single-Family Solid Waste Bill Comparison with Other Communities



Commercial Container Rates – Calculating commercial container rates involves first determining the cost-of-service for specific service components, such as costs per container lift, costs per cubic yard of waste collected, and costs for the containers themselves. **Figure 33** summarizes these unit costs which are then used to allocate the commercial revenue requirements to each level of service (i.e., size of container and number of pickups per week).

Proposed commercial container rates are summarized in **Figure 34**. A detailed comparison of the current and proposed rates indicates that costs are not equally distributed among individual services. As a result, some types of services increased more than the average while others actually decreased.

Figure 33. Summary of Calculated Unit Costs for Commercial Services

Calculation of Commercial Service Charges ¹					
Cost Categories	Commercial Containers ¹	No. of Units	Type of Unit	Per-Unit Cost	Allocation Basis
Commercial Account Data & Program Costs					
Admin. Costs	\$ 924,796	190,745	Total Lifts/Yr.	\$4.85/Lift	<i>Applies to each lift, regardless of container size.</i>
Commercial Collection ²					
Cost of Containers ³ (\$/yr.)	78,490	2,549	No. of Cont.	\$30.79/Cont./Yr	<i>Costs will be adjusted to account for size.</i>
Cost of Disposal	1,253,316	714,644	CY/Year	\$1.75/CY	<i>Proportional to number of "Equivalent Carts."</i>
Cost of Collection ⁴	<u>2,009,248</u>	190,745	Total Lifts/Yr.	\$10.53/Lift	<i>Applies to each lift, regardless of container size.</i>
Total Comm. Collection	3,341,053	N.A.	N.A.	N.A.	
Resource Recovery	1,530,925	190,745	Total Lifts/Yr.	\$8.03/Lift	<i>Applies to each lift, regardless of container size.</i>
Allocated T.S. Costs	1,422,177	714,644	CY/Year	\$1.99/CY	<i>Proportional to number of "Equivalent Carts."</i>
HHW Program	15,391	190,745	Total Lifts/Yr.	\$0.08/Lift	<i>Applies to each lift, regardless of container size.</i>
Street Sweeping	587,890	190,745	Total Lifts/Yr.	\$3.08/Lift	<i>Applies to each lift, regardless of container size.</i>
Rate-Funded Capital	403,322	190,745	Total Lifts/Yr.	\$2.11/Lift	<i>Applies to each lift, regardless of container size.</i>
less Non-Rate Rev. Credits	(1,504,037)	190,745	Total Lifts/Yr.	(\$7.89)/Lift	<i>Applies to each lift, regardless of container size.</i>
Add-back (NCC Surcharges) ⁵	\$ 386			\$386	
Total Annual Costs ⁶	\$ 6,721,902			\$398	
Total Lift Costs in \$/Lift				\$20.80/Lift	<i>Cost will be adjusted based on container sizes.</i>
Total Disposal Costs in \$/CY				\$3.74/CY	
Total Container Costs in \$/Container				\$30.79/Cont./Yr	<i>Cost will be adjusted based on container sizes.</i>

1. Includes only commercial containers that are charged fees; excludes recycling services.

2. Includes additional carts and assumes a 64-gal. cart is 67% of a 96-gal cart.

3. Costs are those budgeted for "Sanitation Containers." Commercial and Roll-offs split this cost per City staff.

4. Total Commercial Collection budget for Carts (vs. Compactors/Containers) less the cost of containers and disposal.

5. Non-Curbside Collection (NCC) surcharge revenue is assumed to be about the same and is deducted from the Cost of Collection revenue requirement and added back here. This cost is not included when calculating commercial rates.

6. This does not reconcile with the summary of costs due to adjustments for container costs which are split between comm. & roll-offs.

Figure 34. Summary of Commercial Service Rates

Container Type ¹	Size (CY)	Total No. (excl. Unsched.)	Total Lifts/yr.	Costs per Lift ²	Costs Per CY Collected	Container Cost (\$/yr.)	Unsched. Rates ³	Monthly Rates - By Container Size & Pickups Per Week ⁴					
								1	2	3	4	5	6
Front Load Compactors	2.0	3	308	\$16.37	\$3.74	\$18.82	\$49.00	\$169.85	\$338.13	\$506.42	\$674.70	\$842.98	\$1,011.26
	3.0	2	132	\$19.10	\$3.74	\$28.24	\$66.67	\$231.13	\$459.91	\$688.69	\$917.47	\$1,146.24	\$1,375.02
	4.0	7	617	\$21.83	\$3.74	\$37.65	\$84.35	\$292.41	\$581.68	\$870.96	\$1,160.23	\$1,449.51	\$1,738.78
	5.0	0	0	\$24.55	\$3.74	\$47.06	\$102.03	\$353.69	\$703.46	\$1,053.23	\$1,403.00	\$1,752.77	\$2,102.54
	6.0	14	1,366	\$27.28	\$3.74	\$56.47	\$119.70	\$414.97	\$825.24	\$1,235.50	\$1,645.76	\$2,056.03	\$2,466.29
	8.0	0	0	\$32.74	\$3.74	\$75.30	\$155.06	\$537.53	\$1,068.79	\$1,600.04	\$2,131.30	\$2,662.55	\$3,193.81
	Total	25	2,423										
Commercial Containers	1.0	1	44	\$13.64	\$3.74	\$9.41	\$21.96	\$76.12	\$151.46	\$226.80	\$302.14	\$377.48	\$452.82
	1.5	438	24,939	\$15.01	\$3.74	\$14.12	\$26.12	\$90.54	\$179.90	\$269.26	\$358.63	\$447.99	\$537.35
	2.0	531	31,152	\$16.37	\$3.74	\$18.82	\$30.28	\$104.95	\$208.34	\$311.73	\$415.11	\$518.50	\$621.88
	3.0	526	38,422	\$19.10	\$3.74	\$28.24	\$38.59	\$133.79	\$265.22	\$396.65	\$528.08	\$659.52	\$790.95
	4.0	680	56,047	\$21.83	\$3.74	\$37.65	\$46.91	\$162.62	\$322.10	\$481.58	\$641.06	\$800.54	\$960.02
	6.0	291	30,667	\$27.28	\$3.74	\$56.47	\$63.54	\$220.28	\$435.85	\$651.43	\$867.00	\$1,082.58	\$1,298.15
	8.0	57	7,050	\$32.74	\$3.74	\$75.30	\$80.18	\$277.94	\$549.61	\$821.28	\$1,092.95	\$1,364.62	\$1,636.29
	Total	2,524	188,322										
Grand Total - Commercial		2,549	190,745										

1. Data was provided in the Solid Waste Fixed Charge Summary Report for June 2018 dated 07/03/2018. Source file: *June 2018 Fixed Charge Report.xlsx*.

2. This is the adjusted cost per lift and assumes that 50% of cost/lift is related to container volume (it reflects higher cost of handling and fewer pickups per collection vehicle).

3. Includes a 25% surcharge for intermittent service (vs. scheduled).

4. Rates are determined using lift costs (times the number of lifts), disposal costs (times the amount of disposal per container), and container costs (adjusted to account for size of container). Also, compactor rates were adjusted to reflect the higher disposal tonnages that result from compaction vs. loose-fill waste in non-compactor containers.

Roll-Off Container Rates – A similar analysis of roll-off containers was used to calculate the proposed rates.

Figure 35 summarizes the roll-off costs by budget category, including adjustments for other revenues collected outside the monthly service charges or per pickup charges. These were the adjustments deducted from the rate revenues.

Roll-off services are primarily provided on an “as-needed,” or unscheduled, basis and consist of two basic types of containers: (1) Roll-off Compactors, and (2) Roll-off Containers (i.e., non-compacto bins). **Figure 36** summarizes the costs allocated to each type of container and each size of container, resulting in a rate per lift (or pickup).

Figure 35. Summary of Roll-Off Service Costs

Acct.	Budget Category	Roll-Off Costs ¹	Tonnage Rev. Adjustment ²	Cost After Adjustment ³	Basis for Allocation
550	Solid Waste Administration	\$ 284,203	\$ (157,918)	\$ 126,285	Avg. % of Tonnage & No. of Accounts
551	Residential Collection	-	-	-	Customers served
552	Commercial Collection	-	-	-	Customers served
553	Roll-Off Collection	1,083,444	(602,017)	481,427	Customers served
552	Commercial Container Costs	78,490	(43,613)	34,877	50/50 between commercial & roll-offs
556	Resource Recovery	80,575	(44,772)	35,803	Avg. of Resid/Comm Accts. & Recy. tons
557	Transfer Station	292,665	(162,620)	130,045	Annual T.S. Tonnage
558	Hhld Hazardous Waste	-	-	-	6,886 Resid. vs. 186 Comm. HHW customers
559	Street Sweeping	119,978	(66,666)	53,312	Miles of Streets Swept
559	Rate-Funded Capital	115,236	(64,031)	51,205	Allocated As All Operating Costs
	Less Non-Rate Rev.	(348,953)	-	(348,953)	Various - Changes by type of revenue
Total		\$ 1,705,638	\$ (1,141,635)	\$ 564,003	

1. From Summary of Solid Waste Cost Allocations to Customer Classes, without adjustments for tonnage revenues.
2. The City collects additional revenue from Roll-Off services for tonnages over the weight limits. This revenue, based on the current landfill tipping fee of \$82.50/ton, is deducted equally from revenue requirements of other cost categories to calculate fixed charges.
3. Roll-Off Costs less Tonnage Adjustment.

Figure 36. Summary of Roll-Off Service Rates

Summary of 2018 ROLL-OFFS (Unscheduled):				Cost Allocation Basis					Total Annual Costs	Rate ² (\$/lift)
Type	Size	Total Lifts/yr.	Total Vol. (CY/yr.)	Lifts/Yr. Admin.	Lifts/Yr. Roll-Off Collection	Total Transfer Station	Total All Other Costs ¹	Lifts/Yr. Less Non-Rate Rev.		
Roll-off Compactors	10.0	12	360	\$1,342	\$4,223	\$666	\$761	(\$3,061)	\$3,931	\$327.57
	15.0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$387.04
	20.0	36	2,160	\$4,025	\$12,669	\$3,997	\$4,566	(\$9,183)	\$16,074	\$446.50
	25.0	60	4,500	\$6,708	\$21,115	\$8,328	\$9,512	(\$15,305)	\$30,358	\$505.97
	30.0	108	9,720	\$12,074	\$38,007	\$17,988	\$20,546	(\$27,549)	\$61,067	\$565.43
	37.0	12	1,332	1,332	\$1,342	\$4,223	\$2,465	\$2,816	(\$3,061)	\$7,784
40.0	228	27,360	\$25,490	\$80,238	\$50,632	\$57,834	(\$58,159)	\$156,036	\$684.37	
Total - Compactors		456	45,432	\$50,980	\$160,476	\$84,077	\$96,034	(\$116,318)	\$275,250	
Roll-Offs	10.0	24	240	\$2,683	\$8,446	\$444	\$507	(\$6,122)	\$5,959	\$248.28
	20.0	300	6,000	\$33,540	\$105,576	\$11,104	\$12,683	(\$76,525)	\$86,378	\$287.93
	30.0	492	14,760	\$55,005	\$173,145	\$27,315	\$31,200	(\$125,500)	\$161,164	\$327.57
	40.0	96	3,840	\$10,733	\$33,784	\$7,106.31	\$8,117	(\$24,488)	\$35,253	\$367.21
Total - Roll-Offs		912	24,840	\$101,961	\$320,952	\$45,969	\$52,507	(\$232,635)	\$288,753	
Unit Costs Applied to Rates				\$111.80/Lift	\$351.92/Lift	\$1.85/CY	\$2.11/CY	(\$255.08/Lift)		
Grand Total		1,368	70,272	\$152,941	\$481,427	\$130,045	\$148,541	(\$348,953)	\$564,003	
<i>Target Revenue</i>				\$152,941	\$481,427	\$130,045	\$148,541	(\$348,953)	\$564,003	

1. Includes Container, Resource Recovery, Rate-Funded Capital, and Street Sweeping Costs.
2. Compactors are allowed an additional ton in their maximum weight limit vs. containers; additionally, compactor waste is more dense. Therefore, rates reflect higher tonnages disposed from similar size containers. This difference can only be estimated since actual weight differences of Compactors vs. Roll-Offs are unknown.

Cannabis Rates – The City is implementing a cannabis program, like many other California communities, and needs separate disposal rates for cannabis due to new State requirements on how it is handled and disposed. Based on the cost information provided by the City, these rates were calculated using the following components: (1) cost of the driver; (2) cost of the truck; and, (3) cost of disposal. The new rates are shown in **Figure 37**.

Figure 37. Proposed Monthly Cannabis Rates

Cannabis Collection/Disposal Rates:				
Cost Factor	\$/unit	Units	No. of Units	Cost
Driver	\$45.00	hours	0.5	\$22.50
Truck	\$10.00	hours	0.5	\$5.00
Total (Driver & Truck)/pickup				\$27.50
Disposal	\$2.25	32 gal. bag	1	\$2.25

Cannabis Collection Disposal Rates (\$ per pickup):			
No. of Bags Collected	Driver/Truck	Disposal	\$/pickup
One 32 gal. bag	\$27.50	\$2.25	\$29.75
Two 32 gal. bag	\$27.50	\$4.50	\$32.00
Three 32 gal. bag	\$27.50	\$6.75	\$34.25
Four 32 gal. bag	\$27.50	\$9.00	\$36.50

Final Rate Adjustments – The solid waste rates for residential, commercial, and roll-off containers were adjusted based on the cost-of-service analysis for FY 2019/20. After FY 2019/20, the annual 3-percent rate increases were applied across-the-board through FY 2022/23. The detailed rates for commercial containers, roll-offs, and roll-off compactors are provided in *Appendix C*.

Section 6. Recommendations and Next Steps

Consultant Recommendations

This rate study reflects input from City staff and the Utility Rate Advisory Group and is intended to meet the requirements of Proposition 218. Public hearings and protest balloting requirements are the next steps required to complete the adoption and implementation process. As a part of this process, NBS recommends the City take the following actions:

- **Approve and Accept This Study Report:** NBS recommends the City Council formally approve and adopt this report and its recommendations. This will provide the documentation and administrative record necessary to adopt and implement the proposed rates.
- **Implement Recommended Levels of Rate Increases and Proposed Rates:** Based on successfully meeting the Proposition 218 requirements, the City Council should proceed with implementing the rate increases and rate structures recommended in this report for each utility over the next four years (see Figure 10, Figure 17, Figure 28, Figure 29, Figure 32, and Figure 34, plus more detailed solid waste rate tables in *Appendix C*). These rate increases are necessary to ensure the continued financial well-being of the City's water, wastewater and solid waste utilities. No structural changes are recommended for any of the utilities, although cannabis collection and disposal have been added to the solid waste rates.
- **Adopt Reserve Fund Targets:** NBS recommends the City Council continue with the recommended reserve fund targets for each utility presented in this report. While there are variations in reserve targets used in the industry, those recommended in this report are intended to maintain and/or strengthen the financial health of the utilities. The City should periodically evaluate reserve levels with the purpose of maintaining the following levels for the Operating and Capital Reserves:
 - ✓ **Operating Reserves** – 90 days (i.e., 25%) of operating expenses for the water, sewer and solid waste utilities, although City staff have decided to increase the operating reserves for the water utility to 120 days and decrease for the solid waste utility to 30 days.
 - ✓ **Capital Reserves** – Three percent of net assets for the water and sewer utilities which equates to a 33-year life expectancy of water and sewer assets and provides a reasonable target for future planning purposes.

Next Steps

Annually Review Rates and Revenue – Any time an agency adopts new utility rates, those new rates should be closely monitored over the next several years to ensure the revenue generated is sufficient to meet the annual revenue requirements. Changing economic and drought-related water consumption patterns underscore the need for this review, as well as potential and unseen changing revenue requirements, particularly those related to environmental regulations that can significantly affect capital improvements and repair and replacement costs.

Principal Assumptions and Considerations

In preparing this report and the recommendations included herein, NBS has relied on a number of principal assumptions and considerations with regard to financial matters, including the City's utility budgets, number of customer accounts, water consumption records, and other conditions and events that may occur in the future. This information and these assumptions were provided by sources we believe to be reliable, although NBS has not independently verified this data.

While we believe NBS' use of such information and assumptions is reasonable for the purpose of this report and its recommendations, some assumptions will invariably not materialize as stated herein or may vary significantly due to unanticipated events and circumstances. Therefore, the actual results can be expected to vary from those projected to the extent that actual future conditions differ from those assumed by us or provided to us by others.

Section 7. Abbreviations and Acronyms¹²

AAF	Average Annual Flow
AF	Acre Foot, equal to 435.6 HCF/CCF or 325,851 gallons
Alt.	Alternative
Avg.	Average
AWWA	American Water Works Association
BMP	Best Management Practice
BOD	Biochemical Oxygen Demand
CA	Customer
CAP	Capacity
CCF	Hundred Cubic Feet (same as HCF); equal to 748 gallons
CCI	Construction Cost Index
COD	Chemical Oxygen Demand
COM	Commodity
Comm.	Commercial
COS	Cost of Service
COSA	Cost of Service Analysis
CPI	Consumer Price Index
CIP	Capital Improvement Program
DU	Dwelling Unit
Excl.	Exclude
ENR	Engineering News Record
EDU	Equivalent Dwelling Unit
Exp.	Expense
FP	Fire Protection
FY	Fiscal Year (e.g., July 1st to June 30th)
FY 2019/20	July 1, 2019 through June 30, 2020
GPD	Gallons per Day
GPM	Gallons per Minute
HCF	Hundred Cubic Feet; equal to 748 gallons or 1 CCF
Ind.	Industrial
Irr.	Irrigation
LAIF	Local Agency Investment Fund
Lbs.	Pounds
MFR	Multi-Family Residential
MGD	Million Gallons per Day
MG/L	Milligrams per Liter
Mo.	Month
Muni.	Municipal
NH3	Ammonia
NPV	Net Present Value
N/A	Not Available or Not Applicable
O&M	Operational and Maintenance Expenses
Prop 13	Proposition 13 (1978) – Article XIII A of the California Constitution which limits taxes on real property to 1% of the full cash value of such property.
Prop 218	Proposition 218 (1996) – State Constitutional amendment expanded restrictions of local government revenue collections.
Req't	Requirement
Res.	Residential
Rev.	Revenue
RTS	Readiness-to-Serve

¹² This section identifies abbreviations and acronyms that may be used in this report. This section has not been viewed, arranged, or edited by an attorney, nor should it be relied on as legal advice. The intent of this section is to support the recognition and analysis of this report. Any questions regarding clarification of this document should be directed to staff or an attorney specializing in this particular subject matter.

Section 7. Abbreviations and Acronyms, cont.

R&R	Rehabilitation and Replacement
SFR	Single Family Residential
SRF Loan	State Revolving Fund Loan
SWRCB	State Water Resources Control Board
TSS / SS	Total Suspended Solids
V. / Vs. / vs.	Versus
WWTP	Waste Water Treatment Plant

Appendix A – Additional Water Rate Study Tables

TABLE 1 : FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY ¹	Budget	Projected										
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30
Sources of Water Funds												
Rate Revenue Under Prevailing Rates	\$ 22,557,780	\$ 22,631,854	\$ 22,708,121	\$ 22,786,581	\$ 22,866,991	\$ 22,949,837	\$ 23,035,120	\$ 23,123,083	\$ 23,213,970	\$ 23,308,025	\$ 23,405,491	\$ 23,506,855
Non-Rate Revenue	508,490	520,798	535,291	550,282	565,793	581,848	598,472	615,693	633,540	652,043	671,237	691,154
Interest Earnings ³	118,530	542,063	510,160	440,566	415,435	470,418	511,661	430,090	293,293	184,255	196,756	153,018
Total Sources of Funds	\$ 23,184,800	\$ 23,694,715	\$ 23,753,572	\$ 23,777,430	\$ 23,848,219	\$ 24,002,103	\$ 24,145,253	\$ 24,168,867	\$ 24,140,803	\$ 24,144,322	\$ 24,273,483	\$ 24,351,028
Uses of Water Funds												
Operating Expenses:												
Personnel	\$ 4,347,930	\$ 4,490,120	\$ 4,717,040	\$ 4,848,251	\$ 4,993,699	\$ 5,143,510	\$ 5,297,815	\$ 5,456,749	\$ 5,620,452	\$ 5,789,065	\$ 5,962,737	\$ 6,141,620
Operating & Materials (Materials, Supplies & Svcs)	5,687,452	6,357,270	6,165,130	6,306,928	6,451,987	6,600,383	6,752,192	6,907,492	7,066,365	7,228,891	7,395,155	7,565,244
Cost Allocation & Interdepartmental Charges	5,059,740	5,062,220	5,464,530	5,609,340	5,757,988	5,910,574	6,067,204	6,227,985	6,393,027	6,562,442	6,736,347	6,914,860
Subtotal: Operating Expenses	\$ 15,095,122	\$ 15,909,610	\$ 16,346,700	\$ 16,764,519	\$ 17,203,674	\$ 17,654,467	\$ 18,117,211	\$ 18,592,227	\$ 19,079,843	\$ 19,580,399	\$ 20,094,240	\$ 20,621,724
Other Expenditures:												
Existing Debt Service ⁴	\$ 342,061	\$ 354,924	\$ 354,924	\$ 354,439	\$ 355,895	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Future Debt Service	-	-	-	-	-	-	-	-	-	-	-	-
Rate-Funded Capital Expenses	-	-	190,974	3,717,372	2,546,505	2,933,132	2,515,503	7,491,144	15,118,606	17,728,746	24,347,000	23,250,022
Subtotal: Other Expenditures	\$ 342,061	\$ 354,924	\$ 545,898	\$ 4,071,811	\$ 2,902,401	\$ 2,933,132	\$ 2,515,503	\$ 7,491,144	\$ 15,118,606	\$ 17,728,746	\$ 24,347,000	\$ 23,250,022
Total Uses of Water Funds	\$ 15,437,183	\$ 16,264,534	\$ 16,892,598	\$ 20,836,331	\$ 20,106,074	\$ 20,587,599	\$ 20,632,714	\$ 26,083,372	\$ 34,198,449	\$ 37,309,145	\$ 44,441,240	\$ 43,871,746
Plus: Revenue from Rate Increases ⁵	-	452,637	1,852,983	2,845,224	3,884,154	4,972,149	6,391,913	9,370,262	12,669,199	16,323,385	20,371,357	23,976,897
Increase/Decrease to Reserves	\$ 7,747,617	\$ 7,882,818	\$ 8,713,957	\$ 5,786,323	\$ 7,626,299	\$ 8,386,653	\$ 9,904,452	\$ 7,455,757	\$ 2,611,552	\$ 3,158,562	\$ 203,600	\$ 4,456,179
Net Revenue Req't. (Total Uses less Non-Rate Revenue)	\$ 14,810,163	\$ 15,201,673	\$ 15,847,147	\$ 19,845,482	\$ 19,124,847	\$ 19,535,333	\$ 19,522,581	\$ 25,037,588	\$ 33,271,617	\$ 36,472,847	\$ 43,573,248	\$ 43,027,573
Total Rate Revenue After Rate Increases	\$ 22,557,780	\$ 23,084,491	\$ 24,561,104	\$ 25,631,805	\$ 26,751,145	\$ 27,921,986	\$ 29,427,033	\$ 32,493,345	\$ 35,883,169	\$ 39,631,410	\$ 43,776,848	\$ 47,483,752
Projected Annual Rate Revenue Increase	0.00%	4.00%	4.00%	4.00%	4.00%	4.00%	5.00%	10.00%	10.00%	10.00%	10.00%	8.00%
Cumulative Increase from Annual Revenue Increases	0.00%	4.00%	8.16%	12.49%	16.99%	21.67%	27.75%	40.52%	54.58%	70.03%	87.04%	102.00%
Debt Coverage Without Rate Increase ⁶	23.64	21.93	20.86	19.78	18.66	N/A						
Debt Coverage With Rate Increase ⁶	23.64	23.20	26.08	27.81	29.58	N/A						

1. Revenue for FY 2017/18 & 2018/19 is per the City's Proforma (source file: REDDING_Water Proforma for NBS.xlsx) and expenses are per the City's Budget (source file: REDDING_doc20190617092128 (Water).pdf).

2. Revenue and expenses for FY 2017/18 are based on actuals. Source file: REDDING_Water Proforma for NBS.xlsx & REDDING_doc20190617092128 (Water).pdf.

3. Interest Earnings are for Operating, Capital Rehabilitation & Replacement, and Pump House 1 Reserves.

4. Approximately 49% of annual debt service is allocated to water rates; the remaining is allocated to capacity fees (new development).

5. Initial rate increases are anticipated to be effective January 1st and July 1st each year thereafter.

6. Debt coverage requirement is 1.25 or greater per Official Statement. Source file: REDDING_Water & Wastewater 2013 Refunding Revenue Bonds.pdf.

Appendix A, cont.

TABLE 2 : RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY	Budget	Projected										
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30
Un-Restricted Reserves:												
Operating Reserve												
Beginning Reserve Balance ²	\$ 4,770,635	\$ 5,031,707	\$ 5,303,203	\$ 5,448,900	\$ 5,588,173	\$ 5,734,558	\$ 5,884,822	\$ 6,039,070	\$ 6,197,409	\$ 6,359,948	\$ 6,526,800	\$ 3,904,010
Plus: Net Cash Flow (After Rate Increases)	7,747,617	7,882,818	8,713,957	5,786,323	7,626,299	9,057,854	11,683,887	9,378,329	3,608,824	3,184,924	(860,645)	4,042,931
Plus: Expected Savings @ 1.5% Pers/O&M	150,531	162,711	163,233	167,328	171,685	176,158	180,750	185,464	190,302	195,269	200,368	205,603
Plus: Expected Savings @ 3% Capital	53,894	305,703	410,913	342,755	207,177	269,615	270,394	456,512	635,691	549,609	769,813	697,501
Plus: Transfer of Debt Reserve Surplus	-	-	-	-	-	-	-	-	-	-	-	-
Less: Transfer Out to Pump House 1 Fund ³	\$ (1,353,467)	\$ (1,385,069)	\$ (1,473,666)	\$ (1,537,908)	\$ (1,605,069)	\$ (1,715,591)	\$ (1,833,894)	\$ (1,960,556)	\$ (2,096,199)	\$ (2,315,161)	\$ (2,557,326)	\$ (2,825,242)
Less: Transfer Out to Rolling Stock Reserve	\$ (175,000)	\$ (175,000)	\$ (175,000)	\$ (175,000)	\$ (175,000)	\$ (175,000)	\$ (175,000)	\$ (175,000)	\$ (175,000)	\$ (175,000)	\$ (175,000)	\$ (175,000)
Less: Transfer Out to Capital Replacement Reserve	(6,162,502)	(6,519,666)	(7,493,739)	(4,444,224)	(6,078,708)	(7,462,772)	(9,971,889)	(7,726,411)	(2,001,079)	(1,272,790)	-	-
Ending Operating Reserve Balance	\$ 5,031,707	\$ 5,303,203	\$ 5,448,900	\$ 5,588,173	\$ 5,734,558	\$ 5,884,822	\$ 6,039,070	\$ 6,197,409	\$ 6,359,948	\$ 6,526,800	\$ 3,904,010	\$ 5,849,803
Target Ending Balance, 120 days Operating Expenses ⁴	\$ 5,031,707	\$ 5,303,203	\$ 5,448,900	\$ 5,588,173	\$ 5,734,558	\$ 5,884,822	\$ 6,039,070	\$ 6,197,409	\$ 6,359,948	\$ 6,526,800	\$ 6,698,080	\$ 6,873,908
Capital Rehabilitation & Replacement Reserve												
Beginning Reserve Balance	\$ 14,279,789	\$ 18,645,837	\$ 14,975,393	\$ 8,963,018	\$ 5,699,459	\$ 7,418,764	\$ 8,827,512	\$ 11,670,831	\$ 9,960,162	\$ 3,978,535	\$ 3,605,700	\$ 2,203,166
Plus: Grant Proceeds	-	-	-	-	-	-	-	-	-	-	-	-
Plus: Transfer of Operating Reserve Surplus	6,162,502	6,519,666	7,493,739	4,444,224	6,078,708	7,462,772	9,971,889	7,726,411	2,001,079	1,272,790	-	-
Less: Use of Reserves for Capital Projects	(1,796,454)	(10,190,110)	(13,506,114)	(7,707,782)	(4,359,403)	(6,054,024)	(7,128,570)	(9,437,079)	(7,982,706)	(1,645,624)	(1,402,534)	-
Ending Capital R&R Reserve Balance	\$ 18,645,837	\$ 14,975,393	\$ 8,963,018	\$ 5,699,459	\$ 7,418,764	\$ 8,827,512	\$ 11,670,831	\$ 9,960,162	\$ 3,978,535	\$ 3,605,700	\$ 2,203,166	\$ 2,203,166
Target Ending Balance, 5% Minimum of Total Expenses ⁵	\$ 1,334,526	\$ 1,589,510	\$ 1,469,279	\$ 1,255,235	\$ 1,340,057	\$ 1,364,741	\$ 1,698,942	\$ 2,233,751	\$ 1,977,456	\$ 2,332,911	\$ 2,203,166	\$ 2,273,686
Ending Balance - O&M and Cap R&R Reserves	\$ 23,677,544	\$ 20,278,597	\$ 14,411,918	\$ 11,287,632	\$ 13,153,322	\$ 14,712,334	\$ 17,709,901	\$ 16,157,571	\$ 10,338,483	\$ 10,132,500	\$ 6,107,176	\$ 8,052,969
Minimum Target Ending Balance	\$ 6,366,233	\$ 6,892,713	\$ 6,918,179	\$ 6,843,409	\$ 7,074,615	\$ 7,249,563	\$ 7,738,013	\$ 8,431,161	\$ 8,337,403	\$ 8,859,710	\$ 8,901,246	\$ 9,147,594
Ending Surplus/(Deficit) vs. Minimum Reserve Targets	\$ 17,311,311	\$ 13,385,883	\$ 7,493,738	\$ 4,444,223	\$ 6,078,707	\$ 7,462,771	\$ 9,971,888	\$ 7,726,410	\$ 2,001,079	\$ 1,272,789	\$ (2,794,070)	\$ (1,094,624)
Days Cash on Hand	560	456	315	241	274	305	357	318	198	189	111	143
Rolling Stock Reserve (9193-70)												
Beginning Reserve Balance ⁶	\$ 729,747	\$ 491,308	\$ 569,091	\$ 623,106	\$ 522,977	\$ 648,762	\$ 708,540	\$ 767,265	\$ 856,920	\$ 845,495	\$ 1,033,889	\$ 1,225,268
Plus: Sale of Rolling Stock	10,000	10,000	10,000	10,000	2,500	2,500	2,500	2,500	-	-	-	-
Plus: Transfer of Operating Reserve Surplus	175,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000	175,000
Plus: Interest Earnings	11,561	7,783	9,015	9,871	8,285	10,278	11,225	12,155	13,575	13,394	16,379	19,411
Less: Use of Reserves for Vehicle Purchase	(435,000)	(115,000)	(140,000)	(295,000)	(60,000)	(128,000)	(130,000)	(100,000)	(200,000)	-	-	-
Ending Rolling Stock Reserve Balance	\$ 491,308	\$ 569,091	\$ 623,106	\$ 522,977	\$ 648,762	\$ 708,540	\$ 767,265	\$ 856,920	\$ 845,495	\$ 1,033,889	\$ 1,225,268	\$ 1,419,679
Target Ending Balance ⁷	\$ 510,000	\$ 520,000	\$ 530,000	\$ 540,000	\$ 550,000	\$ 560,000	\$ 570,000	\$ 590,000	\$ 610,000	\$ 630,000	\$ 650,000	\$ 670,000
Pump House 1 Reserve												
Beginning Reserve Balance ⁸	\$ 9,186,029	\$ 10,539,496	\$ 11,924,565	\$ 13,398,231	\$ 14,936,140	\$ 16,541,208	\$ 18,256,800	\$ 11,258,694	\$ 4,387,249	\$ 2,409,123	\$ 2,376,522	\$ 2,487,628
Plus: Transfer of 6% rate revenue	1,353,467	1,385,069	1,473,666	1,537,908	1,605,069	1,715,591	1,833,894	1,960,556	2,096,199	2,315,161	2,557,326	2,825,242
Less: Use of Reserves for Capital Purchase	-	-	-	-	-	-	(8,832,000)	(8,832,000)	(4,074,325)	(2,347,762)	(2,446,221)	-
Ending Pump House 1 Reserve Balance	\$ 10,539,496	\$ 11,924,565	\$ 13,398,231	\$ 14,936,140	\$ 16,541,208	\$ 18,256,800	\$ 11,258,694	\$ 4,387,249	\$ 2,409,123	\$ 2,376,522	\$ 2,487,628	\$ 5,312,869
Target Ending Balance ⁹	\$ -	\$ -										

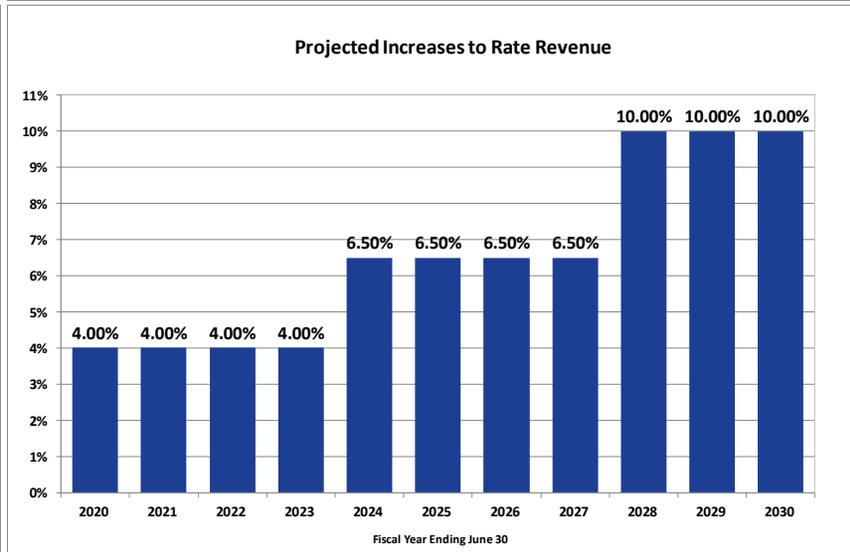
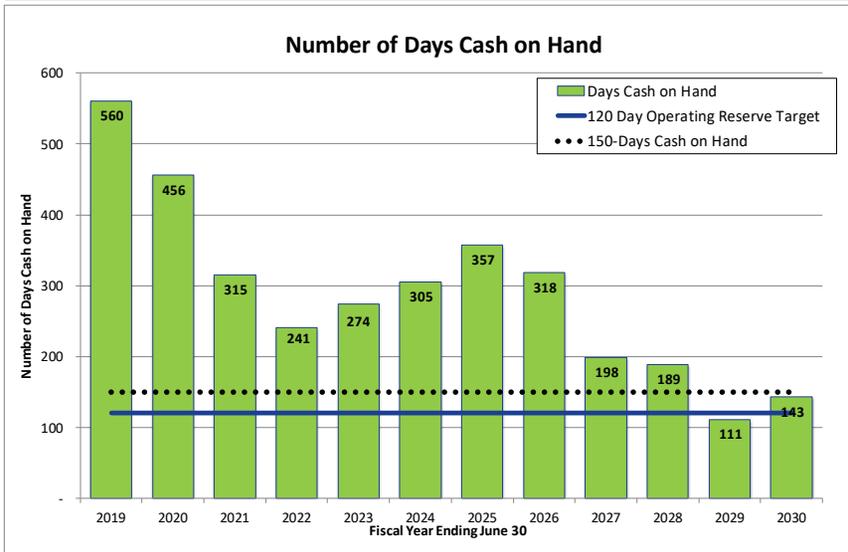
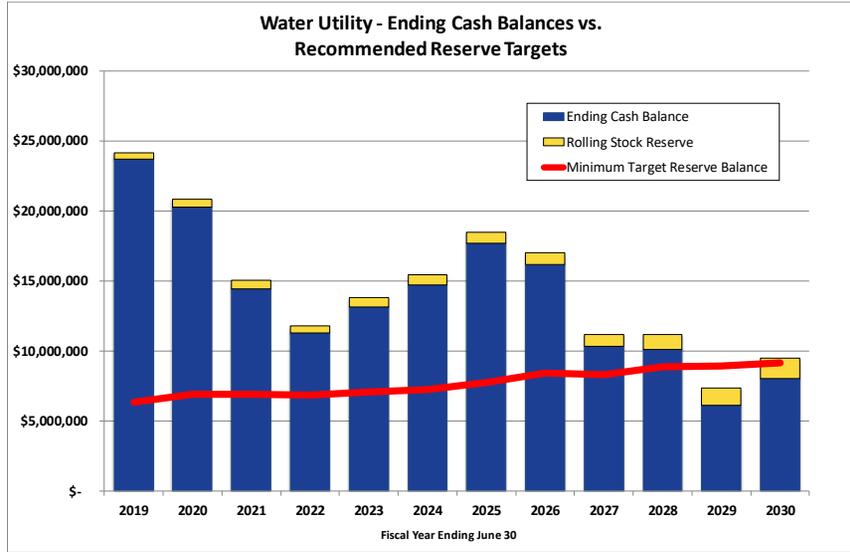
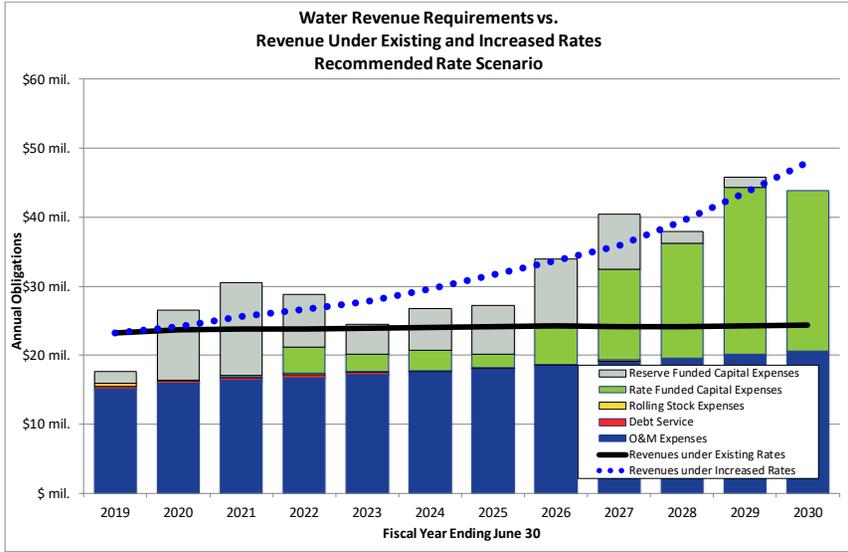
Appendix A, cont.

TABLE 3 : RESERVE FUND SUMMARY, cont.

SUMMARY OF CASH ACTIVITY	Budget	Projected										
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30
Restricted Reserves:												
Debt Reserve												
Beginning Reserve Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plus: Interest Earnings	-	-	-	-	-	-	-	-	-	-	-	-
Less: Transfer of Surplus to Operating Reserve	-	-	-	-	-	-	-	-	-	-	-	-
Ending Debt Reserve Balance	\$ -											
Target Ending Balance	\$ -											
Bond Project Fund												
Beginning Reserve Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plus: SRF Loan Funding Proceeds	-	-	-	-	-	-	-	-	-	-	-	-
Plus: Revenue Bond Proceeds	-	-	-	-	-	-	-	-	-	-	-	-
Less: Use of Bond & Loan Funds for Capital Projects	-	-	-	-	-	-	-	-	-	-	-	-
Ending Bond Project Fund Balance	\$ -											
Target Ending Balance	\$ -											
Impact Fee Reserve												
Beginning Reserve Balance ¹⁰	\$ 1,867,057	\$ 2,185,368	\$ 2,440,579	\$ 1,637,199	\$ 1,409,408	\$ 1,437,201	\$ 2,376,124	\$ 3,396,839	\$ 4,504,326	\$ 1,608,719	\$ 1,434,685	\$ 2,087,899
Plus: Impact Fee Revenue	770,370	825,659	883,977	938,258	1,002,825	1,070,881	1,142,594	1,218,142	1,306,362	1,399,435	1,506,901	1,620,394
Plus: Interest Earnings	29,578	34,620	38,663	25,936	22,328	22,768	37,642	53,812	71,357	25,485	22,728	33,076
Less: Use of Reserves for Debt Funding	(362,639)	(376,276)	(376,276)	(375,761)	(377,305)	-	-	-	-	-	-	-
Less: Use of Reserves for Capital Projects	(122,679)	(235,870)	(1,391,490)	(841,468)	(639,232)	(159,511)	(164,455)	(169,553)	(4,405,492)	(1,648,406)	(903,521)	(191,576)
Plus: Expected Savings @3% Capital	3,680	7,076	41,745	25,244	19,177	4,785	4,934	5,087	132,165	49,452	27,106	5,747
Ending Impact Fee Fund Balance	\$ 2,185,368	\$ 2,440,579	\$ 1,637,199	\$ 1,409,408	\$ 1,437,201	\$ 2,376,124	\$ 3,396,839	\$ 4,504,326	\$ 1,608,719	\$ 1,434,685	\$ 2,087,899	\$ 3,555,540
Annual Interest Earnings Rate¹¹	1.58%											

- Beginning cash balance for Fiscal Year 2017/18 is per FY 2016/17 CAFR. Source file: REDDING_CAFR FYE June 30, 2017.pdf, page 46.
- Beginning Operating Reserve balance for FY 2017/18 is the total beginning cash net of cash allocated to reserved funds via proforma. Source file: REDDING_Water Proforma for NBS.xlsx.
- 6% of all rate revenue is allocated to the Pump House 1 reserve until FY 2029/30 when project is completed.
- The City maintains 90 days or 25% of Operating Expenses as an Operating reserve.
- The City maintains a 5% minimum reserve requirement for Capital Rehabilitation and Replacement.
- Beginning Rolling Stock Reserve balance for FY 2017/18 is per water proforma. Source file: REDDING_Water Proforma for NBS.xlsx. City policy is to transfer 6% of rate revenue to the Pump House 1 reserve fund.
- Target balance for the rolling stock reserve is set equal to \$500K.
- Beginning Pump House 1 Reserve balance for FY 2017/18 is per water proforma. Source file: REDDING_Water Proforma for NBS.xlsx.
- Target balance for Pump House 1 Reserve is zero. Requested explanation from the City.
- Beginning Impact Fee Reserve balance for FY 2017/18 is per water proforma. Source file: REDDING_Water Proforma for NBS.xlsx.
- Interest earning rate based on the City's Pooled Cash Interest Rate. Source file: December 2018_Int Earning.pdf.

Appendix A, cont.



Appendix A, cont.

TABLE 11 : CAPITAL FUNDING SUMMARY

CAPITAL FUNDING FORECAST	Actuals		Budget		Projected								
	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30
Funding Sources:													
Grants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Use of Impact Fee Reserves	124,714	122,679	235,870	1,391,490	841,468	639,232	159,511	164,455	169,553	4,405,492	1,648,406	903,521	191,576
SRF Loan Funding	-	-	-	-	-	-	-	-	-	-	-	-	-
Use of Future Revenue Bond Proceeds	-	-	-	-	-	-	-	-	-	-	-	-	-
Use of Capital Rehabilitation and Replacement Reser	2,351,742	1,796,454	10,190,110	13,506,114	7,707,782	4,359,403	6,054,024	7,128,570	9,437,079	7,982,706	1,645,624	1,402,534	-
Rate Revenue	-	-	-	190,974	3,717,372	2,546,505	2,933,132	1,884,573	5,779,982	13,206,988	16,674,683	24,257,915	23,250,022
Total Sources of Capital Funds	\$ 2,476,456	\$ 1,919,133	\$ 10,425,980	\$ 15,088,578	\$ 12,266,623	\$ 7,545,140	\$ 9,146,667	\$ 9,177,599	\$ 15,386,615	\$ 25,595,186	\$ 19,968,714	\$ 26,563,970	\$ 23,441,598
Uses of Capital Funds:													
Total Project Costs	\$ 2,476,456	\$ 1,919,133	\$ 10,425,980	\$ 15,088,578	\$ 12,266,623	\$ 7,545,140	\$ 9,146,667	\$ 9,177,599	\$ 15,386,615	\$ 25,595,186	\$ 19,968,714	\$ 26,563,970	\$ 23,441,598
Capital Funding Surplus (Deficiency)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>SRF Loan Funding</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<i>Future Revenue Bond Proceeds</i>	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

TABLE 14 : EXISTING DEBT OBLIGATIONS

EXISTING DEBT OBLIGATIONS	Actuals		Budget		Projected								
	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30
Annual Repayment Schedules:													
Water Share Refunding Revenue Bonds, 2013 Series ¹													
Principal Payment ²	\$ 555,000	\$ 570,000	\$ 625,000	\$ 650,000	\$ 675,000	\$ 705,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Payment	156,900	134,700	106,200	81,200	55,200	28,200	-	-	-	-	-	-	-
Subtotal: Annual Debt Service	\$ 711,900	\$ 704,700	\$ 731,200	\$ 731,200	\$ 730,200	\$ 733,200	\$ -						
Coverage Requirement (\$-Amnt above annual payment) ³	\$ 889,875	\$ 880,875	\$ 914,000	\$ 914,000	\$ 912,750	\$ 916,500	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Reserve Requirement (total fund balance) ⁴	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Grand Total: Existing Annual Debt Service	\$ 711,900	\$ 704,700	\$ 731,200	\$ 731,200	\$ 730,200	\$ 733,200	\$ -						
Debt Service Allocated to Rate Revenue	\$ 345,556	\$ 342,061	\$ 354,924	\$ 354,924	\$ 354,439	\$ 355,895	\$ -						
Debt Service Allocated to Wastewater Utility	\$ 366,344	\$ 362,639	\$ 376,276	\$ 376,276	\$ 375,761	\$ 377,305	\$ -						
Grand Total: Existing Annual Coverage Requirement	\$ 889,875	\$ 880,875	\$ 914,000	\$ 914,000	\$ 912,750	\$ 916,500	\$ -						
Grand Total: Existing Debt Reserve Target	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -					

1. Official Statement describes the bond was used to refund 2003A Water Certificates & 2002 Wastewater Certificates. Source file: *Water & Wastewater 2013 Refunding Revenue Bonds, page 5.*
 2. Full Debt Service Schedule from Official Statement. Water's share developed as net of Wastewater payment. Source files: *Water & Wastewater 2013 Refunding Revenue bonds, page 5* and *Wastewater Debt Service, page 1.*
 3. Net revenues must be at least equal to 1.25 times the annual debt service payment. Source file: *Water & Wastewater 2013 Refunding Revenue Bonds, page 10.*
 4. There are no reserve fund requirements for this debt issuance. Source file: *Water & Wastewater 2013 Refunding Revenue Bonds, page 11.*

Appendix A, cont.

TABLE 20 : ADJUSTMENTS TO CLASSIFICATION OF EXPENSES

Classification of Expenses				
Adjustments to Classification of Expenses				
Adjustment for Current Rate Level:	Total	COM	CAP	CA
Target Rate Rev. After Rate Increases**	\$ 23,537,128			
Projected Rate Revenue at Current Rates	22,631,854			
Rate Increase (FY 2019/20)	4.0%			
Adjusted Net Revenue Req'ts	\$ 23,537,128	\$ 8,396,402	\$ 12,652,370	\$ 2,488,357
<i>Percent of Revenue</i>		<i>35.7%</i>	<i>53.8%</i>	<i>10.6%</i>
Variable (Volumetric Rates)	<i>35.7%</i>			
Fixed Charges	<i>64.3%</i>			

** Proposed FY 2019/20 rates are effective January 1, 2020. Assume 12 months of revenue vs. the partial revenue shown in the financial plan.

TABLE 21 : CURRENT RATE DESIGN - NET REVENUE REQUIREMENTS

<i>Alternative #1 - Current Rate Design (40% Fixed / 60% Variable)</i>	Total Rate Revenue Requirements FY	Commodity Related Costs	Capacity Related Costs	Customer Related Costs
Rate-Design Adjustments to Fixed/Variable %	100%	60.0%	29.4%	10.6%
Rate-Design Adjustments to Fixed/Variable (\$)	\$ 23,537,128	\$ 14,122,277	\$ 6,926,495	\$ 2,488,357
Variable (Volumetric Rates)	<i>60%</i>			
Fixed Charges	<i>40%</i>			

Appendix A, cont.

Alternative #2 - Net Revenue Requirements (45% Fixed / 55% Variable)	Total Rate Revenue Requirements FY	Commodity Related Costs	Capacity Related Costs	Customer Related Costs
Rate-Design Adjustments to Fixed/Variable %	100%	55.0%	34.4%	10.6%
Rate-Design Adjustments to Fixed/Variable (\$)	\$ 23,537,128	\$ 12,945,421	\$ 8,103,351	\$ 2,488,357
Variable (Volumetric Rates)	55%			
Fixed Charges	45%			

Alternative #3 - Net Revenue Requirements (64% Fixed / 36% Variable)	Total Rate Revenue Requirements FY	Commodity Related Costs	Capacity Related Costs	Customer Related Costs
Rate-Design Adjustments to Fixed/Variable %	100%	36.0%	53.4%	10.6%
Rate-Design Adjustments to Fixed/Variable (\$)	\$ 23,537,128	\$ 8,473,366	\$ 12,575,405	\$ 2,488,357
Variable (Volumetric Rates)	36%			
Fixed Charges	64%			

Alternative #4 - Net Revenue Requirements (71% Fixed / 29% Variable)	Total Rate Revenue Requirements FY	Commodity Related Costs	Capacity Related Costs	Customer Related Costs
Rate-Design Adjustments to Fixed/Variable %	100%	29.0%	60.4%	10.6%
Rate-Design Adjustments to Fixed/Variable (\$)	\$ 23,537,128	\$ 6,825,767	\$ 14,223,004	\$ 2,488,357
Variable (Volumetric Rates)	29%			
Fixed Charges	71%			

Appendix A, cont.

TABLE 25 : ALLOCATION OF WATER REVENUE REQUIREMENTS

Classification Components	Fixed and Variable Cost Allocations	Alternative #1 - Current Rate Design (40% Fixed / 60% Variable)		Alternative #2 - Net Revenue Requirements (45% Fixed / 55% Variable)		Alternative #3 - Net Revenue Requirements (64% Fixed / 36% Variable)		Alternative #4 - Net Revenue Requirements (71% Fixed / 29% Variable)	
		Adjusted Net Revenue Requirements (2019/20) ¹		Adjusted Net Revenue Requirements (2019/20)		Unadjusted Net Revenue Requirements (2019/20)		Unadjusted Net Revenue Requirements (2019/20)	
Commodity-Related Costs	Variable	\$ 14,122,277	60.0%	\$ 12,945,421	55.0%	\$ 8,473,366	36.0%	\$ 6,825,767	29.0%
Capacity-Related Costs	Fixed	6,926,495	29.4%	8,103,351	34.4%	12,575,405	53.4%	14,223,004	60.4%
Customer-Related Costs	Fixed	2,488,357	10.6%	2,488,357	10.6%	2,488,357	10.6%	2,488,357	10.6%
Net Revenue Requirement		\$ 23,537,128	100%	\$ 23,537,128	100%	\$ 23,537,128	100%	\$ 23,537,128	100%

1. To make sure rates are based on the full net revenue requirements, these rates assume 12 months of revenue vs. the 6 months of revenue shown in the financial plan.

Appendix A, cont.

TABLE 27 : ALLOCATION OF ADJUSTED NET REVENUE REQUIREMENTS

Current Rate Design (40% Fixed / 60% Variable)					
Customer Class	Cost Classification Components			COS Net Rev. Req'ts ¹	% of COS Net Revenue Req'ts
	Commodity	Capacity	Customer		
Single Family	\$ 8,480,788	\$ 4,393,343	\$ 2,028,251	\$ 14,902,383	63.3%
Multi-Family	1,517,340	580,904	187,743	2,285,987	9.7%
Commercial	2,179,134	935,703	182,878	3,297,715	14.0%
Industrial	643,061	356,847	32,492	1,032,401	4.4%
Institutional	1,301,952	659,698	56,992	2,018,643	8.6%
Total	\$ 14,122,277	\$ 6,926,495	\$ 2,488,357	\$ 23,537,128	100.0%
Total Vol. and Fixed Rate Rev.	\$ 14,122,277	\$9,414,851		\$ 23,537,128	

1. This total is higher than shown in the financial plan, which reflects revenue expected for a partial year, whereas the revenue used to set rates needs to assume an entire year of rate revenue.

TABLE 28 : CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES

Current Rate Design (40% Fixed / 60% Variable)										
Number of Meters by Class and Size ¹	June 2018 - May 2019									Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	
Single Family ²	22,855	-	481	4	6	-	-	-	-	23,346
Multi-Family	1,075	457	424	81	109	7	2	6	-	2,161
Commercial	976	284	383	171	257	23	9	1	-	2,104
Industrial	178	63	62	25	42	1	1	1	-	373
Institutional	256	84	93	56	122	23	11	6	4	655
Total Meters/Accounts	25,340	888	1,443	337	536	54	23	14	4	28,639
<i>Hydraulic Capacity Factor</i> ³	1.00	1.50	2.50	5.00	8.00	16.00	25.00	50.00	80.00	
Total Equivalent Meters	25,340	1,332	3,608	1,685	4,288	864	575	700	320	38,712
Monthly Fixed Service Charges										
Customer Costs (\$/Acct/mo.) ⁴	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24
Capacity Costs (\$/Acct/mo.) ⁵	\$14.91	\$22.37	\$37.28	\$74.55	\$119.28	\$238.57	\$372.76	\$745.53	\$1,192.84	
Total Monthly Meter Charge	\$22.15	\$29.61	\$44.52	\$81.79	\$126.52	\$245.81	\$380.00	\$752.77	\$1,200.08	
Annual Fixed Costs Allocated to Monthly Meter Charges										
Customer Costs	\$ 2,488,357									
Capacity Costs & Fire Costs	6,926,495									
Total Fixed Meter Costs	\$ 9,414,851									
Annual Revenue from Monthly Meter Charges										
Customer Charges	\$ 2,201,716	\$ 77,156	\$ 125,378	\$ 29,281	\$ 46,571	\$ 4,692	\$ 1,998	\$ 1,216	\$ 348	\$ 2,488,357
Capacity Charges	4,533,985	238,329	645,476	301,490	767,235	154,592	102,882	125,248	57,256	6,926,495
Total Revenue from Monthly M	\$ 6,735,702	\$ 315,485	\$ 770,854	\$ 330,771	\$ 813,806	\$ 159,284	\$ 104,881	\$ 126,465	\$ 57,604	\$ 9,414,851

- Number of meters by size and class are from the City of Redding utility billing system. Source: REDDING_Summary Revenue - UPDATED 06-19-2019.xlsx.
- Single Family 3/4" and 5/8" meters reflect building codes rather than actual use and are combined here because they have equivalent usage patterns.
- Source: AWWA Manual M1, "Principles of Water Rates, Fees and Charges", Table VI.2-5. Assumes displacement meters for 5/8 through 2 inch meters, Compound 3 - 8 inch meters, Turbine for 10 & 12 inch, unless noted otherwise.
- Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
- Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

TABLE 29 : PROJECTED REVENUE FROM FIXED CHARGES BY CUSTOMER CLASS

Current Rate Design (40% Fixed / 60% Variable)										
Number of Meters by Class and Size ¹	June 2018 - May 2019									Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	
Single Family ²	22,855	-	481	4	6	-	-	-	-	23,346
Multi-Family	1,075	457	424	81	109	7	2	6	-	2,161
Commercial	976	284	383	171	257	23	9	1	-	2,104
Industrial	178	63	62	25	42	1	1	1	-	373
Institutional	256	84	93	56	122	23	11	6	4	655
Total Meters/Accounts	25,340	888	1,443	337	536	54	23	14	4	28,639
Fixed Charges by Meter Size	\$22.15	\$29.61	\$44.52	\$81.79	\$126.52	\$245.81	\$380.00	\$752.77	\$1,200.08	
Revenue from Fixed Charges										
Single Family ²	\$ 6,075,157	\$ -	\$ 256,951	\$ 3,926	\$ 9,110	\$ -	\$ -	\$ -	\$ -	\$ 6,345,144
Multi-Family	285,749	162,361	226,502	79,503	165,494	20,648	9,120	54,199	-	1,003,576
Commercial	259,434	100,898	204,599	167,839	390,202	67,843	41,040	9,033	-	1,240,889
Industrial	47,315	22,382	33,121	24,538	63,768	2,950	4,560	9,033	-	207,667
Institutional	68,048	29,843	49,681	54,965	185,232	67,843	50,160	54,199	57,604	617,576
Total Revenue - Fixed Charges										\$ 9,414,851

Appendix A, cont.

Alternative #2 - Net Revenue Requirements (45% Fixed / 55% Variable)					
Customer Class	Cost Classification Components			Cost of Service Net Rev. Req'ts	% of COS Net Revenue Req'ts
	Commodity	Capacity	Customer		
Single Family	\$ 7,774,056	\$ 5,139,801	\$ 2,028,251	\$ 14,942,108	63.5%
Multi-Family	1,390,895	679,603	187,743	2,258,242	9.6%
Commercial	1,997,540	1,094,684	182,878	3,275,102	13.9%
Industrial	589,473	417,477	32,492	1,039,443	4.4%
Institutional	1,193,456	771,785	56,992	2,022,234	8.6%
Total	\$ 12,945,421	\$ 8,103,351	\$ 2,488,357	\$ 23,537,128	100.0%
Total Volumetric and Fixed Rat	\$ 12,945,421	\$10,591,708		\$ 23,537,128	

Alternative #2 - Net Revenue Requirements (45% Fixed / 55% Variable)											
Number of Meters by Class and Size ¹	June 2018 - May 2019										Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch		
Single Family ²	22,855	-	481	4	6	-	-	-	-	-	23,346
Multi-Family	1,075	457	424	81	109	7	2	6	-	-	2,161
Commercial	976	284	383	171	257	23	9	1	-	-	2,104
Industrial	178	63	62	25	42	1	1	1	-	-	373
Institutional	256	84	93	56	122	23	11	6	4	-	655
Total Meters/Accounts	25,340	888	1,443	337	536	54	23	14	4	4	28,639
<i>Hydraulic Capacity Factor</i> ³	1.00	1.50	2.50	5.00	8.00	16.00	25.00	50.00	80.00		
Total Equivalent Meters	25,340	1,332	3,608	1,685	4,288	864	575	700	320		38,712
Monthly Fixed Service Charges											
Customer Costs (\$/Acct/mo.) ⁴	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	
Capacity Costs (\$/Acct/mo.) ⁵	\$17.44	\$26.17	\$43.61	\$87.22	\$139.55	\$279.10	\$436.10	\$872.19	\$1,395.51		
Total Monthly Meter Charge	\$24.68	\$33.41	\$50.85	\$94.46	\$146.79	\$286.34	\$443.34	\$879.44	\$1,402.75		
Annual Fixed Costs Allocated to Monthly Meter Charges											
Customer Costs		\$ 2,488,357									
Capacity Costs & Fire Costs			8,103,351								
Total Fixed Meter Costs			\$ 10,591,708								
Annual Revenue from Monthly Meter Charges											
Customer Charges	\$ 2,201,716	\$ 77,156	\$ 125,378	\$ 29,281	\$ 46,571	\$ 4,692	\$ 1,998	\$ 1,216	\$ 348		\$ 2,488,357
Capacity Charges	5,304,339	278,823	755,146	352,716	897,593	180,858	120,363	146,529	66,985		8,103,351
Total Revenue from Monthly M	\$ 7,506,055	\$ 355,979	\$ 880,524	\$ 381,996	\$ 944,164	\$ 185,550	\$ 122,361	\$ 147,745	\$ 67,332		\$ 10,591,708

Alternative #2 - Net Revenue Requirements (45% Fixed / 55% Variable)											
Number of Meters by Class and Size ¹	June 2018 - May 2019										Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch		
Single Family ²	22,855	-	481	4	6	-	-	-	-	-	23,346
Multi-Family	1,075	457	424	81	109	7	2	6	-	-	2,161
Commercial	976	284	383	171	257	23	9	1	-	-	2,104
Industrial	178	63	62	25	42	1	1	1	-	-	373
Institutional	256	84	93	56	122	23	11	6	4	-	655
Total Meters/Accounts	25,340	888	1,443	337	536	54	23	14	4	4	28,639
Fixed Charges by Meter Size	\$24.68	\$33.41	\$50.85	\$94.46	\$146.79	\$286.34	\$443.34	\$879.44	\$1,402.75		
Revenue from Fixed Charges											
Single Family ²	\$ 6,769,964	\$ -	\$ 293,508	\$ 4,534	\$ 10,569	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 7,078,575
Multi-Family	318,430	183,201	258,726	91,815	192,004	24,053	10,640	63,319	-	-	1,142,188
Commercial	289,105	113,849	233,708	193,832	452,706	79,031	47,880	10,553	-	-	1,420,664
Industrial	52,726	25,255	37,833	28,338	73,983	3,436	5,320	10,553	-	-	237,444
Institutional	75,831	33,674	56,749	63,477	214,903	79,031	58,521	63,319	67,332	-	712,836
Total Revenue - Fixed Charges											\$ 10,591,708

Appendix A, cont.

Alternative #3 - Net Revenue Requirements (64% Fixed / 36% Variable)					
Customer Class	Cost Classification Components			Cost of Service Net Rev. Req'ts	% of COS Net Revenue Req'ts
	Commodity	Capacity	Customer		
Single Family	\$ 5,088,473	\$ 7,976,340	\$ 2,028,251.36	\$ 15,093,064	64.1%
Multi-Family	910,404	1,054,661	187,743	2,152,808	9.1%
Commercial	1,307,481	1,698,816	182,878	3,189,174	13.5%
Industrial	385,837	647,873	32,492	1,066,203	4.5%
Institutional	781,171	1,197,716	56,992	2,035,879	8.6%
Total	\$ 8,473,366	\$ 12,575,405	\$ 2,488,357	\$ 23,537,128	100.0%
Total Volumetric and Fixed Rat	\$ 8,473,366	\$15,063,762		\$ 23,537,128	

Alternative #3 - Net Revenue Requirements (64% Fixed / 36% Variable)

Number of Meters by Class and Size ¹	June 2018 - May 2019									Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	
Single Family ²	22,855	-	481	4	6	-	-	-	-	23,346
Multi-Family	1,075	457	424	81	109	7	2	6	-	2,161
Commercial	976	284	383	171	257	23	9	1	-	2,104
Industrial	178	63	62	25	42	1	1	1	-	373
Institutional	256	84	93	56	122	23	11	6	4	655
Total Meters/Accounts	25,340	888	1,443	337	536	54	23	14	4	28,639
Hydraulic Capacity Factor ³	1.00	1.50	2.50	5.00	8.00	16.00	25.00	50.00	80.00	
Total Equivalent Meters	25,340	1,332	3,608	1,685	4,288	864	575	700	320	38,712
Monthly Fixed Service Charges										
Customer Costs (\$/Acct/mo.) ⁴	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	
Capacity Costs (\$/Acct/mo.) ⁵	\$27.07	\$40.61	\$67.68	\$135.35	\$216.57	\$433.13	\$676.77	\$1,353.54	\$2,165.66	
Total Monthly Meter Charge	\$34.31	\$47.85	\$74.92	\$142.59	\$223.81	\$440.37	\$684.01	\$1,360.78	\$2,172.90	
Annual Fixed Costs Allocated to Monthly Meter Charges										
Customer Costs	\$	2,488,357								
Capacity Costs & Fire Costs		12,575,405								
Total Fixed Meter Costs		\$ 15,063,762								
Annual Revenue from Monthly Meter Charges										
Customer Charges	\$ 2,201,716	\$ 77,156	\$ 125,378	\$ 29,281	\$ 46,571	\$ 4,692	\$ 1,998	\$ 1,216	\$ 348	\$ 2,488,357
Capacity Charges	\$ 8,231,682	\$ 432,699	\$ 1,171,894	\$ 547,371	\$ 1,392,954	\$ 280,670	\$ 186,788	\$ 227,395	\$ 103,952	\$ 12,575,405
Total Revenue from Monthly M	\$ 10,433,399	\$ 509,855	\$ 1,297,272	\$ 576,652	\$ 1,439,525	\$ 285,362	\$ 188,787	\$ 228,611	\$ 104,299	\$ 15,063,762

Alternative #3 - Net Revenue Requirements (64% Fixed / 36% Variable)

Number of Meters by Class and Size ¹	June 2018 - May 2019									Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	
Single Family ²	22,855	-	481	4	6	-	-	-	-	23,346
Multi-Family	1,075	457	424	81	109	7	2	6	-	2,161
Commercial	976	284	383	171	257	23	9	1	-	2,104
Industrial	178	63	62	25	42	1	1	1	-	373
Institutional	256	84	93	56	122	23	11	6	4	655
Total Meters/Accounts	25,340	888	1,443	337	536	54	23	14	4	28,639
Fixed Charges by Meter Size	\$34.31	\$47.85	\$74.92	\$142.59	\$223.81	\$440.37	\$684.01	\$1,360.78	\$2,172.90	
Revenue from Fixed Charges										
Single Family ²	\$ 9,410,234	\$ -	\$ 432,424	\$ 6,845	\$ 16,114	\$ -	\$ -	\$ -	\$ -	\$ 9,865,617
Multi-Family	442,617	262,392	381,180	138,602	292,739	36,991	16,416	97,976	-	1,668,913
Commercial	401,855	163,062	344,321	292,604	690,220	121,543	73,873	16,329	-	2,103,807
Industrial	73,289	36,172	55,739	42,778	112,799	5,284	8,208	16,329	-	350,599
Institutional	105,405	48,230	83,608	95,823	327,653	121,543	90,289	97,976	104,299	1,074,826
Total Revenue - Fixed Charges										\$ 15,063,762

Appendix A, cont.

Alternative #4 - Net Revenue Requirements (71% Fixed / 29% Variable)					
Customer Class	Cost Classification Components			Cost of Service Net Rev. Req'ts	% of COS Net Revenue Req'ts
	Commodity	Capacity	Customer		
Single Family	\$ 4,099,048	\$ 9,021,380	\$ 2,028,251.36	\$ 15,148,679	64.4%
Multi-Family	733,381	1,192,840	187,743	2,113,964	9.0%
Commercial	1,053,248	1,921,391	182,878	3,157,517	13.4%
Industrial	310,813	732,756	32,492	1,076,062	4.6%
Institutional	629,277	1,354,638	56,992	2,040,907	8.7%
Total	\$ 6,825,767	\$ 14,223,004	\$ 2,488,357	\$ 23,537,128	100.0%
Total Volumetric and Fixed Rat	\$ 6,825,767	\$16,711,361		\$ 23,537,128	

Alternative #4 - Net Revenue Requirements (71% Fixed / 29% Variable)										
Number of Meters by Class and Size ¹	0									Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	
Single Family ²	22,855	-	481	4	6	-	-	-	-	23,346
Multi-Family	1,075	457	424	81	109	7	2	6	-	2,161
Commercial	976	284	383	171	257	23	9	1	-	2,104
Industrial	178	63	62	25	42	1	1	1	-	373
Institutional	256	84	93	56	122	23	11	6	4	655
Total Meters/Accounts	25,340	888	1,443	337	536	54	23	14	4	28,639
<i>Hydraulic Capacity Factor ³</i>	<i>1.00</i>	<i>1.50</i>	<i>2.50</i>	<i>5.00</i>	<i>8.00</i>	<i>16.00</i>	<i>25.00</i>	<i>50.00</i>	<i>80.00</i>	
Total Equivalent Meters	25,340	1,332	3,608	1,685	4,288	864	575	700	320	38,712
Monthly Fixed Service Charges										
Customer Costs (\$/Acct/mo.) ⁴	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24	\$7.24
Capacity Costs (\$/Acct/mo.) ⁵	\$30.62	\$45.93	\$76.54	\$153.09	\$244.94	\$489.88	\$765.44	\$1,530.88	\$2,449.40	
Total Monthly Meter Charge	\$37.86	\$53.17	\$83.78	\$160.33	\$252.18	\$497.12	\$772.68	\$1,538.12	\$2,456.64	
Annual Fixed Costs Allocated to Monthly Meter Charges										
Customer Costs	\$ 2,488,357									
Capacity Costs & Fire Costs	14,223,004									
Total Fixed Meter Costs	\$ 16,711,361									
Annual Revenue from Monthly Meter Charges										
Customer Charges	\$ 2,201,716	\$ 77,156	\$ 125,378	\$ 29,281	\$ 46,571	\$ 4,692	\$ 1,998	\$ 1,216	\$ 348	\$ 2,488,357
Capacity Charges	\$ 9,310,177	\$ 489,391	\$ 1,325,433	\$ 619,086	\$ 1,575,455	\$ 317,443	\$ 211,261	\$ 257,187	\$ 117,571	\$ 14,223,004
Total Revenue from Monthly M	\$ 11,511,894	\$ 566,546	\$ 1,450,811	\$ 648,367	\$ 1,622,027	\$ 322,134	\$ 213,259	\$ 258,404	\$ 117,919	\$ 16,711,361

Alternative #4 - Net Revenue Requirements (71% Fixed / 29% Variable)										
Number of Meters by Class and Size ¹	0									Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	
Single Family ²	22,855	-	481	4	6	-	-	-	-	23,346
Multi-Family	1,075	457	424	81	109	7	2	6	-	2,161
Commercial	976	284	383	171	257	23	9	1	-	2,104
Industrial	178	63	62	25	42	1	1	1	-	373
Institutional	256	84	93	56	122	23	11	6	4	655
Total Meters/Accounts	25,340	888	1,443	337	536	54	23	14	4	28,639
Fixed Charges by Meter Size	\$37.86	\$53.17	\$83.78	\$160.33	\$252.18	\$497.12	\$772.68	\$1,538.12	\$2,456.64	
Revenue from Fixed Charges										
Single Family ²	\$ 10,382,965	\$ -	\$ 483,604	\$ 7,696	\$ 18,157	\$ -	\$ -	\$ -	\$ -	\$ 10,892,421
Multi-Family	488,370	291,567	426,295	155,839	329,852	41,758	18,544	110,744	-	1,862,970
Commercial	443,394	181,193	385,073	328,993	777,726	137,205	83,449	18,457	-	2,355,491
Industrial	80,865	40,194	62,336	48,098	127,099	5,965	9,272	18,457	-	392,287
Institutional	116,300	53,592	93,503	107,741	369,193	137,205	101,994	110,744	117,919	1,208,191
Total Revenue - Fixed Charges										\$ 16,711,361

Appendix A, cont.

Alternative #1 - Current Rate Design (40% Fixed / 60% Variable)					
Water Rate Schedule	Current Rates	Recommended Rates			
		FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
<i>Rate Revenue Increases per Financial Plan:</i>		0.00%	0.00%	0.00%	0.00%
Fixed Service Charge					
Monthly Fixed Service Charge - Standard Meters:					
5/8 inch	\$21.17	\$21.30	\$21.30	\$21.30	\$21.30
3/4 inch	\$28.04	\$28.47	\$28.47	\$28.47	\$28.47
1 inch	\$41.77	\$42.80	\$42.80	\$42.80	\$42.80
1.5 inch	\$76.09	\$78.65	\$78.65	\$78.65	\$78.65
2 inch	\$117.27	\$121.66	\$121.66	\$121.66	\$121.66
3 inch	\$227.10	\$236.35	\$236.35	\$236.35	\$236.35
4 inch	\$350.66	\$365.39	\$365.39	\$365.39	\$365.39
6 inch	\$693.88	\$723.81	\$723.81	\$723.81	\$723.81
8 inch	\$1,105.75	\$1,153.92	\$1,153.92	\$1,153.92	\$1,153.92
Commodity Charges for All Water Consumed					
Uniform Rate	\$1.43	\$1.36	\$1.36	\$1.36	\$1.36
Alternative #2 - Net Revenue Requirements (45% Fixed / 55% Variable)					
Water Rate Schedule	Current Rates	Rate Alternative #2			
		FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
<i>Rate Revenue Increases per Financial Plan:</i>		0.00%	0.00%	0.00%	0.00%
Fixed Service Charge					
Monthly Fixed Service Charge - Standard Meters:					
5/8 inch	\$21.17	\$23.74	\$23.74	\$23.74	\$23.74
3/4 inch	\$28.04	\$32.12	\$32.12	\$32.12	\$32.12
1 inch	\$41.77	\$48.89	\$48.89	\$48.89	\$48.89
1.5 inch	\$76.09	\$90.83	\$90.83	\$90.83	\$90.83
2 inch	\$117.27	\$141.15	\$141.15	\$141.15	\$141.15
3 inch	\$227.10	\$275.33	\$275.33	\$275.33	\$275.33
4 inch	\$350.66	\$426.29	\$426.29	\$426.29	\$426.29
6 inch	\$693.88	\$845.61	\$845.61	\$845.61	\$845.61
8 inch	\$1,105.75	\$1,348.80	\$1,348.80	\$1,348.80	\$1,348.80
Commodity Charges for All Water Consumed					
Uniform Rate	\$1.43	\$1.24	\$1.24	\$1.24	\$1.24

Appendix A, cont.

Alternative #3 - Net Revenue Requirements (64% Fixed / 36% Variable)					
Water Rate Schedule	Current Rates	Rate Alternative #3			
		FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
<i>Rate Revenue Increases per Financial Plan:</i>		0.00%	0.00%	0.00%	0.00%
Fixed Service Charge					
Monthly Fixed Service Charge - Standard Meters:					
5/8 inch	\$21.17	\$32.99	\$32.99	\$32.99	\$32.99
3/4 inch	\$28.04	\$46.01	\$46.01	\$46.01	\$46.01
1 inch	\$41.77	\$72.04	\$72.04	\$72.04	\$72.04
1.5 inch	\$76.09	\$137.11	\$137.11	\$137.11	\$137.11
2 inch	\$117.27	\$215.20	\$215.20	\$215.20	\$215.20
3 inch	\$227.10	\$423.44	\$423.44	\$423.44	\$423.44
4 inch	\$350.66	\$657.70	\$657.70	\$657.70	\$657.70
6 inch	\$693.88	\$1,308.44	\$1,308.44	\$1,308.44	\$1,308.44
8 inch	\$1,105.75	\$2,089.33	\$2,089.33	\$2,089.33	\$2,089.33
Commodity Charges for All Water Consumed					
Uniform Rate	\$1.43	\$0.81	\$0.81	\$0.81	\$0.81
Alternative #4 - Net Revenue Requirements (71% Fixed / 29% Variable)					
Water Rate Schedule	Current Rates	Rate Alternative #4			
		FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
<i>Rate Revenue Increases per Financial Plan:</i>		0.00%	0.00%	0.00%	0.00%
Fixed Service Charge					
Monthly Fixed Service Charge - Standard Meters:					
5/8 inch	\$21.17	\$36.40	\$36.40	\$36.40	\$36.40
3/4 inch	\$28.04	\$51.12	\$51.12	\$51.12	\$51.12
1 inch	\$41.77	\$80.56	\$80.56	\$80.56	\$80.56
1.5 inch	\$76.09	\$154.16	\$154.16	\$154.16	\$154.16
2 inch	\$117.27	\$242.48	\$242.48	\$242.48	\$242.48
3 inch	\$227.10	\$478.00	\$478.00	\$478.00	\$478.00
4 inch	\$350.66	\$742.96	\$742.96	\$742.96	\$742.96
6 inch	\$693.88	\$1,478.96	\$1,478.96	\$1,478.96	\$1,478.96
8 inch	\$1,105.75	\$2,362.16	\$2,362.16	\$2,362.16	\$2,362.16
Commodity Charges for All Water Consumed					
Uniform Rate	\$1.43	\$0.65	\$0.65	\$0.65	\$0.65

Appendix B – Additional Wastewater Rate Study Tables

RATE REVENUE REQUIREMENTS SUMMARY ¹	Budget	Projected										
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30
Sources of Wastewater Funds												
Rate Revenue Under Prevailing Rates	\$ 28,961,550	\$ 29,056,653	\$ 29,154,571	\$ 29,255,304	\$ 29,358,541	\$ 29,464,905	\$ 29,574,399	\$ 29,687,333	\$ 29,804,021	\$ 29,924,776	\$ 30,049,911	\$ 30,180,052
Non-Rate Revenues	(11,040)	(9,192)	(9,152)	(9,071)	(8,988)	(8,904)	(8,821)	(8,738)	(8,655)	(8,574)	(8,495)	(8,418)
Interest Earnings (in O&M, Capital and Debt reserves) ²	-	280,300	195,210	254,862	249,204	269,907	302,352	235,794	283,613	319,263	286,363	238,572
Total Sources of Funds	\$ 28,950,510	\$ 29,327,761	\$ 29,340,628	\$ 29,501,095	\$ 29,598,757	\$ 29,725,908	\$ 29,867,930	\$ 29,914,389	\$ 30,078,979	\$ 30,235,466	\$ 30,327,780	\$ 30,410,205
Uses of Wastewater Funds												
Operating Expenses:												
Personnel	\$ 5,391,260	\$ 5,296,300	\$ 5,504,890	\$ 5,670,037	\$ 5,840,138	\$ 6,015,342	\$ 6,195,802	\$ 6,381,676	\$ 6,573,127	\$ 6,770,320	\$ 6,973,430	\$ 7,182,633
Operating & Materials (Materials, Supplies & Svcs)	4,533,870	4,399,220	4,497,830	4,601,280	4,707,110	4,815,373	4,926,127	5,039,428	5,155,334	5,273,907	5,395,207	5,519,297
Cost Allocation & Interdepartmental Charges	5,218,350	5,549,600	5,958,030	6,115,918	6,277,990	6,444,356	6,615,132	6,790,433	6,970,379	7,155,094	7,344,704	7,539,339
Subtotal: Operating Expenses	\$ 15,143,480	\$ 15,245,120	\$ 15,960,750	\$ 16,387,235	\$ 16,825,237	\$ 17,275,071	\$ 17,737,061	\$ 18,211,537	\$ 18,698,840	\$ 19,199,322	\$ 19,713,341	\$ 20,241,269
Other Expenditures:												
Existing Debt Service (funded by rates) ³	\$ 7,666,240	\$ 4,463,740	\$ 4,463,740	\$ 4,463,740	\$ 5,788,071	\$ 4,599,704	\$ 4,523,176	\$ 4,443,078	\$ 4,349,308	\$ 4,251,134	\$ 3,865,033	\$ 3,426,352
Rate Funded Debt Reserve	-	-	-	-	-	-	-	-	-	-	-	-
Rate-Funded Capital Expenses	-	8,288,921	5,583,628	7,124,394	5,630,265	5,961,082	11,565,784	9,516,167	8,849,505	12,702,733	18,092,105	22,261,108
Subtotal: Other Expenditures	\$ 7,666,240	\$ 12,752,661	\$ 10,047,368	\$ 11,588,133	\$ 11,418,336	\$ 10,560,786	\$ 16,088,960	\$ 13,959,245	\$ 13,198,813	\$ 16,953,867	\$ 21,957,138	\$ 25,687,460
Total Uses of Wastewater Funds	\$ 22,809,720	\$ 27,997,781	\$ 26,008,118	\$ 27,975,368	\$ 28,243,573	\$ 27,835,857	\$ 33,826,021	\$ 32,170,782	\$ 31,897,653	\$ 36,153,189	\$ 41,670,479	\$ 45,928,729
plus: Revenue from Rate Increases	-	581,133	2,379,013	3,652,934	4,986,799	6,211,308	7,487,698	8,818,417	10,399,363	12,056,148	14,214,387	16,498,746
Annual Surplus/(Deficit)	\$ 6,140,790	\$ 1,911,114	\$ 5,711,523	\$ 5,178,662	\$ 6,341,984	\$ 8,101,359	\$ 3,529,607	\$ 6,562,025	\$ 8,580,689	\$ 6,138,425	\$ 2,871,687	\$ 980,222
Net Revenue Req't. (Total Uses less Non-Rate Revenue)	\$ 22,820,760	\$ 27,726,672	\$ 25,822,061	\$ 27,729,577	\$ 28,003,356	\$ 27,574,854	\$ 33,532,490	\$ 31,943,725	\$ 31,622,695	\$ 35,842,499	\$ 41,392,610	\$ 45,698,576
Total Rate Revenue After Rate Increases	\$ 28,961,550	\$ 29,637,786	\$ 31,533,584	\$ 32,908,239	\$ 34,345,340	\$ 35,676,214	\$ 37,062,096	\$ 38,505,750	\$ 40,203,384	\$ 41,980,925	\$ 44,264,298	\$ 46,678,798
Projected Annual Rate Increase	0.0%	4.0%	4.0%	4.0%	4.0%	3.5%	3.5%	3.5%	4.0%	4.0%	5.0%	5.0%
Cumulative Increase from Annual Rate Increases	0.00%	4.00%	8.16%	12.49%	16.99%	21.08%	25.32%	29.70%	34.89%	40.29%	47.30%	54.67%
Coverage After Rate Increase	1.80	1.43	2.28	2.16	2.10	2.76	1.78	2.48	2.97	2.44	1.74	1.29
Coverage After Rate Increase (Excluding Rate Funded Capital)	1.80	3.29	3.53	3.76	3.07	4.06	4.34	4.62	5.01	5.43	6.42	7.78

1. Revenue for FY 2018/19 is per the City's Proforma (Source file: WW proforma for Budget 2019-21 5 9 2019.xls) and expenses are per the City's Budget (Source file: REDDING_doc20190617100115 (Sewer).pdf).

2. Refers to the City's budget for interest earnings in FY 2018/19. For all future years, interest earnings are calculated here based on the City's Pooled Cash Interest Rate. Source file: REDDING_Pooled Cash Interest Rate Dec 2018.xlsx.

3. Debt service that cannot be fully paid through the Impact Fee Reserve Fund has been added to Debt Service to be funded by rates.

Appendix B, cont.

TABLE 2 : RESERVE FUND SUMMARY

SUMMARY OF RESERVE FUND ACTIVITY	Budget	Projected											
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	
Total Beginning Cash ¹	\$26,311,059												
Wastewater O&M Reserve Fund													
Beginning Reserve Balance ²	\$17,163,681	\$ 3,821,000	\$ 4,000,000	\$ 4,107,000	\$ 4,217,000	\$ 4,329,000	\$ 4,445,000	\$ 4,564,000	\$ 4,686,000	\$ 4,812,000	\$ 4,941,000	\$ 5,073,000	
Plus: Net Cash Flow (After Rate Increases)	6,140,790	1,911,114	5,711,523	5,178,662	6,341,984	8,101,359	3,529,607	6,562,025	8,580,689	6,138,425	2,871,687	980,222	
Plus: Transfer of Debt Reserve Surplus	-	-	-	-	-	-	-	-	-	-	-	-	
Plus: Expected Savings @ 1.5% Pers & O&M ³	148,877	145,433	150,041	154,070	158,209	162,461	166,829	171,317	175,927	180,663	185,530	190,529	
Plus: Expected Savings @ 3% Capital ³	292,817	476,805	228,239	232,949	232,347	344,771	554,764	377,355	442,463	637,217	713,297	741,939	
Less: Transfer to Rolling Stock	(350,000)	(300,000)	(300,000)	(300,000)	(300,000)	(300,000)	(300,000)	(300,000)	(300,000)	(300,000)	(300,000)	(309,300)	
Less: Transfer to Debt Reserve	-	-	-	-	-	-	-	-	-	-	-	-	
Less: Transfers Out to the Capital Reserve	(19,575,166)	(2,054,352)	(5,682,803)	(5,155,680)	(6,320,539)	(8,192,591)	(3,832,200)	(6,688,697)	(8,773,078)	(6,527,305)	(3,338,514)	(1,467,390)	
Ending O&M Reserve Balance	\$ 3,821,000	\$ 4,000,000	\$ 4,107,000	\$ 4,217,000	\$ 4,329,000	\$ 4,445,000	\$ 4,564,000	\$ 4,686,000	\$ 4,812,000	\$ 4,941,000	\$ 5,073,000	\$ 5,209,000	
Target Ending Balance (90 days of O&M)	\$ 3,786,000	\$ 3,821,000	\$ 4,000,000	\$ 4,107,000	\$ 4,217,000	\$ 4,329,000	\$ 4,445,000	\$ 4,564,000	\$ 4,686,000	\$ 4,812,000	\$ 4,941,000	\$ 5,073,000	
Wastewater Capital R&R Reserve Fund (Rates)													
Beginning Reserve Balance	\$ -	\$ 9,814,587	\$ 4,264,352	\$ 7,922,803	\$ 7,455,680	\$ 8,650,539	\$ 10,582,591	\$ 6,262,200	\$ 9,158,697	\$ 11,283,078	\$ 9,077,305	\$ 5,928,514	
Plus: Grant Revenue	-	-	-	-	-	-	-	-	-	-	-	-	
Plus: Transfer of Operating Reserve Surplus	19,575,166	2,054,352	5,682,803	5,155,680	6,320,539	8,192,591	3,832,200	6,688,697	8,773,078	6,527,305	3,338,514	1,467,390	
Less: Capital Projects Funded	(9,760,578)	(7,604,587)	(2,024,352)	(5,622,803)	(5,125,680)	(6,260,539)	(8,152,591)	(3,792,200)	(6,648,697)	(8,733,078)	(6,487,305)	(3,298,514)	
Ending Capital Repair & Replacement Fund Balance	\$ 9,814,587	\$ 4,264,352	\$ 7,922,803	\$ 7,455,680	\$ 8,650,539	\$ 10,582,591	\$ 6,262,200	\$ 9,158,697	\$ 11,283,078	\$ 9,077,305	\$ 5,928,514	\$ 4,097,390	
Target Ending Balance (8 % of O&M plus \$1 Million Capital)	\$ 2,240,000	\$ 2,210,000	\$ 2,240,000	\$ 2,300,000	\$ 2,330,000	\$ 2,390,000	\$ 2,430,000	\$ 2,470,000	\$ 2,510,000	\$ 2,550,000	\$ 2,590,000	\$ 2,630,000	
Rolling Stock Reserve Fund													
Beginning Reserve Balance ¹	\$ 394,880	\$ 466,136	\$ 659,520	\$ 556,718	\$ 515,938	\$ 477,361	\$ 423,923	\$ 697,389	\$ 984,687	\$ 1,300,287	\$ 1,326,386	\$ 1,647,398	
Plus: Interest Earnings ⁶	6,256	7,384	10,448	8,819	8,173	7,562	6,716	11,048	15,599	20,599	21,012	26,098	
Plus: Transfer In from Operations	\$ 350,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 300,000	\$ 309,300	
Plus: Sale of Rolling Stock (5% of Expenses)	\$ 15,000	\$ 6,000	\$ 21,750	\$ 18,400	\$ 18,250	\$ 19,000	\$ 1,750	\$ 1,250	\$ -	\$ 15,500	\$ -	\$ -	
Less: Rolling Stock Expenses	\$ (300,000)	\$ (120,000)	\$ (435,000)	\$ (368,000)	\$ (365,000)	\$ (380,000)	\$ (35,000)	\$ (25,000)	\$ -	\$ (310,000)	\$ -	\$ -	
Ending Rolling Stock Fund Balance	\$ 466,136	\$ 659,520	\$ 556,718	\$ 515,938	\$ 477,361	\$ 423,923	\$ 697,389	\$ 984,687	\$ 1,300,287	\$ 1,326,386	\$ 1,647,398	\$ 1,982,796	
Target Ending Balance (Avg. of '17/18 - '23/24 R.S. Expenses)	\$ 350,000	\$ 361,000	\$ 372,000	\$ 384,000	\$ 396,000	\$ 408,000	\$ 421,000	\$ 434,000	\$ 447,000	\$ 461,000	\$ 475,000	\$ 490,000	
Ending Balance - All Reserves	\$ 14,101,723	\$ 8,923,872	\$ 12,586,521	\$ 12,188,618	\$ 13,456,900	\$ 15,451,515	\$ 11,523,589	\$ 14,829,384	\$ 17,395,365	\$ 15,344,691	\$ 12,648,912	\$ 11,289,186	
Recommended Target Ending Balance - All Reserves	\$ 6,376,000	\$ 6,392,000	\$ 6,612,000	\$ 6,791,000	\$ 6,943,000	\$ 7,127,000	\$ 7,296,000	\$ 7,468,000	\$ 7,643,000	\$ 7,823,000	\$ 8,006,000	\$ 8,193,000	
Ending Surplus/(Deficit) Compared to Reserve Targets	\$ 7,725,723	\$ 2,531,872	\$ 5,974,521	\$ 5,397,618	\$ 6,513,900	\$ 8,324,515	\$ 4,227,589	\$ 7,361,384	\$ 9,752,365	\$ 7,521,691	\$ 4,642,912	\$ 3,096,186	
Days Cash on Hand	226	117	177	160	174	203	125	169	200	155	111	90	

Appendix B, cont.

TABLE 3 : RESERVE FUND SUMMARY, cont.

Restricted Reserves												
Wastewater Impact Fee Fund	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30
Beginning Reserve Balance ¹	\$ 8,752,498	\$ 6,962,029	\$ 4,562,258	\$ 2,539,098	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Plus: Interest Earnings ⁵	138,656	110,292	72,275	40,224	-	-	-	-	-	-	-	-
Plus: Impact Fee Revenue	931,890	992,980	1,057,020	1,115,530	1,185,498	1,258,698	1,335,226	1,415,324	1,509,094	1,607,268	1,720,764	1,839,768
Plus: Savings to Capital Expenditures (3%)	10,861	30,718	19,875	190,740	93,125	22,554	37,925	22,573	23,179	6,039	24,830	25,618
Less: Reserve Funding from Impact Fees	-	-	-	-	-	-	-	-	-	-	-	-
Less: Existing Debt Service (funded by Impact Fees)	(2,509,829)	(2,509,829)	(2,509,829)	(2,509,829)	(1,185,498)	(1,258,698)	(1,335,226)	(1,415,324)	(1,509,094)	(1,607,268)	(1,720,764)	(1,839,768)
Less: Use of Reserves for Capital Projects (Future Needs)	(362,048)	(1,023,931)	(662,500)	(1,375,763)	(93,125)	(22,554)	(37,925)	(22,573)	(23,179)	(6,039)	(24,830)	(25,618)
Ending Impact Fee Fund Balance	\$ 6,962,029	\$ 4,562,258	\$ 2,539,098	\$ -								
Debt Reserve Fund												
Beginning Reserve Balance ¹	\$ 4,058,000	\$ 4,058,000	\$ 4,058,000	\$ 4,058,000	\$ 4,058,000	\$ 4,058,000	\$ 4,058,000	\$ 4,058,000	\$ 4,058,000	\$ 4,058,000	\$ 4,058,000	\$ 4,058,000
Less: Transfer of Surplus to Operating Reserve	-	-	-	-	-	-	-	-	-	-	-	-
Ending Debt Reserve Balance	\$ 4,058,000											
Target Ending Balance	\$ 4,058,000											
Annual Interest Earnings Rate ⁵	1.58%											

1. Beginning cash balance for FY 2018/19 is per the City's Proforma. Source file: REDDING_WW Proforma for Budget 2019-21 Updated.xlsx.

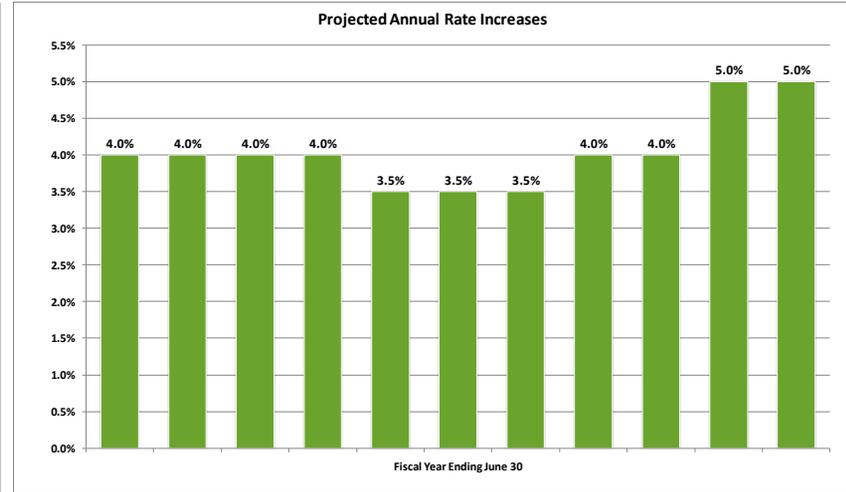
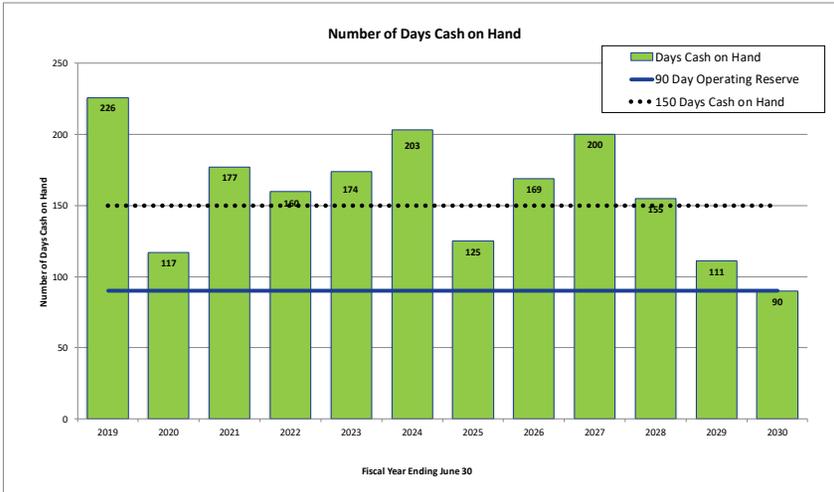
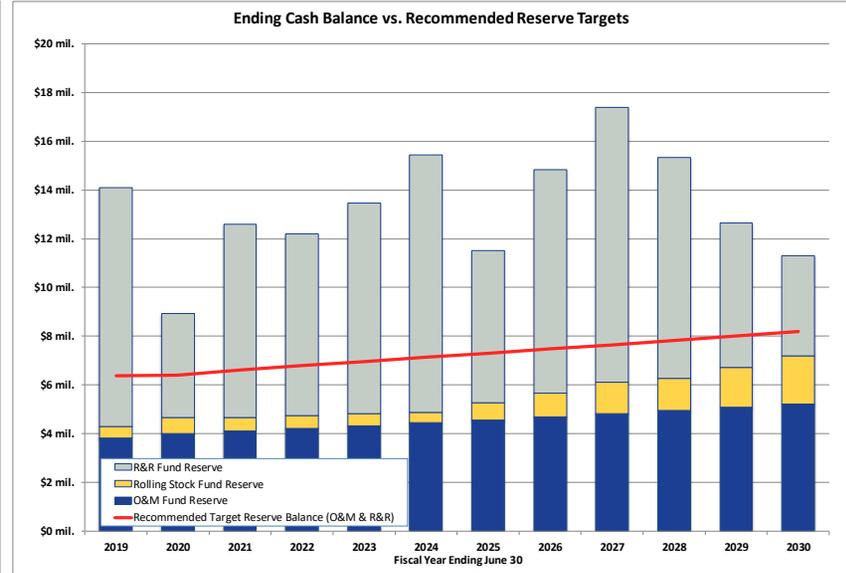
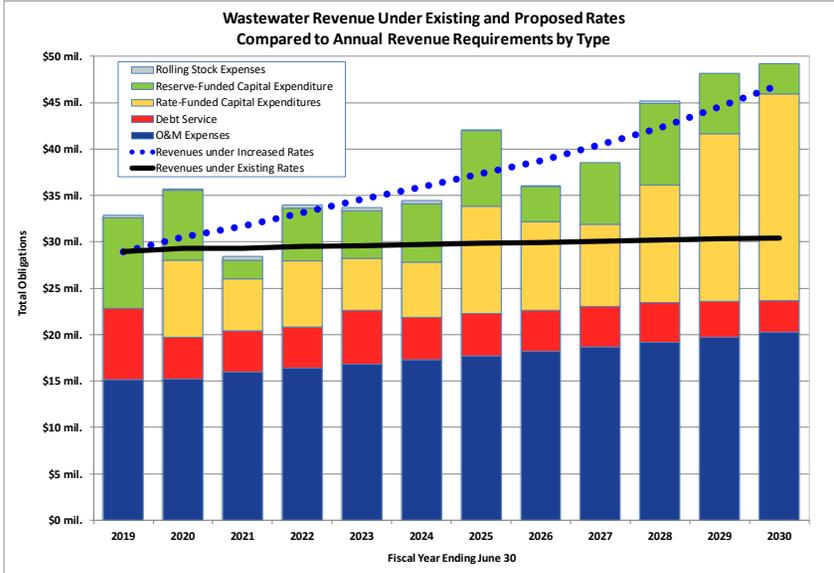
2. The total beginning cash balance for the Operating Reserve is calculated as the total amount of unrestricted cash as of June 30, 2018 less the beginning balances of the following funds: Capital R&R, Rolling Stock and Impact Fee Reserves.

3. Expected savings do not represent actual revenue, but rather anticipated savings based on historical differences between budgeted expenses and actual expenses. Expected savings amounts are from the City's proforma. Source file: REDDING_WW Proforma for Budget 2019-21 Updated.xlsx.

4. Per City Staff recommendation, the target Capital Reserve balance is set to \$1M in 2019 dollar values plus 8% O&M expenses annually. Source file: REDDING_WW Proforma for Budget 2019-21 Updated.xlsx, Summary tab.

5. Interest earnings rate is based on the City's Pooled Cash Interest Rate. Source file: December 2018_Int Earning.pdf.

Appendix B, cont.



Appendix B, cont.

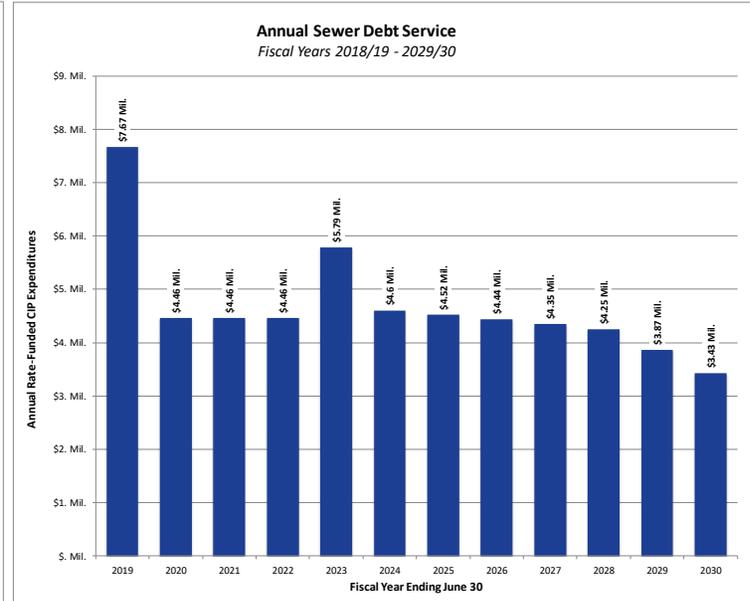
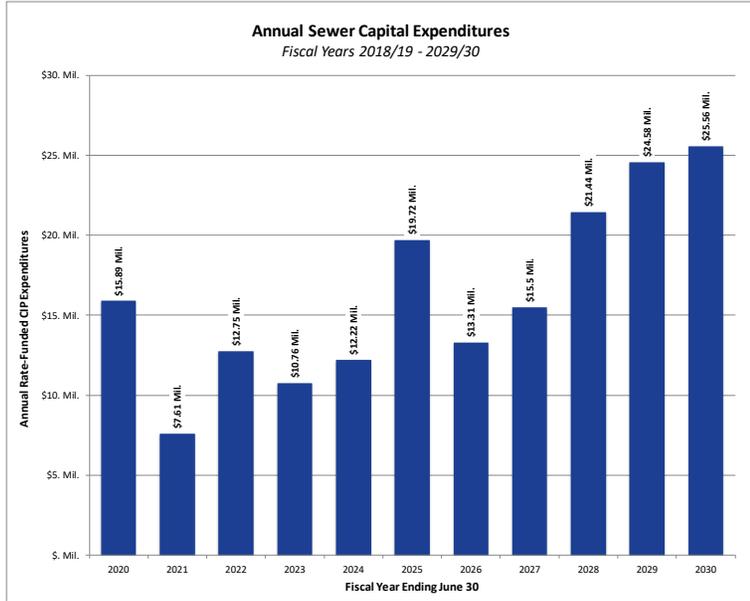


TABLE 12 : SOURCES AND USES OF CAPITAL FUNDS

CAPITAL FUNDING FORECAST	Budget		Projected									
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30
Funding Sources for Projects:												
Grant	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
State Revolving Fund Loan Proceeds (Rates)	-	-	-	-	-	-	-	-	-	-	-	-
Revenue Bond	-	-	-	-	-	-	-	-	-	-	-	-
Use of Capital Reserve Funds (Future Needs)	362,048	1,023,931	662,500	1,375,763	93,125	22,554	37,925	22,573	23,179	6,039	24,830	25,618
Use of Capital Reserve Funds (Existing Needs)	9,760,578	7,604,587	2,024,352	5,622,803	5,125,680	6,260,539	8,152,591	3,792,200	6,648,697	8,733,078	6,487,305	3,298,514
Rate Revenue	-	8,288,921	5,583,628	7,124,394	5,630,265	5,961,082	11,565,784	9,516,167	8,849,505	12,702,733	18,092,105	22,261,108
Grand Total: Capital Funding Sources	\$ 10,122,626	\$ 16,917,440	\$ 8,270,480	\$ 14,122,960	\$ 10,849,070	\$ 12,244,175	\$ 19,756,300	\$ 13,330,940	\$ 15,521,380	\$ 21,441,850	\$ 24,604,240	\$ 25,585,240
Uses of Capital Funds												
Total Projects Costs ¹	\$ 10,122,626	\$ 16,917,440	\$ 8,270,480	\$ 14,122,960	\$ 10,849,070	\$ 12,244,175	\$ 19,756,300	\$ 13,330,940	\$ 15,521,380	\$ 21,441,850	\$ 24,604,240	\$ 25,585,240
Total Uses of Capital Funds	\$ 10,122,626	\$ 16,917,440	\$ 8,270,480	\$ 14,122,960	\$ 10,849,070	\$ 12,244,175	\$ 19,756,300	\$ 13,330,940	\$ 15,521,380	\$ 21,441,850	\$ 24,604,240	\$ 25,585,240
Surplus/(Deficiency of Funding for CIP) ²	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

1. Project funding details are in source file: REDDING_WW Proforma for Budget 2019-21 Updated.xlsx .

2. Any surplus available will be carried over for use in later years.

Appendix B, cont.

TABLE 15 : EXISTING DEBT OBLIGATIONS

EXISTING DEBT OBLIGATIONS	Budget	Projected										
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30
Wastewater Refunding Revenue Bonds, 2002 Series A												
Principal Payment	\$ 1,525,000	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Interest Payment	76,250	-	-	-	-	-	-	-	-	-	-	-
Subtotal: Annual Debt Service	\$ 1,601,250	\$ -										
<i>Debt Service Paid by Rates</i>	<i>\$ 1,601,250</i>	<i>\$ -</i>										
<i>Debt Service Paid by Impact Fees</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>	<i>\$ -</i>
Coverage Requirement (% above annual payment) ¹	25%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Reserve Requirement (total fund balance) ²	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
California SWRCB Revolving Fund Loans ³												
Total Principal Payment	\$ 6,779,799	\$ 5,378,638	\$ 5,505,512	\$ 5,635,495	\$ 5,768,666	\$ 4,789,938	\$ 4,900,741	\$ 5,014,203	\$ 5,130,420	\$ 5,249,450	\$ 5,098,757	\$ 4,897,949
Total Interest Payment	1,507,509	1,334,932	1,236,273	1,135,223	1,031,724	925,714	834,964	742,062	646,923	549,503	449,746	350,866
Total Service Charge	287,511	259,999	231,784	202,851	173,179	142,750	122,697	102,138	81,060	59,450	37,294	17,305
Subtotal: Annual Debt Service	\$ 8,574,819	\$ 6,973,569	\$ 6,973,569	\$ 6,973,569	\$ 6,973,569	\$ 5,858,402	\$ 5,585,797	\$ 5,266,120				
<i>Debt Service Paid by Rates</i>	<i>\$ 6,064,990</i>	<i>\$ 4,463,740</i>	<i>\$ 4,463,740</i>	<i>\$ 4,463,740</i>	<i>\$ 4,463,740</i>	<i>\$ 3,716,578</i>	<i>\$ 3,506,672</i>	<i>\$ 3,260,521</i>				
<i>Debt Service Paid by Impact Fees</i>	<i>\$ 2,509,829</i>	<i>\$ 2,509,829</i>	<i>\$ 2,509,829</i>	<i>\$ 2,509,829</i>	<i>\$ 2,509,829</i>	<i>\$ 2,141,824</i>	<i>\$ 2,079,125</i>	<i>\$ 2,005,600</i>				
Coverage Requirement (% above annual payment) ⁴	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Reserve Requirement (total fund balance) ⁵	\$ 4,057,969	\$ 4,057,969	\$ 4,057,969	\$ 4,057,969	\$ 4,057,969	\$ 4,057,969	\$ 4,057,969	\$ 4,057,969	\$ 4,057,969	\$ 4,057,969	\$ 4,057,969	\$ 4,057,969
Grand Total: Existing Annual Debt Service	\$ 10,176,069	\$ 6,973,569	\$ 6,973,569	\$ 6,973,569	\$ 6,973,569	\$ 5,858,402	\$ 5,585,797	\$ 5,266,120				
<i>Debt Service Allocated to Rates</i>	<i>\$ 7,666,240</i>	<i>\$ 4,463,740</i>	<i>\$ 4,463,740</i>	<i>\$ 4,463,740</i>	<i>\$ 4,463,740</i>	<i>\$ 3,716,578</i>	<i>\$ 3,506,672</i>	<i>\$ 3,260,521</i>				
<i>Debt Service Allocated to Impact Fees</i>	<i>\$ 2,509,829</i>	<i>\$ 2,509,829</i>	<i>\$ 2,509,829</i>	<i>\$ 2,509,829</i>	<i>\$ 2,509,829</i>	<i>\$ 2,141,824</i>	<i>\$ 2,079,125</i>	<i>\$ 2,005,600</i>				
Grand Total: Existing Debt Reserve Target ⁶	\$ 4,057,969	\$ 4,057,969	\$ 4,057,969	\$ 4,057,969	\$ 4,057,969	\$ 4,057,969	\$ 4,057,969	\$ 4,057,969	\$ 4,057,969	\$ 4,057,969	\$ 4,057,969	\$ 4,057,969
<i>Debt Service Paid by Rates</i>	<i>\$ 7,666,240</i>	<i>\$ 4,463,740</i>	<i>\$ 4,463,740</i>	<i>\$ 4,463,740</i>	<i>\$ 5,788,071</i>	<i>\$ 4,599,704</i>	<i>\$ 4,523,176</i>	<i>\$ 4,443,078</i>	<i>\$ 4,349,308</i>	<i>\$ 4,251,134</i>	<i>\$ 3,865,033</i>	<i>\$ 3,426,352</i>
<i>Debt Service Paid by Impact Fees</i>	<i>\$ 2,509,829</i>	<i>\$ 2,509,829</i>	<i>\$ 2,509,829</i>	<i>\$ 2,509,829</i>	<i>\$ 1,185,498</i>	<i>\$ 1,258,698</i>	<i>\$ 1,335,226</i>	<i>\$ 1,415,324</i>	<i>\$ 1,509,094</i>	<i>\$ 1,607,268</i>	<i>\$ 1,720,764</i>	<i>\$ 1,839,768</i>
Grand Total: Existing Annual Debt Service	\$ 10,176,069	\$ 6,973,569	\$ 6,973,569	\$ 6,973,569	\$ 6,973,569	\$ 5,858,402	\$ 5,585,797	\$ 5,266,120				
	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE

- The debt coverage requirement for this bond issue is 25% above the annual debt service payment plus 100% of any policy costs due to the insurer. For purposes of this analysis, NBS assumes that nothing is owed to the insurer.
- There is no reserve requirement for this bond issue per the Official Statement, because there is a surety bond in place of a reserve fund.
- This schedule includes the payments for the State Water Resources Control Board Revolving Fund Loans for the following Agreement Nos. 00809-550-0, 06803-550-0, 07819-550-0, 07826-550-0, 11809-550-0, 10807-550-0, 11810-550-0, 09824-550-0, 11800-550-0, 10802-550-0, 11849-550-0, and 13836-550-0. The percentage of the annual payment attributable to rates and impact fees varies by debt issue. Source files: REDDING_WW Proforma for Budget 2019-21 Updated.xlsx and REDDING_Wastewater Debt Service.pdf.
- NBS assumes that there is no coverage requirement for these debt issues.
- NBS assumes that there is no reserve requirement for these debt issues.
- Principal and Interest payments, and reserve requirement are per City Staff estimates provided in the Wastewater proforma files.

Appendix B, cont.

Revenue Check (Annual, \$ per number of Housing Equivalents, exclude revenue generated from volumetric charges):						
Estimated Annual Revenue by Customer Class (Billed Monthly)	Number of Housing Equivalents	Estimated Revenue at Current Rates	Proposed Rates			
			FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
			4.00%	4.00%	4.00%	4.00%
Single-Family Residential	23,506	\$ 15,474,154	\$ 16,091,879	\$ 16,734,990	\$ 17,403,487	\$ 18,100,191
Multi-Family Residential ¹	11,929	5,810,377	6,042,277	6,284,197	6,536,138	6,798,099
Commercial, No Food	8,296	5,461,647	5,679,674	5,906,662	6,142,610	6,388,514
Commercial, Food Prep	2,007	2,642,905	2,748,650	2,858,490	2,972,906	3,091,900
Industrial ²	197	129,386	134,551	139,929	145,518	151,344
Other ²	403	265,184	275,771	286,792	298,248	310,188
Unknown ²	2	1,317	1,369	1,424	1,481	1,540
Total	46,340	\$ 29,784,970	\$ 30,974,171	\$ 32,212,483	\$ 33,500,388	\$ 34,841,774
Projected Rate Revenue - Fin. Plan			\$ 29,637,786	\$ 31,533,584	\$ 32,908,239	\$ 34,345,340

1. Multi-Family Residential billed by number of accounts, not housing equivalent units.

2. Billed at the Standard Commercial (\$/# HE)

Appendix C – Additional Solid Waste Rate Study Tables

RATE REVENUE REQUIREMENTS SUMMARY ¹	Budget	Projected										
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30
Sources of Solid Waste Funds												
Rate Revenue Under Prevailing Rates	\$ 16,905,190	\$ 16,960,702	\$ 17,017,858	\$ 17,076,658	\$ 17,136,918	\$ 17,199,004	\$ 17,262,917	\$ 17,328,838	\$ 17,396,950	\$ 17,467,436	\$ 17,540,479	\$ 17,616,443
Fee Revenue	2,059,130	2,127,868	2,199,090	2,272,889	2,349,337	2,452,163	2,559,726	2,672,281	2,790,096	2,885,442	2,984,433	3,087,279
Other Revenue	1,547,160	1,552,180	1,557,348	1,562,664	1,568,113	1,573,727	1,579,506	1,585,467	1,591,626	1,597,999	1,604,604	1,611,473
Interest Earnings (in O&M, Capital and Debt Reserves) ²	161,740	122,017	90,354	83,582	84,765	81,585	87,560	95,749	117,222	146,783	153,600	126,528
Total Sources of Funds	\$ 20,673,220	\$ 20,762,768	\$ 20,864,650	\$ 20,995,793	\$ 21,139,134	\$ 21,306,479	\$ 21,489,709	\$ 21,682,335	\$ 21,895,894	\$ 22,097,661	\$ 22,283,117	\$ 22,441,724
Uses of Solid Waste Funds												
Operating Expenses:												
Solid Waste Administration	\$ 2,532,420	\$ 2,896,710	\$ 2,779,980	\$ 2,868,580	\$ 2,960,200	\$ 3,055,010	\$ 3,153,140	\$ 3,254,560	\$ 3,359,530	\$ 3,468,100	\$ 3,580,460	\$ 3,696,640
Residential Collection Expenses	3,303,070	3,324,720	3,337,790	3,436,180	3,537,400	3,641,520	3,748,640	3,858,830	3,972,170	4,088,790	4,208,780	4,332,400
Commercial Collection Expenses	3,590,250	3,485,730	3,489,320	3,591,910	3,697,350	3,805,730	3,917,120	4,031,670	4,149,410	4,270,450	4,394,890	4,523,010
Roll-Off Collection Expenses	1,076,000	1,104,290	1,134,450	1,168,510	1,203,520	1,239,510	1,276,540	1,314,590	1,353,740	1,394,010	1,435,420	1,478,090
Resource Recovery Expenses	5,274,040	5,132,830	5,283,640	5,440,740	5,598,490	5,763,080	5,932,640	6,107,270	6,287,170	6,472,540	6,663,470	6,860,460
Transfer Station Expenses	2,681,350	2,822,780	2,812,560	2,898,000	2,985,970	3,076,510	3,169,750	3,265,770	3,364,670	3,466,510	3,571,370	3,679,480
Hazardous Household Waste Expenses	453,920	522,890	537,770	554,640	572,060	589,990	608,530	627,650	647,370	667,760	688,800	710,540
Street Sweeping Expenses	1,225,600	1,222,860	1,234,960	1,250,550	1,266,650	1,283,260	1,300,440	1,318,140	1,336,440	1,355,320	1,374,840	1,394,980
Subtotal: Operating Expenses	\$ 20,136,650	\$ 20,512,810	\$ 20,610,470	\$ 21,209,110	\$ 21,821,640	\$ 22,454,610	\$ 23,106,800	\$ 23,778,480	\$ 24,470,500	\$ 25,183,480	\$ 25,918,030	\$ 26,675,600
Other Expenditures:												
Rate-Funded Capital Expenses ³	51,000	1,035,000	243,450	-	-	-	-	-	-	-	1,893,000	5,723,521
Subtotal: Other Expenditures	\$ 51,000	\$ 1,035,000	\$ 243,450	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 1,893,000	\$ 5,723,521
Total Uses of Solid Waste Funds	\$ 20,187,650	\$ 21,547,810	\$ 20,853,920	\$ 21,209,110	\$ 21,821,640	\$ 22,454,610	\$ 23,106,800	\$ 23,778,480	\$ 24,470,500	\$ 25,183,480	\$ 27,811,030	\$ 32,399,121
plus: Revenue from Rate Increases	-	286,329	1,168,333	1,788,027	2,432,755	3,325,278	4,264,046	5,251,587	6,290,599	7,116,156	7,976,038	8,872,009
Annual Surplus/(Deficit)	\$ 485,570	\$ (498,714)	\$ 1,179,063	\$ 1,574,710	\$ 1,750,248	\$ 2,177,147	\$ 2,646,954	\$ 3,155,441	\$ 3,715,993	\$ 4,030,336	\$ 2,448,124	\$ (1,085,388)
Net Revenue Req't. (Total Uses less Non-Rate Revenue)	\$ 16,419,620	\$ 17,745,745	\$ 17,007,128	\$ 17,289,975	\$ 17,819,424	\$ 18,347,135	\$ 18,880,008	\$ 19,424,983	\$ 19,971,556	\$ 20,553,256	\$ 23,068,392	\$ 27,573,841
Total Rate Revenue After Rate Increases	\$ 16,905,190	\$ 17,247,031	\$ 18,186,191	\$ 18,864,685	\$ 19,569,673	\$ 20,524,282	\$ 21,526,963	\$ 22,580,424	\$ 23,687,549	\$ 24,583,592	\$ 25,516,517	\$ 26,488,453
Projected Annual Rate Increase ⁴	0.00%	3.00%	3.00%	3.00%	3.00%	4.00%	4.00%	4.00%	4.00%	3.00%	3.00%	3.00%
Cumulative Increase from Annual Rate Increases	0.00%	3.00%	6.09%	9.27%	12.55%	17.05%	21.74%	26.60%	31.67%	35.62%	39.69%	43.88%

1. Revenues and expenses for FY 2018/19 through FY 2028/29 are per source file: REDDING_SW 10 Year Plan FY 19-21 061819.xlsx.

2. Beginning in FY 2019/20, interest earnings are calculated in this exhibit based on projected pooled cash earnings shown in the Reserve Fund Summary table.

3. These are the only capital expenditures funded directly with rate revenue. Rolling stock expenditures are shown in the Rolling Stock Reserve Fund.

4. Rate increases apply to both solid waste rates and fees, and are selected in the Financial Plan Alternatives.

Appendix C, cont.

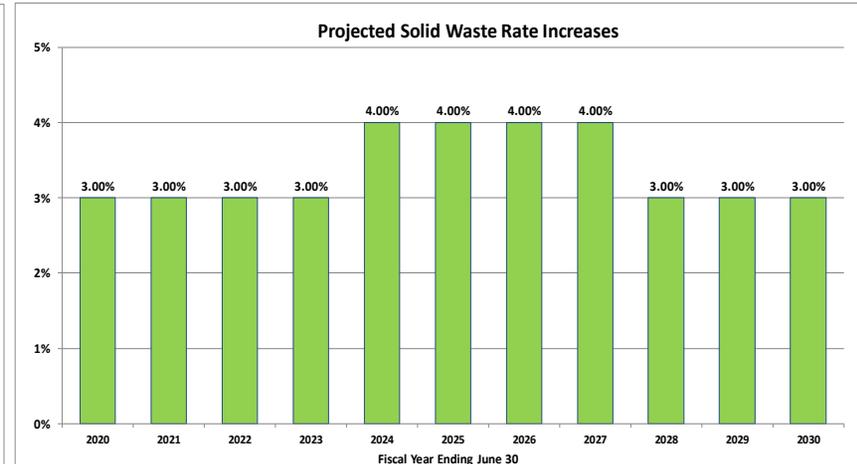
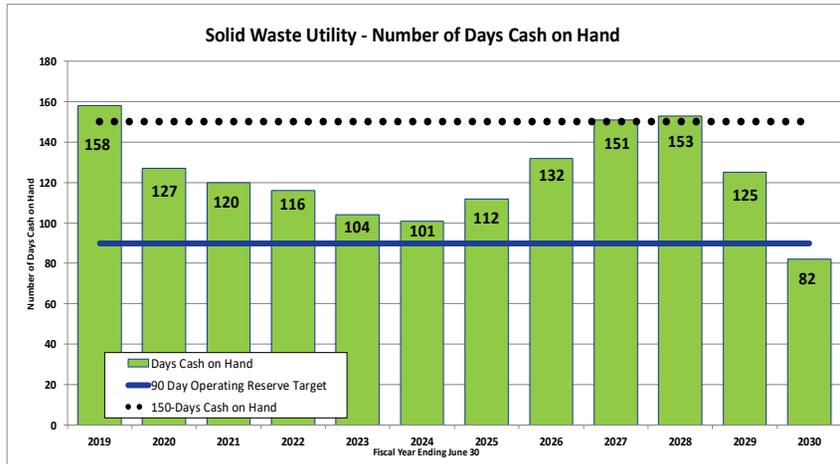
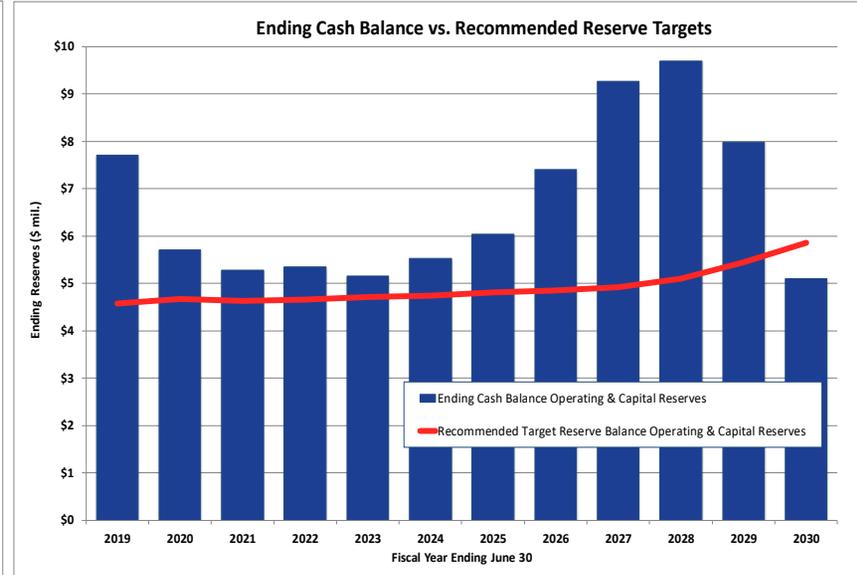
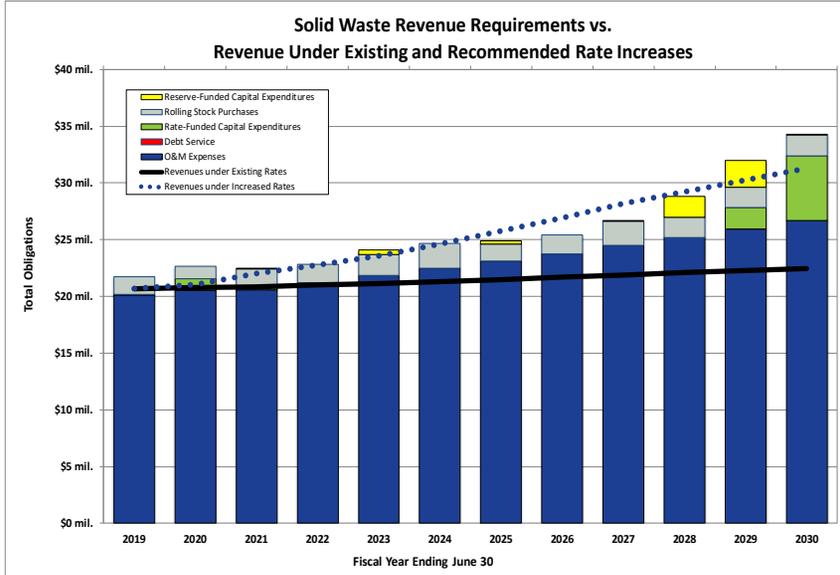
TABLE 2 : RESERVE FUND SUMMARY

Alternative: Recommended Increases

SUMMARY OF RESERVE FUND ACTIVITY	Budget	Projected										
	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30
Total Beginning Cash ¹	\$ 9,754,926											
Solid Waste O&M Reserve Fund												
Beginning Reserve Balance ²	\$ 8,373,064	\$ 6,833,634	\$ 4,534,921	\$ 3,813,984	\$ 3,388,694	\$ 3,138,942	\$ 3,016,089	\$ 3,363,044	\$ 3,818,485	\$ 4,834,478	\$ 6,264,814	\$ 6,612,939
Plus: Net Cash Flow (After Rate Increases)	485,570	(498,714)	1,179,063	1,574,710	1,750,248	2,177,147	2,646,954	3,155,441	3,715,993	4,030,336	2,448,124	(1,085,388)
Less: Transfer to Rolling Stock ³	(1,500,000)	(1,500,000)	(1,600,000)	(1,500,000)	(1,500,000)	(1,800,000)	(1,800,000)	(1,800,000)	(1,800,000)	(1,800,000)	(1,800,000)	(1,800,000)
Net: Transfers To the Capital Reserve ⁴	(525,000)	(300,000)	(300,000)	(500,000)	(500,000)	(500,000)	(500,000)	(900,000)	(900,000)	(800,000)	(300,000)	(300,000)
Ending O&M Reserve Balance	\$ 6,833,634	\$ 4,534,921	\$ 3,813,984	\$ 3,388,694	\$ 3,138,942	\$ 3,016,089	\$ 3,363,044	\$ 3,818,485	\$ 4,834,478	\$ 6,264,814	\$ 6,612,939	\$ 3,427,551
Target Ending Balance (30 Days of Operating Expenses) ⁵	\$ 3,320,000	\$ 3,447,000	\$ 3,474,000	\$ 3,575,000	\$ 3,677,000	\$ 3,783,000	\$ 3,893,000	\$ 4,006,000	\$ 4,123,000	\$ 4,243,000	\$ 4,367,000	\$ 4,495,000
Solid Waste Capital R&R Reserve Fund												
Beginning Reserve Balance ⁶	\$ 343,550	\$ 868,550	\$ 1,168,550	\$ 1,462,000	\$ 1,962,000	\$ 2,011,000	\$ 2,511,000	\$ 2,681,000	\$ 3,581,000	\$ 4,431,000	\$ 3,431,000	\$ 1,374,000
Plus: Net Debt Proceeds	-	-	-	-	-	-	-	-	-	-	-	-
Net: Transfer From/(To) the Operating Reserve	525,000	300,000	300,000	500,000	500,000	500,000	500,000	900,000	900,000	800,000	300,000	300,000
Less: Use of Reserves for Capital Projects and Equipment	-	-	(6,550)	-	(451,000)	-	(330,000)	-	(50,000)	(1,800,000)	(2,357,000)	(3,000)
Ending Repair & Replacement Balance	\$ 868,550	\$ 1,168,550	\$ 1,462,000	\$ 1,962,000	\$ 2,011,000	\$ 2,511,000	\$ 2,681,000	\$ 3,581,000	\$ 4,431,000	\$ 3,431,000	\$ 1,374,000	\$ 1,671,000
Target Ending Balance (7% of Net Assets) ⁷	\$ 1,252,000	\$ 1,232,000	\$ 1,162,000	\$ 1,081,000	\$ 1,034,000	\$ 962,000	\$ 916,000	\$ 852,000	\$ 796,000	\$ 857,000	\$ 1,074,000	\$ 1,371,000
Days Cash on Hand	158	127	120	116	104	101	112	132	151	153	125	82
Ending vs. Target - Annual Surplus/(Deficit)	\$ 2,632,265	\$ 952,406	\$ 506,721	\$ 576,967	\$ 633	\$ (353,231)	\$ 429,383	\$ 1,910,837	\$ 3,374,965	\$ 3,624,301	\$ 1,574,425	\$ (1,738,963)
Ending Balance - O&M and R&R Reserves	\$ 7,702,184	\$ 5,703,471	\$ 5,275,984	\$ 5,350,694	\$ 5,149,942	\$ 5,527,089	\$ 6,044,044	\$ 7,399,485	\$ 9,265,478	\$ 9,695,814	\$ 7,986,939	\$ 5,098,551
Recom. Target Ending Balance - O&M and R&R Reserves	\$ 4,572,000	\$ 4,679,000	\$ 4,636,000	\$ 4,656,000	\$ 4,711,000	\$ 4,745,000	\$ 4,809,000	\$ 4,858,000	\$ 4,919,000	\$ 5,100,000	\$ 5,441,000	\$ 5,866,000
Solid Waste Rolling Stock Fund												
Beginning Reserve Balance ⁸	\$ 1,038,312	\$ 1,002,081	\$ 1,427,935	\$ 1,466,737	\$ 1,382,273	\$ 1,061,690	\$ 664,680	\$ 994,339	\$ 1,169,352	\$ 828,486	\$ 828,486	\$ 828,486
Plus: Transfers in from Operating Reserve	1,500,000	1,500,000	1,600,000	1,500,000	1,500,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000
Plus: Interest	16,449	15,875	22,621	23,236	21,898	16,819	10,530	15,752	18,525	13,125	13,125	13,125
Less: Use of Reserves for Rolling Stock	(1,552,680)	(1,090,020)	(1,583,820)	(1,607,700)	(1,842,480)	(2,213,830)	(1,480,870)	(1,640,740)	(2,159,390)	(1,813,125)	(1,813,125)	(1,813,125)
Ending Rolling Stock Fund Balance	\$ 1,002,081	\$ 1,427,935	\$ 1,466,737	\$ 1,382,273	\$ 1,061,690	\$ 664,680	\$ 994,339	\$ 1,169,352	\$ 828,486	\$ 828,486	\$ 828,486	\$ 828,486
Target Ending Balance	1,500,000	1,500,000	1,600,000	1,500,000	1,500,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000	1,800,000
Ending Balance - All Reserves	\$ 8,704,265	\$ 7,131,406	\$ 6,742,721	\$ 6,732,967	\$ 6,211,633	\$ 6,191,769	\$ 7,038,383	\$ 8,568,837	\$ 10,093,965	\$ 10,524,301	\$ 8,815,425	\$ 5,927,037
Recom. Target Ending Balance - w/ Rolling Stock	\$ 6,072,000	\$ 6,179,000	\$ 6,236,000	\$ 6,156,000	\$ 6,211,000	\$ 6,545,000	\$ 6,609,000	\$ 6,658,000	\$ 6,719,000	\$ 6,900,000	\$ 7,241,000	\$ 7,666,000
Annual Interest Earnings Rate ⁹	1.58%	1.58%	1.58%	1.58%								

1. Total beginning cash for FY 2018/19 is per City staff estimates. Source file: REDDING_SW 10 Year Plan FY 19-21.xlsx.
 2. Beginning O&M Reserve Balance for FY 2018/19 is net of total beginning cash allocated to reserved funds.
 3. Transfer from the O&M Reserve Fund to Rolling Stock is per City staff estimates. Source file: REDDING_SW 10 Year Plan FY 19-21.xlsx.
 4. Transfers to the Capital R&R Reserve Fund are per the City's 10-Year Financial Plan. NBS assumes that the City will be transferring a minimum of \$300K per year in order to meet the reserve target for future years beyond FY 2028/29.
 5. The O&M Reserve Fund is based on 30-days of operating costs less utility and administration expenses.
 6. The beginning Capital R&R Reserve Fund balance is per City Staff estimates. Source file: REDDING_SW 10 Year Plan FY 19-21.xlsx, CAP PLAN tab.
 7. The City maintains 7% of net assets for the Capital R&R Reserve Fund based on an average 15-year expected life of assets.
 8. The beginning reserve balance for the Rolling Stock Fund is per City Staff estimates. Source file: REDDING_SW 10 Year Plan FY 19-21.xlsx, Rolling Stock tab.
 9. The interest earning rate is based on the City's Pooled Cash Interest Rate. Source file: December 2018_Int Earning.pdf.

Appendix C, cont.



Appendix C, cont.

TABLE 14 : SOURCES AND USES OF CAPITAL FUNDS

CAPITAL FUNDING FORECAST	Actuals		Budget		Projected								
	FY 2017/18	FY 2018/19	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30
Funding Sources:													
Grant	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
State Revolving Fund Loan	-	-	-	-	-	-	-	-	-	-	-	-	-
Revenue Bond	-	-	-	-	-	-	-	-	-	-	-	-	-
Surplus Capital Reserve	501,250	-	-	6,550	-	451,000	-	330,000	-	50,000	1,800,000	2,357,000	3,000
Rate Revenue	-	51,000	1,035,000	243,450	-	-	-	-	-	-	-	1,893,000	5,723,521
Grand Total: Capital Funding Sources	\$ 501,250	\$ 51,000	\$ 1,035,000	\$ 250,000	\$ -	\$ 451,000	\$ -	\$ 330,000	\$ -	\$ 50,000	\$ 1,800,000	\$ 4,250,000	\$ 5,726,521
Uses of Capital Funds:													
Effective Annual Funding of Capital Expenditures	\$ 501,250	\$ 51,000	\$ 1,035,000	\$ 250,000	\$ -	\$ 451,000	\$ -	\$ 330,000	\$ -	\$ 50,000	\$ 1,800,000	\$ 4,250,000	\$ 5,726,521
Capital Funding Surplus (Deficiency)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

TABLE 26 : ADJUSTMENT TO CLASSIFICATION OF EXPENSES

Adjustment for Current Rate Level:	Total	Residential	Commercial	Roll-Off	Street Sweeping
FY 2019/20 Target Rate Rev. After Rate Increases ¹	\$ 17,469,524				
Current Level of Rate Revenue	16,960,702				
FY 2019/20 Projected Rate Increase	3.0%				
Adjusted Net Revenue Req'ts	\$ 17,469,524	\$ 9,049,095	\$ 6,843,141	\$ 2,057,087	\$ 134,993
<i>Percent of Revenue</i>		<i>52%</i>	<i>39%</i>	<i>12%</i>	<i>1%</i>

1. This was adjusted to reflect the full rate increase vs. revenue from delayed effective date of Jan. 1, 2020 for rate increases.

Appendix C, cont.

Residential Containers - Revenue Check of Current and Proposed Rates					
Customer Class	2018 Charge Quantity	Current Rates		'19/20 Budget	Proposed Rates
		2018 Bill Amount/Mo.	Estimated Annual Rev.	Est. Annual Rev. (w/o rate Incr.)	Estimated Annual Revenue
Residential:					
Residential Min Charge	122	\$ 2,378	\$ 28,540		\$ -
Residential 45-Gallon	938	19,841	238,094		285,341
Residential 64-Gallon	3,870	86,590	1,039,080		1,271,068
Residential 96-Gallon	21,823	522,197	6,266,360		7,221,579
2nd Green Waste Cart	5,077	19,870	238,445		261,321
<i>Subtotal</i>	<i>31,830</i>	<i>\$ 650,877</i>	<i>\$ 7,810,518</i>	<i>\$ 8,746,848</i>	
Residential NCC	730	\$ 2,675	\$ 2,675		\$ 2,675
Commercial:					
Commercial Min Charge	113	\$ 2,360	\$ 28,321		
Commercial 45-Gallon	8	142	1,710		
Commercial 64-Gallon	239	5,440	65,275		
Commercial 96-Gallon	705	17,014	204,163		
<i>Subtotal</i>	<i>1,065</i>	<i>\$ 24,956</i>	<i>\$ 299,469</i>	<i>\$ 328,244</i>	
Commercial NCC	104	\$ 386	\$ 4,633.44		
Total	32,895	\$ 675,832	\$ 8,109,987	\$ 9,075,093	\$ 9,041,985

Data is from the City's Waste Wheeler Revenue Report for June 2018 dated 07/03/2018.

Appendix C, cont.

SOLID WASTE RATE SCHEDULE	Current Rates ('18/19)	Proposed Rates			
		FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23
<i>Annual Rate increases as shown in Financial Plan:</i>		<i>3.00%</i>	<i>3.00%</i>	<i>3.00%</i>	<i>3.00%</i>
Residential Wheeled Cart Monthly Rate ¹					
45-Gal Container	\$22.36	\$23.16	\$23.85	\$24.57	\$25.30
64-Gal Container	\$23.37	\$24.20	\$24.93	\$25.68	\$26.45
96-Gal Container	\$25.01	\$25.90	\$26.68	\$27.48	\$28.30
Additional Green Waste Container	\$4.00	\$4.00	\$4.00	\$4.00	\$4.00
Landfill Monitoring			<i>(\$0.22/month - no increases)</i>		
Automated Cart Special Collection Rate (per cart)					
45-gallon					
Same Day (50% of monthly fee)	\$11.18	\$11.58	\$11.93	\$12.28	\$12.65
Not Same Day (65% of monthly fee)	\$14.53	\$15.05	\$15.50	\$15.97	\$16.45
64-gallon					
Same Day (50% of monthly fee)	\$11.69	\$12.10	\$12.46	\$12.84	\$13.22
Not Same Day (65% of monthly fee)	\$15.19	\$15.73	\$16.20	\$16.69	\$17.19
96-gallon					
Same Day (50% of monthly fee)	\$12.51	\$12.95	\$13.34	\$13.74	\$14.15
Not Same Day (65% of monthly fee)	\$16.26	\$16.84	\$17.34	\$17.86	\$18.40

1. Residential Service includes trash, recycling, and green waste containers.

Appendix C, cont.

Commercial Service Charges									
Calculation of Annual Container Costs (\$/Year)									
Cost Factors	1 CY	1.5 CY	2 CY	3 CY	4 CY	6 CY	8 CY	Total	Adjustments
Adjusted Container Cost (\$/year) by Size ¹ :	\$9.41	\$14.12	\$18.82	\$28.24	\$37.65	\$56.47	\$75.30	N.A.	\$75.30 Adjusted avg. cost
Number of containers by size	1	438	534	528	686	305	57	2,549	\$30.79 COS Average cost
Annual Container Cost Recovery:	\$8	\$6,185	\$10,049	\$14,906	\$25,840	\$17,227	\$4,275	\$78,490	
Total Annual Container Cost Recovery:	\$78,490								2.445 Adjustment factor (to generate sufficient revenue)
Target Container Cost Recovery:	\$78,490								

1. Calculation is the average cost adjusted for container size in proportion to volume.

Calculation of Annual Lift Costs (\$/Lift and \$/Year)									
Cost Factors	1 CY	1.5 CY	2 CY	3 CY	4 CY	6 CY	8 CY	Total	Adjustments
Adjusted Lift Cost (\$/Lift) by Size:	\$13.64	\$15.01	\$16.37	\$19.10	\$21.83	\$27.28	\$32.74	N.A.	\$32.74 Adjusted avg. cost
Number of Lift/year by size	44	24,939	31,460	38,554	56,664	32,033	7,050	190,745	\$20.80 COS Average cost
Annual Lift Cost Recovery:	\$601	\$374,214	\$514,980	\$736,287	\$1,236,721	\$873,927	\$230,803	\$3,967,533	
Total Annual Container Cost Recovery:	\$3,967,533								1.574 Adjustment factor (to generate sufficient revenue)
Target Container Cost Recovery:	\$3,967,533								

Revenue Check for 2019 Commercial (Scheduled & Unscheduled) Containers:

Type	Size	Unscheduled Total pickups	Pickups Per Week						Annual Revenue
			1	2	3	4	5	6	
Front Load Compactors	2.0	0	\$ 1,727	\$ 3,438	\$ -	\$ 6,860	\$ -	\$ -	\$ 12,026
	3.0	0	2,350	4,676	-	-	-	-	7,027
	4.0	0	11,893	17,744	-	11,797	-	-	41,435
	6.0	0	16,878	75,520	37,688	-	-	-	130,087
	Total								\$ 190,574
Commercial Containers	1.0	0	\$ 774	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 774
	1.5	0	430,848	89,634	-	-	-	-	520,482
	2.0	0	589,093	148,291	15,848	-	-	-	753,233
	3.0	0	576,793	418,003	141,163	21,479	6,706	16,085	1,180,229
	4.0	0	762,275	818,787	337,877	58,666	81,400	29,285	2,088,290
	6.0	0	358,376	421,026	298,073	158,685	187,133	118,799	1,542,093
	8.0	0	70,655	89,417	91,860	88,906	55,503	49,914	446,255
	Total								\$ 6,531,355

Appendix C, cont.

CITY OF REDDING SOLID WASTE DIVISION Commercial Container Rates Fiscal Year 2018 - 2019						
SIZE / COLLECTIONS PER WEEK	ONE	TWO	THREE	FOUR	FIVE	SIX
1.0 Yard	\$ 70.07	\$ 139.48	\$ 208.88	\$ 278.29	\$ 347.69	\$ 417.10
Landfill Monitoring (1.36%)	0.95	1.90	2.84	3.78	4.73	5.67
Monthly Charge	\$ 71.02	\$ 141.37	\$ 211.72	\$ 282.07	\$ 352.42	\$ 422.77
1.5 Yard	\$ 83.69	\$ 166.38	\$ 249.07	\$ 331.76	\$ 414.46	\$ 497.16
Landfill Monitoring (1.36%)	1.14	2.26	3.39	4.51	5.64	6.76
Monthly Charge	\$ 84.83	\$ 168.64	\$ 252.46	\$ 336.27	\$ 420.10	\$ 503.92
2.0 Yard	\$ 97.31	\$ 193.29	\$ 289.27	\$ 385.25	\$ 481.23	\$ 577.20
Landfill Monitoring (1.36%)	1.32	2.63	3.93	5.24	6.54	7.85
Monthly Charge	\$ 98.63	\$ 195.91	\$ 293.21	\$ 390.49	\$ 487.77	\$ 585.05
3.0 Yard	\$ 124.55	\$ 247.11	\$ 369.65	\$ 492.20	\$ 614.76	\$ 737.31
Landfill Monitoring (1.36%)	1.69	3.36	5.03	6.69	8.36	10.03
Monthly Charge	\$ 126.24	\$ 250.47	\$ 374.68	\$ 498.90	\$ 623.12	\$ 747.34
4.0 Yard	\$ 151.78	\$ 300.91	\$ 450.04	\$ 599.17	\$ 748.29	\$ 897.42
Landfill Monitoring (1.36%)	2.06	4.09	6.12	8.15	10.18	12.20
Monthly Charge	\$ 153.85	\$ 305.01	\$ 456.16	\$ 607.32	\$ 758.46	\$ 909.62
6.0 Yard	\$ 206.27	\$ 408.54	\$ 610.81	\$ 813.08	\$ 1,015.36	\$ 1,217.63
Landfill Monitoring (1.36%)	2.81	5.56	8.31	11.06	13.81	16.56
Monthly Charge	\$ 209.07	\$ 414.10	\$ 619.12	\$ 824.14	\$ 1,029.17	\$ 1,234.19
8.0 Yard	\$ 260.75	\$ 516.16	\$ 771.58	\$ 1,027.00	\$ 1,282.42	\$ 1,537.84
Landfill Monitoring (1.36%)	3.55	7.02	10.49	13.97	17.44	20.91
Monthly Charge	\$ 264.29	\$ 523.18	\$ 782.07	\$ 1,040.97	\$ 1,299.86	\$ 1,558.75

Landfill Monitoring fee is calculated at 1.36% on the total solid waste charge.

Special Collection Fees :
25% above weekly rate (monthly rate/4.33)

	Rate	L/F Monitoring (1.36%)	Total
1.0 Yard Non-compacted	\$ 20.23	0.28	\$ 20.51
1.5 Yard Non-compacted	\$ 24.16	0.33	\$ 24.49
2.0 Yard Non-compacted	\$ 28.09	0.38	\$ 28.47
3.0 Yard Non-compacted	\$ 35.95	0.49	\$ 36.44
4.0 Yard Non-compacted	\$ 43.82	0.60	\$ 44.41
6.0 Yard Non-compacted	\$ 59.55	0.81	\$ 60.36
8.0 Yard Non-compacted	\$ 75.27	1.02	\$ 76.29

CITY OF REDDING SOLID WASTE DIVISION PROPOSED NEW Commercial Container Rates Fiscal Year 2019 - 2020						
SIZE / COLLECTIONS PER WEEK	ONE	TWO	THREE	FOUR	FIVE	SIX
1.0 Yard	\$ 76.12	\$ 151.46	\$ 226.80	\$ 302.14	\$ 377.48	\$ 452.82
Landfill Monitoring (1.36%)	1.04	2.06	3.08	4.11	5.13	6.16
Monthly Charge	\$ 77.16	\$ 153.52	\$ 229.88	\$ 306.25	\$ 382.61	\$ 458.97
1.5 Yard	\$ 90.54	\$ 179.90	\$ 269.26	\$ 358.63	\$ 447.99	\$ 537.35
Landfill Monitoring (1.36%)	1.23	2.45	3.66	4.88	6.09	7.31
Monthly Charge	\$ 91.77	\$ 182.35	\$ 272.93	\$ 363.50	\$ 454.08	\$ 544.66
2.0 Yard	\$ 104.95	\$ 208.34	\$ 311.73	\$ 415.11	\$ 518.50	\$ 621.88
Landfill Monitoring (1.36%)	1.43	2.83	4.24	5.65	7.05	8.46
Monthly Charge	\$ 106.38	\$ 211.17	\$ 315.97	\$ 420.76	\$ 525.55	\$ 630.34
3.0 Yard	\$ 133.79	\$ 265.22	\$ 396.65	\$ 528.08	\$ 659.52	\$ 790.95
Landfill Monitoring (1.36%)	1.82	3.61	5.39	7.18	8.97	10.76
Monthly Charge	\$ 135.61	\$ 268.83	\$ 402.05	\$ 535.27	\$ 668.49	\$ 801.71
4.0 Yard	\$ 162.62	\$ 322.10	\$ 481.58	\$ 641.06	\$ 800.54	\$ 960.02
Landfill Monitoring (1.36%)	2.21	4.38	6.55	8.72	10.89	13.06
Monthly Charge	\$ 164.83	\$ 326.48	\$ 488.13	\$ 649.78	\$ 811.42	\$ 973.07
6.0 Yard	\$ 220.28	\$ 435.85	\$ 651.43	\$ 867.00	\$ 1,082.58	\$ 1,298.15
Landfill Monitoring (1.36%)	3.00	5.93	8.86	11.79	14.72	17.65
Monthly Charge	\$ 223.28	\$ 441.78	\$ 660.29	\$ 878.79	\$ 1,097.30	\$ 1,315.81
8.0 Yard	\$ 277.94	\$ 549.61	\$ 821.28	\$ 1,092.95	\$ 1,364.62	\$ 1,636.29
Landfill Monitoring (1.36%)	3.78	7.47	11.17	14.86	18.56	22.25
Monthly Charge	\$ 281.72	\$ 557.09	\$ 832.45	\$ 1,107.81	\$ 1,383.18	\$ 1,658.54

Landfill Monitoring fee is calculated at 1.36% on the total solid waste charge.

Special Collection Fees :
25% above weekly rate (monthly rate/4.33)

	Rate	L/F Monitoring (1.36%)	Total
1.0 Yard Non-compacted	\$ 21.96	0.30	\$ 22.27
1.5 Yard Non-compacted	\$ 26.12	0.36	\$ 26.47
2.0 Yard Non-compacted	\$ 30.28	0.41	\$ 30.69
3.0 Yard Non-compacted	\$ 38.59	0.52	\$ 39.12
4.0 Yard Non-compacted	\$ 46.91	0.64	\$ 47.55
6.0 Yard Non-compacted	\$ 63.54	0.86	\$ 64.41
8.0 Yard Non-compacted	\$ 80.18	1.09	\$ 81.26

Appendix C, cont.

CITY OF REDDING SOLID WASTE DIVISION Front Load Compactor Rates Fiscal Year 2018 - 2019						
SIZE / COLLECTIONS PER WEEK	ONE	TWO	THREE	FOUR	FIVE	SIX
2.0 Yard	\$ 160.77	\$ 320.21	\$ 479.66	\$ 639.10	\$ 798.53	\$ 957.97
Landfill Monitoring (1.36%)	2.19	4.35	6.52	8.69	10.86	13.03
Monthly Charge	\$ 162.96	\$ 324.57	\$ 486.18	\$ 647.79	\$ 809.39	\$ 971.00
3.0 Yard	\$ 219.74	\$ 437.49	\$ 655.23	\$ 872.98	\$ 1,090.71	\$ 1,308.46
Landfill Monitoring (1.36%)	2.99	5.95	8.91	11.87	14.83	17.80
Monthly Charge	\$ 222.73	\$ 443.44	\$ 664.14	\$ 884.85	\$ 1,105.55	\$ 1,326.25
4.0 Yard	\$ 278.71	\$ 554.76	\$ 830.81	\$ 1,106.86	\$ 1,382.90	\$ 1,658.95
Landfill Monitoring (1.36%)	3.79	7.54	11.30	15.05	18.81	22.56
Monthly Charge	\$ 282.50	\$ 562.31	\$ 842.11	\$ 1,121.91	\$ 1,401.71	\$ 1,681.51
5.0 Yard*	\$ 337.68	\$ 672.04	\$ 1,006.39	\$ 1,340.73	\$ 1,675.09	\$ 2,009.44
Landfill Monitoring (1.36%)	4.59	9.14	13.69	18.23	22.78	27.33
Monthly Charge	\$ 342.28	\$ 681.18	\$ 1,020.08	\$ 1,358.97	\$ 1,697.87	\$ 2,036.77
6.0 Yard	\$ 396.65	\$ 789.31	\$ 1,181.97	\$ 1,574.61	\$ 1,967.27	\$ 2,359.93
Landfill Monitoring (1.36%)	5.39	10.73	16.07	21.41	26.75	32.10
Monthly Charge	\$ 402.05	\$ 800.04	\$ 1,198.04	\$ 1,596.03	\$ 1,994.03	\$ 2,392.02
8.0 Yard*	\$ 528.87	\$ 1,023.86	\$ 1,533.12	\$ 2,042.38	\$ 2,551.64	\$ 3,060.91
Landfill Monitoring (1.36%)	7.19	13.92	20.85	27.78	34.70	41.63
Monthly Charge	\$ 536.06	\$ 1,037.78	\$ 1,553.97	\$ 2,070.15	\$ 2,586.35	\$ 3,102.54
Special Collection Fees						
	Rate	L/F Monitoring (1.36%)		Total		
2.0 Yard Compactor	\$ 37.13	0.50		\$ 37.64		
3.0 Yard Compactor	\$ 50.75	0.69		\$ 51.44		
4.0 Yard Compactor	\$ 64.37	0.88		\$ 65.24		
5.0 Yard Compactor	\$ 77.99	1.06		\$ 79.05		
6.0 Yard Compactor	\$ 91.61	1.25		\$ 92.85		
7.0 Yard Compactor	\$ 103.00	1.40		\$ 104.40		
8.0 Yard Compactor	\$ 122.14	1.66		\$ 123.80		
Landfill Monitoring fees are calculated at 1.36% on the total solid waste charge.						
Special collection fees are calculated at 63% higher than the weekly rate for uncompacted front-load containers to reflect the heavier weight. (The weekly rate is calculated by dividing the monthly rate by 4.33) Monthly compactor rates are calculated by multiplying single collection rate (special collection fee) by number of collections per week and then multiplying by 4.33)						
* The City has no accounts for this size, so rates are interpolated based on larger and smaller compactor sizes.						

CITY OF REDDING SOLID WASTE DIVISION PROPOSED Front Load Compactor Rates Fiscal Year 2019 - 2020						
SIZE / COLLECTIONS PER WEEK	ONE	TWO	THREE	FOUR	FIVE	SIX
2.0 Yard	\$ 169.85	\$ 338.13	\$ 506.42	\$ 674.70	\$ 842.98	\$ 1,011.26
Landfill Monitoring (1.36%)	2.31	4.60	6.89	9.18	11.46	13.75
Monthly Charge	\$ 172.16	\$ 342.73	\$ 513.30	\$ 683.87	\$ 854.45	\$ 1,025.02
3.0 Yard	\$ 231.13	\$ 459.91	\$ 688.69	\$ 917.47	\$ 1,146.24	\$ 1,375.02
Landfill Monitoring (1.36%)	3.14	6.25	9.37	12.48	15.59	18.70
Monthly Charge	\$ 234.27	\$ 466.16	\$ 698.05	\$ 929.94	\$ 1,161.83	\$ 1,393.72
4.0 Yard	\$ 292.41	\$ 581.68	\$ 870.96	\$ 1,160.23	\$ 1,449.51	\$ 1,738.78
Landfill Monitoring (1.36%)	3.98	7.91	11.85	15.78	19.71	23.65
Monthly Charge	\$ 296.39	\$ 589.60	\$ 882.80	\$ 1,176.01	\$ 1,469.22	\$ 1,762.43
5.0 Yard*	\$ 353.69	\$ 703.46	\$ 1,053.23	\$ 1,403.00	\$ 1,752.77	\$ 2,102.54
Landfill Monitoring (1.36%)	4.81	9.57	14.32	19.08	23.84	28.59
Monthly Charge	\$ 358.50	\$ 713.03	\$ 1,067.55	\$ 1,422.08	\$ 1,776.60	\$ 2,131.13
6.0 Yard	\$ 414.97	\$ 825.24	\$ 1,235.50	\$ 1,645.76	\$ 2,056.03	\$ 2,466.29
Landfill Monitoring (1.36%)	5.64	11.22	16.80	22.38	27.96	33.54
Monthly Charge	\$ 420.61	\$ 836.46	\$ 1,252.30	\$ 1,668.15	\$ 2,083.99	\$ 2,499.83
8.0 Yard*	\$ 537.53	\$ 1,068.79	\$ 1,600.04	\$ 2,131.30	\$ 2,662.55	\$ 3,193.81
Landfill Monitoring (1.36%)	7.31	14.54	21.76	28.99	36.21	43.44
Monthly Charge	\$ 544.84	\$ 1,083.32	\$ 1,621.80	\$ 2,160.28	\$ 2,698.76	\$ 3,237.24
Special Collection Fees						
	Rate	L/F Monitoring (1.36%)		Total		
2.0 Yard Compactor	\$ 49.00	0.67		\$ 49.66		
3.0 Yard Compactor	\$ 66.67	0.91		\$ 67.58		
4.0 Yard Compactor	\$ 84.35	1.15		\$ 85.50		
5.0 Yard Compactor	\$ 102.03	1.39		\$ 103.41		
6.0 Yard Compactor	\$ 119.70	1.63		\$ 121.33		
7.0 Yard Compactor	\$ 137.38	1.87		\$ 139.25		
8.0 Yard Compactor	\$ 155.06	2.11		\$ 157.17		
Landfill Monitoring fees are calculated at 1.36% on the total solid waste charge.						
Special collection fees are calculated at 63% higher than the weekly rate for uncompacted front-load containers to reflect the heavier weight. (The weekly rate is calculated by dividing the monthly rate by 4.33) Monthly compactor rates are calculated by multiplying single collection rate (special collection fee) by number of collections per week and then multiplying by 4.33)						
* The City has no accounts for this size, so rates are interpolated based on larger and smaller compactor sizes.						

Appendix C, cont.

CITY OF REDDING SOLID WASTE DIVISION PROPOSED NEW Commercial Container Rates Fiscal Year 2020 - 2021						
SIZE / COLLECTIONS PER WEEK	ONE	TWO	THREE	FOUR	FIVE	SIX
1.0 Yard	\$ 78.41	\$ 156.01	\$ 233.60	\$ 311.20	\$ 388.80	\$ 466.40
Landfill Monitoring (1.36%)	1.07	2.12	3.18	4.23	5.29	6.34
Monthly Charge	\$ 79.47	\$ 158.13	\$ 236.78	\$ 315.44	\$ 394.09	\$ 472.74
1.5 Yard	\$ 93.26	\$ 185.30	\$ 277.34	\$ 369.38	\$ 461.43	\$ 553.47
Landfill Monitoring (1.36%)	1.27	2.52	3.77	5.02	6.28	7.53
Monthly Charge	\$ 94.52	\$ 187.82	\$ 281.11	\$ 374.41	\$ 467.70	\$ 561.00
2.0 Yard	\$ 108.10	\$ 214.59	\$ 321.08	\$ 427.57	\$ 534.05	\$ 640.54
Landfill Monitoring (1.36%)	1.47	2.92	4.37	5.81	7.26	8.71
Monthly Charge	\$ 109.57	\$ 217.51	\$ 325.44	\$ 433.38	\$ 541.32	\$ 649.25
3.0 Yard	\$ 137.80	\$ 273.18	\$ 408.55	\$ 543.93	\$ 679.30	\$ 814.68
Landfill Monitoring (1.36%)	1.87	3.72	5.56	7.40	9.24	11.08
Monthly Charge	\$ 139.67	\$ 276.89	\$ 414.11	\$ 551.32	\$ 688.54	\$ 825.76
4.0 Yard	\$ 167.50	\$ 331.76	\$ 496.02	\$ 660.29	\$ 824.55	\$ 988.82
Landfill Monitoring (1.36%)	2.28	4.51	6.75	8.98	11.21	13.45
Monthly Charge	\$ 169.77	\$ 336.27	\$ 502.77	\$ 669.27	\$ 835.77	\$ 1,002.27
6.0 Yard	\$ 226.89	\$ 448.93	\$ 670.97	\$ 893.01	\$ 1,115.05	\$ 1,337.10
Landfill Monitoring (1.36%)	3.09	6.11	9.13	12.14	15.16	18.18
Monthly Charge	\$ 229.97	\$ 455.04	\$ 680.10	\$ 905.16	\$ 1,130.22	\$ 1,355.28
8.0 Yard	\$ 286.28	\$ 566.10	\$ 845.92	\$ 1,125.74	\$ 1,405.56	\$ 1,685.37
Landfill Monitoring (1.36%)	3.89	7.70	11.50	15.31	19.12	22.92
Monthly Charge	\$ 290.18	\$ 573.80	\$ 857.42	\$ 1,141.05	\$ 1,424.67	\$ 1,708.29

Landfill Monitoring fee is calculated at 1.36% on the total solid waste charge.

Special Collection Fees :	Rate	L/F Monitoring (1.36%)	Total
25% above weekly rate (monthly rate/4.33)			
1.0 Yard Non-compacted	\$ 22.62	0.31	\$ 22.93
1.5 Yard Non-compacted	\$ 26.90	0.37	\$ 27.27
2.0 Yard Non-compacted	\$ 31.18	0.42	\$ 31.61
3.0 Yard Non-compacted	\$ 39.75	0.54	\$ 40.29
4.0 Yard Non-compacted	\$ 48.32	0.66	\$ 48.97
6.0 Yard Non-compacted	\$ 65.45	0.89	\$ 66.34
8.0 Yard Non-compacted	\$ 82.58	1.12	\$ 83.69

CITY OF REDDING SOLID WASTE DIVISION PROPOSED NEW Commercial Container Rates Fiscal Year 2021 - 2022						
SIZE / COLLECTIONS PER WEEK	ONE	TWO	THREE	FOUR	FIVE	SIX
1.0 Yard	\$ 80.76	\$ 160.69	\$ 240.61	\$ 320.54	\$ 400.47	\$ 480.39
Landfill Monitoring (1.36%)	1.10	2.19	3.27	4.36	5.45	6.53
Monthly Charge	\$ 81.86	\$ 162.87	\$ 243.88	\$ 324.90	\$ 405.91	\$ 486.93
1.5 Yard	\$ 96.05	\$ 190.86	\$ 285.66	\$ 380.47	\$ 475.27	\$ 570.07
Landfill Monitoring (1.36%)	1.31	2.60	3.88	5.17	6.46	7.75
Monthly Charge	\$ 97.36	\$ 193.45	\$ 289.55	\$ 385.64	\$ 481.73	\$ 577.83
2.0 Yard	\$ 111.35	\$ 221.03	\$ 330.71	\$ 440.39	\$ 550.07	\$ 659.76
Landfill Monitoring (1.36%)	1.51	3.01	4.50	5.99	7.48	8.97
Monthly Charge	\$ 112.86	\$ 224.03	\$ 335.21	\$ 446.38	\$ 557.56	\$ 668.73
3.0 Yard	\$ 141.93	\$ 281.37	\$ 420.81	\$ 560.25	\$ 699.68	\$ 839.12
Landfill Monitoring (1.36%)	1.93	3.83	5.72	7.62	9.52	11.41
Monthly Charge	\$ 143.86	\$ 285.20	\$ 426.53	\$ 567.86	\$ 709.20	\$ 850.53
4.0 Yard	\$ 172.52	\$ 341.71	\$ 510.91	\$ 680.10	\$ 849.29	\$ 1,018.48
Landfill Monitoring (1.36%)	2.35	4.65	6.95	9.25	11.55	13.85
Monthly Charge	\$ 174.87	\$ 346.36	\$ 517.85	\$ 689.35	\$ 860.84	\$ 1,032.33
6.0 Yard	\$ 233.70	\$ 462.40	\$ 691.10	\$ 919.80	\$ 1,148.51	\$ 1,377.21
Landfill Monitoring (1.36%)	3.18	6.29	9.40	12.51	15.62	18.73
Monthly Charge	\$ 236.87	\$ 468.69	\$ 700.50	\$ 932.31	\$ 1,164.13	\$ 1,395.94
8.0 Yard	\$ 294.87	\$ 583.08	\$ 871.30	\$ 1,159.51	\$ 1,447.72	\$ 1,735.94
Landfill Monitoring (1.36%)	4.01	7.93	11.85	15.77	19.69	23.61
Monthly Charge	\$ 298.88	\$ 591.01	\$ 883.15	\$ 1,175.28	\$ 1,467.41	\$ 1,759.54

Landfill Monitoring fee is calculated at 1.36% on the total solid waste charge.

Special Collection Fees :	Rate	L/F Monitoring (1.36%)	Total
25% above weekly rate (monthly rate/4.33)			
1.0 Yard Non-compacted	\$ 23.30	0.32	\$ 23.62
1.5 Yard Non-compacted	\$ 27.71	0.38	\$ 28.08
2.0 Yard Non-compacted	\$ 32.12	0.44	\$ 32.56
3.0 Yard Non-compacted	\$ 40.94	0.56	\$ 41.50
4.0 Yard Non-compacted	\$ 49.77	0.68	\$ 50.44
6.0 Yard Non-compacted	\$ 67.41	0.92	\$ 68.33
8.0 Yard Non-compacted	\$ 85.06	1.16	\$ 86.21

Appendix C, cont.

CITY OF REDDING SOLID WASTE DIVISION PROPOSED NEW Commercial Container Rates Fiscal Year 2022 - 2023						
SIZE / COLLECTIONS PER WEEK	ONE	TWO	THREE	FOUR	FIVE	SIX
1.0 Yard	\$ 83.18	\$ 165.51	\$ 247.83	\$ 330.16	\$ 412.48	\$ 494.80
Landfill Monitoring (1.36%)	1.13	2.25	3.37	4.49	5.61	6.73
Monthly Charge	\$ 84.31	\$ 167.76	\$ 251.20	\$ 334.65	\$ 418.09	\$ 501.53
1.5 Yard	\$ 98.93	\$ 196.58	\$ 294.23	\$ 391.88	\$ 489.53	\$ 587.18
Landfill Monitoring (1.36%)	1.35	2.67	4.00	5.33	6.66	7.99
Monthly Charge	\$ 100.28	\$ 199.26	\$ 298.23	\$ 397.21	\$ 496.19	\$ 595.16
2.0 Yard	\$ 114.69	\$ 227.66	\$ 340.63	\$ 453.60	\$ 566.58	\$ 679.55
Landfill Monitoring (1.36%)	1.56	3.10	4.63	6.17	7.71	9.24
Monthly Charge	\$ 116.25	\$ 230.76	\$ 345.26	\$ 459.77	\$ 574.28	\$ 688.79
3.0 Yard	\$ 146.19	\$ 289.81	\$ 433.43	\$ 577.05	\$ 720.67	\$ 864.29
Landfill Monitoring (1.36%)	1.99	3.94	5.89	7.85	9.80	11.75
Monthly Charge	\$ 148.18	\$ 293.75	\$ 439.33	\$ 584.90	\$ 730.47	\$ 876.05
4.0 Yard	\$ 177.70	\$ 351.96	\$ 526.23	\$ 700.50	\$ 874.77	\$ 1,049.04
Landfill Monitoring (1.36%)	2.42	4.79	7.16	9.53	11.90	14.27
Monthly Charge	\$ 180.11	\$ 356.75	\$ 533.39	\$ 710.03	\$ 886.67	\$ 1,063.30
6.0 Yard	\$ 240.71	\$ 476.27	\$ 711.83	\$ 947.40	\$ 1,182.96	\$ 1,418.53
Landfill Monitoring (1.36%)	3.27	6.48	9.68	12.88	16.09	19.29
Monthly Charge	\$ 243.98	\$ 482.75	\$ 721.51	\$ 960.28	\$ 1,199.05	\$ 1,437.82
8.0 Yard	\$ 303.72	\$ 600.58	\$ 897.44	\$ 1,194.29	\$ 1,491.15	\$ 1,788.01
Landfill Monitoring (1.36%)	4.13	8.17	12.21	16.24	20.28	24.32
Monthly Charge	\$ 307.85	\$ 608.74	\$ 909.64	\$ 1,210.54	\$ 1,511.43	\$ 1,812.33
Landfill Monitoring fee is calculated at 1.36% on the <u>total</u> solid waste charge.						
Special Collection Fees :						
25% above weekly rate						
(monthly rate/4.33)						
	Rate		L/F Monitoring (1.36%)		Total	
1.0 Yard Non-compacted	\$ 23.99		0.33		\$ 24.33	
1.5 Yard Non-compacted	\$ 28.54		0.39		\$ 28.93	
2.0 Yard Non-compacted	\$ 33.08		0.45		\$ 33.53	
3.0 Yard Non-compacted	\$ 42.17		0.57		\$ 42.74	
4.0 Yard Non-compacted	\$ 51.26		0.70		\$ 51.96	
6.0 Yard Non-compacted	\$ 69.43		0.94		\$ 70.38	
8.0 Yard Non-compacted	\$ 87.61		1.19		\$ 88.79	

Appendix C, cont.

CITY OF REDDING SOLID WASTE DIVISION Front Load Compactor Rates Fiscal Year 2018 - 2019						
SIZE / COLLECTIONS PER WEEK	ONE	TWO	THREE	FOUR	FIVE	SIX
2.0 Yard	\$ 160.77	\$ 320.21	\$ 479.66	\$ 639.10	\$ 798.53	\$ 957.97
Landfill Monitoring (1.36%)	2.19	4.35	6.52	8.69	10.86	13.03
Monthly Charge	\$ 162.96	\$ 324.57	\$ 486.18	\$ 647.79	\$ 809.39	\$ 971.00
3.0 Yard	\$ 219.74	\$ 437.49	\$ 655.23	\$ 872.98	\$ 1,090.71	\$ 1,308.46
Landfill Monitoring (1.36%)	2.99	5.95	8.91	11.87	14.83	17.80
Monthly Charge	\$ 222.73	\$ 443.44	\$ 664.14	\$ 884.85	\$ 1,105.55	\$ 1,326.25
4.0 Yard	\$ 278.71	\$ 557.42	\$ 836.13	\$ 1,114.84	\$ 1,393.55	\$ 1,672.26
Landfill Monitoring (1.36%)	3.79	7.54	11.30	15.05	18.81	22.56
Monthly Charge	\$ 282.50	\$ 562.31	\$ 842.11	\$ 1,121.91	\$ 1,401.71	\$ 1,681.51
5.0 Yard*	\$ 337.68	\$ 675.36	\$ 1,013.04	\$ 1,350.72	\$ 1,688.40	\$ 2,026.08
Landfill Monitoring (1.36%)	4.59	9.14	13.69	18.23	22.78	27.33
Monthly Charge	\$ 342.28	\$ 681.18	\$ 1,020.08	\$ 1,358.97	\$ 1,697.87	\$ 2,036.77
6.0 Yard	\$ 396.65	\$ 793.30	\$ 1,189.95	\$ 1,587.90	\$ 1,985.85	\$ 2,383.80
Landfill Monitoring (1.36%)	5.39	10.73	16.07	21.41	26.75	32.10
Monthly Charge	\$ 402.05	\$ 800.04	\$ 1,198.04	\$ 1,596.03	\$ 1,994.03	\$ 2,392.02
8.0 Yard*	\$ 528.87	\$ 1,057.74	\$ 1,586.61	\$ 2,115.48	\$ 2,644.35	\$ 3,173.22
Landfill Monitoring (1.36%)	7.19	13.92	20.85	27.78	34.70	41.63
Monthly Charge	\$ 536.06	\$ 1,037.78	\$ 1,553.97	\$ 2,070.15	\$ 2,586.35	\$ 3,102.54
Special Collection Fees						
	Rate	L/F Monitoring (1.36%)		Total		
2.0 Yard Compactor	\$ 37.13	0.50		\$ 37.64		
3.0 Yard Compactor	\$ 50.75	0.69		\$ 51.44		
4.0 Yard Compactor	\$ 64.37	0.88		\$ 65.24		
5.0 Yard Compactor	\$ 77.99	1.06		\$ 79.05		
6.0 Yard Compactor	\$ 91.61	1.25		\$ 92.85		
7.0 Yard Compactor	\$ 103.00	1.40		\$ 104.40		
8.0 Yard Compactor	\$ 122.14	1.66		\$ 123.80		
Landfill Monitoring fees are calculated at 1.36% on the total solid waste charge.						
Special collection fees are calculated at 63% higher than the weekly rate for uncompact front-load containers to reflect the heavier weight. (The weekly rate is calculated by dividing the monthly rate by 4.33) Monthly compactor rates are calculated by multiplying single collection rate (special collection fee) by number of collections per week and then multiplying by 4.33 * The City has no accounts for this size, so rates are interpolated based on larger and smaller compactor sizes.						

CITY OF REDDING SOLID WASTE DIVISION PROPOSED Front Load Compactor Rates Fiscal Year 2019 - 2020						
SIZE / COLLECTIONS PER WEEK	ONE	TWO	THREE	FOUR	FIVE	SIX
2.0 Yard	\$ 169.85	\$ 338.13	\$ 506.42	\$ 674.70	\$ 842.98	\$ 1,011.26
Landfill Monitoring (1.36%)	2.31	4.60	6.89	9.18	11.46	13.75
Monthly Charge	\$ 172.16	\$ 342.73	\$ 513.30	\$ 683.87	\$ 854.45	\$ 1,025.02
3.0 Yard	\$ 231.13	\$ 459.91	\$ 688.69	\$ 917.47	\$ 1,146.24	\$ 1,375.02
Landfill Monitoring (1.36%)	3.14	6.25	9.37	12.48	15.59	18.70
Monthly Charge	\$ 234.27	\$ 466.16	\$ 698.05	\$ 929.94	\$ 1,161.83	\$ 1,393.72
4.0 Yard	\$ 292.41	\$ 581.68	\$ 870.96	\$ 1,160.23	\$ 1,449.51	\$ 1,738.78
Landfill Monitoring (1.36%)	3.98	7.91	11.85	15.78	19.71	23.65
Monthly Charge	\$ 296.39	\$ 589.60	\$ 882.80	\$ 1,176.01	\$ 1,469.22	\$ 1,762.43
5.0 Yard*	\$ 353.69	\$ 703.46	\$ 1,053.23	\$ 1,403.00	\$ 1,752.77	\$ 2,102.54
Landfill Monitoring (1.36%)	4.81	9.57	14.32	19.08	23.84	28.59
Monthly Charge	\$ 358.50	\$ 713.03	\$ 1,067.55	\$ 1,422.08	\$ 1,776.60	\$ 2,131.13
6.0 Yard	\$ 414.97	\$ 825.24	\$ 1,235.50	\$ 1,645.76	\$ 2,056.03	\$ 2,466.29
Landfill Monitoring (1.36%)	5.64	11.22	16.80	22.38	27.96	33.54
Monthly Charge	\$ 420.61	\$ 836.46	\$ 1,252.30	\$ 1,668.15	\$ 2,083.99	\$ 2,499.83
8.0 Yard*	\$ 537.53	\$ 1,068.79	\$ 1,600.04	\$ 2,131.30	\$ 2,662.55	\$ 3,193.81
Landfill Monitoring (1.36%)	7.31	14.54	21.76	28.99	36.21	43.44
Monthly Charge	\$ 544.84	\$ 1,083.32	\$ 1,621.80	\$ 2,160.28	\$ 2,698.76	\$ 3,237.24
Special Collection Fees						
	Rate	L/F Monitoring (1.36%)		Total		
2.0 Yard Compactor	\$ 49.00	0.67		\$ 49.66		
3.0 Yard Compactor	\$ 66.67	0.91		\$ 67.58		
4.0 Yard Compactor	\$ 84.35	1.15		\$ 85.50		
5.0 Yard Compactor	\$ 102.03	1.39		\$ 103.41		
6.0 Yard Compactor	\$ 119.70	1.63		\$ 121.33		
7.0 Yard Compactor	\$ 137.38	1.87		\$ 139.25		
8.0 Yard Compactor	\$ 155.06	2.11		\$ 157.17		
Landfill Monitoring fees are calculated at 1.36% on the total solid waste charge.						
Special collection fees are calculated at 63% higher than the weekly rate for uncompact front-load containers to reflect the heavier weight. (The weekly rate is calculated by dividing the monthly rate by 4.33) Monthly compactor rates are calculated by multiplying single collection rate (special collection fee) by number of collections per week and then multiplying by 4.33 * The City has no accounts for this size, so rates are interpolated based on larger and smaller compactor sizes.						

Appendix C, cont.

CITY OF REDDING SOLID WASTE DIVISION PROPOSED Front Load Compactor Rates Fiscal Year 2020 - 2021						
SIZE / COLLECTIONS PER WEEK	ONE	TWO	THREE	FOUR	FIVE	SIX
2.0 Yard	\$ 174.95	\$ 348.28	\$ 521.61	\$ 694.94	\$ 868.27	\$ 1,041.60
Landfill Monitoring (1.36%)	2.38	4.74	7.09	9.45	11.81	14.17
Monthly Charge	\$ 177.33	\$ 353.01	\$ 528.70	\$ 704.39	\$ 880.08	\$ 1,055.77
3.0 Yard	\$ 238.07	\$ 473.71	\$ 709.35	\$ 944.99	\$ 1,180.63	\$ 1,416.27
Landfill Monitoring (1.36%)	3.24	6.44	9.65	12.85	16.06	19.26
Monthly Charge	\$ 241.30	\$ 480.15	\$ 718.99	\$ 957.84	\$ 1,196.69	\$ 1,435.53
4.0 Yard	\$ 301.18	\$ 599.14	\$ 897.09	\$ 1,195.04	\$ 1,492.99	\$ 1,790.94
Landfill Monitoring (1.36%)	4.10	8.15	12.20	16.25	20.30	24.36
Monthly Charge	\$ 305.28	\$ 607.28	\$ 909.29	\$ 1,211.29	\$ 1,513.29	\$ 1,815.30
5.0 Yard*	\$ 364.30	\$ 724.56	\$ 1,084.83	\$ 1,445.09	\$ 1,805.35	\$ 2,165.61
Landfill Monitoring (1.36%)	4.95	9.85	14.75	19.65	24.55	29.45
Monthly Charge	\$ 369.26	\$ 734.42	\$ 1,099.58	\$ 1,464.74	\$ 1,829.90	\$ 2,195.06
6.0 Yard	\$ 427.42	\$ 849.99	\$ 1,272.56	\$ 1,695.14	\$ 2,117.71	\$ 2,540.28
Landfill Monitoring (1.36%)	5.81	11.56	17.31	23.05	28.80	34.55
Monthly Charge	\$ 433.23	\$ 861.55	\$ 1,289.87	\$ 1,718.19	\$ 2,146.51	\$ 2,574.83
8.0 Yard	\$ 553.66	\$ 1,100.85	\$ 1,648.04	\$ 2,195.24	\$ 2,742.43	\$ 3,289.62
Landfill Monitoring (1.36%)	7.53	14.97	22.41	29.86	37.30	44.74
Monthly Charge	\$ 561.19	\$ 1,115.82	\$ 1,670.46	\$ 2,225.09	\$ 2,779.73	\$ 3,334.36
Special Collection Fees						
	Rate	L/F Monitoring (1.36%)		Total		
2.0 Yard Compactor	\$ 50.47	0.69		\$ 51.15		
3.0 Yard Compactor	\$ 68.67	0.93		\$ 69.61		
4.0 Yard Compactor	\$ 86.88	1.18		\$ 88.06		
5.0 Yard Compactor	\$ 105.09	1.43		\$ 106.52		
6.0 Yard Compactor	\$ 123.29	1.68		\$ 124.97		
7.0 Yard Compactor	\$ 141.50	1.92		\$ 143.43		
8.0 Yard Compactor	\$ 159.71	2.17		\$ 161.88		
Landfill Monitoring fees are calculated at 1.36% on the total solid waste charge.						
Special collection fees are calculated at 63% higher than the weekly rate for uncompact front-load containers to reflect the heavier weight. (The weekly rate is calculated by dividing the monthly rate by 4.33)						
Monthly compactor rates are calculated by multiplying single collection rate (special collection fee) by number of collections per week and then multiplying by 4.33						
* The City has no accounts for this size, so rates are interpolated based on larger and smaller compactor sizes.						

CITY OF REDDING SOLID WASTE DIVISION PROPOSED Front Load Compactor Rates Fiscal Year 2021 - 2022						
SIZE / COLLECTIONS PER WEEK	ONE	TWO	THREE	FOUR	FIVE	SIX
2.0 Yard	\$ 180.20	\$ 358.73	\$ 537.26	\$ 715.79	\$ 894.32	\$ 1,072.85
Landfill Monitoring (1.36%)	2.45	4.88	7.31	9.73	12.16	14.59
Monthly Charge	\$ 182.65	\$ 363.60	\$ 544.56	\$ 725.52	\$ 906.48	\$ 1,087.44
3.0 Yard	\$ 245.21	\$ 487.92	\$ 730.63	\$ 973.34	\$ 1,216.05	\$ 1,458.76
Landfill Monitoring (1.36%)	3.33	6.64	9.94	13.24	16.54	19.84
Monthly Charge	\$ 248.54	\$ 494.55	\$ 740.56	\$ 986.58	\$ 1,232.59	\$ 1,478.60
4.0 Yard	\$ 310.22	\$ 617.11	\$ 924.00	\$ 1,230.89	\$ 1,537.78	\$ 1,844.67
Landfill Monitoring (1.36%)	4.22	8.39	12.57	16.74	20.91	25.09
Monthly Charge	\$ 314.44	\$ 625.50	\$ 936.57	\$ 1,247.63	\$ 1,558.69	\$ 1,869.76
5.0 Yard*	\$ 375.23	\$ 746.30	\$ 1,117.37	\$ 1,488.44	\$ 1,859.51	\$ 2,230.58
Landfill Monitoring (1.36%)	5.10	10.15	15.20	20.24	25.29	30.34
Monthly Charge	\$ 380.33	\$ 756.45	\$ 1,132.57	\$ 1,508.68	\$ 1,884.80	\$ 2,260.92
6.0 Yard	\$ 440.24	\$ 875.49	\$ 1,310.74	\$ 1,745.99	\$ 2,181.24	\$ 2,616.49
Landfill Monitoring (1.36%)	5.99	11.91	17.83	23.75	29.66	35.58
Monthly Charge	\$ 446.23	\$ 887.40	\$ 1,328.57	\$ 1,769.74	\$ 2,210.91	\$ 2,652.07
8.0 Yard*	\$ 570.27	\$ 1,133.87	\$ 1,697.48	\$ 2,261.09	\$ 2,824.70	\$ 3,388.31
Landfill Monitoring (1.36%)	7.76	15.42	23.09	30.75	38.42	46.08
Monthly Charge	\$ 578.02	\$ 1,149.30	\$ 1,720.57	\$ 2,291.84	\$ 2,863.12	\$ 3,434.39
Special Collection Fees						
	Rate	L/F Monitoring (1.36%)		Total		
2.0 Yard Compactor	\$ 51.98	0.71		\$ 52.69		
3.0 Yard Compactor	\$ 70.73	0.96		\$ 71.69		
4.0 Yard Compactor	\$ 89.49	1.22		\$ 90.70		
5.0 Yard Compactor	\$ 108.24	1.47		\$ 109.71		
6.0 Yard Compactor	\$ 126.99	1.73		\$ 128.72		
7.0 Yard Compactor	\$ 145.75	1.98		\$ 147.73		
8.0 Yard Compactor	\$ 164.50	2.24		\$ 166.74		
Landfill Monitoring fees are calculated at 1.36% on the total solid waste charge.						
Special collection fees are calculated at 63% higher than the weekly rate for uncompact front-load containers to reflect the heavier weight. (The weekly rate is calculated by dividing the monthly rate by 4.33)						
Monthly compactor rates are calculated by multiplying single collection rate (special collection fee) by number of collections per week and then multiplying by 4.33						
* The City has no accounts for this size, so rates are interpolated based on larger and smaller compactor sizes.						

Appendix C, cont.

CITY OF REDDING SOLID WASTE DIVISION PROPOSED Front Load Compactor Rates Fiscal Year 2022 - 2023						
SIZE / COLLECTIONS PER WEEK	ONE	TWO	THREE	FOUR	FIVE	SIX
2.0 Yard	\$ 185.60	\$ 369.49	\$ 553.37	\$ 737.26	\$ 921.15	\$ 1,105.04
Landfill Monitoring (1.36%)	2.52	5.03	7.53	10.03	12.53	15.03
Monthly Charge	\$ 188.13	\$ 374.51	\$ 560.90	\$ 747.29	\$ 933.68	\$ 1,120.06
3.0 Yard	\$ 252.56	\$ 502.56	\$ 752.55	\$ 1,002.54	\$ 1,252.53	\$ 1,502.52
Landfill Monitoring (1.36%)	3.43	6.83	10.23	13.63	17.03	20.43
Monthly Charge	\$ 256.00	\$ 509.39	\$ 762.78	\$ 1,016.17	\$ 1,269.57	\$ 1,522.96
4.0 Yard	\$ 319.53	\$ 635.62	\$ 951.72	\$ 1,267.82	\$ 1,583.91	\$ 1,900.01
Landfill Monitoring (1.36%)	4.35	8.64	12.94	17.24	21.54	25.84
Monthly Charge	\$ 323.87	\$ 644.27	\$ 964.66	\$ 1,285.06	\$ 1,605.45	\$ 1,925.85
5.0 Yard*	\$ 386.49	\$ 768.69	\$ 1,150.89	\$ 1,533.09	\$ 1,915.30	\$ 2,297.50
Landfill Monitoring (1.36%)	5.26	10.45	15.65	20.85	26.05	31.25
Monthly Charge	\$ 391.74	\$ 779.14	\$ 1,166.54	\$ 1,553.94	\$ 1,941.34	\$ 2,328.74
6.0 Yard	\$ 453.45	\$ 901.76	\$ 1,350.06	\$ 1,798.37	\$ 2,246.68	\$ 2,694.98
Landfill Monitoring (1.36%)	6.17	12.26	18.36	24.46	30.55	36.65
Monthly Charge	\$ 459.62	\$ 914.02	\$ 1,368.42	\$ 1,822.83	\$ 2,277.23	\$ 2,731.64
8.0 Yard*	\$ 587.37	\$ 1,167.89	\$ 1,748.41	\$ 2,328.93	\$ 2,909.44	\$ 3,489.96
Landfill Monitoring (1.36%)	7.99	15.88	23.78	31.67	39.57	47.46
Monthly Charge	\$ 595.36	\$ 1,183.77	\$ 1,772.19	\$ 2,360.60	\$ 2,949.01	\$ 3,537.42
Special Collection Fees						
	Rate		L/F Monitoring (1.36%)			Total
2.0 Yard Compactor	\$ 53.54		0.73			\$ 54.27
3.0 Yard Compactor	\$ 72.85		0.99			\$ 73.85
4.0 Yard Compactor	\$ 92.17		1.25			\$ 93.42
5.0 Yard Compactor	\$ 111.49		1.52			\$ 113.00
6.0 Yard Compactor	\$ 130.80		1.78			\$ 132.58
7.0 Yard Compactor	\$ 150.12		2.04			\$ 152.16
8.0 Yard Compactor	\$ 169.43		2.30			\$ 171.74
Landfill Monitoring fees are calculated at 1.36% on the total solid waste charge.						
Special collection fees are calculated at 63% higher than the weekly rate for uncompacted front-load containers to reflect the heavier weight. (The weekly rate is calculated by dividing the monthly rate by 4.33)						
Monthly compactor rates are calculated by multiplying single collection rate (special collection fee) by number of collections per week and then multiplying by 4.33)						
* The City has no accounts for this size, so rates are interpolated based on larger and smaller compactor sizes.						

Appendix C, cont.

CITY OF REDDING SOLID WASTE DIVISION Roll Off Compactor Rates Fiscal Year 2018 - 2019			
Roll Off Size:	Rate Per Pull:	Weight Limit:	Overweight Fee:
10 Cubic Yards	\$ 327.66	2.50 Tons	\$ 84.00/Ton
Landfill Monitoring Fee (1.36%)	<u>4.46</u>		
	\$ 332.12		
15 Cubic Yards*	\$ 380.67	2.75 Tons	\$ 84.00/Ton
Landfill Monitoring Fee (1.36%)	<u>5.18</u>		
	\$ 385.85		
20 Cubic Yards	\$ 433.69	3.50 Tons	\$ 84.00/Ton
Landfill Monitoring Fee (1.36%)	<u>5.90</u>		
	\$ 439.59		
25 Cubic Yards	\$ 486.71	4.00 Tons	\$ 84.00/Ton
Landfill Monitoring Fee (1.36%)	<u>6.62</u>		
	\$ 493.33		
30 Cubic Yards	\$ 539.72	4.50 Tons	\$ 84.00/Ton
Landfill Monitoring Fee (1.36%)	<u>7.34</u>		
	\$ 547.06		
35 Cubic Yards*	\$ 592.74	5.00 Tons	\$ 84.00/Ton
Landfill Monitoring Fee (1.36%)	<u>8.06</u>		
	\$ 600.80		
37 Cubic Yards	\$ 613.94	5.25 Tons	\$ 84.00/Ton
Landfill Monitoring Fee (1.36%)	<u>8.35</u>		
	\$ 622.29		
40 Cubic Yards	\$ 645.76	5.50 Tons	\$ 84.00/Ton
Landfill Monitoring Fee (1.36%)	<u>8.78</u>		
	\$ 654.54		

Landfill Monitoring fees are calculated at 1.36% on the total solid waste charge.

Unable to Collect Fee: An additional fee of \$ 84.00 shall be charged if by reason of inaccessibility, the trash compactor cannot be collected, and an additional collection trip is necessary.

** The City has no accounts for this size, so rates are interpolated based on larger and smaller compactor sizes.*

CITY OF REDDING SOLID WASTE DIVISION <i>PROPOSED</i> Roll Off Compactor Rates Fiscal Year 2019 - 2020			
Roll Off Size:	Rate Per Pull:	Weight Limit:	Overweight Fee:
10 Cubic Yards	\$ 327.57	2.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	<u>4.45</u>		
	\$ 332.02		
15 Cubic Yards*	\$ 387.04	2.75 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	<u>5.26</u>		
	\$ 392.30		
20 Cubic Yards	\$ 446.50	3.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	<u>6.07</u>		
	\$ 452.57		
25 Cubic Yards	\$ 505.97	4.00 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	<u>6.88</u>		
	\$ 512.85		
30 Cubic Yards	\$ 565.43	4.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	<u>7.69</u>		
	\$ 573.12		
35 Cubic Yards*	\$ 624.90	5.00 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	<u>8.50</u>		
	\$ 633.40		
37 Cubic Yards	\$ 648.69	5.25 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	<u>8.82</u>		
	\$ 657.51		
40 Cubic Yards	\$ 684.37	5.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	<u>9.31</u>		
	\$ 693.67		

Landfill Monitoring fees are calculated at 1.36% on the total solid waste charge.

Unable to Collect Fee: An additional fee of \$ 81.00 shall be charged if by reason of inaccessibility, the trash compactor cannot be collected, and an additional collection trip is necessary.

** The City has no accounts for this size, so rates are interpolated based on larger and smaller compactor sizes.*

Appendix C, cont.

CITY OF REDDING SOLID WASTE DIVISION PROPOSED Roll Off Compactor Rates Fiscal Year 2020 - 2021			
Roll Off Size:	Rate Per Pull:	Weight Limit:	Overweight Fee:
10 Cubic Yards	\$ 337.40	2.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	4.59		
	\$ 341.99		
15 Cubic Yards*	\$ 398.65	2.75 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	5.42		
	\$ 404.07		
20 Cubic Yards	\$ 459.90	3.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	6.25		
	\$ 466.15		
25 Cubic Yards	\$ 521.15	4.00 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	7.09		
	\$ 528.23		
30 Cubic Yards	\$ 582.40	4.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	7.92		
	\$ 590.32		
35 Cubic Yards*	\$ 643.65	5.00 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	8.75		
	\$ 652.40		
37 Cubic Yards	\$ 668.15	5.25 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	9.09		
	\$ 677.23		
40 Cubic Yards	\$ 704.90	5.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	9.59		
	\$ 714.48		

Landfill Monitoring fees are calculated at 1.36% on the total solid waste charge.

Unable to Collect Fee: An additional fee of \$ 81.00 shall be charged if by reason of inaccessibility, the trash compactor cannot be collected, and an additional collection trip is necessary.

** The City has no accounts for this size, so rates are interpolated based on larger and smaller compactor sizes.*

CITY OF REDDING SOLID WASTE DIVISION PROPOSED Roll Off Compactor Rates Fiscal Year 2021 - 2022			
Roll Off Size:	Rate Per Pull:	Weight Limit:	Overweight Fee:
10 Cubic Yards	\$ 347.52	2.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	4.73		
	\$ 352.24		
15 Cubic Yards*	\$ 410.61	2.75 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	5.58		
	\$ 416.19		
20 Cubic Yards	\$ 473.69	3.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	6.44		
	\$ 480.14		
25 Cubic Yards	\$ 536.78	4.00 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	7.30		
	\$ 544.08		
30 Cubic Yards	\$ 599.87	4.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	8.16		
	\$ 608.03		
35 Cubic Yards*	\$ 662.96	5.00 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	9.02		
	\$ 671.97		
37 Cubic Yards	\$ 688.19	5.25 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	9.36		
	\$ 697.55		
40 Cubic Yards	\$ 726.04	5.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	9.87		
	\$ 735.92		

Landfill Monitoring fees are calculated at 1.36% on the total solid waste charge.

Unable to Collect Fee: An additional fee of \$ 81.00 shall be charged if by reason of inaccessibility, the trash compactor cannot be collected, and an additional collection trip is necessary.

** The City has no accounts for this size, so rates are interpolated based on larger and smaller compactor sizes.*

Appendix C, cont.

CITY OF REDDING SOLID WASTE DIVISION PROPOSED Roll Off Compactor Rates Fiscal Year 2022 - 2023			
Roll Off Size:	Rate Per Pull:	Weight Limit:	Overweight Fee:
10 Cubic Yards	\$ 357.94	2.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	4.87		
	\$ 362.81		
15 Cubic Yards*	\$ 422.92	2.75 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	5.75		
	\$ 428.68		
20 Cubic Yards	\$ 487.90	3.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	6.64		
	\$ 494.54		
25 Cubic Yards	\$ 552.88	4.00 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	7.52		
	\$ 560.40		
30 Cubic Yards	\$ 617.87	4.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	8.40		
	\$ 626.27		
35 Cubic Yards*	\$ 682.85	5.00 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	9.29		
	\$ 692.13		
37 Cubic Yards	\$ 708.84	5.25 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	9.64		
	\$ 718.48		
40 Cubic Yards	\$ 747.83	5.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	10.17		
	\$ 758.00		
Landfill Monitoring fees are calculated at 1.36% on the <u>total</u> solid waste charge.			
Unable to Collect Fee: An additional fee of \$ 81.00 shall be charged if by reason of inaccessibility, the trash compactor cannot be collected, and an additional collection trip is necessary.			
<i>* The City has no accounts for this size, so rates are interpolated based on larger and smaller compactor sizes.</i>			

Appendix C, cont.

CITY OF REDDING SOLID WASTE DIVISION Roll Off Rates Fiscal Year 2018 - 2019				
Roll Off Size:	Rate Per 14 Days or Per Pull:	Extended Time: (Rate/ Day Over 14 Days)	Weight Limit:	Overweight Fee:
10 Cubic Yards	\$ 256.98	\$ 18.36	1.50 Tons	\$ 84.00/Ton
Landfill Monitoring Fee (1.36%)	<u>3.49</u>	<u>0.25</u>		
	\$ 260.47	\$ 18.61		
16 Cubic Yards	\$ 278.18	\$ 19.87	1.75 Tons	\$ 84.00/Ton
Landfill Monitoring Fee (1.36%)	<u>3.78</u>	<u>0.27</u>		
	\$ 281.96	\$ 20.14		
20 Cubic Yards	\$ 292.32	\$ 20.88	2.50 Tons	\$ 84.00/Ton
Landfill Monitoring Fee (1.36%)	<u>3.98</u>	<u>0.28</u>		
	\$ 296.30	\$ 21.16		
25 Cubic Yards	\$ 309.99	\$ 22.14	3.00 Tons	\$ 84.00/Ton
Landfill Monitoring Fee (1.36%)	<u>4.22</u>	<u>0.30</u>		
	\$ 314.21	\$ 22.44		
30 Cubic Yards	\$ 327.66	\$ 23.40	3.50 Tons	\$ 84.00/Ton
Landfill Monitoring Fee (1.36%)	<u>4.46</u>	<u>0.32</u>		
	\$ 332.12	\$ 23.72		
40 Cubic Yards	\$ 363.01	\$ 25.93	4.50 Tons	\$ 84.00/Ton
Landfill Monitoring Fee (1.36%)	<u>4.94</u>	<u>0.35</u>		
	\$ 367.95	\$ 26.28		

Landfill Monitoring fees are calculated at 1.36% on the total solid waste charge.

Unable to Collect Fee: An additional fee of \$ 84.00 shall be charged if by reason of inaccessibility or over filling, the roll off box cannot be collected, and an additional collection trip is necessary.

(Temporary Boxes Must Be Pulled Every 14 Days)
(Permanent Boxes Must Be Pulled Every 30 Days)

CITY OF REDDING SOLID WASTE DIVISION <i>PROPOSED</i> Roll Off Rates Fiscal Year 2019 - 2020				
Roll Off Size:	Rate Per 14 Days or Per Pull:	Extended Time: (Rate/ Day Over 14 Days)	Weight Limit:	Overweight Fee:
10 Cubic Yards	\$ 248.28	\$ 17.73	1.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	<u>3.38</u>	<u>0.24</u>		
	\$ 251.66	\$ 17.98		
16 Cubic Yards	\$ 272.07	\$ 19.43	1.75 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	<u>3.70</u>	<u>0.26</u>		
	\$ 275.77	\$ 19.70		
20 Cubic Yards	\$ 287.93	\$ 20.57	2.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	<u>3.92</u>	<u>0.28</u>		
	\$ 291.84	\$ 20.85		
25 Cubic Yards	\$ 307.75	\$ 21.98	3.00 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	<u>4.19</u>	<u>0.30</u>		
	\$ 311.93	\$ 22.28		
30 Cubic Yards	\$ 327.57	\$ 23.40	3.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	<u>4.45</u>	<u>0.32</u>		
	\$ 332.02	\$ 23.73		
40 Cubic Yards	\$ 367.21	\$ 26.23	4.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	<u>4.99</u>	<u>0.36</u>		
	\$ 372.21	\$ 26.60		

Landfill Monitoring fees are calculated at 1.36% on the total solid waste charge.

Unable to Collect Fee: An additional fee of \$ 81.00 shall be charged if by reason of inaccessibility or over filling, the roll off box cannot be collected, and an additional collection trip is necessary.

(Temporary Boxes Must Be Pulled Every 14 Days)
(Permanent Boxes Must Be Pulled Every 30 Days)

Appendix C, cont.

CITY OF REDDING SOLID WASTE DIVISION PROPOSED Roll Off Rates Fiscal Year 2020 - 2021				
Roll Off Size:	Rate Per 14 Days or Per Pull:	Extended Time: (Rate/ Day Over 14 Days)	Weight Limit:	Overweight Fee:
10 Cubic Yards	\$ 255.73	\$ 18.27	1.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	3.48	0.25		
	\$ 259.21	\$ 18.51		
16 Cubic Yards	\$ 280.23	\$ 20.02	1.75 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	3.81	0.27		
	\$ 284.04	\$ 20.29		
20 Cubic Yards	\$ 296.56	\$ 21.18	2.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	4.03	0.29		
	\$ 300.60	\$ 21.47		
25 Cubic Yards	\$ 316.98	\$ 22.64	3.00 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	4.31	0.31		
	\$ 321.29	\$ 22.95		
30 Cubic Yards	\$ 337.40	\$ 24.10	3.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	4.59	0.33		
	\$ 341.99	\$ 24.44		
40 Cubic Yards	\$ 378.23	\$ 27.02	4.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	5.14	0.37		
	\$ 383.37	\$ 27.39		

Landfill Monitoring fees are calculated at 1.36% on the total solid waste charge.

Unable to Collect Fee: An additional fee of \$ 81.00 shall be charged if by reason of inaccessibility or over filling, the roll off box cannot be collected, and an additional collection trip is necessary.

(Temporary Boxes Must Be Pulled Every 14 Days)
(Permanent Boxes Must Be Pulled Every 30 Days)

CITY OF REDDING SOLID WASTE DIVISION PROPOSED Roll Off Rates Fiscal Year 2021 - 2022				
Roll Off Size:	Rate Per 14 Days or Per Pull:	Extended Time: (Rate/ Day Over 14 Days)	Weight Limit:	Overweight Fee:
10 Cubic Yards	\$ 263.40	\$ 18.81	1.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	3.58	0.26		
	\$ 266.98	\$ 19.07		
16 Cubic Yards	\$ 288.64	\$ 20.62	1.75 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	3.93	0.28		
	\$ 292.56	\$ 20.90		
20 Cubic Yards	\$ 305.46	\$ 21.82	2.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	4.15	0.30		
	\$ 309.61	\$ 22.12		
25 Cubic Yards	\$ 326.49	\$ 23.32	3.00 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	4.44	0.32		
	\$ 330.93	\$ 23.64		
30 Cubic Yards	\$ 347.52	\$ 24.82	3.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	4.73	0.34		
	\$ 352.24	\$ 25.17		
40 Cubic Yards	\$ 389.58	\$ 27.83	4.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	5.30	0.38		
	\$ 394.88	\$ 28.22		

Landfill Monitoring fees are calculated at 1.36% on the total solid waste charge.

Unable to Collect Fee: An additional fee of \$ 81.00 shall be charged if by reason of inaccessibility or over filling, the roll off box cannot be collected, and an additional collection trip is necessary.

(Temporary Boxes Must Be Pulled Every 14 Days)
(Permanent Boxes Must Be Pulled Every 30 Days)

Appendix C, cont.

CITY OF REDDING SOLID WASTE DIVISION PROPOSED Roll Off Rates Fiscal Year 2022 - 2023				
Roll Off Size:	Rate Per 14 Days or Per Pull:	Extended Time: (Rate/ Day Over 14 Days)	Weight Limit:	Overweight Fee:
10 Cubic Yards	\$ 271.30	\$ 19.38	1.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	<u>3.69</u>	<u>0.26</u>		
	\$ 274.99	\$ 19.64		
16 Cubic Yards	\$ 297.30	\$ 21.24	1.75 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	<u>4.04</u>	<u>0.29</u>		
	\$ 301.34	\$ 21.52		
20 Cubic Yards	\$ 314.62	\$ 22.47	2.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	<u>4.28</u>	<u>0.31</u>		
	\$ 318.90	\$ 22.78		
25 Cubic Yards	\$ 336.28	\$ 24.02	3.00 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	<u>4.57</u>	<u>0.33</u>		
	\$ 340.86	\$ 24.35		
30 Cubic Yards	\$ 357.94	\$ 25.57	3.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	<u>4.87</u>	<u>0.35</u>		
	\$ 362.81	\$ 25.93		
40 Cubic Yards	\$ 401.26	\$ 28.66	4.50 Tons	\$ 81.00/Ton
Landfill Monitoring Fee (1.36%)	<u>5.46</u>	<u>0.39</u>		
	\$ 406.72	\$ 29.06		

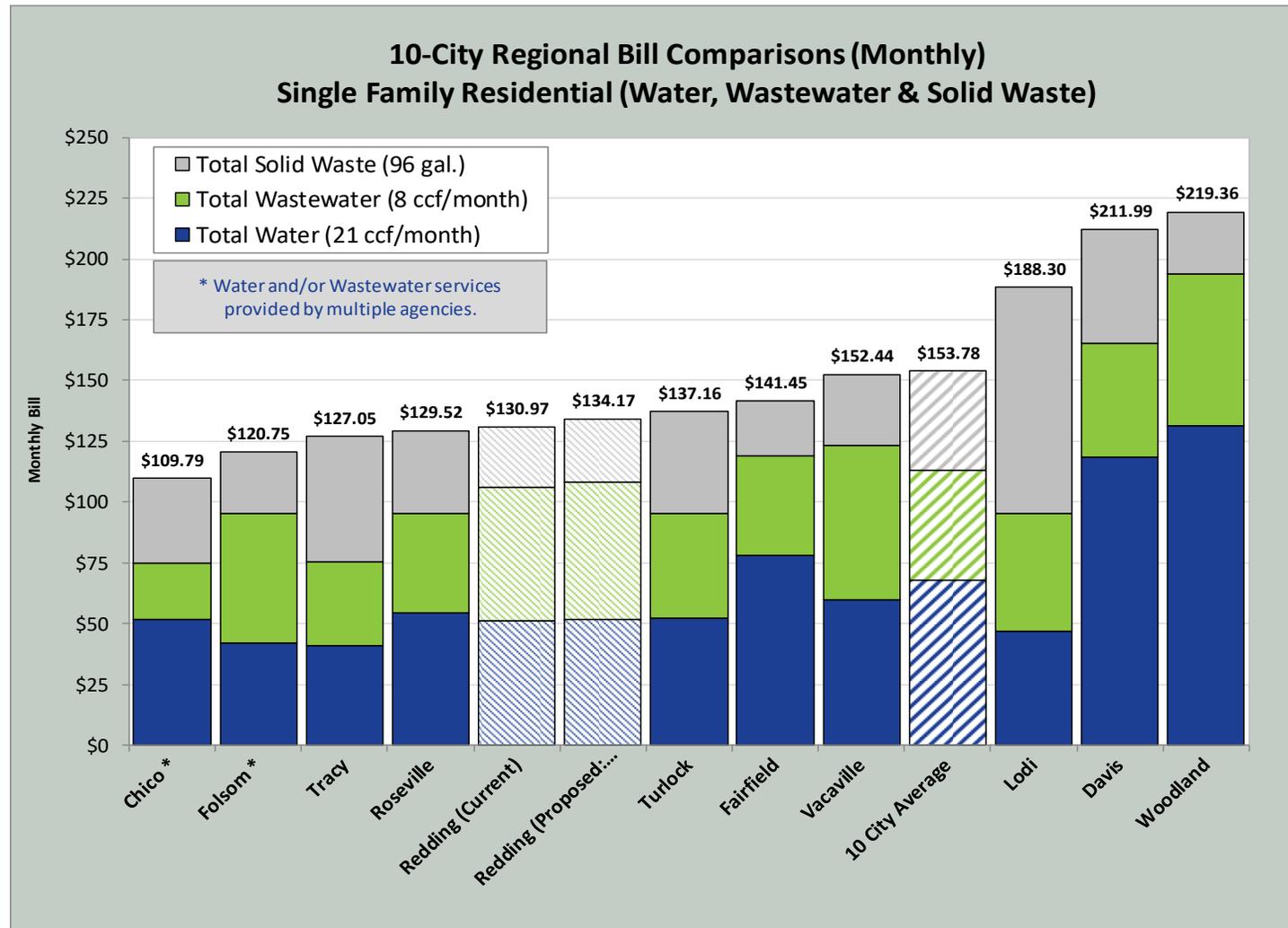
Landfill Monitoring fees are calculated at 1.36% on the total solid waste charge.

Unable to Collect Fee: An additional fee of \$ 81.00 shall be charged if by reason of inaccessibility or over filling, the roll off box cannot be collected, and an additional collection trip is necessary.

(Temporary Boxes Must Be Pulled Every 14 Days)
 (Permanent Boxes Must Be Pulled Every 30 Days)

Appendix D – Additional Single-Family Residential Bill Comparisons

Regional Bill Comparison (Water, Wastewater and Solid Waste)



Appendix D, cont.

Nor-Cal Single-Family Residential Bill Comparison (Water & Wastewater)

