



REPORT TO CITY COUNCIL

Approved by:

Anthony R. Forestiere

Anthony R. Forestiere, Interim Director of Financial Services

Arnoldo Rodriguez

Arnoldo Rodriguez, City Manager

Council Meeting of: January 19, 2022

Agenda Number: A-1

SUBJECT:

Update on Water, Sewer, Storm Drainage and Solid Waste Rate Studies

RECOMMENDATION:

Information workshop. No action is being requested.

DISCUSSION:

This item is a follow-up to the discussion at the December 15 and August 18, 2021 Council meetings. As Council is aware, Madera is a full-service city that provides water, sewer, solid waste, and storm drainage services to its residents. There are approximately 14,200 residential, commercial, and industrial utility customers. The last utility rate study prepared by the City was completed in 2015, which updated the utility rates for water and sewer, taking effect incrementally July 2015 through January 2020. Considering that rates are generally reviewed every 5 years, the City issued a Request for Proposal (RFP) in August 2020 for a study of the utility rates for water, sewer, storm drainage, and solid waste services. Of the seven proposals received, the City Council (Council) selected NBS Consulting to perform the utility rate studies.

Prior to the ongoing study, the last rate study resulted in water and sewer rates taking effect in July 2015 with incremental increases through January 2020. In December 2018, the Council considered a revision to the water conservation portion of the water rates and reduced the planned increase from 10 percent to 6 percent for the fiscal year 2018/19. The storm drainage rates have not been adjusted since 1992. The solid waste services are contracted to a third party.

It is worth noting that utilities, including sewer, water, trash collection, and drainage are funded by user fees that provide for the daily operation and maintenance of the various systems. Said fees are viewed as property-related fees for a utility service and are subject to specific requirements of the California Constitution Article XIII D § 6(a), commonly referred to as Proposition (Prop) 218. The requirements include:

- The fees must only cover expenses to provide service to the customer assessed.

- An increase in the fee(s) must be approved by the customers under a protest-ballot procedure, where all affected property owners are notified and given the opportunity to protest the increase in writing or at a public hearing, and a majority protest prohibits the increase.
- A multi-year schedule of fee increases is allowed for up to five years.
- The Prop 218 process occurs after the Council approves the rate studies. This process involves mailing a Notice of the Proposed Rate Increases to all affected customers.
 - Any customer opposed to the rate increase would need to send a letter back to the City protesting the rate increases.
 - If more than 50 percent of the customers are opposed to the rate increase, the increase would be blocked.
 - The Prop 218 process also requires having a public hearing no earlier than 45 days before the mailing to receive comments on the proposed increases. At the end of this hearing, the Council would close the period to receive protests, and then count the protest ballots. If the protest failed, the Council could adopt the proposed rate increase.

The rate study is comprised of several distinct analyses. Each study is attached to this report and include:

- Water
- Wastewater (i.e., sewer)
- Storm Drain
- Solid Waste (i.e., trash), including Street Sweeping

A summary of each is as follows:

WATER RATE STUDY:

The Water Rate Study assumes that \$6 Million of the American Rescue Plan Act (ARPA) funds would be used to fund capital projects along with the use of available Water Enterprise Capital Reserve Funds. Based on current and projected costs, including capital projects, the rates are projected to increase 3 percent in fiscal year 2021/2022 with no increase in rates in the following four years covered by the rate study.

WASTEWATER RATE STUDY:

The Wastewater Rate Study assumes that \$16 Million of the ARPA funds would be used to fund capital projects. Based on current and projected costs, including capital projects, the rates are projected to increase 5 percent in each of the next five years.

STORM DRAIN RATE STUDY:

The Storm Drain Rate Study recommends an increase of 8 percent in each of the next five years. These rate increases are necessary to cover ongoing costs, as well as fund prudent reserves. Prior deficits have depleted reserve balances, as rates have not increased since 1992.

SOLID WASTE RATE STUDY:

The Solid Waste Rate Study recommends an increase of 10 percent in total rate revenue in the first four years and 4 percent in the fifth year of the study. Because of the cost-of-service adjustments, each

customer class is affected differently by these increases. These rate increases are necessary to cover ongoing costs, fund prudent reserves and cover new costs associated with State Bill (SB) 1383. SB 1383, effective January 1, 2022, imposes additional recycle and organic recovery mandates, resulting in an estimated 35 percent increase in costs and is presented as a surcharge incorporated into the rates. Additionally, the administrative fees paid to the franchise hauler, which have not historically been recovered from residential customers, are also added to the proposed rates.

The Solid Waste Study includes street sweeping fees which have historically been billed separately and were based on lot frontage. The rates for street sweeping have been incorporated into proposed solid waste rates and are now recovered from all solid waste customers as a fixed rate, designed to cover ongoing street sweeping costs, and are identified as a component of the solid waste fee.

PURPOSE OF THIS WORKSHOP

The purpose of this workshop is to provide background on the rate setting process, eventually leading to the more formal process.

ATTACHMENTS

1. Water Rate Study
 - a. Appendix: Detailed Water Study Tables and Figures
2. Wastewater Rate Study
 - a. Appendix: Detailed Wastewater Study Tables and Figures
3. Storm Drain Rate Study
 - a. Appendix: Detailed Storm Drain Study Tables and Figures
4. Solid Waste Rate Study

1. Water Rate Study



CITY OF MADERA

DRAFT REPORT

Water Rate Study

January 2022

OFFICE LOCATIONS:

Temecula – Corporate Headquarters
32605 Temecula Parkway, Suite 100
Temecula, CA 92592

San Francisco – Regional Office
870 Market Street, Suite 1223
San Francisco, CA 94102

California Satellite Offices
Atascadero, Davis
Huntington Beach,
Joshua Tree, Riverside
Sacramento, San Jose

www.nbsgov.com

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ABBREVIATIONS & ACRONYMS

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
CA	Customer
CAP	Capacity
CCF	Hundred Cubic Feet (same as HCF); equal to 748 gallons
CCI	Construction Cost Index
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 1 st to June 30 th)
FY 2021/22	July 1, 2021 through June 30, 2022
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
MFR	Multi-Family Residential
Mo.	Month
Muni.	Municipal
N/A	Not Available or Not Applicable
O&M	Operational & 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.

This list identifies abbreviations and acronyms that may be used in this report. This list has not been viewed, arranged, or edited by an attorney, nor should it be relied on as legal advice. The intent of this list 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.

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
R&R	Rehabilitation & Replacement
SFR	Single Family Residential
SRF Loan	State Revolving Fund Loan
SWRCB	State Water Resources Control Board
V. / Vs. /vs.	Versus

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SECTION 1. PURPOSE AND OVERVIEW OF THE STUDY

A. Purpose

The City of Madera (City) retained NBS to conduct a comprehensive water rate study for several reasons, including meeting revenue requirements, providing greater financial stability for the water enterprise, and complying with certain legal requirements (such as California Constitution article XIII D, Section 6, which is commonly referred to as Proposition 218 [Prop 218]). The rates resulting from this study were developed in a manner that is consistent with industry standard cost of service principles. In addition to documenting the rate study methodology, this report is provided with the intent of assisting the City to maintain transparent communications with its residents and businesses.

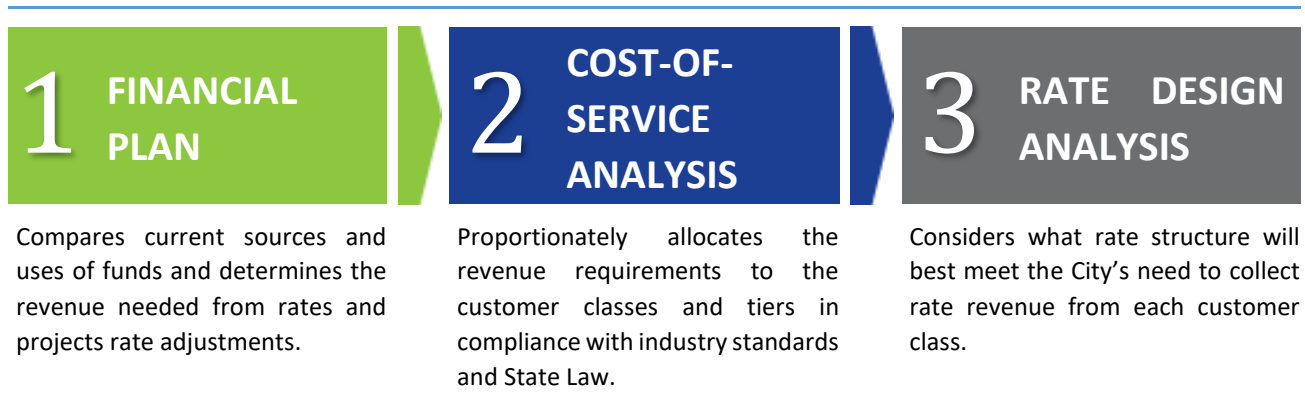
In developing new water rates, NBS worked cooperatively with City staff and the City Council (Council), in selecting appropriate rate alternatives. Based on input from all stakeholders, the proposed rates are summarized in this report.

B. Overview of the Study

Comprehensive rate studies such as this one typically includes the following three components, as outlined in **Figure 1**:

1. Preparation of a **Financial Plan**, which identifies the net revenue requirements for the utility.
2. **Cost of Service Analysis**, which determines the cost of providing service to each customer class and water usage tiers.
3. **Rate Design Analysis**, which evaluates different rate design alternatives.

Figure 1. Primary Components of a Rate Study



These steps 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) Principles of Water Rates, Fees, and Charges¹, also referred to as the M1 Manual. The rate study also addresses requirements under

¹ Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, seventh edition, 2017.

Proposition 218 that rates do not exceed the cost of providing the service, and that the rates be proportionate to the cost of providing service for all customers. In terms of the chronology of the study, these three steps represent the order they were performed in this Study. Detailed tables and figures documenting the development of the proposed rates are provided in the Appendix.

FINANCIAL PLAN

As a part of this rate study, NBS projected revenues and expenditures on a cash flow basis for the next five years. The amount of rate revenue required, that will allow reserves to be maintained at the recommended levels, is known as the *net revenue requirement*. As current rate revenue falls short of the net revenue requirement, rate adjustments -- or more accurately, adjustments in the total revenue collected from rates -- are recommended. This report presents an overview of the methodologies, assumptions, and data used, along with the financial plans and proposed rates developed in this study².

WATER RATE DESIGN ANALYSIS

Rate Design is typically the stage in the study where NBS, staff and the Council must work closely together, to develop rate alternatives that will meet the City's objectives. It is important for the water utility to send proper price signals to its customers about the actual cost of their water usage. This objective is typically addressed through both the magnitude of the rate adjustments, 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 practical rate structures. The fundamentals of this process have been documented in a number of rate-setting manuals, such as the American Water Works Association (AWWA) Manual M1. The foundation for evaluating rate structures is generally credited to James C. Bonbright in the *Principles of Public Utility Rates*³, 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:

- 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 (that is, cost based).
- There should be continuity in the ratemaking philosophy over time.
- Rates should address other utility policies (for example, encouraging conservation & economic development).
- Rates should provide month-to-month and year-to-year revenue stability.

The following are the basic rate design criteria that were considered in this study:

Rate Structure Basics –The vast majority of rate structures contain a fixed or minimum charge in combination with a volumetric charge. The revenue requirements for each customer class are collected from both fixed monthly meter charges and variable commodity charges. The rates proposed in this report are designed to

² The complete financial plan is set forth in the Appendix.

³ 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.

collect the almost the same revenue split as current rates; about 36 percent (36%) of rate revenue from the fixed meter charge and 64 percent (64%) from the variable commodity charge⁴.

Fixed Charges – Fixed charges can be called base charges, minimum monthly charges, customer charges, fixed meter charges, etc. Fixed charges for water utilities typically increase by meter size. From a financial stability perspective, if utilities recover all of their fixed costs from fixed charges and all of their variable costs from volumetric charges, fluctuations in water sales revenues are directly offset by reductions or increases in variable expenses. When rates are set in this manner, they provide the greatest revenue stability for the utility. However, other factors are often considered when designing water rates such as community values, water conservation goals, ease of understanding, and ease of administration.

Volumetric (Consumption-Based) Charges – In contrast to fixed charges, variable costs such as purchased water, the cost of electricity used in pumping water, and the cost of chemicals for treatment tend to change with the quantity of water produced. For a water utility, variable charges are based on metered consumption and charged on a dollar-per-unit cost (for example, per 100 cubic feet, or one hundred cubic feet (hcf), which is equal to approximately 748 gallons).

Multi-Tiered Water Charges – An inclining block rate structure attempts to send a price signal to customers that their consumption costs more as more water is consumed and is generally considered to be a more conservation-oriented rate structure. Tiered water charges are encouraged by state law and regulatory mandates but are also intended to represent the higher costs for customers that contribute more to peak summertime usage and place greater demands on the system. The types of higher costs reflected, for example, in the higher tiers of the rate structure may include conservation program costs which are intended to encourage customers to eliminate inefficient and wasteful water use, and otherwise reduce consumption during peak periods.

REGULATORY ISSUES

Drought and Water Conservation - On January 17, 2014, Governor Jerry Brown declared a State of Emergency throughout California due to severe drought conditions. On April 1, 2015, the Governor issued Executive Order B-29-15 mandating statewide water conservation of 25 percent. The specific conservation mandate for each community in California varied from 4 to 36 percent.

While conservation is good from a supply and environmental standpoint, it places financial pressure on the utility. Consumption has an impact on both revenue and expenses and with positive conservation efforts continuing to be a high priority for the City, the revenue declines could put the water utility at risk in the future without changes in the consumption charges. The City directed NBS to develop a drought rate structure which is presented in Section 2 of this report. The drought rates presented in this report may be adopted at the Council's choosing in the future, in the event of a state issued drought mandate as was done in 2015.

⁴ The California Urban Water Conservation Council recommends recovering at least 70 percent of rate revenue through volume-based rates. However, water utilities are allowed to develop their own allocations that accurately reflect their actual cost allocations.

SECTION 2. WATER RATE STUDY

A. Key Water Rate Study Issues

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

- Maintain routine operation and maintenance expenditures of the water system, including salaries and benefits of water resources staff, contracted services and water sustainability programs.
- Fund routine capital projects to maintain a modern and reliable water network and infrastructure.
- Maintain reserve fund levels to ensure future financial stability for the water utility.
- Provide revenue stability for the Utility, due to the level of capital investment planned over the next five years.
- Comply with Prop 218 requirements to ensure cost of service are properly allocated amongst user classifications.
- Evaluate the appropriateness of the current tiered rate structure and compare it to a uniformed rate structure. NBS will provide revenue neutral rate structures for the City to evaluate (each rate option is designed to produce the same amount of revenue).

The rate structures NBS is proposing relied on industry standards and cost-of-service principles. The fixed and volume-based charges were calculated based on the net revenue requirements, number of customer accounts and water consumption data provided by the City.

B. Financial Plan

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 practices. Rate adjustments are governed by the need to meet operating and capital costs, maintain adequate debt coverage, and build reasonable reserve funds. The current state of the City's water utility, with regard to these objectives, is as follows:

- **Meeting Net Revenue Requirements:** For Fiscal Year (FY) 2021/22 through FY 2025/26, the projected net revenue requirement (that is, total annual expenses plus debt service and rate-funded capital costs, less non-rate revenues) for the City is approximately \$10.2 million on average, annually.
- **Building and Maintaining Reserve Funds:** Reserve funds provide a basis for a utility to cope with fiscal emergencies such as revenue shortfalls, asset failure, and natural disasters, among other events. Reserve policies provide guidelines for sound financial management, with an overall long-range perspective to maintain financial solvency and mitigate financial risks associated with revenue instability, volatile capital costs, and emergencies. The reserve funds for the Utility are considered unrestricted reserves and consist of the following:
 - **The Operating Reserve** should equal approximately 90 days of operating expenses (reaching approximately \$2.1 million in FY 2025/26). An Operating Reserve is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures. Fluctuations in revenue can be caused by weather patterns, the natural inflow and outflow of cash during billing cycles, natural variability in demand-based revenue streams (such as volumetric charges), and – particularly in periods of economic distress – changes or trends in age of receivables.

- **The Capital Outlay Reserve** should equal roughly 6% of asset values, reaching \$4 million annually over the next five years. These monies are set aside to address long-term and routine capital system replacement and rehabilitation needs.
- **Funding Capital Improvement Projects:** The City must also be able to fund necessary capital improvements in order to maintain current service levels. City staff has identified roughly \$43.5 million (in current year dollars) in expected capital expenditures for FY 2021/22 through 2025/26. With the recommended rate increases, these expenditures can be accomplished while keeping reserves above the minimum recommended target. The City was also able to secure grant monies from the American Rescue Plan Act (ARPA), in which \$6 million is allocated towards the water enterprises' capital projects. This grant funding significantly helps offset the financial burden on rate payers.
- **Inflation and Growth Projections:** Assumptions regarding cost inflation were made in order to project future revenues and expenses for the study period.
 - Customer growth is expected to be 0% annually.
 - General inflation is assumed to be 3% annually.
 - Water supply, salaries, benefits, fuel, and electricity are all assumed to be 5% annually.
 - Some expenses are assumed to have no escalation annually.
- **Maintaining Adequate Bond Coverage:** The City currently has two outstanding water revenue bonds from 2015 and 2019 that require the City to maintain a debt service coverage ratio of at least 1.20. The benefit of exceeding the minimum debt coverage ratio is that it strengthens the City's credit rating, which can help lower the interest rates for debt-funded capital projects in the future, should the City decide to use them.

A rate revenue adjustment of three percent (3%) in FY 2021/22 are recommended in order to fund operating expenses, planned capital projects, debt service obligations and maintain reserves at the recommended targets. **Figure 2** summarizes the sources and uses of funds, net revenue requirements, and the recommended annual percent adjustments in total rate revenue recommended for the next 5 years for the City.

Figure 2. Summary of Water Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget	5-Year Prop 218 Period				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Sources of Water Funds						
Rate Revenue Under Prevailing Rates	\$ 11,572,381	\$ 11,572,381	\$ 11,572,381	\$ 11,572,381	\$ 11,572,381	\$ 11,572,381
Additional Revenue from Rate Increases ¹	-	86,793	347,171	347,171	347,171	347,171
Projected Annual Rate Increase	0.00%	3.00%	0.00%	0.00%	0.00%	0.00%
Non-Rate Revenues	318,705	318,705	318,705	318,705	318,705	318,705
Interest Earnings	122,632	415,410	339,300	76,844	92,386	106,668
Total Sources of Funds	\$ 12,013,718	\$ 12,393,288	\$ 12,577,557	\$ 12,315,101	\$ 12,330,643	\$ 12,344,926
Uses of Water Funds						
Operating Expenses	\$ 6,919,425	\$ 7,258,284	\$ 7,511,453	\$ 7,767,973	\$ 8,301,238	\$ 8,590,059
Debt Service	779,257	778,791	781,889	783,744	784,327	783,599
Rate-Funded Capital Expenses	649,884	1,948,133	6,894,764	927,771	477,227	-
Total Use of Funds	\$ 8,348,566	\$ 9,985,208	\$ 15,188,106	\$ 9,479,488	\$ 9,562,791	\$ 9,373,658
Surplus (Deficiency) after Rate Increase	\$ 3,665,152	\$ 2,408,081	\$ (2,610,549)	\$ 2,835,613	\$ 2,767,852	\$ 2,971,267
Cumulative Rate Increases	0.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Net Revenue Requirement ²	\$ 7,907,229	\$ 9,251,093	\$ 14,530,101	\$ 9,083,939	\$ 9,151,700	\$ 8,948,285

1. Revenue from rate increases assume an implementation date of April 1, 2021.

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

Figure 3 summarizes the Capital Improvement Plan, providing the expected cost and timing of capital projects during the 5-year rate period. The American Rescue Plan Act (ARPA) grant monies, in which \$6 million are allocated to capital projects in the water enterprise fund are shown in this figure.

Figure 3. Summary of Capital Improvement Plan

CAPITAL FUNDING FORECAST Funding Sources:	Budget	Projected				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Grants ¹	\$ 779,663	\$ -	\$ 2,500,000	\$ -	\$ -	\$ -
Use of Capacity Reserve Fund ²	98,953	155,367	155,367	155,367	155,367	155,367
Use of American Rescue Plan Proceeds ³	-	1,380,000	4,620,000	-	-	-
Use of Capital Expenditure Reserve Fund	5,500,000	6,500,000	11,500,000	2,000,000	2,000,000	2,000,000
Rate Revenue	649,884	1,948,133	6,894,764	927,771	477,227	-
Total Sources of Capital Funds	\$ 7,028,500	\$ 9,983,500	\$25,670,131	\$ 3,083,138	\$ 2,632,594	\$ 2,155,367

- Grant Funding is per source file: *Enterprise Funds Budget 2020-21.pdf*, pages 21-32.
FY 2022/23 grant from updated CIP file: *Water CIP Table ARPA.xlsx*.
- Capacity Reserve Fund to fund some projects used for future customers only per *Water CIP Table ARPA.xlsx*.
This amount drains the DIF fund in order to contribute to projects over time.
- The City was awarded American Rescue Plan Act funds in which \$6 million is allocated to water capital projects.

Figure 4 summarizes the projected reserve fund balances and reserve targets for the water utility’s unrestricted reserve funds. The appendix tables include the detailed revenue requirements, reserve funds, revenue sources, proposed rate adjustments, and the City’s capital improvement program. As can be seen in Figure 4, given proposed rate adjustments, reserves will meet the minimum target all projected years, except FY 2022/23 through FY 2024/25, where reserves dip below targets in order to cash fund the capital improvement program that is not funded with ARPA funding.

Figure 4. Summary of Reserve Funds

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget	Projected				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Operating Reserve Fund						
Ending Balance	\$ 1,706,160	\$ 1,789,714	\$ 2,179,165	\$ 1,915,391	\$ 2,046,881	\$ 2,118,097
<i>Recommended Minimum Target</i>	<i>1,706,160</i>	<i>1,789,714</i>	<i>1,852,139</i>	<i>1,915,391</i>	<i>2,046,881</i>	<i>2,118,097</i>
Capital Outlay Reserve Fund						
Ending Balance	\$ 20,627,685	\$ 16,452,212	\$ 1,952,212	\$ 3,051,600	\$ 3,687,962	\$ 4,588,013
<i>Recommended Minimum Target</i>	<i>2,000,000</i>	<i>2,000,000</i>	<i>4,000,000</i>	<i>4,000,000</i>	<i>4,000,000</i>	<i>4,000,000</i>
Debt Service Reserve Fund						
Ending Balance	\$ 485,383	\$ 485,383	\$ 485,383	\$ 485,383	\$ 485,383	\$ 485,383
<i>Recommended Minimum Target</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>	<i>-</i>
Total Ending Balance	\$ 22,333,845	\$ 18,241,926	\$ 4,131,377	\$ 4,966,991	\$ 5,734,843	\$ 6,706,110
<i>Total Recommended Minimum Target</i>	<i>\$ 3,706,160</i>	<i>\$ 3,789,714</i>	<i>\$ 5,852,139</i>	<i>\$ 5,915,391</i>	<i>\$ 6,046,881</i>	<i>\$ 6,118,097</i>

C. Cost of Service Analysis

Once the net revenue requirements are determined, the cost-of-service analysis proportionately distributes the revenue requirements to each of the customer classes. The cost-of-service analysis consists of two major components: (1) the classification of expenses, and (2) the allocation of costs to customer classes. Costs were classified corresponding to the function they serve. All costs in the City’s budget are allocated to each component of the rate structure in proportion to the level of service required by customers. The levels of service are related to volumes of peak and non-peak demand, infrastructure capacity, and customer service. These are based on allocation factors, such as water consumption, peaking factors, and number of accounts

by meter size. Ultimately, a cost-of-service analysis is intended to result in rates that are proportional to the cost of providing service to each customer.

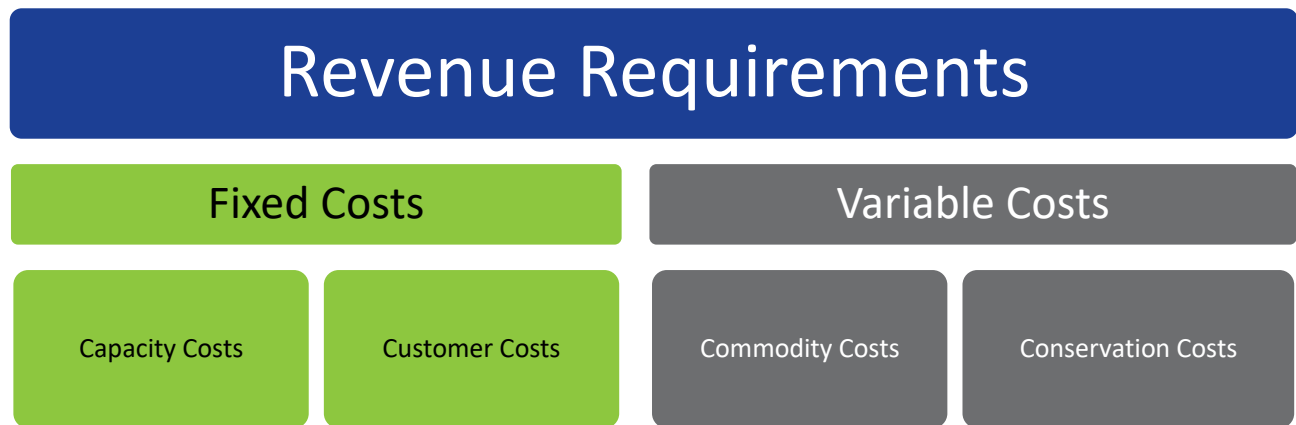
CLASSIFICATION OF COSTS

Most costs are not typically allocated 100 percent to fixed or variable categories and, therefore, are allocated to multiple functions of water service. Costs were classified using the commodity-demand method which is found in the AWWA M1 Manual⁵. In accordance with this method, budgeted costs were “classified” into four categories: base commodity, conservation, capacity, and customer. The classification process provides the basis for allocating costs to various customer classes based on the cost causation (classification) components described below:

- **Commodity related costs** are those that change as the volume of water produced and delivered changes. These commonly include the costs of water quality testing, energy related to pumping for transmission and distribution, and source of supply.
- **Conservation related costs** are associated with efforts made by the City to permanently reduce water usage.
- **Capacity related costs** are related with sizing facilities to meet the maximum, or peak demand. This includes both operating costs and capital infrastructure costs incurred to accommodate peak system capacity events.
- **Customer related costs** are correlated with having a customer on the water system, such as meter reading, postage, billing and other administrative duties.

The City’s budgeted costs were reviewed and allocated to these cost causation components which are used as the basis for establishing new water rates and translate to fixed and variable charges. Tables in the Appendix show how the City’s expenses were classified and allocated to these cost causation components. Additionally, each cost causation component is considered fixed or variable, as summarized in **Figure 5**.

Figure 5. Cost Classification Summary



Based on the City’s projected costs, the Cost-of-Service Analysis (COSA) resulted in a distribution that is approximately 36% fixed and 64% variable. The City’s current rate structure collects about 33% of rate

⁵ Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, seventh edition, 2017, p. 83.

revenue from fixed charges and 67% from variable charges. **Figure 6** summarizes the allocation of the net revenue requirements to each cost causation component for the proposed new rate structure.

Figure 6. Allocation of Water Revenue Requirements

Functional Category	Proposed Rates for FY 2021/22	
	Adjusted Net Revenue Requirements 36% Fixed / 64% Variable	
Commodity - Related Costs	\$ 7,040,993	59.1%
Conservation - Related Costs	\$ 636,235	5.3%
Capacity - Related Costs	\$ 2,774,431	23.3%
Customer - Related Costs	\$ 1,467,894	12.3%
Total	\$ 11,919,552	100%

CUSTOMER CLASSES

Customer classes are determined by combining customers with similar demand characteristics and types of use into categories that reflect the cost differentials to serve each type of customer. This process is limited by the desire to not overcomplicate the City’s rate structure.

For the City, the customer classes are split between single-family residential, multi-family residential, commercial, industrial, and irrigation. Single-family residential customers are separated from other customers for the purpose of the rate calculation because non single-family customers:

1. Are using more water on average per account.
2. Water usage varies greatly among these customers based on the specific type of customer and meter size.

The amount of consumption, the peaking factors, the number of meters, and the number of dwelling units by customer class are used in the cost-of-service analysis to allocate costs to customer classes and determine the appropriate rate structures for each. The City’s most recent consumption is summarized in **Figure 7**.

Commodity (and conservation) related costs are associated with the total annual consumption of water by customer class, as shown in Figure 7. This figure also shows the average monthly statistics for each customer class.

Figure 7. Commodity and Conservation Allocation Factors

Customer Class	Volume (hcf) ¹	Percent of Total Volume	Average Monthly Statistics		
			Winter	Annual	Summer
Single-Family	2,253,906	63.4%	8	15	22
Multi-Family	467,097	13.1%	9	12	17
Commercial	679,591	19.1%	42	70	103
Industrial	37,010	1.0%	101	134	168
Irrigation	115,456	3.2%	44	141	261
Total	3,553,060	100%			

1. Consumption is from January through December 2020.

Source files: September 2019 through August 2020: MAIS Meter Usage 12 Months_Manipulated.xlsx

September-December 2020: 2020 SEP-DEC Munis Water Usage_Manipulated.xlsx

As shown in **Figure 8**, the capacity related costs are determined from the peak monthly use of each customer class. The peaking factors of each customer class are also calculated in this figure.

Figure 8. Capacity Allocation Factor

Customer Class	Average Monthly Use (hcf)	Peak Monthly Use (hcf) ²	Peaking Factor	Max Monthly Capacity Factor
Single-Family	187,825	286,177	1.52	63.9%
Multi-Family	38,925	54,661	1.40	12.2%
Commercial	56,633	84,950	1.50	19.0%
Industrial	3,084	4,013	1.30	0.9%
Irrigation	9,621	18,378	1.91	4.1%
Total	296,088	448,180		100%

2. Based on peak monthly data (peak day data not available).

The number of customers for each customer class (also known as customer allocation factors) are shown in **Figure 9**.

Figure 9. Customer Allocation Factor

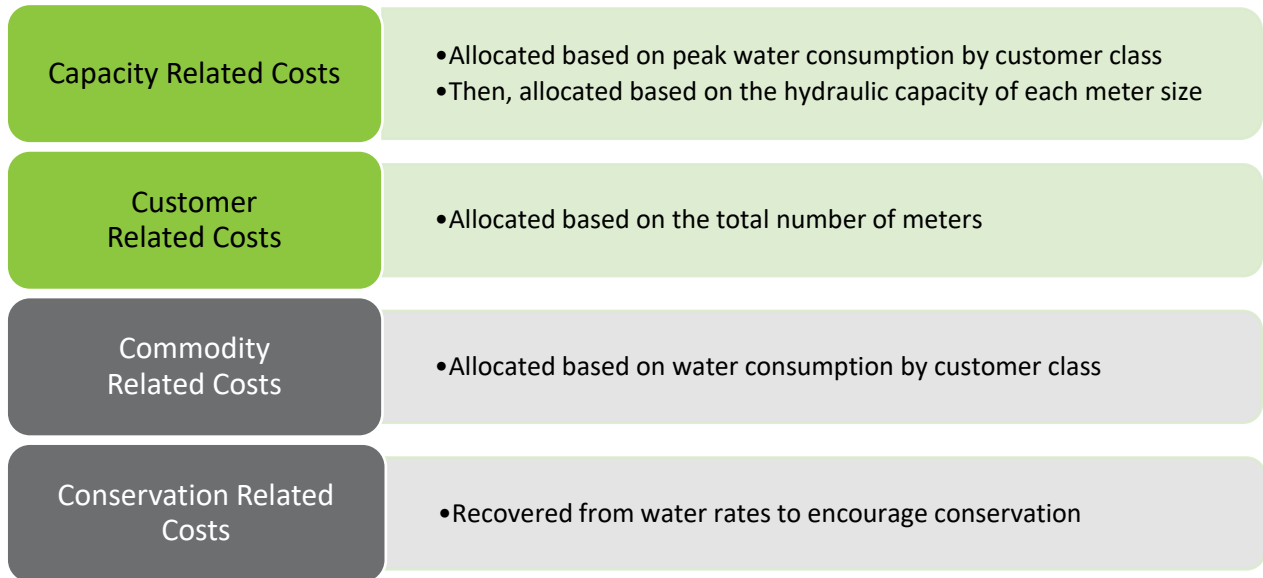
Customer Class	Number of Meters ¹	Percent of Total Accounts	Number of Units ¹	Percent of Total Units
Single-Family	12,663	89.8%	12,663	75.6%
Multi-Family	528	3.7%	3,183	19.0%
Commercial	813	5.8%	813	4.9%
Industrial	23	0.2%	23	0.1%
Irrigation	68	0.5%	68	0.4%
Total	14,095	100.0%	16,750	100.0%

1. Meter Count is from December 2020.

COSTS ALLOCATED TO CUSTOMER CLASSES

Costs are allocated to each customer class based on the customer characteristics of each class in order to reflect the cost differentials to serve each type of customer. **Figure 10** summarizes how the costs for each cost causation component from Figure 6 are allocated to each customer class.

Figure 10. Cost Allocation Methodology



The costs allocated to each causation component are assigned to each customer class using the cost allocation methodology described in Figure 10. This process is shown in the following sections.

Capacity Related Costs

The capacity related costs allocation is summarized in **Figure 11**. Capacity related costs are those costs associated with constructing and operating the water system to ensure there is sufficient capacity in the system to meet the demand of each meter connected. These costs are first allocated to customer classes based on monthly peak capacity factors and then by hydraulic capacity.

Larger meters have the potential to use more of the system’s capacity, compared to smaller meters. The potential capacity demanded is proportional to the maximum safe meter capacity (hydraulic capacity) of each meter size as established by the AWWA⁶. The meter capacity factors used in this study are shown in **Figure 12**.

A “hydraulic capacity factor” is calculated by dividing the maximum capacity or flow of large meters by the capacity of the base meter size, which is typically the most common residential meter size (in this case a 1-inch meter). For example, Figure 12 shows the hydraulic capacity of a two-inch meter is 3.20 times that of a 1-inch meter.

⁶ *Water Meters - Selection, Installation, Testing, and Maintenance, Manual of Water Supply Practices, M6, AWWA, fifth edition, 2027, p. 63.*

The actual number of meters by size is multiplied by the corresponding capacity ratios to calculate the total number of equivalent meters. The number of equivalent meters is used as a proxy for the potential demand that each customer can place on the water system and the percentage of capacity related costs distributed to each meter size by the Percent of Total Hydraulic Capacity.

Customer Related Costs

The customer related cost allocation is also summarized in **Figure 11**. Customer related costs are comprised of those costs related to reading and maintaining meters, customer billing and collection, and other customer service related costs. The customer service costs do not differ among the various meter sizes; therefore, these costs are spread equally among all meters. Each customer class is allocated customer related costs based upon the percentage of total meters that are in that class.

Figure 11. Capacity Related Costs and Customer Costs Allocation

Customer Classes	Classification Components		Cost of Service Net Rev. Req'ts	% of COS Net Revenue Req'ts
	Capacity - Related Costs	Customer - Related Costs		
Single-Family	\$ 1,771,559	\$ 1,109,728	\$ 2,881,287	67.9%
Multi-Family	338,377	278,944	617,321	14.6%
Commercial	525,881	71,248	597,128	14.1%
Industrial	24,844	2,016	26,859	0.6%
Irrigation	113,770	5,959	119,729	2.8%
Total Net Revenue Requirement	\$ 2,774,431	\$ 1,467,894	\$ 4,242,324	100%

Figure 12. Meter Equivalency Factors

Meter Size	Standard Meters ¹	
	Meter Capacity (gpm)	Equivalency to 1 inch
	<i>Displacement Meters</i>	
5/8 inch	20	0.40
3/4 inch	30	0.60
1 inch	50	1.00
1.5 inch	100	2.00
2 inch	160	3.20
	<i>Compound Class I Meters</i>	
3 inch	320	6.40
4 inch	500	10.00
6 inch	1,000	20.00
8 inch	1,600	32.00

1. Meter flow rates are from AWWA M-1 Table B-1.

Commodity and Conservation Related Costs

Commodity related costs are those costs related to the amount of water sold and commonly include the costs of chemicals used in the treatment process, energy related to pumping for transmission and distribution, and source of supply. Each customer class is allocated commodity related costs based upon the percentage of total consumption by that class. These costs are summarized in **Figure 13**.

Conservation related costs are those costs related to the water conservation program expenses in the City’s budget. These are also summarized by customer class in Figure 13.

Figure 13. Commodity and Conservation Cost Allocations

Customer Classes	Classification Components		Cost of Service Net Rev. Req'ts	% of COS Net Revenue Req'ts
	Commodity - Related Costs	Conservation - Related Costs		
Single-Family	\$ 4,466,498	\$ 403,600	\$ 4,870,097	63.4%
Multi-Family	925,633	83,642	1,009,275	13.1%
Commercial	1,346,725	121,692	1,468,417	19.1%
Industrial	73,342	6,627	79,969	1.0%
Irrigation	228,795	20,674	249,470	3.2%
Total Net Revenue Requirement	\$ 7,040,993	\$ 636,235	\$ 7,677,228	100%

The City currently has a three-tiered volumetric rate for single-family residential customers and a two-tiered volumetric rate structure for multi-family residential customers. Non-residential customers are charged on a single, uniform volumetric rate per unit of water.

Because of the City’s concern about the current tiered rate structure, NBS prepared two rate structure options for the City Council to decide from, a tiered rate structure and a uniform rate structure. Both options are revenue neutral, meaning they are designed to collect the same amount of revenue.

Option 1 is to eliminate tiers from residential customers and charge one uniform rate for single family residential, multi-family residential and non-residential customers.

Option 2 includes adjusting the tiered rate structure by changing the number of tiers to two for both single-family and multi-family residential customers, including updating the tier breakpoint, and maintaining the uniform rate for non-residential customers. In our analysis, we found that the City could only support two tiers from a cost of service analysis (the current rate structure has three tiers).

The Tier breakpoint was established based on the City’s current available water usage and expected consumption in each tier was determined based on customer class. The justification when setting the tier breakpoints includes:

1. Tier 1 breakpoint is set to assumed indoor water use based on single family residential average winter consumption of 8 units of water per month (HCF).
2. Tier 2 breakpoint is set to include all water usage over the average winter usage of 8 HCF.

The Multi-family tier breakpoint is set to equal the single-family residential breakpoints per multi-family unit. Both single-family and multi-family residential annual expected consumption values per proposed breakpoints are summarized in **Figure 14** and **Figure 15**.

Figure 14. Single-Family Residential Tier Breakpoint Consumption

Tier	Monthly Breakpoint ¹	Annual Expected Consumption ²	Percentage of Total SFR Consumption
Tier 1	8 hcf	1,215,648	54%
Tier 2	8+ hcf	1,038,258	46%
Total		2,253,906	100%

1. Tier 1 breakpoint set to provide basic indoor water needs.
2. Consumption is from January through December 2020 for residential customers.

Figure 15. Multi-Family Residential Tier Breakpoint Consumption

Tier	Monthly Breakpoint	Expected Consumption ¹	Percentage of Total MFR Consumption
Tier 1	8 hcf	305,568	65%
Tier 2	8+ hcf	161,529	35%
Total		467,097	100%

1. Consumption is from January through December 2020 for MFR customers.

D. Rate Design Analysis

The process of evaluating the water rate structure provides the opportunity to incorporate a number of rate-design objectives and policies, including revenue stability, equity among customer classes, and water conservation. The following sections describe this process.

NBS developed two water rate structures for the City to consider with the following components:

1. Maintain a monthly fixed charge designed to collect 36% of rate revenue.
2. Maintain a volumetric charge per unit of water designed to collect 64% of rate revenue:
3. Option 1
Eliminate tiered rate structure for single family residential customers and collect variable revenue from a single, uniform rate per hcf for single family residential, multi-family residential and non-residential customers.
- Option 2
 - a. Change the number of tiers from three for single family residential to two and maintain two tiers for multi-family residential customers.
 - b. Establish a new tier breakpoint based on recent consumption statistics and cost of service analysis.

FIXED CHARGES

The fixed meter charge recognizes that the water utility incurs fixed costs regardless of whether customers use any water. There are two components that comprise the fixed meter charge: the customer component and the capacity component, as described in the previous section. Using the costs allocated to each customer from Figure 11; **Figure 16** shows the calculations for the monthly charge for each customer class.

Figure 7. Calculated Fixed Meter Charges

Number of Meters by Class and Size ¹	5/8 inch	3/4 inch	1 inch	1 1/2 inch	2 inch	3 inch	4 inch	6 inch	8 inch
Single-Family	1	2	12,369	34	229	12	16	-	-
Multi-Family	-	1	416	11	91	2	1	4	2
Commercial	1	4	597	29	146	14	17	4	1
Industrial	-	-	13	3	4	2	1	-	-
Irrigation	-	-	46	3	14	3	2	-	-
Total Meters/Accounts	2	7	13,441	80	484	33	37	8	3
<i>Hydraulic Capacity Factor</i> ²	0.40	0.60	1.00	2.00	3.20	6.40	10.00	20.00	32.00
Total Equivalent Meters	0.8	4.2	13,441	160	1,548.8	211.2	370	160	96
Monthly Fixed Service Charges									
Customer Costs (\$/Acct/month) ³	\$8.68	\$8.68	\$8.68	\$8.68	\$8.68	\$8.68	\$8.68	\$8.68	\$8.68
Capacity Costs (\$/Acct/month) ⁴	\$5.78	\$8.67	\$14.46	\$28.91	\$46.26	\$92.53	\$144.57	\$289.15	\$462.64
Total Monthly Meter Charge	\$14.46	\$17.35	\$23.14	\$37.59	\$54.94	\$101.21	\$153.25	\$297.83	\$471.32

1. Number of meters by size and customer class for December 2020.
Source file: 2020 SEP-DEC Munis Water Usage_Manipulated.xlsx
2. Source file: AWWA Manual M1, "Principles of Water Rates, Fees, and Charges", Table B-1.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

VARIABLE CHARGES

NBS is recommending two options regarding rate structure for collecting variable rates per hcf of water used.

Using the costs allocated to volumetric charges including water conservation shown in Figure 13, **Figure 17** shows the calculation for Option 1; a uniform rate per hcf for all residential and non-residential customers. **Figure 18** shows the calculation per unit volumetric charge for each consumption tier for Option 2. For Residential customers, the base volumetric rate is the Tier 1 rate. The Tier 2 rate for Option 2 is calculated in **Figure 19**, incorporating water conservation costs into the higher tier.

Figure 17. Calculated Variable Charges – Option 1

Customer Classes	Water Consumption (hcf/yr.) ¹	Commodity - Related Costs	Conservation- Related Costs	Target Rev. Req't from Vol. Charges	Cost Per Unit of Water (\$/hcf)	Base Volumetric Rates (\$/hcf)
	a	b	c	d = b+c	d / a	
Single-Family	2,253,906	\$ 4,466,498	\$ 403,600	\$ 4,870,097	\$2.16	\$2.16
Multi-Family	467,097	925,633	83,642	1,009,275	\$2.16	
Commercial	679,591	1,346,725	121,692	1,468,417	\$2.16	\$2.16
Industrial	37,010	73,342	6,627	79,969	\$2.16	
Irrigation	115,456	228,795	20,674	249,470	\$2.16	
Total	3,553,060	\$ 7,040,993	\$ 636,235	\$ 7,677,228		

1. Consumption by customer class from January-December 2020.
Source files: September 2019 through August 2020: MAIS Meter Usage 12 Months_Manipulated.xlsx
September-December 2020: 2020 SEP-DEC Munis Water Usage_Manipulated.xlsx

Figure 18. Calculated Variable Charges – Option 2

Customer Classes	Water Consumption (hcf/yr.) ¹	Commodity - Related Costs	Conservation- Related Costs	Target Rev. Req't from Vol. Charges	Cost Per Unit of Water (\$/hcf)	Base Volumetric Rates (\$/hcf)
	a	b	c	d = b+c	d / a	
Single-Family	2,253,906	\$ 4,466,498	<i>Shown in Figure 19</i>	\$ 4,466,498	\$1.98	\$1.98
Multi-Family	467,097	925,633		925,633	\$1.98	
Commercial	679,591	1,346,725	\$ 121,692	1,468,417	\$2.16	\$2.16
Industrial	37,010	73,342	6,627	79,969	\$2.16	
Irrigation	115,456	228,795	20,674	249,470	\$2.16	
Total	3,553,060	\$ 7,040,993	\$ 148,994	\$ 7,189,986		

1. Consumption by customer class from January-December 2020.

Source files: September 2019 through August 2020: MAIS Meter Usage 12 Months_Manipulated.xlsx
September-December 2020: 2020 SEP-DEC Munis Water Usage_Manipulated.xlsx

Figure 19. Calculated Tiered Variable Charges for Residential Customers – Option 2 continued

Customer Classes	Tier Break	Est. Water Consumption (hcf/yr.)	Conservation- Related Costs	Base Rate	Conservation Costs Allocated to Tier 2	Cost Per Unit of Water (\$/hcf)	Estimated Revenue
		a	b		b / a		
SFR and MFR							
Tier 1	8 hcf	1,521,216	\$ -	\$1.98		\$1.98	\$ 3,012,008
Tier 2	8+ hcf	1,199,787	\$ 487,242	\$1.98	\$ 0.41	\$2.39	\$ 2,867,491
Total		2,721,003	\$ 487,242				\$ 5,879,498
Target Revenue Requirement from Volumetric Charges		Commodity	Non-Res. Conservation	Total			
		c	d	b+c+d			
		\$ 7,040,993	\$ 148,994	\$ 7,677,228			

E. Proposed Water Rates

The cost-of-service analysis is used to establish the rates for the first year in the five-year rate plan, FY 2021/22. In the subsequent four years of the rate planning period, proposed charges are simply adjusted by the proposed adjustment in total rate revenue needed, to meet projected revenue requirements. **Figure 20** provides a comparison of the proposed rates for FY 2021/21 through FY 2025/26. More detailed tables on the development of the proposed charges are documented in the Appendix.

Figure 20. Proposed Water Rates

Water Rate Schedule	Current Rates	Proposed Rates				
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Fixed Meter Charges						
<u>Monthly Fixed Service Charges:</u>						
5/8 inch	\$16.88	\$14.46	\$14.46	\$14.46	\$14.46	\$14.46
3/4 inch	\$19.09	\$17.35	\$17.35	\$17.35	\$17.35	\$17.35
1 inch	\$23.51	\$23.14	\$23.14	\$23.14	\$23.14	\$23.14
1.5 inch	\$34.56	\$37.59	\$37.59	\$37.59	\$37.59	\$37.59
2 inch	\$47.82	\$54.94	\$54.94	\$54.94	\$54.94	\$54.94
3 inch	\$89.81	\$101.21	\$101.21	\$101.21	\$101.21	\$101.21
4 inch	\$151.69	\$153.25	\$153.25	\$153.25	\$153.25	\$153.25
6 inch	\$299.76	\$297.83	\$297.83	\$297.83	\$297.83	\$297.83
8 inch	\$542.86	\$471.32	\$471.32	\$471.32	\$471.32	\$471.32
Commodity Charges						
<u>Rate per hcf of Water Consumed:</u>						
Non-Residential	\$2.41	\$2.16	\$2.16	\$2.16	\$2.16	\$2.16
OPTION 1						
Residential Uniform Rates	N/A	\$2.16	\$2.16	\$2.16	\$2.16	\$2.16
OPTION 2						
Tiered Rate - All Residential Customers:						
	<u>Proposed Break</u>					
Tier 1	0 - 8 hcf	\$1.93	\$1.98	\$1.98	\$1.98	\$1.98
Tier 2	8+ hcf	\$2.40	\$2.39	\$2.39	\$2.39	\$2.39
Tier 3	N/A	\$3.68	N/A	N/A	N/A	N/A

F. Comparison of Current and Proposed Water Bills

Figure 21 and **Figure 22** compare a range of monthly water bills for the current and proposed water rates for single-family residential customers (with a 1-inch meter), and commercial customers (with a 1-inch meter). This comparison is for the first year increase only. These monthly bills are based on typical meter sizes, and the average consumption levels for each customer class are highlighted. The rates without the ARPA funding are also shown for informational purposes.

Figure 23 and **Figure 24** summarize bill comparisons against regional Utilities for both single-family residential and commercial customers.

Figure 21. Monthly Bill Comparison for Single Family Customers (1-inch meters)

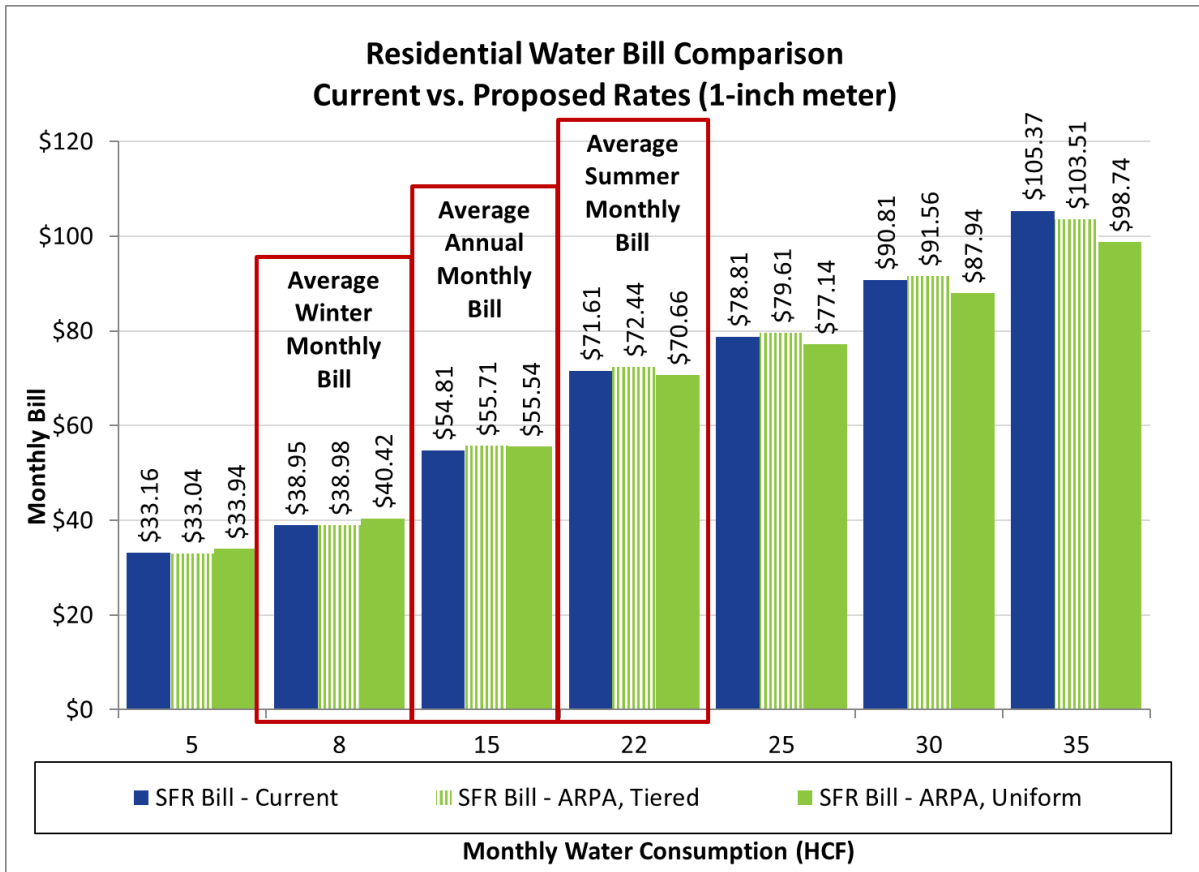


Figure 22. Monthly Water Bill Comparison for Commercial Customers (1-inch meters)

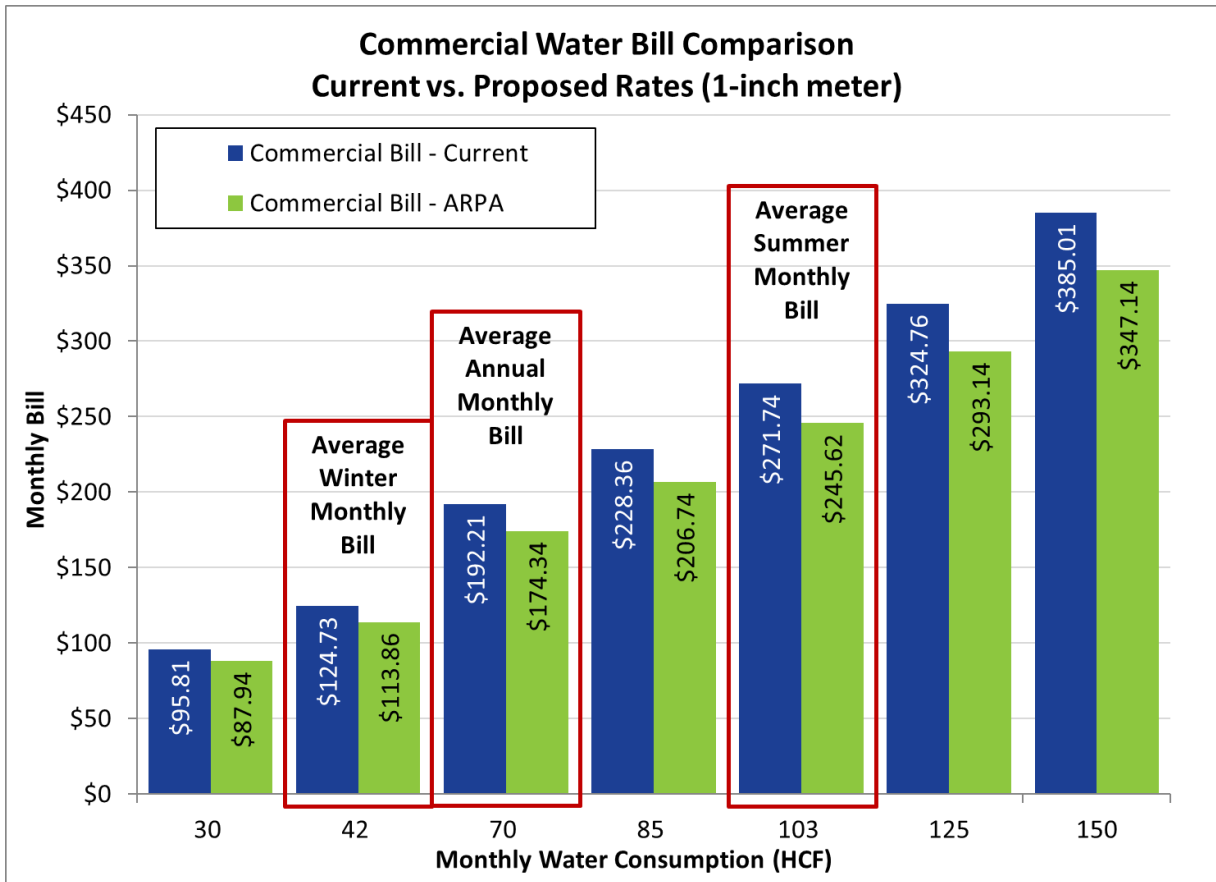


Figure 23. Regional Bill Comparison for Single-Family Customers

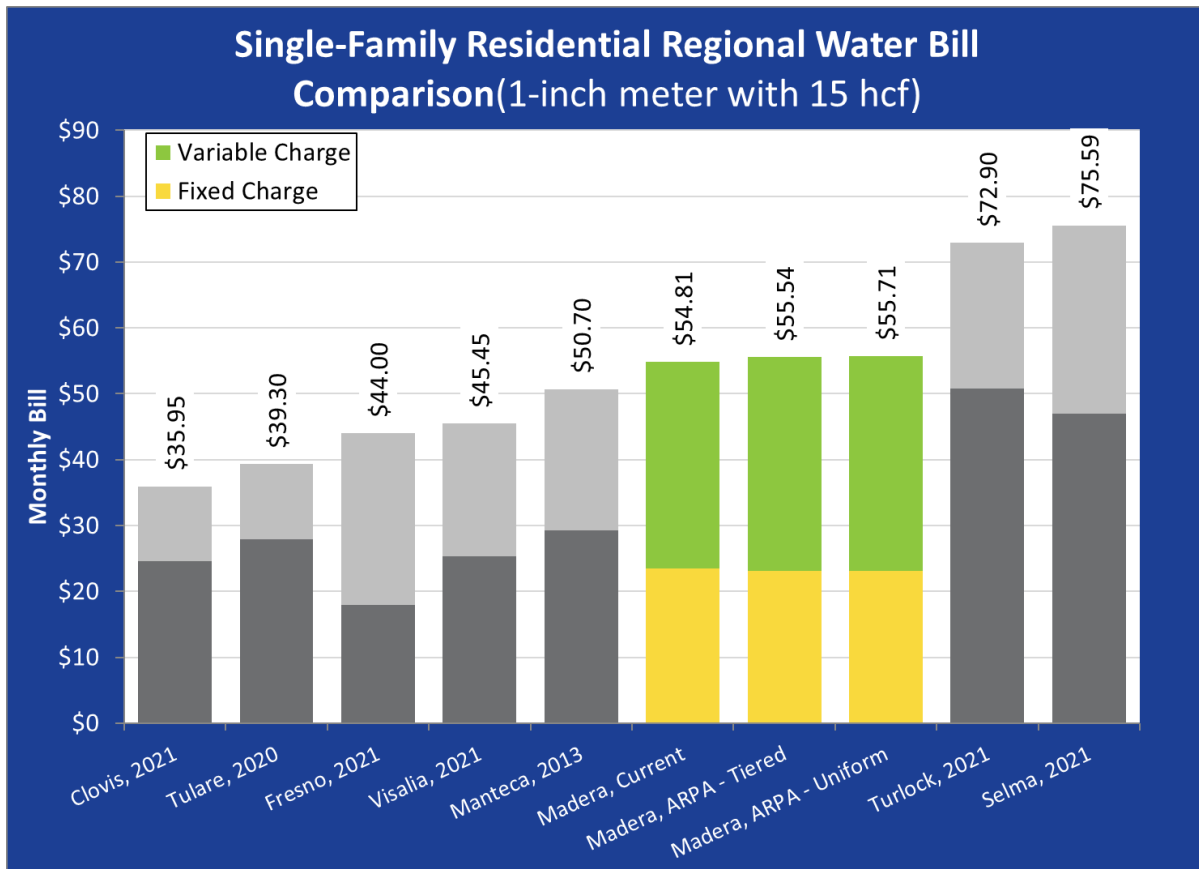
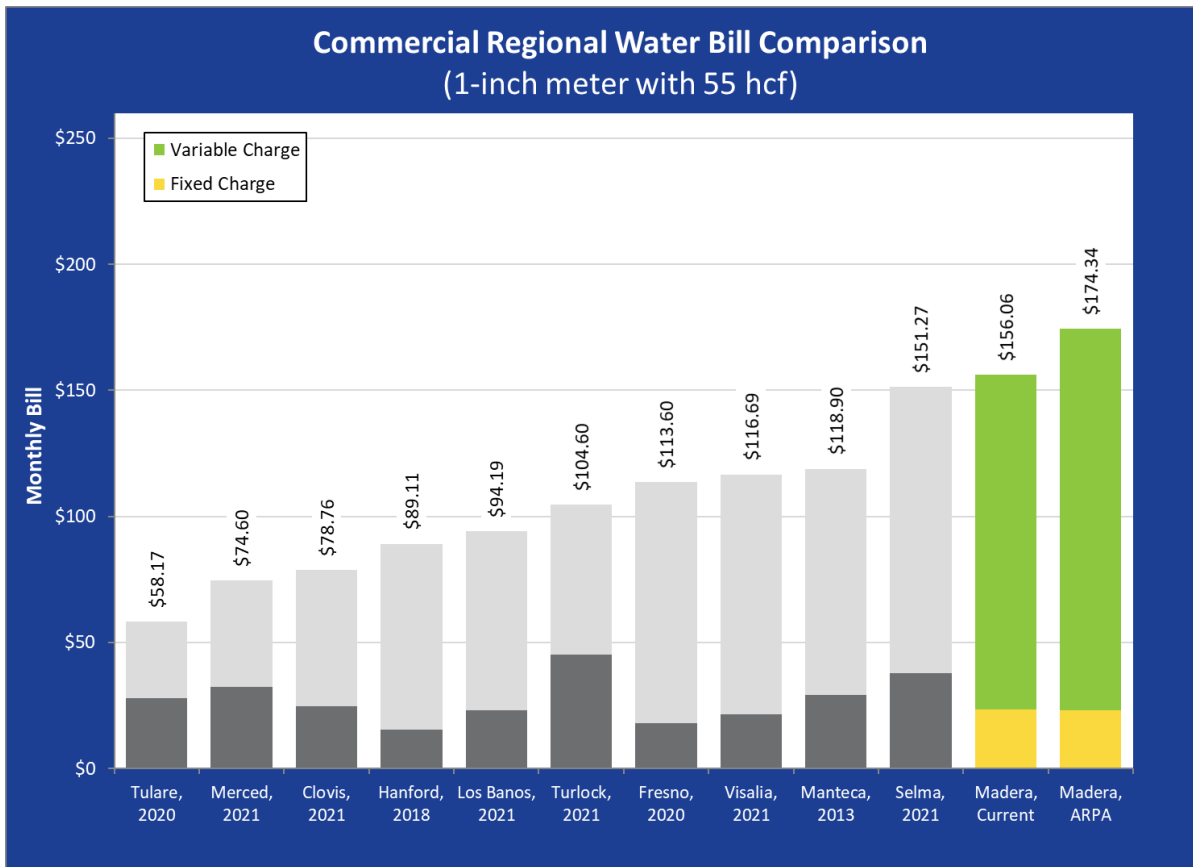


Figure 24. Regional Bill Comparison for Commercial Customers



G. Drought Rate Analysis

Should conservation increase beyond currently expected levels, the City is still obligated to meet its annual net revenue requirements. To this end, drought rates have been updated so that if total consumption should decrease further due to an increase in conservation required by the State, another regulatory agency, or if the City Council declares that it is in more severe drought stages, the City would still be kept whole. In the event that consumption decreases beyond projected baseline consumption levels, some costs will also decrease, and the proposed drought rates have taken this reduced revenue need into consideration. For FY 2021/22, **Figure 25** calculates expected savings due to conservation. The conservation impact on consumption for SFR customers is the most difficult to predict. **Figure 26** shows how drought rates were developed for FY 2021/22 at 10% conservation for both options of volumetric rates (tiered and uniform). The rates for each increased stage of drought (20% through 60%) were developed in the same manner. **Figure 27** summarizes the drought rates across all stages of conservation.

Figure 25. Net Revenue Requirements Impacted by Conservation

Percentage of Conservation	Total Consumption (hcf)	Base Commodity Cost	Impacted Commodity Cost	Savings	Adjusted Commodity Cost
<i>a</i>		<i>b</i>	<i>c</i>	$d = (-a) * c$	$e = b + d$
0%	3,553,060	\$ 7,677,228	\$ 7,040,993	\$ -	\$ 7,677,228
10%	3,197,754	\$ 7,677,228	\$ 7,040,993	\$ (704,099)	\$ 6,973,129
20%	2,842,448	\$ 7,677,228	\$ 7,040,993	\$ (1,408,199)	\$ 6,269,030
30%	2,487,142	\$ 7,677,228	\$ 7,040,993	\$ (2,112,298)	\$ 5,564,930
40%	2,131,836	\$ 7,677,228	\$ 7,040,993	\$ (2,816,397)	\$ 4,860,831
50%	1,776,530	\$ 7,677,228	\$ 7,040,993	\$ (3,520,496)	\$ 4,156,732
60%	1,421,224	\$ 7,677,228	\$ 7,040,993	\$ (4,224,596)	\$ 3,452,632

Figure 26. Calculation of Commodity Costs at 10% Conservation

Rate Structure Type	Water Consumption (hcf/yr.) ¹	Percentage of Water Consumption	Adjusted Commodity Cost	Commodity Cost at 10% Conservation	Conservation Related Costs	Drought Rates
	<i>a</i>	<i>b</i>	<i>c</i>	$d = b \times c$	<i>e</i>	$(d+e)/a$
Residential Uniform						
Single-Family	2,028,515	63.5%	\$ 6,973,129	\$ 4,427,937	\$ 403,600	\$2.38
Multi-Family	420,388	13.1%	\$ 6,973,129	\$ 913,480	\$ 83,642	\$2.38
All Other Customers - Uniform	748,851	23.4%	\$ 6,973,129	\$ 1,631,712	\$ 148,994	\$2.38
TOTAL	3,197,754	100%		\$ 6,973,129	\$ 636,235	
OPTION 2 - Residential Tiered Rates						
Tiered Potable Tier 1	1,369,094	42.8%	\$ 6,973,129	\$ 2,985,493	\$ -	\$2.18
Commodity Rate Tier 2	1,079,808	33.8%	\$ 6,973,129	\$ 2,354,666	\$ 487,242	\$2.63
All Other Customers - Uniform	748,851	23.4%	\$ 6,973,129	\$ 1,632,970	\$ 148,994	\$2.38
TOTAL	3,197,754	100.0%		\$ 6,973,129	\$ 636,235	

1. Consumption by customer class from January-December 2020.

Source files: September 2019 through August 2020: MAIS Meter Usage 12 Months_Manipulated.xlsx

September-December 2020: 2020 SEP-DEC Munis Water Usage_Manipulated.xlsx

Figure 27. Proposed Drought Rates

Water Rate Schedule	Current Rates	Proposed Rates				
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Drought Rate Charges						
<u>Rate per hcf of Water Consumed:</u>						
Non-Residential						
10% Conservation	N/A	\$2.38	\$2.38	\$2.38	\$2.38	\$2.38
20% Conservation	N/A	\$2.43	\$2.43	\$2.43	\$2.43	\$2.43
30% Conservation	N/A	\$2.50	\$2.50	\$2.50	\$2.50	\$2.50
40% Conservation	N/A	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58
50% Conservation	N/A	\$2.70	\$2.70	\$2.70	\$2.70	\$2.70
60% Conservation	N/A	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88
Residential Uniform Rates						
10% Conservation	N/A	\$2.38	\$2.38	\$2.38	\$2.38	\$2.38
20% Conservation	N/A	\$2.43	\$2.43	\$2.43	\$2.43	\$2.43
30% Conservation	N/A	\$2.50	\$2.50	\$2.50	\$2.50	\$2.50
40% Conservation	N/A	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58
50% Conservation	N/A	\$2.70	\$2.70	\$2.70	\$2.70	\$2.70
60% Conservation	N/A	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88
OPTION 2						
Tiered Rate - Residential Customers:						
10% Conservation						
Tier 1	N/A	\$2.18	\$2.18	\$2.18	\$2.18	\$2.18
Tier 2	N/A	\$2.63	\$2.63	\$2.63	\$2.63	\$2.63
20% Conservation						
Tier 1	N/A	\$2.21	\$2.21	\$2.21	\$2.21	\$2.21
Tier 2	N/A	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71
30% Conservation						
Tier 1	N/A	\$2.24	\$2.24	\$2.24	\$2.24	\$2.24
Tier 2	N/A	\$2.82	\$2.82	\$2.82	\$2.82	\$2.82
40% Conservation						
Tier 1	N/A	\$2.28	\$2.28	\$2.28	\$2.28	\$2.28
Tier 2	N/A	\$2.96	\$2.96	\$2.96	\$2.96	\$2.96
50% Conservation						
Tier 1	N/A	\$2.34	\$2.34	\$2.34	\$2.34	\$2.34
Tier 2	N/A	\$3.15	\$3.15	\$3.15	\$3.15	\$3.15
60% Conservation						
Tier 1	N/A	\$2.43	\$2.43	\$2.43	\$2.43	\$2.43
Tier 2	N/A	\$3.44	\$3.44	\$3.44	\$3.44	\$3.44

SECTION 3. RECOMMENDATIONS AND NEXT STEPS

A. Consultant Recommendations

NBS recommends the City take the following actions:

Approve and accept this Study: NBS recommends the City Council formally approve and adopt this Study and its recommendations and proceed with the steps required to implement the chosen rate structure. This will provide documentation of the rate study analyses and the basis for analyzing potential changes to future rates.

Implement Recommended Levels of Rate Adjustments and Proposed Rates: Based on successfully meeting the Proposition 218 procedural requirements, the City Council should proceed with implementing the 5-year schedule of proposed rates and rate adjustments previously shown in Figure 20. This will help ensure the continued financial health of City's water utility.

B. Next Steps

Annually Review Rates and Revenue – Any time an agency adopts new utility rates or rate structures, 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 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.

Note: The attached Appendix provide more detailed information on the analysis of the water revenue requirements, cost-of-service analysis and cost allocations, and the rate design analyses that have been summarized in this report.

C. NBS' Principal Assumptions and Considerations

In preparing this report and the opinions and recommendations included herein, NBS has relied on a number of principal assumptions and considerations with regard to financial matters, conditions, and events that may occur in the future. This information and these assumptions, including City's budgets, capital improvement costs, and information from City staff 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 and 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.

Appendix: Detailed Water Study Tables and Figures

a.Appendix: Detailed Water Study Tables and Figures

TABLE 1 : FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

5-Year Rate Period

RATE REVENUE REQUIREMENTS SUMMARY ¹	Budget	Projected				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Sources of Water Funds						
<i>Rate Revenue:</i>						
Water Sales Revenue Under Current Rates	\$ 11,572,381	\$ 11,572,381	\$ 11,572,381	\$ 11,572,381	\$ 11,572,381	\$ 11,572,381
Revenue from Rate Increases	-	86,793	347,171	347,171	347,171	347,171
Subtotal: Rate Revenue After Rate Increases	11,572,381	11,659,174	11,919,552	11,919,552	11,919,552	11,919,552
<i>Non-Rate Revenue:</i>						
Licenses & Permits	\$ 19,498	\$ 19,498	\$ 19,498	\$ 19,498	\$ 19,498	\$ 19,498
Fines & Forfeiture	242,633	242,633	242,633	242,633	242,633	242,633
Other Charges for Services	47,223	47,223	47,223	47,223	47,223	47,223
Refunds	5,025	5,025	5,025	5,025	5,025	5,025
Other Revenue	4,326	4,326	4,326	4,326	4,326	4,326
Interest Income	122,632	415,410	339,300	76,844	92,386	106,668
Subtotal: Non-Rate Revenue	441,337	734,115	658,005	395,549	411,091	425,373
Total Sources of Funds	\$ 12,013,718	\$ 12,393,288	\$ 12,577,557	\$ 12,315,101	\$ 12,330,643	\$ 12,344,926
Uses of Water Funds						
<i>Operating Expenses</i>						
Salaries & Benefits	\$ 2,077,694	\$ 2,281,084	\$ 2,392,253	\$ 2,500,273	\$ 2,878,338	\$ 3,004,559
Materials & Services	2,406,078	2,510,800	2,620,400	2,735,100	2,854,900	2,980,300
Interfund Charges	1,398,374	1,401,000	1,403,600	1,406,300	1,409,000	1,411,800
Special Payments	579,254	607,300	637,100	668,200	700,900	735,300
Water Conservation Program	355,640	355,600	355,600	355,600	355,600	355,600
Capital Outlay	750	800	800	800	800	800
Transfer Out	101,635	101,700	101,700	101,700	101,700	101,700
Subtotal: Operating Expenses	\$ 6,919,425	\$ 7,258,284	\$ 7,511,453	\$ 7,767,973	\$ 8,301,238	\$ 8,590,059
<i>Other Expenditures:</i>						
Existing Debt Service	\$ 779,257	\$ 778,791	\$ 781,889	\$ 783,744	\$ 784,327	\$ 783,599
Rate-Funded Capital Expenses	649,884	1,948,133	6,894,764	927,771	477,227	-
Subtotal: Other Expenditures	\$ 1,429,141	\$ 2,726,924	\$ 7,676,653	\$ 1,711,515	\$ 1,261,553	\$ 783,599
Total Uses of Water Funds	\$ 8,348,566	\$ 9,985,208	\$ 15,188,106	\$ 9,479,488	\$ 9,562,791	\$ 9,373,658
Annual Surplus/(Deficit)	\$ 3,665,152	\$ 2,408,081	\$ (2,610,549)	\$ 2,835,613	\$ 2,767,852	\$ 2,971,267
Net Revenue Req't. (Total Uses less Non-Rate Revenue)	\$ 7,907,229	\$ 9,251,093	\$ 14,530,101	\$ 9,083,939	\$ 9,151,700	\$ 8,948,285
<i>Net Revenue Requirement Increase (Decrease) Each Year</i>		17%	57%	-37%	1%	-2%
Projected Annual Rate Revenue Adjustment	0.00%	3.00%	0.00%	0.00%	0.00%	0.00%
<i>Cumulative Increase from Annual Revenue Increases</i>	0.00%	3.00%	3.00%	3.00%	3.00%	3.00%
<i>Debt Coverage After Rate Increase</i>	6.54	6.59	6.48	5.80	5.14	4.79

1. Revenue and expenses for FY 2019/20 through FY 2020/21 are from source file: Enterprise Funds Budget 2020-21.pdf, pages 21-32.

TABLE 2 : RESERVE FUND SUMMARY

5-Year Rate Period

SUMMARY OF CASH ACTIVITY UN-RESTRICTED RESERVES	Projected					
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Total Beginning Cash ^{1,2,3}	\$ 24,654,076	\$ 22,819,228	\$ 18,727,309	\$ 4,616,761	\$ 5,452,374	\$ 6,220,226
Water Operating Reserve Fund						
Beginning Reserve Balance ¹	\$ 1,500,000	\$ 1,706,160	\$ 1,789,714	\$ 2,179,165	\$ 1,915,391	\$ 2,046,881
Plus: Net Cash Flow (After Rate Increases)	3,665,152	2,408,081	(2,610,549)	2,835,613	2,767,852	2,971,267
Less: Transfer Out to Capital Replacement Reserve	(3,458,993)	(2,324,527)	3,000,000	(3,099,388)	(2,636,362)	(2,900,051)
Ending Operating Reserve Balance	\$ 1,706,160	\$ 1,789,714	\$ 2,179,165	\$ 1,915,391	\$ 2,046,881	\$ 2,118,097
Target Ending Balance (90-days of O&M) ³	\$ 1,706,160	\$ 1,789,714	\$ 1,852,139	\$ 1,915,391	\$ 2,046,881	\$ 2,118,097
Capital Outlay Reserve Fund						
Beginning Reserve Balance	\$ 22,668,693	\$ 20,627,685	\$ 16,452,212	\$ 1,952,212	\$ 3,051,600	\$ 3,687,962
Plus: Transfer of Operating Reserve Surplus	3,458,993	2,324,527	(3,000,000)	3,099,388	2,636,362	2,900,051
Less: Use of Reserves for Capital Projects	(5,500,000)	(6,500,000)	(11,500,000)	(2,000,000)	(2,000,000)	(2,000,000)
Ending Capital Rehab & Replacement Reserve Balance	\$ 20,627,685	\$ 16,452,212	\$ 1,952,212	\$ 3,051,600	\$ 3,687,962	\$ 4,588,013
Target Ending Balance (6% of Net Assets = \$3M) ⁴	\$ 2,000,000	\$ 2,000,000	\$ 4,000,000	\$ 4,000,000	\$ 4,000,000	\$ 4,000,000
Ending Balance	\$ 22,333,845	\$ 18,241,926	\$ 4,131,377	\$ 4,966,991	\$ 5,734,843	\$ 6,706,110
Minimum Target Ending Balance	\$ 3,706,160	\$ 3,789,714	\$ 5,852,139	\$ 5,915,391	\$ 6,046,881	\$ 6,118,097
Ending Surplus/(Deficit) Compared to Reserve Targets	\$ 18,627,685	\$ 14,452,212	\$ (1,720,762)	\$ (948,400)	\$ (312,038)	\$ 588,013
Restricted Reserves:						
Debt Service Reserve Fund						
Beginning Reserve Balance ⁵	\$ 485,383	\$ 485,383	\$ 485,383	\$ 485,383	\$ 485,383	\$ 485,383
Plus: Reserve Funding from New Debt Obligations	-	-	-	-	-	-
Less: Transfer of Surplus to Operating Reserve	-	-	-	-	-	-
Ending Debt Reserve Balance	\$ 485,383	\$ 485,383	\$ 485,383	\$ 485,383	\$ 485,383	\$ 485,383
Target Ending Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Development Impact Fee Reserve Fund						
Beginning Reserve Balance ⁶	\$ (56,414)	\$ -	\$ -	\$ -	\$ -	\$ -
Plus: Water Pipe Dev. Impact Fee Revenue ⁷	57,207	57,207	57,207	57,207	57,207	57,207
Plus: Water Well Dev. Impact Fee Revenue ⁷	98,160	98,160	98,160	98,160	98,160	98,160
Plus: Interest Revenue	-	-	-	-	-	-
Less: Use of Reserves for Capital Projects	(98,953)	(155,367)	(155,367)	(155,367)	(155,367)	(155,367)
Ending DIF Reserve Fund Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Annual Interest Earnings Rate ⁸	0.00%	1.86%	1.86%	1.86%	1.86%	1.86%

- Revenue and expenses for FY 2019/20 through FY 2020/21 are from source file: *Enterprise Funds Budget 2020-21.pdf, pages 21-32.*
- Beginning cash balance for the Water Fund is found in CAFR. Source File: *FY-2018-2019-Comprehensive-Annual-Financial-Report.pdf, Page 42.*
City staff updated beginning cash balance on 05-04-21.
- NBS Recommends keeping the Operating Reserve Fund target at 90 days of operating and maintenance expenses.
Source file: *Rate Study 2015.pdf, Section 2.1.4, Page 15.*
- NBS recommends keeping the Capital Outlay Reserve to a minimum of 6% of net assets.
- Beginning cash balance for Restricted Cash and Investments in source file: *FY-2018-2019-Comprehensive-Annual-Financial-Report.pdf, Page 42.*
- Beginning cash balance for development impact fee funds 4080, 4081 and 4082 from City staff in source file: *Water and Sewer DIF FB 7-1-20.xlsx*
- Development Impact Fee revenue from current budget: *FY-20-21-Adopted-Budget-City-of-Madera.pdf, pages 346-348.*
- City's actual or budgeted interest earnings are used in analysis for unrestricted reserves in FY 2020/21. For 2021/22 and beyond, interest earning rates are estimated at the 3-year average (FY '17/18 - '19/20) for funds invested in LAIF, per the California Treasurer's Office website, for the restricted reserves.
Source: <https://www.treasurer.ca.gov/pmia-laif/historical/annual.asp>.

CHART 1

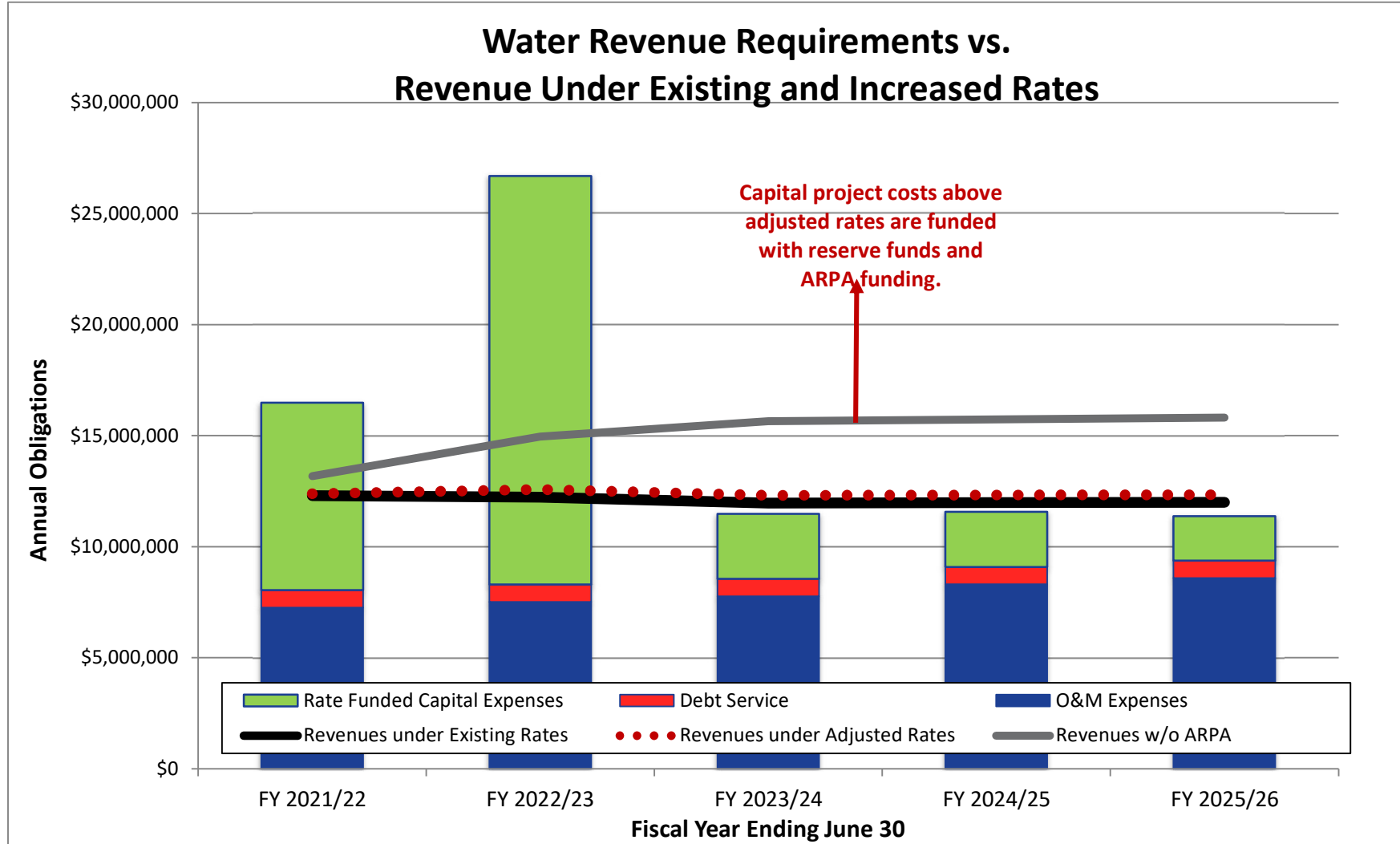


CHART 2

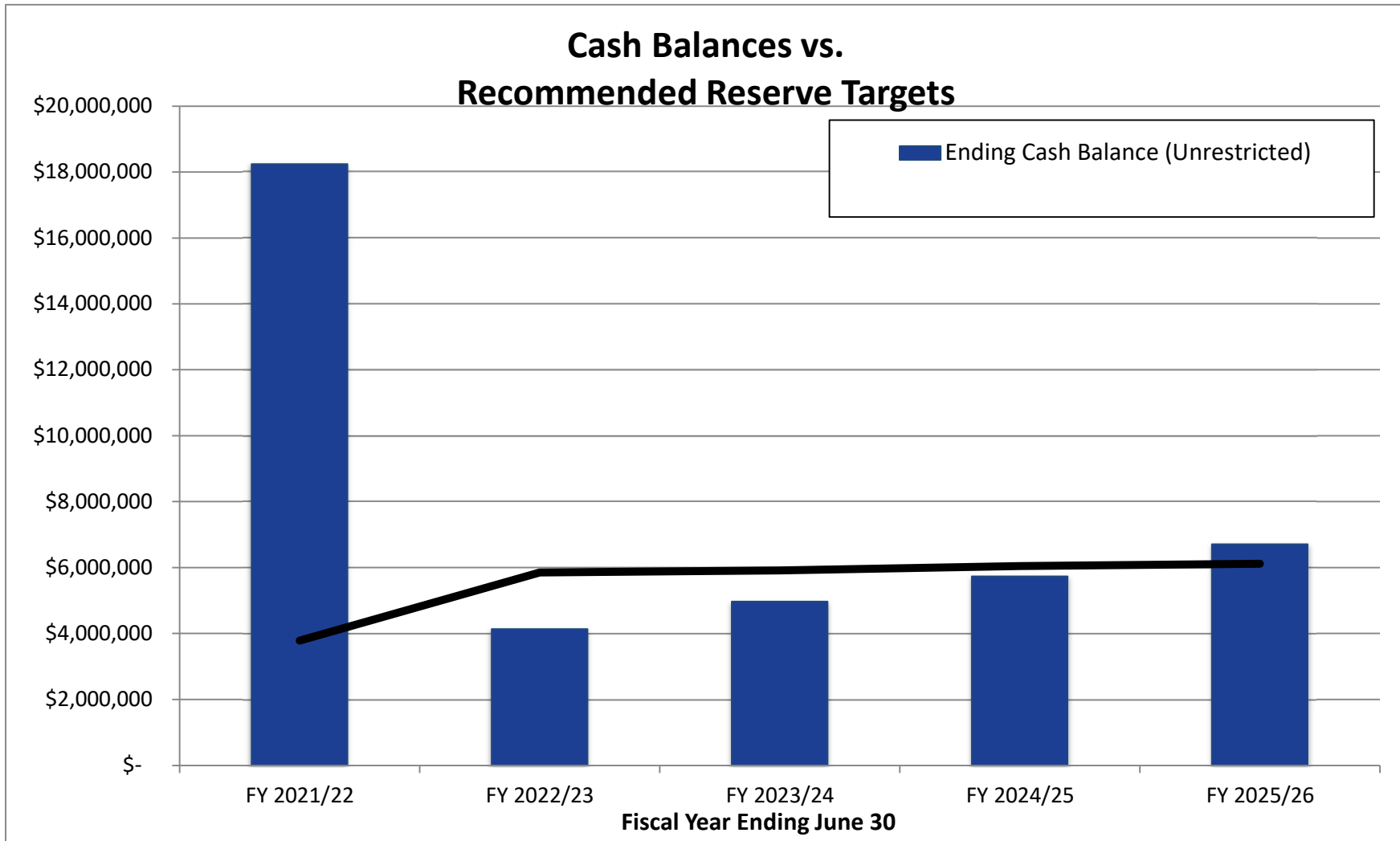
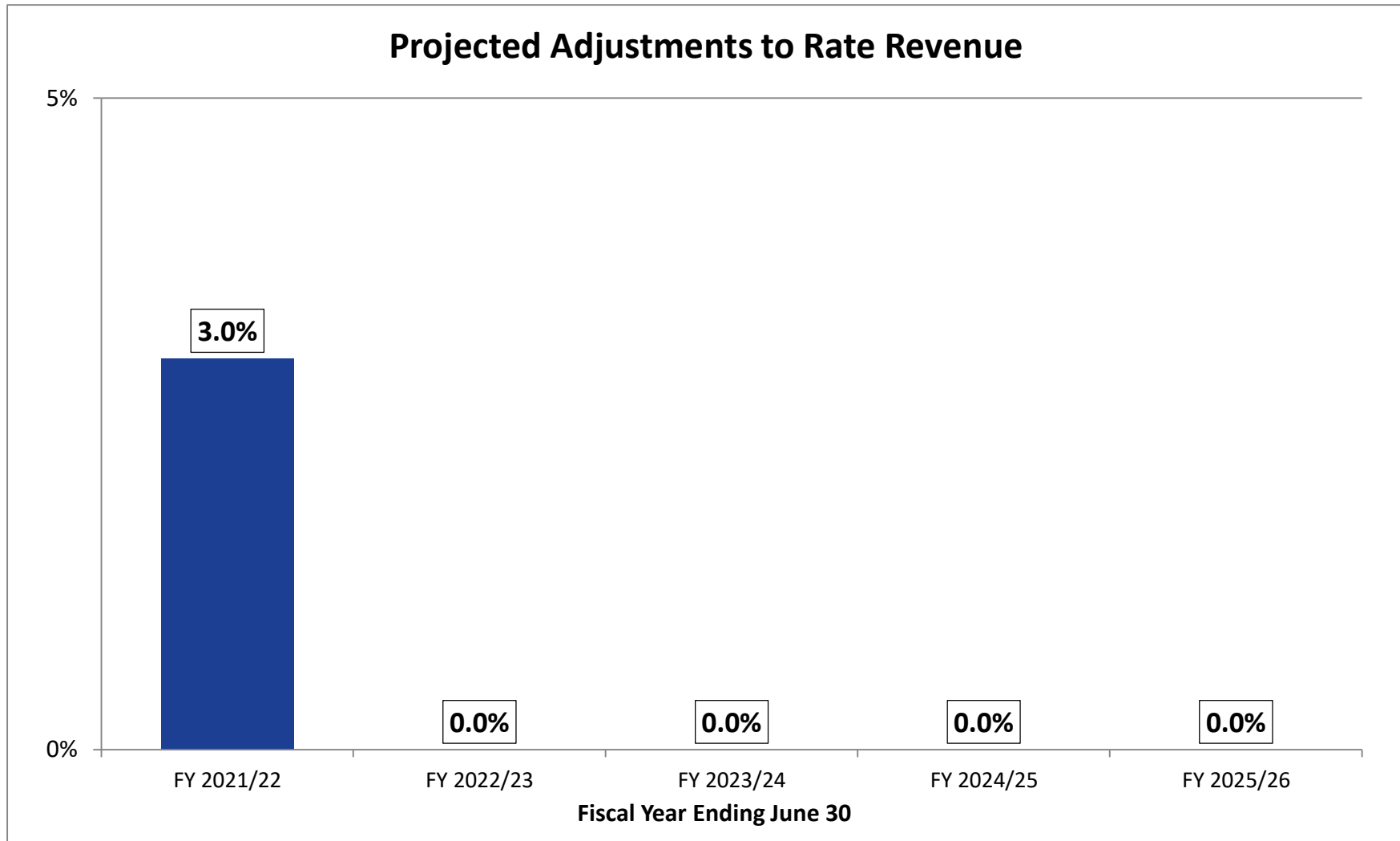


CHART 3



CITY OF MADERA
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 3 : REVENUE FORECAST¹

SOURCES OF REVENUE	Basis	Budget	Prop 218 Rate Period				
		2021	2022	2023	2024	2025	2026
WATER UTILITY							
Licenses & Permits							
State SB1186 Fees/Business License	1	\$ 3,561	\$ 3,561	\$ 3,561	\$ 3,561	\$ 3,561	\$ 3,561
Infrastructure Cost Payback	1	5,937	5,937	5,937	5,937	5,937	5,937
Meter Amortization	1	10,000	10,000	10,000	10,000	10,000	10,000
Subtotal		\$ 19,498	\$ 19,498	\$ 19,498	\$ 19,498	\$ 19,498	\$ 19,498
Fines & Forfeiture							
Late Payment/Other Penalty	1	\$ 196,650	\$ 196,650	\$ 196,650	\$ 196,650	\$ 196,650	\$ 196,650
Revenue/Water Patrol Fines	1	45,983	45,983	45,983	45,983	45,983	45,983
Subtotal		\$ 242,633	\$ 242,633	\$ 242,633	\$ 242,633	\$ 242,633	\$ 242,633
Charges for Services							
Application Fee	1	\$ 34,547	\$ 34,547	\$ 34,547	\$ 34,547	\$ 34,547	\$ 34,547
Construction Usage Fee	1	7,860	7,860	7,860	7,860	7,860	7,860
Meter Setup/Relocation Fee	1	3,169	3,169	3,169	3,169	3,169	3,169
User Charges	1	11,572,381	11,572,381	11,572,381	11,572,381	11,572,381	11,572,381
Water Permits and Fees	1	1,647	1,647	1,647	1,647	1,647	1,647
Subtotal		\$ 11,619,604	\$ 11,619,604	\$ 11,619,604	\$ 11,619,604	\$ 11,619,604	\$ 11,619,604
Interest							
Interest Income ²	5	\$ 122,632	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal		\$ 122,632	\$ -	\$ -	\$ -	\$ -	\$ -
Interfund Charges							
Interfund Charges Revenue - Co	8	\$ 4,326	\$ 4,326	\$ 4,326	\$ 4,326	\$ 4,326	\$ 4,326
Subtotal		\$ 4,326	\$ 4,326	\$ 4,326	\$ 4,326	\$ 4,326	\$ 4,326
Refunds							
Refunds & Reimbursements	1	\$ 2,246	\$ 2,246	\$ 2,246	\$ 2,246	\$ 2,246	\$ 2,246
Collection Recovery	1	1,938	1,938	1,938	1,938	1,938	1,938
Subtotal		\$ 4,184	\$ 4,184	\$ 4,184	\$ 4,184	\$ 4,184	\$ 4,184

CITY OF MADERA
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 4 : REVENUE FORECAST¹

		Budget	Prop 218 Rate Period				
SOURCES OF REVENUE	Basis	2021	2022	2023	2024	2025	2026
UTILITY BILLING AND WATER							
Refunds							
Refunds and Reimbursements	1	\$ 841	\$ 841	\$ 841	\$ 841	\$ 841	\$ 841
Subtotal		\$ 841	\$ 841	\$ 841	\$ 841	\$ 841	\$ 841
TOTAL: REVENUE		\$ 12,013,718	\$ 11,891,086	\$ 11,891,086	\$ 11,891,086	\$ 11,891,086	\$ 11,891,086

TABLE 5 : REVENUE SUMMARY

		Budget	Prop 218 Rate Period				
RATE REVENUE:							
User Charges		\$ 11,572,381	\$ 11,572,381	\$ 11,572,381	\$ 11,572,381	\$ 11,572,381	\$ 11,572,381
OTHER REVENUE:							
Licenses & Permits		\$ 19,498	\$ 19,498	\$ 19,498	\$ 19,498	\$ 19,498	\$ 19,498
Fines & Forfeiture		242,633	242,633	242,633	242,633	242,633	242,633
Other Charges for Services		47,223	47,223	47,223	47,223	47,223	47,223
Refunds		5,025	5,025	5,025	5,025	5,025	5,025
Other Revenue		4,326	4,326	4,326	4,326	4,326	4,326
Interest Income		122,632	-	-	-	-	-
TOTAL: REVENUE		\$ 12,013,718	\$ 11,891,086	\$ 11,891,086	\$ 11,891,086	\$ 11,891,086	\$ 11,891,086

CITY OF MADERA
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 6 : OPERATING EXPENSE FORECAST¹

		Budget	Prop 218 Rate Period				
DESCRIPTION	Basis	2021	2022	2023	2024	2025	2026
UTILITY BILLING AND WATER							
Salaries & Benefits							
Salaries / Full-Time	3	\$ 285,372	\$ 299,600	\$ 314,600	\$ 330,300	\$ 346,800	\$ 364,100
Salaries / Auto & Expense	3	135	100	100	100	100	100
Public Employees Retirement	4	32,809	67,284	71,053	75,073	77,138	79,259
Long Term Disability Insurance	4	966	1,000	1,100	1,200	1,300	1,400
Life Insurance Premiums	4	371	400	400	400	400	400
Workers Compensation Insurance	4	24,978	26,200	27,500	28,900	30,300	31,800
Medicare Tax-Employer's Share	4	4,124	4,300	4,500	4,700	4,900	5,100
Unfunded Accrued Liability	4	51,499	54,100	56,800	59,600	62,600	65,700
Deferred Comp/Full Time	3	9,970	10,500	11,000	11,600	12,200	12,800
Unemployment Insurance	4	1,051	1,100	1,200	1,300	1,400	1,500
Section 125 Benefit Allowance	4	81,408	85,500	89,800	94,300	99,000	104,000
Subtotal		\$ 492,683	\$ 550,084	\$ 578,053	\$ 607,473	\$ 636,138	\$ 666,159
Materials & Services							
Telephone & Fax Charges	5	\$ 8,000	\$ 8,200	\$ 8,400	\$ 8,700	\$ 9,000	\$ 9,300
Advertising/Bids & Notices	5	500	500	500	500	500	500
Office Supplies/Expendable	5	6,000	6,200	6,400	6,600	6,800	7,000
Postage/Other Mailing	5	40,000	41,200	42,400	43,700	45,000	46,400
Customer Relations	5	1,500	1,500	1,500	1,500	1,500	1,500
Other Administrative Expenses	5	60,000	61,800	63,700	65,600	67,600	69,600
Election Costs	5	30,000	30,900	31,800	32,800	33,800	34,800
Misc. Expenses	5	3,000	3,100	3,200	3,300	3,400	3,500
Subtotal		\$ 149,000	\$ 153,400	\$ 157,900	\$ 162,700	\$ 167,600	\$ 172,600

CITY OF MADERA
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 7 : OPERATING EXPENSE FORECAST¹

		Budget	Prop 218 Rate Period				
DESCRIPTION	Basis	2021	2022	2023	2024	2025	2026
Interfund Charges							
Central Su.	5	\$ 117	\$ 100	\$ 100	\$ 100	\$ 100	\$ 100
Admin. Ove.	5	40,760	42,000	43,300	44,600	45,900	47,300
Computer Maintenance	5	33,211	34,200	35,200	36,300	37,400	38,500
Computer R.	5	7,486	7,700	7,900	8,100	8,300	8,500
Motor Rental.	5	2,970	3,100	3,200	3,300	3,400	3,500
Subtotal		\$ 84,544	\$ 87,100	\$ 89,700	\$ 92,400	\$ 95,100	\$ 97,900
Special Payments							
OPEB Obligation Expense	4	\$ 1,650	\$ 1,700	\$ 1,800	\$ 1,900	\$ 2,000	\$ 2,100
Pension Expense-GASB 68	4	71,817	75,400	79,200	83,200	87,400	91,800
Interest Expense	5	35,000	36,100	37,200	38,300	39,400	40,600
Subtotal		\$ 108,467	\$ 113,200	\$ 118,200	\$ 123,400	\$ 128,800	\$ 134,500
Capital Outlay							
Other Operations Expense	8	\$ 750	\$ 800	\$ 800	\$ 800	\$ 800	\$ 800
Subtotal		\$ 750	\$ 800	\$ 800	\$ 800	\$ 800	\$ 800
Transfer Out							
Transfer Out - Insurance Rese.	8	\$ 9,390	\$ 9,400	\$ 9,400	\$ 9,400	\$ 9,400	\$ 9,400
Subtotal		\$ 9,390	\$ 9,400	\$ 9,400	\$ 9,400	\$ 9,400	\$ 9,400
Sub-Total: Utility Billing and Water		\$ 844,834	\$ 913,984	\$ 954,053	\$ 996,173	\$ 1,037,838	\$ 1,081,359

CITY OF MADERA
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 8 : OPERATING EXPENSE FORECAST¹

		Budget	Prop 218 Rate Period				
DESCRIPTION	Basis	2021	2022	2023	2024	2025	2026
WATER MAINTENANCE AND OPERATIONS							
Salaries & Benefits							
Salaries / Full-Time	3	\$ 575,531	\$ 604,300	\$ 634,500	\$ 666,200	\$ 699,500	\$ 734,500
Salaries / Overtime	3	40,000	42,000	44,100	46,300	48,600	51,000
Salaries / Uniform Pay	3	1,250	1,300	1,400	1,500	1,600	1,700
Public Employees Retirement	4	76,408	80,200	84,200	88,400	92,800	97,400
Long Term Disability Insurance	4	1,787	1,900	2,000	2,100	2,200	2,300
Life Insurance Premiums	4	712	700	700	700	700	700
Workers Compensation Insurance	4	58,539	61,500	64,600	67,800	71,200	74,800
Medicare Tax - Employer's Share	4	8,921	9,400	9,900	10,400	10,900	11,400
Unfunded Accrued Liability	4	120,717	126,800	133,100	139,800	146,800	154,100
Deferred Compensation/Full-Time	3	19,519	20,500	21,500	22,600	23,700	24,900
Unemployment Insurance	4	2,173	2,300	2,400	2,500	2,600	2,700
Section 125 Benefit Allowance	4	99,524	104,500	109,700	115,200	121,000	127,100
Subtotal		\$ 1,005,081	\$ 1,055,400	\$ 1,108,100	\$ 1,163,500	\$ 1,221,600	\$ 1,282,600
Materials & Services							
Gas & Electric Utilities	7	\$ 1,600,000	\$ 1,680,000	\$ 1,764,000	\$ 1,852,200	\$ 1,944,800	\$ 2,042,000
Telephone & Fax Charges	5	8,626	8,900	9,200	9,500	9,800	10,100
Advertising/Other	5	1,000	1,000	1,000	1,000	1,000	1,000
Professional Dues	5	2,103	2,200	2,300	2,400	2,500	2,600
Office Supplies/Expendable	5	1,500	1,500	1,500	1,500	1,500	1,500
Postage/Other Mailing Charge	5	800	800	800	800	800	800
Vehicle Fuel, Supplies & Maint.	6	33,800	35,500	37,300	39,200	41,200	43,300
Contracted Services	5	260,000	267,800	275,800	284,100	292,600	301,400
Taxes & Assessments	5	8,800	9,100	9,400	9,700	10,000	10,300
Conference/Training/Education	5	18,000	18,500	19,100	19,700	20,300	20,900
Maintenance/Other Supplies	5	135,000	139,100	143,300	147,600	152,000	156,600
Subtotal		\$ 2,069,629	\$ 2,164,400	\$ 2,263,700	\$ 2,367,700	\$ 2,476,500	\$ 2,590,500

CITY OF MADERA
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 9 : OPERATING EXPENSE FORECAST¹

DESCRIPTION	Basis	Budget	Prop 218 Rate Period				
		2021	2022	2023	2024	2025	2026
Interfund Charges							
Interfund Charge - Facility Maintenance	8	\$ 130,739	\$ 130,700	\$ 130,700	\$ 130,700	\$ 130,700	\$ 130,700
Interfund Charge - Central Su.	8	37,652	37,700	37,700	37,700	37,700	37,700
Interfund Charge - Cost Distribution	8	214,917	214,900	214,900	214,900	214,900	214,900
Interfund Charge - Admin. Overhead	8	303,081	303,100	303,100	303,100	303,100	303,100
Interfund Charge - Vehicle Replacement	8	85,000	85,000	85,000	85,000	85,000	85,000
Interfund Charge - Vehicle Maintenance	8	66,104	66,100	66,100	66,100	66,100	66,100
Interfund Charge - Comp. Maintenance	8	88,411	88,400	88,400	88,400	88,400	88,400
Interfund Charge - Computer	8	19,302	19,300	19,300	19,300	19,300	19,300
Interfund Charge - Software	8	2,085	2,100	2,100	2,100	2,100	2,100
Interfund Charge - Motor Rental.	8	4,670	4,700	4,700	4,700	4,700	4,700
Subtotal		\$ 951,961	\$ 952,000	\$ 952,000	\$ 952,000	\$ 952,000	\$ 952,000
SGMA Costs¹							
Five-Year Update	8		\$ -	\$ -	\$ -	\$ 275,000	\$ 275,000
GSP Annual Report	8		35,000	35,000	35,000	-	-
Point of Contact - GSP	8		12,500	12,500	12,500	30,000	30,000
Data Management Software	8		10,000	9,100	300	300	300
Regional Water Management Group	8		9,000	10,000	10,000	10,000	10,000
Subtotal		\$ -	\$ 66,500	\$ 66,600	\$ 57,800	\$ 315,300	\$ 315,300
Special Payments							
Liability/Property Insurance	4	\$ 152,900	\$ 160,500	\$ 168,500	\$ 176,900	\$ 185,700	\$ 195,000
Retiree Insurance Premiums	4	1,994	2,100	2,200	2,300	2,400	2,500
OPEB Obligation Expense	4	44,119	46,300	48,600	51,000	53,600	56,300
Pension Expense-GASB 68	4	164,996	173,200	181,900	191,000	200,600	210,600
Subtotal		\$ 364,009	\$ 382,100	\$ 401,200	\$ 421,200	\$ 442,300	\$ 464,400
Transfer Out							
Transfer Out	8	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000
Transfer Out - Insurance Rese.	8	20,080	20,100	20,100	20,100	20,100	20,100
Subtotal		\$ 80,080	\$ 80,100	\$ 80,100	\$ 80,100	\$ 80,100	\$ 80,100
Sub-Total: Water Maintenance and Operations		\$ 4,470,760	\$ 4,700,500	\$ 4,871,700	\$ 5,042,300	\$ 5,487,800	\$ 5,684,900
Depreciation (Non-cash item left out of analysis)³							
Depreciation/Replacement	8	\$ 41,631	\$ 41,600	\$ 41,600	\$ 41,600	\$ 41,600	\$ 41,600
Subtotal		\$ 41,631	\$ 41,600	\$ 41,600	\$ 41,600	\$ 41,600	\$ 41,600

CITY OF MADERA
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 10 : OPERATING EXPENSE FORECAST¹

DESCRIPTION	Basis	Budget	Prop 218 Rate Period				
		2021	2022	2023	2024	2025	2026
WATER QUALITY CONTROL							
Salaries & Benefits							
Salaries / Full-Time	3	\$ 230,932	\$ 242,500	\$ 254,600	\$ 267,300	\$ 280,700	\$ 294,700
Salaries / Overtime	3	1,000	1,100	1,200	1,300	1,400	1,500
Salaries / Uniform Pay	3	1,000	1,100	1,200	1,300	1,400	1,500
Public Employees Retirement	4	29,569	31,000	32,600	34,200	35,900	37,700
Long Term Disability Insurance	4	644	700	700	700	700	700
Life Insurance Premiums	4	367	400	400	400	400	400
Workers Compensation Insurance	4	22,058	23,200	24,400	25,600	26,900	28,200
Medicare Tax - Employer's Share	4	3,559	3,700	3,900	4,100	4,300	4,500
Unfunded Accrued Liability	4	42,599	44,700	46,900	49,200	51,700	54,300
Deferred Compensation/Full-Time	3	7,196	7,600	8,000	8,400	8,800	9,200
Unemployment Insurance	4	1,092	1,100	1,200	1,300	1,400	1,500
Section 125 Benefit Allowance	4	48,050	50,500	53,000	55,700	58,500	61,400
Subtotal		\$ 388,066	\$ 407,600	\$ 428,100	\$ 449,500	\$ 472,100	\$ 495,600
Materials & Services							
Telephone & Fax Charges	5	\$ 2,500	\$ 2,600	\$ 2,700	\$ 2,800	\$ 2,900	\$ 3,000
Advertising/Bids & Notices	5	331	300	300	300	300	300
Advertising/Other	5	2,500	2,600	2,700	2,800	2,900	3,000
Professional Dues	5	210	200	200	200	200	200
Office Supplies Expendable	5	2,090	2,200	2,300	2,400	2,500	2,600
Postage/Other Mailing Charge	5	3,400	3,500	3,600	3,700	3,800	3,900
Vehicle Fuel, Supplies & Maintenance	6	4,500	4,700	4,900	5,100	5,400	5,700
Contracted Services	5	60,000	61,800	63,700	65,600	67,600	69,600
Taxes and Assessments	5	37,800	38,900	40,100	41,300	42,500	43,800
Conference/Training/Education	5	7,000	7,200	7,400	7,600	7,800	8,000
Maintenance/Other Supplies	5	40,000	41,200	42,400	43,700	45,000	46,400
Subtotal		\$ 160,331	\$ 165,200	\$ 170,300	\$ 175,500	\$ 180,900	\$ 186,500

CITY OF MADERA
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 11 : OPERATING EXPENSE FORECAST¹

DESCRIPTION	Basis	Budget	Prop 218 Rate Period				
		2021	2022	2023	2024	2025	2026
Interfund Charges							
Interfund Charge - Facility Maintenance	8	\$ 85,497	\$ 85,500	\$ 85,500	\$ 85,500	\$ 85,500	\$ 85,500
Interfund Charge - Central Su.	8	1,175	1,200	1,200	1,200	1,200	1,200
Interfund Charge - Cost Distribution	8	170,000	170,000	170,000	170,000	170,000	170,000
Interfund Charge - Admin. Overhead	8	57,361	57,400	57,400	57,400	57,400	57,400
Interfund Charge - Vehicle Replacement	8	14,883	14,900	14,900	14,900	14,900	14,900
Interfund Charge - Vehicle Maintenance	8	15,219	15,200	15,200	15,200	15,200	15,200
Subtotal		\$ 344,135	\$ 344,200	\$ 344,200	\$ 344,200	\$ 344,200	\$ 344,200
Functional Expenses							
Water Conservation Program	1	\$ 255,640	\$ 255,600	\$ 255,600	\$ 255,600	\$ 255,600	\$ 255,600
Subtotal		\$ 255,640	\$ 255,600	\$ 255,600	\$ 255,600	\$ 255,600	\$ 255,600
Special Payments							
OPEB Obligation Expense	4	\$ 22,900	\$ 24,000	\$ 25,200	\$ 26,500	\$ 27,800	\$ 29,200
Pension Expense-GASB 68	4	58,390	61,300	64,400	67,600	71,000	74,600
Subtotal		\$ 81,290	\$ 85,300	\$ 89,600	\$ 94,100	\$ 98,800	\$ 103,800
Transfer Out							
Transfer Out - Insurance Rese.	8	\$ 8,490	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500
Subtotal		\$ 8,490	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500	\$ 8,500
Sub-Total: Water Quality Control		\$ 1,237,952	\$ 1,266,400	\$ 1,296,300	\$ 1,327,400	\$ 1,360,100	\$ 1,394,200
Depreciation (Non-cash item left out of analysis)³							
Depreciation/Replacement	8	\$ 14,012	\$ 14,000	\$ 14,000	\$ 14,000	\$ 14,000	\$ 14,000
Subtotal		\$ 14,012	\$ 14,000	\$ 14,000	\$ 14,000	\$ 14,000	\$ 14,000

CITY OF MADERA
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 12 : OPERATING EXPENSE FORECAST¹

DESCRIPTION	Basis	Budget	Prop 218 Rate Period				
		2021	2022	2023	2024	2025	2026
WATER CONSERVATION PROGRAM							
Salaries & Benefits							
Salaries / Full-Time	3	\$ 106,208	\$ 111,500	\$ 117,100	\$ 123,000	\$ 129,200	\$ 135,700
Salaries / Uniform Pay	3	250	300	300	300	300	300
Public Employees Retirement	4	16,023	16,800	17,600	18,500	19,400	20,400
Long Term Disability Insurance	4	355	400	400	400	400	400
Life Insurance Premiums	4	105	100	100	100	100	100
Workers Compensation Insurance	4	10,100	10,600	11,100	11,700	12,300	12,900
Medicare Tax - Employer's Share	4	1,572	1,700	1,800	1,900	2,000	2,100
Unfunded Accrued Liability	4	29,004	30,500	32,000	33,600	35,300	37,100
Deferred Compensation/Full-Time	3	4,460	4,700	4,900	5,100	5,400	5,700
Unemployment Insurance	4	420	400	400	400	400	400
Section 125 Benefit Allowance	4	23,367	24,500	25,700	27,000	28,400	29,800
Subtotal		\$ 191,864	\$ 201,500	\$ 211,400	\$ 222,000	\$ 233,200	\$ 244,900
Materials & Services							
Advertising/Other	5	\$ 22,618	\$ 23,300	\$ 24,000	\$ 24,700	\$ 25,400	\$ 26,200
Subtotal		\$ 22,618	\$ 23,300	\$ 24,000	\$ 24,700	\$ 25,400	\$ 26,200
Interfund Charges							
Interfund Charge - Admin. Overhead	8	\$ 17,734	\$ 17,700	\$ 17,700	\$ 17,700	\$ 17,700	\$ 17,700
Subtotal		\$ 17,734	\$ 17,700	\$ 17,700	\$ 17,700	\$ 17,700	\$ 17,700
Functional Expenses							
Water Conservation Program	1	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Subtotal		\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Special Payments							
OPEB Obligation Expense	4	\$ (2,263)	\$ (2,400)	\$ (2,500)	\$ (2,600)	\$ (2,700)	\$ (2,800)
Pension Expense-GASB 68	4	27,751	29,100	30,600	32,100	33,700	35,400
Subtotal		\$ 25,488	\$ 26,700	\$ 28,100	\$ 29,500	\$ 31,000	\$ 32,600
Transfer Out							
Transfer Out - Insurance Rese.	8	\$ 3,675	\$ 3,700	\$ 3,700	\$ 3,700	\$ 3,700	\$ 3,700
Subtotal		\$ 3,675	\$ 3,700	\$ 3,700	\$ 3,700	\$ 3,700	\$ 3,700
Sub-Total: Water Conservation Program		\$ 361,379	\$ 372,900	\$ 384,900	\$ 397,600	\$ 411,000	\$ 425,100

CITY OF MADERA
WATER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 13 : OPERATING EXPENSE FORECAST¹

		Budget	Prop 218 Rate Period				
DESCRIPTION	Basis	2021	2022	2023	2024	2025	2026
WATER DEBT SERVICE & REVENUE BONDS							
Materials & Services							
Contracted Services	8	\$ 4,500	\$ 4,500	\$ 4,500	\$ 4,500	\$ 4,500	\$ 4,500
Subtotal		\$ 4,500	\$ 4,500	\$ 4,500	\$ 4,500	\$ 4,500	\$ 4,500
Sub-Total: Water Capital Outlay		\$ 4,500	\$ 4,500	\$ 4,500	\$ 4,500	\$ 4,500	\$ 4,500
Depreciation (Non-cash item left out of analysis)³							
Amortization	8	\$ 3,352	\$ 3,400	\$ 3,400	\$ 3,400	\$ 3,400	\$ 3,400
Subtotal		\$ 3,352	\$ 3,400	\$ 3,400	\$ 3,400	\$ 3,400	\$ 3,400
GRAND TOTAL: WATER OPERATING EXPENSES		\$ 6,919,425	\$ 7,258,284	\$ 7,511,453	\$ 7,767,973	\$ 8,301,238	\$ 8,590,059

TABLE 14 : FORECASTING ASSUMPTIONS

INFLATION FACTORS ⁴	Basis	2021	2022	2023	2024	2025	2026
Customer Growth	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Water Supply	2	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Salaries	3	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Benefits	4	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
General Inflation	5	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Fuel	6	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Electricity	7	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
No Escalation	8	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

1. Revenue and expenses for FY 2019/20 through FY 2020/21 are from source file: *Enterprise Funds Budget 2020-21.pdf, pages 21-32.*

SGMA costs in expenses from source file: *Future SGMA Costs.docx*

2. Interest income is calculated in the Financial Plan and excluded from this table.

3. Depreciation expense is not considered in this projection since it is not a cash expense.

4. Inflation factor values follow previous assumptions from 2015 Rate Study.

Source file: *Rate Study 2015.pdf, Table 1-1, Page 12.*

CITY OF MADERA
 WATER RATE STUDY
 Capital Improvement Plan Expenditures

EXHIBIT 2

TABLE 15 : CAPITAL FUNDING SUMMARY 5-Year Rate Period

CAPITAL FUNDING FORECAST	5-Year Rate Period					
	Budget	Projected				
Funding Sources:	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Grants ¹	\$ 779,663	\$ -	\$ 2,500,000	\$ -	\$ -	\$ -
Use of Capacity Reserve Fund ²	98,953	155,367	155,367	155,367	155,367	155,367
Use of American Rescue Plan Proceeds ³	-	1,380,000	4,620,000	-	-	-
Use of Capital Expenditure Reserve Fund	5,500,000	6,500,000	11,500,000	2,000,000	2,000,000	2,000,000
Rate Revenue	649,884	1,948,133	6,894,764	927,771	477,227	-
Total Sources of Capital Funds	\$ 7,028,500	\$ 9,983,500	\$25,670,131	\$ 3,083,138	\$ 2,632,594	\$ 2,155,367

- Grant Funding is per source file: *Enterprise Funds Budget 2020-21.pdf*, pages 21-32.
 FY 2022/23 grant from updated CIP file: *Water CIP Table ARPA.xlsx*.
- Capacity Reserve Fund to fund some projects used for future customers only per *Water CIP Table ARPA.xlsx*.
 This amount drains the DIF fund in order to contribute to projects over time.
- The City was awarded American Rescue Plan Act funds in which \$6 million is allocated to water capital projects.

CITY OF MADERA
WATER RATE STUDY
Capital Improvement Plan Expenditures

EXHIBIT 2

CAPITAL IMPROVEMENT PROGRAM

TABLE 16 : CAPITAL IMPROVEMENT PROGRAM COSTS (IN CURRENT-YEAR DOLLARS)¹

Project #	Water System Improvements	2021	2022	2023	2024	2025	2026
W-00000	Engineering Support for Water Projects	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
	Other Items Identified from Public Works	-	-	-	-	-	-
	Planning, Studies, Reports	-	-	-	-	-	-
W-STDY-1	Water Feasibility Project - New Water Supply	-	-	-	-	-	-
W-STDY-2	Water Distribution System Condition Assessment Study	106,000	-	-	-	-	-
W-STDY-2	Water Distribution System Condition Assessment Study	240,000	-	-	-	-	-
W-STDY-3	W-STDY-3: Asset Management Software	150,000	-	-	-	-	-
MUP-UDII	Master Plan Update	-	-	-	300,000	-	-
	Major O&M Projects	-	-	-	-	-	-
W-03	Water Main Upgrades - Locations 1-12	115,000	835,000	-	-	-	-
W-04	Water Main Upgrades - Locations 13-23	135,000	1,380,000	-	-	-	-
W-09	System Upgrade - River Crossing @ Gateway	283,000	-	-	-	-	-
W-22	Water Tower Recoating	20,000	1,370,000	-	-	-	-
W-26	Water Tower Demolition	480,000	-	-	-	-	-
W-GW-00	Energy Efficient Upgrades at Well Sites	106,000	-	-	-	-	-
W-29	Valve replacement Down town area 26 valves	130,000	-	-	-	-	-
W-31	Manual Read Meter Replacement / Commercial Meter Replacement	870,000	270,000	335,000	335,000	335,000	335,000
W-33	Meter Replacement Program	920,000	55,000	530,000	540,000	550,000	-
W-34	South St Water Tower Exterior Rehab	35,000	265,000	-	-	-	-
W-36	4th/Gateway Line & Valve	60,000	440,000	-	-	-	-
W-38	Well 27 Rehabilitation	30,000	290,000	-	-	-	-
tbd	Leak Repair Project identified from Condition Assessment	-	80,000	-	-	-	-
tbd	Dunham Lewis Water Main Rehabilitation	-	-	-	-	-	-
tbd	Year 1 Pipeline Replacement Project from Condition Assessment	-	1,100,000	-	-	-	-
tbd	Year 2 Pipeline Replacement from Project Condition Assessment	-	-	1,100,000	-	-	-
	Average Annual R&R CIP - Placeholder	-	-	-	1,300,000	1,300,000	1,300,000
possible N	3 new chlorine analyzers & generators, 10-year life	-	175,000	175,000	175,000	175,000	175,000
	New Capital Projects	-	-	-	-	-	-
W-06	System Upgrades, H St to Madera Ave	15,000	400,000	-	-	-	-
W-08	Water Main Upgrades - 10th St.	20,000	1,040,000	-	-	-	-

CITY OF MADERA
WATER RATE STUDY

EXHIBIT 2

Capital Improvement Plan Expenditures

	New Wells - Replacement of Diminished Production Capacity Meter Installation - continue	-	-	-	-	-	-
W-32	installation of meters on unmetered services	1,240,000	-	-	-	-	-
Master Plan Recommendations							
PSW-45	Pipe, Almond Ave, From Pine St to Stadium Rd	-	-	88,000	188,000	-	-
R-000072	Sharon Blvd Pipeline, Love's Reimbursement	48,500	-	-	-	-	-
W-GW-00	Loves Well	2,000,000	-	-	-	-	-
GW-002	New Well - Ellis/Chapin Well 35	-	-	-	-	-	-
GW-003	Well, Well No. 36, Hwy 145 and Indigo Dr	-	120,000	2,200,000	-	-	-
T-1	Above Ground Storage 7 MG Tank at Ave. 17 & RD. 27	-	868,000	9,000,000	-	-	-
PS-1	Pump Station for Tank at Ave. 17 & Road 27	-	462,000	6,270,000	-	-	-
PNE-4	Pipe, Lake Street (Road 27) 24" from Ellis to Avenue 17	-	85,000	615,000	-	-	-
W-37	Northeast Water Transmission Main	-	430,000	3,025,200	-	-	-
W-GW-00	New Well 37 Granada north of Cleveland aka GW-4 in Master Plan	-	50,000	1,070,000	-	-	-
Total: CIP Program Costs (Current-Year Dollars)		\$ 7,028,500	\$ 9,740,000	\$24,433,200	\$ 2,863,000	\$ 2,385,000	\$ 1,835,000

CITY OF MADERA
WATER RATE STUDY
Capital Improvement Plan Expenditures

EXHIBIT 2

TABLE 17 : CAPITAL IMPROVEMENT PROGRAM COSTS (IN FUTURE-YEAR DOLLARS)²

Project Description	2021	2022	2023	2024	2025	2026
W-00000 Engineering Support for Water Projects	\$ 25,000	\$ 25,625	\$ 26,266	\$ 26,922	\$ 27,595	\$ 28,285
-- Other Items Identified from Public Works	-	-	-	-	-	-
Planning, Studies, Reports	-	-	-	-	-	-
W-STDY-1 Water Feasibility Project - New Water Supply	-	-	-	-	-	-
W-STDY-2 Water Distribution System Condition Assessment Study	106,000	-	-	-	-	-
W-STDY-2 Water Distribution System Condition Assessment Study	240,000	-	-	-	-	-
W-STDY-3 W-STDY-3: Asset Management Software	150,000	-	-	-	-	-
MUP-UDII Master Plan Update	-	-	-	323,067	-	-
Major O&M Projects	-	-	-	-	-	-
W-03 Water Main Upgrades - Locations 1-12	115,000	855,875	-	-	-	-
W-04 Water Main Upgrades - Locations 13-23	135,000	1,414,500	-	-	-	-
W-09 System Upgrade - River Crossing @ Gateway	283,000	-	-	-	-	-
W-22 Water Tower Recoating	20,000	1,404,250	-	-	-	-
W-26 Water Tower Demolition	480,000	-	-	-	-	-
W-GW-00 Energy Efficient Upgrades at Well Sites	106,000	-	-	-	-	-
W-29 Valve replacement Down town area 26 valves	130,000	-	-	-	-	-
W-31 Manual Read Meter Replacement / Commercial Meter Replacement	870,000	276,750	351,959	360,758	369,777	379,022
W-33 Meter Replacement Program	920,000	56,375	556,831	581,521	607,097	-
W-34 South St Water Tower Exterior Rehab	35,000	271,625	-	-	-	-
W-36 4th/Gateway Line & Valve	60,000	451,000	-	-	-	-
W-38 Well 27 Rehabilitation	30,000	297,250	-	-	-	-
tbd Leak Repair Project identified from Condition Assessment	-	82,000	-	-	-	-
tbd Dunham Lewis Water Main Rehabilitation	-	-	-	-	-	-
tbd Year 1 Pipeline Replacement Project from Condition Assessment	-	1,127,500	-	-	-	-
tbd Year 2 Pipeline Replacement from Project Condition Assessment	-	-	1,155,688	-	-	-
-- Average Annual R&R CIP - Placeholder	-	-	-	1,399,958	1,434,957	1,470,831
possible 3 new chlorine analyzers & generators, 10-year life	-	179,375	183,859	188,456	193,167	197,996
New Capital Projects	-	-	-	-	-	-
W-06 System Upgrades, H St to Madera Ave	15,000	410,000	-	-	-	-
W-08 Water Main Upgrades - 10th St.	20,000	1,066,000	-	-	-	-

**CITY OF MADERA
WATER RATE STUDY**

EXHIBIT 2

Capital Improvement Plan Expenditures

--	New Wells - Replacement of Diminished Production Capacity Meter Installation - continue	-	-	-	-	-	-
W-32	installation of meters on unmetered services	1,240,000	-	-	-	-	-
Master Plan Recommendations							
PSW-45	Pipe, Almond Ave, From Pine St to Stadium Rd	-	-	92,455	202,455	-	-
R-000072	Sharon Blvd Pipeline, Love's Reimbursement	48,500	-	-	-	-	-
W-GW-00	Loves Well	2,000,000	-	-	-	-	-
GW-002	New Well - Ellis/Chapin Well 35	-	-	-	-	-	-
GW-003	Well, Well No. 36, Hwy 145 and Indigo Dr	-	123,000	2,311,375	-	-	-
T-1	Above Ground Storage 7 MG Tank at Ave. 17 & RD. 27	-	889,700	9,455,625	-	-	-
PS-1	Pump Station for Tank at Ave. 17 & Road 27	-	473,550	6,587,419	-	-	-
PNE-4	Pipe, Lake Street (Road 27) 24" from Ellis to Avenue 17	-	87,125	646,134	-	-	-
W-37	Northeast Water Transmission Main	-	440,750	3,178,351	-	-	-
W-GW-00	New Well 37 Granada north of Cleveland aka GW-4 in Master Plan	-	51,250	1,124,169	-	-	-
Total: CIP Program Costs (Future-Year Dollars)		\$ 7,028,500	\$ 9,983,500	\$25,670,131	\$ 3,083,138	\$ 2,632,594	\$ 2,076,134

TABLE 18 : FORECASTING ASSUMPTIONS

Economic Variables	2021	2022	2023	2024	2025	2026
Annual Construction Cost Inflation, Per Engineering News Record ³	0.00%	2.50%	2.50%	2.50%	2.50%	2.50%
Cumulative Construction Cost Multiplier from 2021	1.00	1.03	1.05	1.08	1.10	1.13

1. Estimated capital improvement project costs found in source files: *Water CIP Table ARPA.xlsx*
2. Capital improvement projects are inflated to future year estimated costs with ENR CCI for the region.
3. Construction inflator is based on the most current 10 year average of the Engineering News-Record Construction Cost Index.
 Source: www.enr.com/economics (August 2010 to August 2020).

TABLE 19

ASSESSMENT DISTRICT DEBT OBLIGATIONS						
Annual Repayment Schedules:	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
2015 Water Revenue Bonds (\$2,025,000)¹						
Principal Payment	\$ 80,000	\$ 85,000	\$ 85,000	\$ 90,000	\$ 95,000	\$ 100,000
Interest Payment	64,010	61,050	57,905	54,760	51,430	47,915
Subtotal: Annual Debt Service	\$ 144,010	\$ 146,050	\$ 142,905	\$ 144,760	\$ 146,430	\$ 147,915
Coverage Requirement (\$-Amnt above annual payment)	120%	120%	120%	120%	120%	120%
Reserve Requirement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2019 Water Revenue Bonds (\$9,016,903)²						
Principal Payment	\$ 409,781	\$ 418,148	\$ 435,546	\$ 447,120	\$ 457,908	\$ 467,850
Interest Payment	225,466	214,593	203,438	191,864	179,989	167,834
Subtotal: Annual Debt Service	\$ 635,247	\$ 632,741	\$ 638,984	\$ 638,984	\$ 637,897	\$ 635,684
Coverage Requirement (\$-Amnt above annual payment)	120%	120%	120%	120%	120%	120%
Reserve Requirement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

1. Water revenue bonds due to mature in 2036. Source file: *2015 Water Amortization Schedule.pdf*
Reserve Requirement not required per Bond Document: *Water Refunding 2015 3rd Install.pdf*, page 14.
2. Water revenue bonds due to mature in 2037. Source file: *Water_Refunding 2019 Amortization Schedule.pdf*
Refunded the Water Revenue Bonds, Series 2010. Source file: *Water_Refunding 2019 4th Install.pdf*

TABLE 20 : EXISTING ANNUAL DEBT OBLIGATIONS TO BE SATISFIED BY WATER RATES

Existing Annual Debt Service	\$ 779,257	\$ 778,791	\$ 781,889	\$ 783,744	\$ 784,327	\$ 783,599
Existing Annual Coverage Requirement	120%	120%	120%	120%	120%	120%
Existing Debt Reserve Target	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

**CITY OF MADERA
WATER RATE STUDY
Projected Water Rates Under Existing Rate Schedule**

TABLE 21 : CURRENT RATES

Current Rates	Effective Jan. 26, 2020
Monthly Fixed Charge¹	
5/8 inch	\$16.88
3/4 inch	\$19.09
1 inch	\$23.51
1 1/2 inch	\$34.56
2 inch	\$47.82
3 inch	\$89.81
4 inch	\$151.69
6 inch	\$299.76
8 inch	\$542.86
Volumetric Charge, per CCF^{1,2}	
<i>Residential Tiered Rates</i>	
Tier 1 0-10	\$1.93
Tier 2 11-33	\$2.40
Tier 3 34+	\$3.68
<i>Multi-Residential Tiered Rates</i>	
Tier 1 0-10	\$2.03
Tier 2 11+	\$2.88
<i>Non-Residential</i>	
Uniform Rate	\$2.41

1. Combination of monthly service fee and variable use charge.

Source file: 2543_001 Water Rates 1.26.19 to 1.26.20.pdf

2. CCF = Hundred Cubic Feet or 748.05 gallons.

TABLE 22 : CLASSIFICATION OF EXPENSES FOR FY 2021/22

Classification of Expenses									
Budget Categories	Total Revenue Requirements	Commodity	Conservation	Capacity	Customer	Basis of Classification			
	FY 2021/22	(COM)	(CON)	(CAP)	(CA)	(COM)	(CON)	(CAP)	(CA)
UTILITY BILLING AND WATER									
Salaries & Benefits									
Salaries / Full-Time	\$ 299,600	\$ -	\$ -	\$ -	\$ 299,600	0.0%	0.0%	0.0%	100.0%
Salaries / Auto & Expense	100	-	-	-	100	0.0%	0.0%	0.0%	100.0%
Public Employees Retirement	67,284	-	-	-	67,284	0.0%	0.0%	0.0%	100.0%
Long Term Disability Insurance	1,000	-	-	-	1,000	0.0%	0.0%	0.0%	100.0%
Life Insurance Premiums	400	-	-	-	400	0.0%	0.0%	0.0%	100.0%
Workers Compensation Insurance	26,200	-	-	-	26,200	0.0%	0.0%	0.0%	100.0%
Medicare Tax-Employer's Share	4,300	-	-	-	4,300	0.0%	0.0%	0.0%	100.0%
Unfunded Accrued Liability	54,100	-	-	-	54,100	0.0%	0.0%	0.0%	100.0%
Deferred Comp/Full Time	10,500	-	-	-	10,500	0.0%	0.0%	0.0%	100.0%
Unemployment Insurance	1,100	-	-	-	1,100	0.0%	0.0%	0.0%	100.0%
Section 125 Benefit Allowance	85,500	-	-	-	85,500	0.0%	0.0%	0.0%	100.0%
Subtotal	\$ 550,084	\$ -	\$ -	\$ -	\$ 550,084				
Materials & Services									
Telephone & Fax Charges	\$ 8,200	\$ -	\$ -	\$ -	\$ 8,200	0.0%	0.0%	0.0%	100.0%
Advertising/Bids & Notices	500	-	-	-	500	0.0%	0.0%	0.0%	100.0%
Office Supplies/Expendable	6,200	-	-	-	6,200	0.0%	0.0%	0.0%	100.0%
Postage/Other Mailing	41,200	-	-	-	41,200	0.0%	0.0%	0.0%	100.0%
Customer Relations	1,500	-	-	-	1,500	0.0%	0.0%	0.0%	100.0%
Other Administrative Expenses	61,800	-	-	-	61,800	0.0%	0.0%	0.0%	100.0%
Election Costs	30,900	-	-	-	30,900	0.0%	0.0%	0.0%	100.0%
Misc. Expenses	3,100	-	-	-	3,100	0.0%	0.0%	0.0%	100.0%
Subtotal	\$ 153,400	\$ -	\$ -	\$ -	\$ 153,400				

CITY OF MADERA
WATER RATE STUDY
Cost of Service Analysis

Function & Classification

TABLE 23 : CLASSIFICATION OF EXPENSES FOR FY 2021/22

Classification of Expenses									
Budget Categories	Total Revenue Requirements	Commodity	Conservation	Capacity	Customer	Basis of Classification			
	FY 2021/22	(COM)	(CON)	(CAP)	(CA)	(COM)	(CON)	(CAP)	(CA)
Central Su.	\$ 100	\$ -	\$ -	\$ -	\$ 100	0.0%	0.0%	0.0%	100.0%
Admin. Ove.	42,000	-	-	-	42,000	0.0%	0.0%	0.0%	100.0%
Computer Maintenance	34,200	-	-	-	34,200	0.0%	0.0%	0.0%	100.0%
Computer R.	7,700	-	-	-	7,700	0.0%	0.0%	0.0%	100.0%
Motor Rental.	3,100	-	-	-	3,100	0.0%	0.0%	0.0%	100.0%
Subtotal	\$ 87,100	\$ -	\$ -	\$ -	\$ 87,100				
Special Payments									
OPEB Obligation Expense	\$ 1,700	\$ -	\$ -	\$ -	\$ 1,700	0.0%	0.0%	0.0%	100.0%
Pension Expense-GASB 68	75,400	-	-	-	75,400	0.0%	0.0%	0.0%	100.0%
Interest Expense	36,100	-	-	-	36,100	0.0%	0.0%	0.0%	100.0%
Subtotal	\$ 113,200	\$ -	\$ -	\$ -	\$ 113,200				
Capital Outlay									
Other Operations Expense	\$ 800	\$ -	\$ -	\$ -	\$ 800	0.0%	0.0%	0.0%	100.0%
Subtotal	\$ 800	\$ -	\$ -	\$ -	\$ 800				
Transfer Out									
Transfer Out - Insurance Rese.	\$ 9,400	\$ -	\$ -	\$ -	\$ 9,400	0.0%	0.0%	0.0%	100.0%
Subtotal	\$ 9,400	\$ -	\$ -	\$ -	\$ 9,400				
Sub-Total: Utility Billing and Water	\$ 913,984	\$ -	\$ -	\$ -	\$ 913,984	0.0%	0.0%	0.0%	100.0%

TABLE 24 : CLASSIFICATION OF EXPENSES FOR FY 2021/22

Classification of Expenses, continued									
Budget Categories	Total Revenue Requirements	Commodity	Conservation	Capacity	Customer	Basis of Classification			
	FY 2021/22	(COM)	(CON)	(CAP)	(CA)	(COM)	(CON)	(CAP)	(CA)
WATER MAINTENANCE AND OPERATIONS									
Salaries & Benefits									
Salaries / Full-Time	\$ 604,300	\$ 453,225	\$ -	\$ 90,645	\$ 60,430	75.0%	0.0%	15.0%	10.0%
Salaries / Overtime	42,000	31,500	-	6,300	4,200	75.0%	0.0%	15.0%	10.0%
Salaries / Uniform Pay	1,300	975	-	195	130	75.0%	0.0%	15.0%	10.0%
Public Employees Retirement	80,200	60,150	-	12,030	8,020	75.0%	0.0%	15.0%	10.0%
Long Term Disability Insurance	1,900	1,425	-	285	190	75.0%	0.0%	15.0%	10.0%
Life Insurance Premiums	700	525	-	105	70	75.0%	0.0%	15.0%	10.0%
Workers Compensation Insurance	61,500	46,125	-	9,225	6,150	75.0%	0.0%	15.0%	10.0%
Medicare Tax - Employer's Share	9,400	7,050	-	1,410	940	75.0%	0.0%	15.0%	10.0%
Unfunded Accrued Liability	126,800	95,100	-	19,020	12,680	75.0%	0.0%	15.0%	10.0%
Deferred Compensation/Part-Time	-	-	-	-	-	75.0%	0.0%	15.0%	10.0%
Deferred Compensation/Full-Time	20,500	15,375	-	3,075	2,050	75.0%	0.0%	15.0%	10.0%
Unemployment Insurance	2,300	1,725	-	345	230	75.0%	0.0%	15.0%	10.0%
Section 125 Benefit Allowance	104,500	78,375	-	15,675	10,450	75.0%	0.0%	15.0%	10.0%
Subtotal	\$ 1,055,400	\$ 791,550	\$ -	\$ 158,310	\$ 105,540				
Materials & Services									
Gas & Electric Utilities	\$ 1,680,000	\$ 1,680,000	\$ -	\$ -	\$ -	100.0%	0.0%	0.0%	0.0%
Telephone & Fax Charges	8,900	6,675	-	1,335	890	75.0%	0.0%	15.0%	10.0%
Advertising/Other	1,000	750	-	150	100	75.0%	0.0%	15.0%	10.0%
Professional Dues	2,200	1,650	-	330	220	75.0%	0.0%	15.0%	10.0%
Office Supplies/Expendable	1,500	1,125	-	225	150	75.0%	0.0%	15.0%	10.0%
Postage/Other Mailing Charge	800	600	-	120	80	75.0%	0.0%	15.0%	10.0%
Vehicle Fuel, Supplies & Maint.	35,500	26,625	-	5,325	3,550	75.0%	0.0%	15.0%	10.0%
Contracted Services	267,800	200,850	-	40,170	26,780	75.0%	0.0%	15.0%	10.0%
Taxes & Assessments	9,100	6,825	-	1,365	910	75.0%	0.0%	15.0%	10.0%
Conference/Training/Education	18,500	13,875	-	2,775	1,850	75.0%	0.0%	15.0%	10.0%
Maintenance/Other Supplies	139,100	104,325	-	20,865	13,910	75.0%	0.0%	15.0%	10.0%
Subtotal	\$ 2,164,400	\$ 2,043,300	\$ -	\$ 72,660	\$ 48,440				

TABLE 25 : CLASSIFICATION OF EXPENSES FOR FY 2021/22

Classification of Expenses, continued									
Budget Categories	Total Revenue Requirements	Commodity	Conservation	Capacity	Customer	Basis of Classification			
	FY 2021/22	(COM)	(CON)	(CAP)	(CA)	(COM)	(CON)	(CAP)	(CA)
Interfund Charges									
Interfund Charge - Facility Maintenance	\$ 130,700	\$ 98,025	\$ -	\$ 19,605	\$ 13,070	75.0%	0.0%	15.0%	10.0%
Interfund Charge - Central Su.	37,700	28,275	-	5,655	3,770	75.0%	0.0%	15.0%	10.0%
Interfund Charge - Cost Distribution	214,900	161,175	-	32,235	21,490	75.0%	0.0%	15.0%	10.0%
Interfund Charge - Admin. Overhead	303,100	227,325	-	45,465	30,310	75.0%	0.0%	15.0%	10.0%
Interfund Charge - Vehicle Replacement	85,000	63,750	-	12,750	8,500	75.0%	0.0%	15.0%	10.0%
Interfund Charge - Vehicle Maintenance	66,100	49,575	-	9,915	6,610	75.0%	0.0%	15.0%	10.0%
Interfund Charge - Comp. Maintenance	88,400	66,300	-	13,260	8,840	75.0%	0.0%	15.0%	10.0%
Interfund Charge - Computer	19,300	14,475	-	2,895	1,930	75.0%	0.0%	15.0%	10.0%
Interfund Charge - Software	2,100	1,575	-	315	210	75.0%	0.0%	15.0%	10.0%
Interfund Charge - Motor Rental.	4,700	3,525	-	705	470	75.0%	0.0%	15.0%	10.0%
Subtotal	\$ 952,000	\$ 714,000	\$ -	\$ 142,800	\$ 95,200				
Five-Year Update									
GSP Annual Report	\$ 35,000	\$ 26,250	\$ -	\$ 5,250	\$ 3,500	75.0%	0.0%	15.0%	10.0%
Point of Contact - GSP	12,500	9,375	-	1,875	1,250	75.0%	0.0%	15.0%	10.0%
Data Management Software	10,000	7,500	-	1,500	1,000	75.0%	0.0%	15.0%	10.0%
Regional Water Management Group	9,000	6,750	-	1,350	900	75.0%	0.0%	15.0%	10.0%
Subtotal	\$ 66,500	\$ 49,875	\$ -	\$ 9,975	\$ 6,650				
Special Payments									
Liability/Property Insurance	\$ 160,500	\$ 120,375	\$ -	\$ 24,075	\$ 16,050	75.0%	0.0%	15.0%	10.0%
Retiree Insurance Premiums	2,100	1,575	-	315	210	75.0%	0.0%	15.0%	10.0%
OPEB Obligation Expense	46,300	34,725	-	6,945	4,630	75.0%	0.0%	15.0%	10.0%
Pension Expense-GASB 68	173,200	129,900	-	25,980	17,320	75.0%	0.0%	15.0%	10.0%
Subtotal	\$ 382,100	\$ 286,575	\$ -	\$ 57,315	\$ 38,210				
Transfer Out									
Transfer Out	\$ 60,000	\$ 45,000	\$ -	\$ 9,000	\$ 6,000	75.0%	0.0%	15.0%	10.0%
Transfer Out - Insurance Rese.	20,100	15,075	-	3,015	2,010	75.0%	0.0%	15.0%	10.0%
Subtotal	\$ 80,100	\$ 60,075	\$ -	\$ 12,015	\$ 8,010				
Sub-Total: Water Maintenance and Operations	\$ 4,700,500	\$ 3,945,375	\$ -	\$ 453,075	\$ 302,050	83.9%	0.0%	9.6%	6.4%

TABLE 26 : CLASSIFICATION OF EXPENSES FOR FY 2021/22

Classification of Expenses, continued									
Budget Categories	Total Revenue Requirements	Commodity	Conservation	Capacity	Customer	Basis of Classification			
	FY 2021/22	(COM)	(CON)	(CAP)	(CA)	(COM)	(CON)	(CAP)	(CA)
WATER QUALITY CONTROL									
Salaries & Benefits									
Salaries / Full-Time	\$ 242,500	\$ 121,250	\$ -	\$ 121,250	\$ -	50.0%	0.0%	50.0%	0.0%
Salaries / Overtime	1,100	550	-	550	-	50.0%	0.0%	50.0%	0.0%
Salaries / Uniform Pay	1,100	550	-	550	-	50.0%	0.0%	50.0%	0.0%
Public Employees Retirement	31,000	15,500	-	15,500	-	50.0%	0.0%	50.0%	0.0%
Long Term Disability Insurance	700	350	-	350	-	50.0%	0.0%	50.0%	0.0%
Life Insurance Premiums	400	200	-	200	-	50.0%	0.0%	50.0%	0.0%
Workers Compensation Insurance	23,200	11,600	-	11,600	-	50.0%	0.0%	50.0%	0.0%
Medicare Tax - Employer's Share	3,700	1,850	-	1,850	-	50.0%	0.0%	50.0%	0.0%
Unfunded Accrued Liability	44,700	22,350	-	22,350	-	50.0%	0.0%	50.0%	0.0%
Deferred Compensation/Part-Time	-	-	-	-	-	50.0%	0.0%	50.0%	0.0%
Deferred Compensation/Full-Time	7,600	3,800	-	3,800	-	50.0%	0.0%	50.0%	0.0%
Unemployment Insurance	1,100	550	-	550	-	50.0%	0.0%	50.0%	0.0%
Section 125 Benefit Allowance	50,500	25,250	-	25,250	-	50.0%	0.0%	50.0%	0.0%
Subtotal	\$ 407,600	\$ 203,800	\$ -	\$ 203,800	\$ -				
Materials & Services									
Telephone & Fax Charges	\$ 2,600	\$ 1,300	\$ -	\$ 1,300	\$ -	50.0%	0.0%	50.0%	0.0%
Advertising/Bids & Notices	300	150	-	150	-	50.0%	0.0%	50.0%	0.0%
Advertising/Other	2,600	1,300	-	1,300	-	50.0%	0.0%	50.0%	0.0%
Professional Dues	200	100	-	100	-	50.0%	0.0%	50.0%	0.0%
Office Supplies Expendable	2,200	1,100	-	1,100	-	50.0%	0.0%	50.0%	0.0%
Postage/Other Mailing Charge	3,500	1,750	-	1,750	-	50.0%	0.0%	50.0%	0.0%
Vehicle Fuel, Supplies & Maintenance	4,700	2,350	-	2,350	-	50.0%	0.0%	50.0%	0.0%
Contracted Services	61,800	30,900	-	30,900	-	50.0%	0.0%	50.0%	0.0%
Taxes and Assessments	38,900	19,450	-	19,450	-	50.0%	0.0%	50.0%	0.0%
Conference/Training/Education	7,200	3,600	-	3,600	-	50.0%	0.0%	50.0%	0.0%
Maintenance/Other Supplies	41,200	20,600	-	20,600	-	50.0%	0.0%	50.0%	0.0%
Subtotal	\$ 165,200	\$ 82,600	\$ -	\$ 82,600	\$ -				

CITY OF MADERA
WATER RATE STUDY
Cost of Service Analysis

Function & Classification

TABLE 27 : CLASSIFICATION OF EXPENSES FOR FY 2021/22

Classification of Expenses, continued									
Budget Categories	Total Revenue Requirements	Commodity	Conservation	Capacity	Customer	Basis of Classification			
	FY 2021/22	(COM)	(CON)	(CAP)	(CA)	(COM)	(CON)	(CAP)	(CA)
Interfund Charge - Facility Maintenance	\$ 85,500	\$ 42,750	\$ -	\$ 42,750	\$ -	50.0%	0.0%	50.0%	0.0%
Interfund Charge - Central Su.	1,200	600	-	600	-	50.0%	0.0%	50.0%	0.0%
Interfund Charge - Cost Distribution	170,000	85,000	-	85,000	-	50.0%	0.0%	50.0%	0.0%
Interfund Charge - Admin. Overhead	57,400	28,700	-	28,700	-	50.0%	0.0%	50.0%	0.0%
Interfund Charge - Vehicle Replacement	14,900	7,450	-	7,450	-	50.0%	0.0%	50.0%	0.0%
Interfund Charge - Vehicle Maintenance	15,200	7,600	-	7,600	-	50.0%	0.0%	50.0%	0.0%
Subtotal	\$ 344,200	\$ 172,100	\$ -	\$ 172,100	\$ -				
Functional Expenses									
Water Conservation Program	\$ 255,600	\$ -	\$ 255,600	\$ -	\$ -	0.0%	100.0%	0.0%	0.0%
Subtotal	\$ 255,600	\$ -	\$ 255,600	\$ -	\$ -				
Special Payments									
OPEB Obligation Expense	\$ 24,000	\$ 12,000	\$ -	\$ 12,000	\$ -	50.0%	0.0%	50.0%	0.0%
Pension Expense-GASB 68	61,300	30,650	-	30,650	-	50.0%	0.0%	50.0%	0.0%
Subtotal	\$ 85,300	\$ 42,650	\$ -	\$ 42,650	\$ -				
Transfer Out									
Transfer Out - Insurance Rese.	\$ 8,500	\$ 4,250	\$ -	\$ 4,250	\$ -	50.0%	0.0%	50.0%	0.0%
Subtotal	\$ 8,500	\$ 4,250	\$ -	\$ 4,250	\$ -				
Sub-Total: Water Quality Control	\$ 1,266,400	\$ 505,400	\$ 255,600	\$ 505,400	\$ -	39.9%	20.2%	39.9%	0.0%

TABLE 28 : CLASSIFICATION OF EXPENSES FOR FY 2021/22

Classification of Expenses, continued									
Budget Categories	Total Revenue Requirements	Commodity	Conservation	Capacity	Customer	Basis of Classification			
	FY 2021/22	(COM)	(CON)	(CAP)	(CA)	(COM)	(CON)	(CAP)	(CA)
WATER CONSERVATION PROGRAM									
Salaries & Benefits									
Salaries / Full-Time	\$ 111,500	\$ 33,450	\$ 72,475	\$ -	\$ 5,575	30.0%	65.0%	0.0%	5.0%
Salaries / Uniform Pay	300	90	195	-	15	30.0%	65.0%	0.0%	5.0%
Public Employees Retirement	16,800	5,040	10,920	-	840	30.0%	65.0%	0.0%	5.0%
Long Term Disability Insurance	400	120	260	-	20	30.0%	65.0%	0.0%	5.0%
Life Insurance Premiums	100	30	65	-	5	30.0%	65.0%	0.0%	5.0%
Workers Compensation Insurance	10,600	3,180	6,890	-	530	30.0%	65.0%	0.0%	5.0%
Medicare Tax - Employer's Share	1,700	510	1,105	-	85	30.0%	65.0%	0.0%	5.0%
Unfunded Accrued Liability	30,500	9,150	19,825	-	1,525	30.0%	65.0%	0.0%	5.0%
Deferred Compensation/Full-Time	4,700	1,410	3,055	-	235	30.0%	65.0%	0.0%	5.0%
Unemployment Insurance	400	120	260	-	20	30.0%	65.0%	0.0%	5.0%
Section 125 Benefit Allowance	24,500	7,350	15,925	-	1,225	30.0%	65.0%	0.0%	5.0%
Subtotal	\$ 201,500	\$ 60,450	\$ 130,975	\$ -	\$ 10,075				
Materials & Services									
Advertising/Other	\$ 23,300	\$ 6,990	\$ 15,145	\$ -	\$ 1,165	30.0%	65.0%	0.0%	5.0%
Subtotal	\$ 23,300	\$ 6,990	\$ 15,145	\$ -	\$ 1,165				
Interfund Charges									
Interfund Charge - Admin. Overhead	\$ 17,700	\$ 5,310	\$ 11,505	\$ -	\$ 885	30.0%	65.0%	0.0%	5.0%
Subtotal	\$ 17,700	\$ 5,310	\$ 11,505	\$ -	\$ 885				
Functional Expenses									
Water Conservation Program	\$ 100,000	\$ -	\$ 100,000	\$ -	\$ -	0.0%	100.0%	0.0%	0.0%
Subtotal	\$ 100,000	\$ -	\$ 100,000	\$ -	\$ -				
Special Payments									
OPEB Obligation Expense	\$ (2,400)	\$ (720)	\$ (1,560)	\$ -	\$ (120)	30.0%	65.0%	0.0%	5.0%
Pension Expense-GASB 68	29,100	8,730	18,915	-	1,455	30.0%	65.0%	0.0%	5.0%
Subtotal	\$ 26,700	\$ 8,010	\$ 17,355	\$ -	\$ 1,335				
Transfer Out									
Transfer Out - Insurance Rese.	\$ 3,700	\$ 1,110	\$ 2,405	\$ -	\$ 185	30.0%	65.0%	0.0%	5.0%
Subtotal	\$ 3,700	\$ 1,110	\$ 2,405	\$ -	\$ 185				
Sub-Total: Water Conservation Program	\$ 372,900	\$ 81,870	\$ 277,385	\$ -	\$ 13,645	22.0%	74.4%	0.0%	3.7%

TABLE 29 : CLASSIFICATION OF EXPENSES FOR FY 2021/22

Classification of Expenses, continued									
Budget Categories	Total Revenue Requirements	Commodity	Conservation	Capacity	Customer	Basis of Classification			
	FY 2021/22	(COM)	(CON)	(CAP)	(CA)	(COM)	(CON)	(CAP)	(CA)
WATER DEBT SERVICE & REVENUE BONDS									
Materials & Services									
Contracted Services	\$ 4,500	\$ 2,250	\$ -	\$ 2,250	\$ -	50.0%	0.0%	50.0%	0.0%
Subtotal	\$ 4,500	\$ 2,250	\$ -	\$ 2,250	\$ -				
Sub-Total: Water Capital Outlay	\$ 4,500	\$ 2,250	\$ -	\$ 2,250	\$ -	50.0%	0.0%	50.0%	0.0%
Total Operating Expense	\$ 7,258,284	\$ 4,534,895	\$ 532,985	\$ 960,725	\$ 1,229,679	62.5%	7.3%	13.2%	16.9%

TABLE 30 : CLASSIFICATION OF EXPENSES FOR FY 2021/22

Classification of Expenses, continued									
Budget Categories	Total Revenue Requirements	Commodity	Conservation	Capacity	Customer	Basis of Classification			
	FY 2021/22	(COM)	(CON)	(CAP)	(CA)	(COM)	(CON)	(CAP)	(CA)
Debt Service Payments									
Existing Debt Service	\$ 778,791	\$ 389,395	\$ -	\$ 389,395	\$ -	50.0%	0.0%	50.0%	0.0%
Total Debt Service Payments	\$ 778,791	\$ 389,395	\$ -	\$ 389,395	\$ -	50.0%	0.0%	50.0%	0.0%
Capital Expenditures									
Rate Funded Capital Expenses	\$ 1,948,133	\$ 974,066	\$ -	\$ 974,066	\$ -	50.0%	0.0%	50.0%	0.0%
TOTAL REVENUE REQUIREMENTS	\$ 9,985,208	\$ 5,898,357	\$ 532,985	\$ 2,324,187	\$ 1,229,679	59.1%	5.3%	23.3%	12.3%
<i>Less: Non-Rate Revenues</i>									
WATER UTILITY									
Licenses & Permits									
State SB1186 Fees/Business License	\$ (3,561)	\$ (2,104)	\$ (190)	\$ (829)	\$ (439)	59.1%	5.3%	23.3%	12.3%
Infrastructure Cost Payback	\$ (5,937)	\$ (3,507)	\$ (317)	\$ (1,382)	\$ (731)	59.1%	5.3%	23.3%	12.3%
Meter Amortization	\$ (10,000)	\$ (5,907)	\$ (534)	\$ (2,328)	\$ (1,232)	59.1%	5.3%	23.3%	12.3%
Fines & Forfeiture									
Late Payment/Other Penalty	\$ (196,650)	\$ (116,163)	\$ (10,497)	\$ (45,773)	\$ (24,217)	59.1%	5.3%	23.3%	12.3%
Revenue/Water Patrol Fines	\$ (45,983)	\$ (27,163)	\$ (2,454)	\$ (10,703)	\$ (5,663)	59.1%	5.3%	23.3%	12.3%
Charges for Services									
Application Fee	\$ (34,547)	\$ (20,407)	\$ (1,844)	\$ (8,041)	\$ (4,254)	59.1%	5.3%	23.3%	12.3%
Construction Usage Fee	\$ (7,860)	\$ (4,643)	\$ (420)	\$ (1,830)	\$ (968)	59.1%	5.3%	23.3%	12.3%
Meter Setup/Relocation Fee	\$ (3,169)	\$ (1,872)	\$ (169)	\$ (738)	\$ (390)	59.1%	5.3%	23.3%	12.3%
User Charges									
Water Permits and Fees	\$ (1,647)	\$ (973)	\$ (88)	\$ (383)	\$ (203)	59.1%	5.3%	23.3%	12.3%
Interest									
Interest Income	\$ (415,410)	\$ (245,386)	\$ (22,174)	\$ (96,692)	\$ (51,158)	59.1%	5.3%	23.3%	12.3%
Interfund Charges									
Interfund Charges Revenue - Co	\$ (4,326)	\$ (2,555)	\$ (231)	\$ (1,007)	\$ (533)	59.1%	5.3%	23.3%	12.3%
Refunds									
Refunds & Reimbursements	\$ (2,246)	\$ (1,327)	\$ (120)	\$ (523)	\$ (277)	59.1%	5.3%	23.3%	12.3%
Collection Recovery	\$ (1,938)	\$ (1,145)	\$ (103)	\$ (451)	\$ (239)	59.1%	5.3%	23.3%	12.3%
UTILITY BILLING AND WATER									
Refunds									
Refunds and Reimbursements	\$ (841)	\$ (497)	\$ (45)	\$ (196)	\$ (104)	59.1%	5.3%	23.3%	12.3%
Collection Recovery	\$ -	\$ -	\$ -	\$ -	\$ -	59.1%	5.3%	23.3%	12.3%
NET REVENUE REQUIREMENTS FOR FY 2021/22	\$ 9,251,093	\$ 5,464,708	\$ 493,800	\$ 2,153,312	\$ 1,139,273				
<i>Allocation of Revenue Requirements</i>	100.0%	59.1%	5.3%	23.3%	12.3%				

TABLE 31 : ADJUSTMENT OF COST OF SERVICE ALLOCATION

<i>Average adjusted current revenue with rate increases</i>	Total Revenue Requirements	Commodity	Conservation	Capacity	Customer
	\$ 11,919,552	\$ 7,040,993	\$ 636,235	\$ 2,774,431	\$ 1,467,894
	100.0%	59.1%	5.3%	23.3%	12.3%

TABLE 32

Development of the COMMODITY & CONSERVATION Allocation Factor					
Customer Class	Volume (hcf) ¹	Percent of Total Volume	Average Monthly Statistics		
			Winter	Annual	Summer
Single-Family	2,253,906	63.4%	8	15	22
Multi-Family	467,097	13.1%	9	12	17
Commercial	679,591	19.1%	42	70	103
Industrial	37,010	1.0%	101	134	168
Irrigation	115,456	3.2%	44	141	261
Total	3,553,060	100%			

1. Consumption is from January through December 2020.

Source files: September 2019 through August 2020: MAIS Meter Usage 12 Months_Manipulated.xlsx

September-December 2020: 2020 SEP-DEC Munis Water Usage_Manipulated.xlsx

Commodity Related Costs: These costs are associated with the total consumption (flow) of water over a specified period of time (e.g. annual).

TABLE 33

Development of the CAPACITY Allocation Factor				
Customer Class	Average Monthly Use (hcf)	Peak Monthly Use (hcf) ²	Peaking Factor	Max Monthly Capacity Factor
Single-Family	187,825	286,177	1.52	63.9%
Multi-Family	38,925	54,661	1.40	12.2%
Commercial	56,633	84,950	1.50	19.0%
Industrial	3,084	4,013	1.30	0.9%
Irrigation	9,621	18,378	1.91	4.1%
Total	296,088	448,180		100%

2. Based on peak monthly data (peak day data not available).

Capacity Related Costs: Costs associated with the maximum demand required at one point in time or the maximum size of facilities required to meet this demand.

TABLE 34

Development of the CUSTOMER Allocation Factor				
Customer Class	Number of Meters ¹	Percent of Total Accounts	Number of Units ¹	Percent of Total Units
Single-Family	12,663	89.8%	12,663	75.6%
Multi-Family	528	3.7%	3,183	19.0%
Commercial	813	5.8%	813	4.9%
Industrial	23	0.2%	23	0.1%
Irrigation	68	0.5%	68	0.4%
Total	14,095	100.0%	16,750	100.0%

1. Meter Count is from December 2020.

Customer Related Costs : Costs associated with having a customer on the water system. These costs vary with the addition or deletion of customers on the system. Examples: Meter-reading, Postage and billing.

TABLE 35 : SUMMARY OF COST OF SERVICE ALLOCATION OF WATER REVENUE REQUIREMENTS

Functional Category	Proposed Rates for FY 2021/22	
	Adjusted Net Revenue Requirements 36% Fixed / 64% Variable	
Commodity - Related Costs	\$ 7,040,993	59.1%
Conservation - Related Costs	\$ 636,235	5.3%
Capacity - Related Costs	\$ 2,774,431	23.3%
Customer - Related Costs	\$ 1,467,894	12.3%
Total	\$ 11,919,552	100%

TABLE 36 : ALLOCATION OF ADJUSTED NET REVENUE REQUIREMENTS

<i>Net Revenue Requirements for FY 2021/22</i>						
Customer Classes	Classification Components				Cost of Service Net Rev. Req'ts	% of COS Net Revenue Req'ts
	Commodity - Related Costs	Conservation - Related Costs	Capacity - Related Costs	Customer - Related Costs		
Single-Family	\$ 4,466,498	\$ 403,600	\$ 1,771,559	\$ 1,109,728	\$ 7,751,384	65.0%
Multi-Family	925,633	83,642	338,377	278,944	1,626,595	13.6%
Commercial	1,346,725	121,692	525,881	71,248	2,065,546	17.3%
Industrial	73,342	6,627	24,844	2,016	106,828	0.9%
Irrigation	228,795	20,674	113,770	5,959	369,199	3.1%
Total Net Revenue Requirement	\$ 7,040,993	\$ 636,235	\$ 2,774,431	\$ 1,467,894	\$ 11,919,552	100%

TABLE 37

Meter Size	Standard Meters ¹	
	Meter Capacity (gpm)	Equivalency to 1 inch
	<u>Displacement Meters</u>	
5/8 inch	20	0.40
3/4 inch	30	0.60
1 inch	50	1.00
1.5 inch	100	2.00
2 inch	160	3.20
	<u>Compound Class I Meters</u>	
3 inch	320	6.40
4 inch	500	10.00
6 inch	1,000	20.00
8 inch	1,600	32.00

1. Meter flow rates are from AWWA M-1 Table B-1.

TABLE 38 : CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES

Proposed Fixed Meter Charges for FY 2021/22										
Number of Meters by Class and Size¹	5/8 inch	3/4 inch	1 inch	1 1/2 inch	2 inch	3 inch	4 inch	6 inch	8 inch	Total
Single-Family	1	2	12,369	34	229	12	16	-	-	12,663
Multi-Family	-	1	416	11	91	2	1	4	2	528
Commercial	1	4	597	29	146	14	17	4	1	813
Industrial	-	-	13	3	4	2	1	-	-	23
Irrigation	-	-	46	3	14	3	2	-	-	68
Total Meters/Accounts	2	7	13,441	80	484	33	37	8	3	14,095
<i>Hydraulic Capacity Factor²</i>	<i>0.40</i>	<i>0.60</i>	<i>1.00</i>	<i>2.00</i>	<i>3.20</i>	<i>6.40</i>	<i>10.00</i>	<i>20.00</i>	<i>32.00</i>	
Total Equivalent Meters	0.8	4.2	13,441	160	1,548.8	211.2	370	160	96	15,992
Monthly Fixed Service Charges										
Customer Costs (\$/Acct/month) ³	\$8.68	\$8.68	\$8.68	\$8.68	\$8.68	\$8.68	\$8.68	\$8.68	\$8.68	
Capacity Costs (\$/Acct/month) ⁴	\$5.78	\$8.67	\$14.46	\$28.91	\$46.26	\$92.53	\$144.57	\$289.15	\$462.64	
Total Monthly Meter Charge	\$14.46	\$17.35	\$23.14	\$37.59	\$54.94	\$101.21	\$153.25	\$297.83	\$471.32	

1. Number of meters by size and customer class for December 2020.
Source file: 2020 SEP-DEC Munis Water Usage_Manipulated.xlsx
2. Source file: AWWA Manual M1, "Principles of Water Rates, Fees, and Charges", Table B-1.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Capacity costs are allocated by meter size and the hydraulic capacity of the meter.

Water Cost of Service Analysis/Rate Design

TABLE 39 : SINGLE-FAMILY RESIDENTIAL TIER BREAKPOINT CONSUMPTION

Consumption by Tier			
Tier	Monthly Breakpoint ¹	Annual Expected Consumption ²	Percentage of Total SFR Consumption
Tier 1	8 hcf	1,215,648	54%
Tier 2	8+ hcf	1,038,258	46%
Total		2,253,906	100%

*Proposed Tier Breakpoints
8 Average Winter Usage*

1. Tier 1 break point set to provide basic indoor water needs.
2. Consumption is from January through December 2020 for residential customers.

TABLE 40 : PEAK CAPACITY ALLOCATION FOR SINGLE-FAMILY RESIDENTIAL CUSTOMERS

Development of the Single-Family Residential PEAK CAPACITY (MAX MONTH) Allocation Factors				
Tier	Description	Annual Consumption (hcf) ¹	Additional Capacity Required (hcf) ²	Percent of Total
Tier 1	Max Tier 1 Capacity ³	1,215,648	0	0.0%
Tier 2	Peak up to Tier 2 ⁴	1,038,258	1,038,258	100.0%
Total			1,038,258	100.0%

1. Consumption is from January through December 2020 for SFR customers.
2. This is the additional cumulative capacity to meet peak consumption at each tier.
3. Capacity allocated to the first tier represents the tier break multiplied by the number of customers.
4. This is the cumulative peak consumption up to the tier break; it represents capacity required to provide service to a given tier.

TABLE 41 : MULTI-FAMILY RESIDENTIAL TIER BREAKPOINT CONSUMPTION

Consumption by Tier			
Tier	Monthly Breakpoint	Expected Consumption ¹	Percentage of Total MFR Consumption
Tier 1	8 hcf	305,568	65%
Tier 2	8+ hcf	161,529	35%
Total		467,097	100%

Proposed Tier Breakpoints

8 Average Winter Usage to match SFR

1. Consumption is from January through December 2020 for MFR customers.

TABLE 42 : PEAK CAPACITY ALLOCATION FOR MULTI-FAMILY RESIDENTIAL CUSTOMERS

Development of the Multi-Family Residential PEAK CAPACITY (MAX MONTH) Allocation Factors				
Tier	Description	Annual Consumption (hcf) ¹	Additional Capacity Required (hcf) ²	Additional Capacity Factor
Tier 1	Max Tier 1 Capacity ³	305,568	0	0.0%
Tier 2	Peak up to Tier 2 ⁴	161,529	161,529	100.0%
Total			161,529	100.0%

1. Consumption is from January through December 2020 for MFR customers.

2. This is the additional cumulative capacity to meet peak consumption at each tier.

3. Consumption assigned to Tier 1 is the max Tier 1 water use (Tier 1 breakpoint multiplied by the number Multi-Family customers).

4. This is the cumulative peak consumption up to the tier break; it represents cumulative peak use up to each tier.

TABLE 43: UNIFORM VARIABLE WATER RATES

Proposed Volumetric Charges for FY 2021/22							
Customer Classes	Water Consumption (hcf/yr.) ¹	Commodity - Related Costs	Conservation- Related Costs	Target Rev. Req't from Vol. Charges	Cost Per Unit of Water (\$/hcf)	Base Volumetric Rates (\$/hcf)	Estimated Revenue
	a	b	c	d = b+c	d / a		
Single-Family	2,253,906	\$ 4,466,498	\$ 403,600	\$ 4,870,097	\$2.16	\$2.16	\$5,877,366
Multi-Family	467,097	925,633	83,642	1,009,275	\$2.16		
Commercial	679,591	1,346,725	121,692	1,468,417	\$2.16	\$2.16	\$1,797,243
Industrial	37,010	73,342	6,627	79,969	\$2.16		
Irrigation	115,456	228,795	20,674	249,470	\$2.16		
Total	3,553,060	\$ 7,040,993	\$ 636,235	\$ 7,677,228			

1. Consumption by customer class from January-December 2020.

Source files: September 2019 through August 2020: MAIS Meter Usage 12 Months_Manipulated.xlsx

September-December 2020: 2020 SEP-DEC Munis Water Usage_Manipulated.xlsx

TABLE 44: TIERED VARIABLE WATER RATES - OPTION 2

Proposed Volumetric Charges for FY 2021/22							
Customer Classes	Water Consumption (hcf/yr.) ¹	Commodity - Related Costs	Conservation- Related Costs	Target Rev. Req't from Vol. Charges	Cost Per Unit of Water (\$/hcf)	Base Volumetric Rates (\$/hcf)	Estimated Revenue
	a	b	c	d = b + c	d / a		
Single-Family	2,253,906	\$ 4,466,498	<i>Shown in Table 45</i>	\$ 4,466,498	\$1.98	\$1.98	<i>Shown in Table 45</i>
Multi-Family	467,097	925,633		925,633	\$1.98		
Commercial	679,591	1,346,725	\$ 121,692	1,468,417	\$2.16	\$2.16	\$1,797,243
Industrial	37,010	73,342	6,627	79,969	\$2.16		
Irrigation	115,456	228,795	20,674	249,470	\$2.16		
Total	3,553,060	\$ 7,040,993	\$ 148,994	\$ 7,189,986			

1. Consumption by customer class from January-December 2020.

Source files: September 2019 through August 2020: MAIS Meter Usage 12 Months_Manipulated.xlsx

September-December 2020: 2020 SEP-DEC Munis Water Usage_Manipulated.xlsx

TABLE 45: TIERED VARIABLE WATER RATES - OPTION 2

Proposed Single-Family & Multi-Family Residential Tiered Charges for FY 2021/22							
Customer Classes	Tier Break	Est. Water Consumption (hcf/yr.)	Conservation-Related Costs	Base Rate	Conservation Costs Allocated to Tier 2	Cost Per Unit of Water (\$/hcf)	Estimated Revenue
		a	b		b / a		
SFR and MFR							
Tier 1	8 hcf	1,521,216	\$ -	\$1.98		\$1.98	\$ 3,012,008
Tier 2	8+ hcf	1,199,787	\$ 487,242	\$1.98	\$ 0.41	\$2.39	\$ 2,867,491
Total		2,721,003	\$ 487,242				\$ 5,879,498
Target Revenue Requirement from Volumetric Charges		Commodity	Non-Res. Conservation	Total			
		c	d	b+c+d			
		\$ 7,040,993	\$ 148,994	\$ 7,677,228			

CITY OF MADERA
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TABLE 46 : EXPENSES DIRECTLY IMPACTED BY FUTURE MANDATED WATER USE REDUCTION, IF DIRECTED BY COUNCIL

Expense Description	Commodity Costs ¹
	FY 2021/22
Total Commodity Costs Allocated in Function & Classification	\$ 7,040,993
Adjusted Commodity Assigned Costs	\$ 7,040,993

1. Costs change due to expected inflation.

TABLE 47 : YEAR 1 POTABLE NET REVENUE REQUIREMENTS BY FUTURE MANDATED WATER USE REDUCTION, IF DIRECTED BY COUNCIL

Percentage of Conservation	Total Consumption (hcf)	Base Commodity Cost	Impacted Commodity Cost	Savings	Adjusted Commodity Cost
<i>a</i>		<i>b</i>	<i>c</i>	<i>d = (-a) * c</i>	<i>e = b + d</i>
0%	3,553,060	\$ 7,677,228	\$ 7,040,993	\$ -	\$ 7,677,228
10%	3,197,754	\$ 7,677,228	\$ 7,040,993	\$ (704,099)	\$ 6,973,129
20%	2,842,448	\$ 7,677,228	\$ 7,040,993	\$ (1,408,199)	\$ 6,269,030
30%	2,487,142	\$ 7,677,228	\$ 7,040,993	\$ (2,112,298)	\$ 5,564,930
40%	2,131,836	\$ 7,677,228	\$ 7,040,993	\$ (2,816,397)	\$ 4,860,831
50%	1,776,530	\$ 7,677,228	\$ 7,040,993	\$ (3,520,496)	\$ 4,156,732
60%	1,421,224	\$ 7,677,228	\$ 7,040,993	\$ (4,224,596)	\$ 3,452,632

TABLE 48 : YEAR 1 POTABLE NET REVENUE REQUIREMENTS BY FUTURE MANDATED WATER USE REDUCTION, IF DIRECTED BY COUNCIL

Drought Level	Level of Conservation	Uniform	Tier 1 Rate	Tier 2 Rate
No Level	Baseline ¹	\$2.16	\$1.98	\$2.39
Level 1	10%	\$2.38	\$2.18	\$2.63
Level 2	20%	\$2.43	\$2.21	\$2.71
Level 3	30%	\$2.50	\$2.24	\$2.82
Level 4	40%	\$2.58	\$2.28	\$2.96
Level 5	50%	\$2.70	\$2.34	\$3.15
Level 6	60%	\$2.88	\$2.43	\$3.44

1. Baseline level of consumption assumes 2020 consumption.

**CITY OF MADERA
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Water Drought Rates**

TABLE 49 : LEVEL 1 - 10% CONSERVATION

Rate Structure Type	Water Consumption (hcf/yr.) ¹	Percentage of Water Consumption	Adjusted Commodity Cost	Commodity Cost at 10% Conservation	Conservation Related Costs	Drought Rates
	a	b	c	d = b x c	e	(d+e)/a
Residential Uniform						
Single-Family	2,028,515	63.5%	\$ 6,973,129	\$ 4,427,937	\$ 403,600	\$2.38
Multi-Family	420,388	13.1%	\$ 6,973,129	\$ 913,480	\$ 83,642	\$2.38
All Other Customers - Uniform	748,851	23.4%	\$ 6,973,129	\$ 1,631,712	\$ 148,994	\$2.38
TOTAL	3,197,754	100%		\$ 6,973,129	\$ 636,235	
OPTION 2 - Residential Tiered Rates						
Tiered Potable Tier 1	1,369,094	42.8%	\$ 6,973,129	\$ 2,985,493	\$ -	\$2.18
Commodity Rate Tier 2	1,079,808	33.8%	\$ 6,973,129	\$ 2,354,666	\$ 487,242	\$2.63
All Other Customers - Uniform	748,851	23.4%	\$ 6,973,129	\$ 1,632,970	\$ 148,994	\$2.38
TOTAL	3,197,754	100.0%		\$ 6,973,129	\$ 636,235	

1. Consumption by customer class from January-December 2020.

Source files: September 2019 through August 2020: MAIS Meter Usage 12 Months_Manipulated.xlsx
September-December 2020: 2020 SEP-DEC Munis Water Usage_Manipulated.xlsx

TABLE 50 : LEVEL 2 - 20% CONSERVATION

Rate Structure Type	Water Consumption (hcf/yr.) ¹	Percentage of Water Consumption	Adjusted Commodity Cost	Commodity Cost at 20% Conservation	Conservation Related Costs	Drought Rates
	a	b	c	d = b x c	e	(d+e)/a
Residential Uniform						
Single-Family	1,803,124	63.5%	\$ 6,269,030	\$ 3,983,067	\$ 403,600	\$2.43
Multi-Family	373,678	13.1%	\$ 6,269,030	\$ 824,148	\$ 83,642	\$2.43
All Other Customers - Uniform	665,645	23.4%	\$ 6,269,030	\$ 1,468,084	\$ 148,994	\$2.43
TOTAL	2,842,448	100%		\$ 6,275,299	\$ 636,235	
OPTION 2 - Residential Tiered Rates						
Tiered Potable Tier 1	1,216,973	42.8%	\$ 6,269,030	\$ 2,684,038	\$ -	\$2.21
Commodity Rate Tier 2	959,830	33.8%	\$ 6,269,030	\$ 2,116,908	\$ 487,242	\$2.71
All Other Customers - Uniform	665,645	23.4%	\$ 6,269,030	\$ 1,468,084	\$ 148,994	\$2.43
TOTAL	2,842,448	100%		\$ 6,269,030	\$ 636,235	

1. Consumption by customer class from January-December 2020.

Source files: September 2019 through August 2020: MAIS Meter Usage 12 Months_Manipulated.xlsx
September-December 2020: 2020 SEP-DEC Munis Water Usage_Manipulated.xlsx

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TABLE 51 : LEVEL 3 - 30% CONSERVATION

Rate Structure Type	Water Consumption (hcf/yr.) ¹	Percentage of Water Consumption	Adjusted Commodity Cost	Commodity Cost at 30% Conservation	Conservation Related Costs	Drought Rates
	a	b	c	d = b x c	e	(d+e)/a
<u>Residential Uniform</u>						
Single-Family	1,577,734	63.5%	\$ 5,564,930	\$ 3,535,713	\$ 403,600	\$2.50
Multi-Family	326,968	13.1%	\$ 5,564,930	\$ 731,585	\$ 83,642	\$2.50
All Other Customers - Uniform	582,440	23.4%	\$ 5,564,930	\$ 1,303,197	\$ 148,994	\$2.50
	2,487,142	100%		\$ 5,570,495	\$ 636,235	
<u>OPTION 2</u>						
Tiered Potable Tier 1	1,064,851	42.8%	\$ 5,564,930	\$ 2,382,583	\$ -	\$2.24
Commodity Rate Tier 2	839,851	33.8%	\$ 5,564,930	\$ 1,879,150	\$ 487,242	\$2.82
All Other Customers - Uniform	582,440	23.4%	\$ 5,564,930	\$ 1,303,197	\$ 148,994	\$2.49
	2,487,142	100.0%		\$ 5,564,930	\$ 636,235	

1. Consumption by customer class from January-December 2020.

Source files: September 2019 through August 2020: MAIS Meter Usage 12 Months_Manipulated.xlsx
September-December 2020: 2020 SEP-DEC Munis Water Usage_Manipulated.xlsx

TABLE 52 : LEVEL 4 - 40% CONSERVATION

Rate Structure Type	Water Consumption (hcf/yr.) ¹	Percentage of Water Consumption	Adjusted Commodity Cost	Commodity Cost at 40% Conservation	Conservation Related Costs	Drought Rates
	a	b	c	d = b x c	e	(d+e)/a
<u>Residential Uniform</u>						
Single-Family	1,352,343	63.5%	\$ 4,860,831	\$ 3,088,359	\$ 403,600	\$2.58
Multi-Family	280,258	13.1%	\$ 4,860,831	\$ 639,021	\$ 83,642	\$2.58
All Other Customers - Uniform	499,234	23.4%	\$ 4,860,831	\$ 1,138,311	\$ 148,994	\$2.58
	2,131,836	100%		\$ 4,865,692	\$ 636,235	
<u>OPTION 2</u>						
Tiered Potable Tier 1	912,730	42.8%	\$ 4,860,831	\$ 2,081,129	\$ -	\$2.28
Commodity Rate Tier 2	719,872	33.8%	\$ 4,860,831	\$ 1,641,391	\$ 487,242	\$2.96
All Other Customers - Uniform	499,234	23.4%	\$ 4,860,831	\$ 1,138,311	\$ 148,994	\$2.58
	2,131,836	100.0%		\$ 4,860,831	\$ 636,235	

1. Consumption by customer class from January-December 2020.

Source files: September 2019 through August 2020: MAIS Meter Usage 12 Months_Manipulated.xlsx
September-December 2020: 2020 SEP-DEC Munis Water Usage_Manipulated.xlsx

CITY OF MADERA
WATER RATE STUDY
Water Drought Rates

TABLE 53 : LEVEL 5 - 50% CONSERVATION

Rate Structure Type	Water Consumption (hcf/yr.) ¹	Percentage of Water Consumption	Adjusted Commodity Cost	Commodity Cost at 50% Conservation	Conservation Related Costs	Drought Rates
	a	b	c	d = b x c	e	(d+e)/a
OPTION 1 - Residential Uniform						
Single-Family	1,126,953	63.5%	\$ 4,156,732	\$ 2,641,005	\$ 403,600	\$2.70
Multi-Family	233,549	13.1%	\$ 4,156,732	\$ 546,458	\$ 83,642	\$2.70
All Other Customers - Uniform	416,028	23.4%	\$ 4,156,732	\$ 973,425	\$ 148,994	\$2.70
	1,776,530	100%		\$ 4,160,888	\$ 636,235	
OPTION 2						
Tiered Potable Tier 1	760,608	42.8%	\$ 4,156,732	\$ 1,779,674	\$ -	\$2.34
Commodity Rate Tier 2	599,893	33.8%	\$ 4,156,732	\$ 1,403,633	\$ 487,242	\$3.15
All Other Customers - Uniform	416,028	23.4%	\$ 4,156,732	\$ 973,425	\$ 148,994	\$2.70
	1,776,530	100.0%		\$ 4,156,732	\$ 636,235	

1. Consumption by customer class from January-December 2020.

Source files: September 2019 through August 2020: MAIS Meter Usage 12 Months_Manipulated.xlsx
September-December 2020: 2020 SEP-DEC Munis Water Usage_Manipulated.xlsx

TABLE 54 : LEVEL 6 - 60% CONSERVATION

Rate Structure Type	Water Consumption (hcf/yr.) ¹	Percentage of Water Consumption	Adjusted Commodity Cost	Commodity Cost at 60% Conservation	Conservation Related Costs	Drought Rates
	a	b	c	d = b x c	e	(d+e)/a
Residential Uniform						
Single-Family	901,562	63.5%	\$ 3,452,632	\$ 2,193,652	\$ 403,600	\$2.88
Multi-Family	186,839	13.1%	\$ 3,452,632	\$ 453,895	\$ 83,642	\$2.88
All Other Customers - Uniform	332,823	23.4%	\$ 3,452,632	\$ 808,539	\$ 148,994	\$2.88
	1,421,224	100%		\$ 3,456,085	\$ 636,235	
OPTION 2						
Tiered Potable Tier 1	608,486	42.8%	\$ 3,452,632	\$ 1,478,219	\$ -	\$2.43
Commodity Rate Tier 2	479,915	33.8%	\$ 3,452,632	\$ 1,165,875	\$ 487,242	\$3.44
All Other Customers - Uniform	332,823	23.4%	\$ 3,452,632	\$ 808,539	\$ 148,994	\$2.88
	1,421,224	100.0%		\$ 3,452,632	\$ 636,235	

1. Consumption by customer class from January-December 2020.

Source files: September 2019 through August 2020: MAIS Meter Usage 12 Months_Manipulated.xlsx
September-December 2020: 2020 SEP-DEC Munis Water Usage_Manipulated.xlsx

CITY OF MADERA
WATER RATE STUDY
Water Cost of Service Analysis/Rate Design

Current & Proposed Rates

TABLE 55 : PROPOSED WATER RATES

Water Rate Schedule	Current Rates	Proposed Rates				
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Fixed Meter Charges						
<u>Monthly Fixed Service Charges:</u>						
5/8 inch	\$16.88	\$14.46	\$14.46	\$14.46	\$14.46	\$14.46
3/4 inch	\$19.09	\$17.35	\$17.35	\$17.35	\$17.35	\$17.35
1 inch	\$23.51	\$23.14	\$23.14	\$23.14	\$23.14	\$23.14
1.5 inch	\$34.56	\$37.59	\$37.59	\$37.59	\$37.59	\$37.59
2 inch	\$47.82	\$54.94	\$54.94	\$54.94	\$54.94	\$54.94
3 inch	\$89.81	\$101.21	\$101.21	\$101.21	\$101.21	\$101.21
4 inch	\$151.69	\$153.25	\$153.25	\$153.25	\$153.25	\$153.25
6 inch	\$299.76	\$297.83	\$297.83	\$297.83	\$297.83	\$297.83
8 inch	\$542.86	\$471.32	\$471.32	\$471.32	\$471.32	\$471.32
Commodity Charges						
<u>Rate per hcf of Water Consumed:</u>						
Non-Residential	\$2.41	\$2.16	\$2.16	\$2.16	\$2.16	\$2.16
OPTION 1						
Residential Uniform Rates	N/A	\$2.16	\$2.16	\$2.16	\$2.16	\$2.16
OPTION 2						
Tiered Rate - All Residential Customers:						
	<u>Proposed Break</u>					
Tier 1	0 - 8 hcf	\$1.93	\$1.98	\$1.98	\$1.98	\$1.98
Tier 2	8+ hcf	\$2.40	\$2.39	\$2.39	\$2.39	\$2.39
Tier 3	N/A	\$3.68	N/A	N/A	N/A	N/A

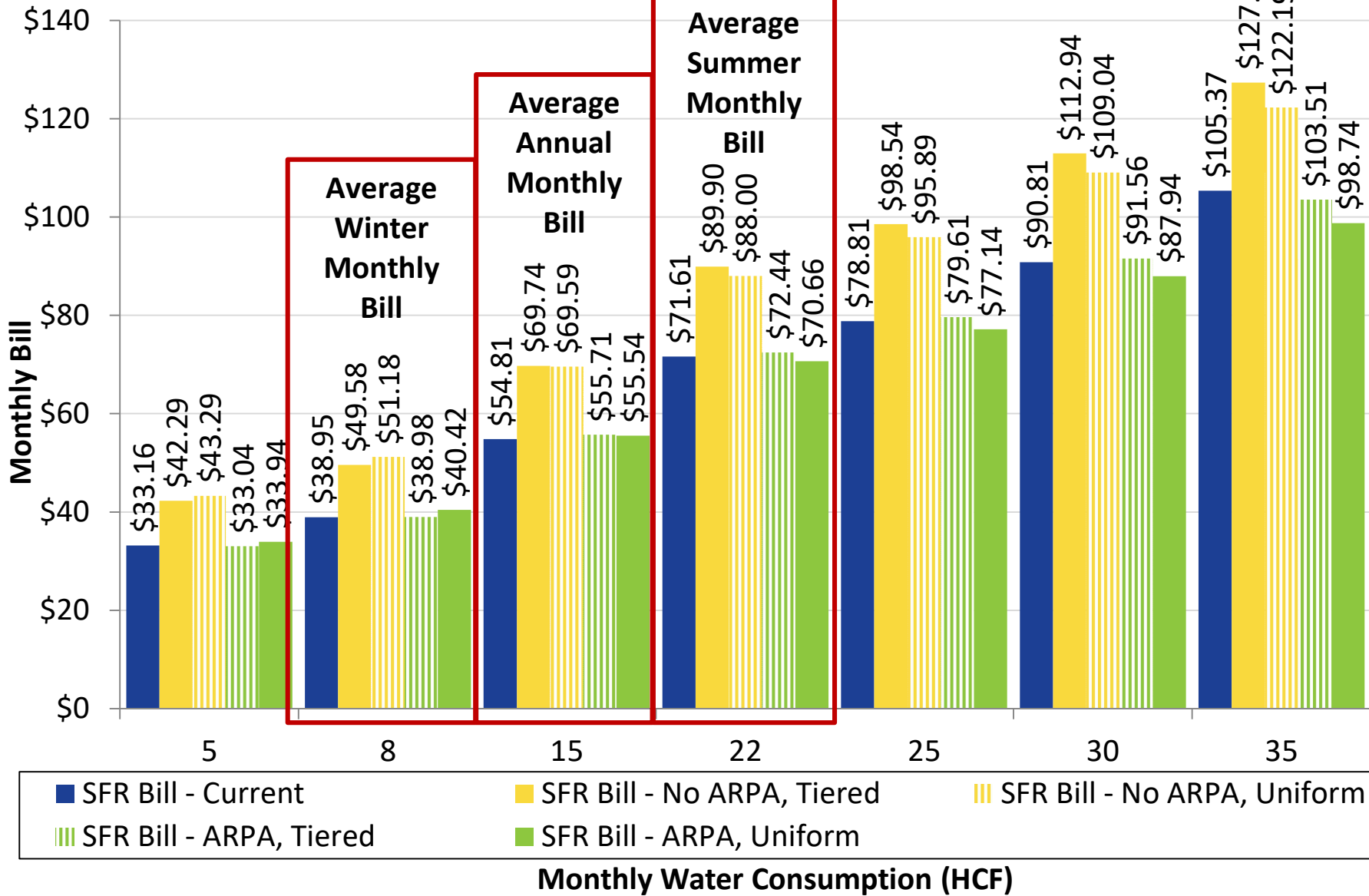
TABLE 56 : PROPOSED WATER DROUGHT RATES

Water Rate Schedule	Current Rates	Proposed Rates				
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
<i>Drought Rate Charges</i>						
<u>Rate per hcf of Water Consumed:</u>						
Non-Residential						
10% Conservation	N/A	\$2.38	\$2.38	\$2.38	\$2.38	\$2.38
20% Conservation	N/A	\$2.43	\$2.43	\$2.43	\$2.43	\$2.43
30% Conservation	N/A	\$2.50	\$2.50	\$2.50	\$2.50	\$2.50
40% Conservation	N/A	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58
50% Conservation	N/A	\$2.70	\$2.70	\$2.70	\$2.70	\$2.70
60% Conservation	N/A	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88
Residential Uniform Rates						
10% Conservation	N/A	\$2.38	\$2.38	\$2.38	\$2.38	\$2.38
20% Conservation	N/A	\$2.43	\$2.43	\$2.43	\$2.43	\$2.43
30% Conservation	N/A	\$2.50	\$2.50	\$2.50	\$2.50	\$2.50
40% Conservation	N/A	\$2.58	\$2.58	\$2.58	\$2.58	\$2.58
50% Conservation	N/A	\$2.70	\$2.70	\$2.70	\$2.70	\$2.70
60% Conservation	N/A	\$2.88	\$2.88	\$2.88	\$2.88	\$2.88

TABLE 57 : PROPOSED WATER DROUGHT RATES

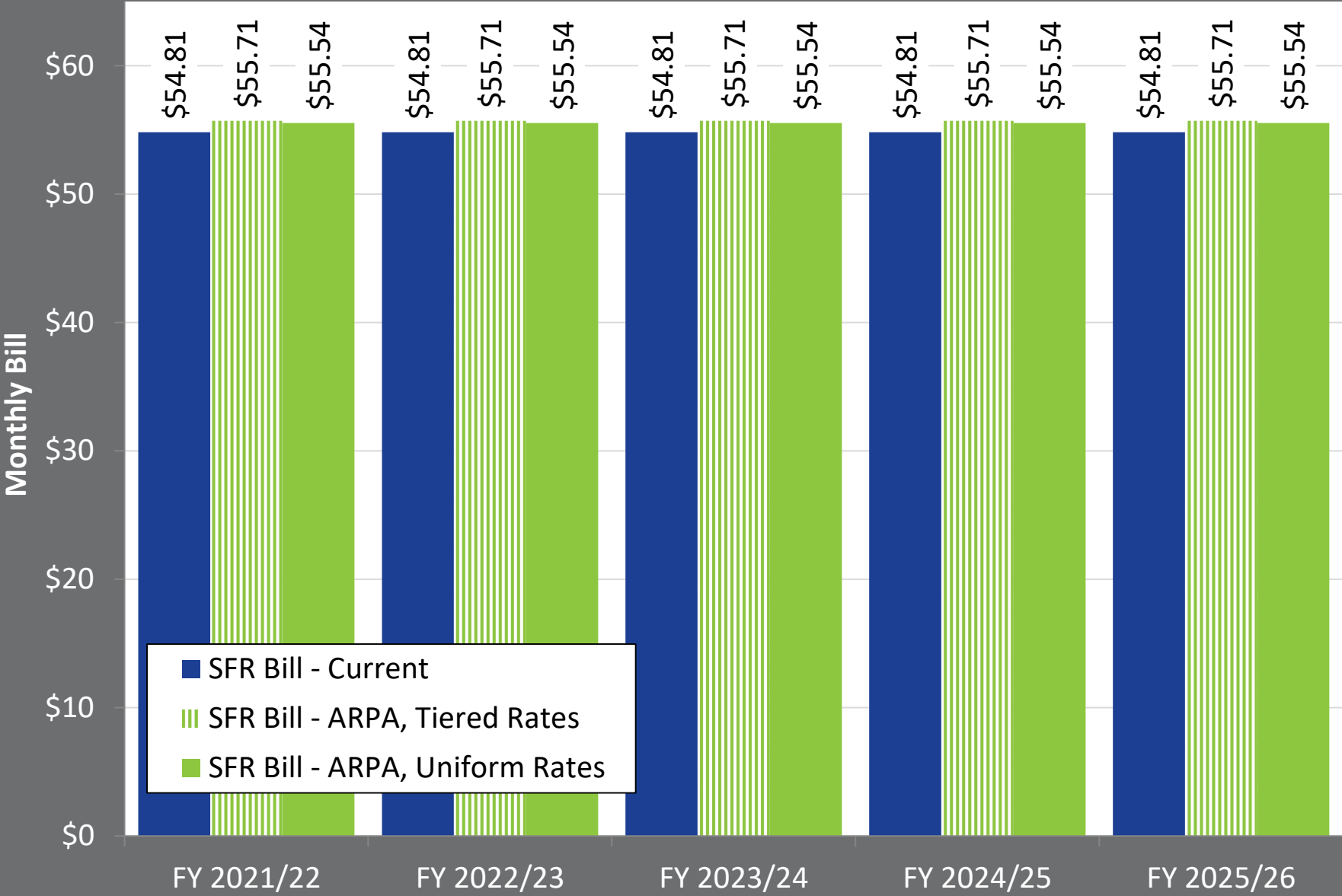
Water Rate Schedule	Current Rates	Proposed Rates				
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Drought Rate Charges						
OPTION 2						
Tiered Rate - Residential Customers:						
10% Conservation						
Tier 1	N/A	\$2.18	\$2.18	\$2.18	\$2.18	\$2.18
Tier 2	N/A	\$2.63	\$2.63	\$2.63	\$2.63	\$2.63
20% Conservation						
Tier 1	N/A	\$2.21	\$2.21	\$2.21	\$2.21	\$2.21
Tier 2	N/A	\$2.71	\$2.71	\$2.71	\$2.71	\$2.71
30% Conservation						
Tier 1	N/A	\$2.24	\$2.24	\$2.24	\$2.24	\$2.24
Tier 2	N/A	\$2.82	\$2.82	\$2.82	\$2.82	\$2.82
40% Conservation						
Tier 1	N/A	\$2.28	\$2.28	\$2.28	\$2.28	\$2.28
Tier 2	N/A	\$2.96	\$2.96	\$2.96	\$2.96	\$2.96
50% Conservation						
Tier 1	N/A	\$2.34	\$2.34	\$2.34	\$2.34	\$2.34
Tier 2	N/A	\$3.15	\$3.15	\$3.15	\$3.15	\$3.15
60% Conservation						
Tier 1	N/A	\$2.43	\$2.43	\$2.43	\$2.43	\$2.43
Tier 2	N/A	\$3.44	\$3.44	\$3.44	\$3.44	\$3.44

Residential Water Bill Comparison Current vs. Proposed Rates (1-inch meter)

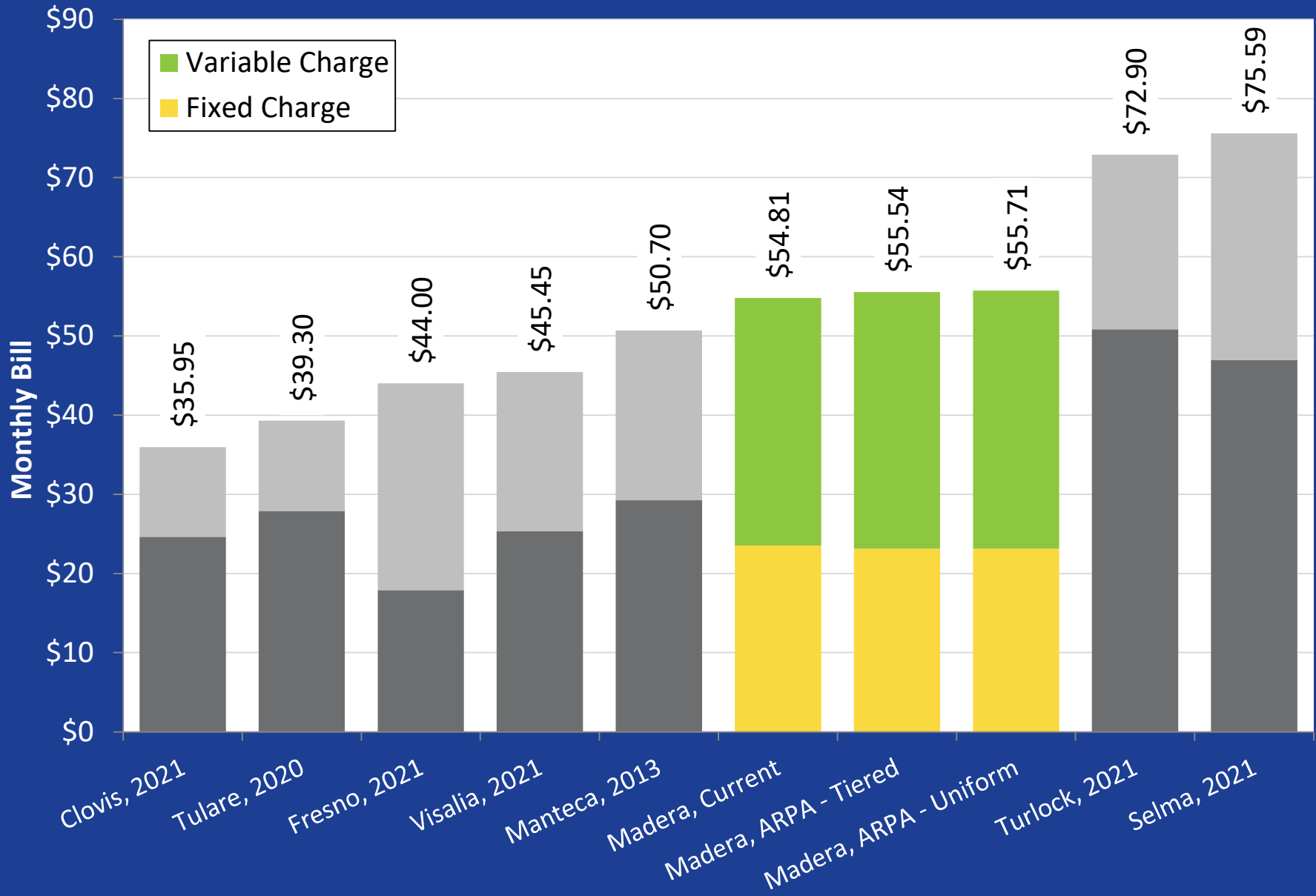


Residential Water Bill Comparison

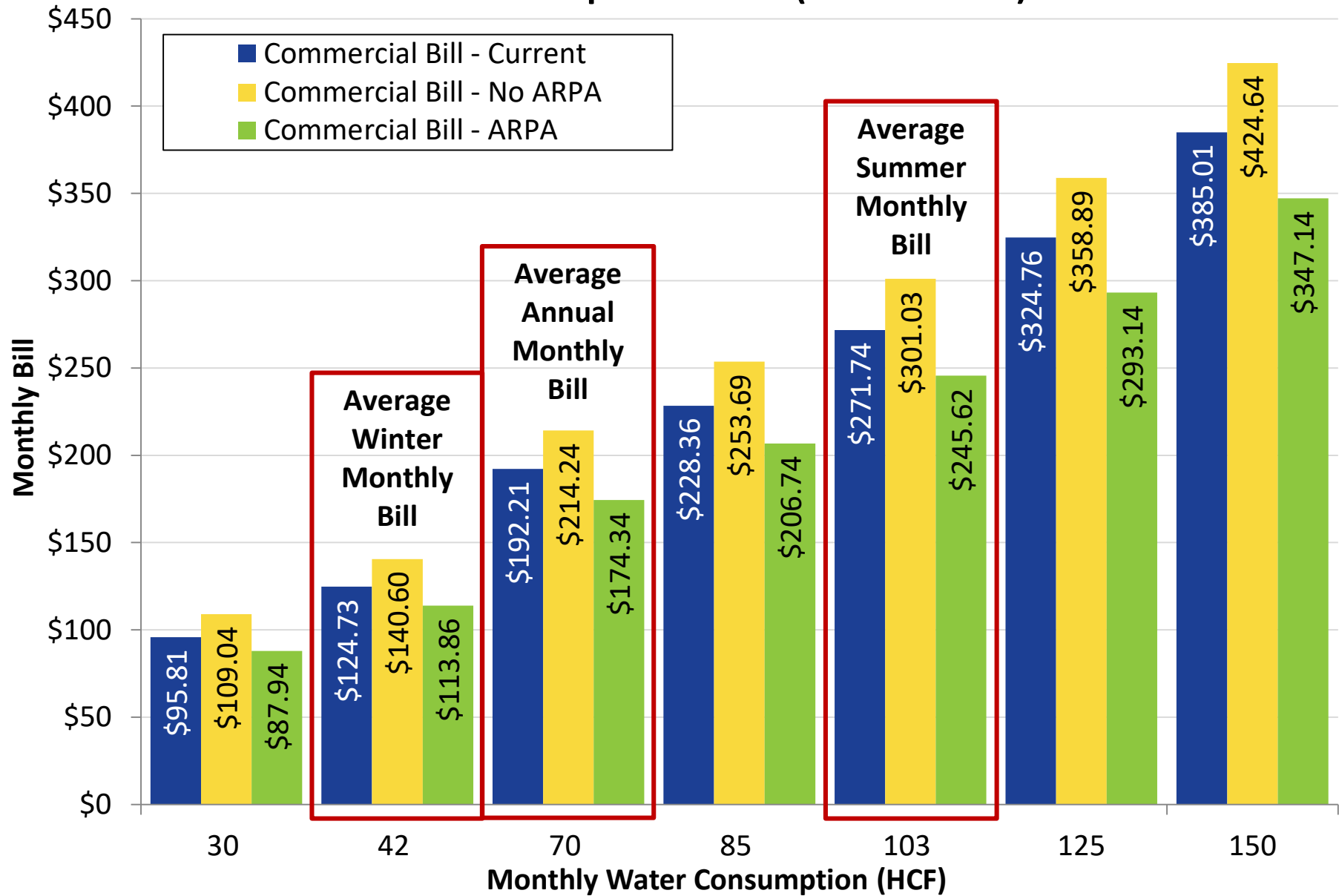
Current vs. Proposed Rates (1-inch meter with 15 hcf)



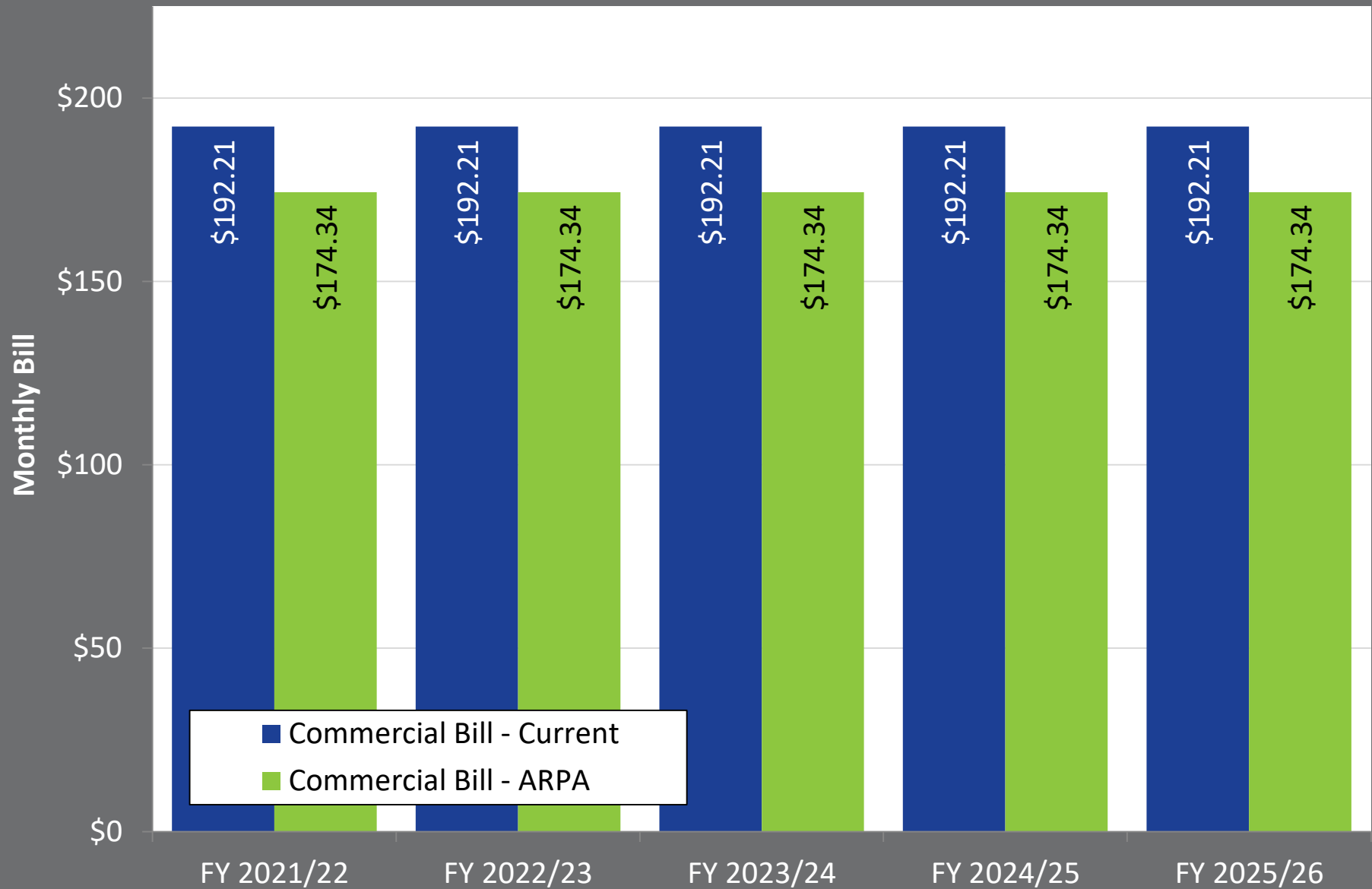
Single-Family Residential Regional Water Bill Comparison (1-inch meter with 15 hcf)



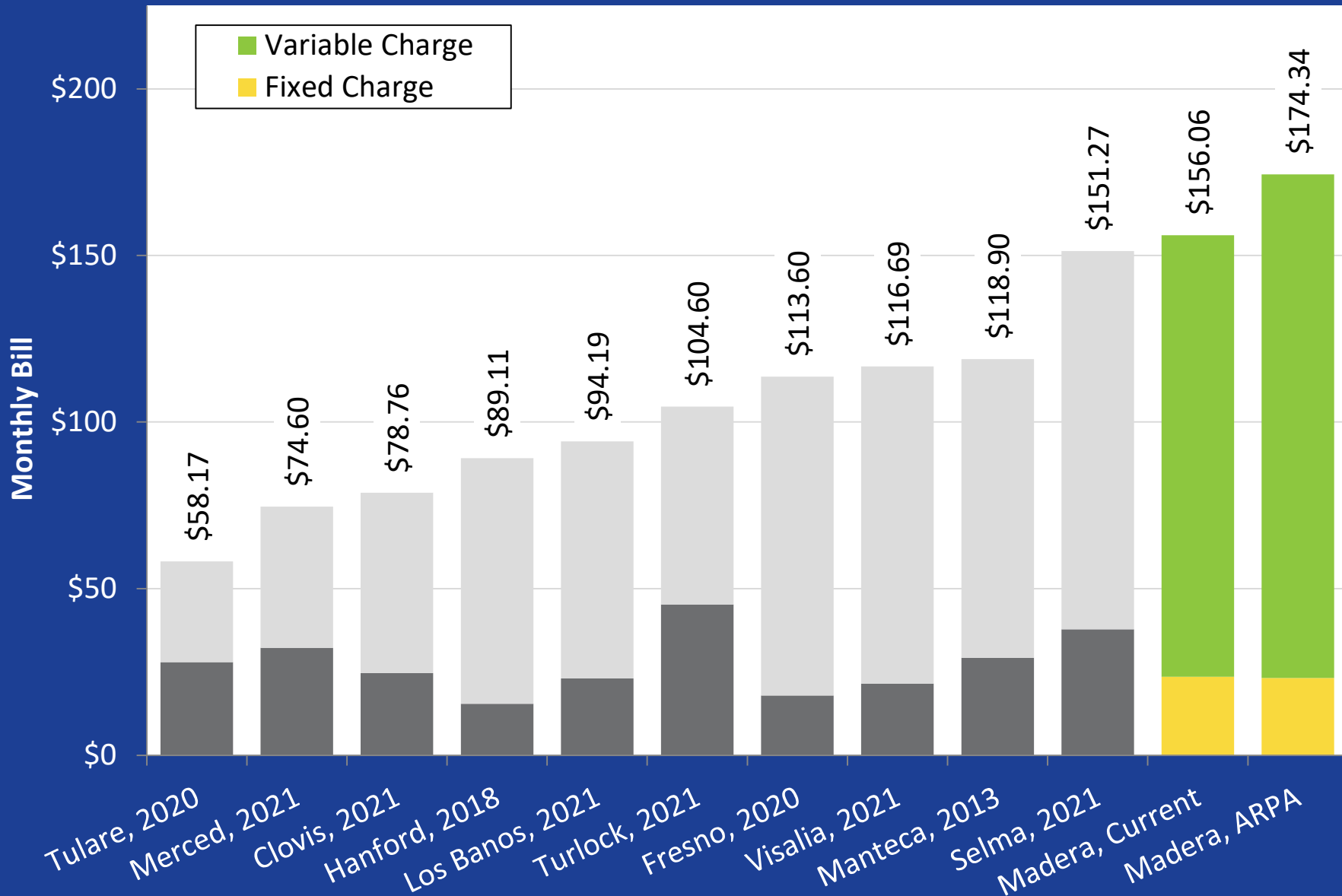
Commercial Water Bill Comparison Current vs. Proposed Rates (1-inch meter)



Commercial Water Bill Comparison Current vs. Proposed Rates (1-inch meter with 70 hcf)



Commercial Regional Water Bill Comparison (1-inch meter with 55 hcf)



2. Wastewater Rate Study

Aerial view of City of Madera
via Google Earth



CITY OF MADERA

DRAFT REPORT

Wastewater Rate Study

January 2022

OFFICE LOCATIONS:

Temecula – Corporate Headquarters
32605 Temecula Parkway, Suite 100
Temecula, CA 92592

San Francisco – Regional Office
870 Market Street, Suite 1223
San Francisco, CA 94102

California Satellite Offices
Atascadero, Davis
Huntington Beach,
Joshua Tree, Riverside
Sacramento, San Jose

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ABBREVIATIONS & ACRONYMS

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 1 st to June 30 th)
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

This appendix identifies abbreviations and acronyms that may be used in this report. This appendix has not been viewed, arranged, or edited by an attorney, nor should it be relied on as legal advice. The intent of this appendix 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.

NH3	Ammonia
NPV	Net Present Value
N/A	Not Available or Not Applicable
O&M	Operational & 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
R&R	Rehabilitation & Replacement
SFR	Single Family Residential
SRF Loan	State Revolving Fund Loan
SWRCB	State Water Resources Control Council
TSS / SS	Total Suspended Solids
V. / Vs. /vs.	Versus
WWTP	Wastewater Treatment Plant

This appendix identifies abbreviations and acronyms that may be used in this report. This appendix has not been viewed, arranged, or edited by an attorney, nor should it be relied on as legal advice. The intent of this appendix 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 1. PURPOSE AND OVERVIEW OF THE STUDY

A. Purpose

The City of Madera (City) retained NBS to conduct a comprehensive wastewater rate study for several reasons, including meeting revenue requirements, providing greater financial stability for the wastewater enterprise, and complying with certain legal requirements (such as California Constitution article XIII D, Section 6, which is commonly referred to as Proposition 218 [Prop 218]). The rates resulting from this study were developed in a manner that is consistent with industry standard cost of service principles. In addition to documenting the rate study methodology, this report is provided with the intent of assisting the City to maintain transparent communications with its residents and businesses.

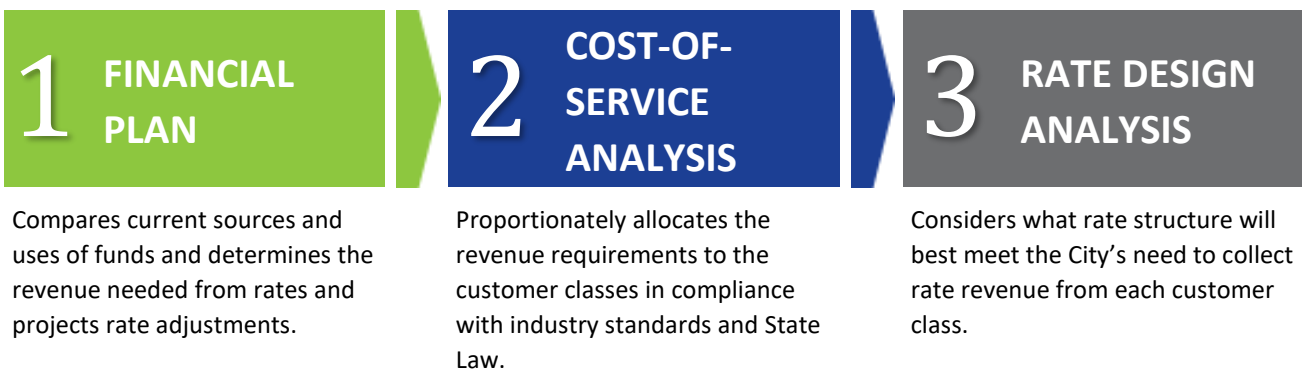
In developing new wastewater rates, NBS worked cooperatively with City staff and the City Council (Council) in selecting appropriate rate alternatives. Based on input from all stakeholders, the proposed rates are summarized in this report.

B. Overview of the Study

Comprehensive rate studies such as this one typically includes the following three components, as outlined in **Figure 1**:

1. Preparation of a **Financial Plan**, which identifies the net revenue requirements for the utility.
2. **Cost of Service Analysis**, which determines the cost of providing service to each customer class.
3. **Rate Design Analysis**, which evaluates different rate design alternatives.

Figure 1. Primary Components of a Rate Study



These steps 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) Principles of Water Rates, Fees, and Charges¹, also referred to as the M1 Manual. The rate study also addresses requirements under Proposition 218 that rates do not exceed the cost of providing the service, and that the rates be proportionate to the cost of providing service for all customers. In terms of the chronology of the study, these three steps

¹ Principles of Water Rates, Fees, and Charges, Manual of Water Supply Practices, M1, AWWA, seventh edition, 2017.

represent the order they were performed. Detailed tables and figures documenting the development of the proposed rates are provided in the Appendix.

FINANCIAL PLAN

As a part of this rate study, NBS projected revenues and expenditures on a cash flow basis for the next five years. The amount of rate revenue required that will allow reserves to be maintained at the recommended levels is known as the *net revenue requirement*. Recommended reserve levels are based on a combination of industry standards and each utility's unique financial needs. More detail on recommended reserve levels is included in the Section 2. Rate adjustments -- or more accurately, adjustments in the total revenue collected from rates -- are recommended because of the capital improvements the City is needing to complete. This report presents an overview of the methodologies, assumptions, and data used, along with the financial plans and proposed rates developed in this study².

WASTEWATER RATE DESIGN ANALYSIS

Rate Design is typically the stage in the study where NBS, Staff, Committees and the Council must work closely together, to develop rate alternatives that will meet the City's objectives. It is important for the wastewater utility 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 rate adjustments, 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 documented in several rate-setting manuals, such as the AWWA Manual M1. The foundation for evaluating rate structures is generally credited to James C. Bonbright in the *Principles of Public Utility Rates*³, 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:

- 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 (that is, cost based).
- There should be continuity in the ratemaking philosophy over time.
- Rates should address other utility policies (for example, encouraging conservation & economic development).
- Rates should provide month-to-month and year-to-year revenue stability.

The following are the basic rate design criteria that were considered in this study:

Rate Structure Basics – From a financial stability perspective, it is ideal when utilities recover their fixed costs from fixed charges and their variable costs from volumetric charges. When this is the case, fluctuations in variable revenues are directly offset by reductions or increases in variable expenses. However, other factors

² The complete financial plan is set forth in the Appendix.

³ 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.

are often considered when designing rates such as community values, water conservation goals, ease of understanding, and ease of administration.

The vast majority of rate structures contain a fixed or minimum charge in combination with a volumetric charge. However, many wastewater utilities choose to keep residential customers at a uniform fixed rate per equivalent dwelling unit (EDU). The rates proposed in this report are 100% fixed for residential customers and commercial customers are designed to collect 12 percent of rate revenue from the fixed meter charge and 88 percent from the variable commodity charge⁴.

Fixed Charges – Fixed charges can be called base charges, minimum monthly charges, customer charges, fixed meter charges, etc.

Volumetric (Consumption-Based) Charges – In contrast to fixed charges, variable costs such as the cost of electricity used in pumping, and the cost of chemicals for treatment tend to change with the quantity of wastewater produced. For a wastewater utility, variable charges are typically based on winter water usage (or estimated wastewater discharge) and charged on a dollar-per-unit cost (for example, per 100 cubic feet, or hcf).

⁴ The California Urban Water Conservation Council recommends recovering at least 70 percent of rate revenue through volume-based rates. However, water utilities are allowed to develop their own allocations that accurately reflect their actual cost allocations.

SECTION 2. WASTEWATER RATES

A. Key Wastewater Rate Study Priorities

The City's wastewater rate analysis was undertaken with a few specific objectives, including:

- Maintain wastewater service through operation and maintenance for the wastewater collection system.
- Maintain adequate reserve levels to ensure continuity in operations.
- Provide greater revenue stability for the Utility, due to the level of capital investment planned over the next five years.
- Comply with Prop 218 requirements to ensure cost of service are properly allocated amongst user classifications.

The proposed fixed and volume-based rates were calculated based on the net revenue requirements, number of customer accounts, winter water consumption, and other City-provided information.

B. Financial Plan

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 practices. Rate increases are governed by the need to meet operating and capital costs, address new regulations and requirements, maintain adequate debt coverage, and build reasonable reserve funds. The current state of the City's Wastewater Utility, regarding these objectives, is as follows:

- **Meeting Net Revenue Requirements:** For Fiscal Year (FY) 2021/22 through FY 2025/26, the projected net revenue requirement (that is, total annual expenses plus debt service and rate-funded capital costs, less non-rate revenues) for the City averages \$8.2 million, annually. If no rate adjustments are implemented, the City is projected to have about a \$908,000 deficit by FY 2025/26.
- **Building and Maintaining Reserve Funds:** Reserve funds provide a basis for a utility to cope with fiscal emergencies such as revenue shortfalls, asset failure, and natural disasters, among other events. Reserve policies provide guidelines for sound financial management, with an overall long-range perspective to maintain financial solvency and mitigate financial risks associated with revenue instability, volatile capital costs, and emergencies. The City anticipates having an average of \$4.6 million in unrestricted wastewater fund reserves to meet targets, in following industry standard recommendations. The reserve funds for the Utility are considered unrestricted reserves and consist of the following:
 - **The Operating Reserve** should equal approximately 90 days of operating expenses (about 25% of the annual operating budget), and on average, the balance for the operating reserve should be approximately \$1.6 million over the next five years. An Operating Reserve is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures. Fluctuations in revenue can be caused by weather patterns, the natural inflow and outflow of cash during billing cycles, natural variability in demand-based revenue streams (such as volumetric charges), and – particularly in periods of economic distress – changes or trends in age of receivables.

- **The Capital Outlay Reserve** should equal 3 percent of net capital assets, which averages approximately \$3 million over the next five years. This reserve is set aside to address long-term and routine capital system replacement and rehabilitation needs.
- **Funding Capital Improvement Projects:** The City must also be able to fund necessary capital improvements to maintain current service levels. City staff has identified roughly \$24.5 million (in current year dollars) in expected total capital expenditures for FY 2021/22 through FY 2025/26. With the recommended rate increases, these expenditures can be accomplished while also maintaining reserves at the minimum recommended target.
- **Inflation and Growth Projections:** Assumptions regarding cost inflation were made to project future revenues and expenses for the study period.
 - Customer growth is expected to be 0% annually.
 - General inflation is assumed to be 3% annually.
 - Salaries, benefits, fuel, and electricity are all assumed to be 5% annually.
 - Some expenses are assumed to have no escalation annually.
- **Maintaining Adequate Bond Coverage:** The City currently has two outstanding wastewater debt obligations from 2006 and 2015 that require the City to maintain a debt service coverage ratio of at least 1.20. The benefit of exceeding the minimum debt coverage ratio is that it strengthens the City's credit rating, which can help lower the interest rates for debt-funded capital projects in the future, should the City decide to use them.

Rate revenue increases of 5 percent annually years from FY 2021/22 through 2025/26 will be needed to fully fund all operating expenses, debt services, planned capital projects and maintain reserves at the recommended targets. **Figure 2** summarizes the sources and uses of funds, net revenue requirements, and the recommended annual percent increases in total rate revenue recommended for the next 5 years for the City.

Figure 2. Summary of Wastewater Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budgeted	Projected				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Sources of Sewer Funds						
Rate Revenue Under Current Rates - Sewer	\$ 8,412,960	\$ 8,412,960	\$ 8,412,960	\$ 8,412,960	\$ 8,412,960	\$ 8,412,960
Non-Rate Revenues	796,722	796,722	796,722	796,722	796,722	796,722
Interest Earnings	48,640	123,350	116,887	139,973	162,164	137,605
Total Sources of Funds	\$ 9,258,322	\$ 9,333,032	\$ 9,326,569	\$ 9,349,655	\$ 9,371,846	\$ 9,347,287
Uses of Sewer Funds						
Operating Expenses	\$ 5,847,944	\$ 6,061,934	\$ 6,286,151	\$ 6,521,094	\$ 6,767,283	\$ 7,025,266
Existing Debt Service	2,534,738	2,532,336	2,533,048	2,527,048	2,529,375	2,530,647
New Debt Service	-	-	-	-	-	-
Rate Funded Capital Expenses	1,090,000	-	-	-	-	700,015
Total Use of Funds	\$ 9,472,682	\$ 8,594,270	\$ 8,819,199	\$ 9,048,142	\$ 9,296,658	\$ 10,255,928
Surplus (Deficiency) before Rate Increase	\$ (214,360)	\$ 738,762	\$ 507,370	\$ 301,513	\$ 75,188	\$ (908,641)
Additional Revenue from Rate Increases ¹	-	105,162	862,328	1,326,093	1,813,045	2,324,346
Surplus (Deficiency) after Rate Increase	\$ (214,360)	\$ 843,924	\$ 1,369,698	\$ 1,627,606	\$ 1,888,234	\$ 1,415,704
Increase in Rate Revenue Needed to Avoid Deficit	0.00%	5.00%	5.00%	5.00%	5.00%	5.00%
<i>Cumulative Increases</i>	0.00%	5.00%	10.25%	15.76%	21.55%	27.63%
Net Revenue Requirement²	\$ 8,627,320	\$ 7,674,198	\$ 7,905,590	\$ 8,111,447	\$ 8,337,772	\$ 9,321,601

1. Assumes new rates are implemented April 1, 2022, followed by July 1 implementations for FY 2022/23-FY 2025/26.

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

Figure 3 summarizes the projected reserve fund balances and reserve targets for the sewer utility's unrestricted funds. A more detailed version of the utility's proposed 5-year financial plan is included in the

Appendix. As can be seen in Figure 3, given proposed rate increases, reserves will be well over the minimum target each of years in the five-year rate period.

Figure 3. Summary of Reserve Funds

Beginning Reserve Fund Balances and Recommended Reserve Targets	Projected		Projected			
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Operating Reserve						
Ending Balance	\$ 1,441,959	\$ 1,494,723	\$ 1,550,010	\$ 1,607,941	\$ 1,668,645	\$ 1,732,257
<i>Recommended Minimum Target</i>	<i>1,441,959</i>	<i>1,494,723</i>	<i>1,550,010</i>	<i>1,607,941</i>	<i>1,668,645</i>	<i>1,732,257</i>
Capital Outlay Reserve						
Ending Balance	\$ 5,189,760	\$ 4,789,544	\$ 5,975,428	\$ 7,110,555	\$ 5,729,448	\$ 4,352,092
<i>Recommended Minimum Target</i>	<i>3,000,000</i>	<i>3,000,000</i>	<i>3,000,000</i>	<i>3,000,000</i>	<i>3,000,000</i>	<i>3,000,000</i>
Total Ending Balance (Unrestricted)	\$ 6,631,719	\$ 6,284,268	\$ 7,525,438	\$ 8,718,496	\$ 7,398,093	\$ 6,084,349
Total Recommended Minimum Target (Unrestricted)	\$ 4,441,959	\$ 4,494,723	\$ 4,550,010	\$ 4,607,941	\$ 4,668,645	\$ 4,732,257

C. Cost of Service Analysis

Once the net revenue requirements are determined, the cost-of-service analysis proportionately distributes the revenue requirements to each customer class. The cost-of-service analysis consists of two major components: (1) the classification of expenses, and (2) the allocation of costs to customer classes. Costs were classified corresponding to the function they serve. All costs in the City’s budget are allocated to each component of the rate structure in proportion to the level of service required by customers. The levels of service are related to volume and strength of wastewater treated, infrastructure capacity, and customer service. These are based on allocation factors, such as water consumption and number of accounts by customer class. Ultimately, a cost-of-service analysis is intended to result in rates that are proportional to the cost of providing service to each customer class.

CLASSIFICATION OF COSTS

Most costs are not typically allocated 100 percent to fixed or variable categories and, therefore, are allocated to multiple functions of wastewater service. Budgeted costs were classified into three categories: flow (collection) costs, strength costs (for BOD and TSS) and customer costs. The classification process provides the basis for allocating costs to various customer classes based on the cost causation (classification) components described below:

- **Flow (Collection) related costs** are costs associated with collection and transportation of wastewater to the treatment facility.
- **Strength related costs** are the costs associated with treatment of the wastewater. This specifically allocates costs related to treating both biochemical oxygen demand (BOD) and total suspended solids (TSS).
- **Customer related costs** are associated with having customers connected to the City’s wastewater system, such as customer service, postage, billing, customer outreach and other administrative duties.

The City’s budgeted costs were reviewed and allocated to these cost causation components which are used as the basis for establishing new wastewater rates and translate to fixed and variable charges. Tables in the Appendix show how the City’s expenses were classified and allocated to these cost causation components.

The City’s current rate structure collects 100 percent of the revenue from residential customers from fixed monthly charges. The commercial customers collect roughly 12% from fixed charges and 88% from variable

charges. Overall, this equates to about 83% of the City’s revenue comes from fixed monthly charges, and 17% comes from the commercial variable charges.

Figure 4 summarizes the allocation of the net revenue requirements to each cost causation component for the proposed new rates. More detail on the development of the allocation factors that resulted in this summary will be covered in the following section.

Figure 4. Allocation of Revenue Requirements by Customer Class

Customer Class	Cost Classification Components				Cost-of-Service Revenue Req't.	% of COS Revenue Req't.
	Volume	Treatment		Customer Related		
		BOD	TSS			
Net Revenue Requirements¹	\$ 2,308,340	\$ 1,905,358	\$ 1,905,358	\$ 3,619,997	\$ 9,739,053	--
	23.7%	19.6%	19.6%	37.2%	100%	
Single-Family	\$ 1,440,155	\$ 1,067,338	\$ 1,140,260	\$ 2,724,144	\$ 6,371,897	65.4%
Multi-Family (per unit)	369,823	137,043	146,406	701,476	1,354,748	13.9%
Commercial						
Car Dealer & Dept/Retail	22,504	25,018	24,500	12,121	84,143	0.9%
Game	1,904	1,940	1,884	1,322	7,050	0.1%
Grocery & Mortuary	27,882	103,319	77,265	3,967	212,433	2.2%
Hospital	10,471	11,641	11,400	1,543	35,054	0.4%
Hotel without dining	12,298	13,672	13,389	1,543	40,901	0.4%
Library & Church	12,872	14,309	14,013	8,815	50,009	0.5%
Professional Building	265,281	294,910	288,804	144,350	993,345	10.2%
Restaurant	27,193	120,921	64,591	11,460	224,166	2.3%
School	84,982	94,474	100,653	5,730	285,839	2.9%
Strip Mall	-	-	-	-	-	0.0%
Warehouse	-	-	-	-	-	0.0%
Industrial						
Light Industrial	32,976	20,774	22,193	3,526	79,469	0.8%
Medium Industrial	-	-	-	-	-	0.0%
High Industrial	-	-	-	-	-	0.0%
Total	\$ 2,308,340	\$ 1,905,358	\$ 1,905,358	\$ 3,619,997	\$ 9,739,053	100%

1. Revenue requirement for each customer class is determined by multiplying the revenue requirement from each cost classification by the allocation factors for each customer class.

CUSTOMER CLASSES

Customer classes are determined by combining customers with similar demand characteristics and types of use into categories that reflect the cost differentials to serve each type of customer. This process is limited by the desire to not overcomplicate the City’s rate structure. For the City, the customer classes are split between single family residential (SFR), multi-family residential (MFR) (dependent on number of units) and commercial (varies depending on commercial type).

As shown in **Figure 5**, the development of the collection (or flow) allocation factor was calculated by taking the lowest consecutive 3-month water usage from 2019/20 and annualizing the usage per customer class. From here, the annual usage was adjusted to meet the flow data from the wastewater treatment plant. It should be noted that the detailed customer classes were further combined by similar usage patterns to match the current rate schedule.

Figure 5. Development of the Volume Allocation Factor

Customer Class	Number of Accounts	Winter Consumption Jan.-Mar. 2020 (hcf)	Annualized Winter Consumption (hcf)	Adjusted Annual Volume ² (hcf)	Percentage of Volume
Single-Family	12,361	330,244	1,320,976	1,553,198	62.39%
Multi-Family	452	84,805	339,219	398,852	16.02%
Commercial					
Auto Garage	39	940	3,762	4,423	0.18%
Bakeries	5	238	951	1,119	0.04%
Barber/Beauty	8	334	1,336	1,571	0.06%
Bars	1	4	15	18	0.00%
Car Wash	9	3,498	13,993	16,453	0.66%
Church	40	2,952	11,806	13,882	0.56%
Offices	630	57,375	229,498	269,843	10.84%
Grocery	18	6,394	25,574	30,070	1.21%
Hospitals	7	2,401	9,605	11,293	0.45%
Hotel-Motel	7	2,820	11,280	13,263	0.53%
Jails	2	638	2,553	3,001	0.12%
Laundromat	9	2,480	9,921	11,665	0.47%
School	24	18,849	75,397	88,651	3.56%
Rec Facility	6	437	1,746	2,053	0.08%
Restaurant	47	5,998	23,991	28,209	1.13%
Service Station	7	722	2,887	3,394	0.14%
Theater In	1	208	830	976	0.04%
Industrial	16	7,562	30,247	35,565	1.43%
Institutional	6	432	1,727	2,030	0.08%
Total	13,695	529,329	2,117,316	2,489,531	100.00%
				2,489,531	Flow (hcf/yr.)
				1.18	Flow Adj. Factor

1. Source files for water consumption: September 2019 through August 2020: MAIS Meter Usage 12 Months_Manipulated.xlsx
September-December 2020: 2020 SEP-DEC Munis Water Usage_Manipulated.xlsx
2. Adjusted annual volume based on wastewater treatment plant influent data.
Source file: Madera City of. WWTP Daily Flows Jan. 2012 through Dec. 2020.xlsx

Figure 6 shows the development of the strength allocation factors by customer class. The typical strength factors for biochemical oxygen demand (BOD) and total suspended solids (TSS) are derived from the previous strength factors used in past calculations as well as the State Water Resources Control Board Revenue Program Guidelines, Appendix G.

Figure 6. Development of the Strength Allocation Factor

Customer Class	Adjusted Annual Flow (hcf)	Rate Commercial Classes ³	Biochemical Oxygen Demand (BOD)			Total Suspended Solids (TSS)		
			Average Strength Factor ⁴ (mg/l)	Calculated BOD (lbs./yr.)	Percent of Total	Average Strength Factor ⁴ (mg/l)	Calculated TSS (lbs./yr.)	Percent of Total
Single-Family	1,553,198	n/a	200	1,937,870	56.0%	200	1,937,870	59.8%
Multi-Family	398,852	n/a	100	248,817	7.2%	100	248,817	7.7%
Commercial								
Auto Garage	4,423	Car Dealer & Dept/Retail	300	8,278	0.2%	275	7,588	0.2%
Bakeries	1,119	Restaurant	1,200	8,373	0.2%	600	4,187	0.1%
Barber/Beauty	1,571	Professional Building	300	2,941	0.1%	275	2,696	0.1%
Bars	18	Professional Building	300	33	0.0%	275	31	0.0%
Car Wash	16,453	Car Dealer & Dept/Retail	300	30,793	0.9%	275	28,226	0.9%
Church	13,882	Library & Church	300	25,980	0.8%	275	23,815	0.7%
Offices	269,843	Professional Building	300	505,010	14.6%	275	462,926	14.3%
Grocery	30,070	Grocery & Mortuary	1,000	187,588	5.4%	700	131,312	4.1%
Hospitals	11,293	Hospital	300	21,135	0.6%	275	19,374	0.6%
Hotel-Motel	13,263	Hotel without dining	300	24,822	0.7%	275	22,754	0.7%
Jails	3,001	School	300	5,617	0.2%	275	5,149	0.2%
Laundromat	11,665	Professional Building	300	21,830	0.6%	275	20,011	0.6%
School	88,651	School	300	165,911	4.8%	300	165,911	5.1%
Rec Facility	2,053	Game	275	3,522	0.1%	250	3,202	0.1%
Restaurant	28,209	Restaurant	1,200	211,173	6.1%	600	105,586	3.3%
Service Station	3,394	Car Dealer & Dept/Retail	300	6,352	0.2%	275	5,823	0.2%
Theater In	976	Professional Building	300	1,827	0.1%	275	1,675	0.1%
Industrial								
Low	35,565	Light Industrial	170	37,717	1.1%	170	37,717	1.2%
Medium ⁵		Medium Industrial	340			340		
High ⁵		High Industrial	510			510		
Institutional	2,030	Professional Building	300	3,800	0.1%	275	3,483	0.1%
Total	2,489,531			3,459,388	100.0%		3,238,150	100.0%

3. To match City's current rate schedule for commercial variable charges.

4. Typical strength factors for BOD and TSS are derived from previous rate study and the State Water Resources Control Board Revenue Program Guidelines, Appendix G

5. NBS is recommending medium and high industrial users are added to commercial classes.

Figure 7 summarizes the development of the customer allocation factor. Both the number of accounts and number of units are shown in this figure, but the percentage of the number of units are used in the rate calculation.

Figure 7. Development of the Customer Allocation Factor

Customer Class	Number of Accounts ¹	Percentage of Accounts	Number of Units ¹	Percentage of Units
Single-Family	12,361	90.3%	12,361	75.3%
Multi-Family	452	3.3%	3,183	19.4%
Commercial				
Auto Garage	39	0.3%	39	0.2%
Bakeries	5	0.0%	5	0.0%
Barber/Beauty	8	0.1%	8	0.0%
Bars	1	0.0%	1	0.0%
Car Wash	9	0.1%	9	0.1%
Church	40	0.3%	40	0.2%
Offices	630	4.6%	630	3.8%
Grocery	18	0.1%	18	0.1%
Hospitals	7	0.1%	7	0.0%
Hotel-Motel	7	0.1%	7	0.0%
Jails	2	0.0%	2	0.0%
Laundromat	9	0.1%	9	0.1%
School	24	0.2%	24	0.1%
Rec Facility	6	0.0%	6	0.0%
Restaurant	47	0.3%	47	0.3%
Service Station	7	0.1%	7	0.0%
Theater In	1	0.0%	1	0.0%
Industrial	16	0.1%	16	0.1%
Institutional	6	0.0%	6	0.0%
Total	13,695	100%	16,426	100%

1. Source files for accounts: December 2020: 2020 DEC MUNIS Billing_Manipulated.xlsx

D. Rate Design Analysis

The process of evaluating the wastewater rate structure provides the opportunity to incorporate a number of rate-design objectives and policies, including revenue stability, equity among customer classes, and water conservation. Based on input provided by City staff, the proposed rates were developed. The following sections describe this process.

FIXED CHARGES

The fixed charge recognizes that the wastewater utility incurs fixed costs regardless of whether customers send any wastewater into the City’s collection system. There are two factors used to develop the fixed charge: the number of dwelling units and the annual revenue requirement. The monthly fixed charge for residential customers is calculated by simple dividing the net revenue requirement by the number of units and the number of billing periods per year. For commercial customers, the fixed charge is calculated by taking the 12 percent fixed multiplied by the annual revenue requirement, then divide by the number of units and billing periods per year. The fixed charges for each customer class are shown in **Figure 8**.

VARIABLE CHARGES

The variable charges for commercial customers, on the other hand, are calculated by taking the additional 92 percent portion of the revenue requirement divided by the estimated annual sewage volume produced. This sewage volume is the adjusted annualized winter water consumption shown in **Figure 5**. The volumetric charges for each customer class are summarized in the rate design table shown in **Figure 8**.

Figure 8. Development of Fixed and Variable Charges

Customer Class	Number of Units	Annualized Winter Consumption	Net Revenue Requirement	Monthly Fixed Charge Per Unit	Volumetric Charge per HCF
Single-Family	12,361	1,553,198	\$ 6,371,897	\$ 42.96	
Multi-Family (per unit)	3,183	398,852	\$ 1,354,748	\$ 35.47	
Commercial					
Car Dealer & Dept/Retail	55	24,271	\$ 84,143	\$ 22.82	\$ 3.05
Game	6	2,053	\$ 7,050	\$ 22.82	\$ 3.02
Grocery & Mortuary	18	30,070	\$ 212,433	\$ 22.82	\$ 6.22
Hospital	7	11,293	\$ 35,054	\$ 22.82	\$ 2.73
Hotel without dining	7	13,263	\$ 40,901	\$ 22.82	\$ 2.71
Library & Church	40	13,882	\$ 50,009	\$ 22.82	\$ 3.17
Professional Building	655	286,104	\$ 993,345	\$ 22.82	\$ 3.06
Restaurant	52	29,328	\$ 224,166	\$ 22.82	\$ 6.73
School	26	91,653	\$ 285,839	\$ 22.82	\$ 2.74
Strip Mall	0	0	\$ -	\$ 22.82	\$ 3.06
Warehouse	0	0	\$ -	\$ 22.82	\$ 1.97
Industrial					
Light Industrial	16	35,565	\$ 79,469	\$ 22.82	\$ 1.97
Medium Industrial	0	0	\$ -	\$ 22.82	\$ 2.74
High Industrial	0	0	\$ -	\$ 22.82	\$ 3.81
Total	16,426	2,489,531	\$ 9,739,053		

2. HCF = hundred cubic feet, equal to 748 gallons of water.

E. Current and Proposed Wastewater Rates

Figure 9 provides a comparison of the current and proposed wastewater rates through FY 2025/26. Commercial rates with similar strength effluent are combined in the rate calculation to simplify the rate structure. This is a common industry standard with customers that have similar usage patterns and is consistent with the City's current rate structure.

Figure 9. Proposed Wastewater Rates

Sewer Rate Schedule	Current Rates	Proposed Sewer Rates				
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
FIXED MONTHLY CHARGES						
Single-Family	\$42.75	\$42.96	\$45.11	\$47.37	\$49.74	\$52.23
Multi-Family (per unit)	\$27.77	\$35.47	\$37.24	\$39.10	\$41.06	\$43.11
Commercial (All)	\$19.02	\$22.82	\$23.96	\$25.16	\$26.42	\$27.74
NON-RESIDENTIAL VOLUMETRIC CHARGES PER HCF¹						
Commercial						
Car Dealer & Dept/Retail	\$2.30	\$3.05	\$3.20	\$3.36	\$3.53	\$3.71
Game	\$3.46	\$3.02	\$3.17	\$3.33	\$3.50	\$3.68
Grocery & Mortuary	\$5.04	\$6.22	\$6.53	\$6.86	\$7.20	\$7.56
Hospital	\$2.28	\$2.73	\$2.87	\$3.01	\$3.16	\$3.32
Hotel without dining	\$2.28	\$2.71	\$2.85	\$2.99	\$3.14	\$3.30
Library & Church	\$2.25	\$3.17	\$3.33	\$3.50	\$3.68	\$3.86
Professional Building	\$2.28	\$3.06	\$3.21	\$3.37	\$3.54	\$3.72
Restaurant	\$5.22	\$6.73	\$7.07	\$7.42	\$7.79	\$8.18
School	\$2.38	\$2.74	\$2.88	\$3.02	\$3.17	\$3.33
Strip Mall	\$3.52	\$3.06	\$3.21	\$3.37	\$3.54	\$3.72
Warehouse	\$3.51	\$1.97	\$2.07	\$2.17	\$2.28	\$2.39
Industrial						
Light Industrial	\$3.51	\$1.97	\$2.07	\$2.17	\$2.28	\$2.39
Medium Industrial	N/A	\$2.74	\$2.88	\$3.02	\$3.17	\$3.33
High Industrial	N/A	\$3.81	\$4.00	\$4.20	\$4.41	\$4.63

1. HCF = hundred cubic feet, equal to 748 gallons of water.

F. Comparison of Current and Proposed Wastewater Bills

Figure 10, Figure 11, Figure 12, and Figure 13 compare monthly wastewater bills for the current and proposed wastewater rates as a result of the planned rate adjustment for single-family residential customers and non-single family residential customers.

Figure 10. Monthly Wastewater Bill Comparison for Single Family Customers

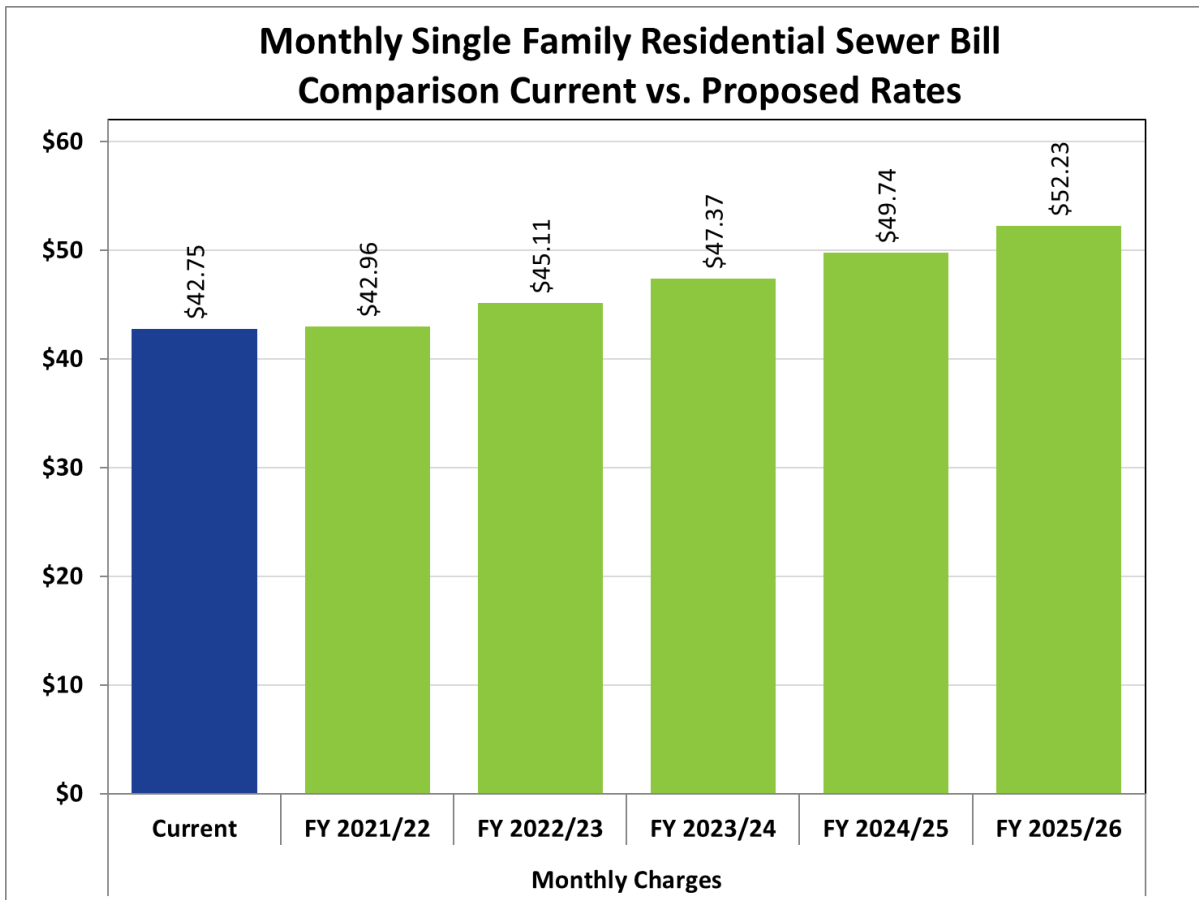


Figure 11. Monthly Wastewater Bill Comparison for Multi-Family Customers

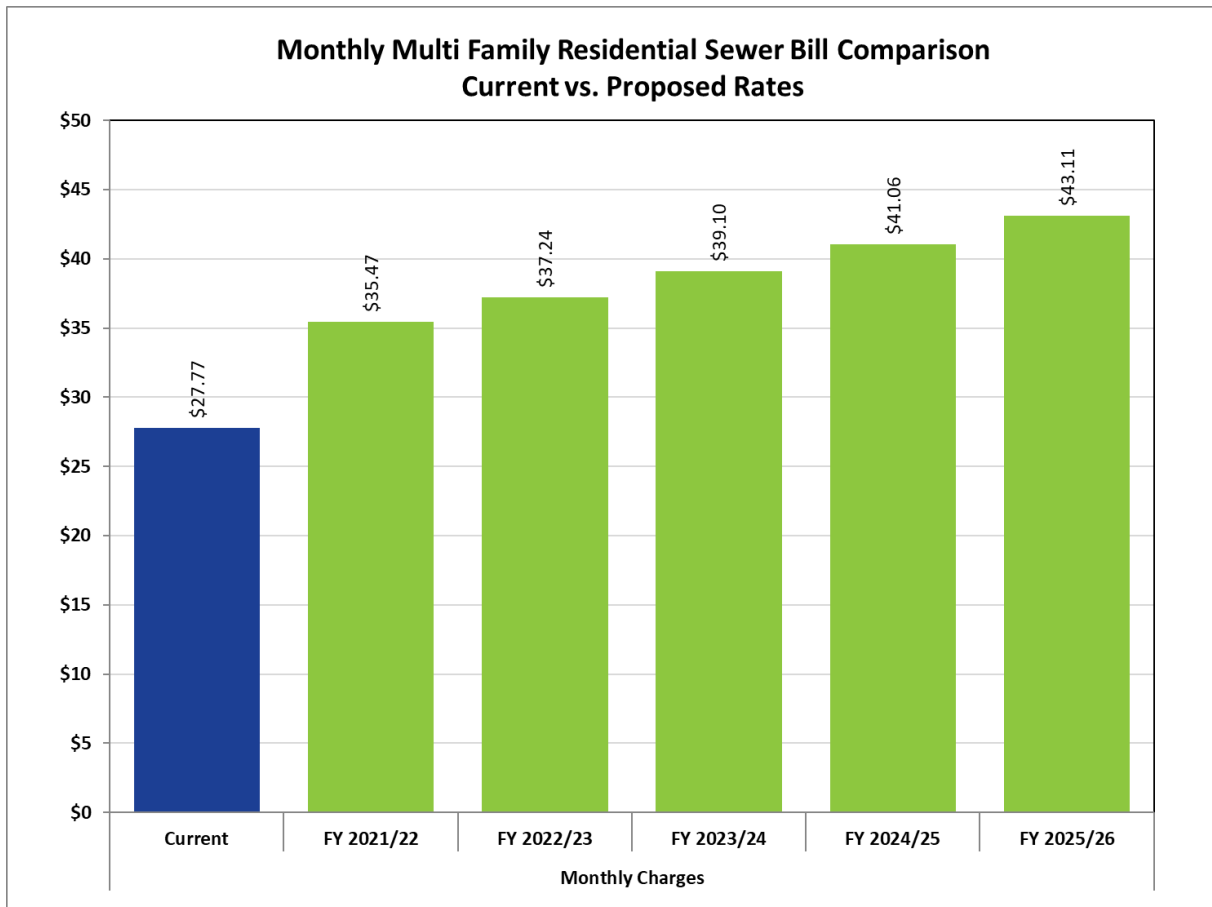


Figure 12. Monthly Wastewater Bill Comparison for Commercial Professional Building Customers

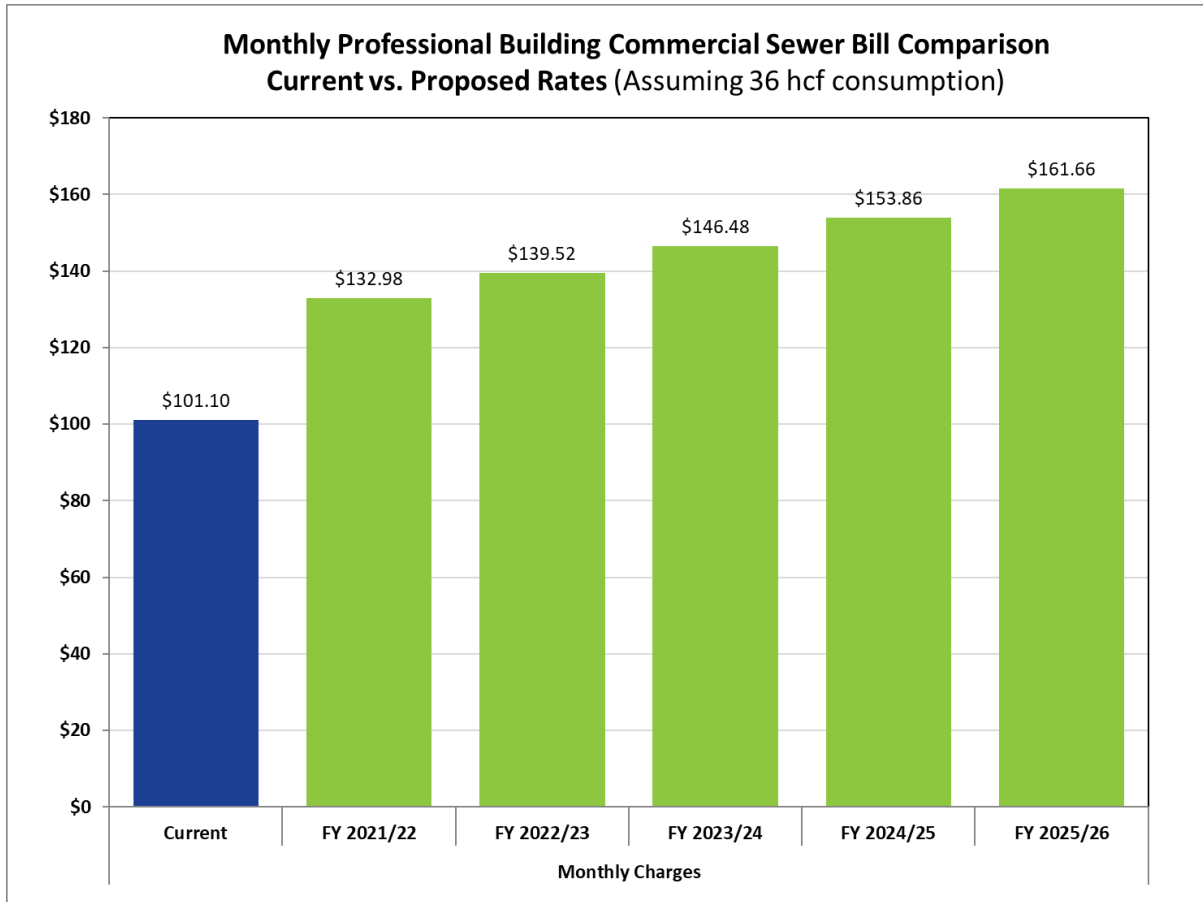


Figure 13. Monthly Wastewater Bill Comparison for Commercial Restaurant Customers

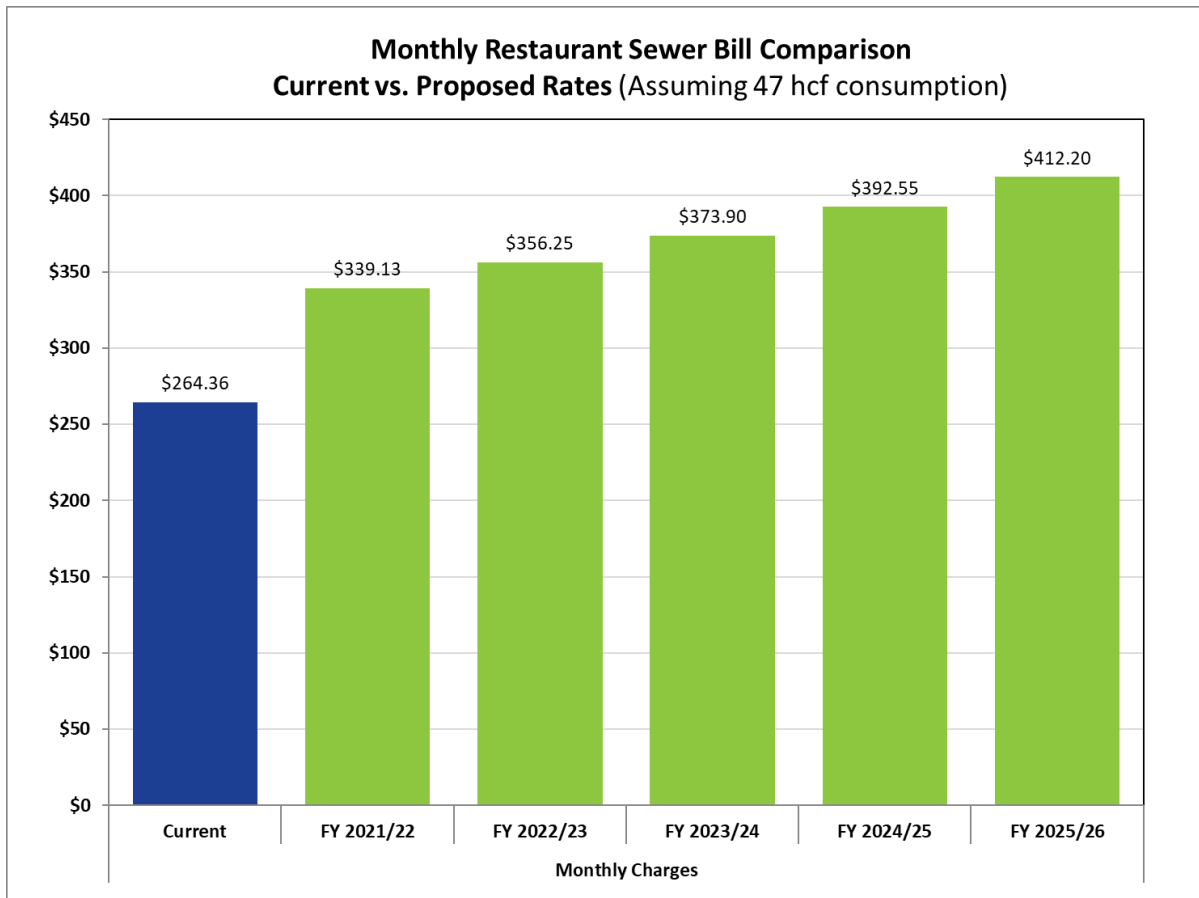


Figure 14 and **Figure 15** show a comparison on bills for single-family residential, professional office commercial and restaurant commercial customers compared to other regionally located Cities.

Figure 14. Single-Family Residential Regional Bill Comparison

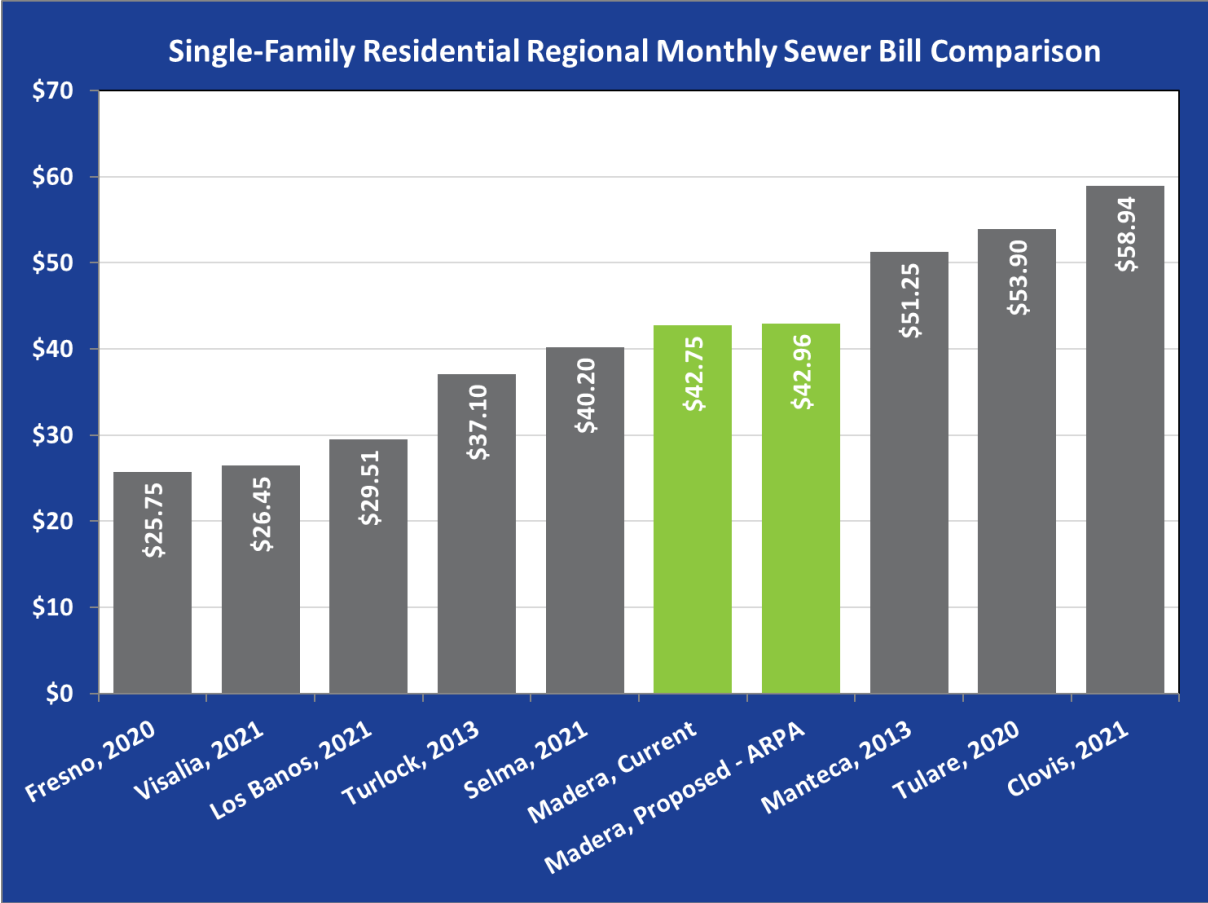


Figure 15. Professional Office Regional Bill Comparison

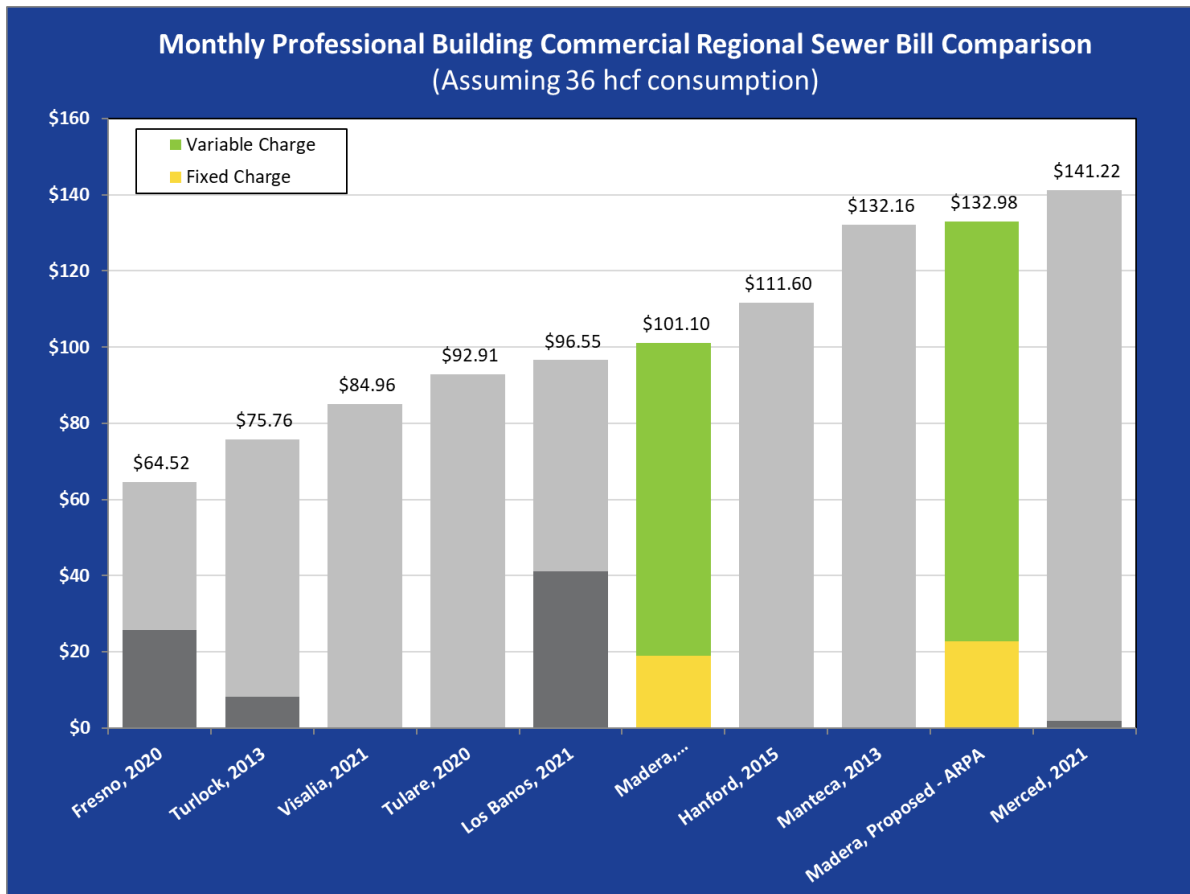
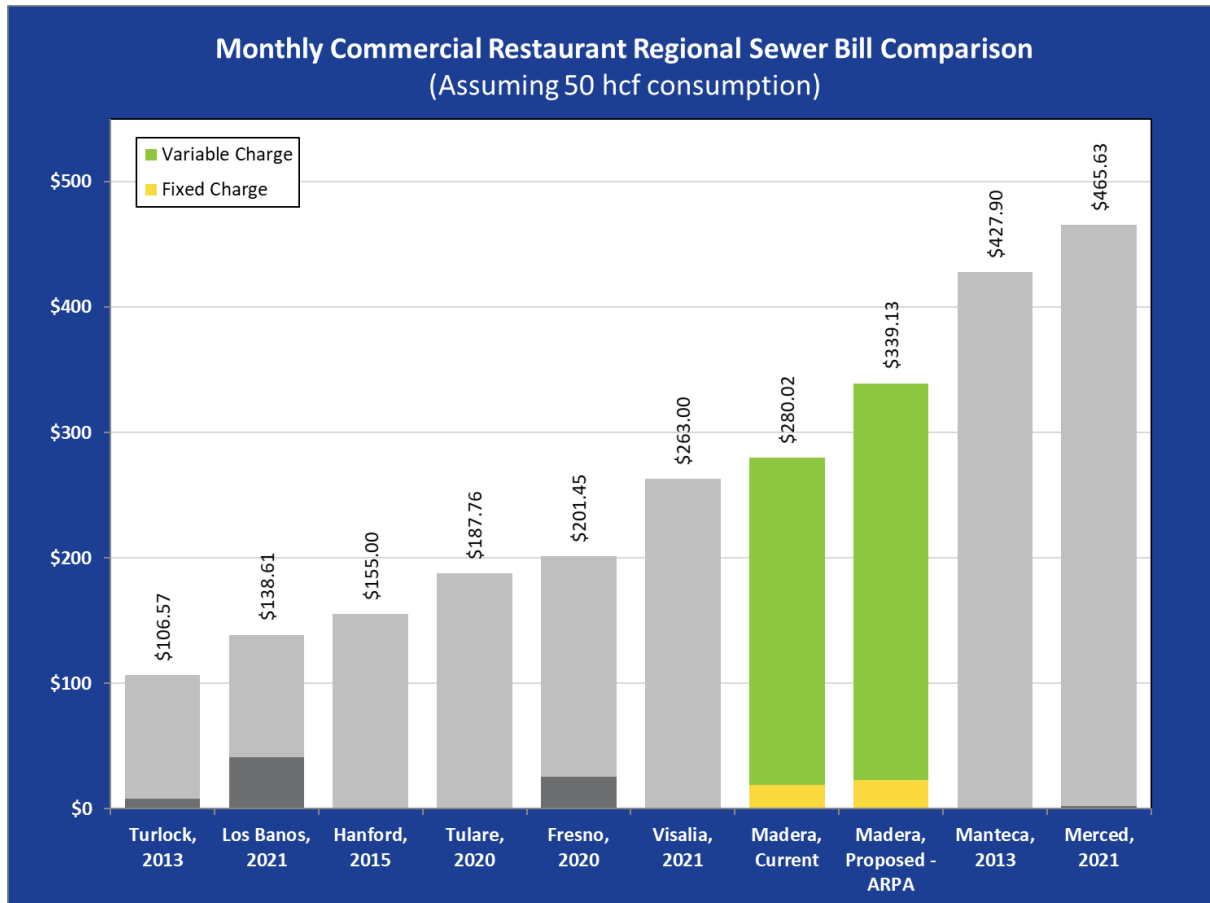


Figure 16. Restaurant Regional Bill Comparison



SECTION 3. RECOMMENDATIONS AND NEXT STEPS

A. Consultant Recommendations

NBS recommends the City take the following actions:

Approve and accept this Study: NBS recommends the City Council formally approve and adopt this Study and its recommendations and proceed with the steps required to implement the proposed rates to maintain current level of service and achieve the City’s strategic goals. This report will provide documentation of the rate study analyses and the basis for analyzing potential changes to future rates.

Implement Recommended Levels of Rate Adjustments and Proposed Rates: Based on successfully meeting the Proposition 218 procedural requirements, the City Council should proceed with implementing the 5-year schedule of proposed rates and rate adjustments previously shown in **Figure 9**. This will help ensure the continued financial health of City’s wastewater utility.

B. Next Steps

Annually Review Rates and Revenue – Any time an agency adopts new utility rates or rate structures, 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 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.

Note: The attached Appendix provide more detailed information on the analysis of the wastewater revenue requirements, cost-of-service analysis and cost allocations, and the rate design analyses that have been summarized in this report.

C. NBS’ Principal Assumptions and Considerations

In preparing this report and the opinions and recommendations included herein, NBS has relied on a number of principal assumptions and considerations with regard to financial matters, conditions, and events that may occur in the future. This information and these assumptions, including City’s budgets, capital improvement costs, and information from City staff 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 and 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.

Appendix: Detailed Wastewater Study Tables and Figures

a.Appendix: Detailed Wastewater Study Tables and Figures

CITY OF MADERA
SEWER RATE STUDY
Financial Plan and Reserve Projections

Financial Plan & Reserve Summary

TABLE 1 : FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS 5-Year Rate Period

RATE REVENUE REQUIREMENTS SUMMARY	Budgeted ¹	Projected				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Sources of Sewer Funds						
<i>Sewer Rate Revenue:</i>						
Sewer Rate Revenue Under Current Rates	\$ 8,412,960	\$ 8,412,960	\$ 8,412,960	\$ 8,412,960	\$ 8,412,960	\$ 8,412,960
Revenue from Rate Increases	-	105,162	862,328	1,326,093	1,813,045	2,324,346
Subtotal: Rate Revenue After Rate Increases	\$ 8,412,960	\$ 8,518,122	\$ 9,275,288	\$ 9,739,053	\$ 10,226,005	\$ 10,737,306
<i>Non-Rate Revenue:</i>						
Septic Dump Income	\$ 310,641	\$ 310,641	\$ 310,641	\$ 310,641	\$ 310,641	\$ 310,641
Water Capital Fee	1,183	1,183	1,183	1,183	1,183	1,183
Other Fees	145,734	145,734	145,734	145,734	145,734	145,734
Refunds	1,864	1,864	1,864	1,864	1,864	1,864
Taxes & Licenses	87,300	87,300	87,300	87,300	87,300	87,300
Other Income	250,000	250,000	250,000	250,000	250,000	250,000
Interest Income	48,640	123,350	116,887	139,973	162,164	137,605
Subtotal: Non-Rate Revenue	\$ 845,362	\$ 920,072	\$ 913,609	\$ 936,695	\$ 958,886	\$ 934,327
Total Sources of Funds	\$ 9,258,322	\$ 9,438,194	\$ 10,188,898	\$ 10,675,748	\$ 11,184,891	\$ 11,671,632
Uses of Sewer Funds						
<i>Operating Expenses:</i>						
Salaries & Benefits	\$ 2,299,765	\$ 2,414,753	\$ 2,535,491	\$ 2,662,265	\$ 2,795,379	\$ 2,935,148
Materials & Services	1,563,847	1,626,583	1,691,992	1,760,194	1,831,315	1,905,484
Interfund Charges	1,208,145	1,208,145	1,208,145	1,208,145	1,208,145	1,208,145
Special Payments	717,137	752,994	790,644	830,176	871,685	915,269
Capital Outlay	14,085	14,494	14,915	15,348	15,795	16,255
Transfer Out	44,965	44,965	44,965	44,965	44,965	44,965
Subtotal: Operating Expenses	\$ 5,847,944	\$ 6,061,934	\$ 6,286,151	\$ 6,521,094	\$ 6,767,283	\$ 7,025,266
<i>Other Expenditures:</i>						
Existing Debt Service	\$ 2,534,738	\$ 2,532,336	\$ 2,533,048	\$ 2,527,048	\$ 2,529,375	\$ 2,530,647
New Debt Service	-	-	-	-	-	-
Rate-Funded Capital Expenses	1,090,000	-	-	-	-	700,015
Subtotal: Other Expenditures	\$ 3,624,738	\$ 2,532,336	\$ 2,533,048	\$ 2,527,048	\$ 2,529,375	\$ 3,230,662
Total Uses of Funds	\$ 9,472,682	\$ 8,594,270	\$ 8,819,199	\$ 9,048,142	\$ 9,296,658	\$ 10,255,928
Annual Surplus/(Deficit)	\$ (214,360)	\$ 843,924	\$ 1,369,698	\$ 1,627,606	\$ 1,888,234	\$ 1,415,704
Net Revenue Req't. (Total Uses less Non-Rate Rev.)	\$ 8,627,320	\$ 7,674,198	\$ 7,905,590	\$ 8,111,447	\$ 8,337,772	\$ 9,321,601
Projected Annual Rate Revenue Adjustment	0.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Cumulative Increases	0.00%	5.00%	10.25%	15.76%	21.55%	27.63%
Debt Coverage Ratio after Rate Increases	1.01	0.97	1.18	1.27	1.37	1.47

1. Revenue and expenses for FY 2020/21 are from source file: Enterprise Funds Budget 2020-21.pdf, pages 33-42.

TABLE 2: RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY UN-RESTRICTED RESERVES	5-Year Rate Period					
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Total Beginning Cash²	\$ 7,526,796	\$ 8,127,754	\$ 8,091,394	\$ 9,649,441	\$ 10,965,270	\$ 8,969,922
Sewer Operating Reserve Fund						
Beginning Reserve Balance	\$ 6,346,078	\$ 1,441,959	\$ 1,494,723	\$ 1,550,010	\$ 1,607,941	\$ 1,668,645
Plus: Net Cash Flow (After Rate Increases)	(214,360)	843,924	1,369,698	1,627,606	1,888,234	1,415,704
Less: Transfer Out to Capital Expenditure Reserve	(4,689,760)	(791,159)	(1,314,412)	(1,569,675)	(1,827,529)	(1,352,092)
Ending Operating Reserve Balance	\$ 1,441,959	\$ 1,494,723	\$ 1,550,010	\$ 1,607,941	\$ 1,668,645	\$ 1,732,257
<i>Target Ending Balance (90-days of O&M)³</i>	<i>\$ 1,441,959</i>	<i>\$ 1,494,723</i>	<i>\$ 1,550,010</i>	<i>\$ 1,607,941</i>	<i>\$ 1,668,645</i>	<i>\$ 1,732,257</i>
Capital Outlay Reserve Fund						
Beginning Reserve Balance	\$ 500,000	\$ 5,189,760	\$ 4,789,544	\$ 5,975,428	\$ 7,110,555	\$ 5,729,448
Plus: Transfer In of Operating Reserve Surplus	4,689,760	791,159	1,314,412	1,569,675	1,827,529	1,352,092
Less: Use of Reserves for Capital Projects	-	(1,191,375)	(128,528)	(434,548)	(3,208,637)	(2,729,448)
Ending Capital Expenditure Reserve Balance	\$ 5,189,760	\$ 4,789,544	\$ 5,975,428	\$ 7,110,555	\$ 5,729,448	\$ 4,352,092
<i>Target Ending Balance (6% of Net Assets = ~\$3M)⁴</i>	<i>\$ 3,000,000</i>	<i>\$ 3,000,000</i>	<i>\$ 3,000,000</i>	<i>\$ 3,000,000</i>	<i>\$ 3,000,000</i>	<i>\$ 3,000,000</i>
Ending Balance	\$ 6,631,719	\$ 6,284,268	\$ 7,525,438	\$ 8,718,496	\$ 7,398,093	\$ 6,084,349
Minimum Target Ending Balance	\$ 4,441,959	\$ 4,494,723	\$ 4,550,010	\$ 4,607,941	\$ 4,668,645	\$ 4,732,257
Ending Surplus (Deficit) Compared to Targets	\$ 2,189,760	\$ 1,789,544	\$ 2,975,428	\$ 4,110,555	\$ 2,729,448	\$ 1,352,092

2. Beginning cash balance for the Sewer Fund is found in CAFR. Source File: *FY-2019-2020-Comprehensive-Annual-Financial-Report.pdf*, Page 42.

Updated beginning cash balance for FY 20/21 per comments from City 08.02.21.

3. NBS Recommends keeping the Operating Reserve Fund target at 90 days of operating and maintenance expenses.

Source file: *Rate Study 2015.pdf*, Section 4.1.5, Page 42.

4. NBS recommends the target Capital Outlay Reserve to a minimum of 6% of net assets.

TABLE 3: RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY	5-Year Rate Period					
	Budgeted	Projected				
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Restricted Reserves:						
Debt Service Reserve Fund						
Beginning Reserve Balance ⁵	\$ 680,718	\$ 680,718	\$ 693,379	\$ 706,276	\$ 719,413	\$ 732,794
Plus: Interest Earnings	-	12,661	12,897	13,137	13,381	13,630
Plus: Reserve Funding from New Debt Obligations	-	-	-	-	-	-
Ending Debt Reserve Balance	\$ 680,718	\$ 693,379	\$ 706,276	\$ 719,413	\$ 732,794	\$ 746,424
Target Ending Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Development Impact Fee Reserve Fund						
Beginning Reserve Balance ⁶	\$ 692,053	\$ 815,318	\$ 1,113,747	\$ 1,417,727	\$ 1,527,362	\$ 839,035
Plus: Wastewater Dev. Impact Fee Revenues ⁷	283,264	283,264	283,264	283,264	283,264	283,264
Plus: Interest Earnings	-	15,165	20,716	26,370	28,409	15,606
Less: Transfer Out for Capacity-Related CIP Costs	(160,000)	-	-	(200,000)	(1,000,000)	(1,000,000)
Ending Capacity Reserve Fund Balance	\$ 815,318	\$ 1,113,747	\$ 1,417,727	\$ 1,527,362	\$ 839,035	\$ 137,906
Target Ending Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Annual Interest Earnings Rate⁸	0.00%	1.86%	1.86%	1.86%	1.86%	1.86%

5. Beginning cash balance for Restricted Net Position in source file: *FY-2019-2020-Comprehensive-Annual-Financial-Report.pdf*, Page 42.

6. Beginning fund balance for development impact fee funds 4083, 4084 and 4085 from City staff in source file: *Water and Sewer DIF FB 7-1-20.xlsx*

7. Development Impact Fee revenue from current budget: *FY-20-21-Adopted-Budget-City-of-Madera.pdf*, page 349.

8. District's actual or budgeted interest earnings are used in analysis for unrestricted reserves in FY 2020/21. For 2021/22 and beyond, interest earning rates are estimated at the 3-year average (FY '17/18 - '19/20) for funds invested in LAIF, per the California Treasurer's Office website, for the restricted reserves.

Source: <https://www.treasurer.ca.gov/pmia-laif/historical/annual.asp>.

CHART 1

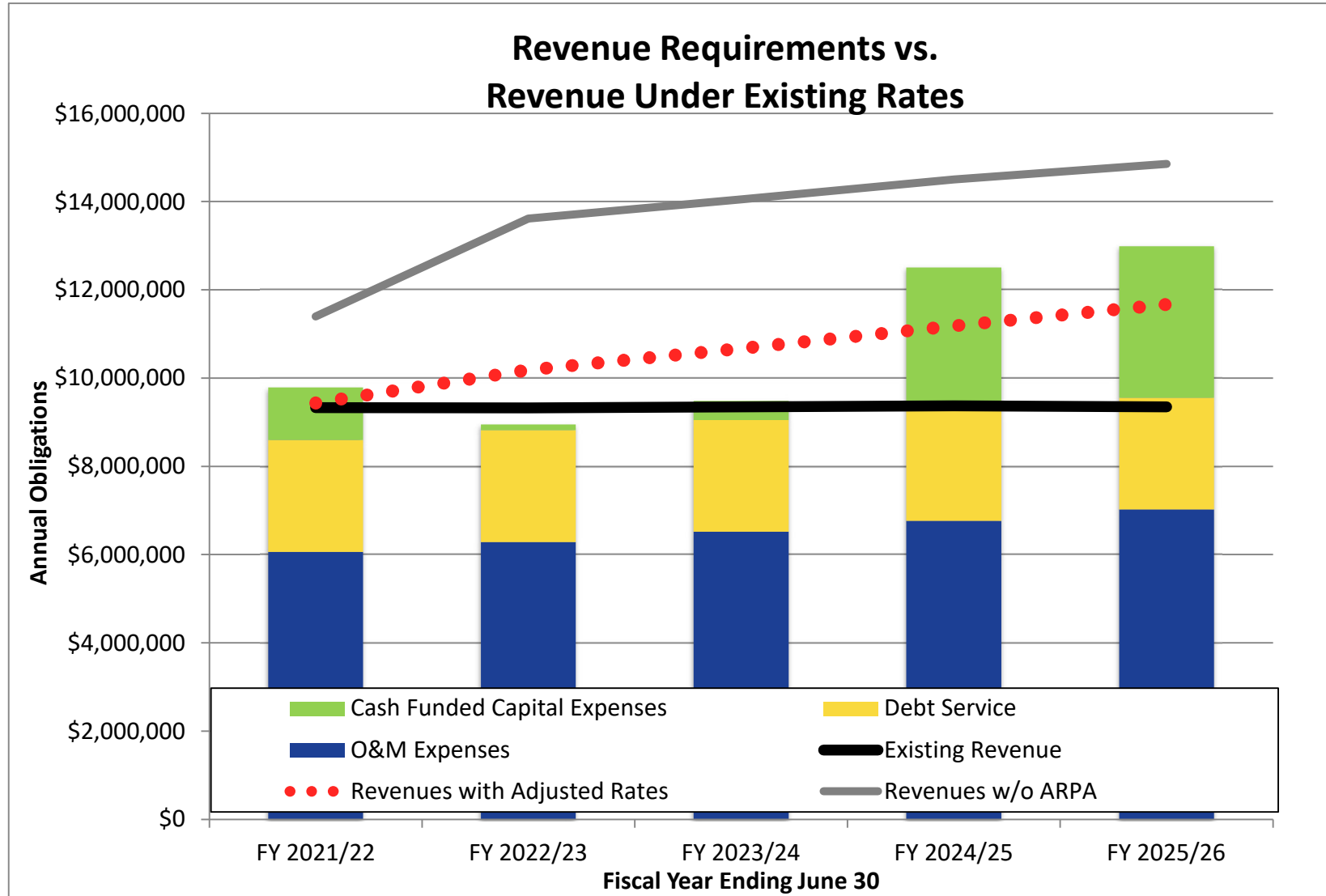


CHART 2

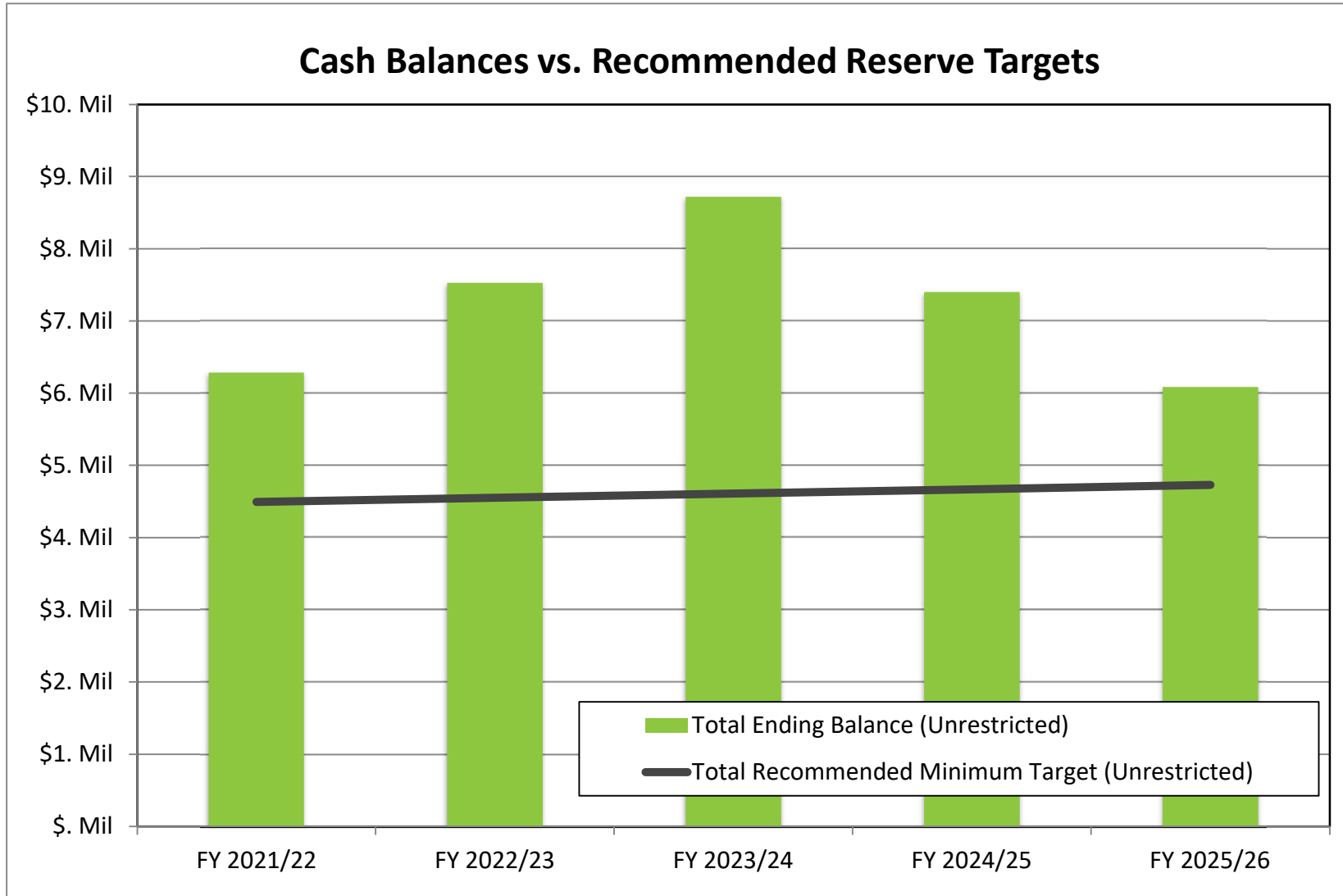
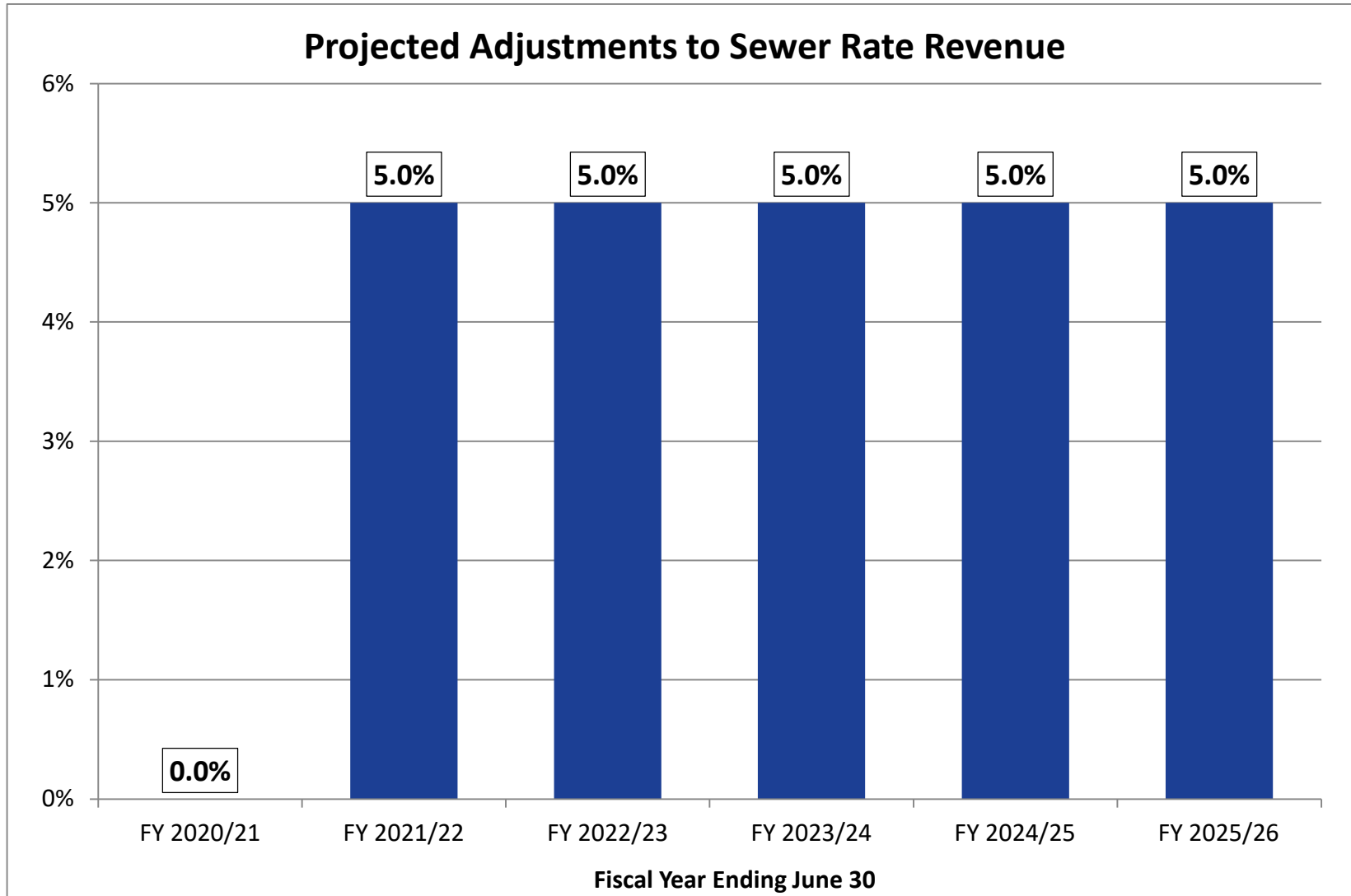


CHART 3



CITY OF MADERA
SEWER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 4 : REVENUE FORECAST¹

		Budget	Prop 218 Rate Period				
SOURCES OF REVENUE	Basis	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
SEWER FUND							
Taxes							
Current Secured Property Tax	1	\$ 87,300	\$ 87,300	\$ 87,300	\$ 87,300	\$ 87,300	\$ 87,300
Subtotal		\$ 87,300	\$ 87,300	\$ 87,300	\$ 87,300	\$ 87,300	\$ 87,300
Licenses & Permits							
Infrastructure Cost Payback	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Fines & Forfeiture							
Late Payment/Other Penalty	1	\$ 145,734	\$ 145,734	\$ 145,734	\$ 145,734	\$ 145,734	\$ 145,734
Subtotal		\$ 145,734	\$ 145,734	\$ 145,734	\$ 145,734	\$ 145,734	\$ 145,734
Charges for Services							
Parksdale Sewer #3 User Fees	1	\$ 232,312	\$ 232,312	\$ 232,312	\$ 232,312	\$ 232,312	\$ 232,312
User Charges	1	8,180,648	8,180,648	8,180,648	8,180,648	8,180,648	8,180,648
Septic Dump Income	1	310,641	310,641	310,641	310,641	310,641	310,641
Waste Water Plant Capital Fee	1	1,183	1,183	1,183	1,183	1,183	1,183
Subtotal		\$ 8,724,784	\$ 8,724,784	\$ 8,724,784	\$ 8,724,784	\$ 8,724,784	\$ 8,724,784
Interest							
Interest Income ²	See FP	\$ 48,640	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal		\$ 48,640	\$ -	\$ -	\$ -	\$ -	\$ -
Gains & Proceeds							
Sale of Real & Personal Property	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Refunds							
Refunds & Reimbursements	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Collection Recovery	1	1,443	1,443	1,443	1,443	1,443	1,443
Subtotal		\$ 1,443	\$ 1,443	\$ 1,443	\$ 1,443	\$ 1,443	\$ 1,443
UTILITY BILLING & SEWER							
Refunds							
Refunds & Reimbursements	1	\$ 421	\$ 421	\$ 421	\$ 421	\$ 421	\$ 421
Subtotal		\$ 421	\$ 421	\$ 421	\$ 421	\$ 421	\$ 421
SEWER MAINTENANCE & OPERATIONS							
Non-Cash Capital Contribution							
Capital Contribution	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

CITY OF MADERA
SEWER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 5 : REVENUE FORECAST¹, continued

		Budget	Prop 218 Rate Period				
SOURCES OF REVENUE	Basis	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
WASTEWATER TREATMENT PLANT BOND ADMINISTRATION							
Transfers In							
Transfer-In	7	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000
Subtotal		\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000	\$ 250,000
GRAND TOTAL: SEWER REVENUE		\$ 9,258,322	\$ 9,209,682	\$ 9,209,682	\$ 9,209,682	\$ 9,209,682	\$ 9,209,682

TABLE 6 : SUMMARY OF REVENUES

		Budget	Prop 218 Rate Period				
REVENUE SUMMARY		FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
RATE REVENUE							
Sewer Rate Revenue		\$ 8,412,960	\$ 8,412,960	\$ 8,412,960	\$ 8,412,960	\$ 8,412,960	\$ 8,412,960
OTHER REVENUE:							
Septic Dump Income		310,641	310,641	310,641	310,641	310,641	310,641
Water Capital Fee		1,183	1,183	1,183	1,183	1,183	1,183
Other Fees		145,734	145,734	145,734	145,734	145,734	145,734
Refunds		1,864	1,864	1,864	1,864	1,864	1,864
Taxes & Licenses		87,300	87,300	87,300	87,300	87,300	87,300
Other Income		250,000	250,000	250,000	250,000	250,000	250,000
Interest Income ²		48,640	-	-	-	-	-
GRAND TOTAL: SEWER REVENUE		\$ 9,258,322	\$ 9,209,682	\$ 9,209,682	\$ 9,209,682	\$ 9,209,682	\$ 9,209,682

CITY OF MADERA
SEWER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 7 : OPERATING EXPENSE FORECAST^{1,3}

		Budget	Prop 218 Rate Period				
EXPENSES	Basis	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
UTILITY BILLING & SEWER							
Salaries & Benefits							
Salaries/Full-Time	2	142,387	149,506	156,982	164,831	173,072	181,726
Salaries/Part-Time	2	-	-	-	-	-	-
Salaries/Overtime	2	-	-	-	-	-	-
Salaries - Leave Payout	2	-	-	-	-	-	-
Salaries - Auto & Expense Allo.	2	68	71	75	79	83	87
Public Employees Retirement	3	16,404	17,224	18,085	18,990	19,939	20,936
Long Term Disability Insurance	3	484	508	534	560	588	618
Life Insurance Premiums	3	181	190	200	210	220	231
Workers Compensation Insurance	3	12,488	13,112	13,768	14,456	15,179	15,938
Medicare Tax - Employer's Share	3	2,054	2,157	2,265	2,378	2,497	2,621
Unfunded Accrued Liability	3	25,629	26,910	28,256	29,669	31,152	32,710
Deferred Comp/Part-Time	3	-	-	-	-	-	-
Deferred Comp/Full-Time	3	4,988	5,237	5,499	5,774	6,063	6,366
Unemployment Insurance	3	536	563	591	620	652	684
Section 125 Benefit Allowance	3	40,627	42,658	44,791	47,031	49,382	51,851
Subtotal		\$ 245,846	\$ 258,138	\$ 271,045	\$ 284,597	\$ 298,827	\$ 313,769
Materials & Services							
Telephone & Fax Charges	3	\$ 4,000	\$ 4,200	\$ 4,410	\$ 4,631	\$ 4,862	\$ 5,105
Advertising/Bids & Notices	3	250	263	276	289	304	319
Office Supplies/Expendable	3	2,500	2,625	2,756	2,894	3,039	3,191
Postage/Other Mailing Charge	3	20,000	21,000	22,050	23,153	24,310	25,526
Vehicle Fuel, Supplies & Maintenance	5	375	394	413	434	456	479
Contracted Services	3	15,000	15,750	16,538	17,364	18,233	19,144
Bank Service Charges	3	7,500	7,875	8,269	8,682	9,116	9,572
Conference/Training/Education	3	1,500	1,575	1,654	1,736	1,823	1,914
Subtotal		\$ 51,125	\$ 53,681	\$ 56,365	\$ 59,184	\$ 62,143	\$ 65,250
Interfund Charges							
Interfund Charges - Central Su.	7	\$ 2	\$ 2	\$ 2	\$ 2	\$ 2	\$ 2
Interfund Charges - Admin Overhead	7	19,977	19,977	19,977	19,977	19,977	19,977
Interfund Charges - Computer Maintenance	7	16,606	16,606	16,606	16,606	16,606	16,606
Interfund Charges - Computer Replace.	7	3,743	3,743	3,743	3,743	3,743	3,743
Interfund Charges - Motor Rental	7	1,485	1,485	1,485	1,485	1,485	1,485
Subtotal		\$ 41,813	\$ 41,813	\$ 41,813	\$ 41,813	\$ 41,813	\$ 41,813

CITY OF MADERA
SEWER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 8 : OPERATING EXPENSE FORECAST, cont.^{1,3}

		Budget	Prop 218 Rate Period				
EXPENSES	Basis	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Special Payments							
OPEB Obligation Expense	3	\$ 825	\$ 866	\$ 910	\$ 955	\$ 1,003	\$ 1,053
Pension Expense - GASB 68	3	36,553	38,381	40,300	42,315	44,430	46,652
Subtotal		\$ 37,378	\$ 39,247	\$ 41,209	\$ 43,270	\$ 45,433	\$ 47,705
Capital Outlay							
Vehicles & Equipment	4	\$ 325	\$ 335	\$ 345	\$ 355	\$ 366	\$ 377
Subtotal		\$ 325	\$ 335	\$ 345	\$ 355	\$ 366	\$ 377
Other Nonoperating Expense							
Bad Debt Expense	4	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Transfer Out							
Transfer Out - Insurance Reserve	7	\$ 4,695	\$ 4,695	\$ 4,695	\$ 4,695	\$ 4,695	\$ 4,695
Subtotal		\$ 4,695	\$ 4,695	\$ 4,695	\$ 4,695	\$ 4,695	\$ 4,695
Sub-Total: Utility Billing and Sewer		\$ 381,182	\$ 397,909	\$ 415,473	\$ 433,914	\$ 453,277	\$ 473,608

TABLE 9 : OPERATING EXPENSE FORECAST, cont.^{1,3}

		Budget	Prop 218 Rate Period				
EXPENSES	Basis	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
SEWER MAINTENANCE & OPERATIONS							
Salaries & Benefits							
Salaries/Full-Time	2	\$ 404,092	\$ 424,297	\$ 445,511	\$ 467,787	\$ 491,176	\$ 515,735
Salaries/Part-Time	2	-	-	-	-	-	-
Salaries/Overtime	2	6,000	6,300	6,615	6,946	7,293	7,658
Salaries - Uniform Pay	2	1,150	1,208	1,268	1,331	1,398	1,468
Public Employees Retirement	3	55,156	57,914	60,809	63,850	67,042	70,395
Long Term Disability Insurance	3	1,332	1,399	1,469	1,542	1,619	1,700
Life Insurance Premiums	3	509	534	561	589	619	650
Workers Compensation Insurance	3	38,999	40,949	42,996	45,146	47,404	49,774
Medicare Tax - Employer's Share	3	6,288	6,602	6,933	7,279	7,643	8,025
Unfunded Accrued Liability	3	89,938	94,435	99,157	104,114	109,320	114,786
Deferred Comp/Part-Time	3	-	-	-	-	-	-
Deferred Comp/Full-Time	3	15,380	16,149	16,956	17,804	18,694	19,629
Unemployment Insurance	3	1,711	1,797	1,886	1,981	2,080	2,184
Section 125 Benefit Allowance	3	82,026	86,127	90,434	94,955	99,703	104,688
Subtotal		\$ 702,581	\$ 737,710	\$ 774,596	\$ 813,325	\$ 853,992	\$ 896,691

CITY OF MADERA
SEWER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 10 : OPERATING EXPENSE FORECAST, cont.^{1,3}

		Budget	Prop 218 Rate Period				
EXPENSES	Basis	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Materials & Services							
Gas & Electric Utilities	6	\$ 34,000	\$ 35,700	\$ 37,485	\$ 39,359	\$ 41,327	\$ 43,394
Telephone & Fax Charges	4	5,000	5,150	5,305	5,464	5,628	5,796
Advertising/Bids & Notices	4	1,500	1,545	1,591	1,639	1,688	1,739
Office Supplies/Expendable	4	3,000	3,090	3,183	3,278	3,377	3,478
Vehicle Fuel, Supplies & Maintenance	5	18,500	19,425	20,396	21,416	22,487	23,611
Contracted Services	4	25,000	25,750	26,523	27,318	28,138	28,982
Taxes & Assessments	4	12,000	12,360	12,731	13,113	13,506	13,911
Conference/Training/Education	4	4,300	4,429	4,562	4,699	4,840	4,985
Maintenance/Other Supplies	4	60,000	61,800	63,654	65,564	67,531	69,556
Subtotal		\$ 163,300	\$ 169,249	\$ 175,429	\$ 181,849	\$ 188,520	\$ 195,452
Interfund Charges							
Interfund Charges - Facility Maintenance	7	\$ 70,859	\$ 70,859	\$ 70,859	\$ 70,859	\$ 70,859	\$ 70,859
Interfund Charges - Central Su.	7	6,055	6,055	6,055	6,055	6,055	6,055
Interfund Charges - Cost Distr.	7	112,903	112,903	112,903	112,903	112,903	112,903
Interfund Charges - Admin Overhead	7	75,406	75,406	75,406	75,406	75,406	75,406
Interfund Charges - Vehicle Replacement	7	95,025	95,025	95,025	95,025	95,025	95,025
Interfund Charges - Vehicle Maintenance	7	48,931	48,931	48,931	48,931	48,931	48,931
Interfund Charges - Computer Maintenance	7	28,277	28,277	28,277	28,277	28,277	28,277
Interfund Charges - Computer Replace.	7	6,233	6,233	6,233	6,233	6,233	6,233
Interfund Charges - Software	7	131	131	131	131	131	131
Interfund Charges - Motor Rental	7	5,007	5,007	5,007	5,007	5,007	5,007
Subtotal		\$ 448,827	\$ 448,827	\$ 448,827	\$ 448,827	\$ 448,827	\$ 448,827
Special Payments							
Liability/Property Insurance	3	\$ 27,894	\$ 29,289	\$ 30,753	\$ 32,291	\$ 33,905	\$ 35,601
Retiree Insurance Premiums	3	1,994	2,094	2,198	2,308	2,424	2,545
OPEB Obligation Expense	3	22,696	23,831	25,022	26,273	27,587	28,966
Pension Expense - GASB 68	3	104,245	109,457	114,930	120,677	126,710	133,046
Subtotal		\$ 156,829	\$ 164,670	\$ 172,904	\$ 181,549	\$ 190,627	\$ 200,158
Capital Outlay							
Vehicles & Equipment	7	\$ 461	\$ 461	\$ 461	\$ 461	\$ 461	\$ 461
Subtotal		\$ 461	\$ 461	\$ 461	\$ 461	\$ 461	\$ 461
Transfer Out							
Transfer Out - Insurance Reserve	7	\$ 14,001	\$ 14,001	\$ 14,001	\$ 14,001	\$ 14,001	\$ 14,001
Subtotal		\$ 14,001	\$ 14,001	\$ 14,001	\$ 14,001	\$ 14,001	\$ 14,001
Sub-Total: Sewer Maintenance & Operations		\$ 1,485,999	\$ 1,534,919	\$ 1,586,217	\$ 1,640,013	\$ 1,696,428	\$ 1,755,590
Depreciation (Non-cash item left out of analysis)⁴							
Depreciation	7	\$ 33,268	\$ 33,268	\$ 33,268	\$ 33,268	\$ 33,268	\$ 33,268
Subtotal		\$ 33,268	\$ 33,268	\$ 33,268	\$ 33,268	\$ 33,268	\$ 33,268

CITY OF MADERA
SEWER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 11 : OPERATING EXPENSE FORECAST, cont.^{1,3}

EXPENSES	Basis	Budget	Prop 218 Rate Period				
		FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
WATER WASTE TREATMENT PLANT							
Salaries & Benefits							
Salaries/Full-Time	2	\$ 804,350	\$ 844,568	\$ 886,796	\$ 931,136	\$ 977,692	\$ 1,026,577
Salaries/Part-Time	2	-	-	-	-	-	-
Salaries/Overtime	2	15,000	15,750	16,538	17,364	18,233	19,144
Salaries - Leave Payout	2	-	-	-	-	-	-
Salaries - Uniform Pay	2	1,400	1,470	1,544	1,621	1,702	1,787
Public Employees Retirement	3	95,222	99,983	104,982	110,231	115,743	121,530
Long Term Disability Insurance	3	2,283	2,397	2,517	2,643	2,775	2,914
Life Insurance Premiums	3	838	880	924	970	1,019	1,070
Workers Compensation Insurance	3	77,919	81,815	85,906	90,201	94,711	99,447
Medicare Tax - Employer's Share	3	12,405	13,025	13,677	14,360	15,078	15,832
Unfunded Accrued Liability	3	140,106	147,111	154,467	162,190	170,300	178,815
Deferred Comp/Part-Time	3	-	-	-	-	-	-
Deferred Comp/Full-Time	3	28,199	29,609	31,089	32,644	34,276	35,990
Unemployment Insurance	3	2,625	2,756	2,894	3,039	3,191	3,350
Section 125 Benefit Allowance	3	170,991	179,541	188,518	197,943	207,841	218,233
Subtotal		\$ 1,351,338	\$ 1,418,905	\$ 1,489,850	\$ 1,564,343	\$ 1,642,560	\$ 1,724,688
Materials & Services							
Gas & Electric Utilities	6	\$ 671,410	\$ 704,981	\$ 740,230	\$ 777,241	\$ 816,103	\$ 856,908
Telephone & Fax Charges	4	7,500	7,725	7,957	8,195	8,441	8,695
Advertising/Other	4	12,510	12,885	13,272	13,670	14,080	14,503
Office Supplies/Expendable	4	3,500	3,605	3,713	3,825	3,939	4,057
Mileage Reimbursements	4	502	517	533	549	565	582
Vehicle Fuel, Supplies & Maintenance	5	16,000	16,800	17,640	18,522	19,448	20,421
Contracted Services	4	312,000	321,360	331,001	340,931	351,159	361,694
Taxes & Assessments	4	41,000	42,230	43,497	44,802	46,146	47,530
Conference/Training/Education	4	15,000	15,450	15,914	16,391	16,883	17,389
Maintenance/Other Supplies	4	270,000	278,100	286,443	295,036	303,887	313,004
Subtotal		\$ 1,349,422	\$ 1,403,653	\$ 1,460,198	\$ 1,519,161	\$ 1,580,651	\$ 1,644,782
Interfund Charges							
Interfund Charges - Facility Maintenance	7	\$ 180,641	\$ 180,641	\$ 180,641	\$ 180,641	\$ 180,641	\$ 180,641
Interfund Charges - Central Su.	7	2,677	2,677	2,677	2,677	2,677	2,677
Interfund Charges - Admin Overhead	7	365,815	365,815	365,815	365,815	365,815	365,815
Interfund Charges - Vehicle Replacement	7	70,708	70,708	70,708	70,708	70,708	70,708
Interfund Charges - Vehicle Maintenance	7	64,251	64,251	64,251	64,251	64,251	64,251
Interfund Charges - Computer Maintenance	7	26,810	26,810	26,810	26,810	26,810	26,810
Interfund Charges - Computer Replace.	7	5,821	5,821	5,821	5,821	5,821	5,821
Interfund Charges - Software	7	782	782	782	782	782	782
Subtotal		\$ 717,505	\$ 717,505	\$ 717,505	\$ 717,505	\$ 717,505	\$ 717,505

CITY OF MADERA
SEWER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 12 : OPERATING EXPENSE FORECAST, cont.^{1,3}

		Budget	Prop 218 Rate Period				
EXPENSES	Basis	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Special Payments							
Liability/Property Insurance	3	\$ 305,799	\$ 321,089	\$ 337,143	\$ 354,001	\$ 371,701	\$ 390,286
OPEB Obligation Expense	3	28,676	30,110	31,615	33,196	34,856	36,599
Pension Expense - GASB 68	3	188,455	197,878	207,772	218,160	229,068	240,522
Subtotal		\$ 522,930	\$ 549,077	\$ 576,530	\$ 605,357	\$ 635,625	\$ 667,406
Capital Outlay							
Vehicles & Equipment	4	\$ 13,299	\$ 13,698	\$ 14,109	\$ 14,532	\$ 14,968	\$ 15,417
Subtotal		\$ 13,299	\$ 13,698	\$ 14,109	\$ 14,532	\$ 14,968	\$ 15,417
Transfer Out							
Transfer Out - Insurance Reserve	7	\$ 26,269	\$ 26,269	\$ 26,269	\$ 26,269	\$ 26,269	\$ 26,269
Subtotal		\$ 26,269	\$ 26,269	\$ 26,269	\$ 26,269	\$ 26,269	\$ 26,269
Sub-Total: Water Waste Treatment Plant		\$ 3,980,763	\$ 4,129,106	\$ 4,284,461	\$ 4,447,167	\$ 4,617,578	\$ 4,796,067
Depreciation (Non-cash item left out of analysis)⁴							
Depreciation	7	\$ 22,522	\$ 22,522	\$ 22,522	\$ 22,522	\$ 22,522	\$ 22,522
Subtotal		\$ 22,522	\$ 22,522	\$ 22,522	\$ 22,522	\$ 22,522	\$ 22,522
GRAND TOTAL: SEWER OPERATING EXPENSES		\$ 5,847,944	\$ 6,061,934	\$ 6,286,151	\$ 6,521,094	\$ 6,767,283	\$ 7,025,266
<i>Net Income</i>		<i>\$ 3,410,378</i>	<i>\$ 3,147,748</i>	<i>\$ 2,923,531</i>	<i>\$ 2,688,588</i>	<i>\$ 2,442,399</i>	<i>\$ 2,184,416</i>

CITY OF MADERA
SEWER RATE STUDY
Operating Revenue and Expenses

EXHIBIT 1

TABLE 13 : FORECASTING ASSUMPTIONS³

		Budget	Prop 218 Rate Period				
INFLATION FACTORS	Basis	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Customer Growth	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Salaries	2	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Benefits	3	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
General Inflation	4	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Fuel	5	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Electricity	6	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
No Escalation	7	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

1. Revenue and expenses for FY 2019/20 through FY 2020/21 are from source file: *Enterprise Funds Budget 2020-21.pdf, pages 33-42.*

2. Interest income is calculated in the Financial Plan and excluded from this table.

3. Inflation factor values follow previous assumptions from 2015 Rate Study.

Source file: Rate Study 2015.pdf, Table 1-1, Page 12.

4. Depreciation expense is not considered in this projection since it is not a cash expense.

CITY OF MADERA
SEWER RATE STUDY
Capital Improvement Plan Expenditures

EXHIBIT 2

TABLE 14 : CAPITAL FUNDING SUMMARY

CAPITAL FUNDING FORECAST	Budget		Projected			
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Funding Sources:						
Grants	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Use of Development Impact Fee Reserve Fund ¹	160,000	-	-	200,000	1,000,000	1,000,000
Use of American Rescue Plan Proceeds ²	2,089,500	5,630,000	2,020,000	1,600,000	4,660,500	
Use of Capital Expenditure Reserve Fund	-	1,191,375	128,528	434,548	3,208,637	2,729,448
Rate Revenue	1,090,000	-	-	-	-	700,015
Total Sources of Capital Funds	\$ 3,339,500	\$ 6,821,375	\$ 2,148,528	\$ 2,234,548	\$ 8,869,137	\$ 4,429,463
Uses of Capital Funds:						
Total Project Costs (Includes Exp. Related Projects)	\$ 3,339,500	\$ 6,821,375	\$ 2,148,528	\$ 2,234,548	\$ 8,869,137	\$ 4,429,463
American Rescue Plan	\$ -	\$ 16,000,000	\$ -	\$ -	\$ -	\$ -

1. DIF reserve fund contributions from source: Sewer CIP ARPA.xlsx, with ARPA funding taken into account for eligible projects. These amounts keep DIF fund in financial plan from
2. ARPA funding approved in August. Allocation across years are dependent on eligible projects per source: Sewer CIP ARPA.xlsx

CITY OF MADERA
SEWER RATE STUDY
Capital Improvement Plan Expenditures

EXHIBIT 2

CAPITAL IMPROVEMENT PROGRAM

TABLE 15 : CAPITAL IMPROVEMENT PROGRAM COSTS (IN CURRENT-YEAR DOLLARS)^{3,4}

Project Description	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
GL ORG: 20403420						
CCTV Program				\$ 150,000	\$ 150,000	\$ 150,000
SSMP Update Every 5 years - next is 2024						
SS-00000 Engineering Support for Sewer Projects	25,000	25,000	25,000	25,000	25,000	25,000
6804						
S-VI-002 -Sewer Line Video Inspection Services	100,000					
S-VI-002 -Sewer Line Video Inspection Services - Phase II		695,000				
Master Plan Update				300,000		
7030						
SS-00006 -Fairgrounds Lift Station	574,500					
SS-00010 -Airport Lift Station Pumps Replacement	150,000					
SS-00007 Airport Lift Station Force Main Study	20,000					
South Street Lift Station Recommendations			120,000			
North Airport Lift Station Recommendations		50,000				
7050						
S-STDY-1 -Sewer System Cond. Assess/Rehab	180,000					
S-STDY-2 Asset Management Software	75,000					
SS-00012 - Doubletree Sewer Laterals	325,000					
SS-00009 2018 Sewer Main Repair/Rehab Priority Lines	495,000	500,000				
SS-00008 2018 Sewer Manhole Restoration/Rehab	45,000	105,000				
SS-00014 - Avenue 13 Interceptor Sewer	400,000	5,000,000			2,900,000	
SS-00011 -Mainberry btwn Howard & Sunset Relocate	450,000					
S-000012-Schnoor Ave. Trunk Sewer System		80,000	500,000			
-Annual Depreciation Repair 1% of system per year			1,400,000	1,400,000	1,400,000	1,400,000
Wastewater Treatment Plant						
WWTP20-01 WDR Permit Renewal Project	500,000					
CV Salts Compliance						
WWTP 10.1 mgd Permit Requirements		200,000				
WWTP Nitrification/Denitrification						
WWTP Name Plate Deficiency -Influent Lift Station Expansion					260,000	2,340,000
WWTP Sludge Thickener Class B Solids or digester				200,000	3,300,000	
NexGen Maintenance Management Program						
Data Recording and Back-up						
Future Projects⁴						
Total: CIP Program Costs (Current-Year Dollars)	\$ 3,339,500	\$ 6,655,000	\$ 2,045,000	\$ 2,075,000	\$ 8,035,000	\$ 3,915,000

3. CIP expenses found in source files: Sewer CIP ARPA.xlsx

4. Future projects, beyond FY2030/31 are estimated at the average of rate-funded capital projects in FY 2020/21-2031/32.

CITY OF MADERA
SEWER RATE STUDY
Capital Improvement Plan Expenditures

EXHIBIT 2

TABLE 16 : CAPITAL IMPROVEMENT PROGRAM COSTS (IN FUTURE-YEAR DOLLARS), CONTINUED

Project Description	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
GL ORG: 20403420						
CCTV Program	\$ -	\$ -	\$ -	\$ 161,534	\$ 165,572	\$ 169,711
SSMP Update Every 5 years - next is 2024	-	-	-	-	-	-
SS-00000 Engineering Support for Sewer Projects	25,000	25,625	26,266	26,922	27,595	28,285
6804	-	-	-	-	-	-
S-VI-002 -Sewer Line Video Inspection Services	100,000	-	-	-	-	-
S-VI-002 -Sewer Line Video Inspection Services - Phase II	-	712,375	-	-	-	-
Master Plan Update	-	-	-	323,067	-	-
7030	-	-	-	-	-	-
SS-00006 -Fairgrounds Lift Station	574,500	-	-	-	-	-
SS-00010 -Airport Lift Station Pumps Replacement	150,000	-	-	-	-	-
SS-00007 Airport Lift Station Force Main Study	20,000	-	-	-	-	-
South Street Lift Station Recommendations	-	-	126,075	-	-	-
North Airport Lift Station Recommendations	-	51,250	-	-	-	-
7050	-	-	-	-	-	-
S-STDY-1 -Sewer System Cond. Assess/Rehab	180,000	-	-	-	-	-
S-STDY-2 Asset Management Software	75,000	-	-	-	-	-
SS-00012 - Doubletree Sewer Laterals	325,000	-	-	-	-	-
SS-00009 2018 Sewer Main Repair/Rehab Priority Lines	495,000	512,500	-	-	-	-
SS-00008 2018 Sewer Manhole Restoration/Rehab	45,000	107,625	-	-	-	-
SS-00014 - Avenue 13 Interceptor Sewer	400,000	5,125,000	-	-	3,201,057	-
SS-00011 -Mainberry btwn Howard & Sunset Relocate	450,000	-	-	-	-	-
S-000012-Schnoor Ave. Trunk Sewer System	-	82,000	525,313	-	-	-
-Annual Depreciation Repair 1% of system per year	-	-	1,470,875	1,507,647	1,545,338	1,583,971
Wastewater Treatment Plant	-	-	-	-	-	-
WWTP20-01 WDR Permit Renewal Project	500,000	-	-	-	-	-
CV Salts Compliance	-	-	-	-	-	-
WWTP 10.1 mgd Permit Requirements	-	205,000	-	-	-	-
WWTP Nitrification/Denitrification	-	-	-	-	-	-
WWTP Name Plate Deficiency -Influent Lift Station Expansion	-	-	-	-	286,991	2,647,495
WWTP Sludge Thickener Class B Solids or digester	-	-	-	215,378	3,642,583	-
NexGen Maintenance Management Program	-	-	-	-	-	-
Data Recording and Back-up	-	-	-	-	-	-
Future Projects ⁴	-	-	-	-	-	-
Total: CIP Program Costs (Future-Year Dollars)	\$ 3,339,500	\$ 6,821,375	\$ 2,148,528	\$ 2,234,548	\$ 8,869,137	\$ 4,429,463

4. Future projects, beyond FY2030/31 are estimated at the average of rate-funded capital projects in FY 2020/21-2031/32.

CITY OF MADERA
 SEWER RATE STUDY
 Capital Improvement Plan Expenditures

EXHIBIT 2

TABLE 17 : FORECASTING ASSUMPTIONS

Economic Variables	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Annual Construction Cost Inflation, Per Engineering News Record ⁵	0.00%	2.50%	2.50%	2.50%	2.50%	2.50%
Cumulative Construction Cost Multiplier from FY 2020/21	1.00	1.03	1.05	1.08	1.10	1.13

5. Construction inflator is based on the most current 10 year average of the Engineering News-Record Construction Cost Index.
 Source: www.enr.com/economics (August 2010 to August 2020).

TABLE 18 : EXISTING DEBT OBLIGATIONS

CURRENT DISTRICT DEBT OBLIGATIONS						
Annual Repayment Schedules:	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
2015 Wastewater Revenue Bonds (\$28,8115,000)¹						
Principal Payment	\$ 1,120,000	\$ 1,165,000	\$ 1,210,000	\$ 1,250,000	\$ 1,300,000	\$ 1,350,000
Interest Payment	886,150	844,710	801,605	756,835	710,585	662,485
Subtotal: Annual Debt Service	\$ 2,006,150	\$ 2,009,710	\$ 2,011,605	\$ 2,006,835	\$ 2,010,585	\$ 2,012,485
Coverage Requirement (\$-Amnt above annual payment)	120%	120%	120%	120%	120%	120%
Reserve Requirement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2021 BBVA Loan (\$10,000,000) - Refinanced²						
Principal Payment	\$ 331,996	\$ 372,000	\$ 379,000	\$ 387,000	\$ 395,000	\$ 404,000
Interest Payment	196,592	150,626	142,443	133,213	123,790	114,162
Subtotal: Annual Debt Service	\$ 528,588	\$ 522,626	\$ 521,443	\$ 520,213	\$ 518,790	\$ 518,162
Coverage Requirement (\$-Amnt above annual payment)	120%	120%	120%	120%	120%	120%
Reserve Requirement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

1. 2015 Wastewater Revenue Bonds refund the 2006 Wastewater Revenue Bonds. Source files: *Wastewater_Refunding 2015 Amortization Schedule.pdf*, *Wastewater_2015 wastewater refunding bond is due to mature in 2036*.
2. 2021 BBVA Loan issued 02/01/2021. Loan refinanced and prop 218 rate period debt service updated per City notes 05.05.21.

TABLE 19 : EXISTING ANNUAL DEBT OBLIGATIONS TO BE SATISFIED BY SEWER RATES

Existing Annual Debt Service	\$ 2,534,738	\$ 2,532,336	\$ 2,533,048	\$ 2,527,048	\$ 2,529,375	\$ 2,530,647
Existing Annual Coverage Requirement	1.20	1.20	1.20	1.20	1.20	1.20
Existing Debt Reserve Target	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

CITY OF MADERA
SEWER RATE STUDY
Projected Water Rates Under Existing Rate Schedule

EXHIBIT 4

TABLE 20 : CURRENT SEWER RATE SCHEDULE

Current Monthly Sewer Service Fee ¹		FYE 2020
Residential Flat Rates		
	Monthly Fixed Charge	\$42.75
Multi-Residential Rates		
	Monthly Fixed Charge	\$27.77
Non-Residential Rates		
	Monthly Fixed Service Charge	\$19.02
Non Residential Discharge Rates		
	CAR DLR & Dept/Ret	\$2.30
	Game	\$3.46
	GROC/MOR	\$5.04
	HOSP/CON	\$2.28
	HOTEL/WO	\$2.28
	LIB/CHUR	\$2.25
	Lt. Manufacturing	\$3.51
	PROF BLD	\$2.28
	RESTAURANT	\$5.22
	SCHOOLS	\$2.38
	STRP/MAL	\$3.52
	WRHSE	\$3.51
Non-Metered Non Residential Flat Rates		
CAR DLR & Dept/Ret	SEWER USE/BLDG/1000	\$19.01
CAR SERV	SEWER USE/BAYS	\$16.45
Game	SEWER USE/BLDG/1000	\$57.63
GROC/MOR	SEWER USE/BLDG/1000	\$33.80
HOSP/CON	SEWER USE/BEDS	\$15.83
HOTEL/W	SEWER USE/ROOMS	\$35.15
HOTEL/WO	SEWER USE/ROOMS	\$20.59
LIB/CHUR	SEWER USE/SEATING	\$0.50
OPN/AIR	SEWER USE/SEATING	\$0.12
PROF BLD	SEWER USE/BLDG/1000	\$38.02
REST IN	SEWER USE/SEATING	\$7.02
REST OUT	SEWER USE/BLDG/1000	\$70.22
SCHOOLS	SEWER USE/STUDENTS	\$1.58
STRP/MAL	SEWER USE/BLDG/1000	\$41.16
WRHSE	SEWER USE/BLDG/1000	\$2.55
High Industrial User Rates²		
	Rate per MG of Flow	\$1,234.50
	Rate per 1,000 lbs. of BOD	\$410.00
	Rate per 1,000 lbs. of TSS	\$340.00

1. Sewer rates for fiscal year ending 2020 are found in source file: 2142_001 Sewer Rates 2016-2020.pdf.

2. The City currently does not have high industrial users, however these will be the applicable charges.

CITY OF MADERA
SEWER RATE STUDY
Cost of Service Analysis

Function & Classification

TABLE 21 : CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS

Classification of Expenses ¹									
Budget Categories	Total Revenue	Flow	Strength		Customer	Basis of Classification			
	FY 2023/24	(VOL)	(BOD)	(TSS)	(CA)	(VOL)	(BOD)	(TSS)	(CA)
Sewer Fund									
UTILITY BILLING & SEWER									
Salaries & Benefits									
Salaries/Full-Time	\$ 164,831	\$ -	\$ -	\$ -	\$ 164,831	0%	0%	0%	100%
Salaries - Auto & Expense Allo.	79	-	-	-	79	0%	0%	0%	100%
Public Employees Retirement	18,990	-	-	-	18,990	0%	0%	0%	100%
Long Term Disability Insurance	560	-	-	-	560	0%	0%	0%	100%
Life Insurance Premiums	210	-	-	-	210	0%	0%	0%	100%
Workers Compensation Insurance	14,456	-	-	-	14,456	0%	0%	0%	100%
Medicare Tax - Employer's Share	2,378	-	-	-	2,378	0%	0%	0%	100%
Unfunded Accrued Liability	29,669	-	-	-	29,669	0%	0%	0%	100%
Deferred Comp/Full-Time	5,774	-	-	-	5,774	0%	0%	0%	100%
Unemployment Insurance	620	-	-	-	620	0%	0%	0%	100%
Section 125 Benefit Allowance	47,031	-	-	-	47,031	0%	0%	0%	100%
Subtotal	\$ 284,597	\$ -	\$ -	\$ -	\$ 284,597				
Materials & Services									
Telephone & Fax Charges	\$ 4,631	\$ -	\$ -	\$ -	\$ 4,631	0%	0%	0%	100%
Advertising/Bids & Notices	289	-	-	-	289	0%	0%	0%	100%
Office Supplies/Expendable	2,894	-	-	-	2,894	0%	0%	0%	100%
Postage/Other Mailing Charge	23,153	-	-	-	23,153	0%	0%	0%	100%
Vehicle Fuel, Supplies & Maintenance	434	-	-	-	434	0%	0%	0%	100%
Contracted Services	17,364	-	-	-	17,364	0%	0%	0%	100%
Bank Service Charges	8,682	-	-	-	8,682	0%	0%	0%	100%
Conference/Training/Education	1,736	-	-	-	1,736	0%	0%	0%	100%
Subtotal	\$ 59,184	\$ -	\$ -	\$ -	\$ 59,184				
Interfund Charges									
Interfund Charges - Central Su.	\$ 2	\$ -	\$ -	\$ -	\$ 2	0%	0%	0%	100%
Interfund Charges - Admin Overhead	19,977	-	-	-	19,977	0%	0%	0%	100%
Interfund Charges - Computer Maintenance	16,606	-	-	-	16,606	0%	0%	0%	100%
Interfund Charges - Computer Replace.	3,743	-	-	-	3,743	0%	0%	0%	100%
Interfund Charges - Motor Rental	1,485	-	-	-	1,485	0%	0%	0%	100%
Subtotal	\$ 41,813	\$ -	\$ -	\$ -	\$ 41,813				

TABLE 22 : CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS

Classification of Expenses ¹									
Budget Categories	Total Revenue	Flow	Strength		Customer	Basis of Classification			
	FY 2023/24	(VOL)	(BOD)	(TSS)	(CA)	(VOL)	(BOD)	(TSS)	(CA)
Sewer Fund									
Special Payments									
OPEB Obligation Expense	\$ 955	\$ -	\$ -	\$ -	\$ 955	0%	0%	0%	100%
Pension Expense - GASB 68	42,315	-	-	-	42,315	0%	0%	0%	100%
Subtotal	\$ 43,270	\$ -	\$ -	\$ -	\$ 43,270				
Capital Outlay									
Vehicles & Equipment	\$ 355	\$ -	\$ -	\$ -	\$ 355	0%	0%	0%	100%
Subtotal	\$ 355	\$ -	\$ -	\$ -	\$ 355				
Transfer Out									
Transfer Out - Insurance Reserve	\$ 4,695	\$ -	\$ -	\$ -	\$ 4,695	0%	0%	0%	100%
Subtotal	\$ 4,695	\$ -	\$ -	\$ -	\$ 4,695				
Sub-Total: Utility Billing and Sewer	\$ 433,914	\$ -	\$ -	\$ -	\$ 433,914	0%	0%	0%	100%

TABLE 23 : CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS

Classification of Expenses Continued ¹									
Budget Categories	Total Revenue	Flow	Strength		Customer	Basis of Classification			
	FY 2023/24	(VOL)	(BOD)	(TSS)	(CA)	(VOL)	(BOD)	(TSS)	(CA)
Sewer Fund									
SEWER MAINTENANCE & OPERATIONS									
Salaries & Benefits									
Salaries/Full-Time	\$ 467,787	\$ 187,115	\$ 46,779	\$ 46,779	\$ 187,115	40%	10%	10%	40%
Salaries/Overtime	6,946	2,778	695	695	2,778	40%	10%	10%	40%
Salaries - Uniform Pay	1,331	533	133	133	533	40%	10%	10%	40%
Public Employees Retirement	63,850	25,540	6,385	6,385	25,540	40%	10%	10%	40%
Long Term Disability Insurance	1,542	617	154	154	617	40%	10%	10%	40%
Life Insurance Premiums	589	236	59	59	236	40%	10%	10%	40%
Workers Compensation Insurance	45,146	18,058	4,515	4,515	18,058	40%	10%	10%	40%
Medicare Tax - Employer's Share	7,279	2,912	728	728	2,912	40%	10%	10%	40%
Unfunded Accrued Liability	104,114	41,646	10,411	10,411	41,646	40%	10%	10%	40%
Deferred Comp/Full-Time	17,804	7,122	1,780	1,780	7,122	40%	10%	10%	40%
Unemployment Insurance	1,981	792	198	198	792	40%	10%	10%	40%
Section 125 Benefit Allowance	94,955	37,982	9,496	9,496	37,982	40%	10%	10%	40%
Subtotal	\$ 813,325	\$ 325,330	\$ 81,333	\$ 81,333	\$ 325,330				
Materials & Services									
Gas & Electric Utilities	\$ 39,359	\$ 15,744	\$ 3,936	\$ 3,936	\$ 15,744	40%	10%	10%	40%
Telephone & Fax Charges	5,464	2,185	546	546	2,185	40%	10%	10%	40%
Advertising/Bids & Notices	1,639	656	164	164	656	40%	10%	10%	40%
Office Supplies/Expendable	3,278	1,311	328	328	1,311	40%	10%	10%	40%
Vehicle Fuel, Supplies & Maintenance	21,416	8,566	2,142	2,142	8,566	40%	10%	10%	40%
Contracted Services	27,318	10,927	2,732	2,732	10,927	40%	10%	10%	40%
Taxes & Assessments	13,113	5,245	1,311	1,311	5,245	40%	10%	10%	40%
Conference/Training/Education	4,699	1,879	470	470	1,879	40%	10%	10%	40%
Maintenance/Other Supplies	65,564	26,225	6,556	6,556	26,225	40%	10%	10%	40%
Subtotal	\$ 181,849	\$ 72,740	\$ 18,185	\$ 18,185	\$ 72,740				

TABLE 24 : CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS

Classification of Expenses Continued ¹									
Budget Categories	Total Revenue	Flow	Strength		Customer	Basis of Classification			
	FY 2023/24	(VOL)	(BOD)	(TSS)	(CA)	(VOL)	(BOD)	(TSS)	(CA)
Sewer Fund									
Interfund Charges									
Interfund Charges - Facility Maintenance	\$ 70,859	\$ 28,344	\$ 7,086	\$ 7,086	\$ 28,344	40%	10%	10%	40%
Interfund Charges - Central Su.	6,055	2,422	606	606	2,422	40%	10%	10%	40%
Interfund Charges - Cost Distr.	112,903	45,161	11,290	11,290	45,161	40%	10%	10%	40%
Interfund Charges - Admin Overhead	75,406	30,162	7,541	7,541	30,162	40%	10%	10%	40%
Interfund Charges - Vehicle Replacement	95,025	38,010	9,503	9,503	38,010	40%	10%	10%	40%
Interfund Charges - Vehicle Maintenance	48,931	19,572	4,893	4,893	19,572	40%	10%	10%	40%
Interfund Charges - Computer Maintenance	28,277	11,311	2,828	2,828	11,311	40%	10%	10%	40%
Interfund Charges - Computer Replace.	6,233	2,493	623	623	2,493	40%	10%	10%	40%
Interfund Charges - Software	131	52	13	13	52	40%	10%	10%	40%
Interfund Charges - Motor Rental	5,007	2,003	501	501	2,003	40%	10%	10%	40%
Subtotal	\$ 448,827	\$ 179,531	\$ 44,883	\$ 44,883	\$ 179,531				
Special Payments									
Liability/Property Insurance	\$ 32,291	\$ 12,916	\$ 3,229	\$ 3,229	\$ 12,916	40%	10%	10%	40%
Retiree Insurance Premiums	2,308	923	231	231	923	40%	10%	10%	40%
OPEB Obligation Expense	26,273	10,509	2,627	2,627	10,509	40%	10%	10%	40%
Pension Expense - GASB 68	120,677	48,271	12,068	12,068	48,271	40%	10%	10%	40%
Subtotal	\$ 181,549	\$ 72,620	\$ 18,155	\$ 18,155	\$ 72,620				
Capital Outlay									
Vehicles & Equipment	\$ 461	\$ 369	\$ 46	\$ 46	\$ -	80%	10%	10%	0%
Subtotal	\$ 461	\$ 369	\$ 46	\$ 46	\$ -				
Transfer Out									
Transfer Out - Insurance Reserve	\$ 14,001	\$ 5,600	\$ 1,400	\$ 1,400	\$ 5,600	40%	10%	10%	40%
Subtotal	\$ 14,001	5,600	1,400	1,400	5,600				
Sub-Total: Sewer Maintenance & Operations	\$ 1,640,013	\$ 656,190	\$ 164,001	\$ 164,001	\$ 655,821	40%	10%	10%	40%

TABLE 25 : CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS

Classification of Expenses Continued ¹									
Budget Categories	Total Revenue	Flow	Strength		Customer	Basis of Classification			
	FY 2023/24	(VOL)	(BOD)	(TSS)	(CA)	(VOL)	(BOD)	(TSS)	(CA)
Sewer Fund									
WATER WASTE TREATMENT PLANT									
Salaries & Benefits									
Salaries/Full-Time	\$ 931,136	\$ 186,227	\$ 232,784	\$ 232,784	\$ 279,341	20%	25%	25%	30%
Salaries/Overtime	17,364	3,473	4,341	4,341	5,209	20%	25%	25%	30%
Salaries - Uniform Pay	1,621	324	405	405	486	20%	25%	25%	30%
Public Employees Retirement	110,231	22,046	27,558	27,558	33,069	20%	25%	25%	30%
Long Term Disability Insurance	2,643	529	661	661	793	20%	25%	25%	30%
Life Insurance Premiums	970	194	243	243	291	20%	25%	25%	30%
Workers Compensation Insurance	90,201	18,040	22,550	22,550	27,060	20%	25%	25%	30%
Medicare Tax - Employer's Share	14,360	2,872	3,590	3,590	4,308	20%	25%	25%	30%
Unfunded Accrued Liability	162,190	32,438	40,548	40,548	48,657	20%	25%	25%	30%
Deferred Comp/Full-Time	32,644	6,529	8,161	8,161	9,793	20%	25%	25%	30%
Unemployment Insurance	3,039	608	760	760	912	20%	25%	25%	30%
Section 125 Benefit Allowance	197,943	39,589	49,486	49,486	59,383	20%	25%	25%	30%
Subtotal	\$ 1,564,343	\$ 312,869	\$ 391,086	\$ 391,086	\$ 469,303				
Materials & Services									
Gas & Electric Utilities	\$ 777,241	\$ 155,448	\$ 194,310	\$ 194,310	\$ 233,172	20%	25%	25%	30%
Telephone & Fax Charges	8,195	1,639	2,049	2,049	2,459	20%	25%	25%	30%
Advertising/Other	13,670	2,734	3,418	3,418	4,101	20%	25%	25%	30%
Office Supplies/Expendable	3,825	765	956	956	1,147	20%	25%	25%	30%
Mileage Reimbursements	549	110	137	137	165	20%	25%	25%	30%
Vehicle Fuel, Supplies & Maintenance	18,522	3,704	4,631	4,631	5,557	20%	25%	25%	30%
Contracted Services	340,931	68,186	85,233	85,233	102,279	20%	25%	25%	30%
Taxes & Assessments	44,802	8,960	11,200	11,200	13,441	20%	25%	25%	30%
Conference/Training/Education	16,391	3,278	4,098	4,098	4,917	20%	25%	25%	30%
Maintenance/Other Supplies	295,036	59,007	73,759	73,759	88,511	20%	25%	25%	30%
Subtotal	\$ 1,519,161	\$ 303,832	\$ 379,790	\$ 379,790	\$ 455,748				

CITY OF MADERA
SEWER RATE STUDY
Cost of Service Analysis

Function & Classification

TABLE 26 : CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS

Classification of Expenses Continued ¹									
Budget Categories	Total Revenue	Flow	Strength		Customer	Basis of Classification			
	FY 2023/24	(VOL)	(BOD)	(TSS)	(CA)	(VOL)	(BOD)	(TSS)	(CA)
Sewer Fund									
Interfund Charges									
Interfund Charges - Facility Maintenance	\$ 180,641	\$ 36,128	\$ 45,160	\$ 45,160	\$ 54,192	20%	25%	25%	30%
Interfund Charges - Central Su.	2,677	535	669	669	803	20%	25%	25%	30%
Interfund Charges - Admin Overhead	365,815	73,163	91,454	91,454	109,745	20%	25%	25%	30%
Interfund Charges - Vehicle Replacement	70,708	14,142	17,677	17,677	21,212	20%	25%	25%	30%
Interfund Charges - Vehicle Maintenance	64,251	12,850	16,063	16,063	19,275	20%	25%	25%	30%
Interfund Charges - Computer Maintenance	26,810	5,362	6,703	6,703	8,043	20%	25%	25%	30%
Interfund Charges - Computer Replace.	5,821	1,164	1,455	1,455	1,746	20%	25%	25%	30%
Interfund Charges - Software	782	156	196	196	235	20%	25%	25%	30%
Subtotal	\$ 717,505	\$ 143,501	\$ 179,376	\$ 179,376	\$ 215,252				
Special Payments									
Liability/Property Insurance	\$ 354,001	\$ 70,800	\$ 88,500	\$ 88,500	\$ 106,200	20%	25%	25%	30%
OPEB Obligation Expense	33,196	6,639	8,299	8,299	9,959	20%	25%	25%	30%
Pension Expense - GASB 68	218,160	43,632	54,540	54,540	65,448	20%	25%	25%	30%
Subtotal	\$ 605,357	\$ 121,071	\$ 151,339	\$ 151,339	\$ 181,607				
Capital Outlay									
Vehicles & Equipment	14,532	2,906	3,633	3,633	4,360	20%	25%	25%	30%
Subtotal	\$ 14,532	\$ 2,906	\$ 3,633	\$ 3,633	\$ 4,360				
Transfer Out									
Transfer Out - Insurance Reserve	\$ 26,269	\$ 5,254	\$ 6,567	\$ 6,567	\$ 7,881	20%	25%	25%	30%
Subtotal	\$ 26,269	\$ 5,254	\$ 6,567	\$ 6,567	\$ 7,881				
Sub-Total: Water Waste Treatment Plant	\$ 4,447,167	\$ 889,433	\$ 1,111,792	\$ 1,111,792	\$ 1,334,150	20%	25%	25%	30%
Total Operating Expense	\$ 6,521,094	\$ 1,545,623	\$ 1,275,793	\$ 1,275,793	\$ 2,423,885	23.7%	19.6%	19.6%	37.2%

TABLE 27 : CLASSIFICATION OF EXPENSES FOR COST OF SERVICE ANALYSIS

Classification of Expenses Continued ¹									
Budget Categories	Total Revenue	Flow	Strength		Customer	Basis of Classification			
	FY 2023/24	(VOL)	(BOD)	(TSS)	(CA)	(VOL)	(BOD)	(TSS)	(CA)
Debt Services									
Existing Debt Service	\$ 2,527,048	\$ 598,958	\$ 494,394	\$ 494,394	\$ 939,301	24%	20%	20%	37%
New Debt Service	-	-	-	-	-	24%	20%	20%	37%
Capital Expenditures									
Rate-Funded Capital Expenses	\$ -	\$ -	\$ -	\$ -	\$ -	24%	20%	20%	37%
TOTAL REVENUE REQUIREMENTS	\$ 9,048,142	\$ 2,144,581	\$ 1,770,187	\$ 1,770,187	\$ 3,363,186	24%	20%	20%	37%
Less: Non-Rate Revenues									
Sewer Rate Revenue									
Septic Dump Income	\$ (310,641)	\$ (73,628)	\$ (60,774)	\$ (60,774)	\$ (115,465)	24%	20%	20%	37%
Water Capital Fee	(1,183)	(280)	(231)	(231)	(440)	24%	20%	20%	37%
Other Fees	(145,734)	(34,542)	(28,512)	(28,512)	(54,169)	24%	20%	20%	37%
Refunds	(1,864)	(442)	(365)	(365)	(693)	24%	20%	20%	37%
Taxes & Licenses	(87,300)	(20,692)	(17,079)	(17,079)	(32,449)	24%	20%	20%	37%
Other Income	(250,000)	(59,255)	(48,910)	(48,910)	(92,925)	24%	20%	20%	37%
Interest Income	(139,973)	(33,176)	(27,384)	(27,384)	(52,028)	24%	20%	20%	37%
NET REVENUE REQUIREMENTS	\$ 8,111,447	\$ 1,922,567	\$ 1,586,931	\$ 1,586,931	\$ 3,015,018				
<i>Allocation of Revenue Requirements</i>	<i>100.0%</i>	<i>23.7%</i>	<i>19.6%</i>	<i>19.6%</i>	<i>37.2%</i>				

Adjustments to Classification of Expenses					
Adjustment to Current Rate Level:	Total	(VOL)	(BOD)	(TSS)	(CA)
Projected Sewer Rate Revenue at Current Rates	\$8,412,960				
Projected Sewer Rate Increase	5.00%				
Projected Sewer Rate Increase (\$)	\$1,326,093				
Target Rate Rev. After Rate Increases ²	\$9,739,053				
Adjusted Net Revenue	\$ 9,739,053	\$ 2,308,340	\$ 1,905,358	\$ 1,905,358	\$ 3,619,997
<i>Percent of Revenue</i>	<i>100.0%</i>	<i>23.7%</i>	<i>19.6%</i>	<i>19.6%</i>	<i>37.2%</i>

1. Revenue and expenses for FY 2020/21 are from source file: *Enterprise Funds Budget 2020-21.pdf, pages 33-42.*

2. Revenue from rate increases assumes an implementation date of April 1, 2022 and each July 1 annual thereafter.

TABLE 28 : CUSTOMER ALLOCATION FACTOR

Development of the CUSTOMER Allocation Factor				
Customer Class	Number of Accounts ¹	Percentage of Accounts	Number of Units ¹	Percentage of Units
Single-Family	12,361	90.3%	12,361	75.3%
Multi-Family	452	3.3%	3,183	19.4%
Commercial				
Auto Garage	39	0.3%	39	0.2%
Bakeries	5	0.0%	5	0.0%
Barber/Beauty	8	0.1%	8	0.0%
Bars	1	0.0%	1	0.0%
Car Wash	9	0.1%	9	0.1%
Church	40	0.3%	40	0.2%
Offices	630	4.6%	630	3.8%
Grocery	18	0.1%	18	0.1%
Hospitals	7	0.1%	7	0.0%
Hotel-Motel	7	0.1%	7	0.0%
Jails	2	0.0%	2	0.0%
Laundromat	9	0.1%	9	0.1%
School	24	0.2%	24	0.1%
Rec Facility	6	0.0%	6	0.0%
Restaurant	47	0.3%	47	0.3%
Service Station	7	0.1%	7	0.0%
Theater In	1	0.0%	1	0.0%
Industrial	16	0.1%	16	0.1%
Institutional	6	0.0%	6	0.0%
Total	13,695	100%	16,426	100%

1. Source files for accounts: December 2020: 2020 DEC MUNIS Billing_Manipulated.xlsx

TABLE 29 : VOLUME ALLOCATION FACTOR

Development of the VOLUME Allocation Factor ¹					
Customer Class	Number of Accounts	Winter Consumption Jan.-Mar. 2020 (hcf)	Annualized Winter Consumption (hcf)	Adjusted Annual Volume ² (hcf)	Percentage of Volume
Single-Family	12,361	330,244	1,320,976	1,553,198	62.39%
Multi-Family	452	84,805	339,219	398,852	16.02%
Commercial					
Auto Garage	39	940	3,762	4,423	0.18%
Bakeries	5	238	951	1,119	0.04%
Barber/Beauty	8	334	1,336	1,571	0.06%
Bars	1	4	15	18	0.00%
Car Wash	9	3,498	13,993	16,453	0.66%
Church	40	2,952	11,806	13,882	0.56%
Offices	630	57,375	229,498	269,843	10.84%
Grocery	18	6,394	25,574	30,070	1.21%
Hospitals	7	2,401	9,605	11,293	0.45%
Hotel-Motel	7	2,820	11,280	13,263	0.53%
Jails	2	638	2,553	3,001	0.12%
Laundromat	9	2,480	9,921	11,665	0.47%
School	24	18,849	75,397	88,651	3.56%
Rec Facility	6	437	1,746	2,053	0.08%
Restaurant	47	5,998	23,991	28,209	1.13%
Service Station	7	722	2,887	3,394	0.14%
Theater In	1	208	830	976	0.04%
Industrial	16	7,562	30,247	35,565	1.43%
Institutional	6	432	1,727	2,030	0.08%
Total	13,695	529,329	2,117,316	2,489,531	100.00%
				2,489,531	Flow (hcf/yr.)
				1.18	Flow Adj. Factor

1. Source files for water consumption: September 2019 through August 2020: MAIS Meter Usage 12 Months_Manipulated.xlsx

September-December 2020: 2020 SEP-DEC Munis Water Usage_Manipulated.xlsx

2. Adjusted annual volume based on wastewater treatment plant influent data.

Source file: Madera City of. WWTP Daily Flows Jan. 2012 through Dec. 2020.xlsx

TABLE 30 : STRENGTH ALLOCATION FACTOR

Development of the STRENGTH Allocation Factor								
Customer Class	Adjusted Annual Flow (hcf)	Rate Commercial Classes ³	Biochemical Oxygen Demand (BOD)			Total Suspended Solids (TSS)		
			Average Strength Factor ⁴ (mg/l)	Calculated BOD (lbs./yr.)	Percent of Total	Average Strength Factor ⁴ (mg/l)	Calculated TSS (lbs./yr.)	Percent of Total
Single-Family	1,553,198	n/a	200	1,937,870	56.0%	200	1,937,870	59.8%
Multi-Family	398,852	n/a	100	248,817	7.2%	100	248,817	7.7%
Commercial								
Auto Garage	4,423	Car Dealer & Dept/Retail	300	8,278	0.2%	275	7,588	0.2%
Bakeries	1,119	Restaurant	1,200	8,373	0.2%	600	4,187	0.1%
Barber/Beauty	1,571	Professional Building	300	2,941	0.1%	275	2,696	0.1%
Bars	18	Professional Building	300	33	0.0%	275	31	0.0%
Car Wash	16,453	Car Dealer & Dept/Retail	300	30,793	0.9%	275	28,226	0.9%
Church	13,882	Library & Church	300	25,980	0.8%	275	23,815	0.7%
Offices	269,843	Professional Building	300	505,010	14.6%	275	462,926	14.3%
Grocery	30,070	Grocery & Mortuary	1,000	187,588	5.4%	700	131,312	4.1%
Hospitals	11,293	Hospital	300	21,135	0.6%	275	19,374	0.6%
Hotel-Motel	13,263	Hotel without dining	300	24,822	0.7%	275	22,754	0.7%
Jails	3,001	School	300	5,617	0.2%	275	5,149	0.2%
Laundromat	11,665	Professional Building	300	21,830	0.6%	275	20,011	0.6%
School	88,651	School	300	165,911	4.8%	300	165,911	5.1%
Rec Facility	2,053	Game	275	3,522	0.1%	250	3,202	0.1%
Restaurant	28,209	Restaurant	1,200	211,173	6.1%	600	105,586	3.3%
Service Station	3,394	Car Dealer & Dept/Retail	300	6,352	0.2%	275	5,823	0.2%
Theater In	976	Professional Building	300	1,827	0.1%	275	1,675	0.1%
Industrial								
Low	35,565	Light Industrial	170	37,717	1.1%	170	37,717	1.2%
Medium ⁵		Medium Industrial	340			340		
High ⁵		High Industrial	510			510		
Institutional	2,030	Professional Building	300	3,800	0.1%	275	3,483	0.1%
Total	2,489,531			3,459,388	100.0%		3,238,150	100.0%

3. To match City's current rate schedule for commercial variable charges.

4. Typical strength factors for BOD and TSS are derived from previous rate study and the State Water Resources Control Board Revenue Program Guidelines, Appendix G

5. NBS is recommending medium and high industrial users are added to commercial classes.

CITY OF MADERA
SEWER RATE STUDY
Cost of Service Analysis

TABLE 31 : REVENUE BY CUSTOMER CLASS

Total Revenue by Customer Class ⁶		
Customer Class	Total Revenue 2020	% of Total Revenue
Single-Family	\$ 6,420,703	64.9%
Multi-Family	\$ 1,631,105	16.5%
Commercial	\$ 1,837,245	18.6%
Total	\$ 9,889,053	100.0%

6. Source files for accounts and billing data: September 2019 through August 2020: MAIS Meter Usage 12 Months_Manipulated.xlsx
September-November 2020: 2020 SEP-NOV MUNIS Billing2_Manipulated.xlsx
December 2020: 2020 DEC MUNIS Billing_Manipulated.xlsx

TABLE 32 : ALLOCATION OF REVENUE REQUIREMENTS BY CUSTOMER CLASS

Customer Class	Cost Classification Components				Cost-of-Service Revenue Req't.	% of COS Revenue Req't.
	Volume	Treatment		Customer Related		
		BOD	TSS			
Net Revenue Requirements¹	\$ 2,308,340	\$ 1,905,358	\$ 1,905,358	\$ 3,619,997	\$ 9,739,053	--
	23.7%	19.6%	19.6%	37.2%	100%	
Single-Family	\$ 1,440,155	\$ 1,067,338	\$ 1,140,260	\$ 2,724,144	\$ 6,371,897	65.4%
Multi-Family (per unit)	369,823	137,043	146,406	701,476	1,354,748	13.9%
Commercial						
Car Dealer & Dept/Retail	22,504	25,018	24,500	12,121	84,143	0.9%
Game	1,904	1,940	1,884	1,322	7,050	0.1%
Grocery & Mortuary	27,882	103,319	77,265	3,967	212,433	2.2%
Hospital	10,471	11,641	11,400	1,543	35,054	0.4%
Hotel without dining	12,298	13,672	13,389	1,543	40,901	0.4%
Library & Church	12,872	14,309	14,013	8,815	50,009	0.5%
Professional Building	265,281	294,910	288,804	144,350	993,345	10.2%
Restaurant	27,193	120,921	64,591	11,460	224,166	2.3%
School	84,982	94,474	100,653	5,730	285,839	2.9%
Strip Mall	-	-	-	-	-	0.0%
Warehouse	-	-	-	-	-	0.0%
Industrial						
Light Industrial	32,976	20,774	22,193	3,526	79,469	0.8%
Medium Industrial	-	-	-	-	-	0.0%
High Industrial	-	-	-	-	-	0.0%
Total	\$ 2,308,340	\$ 1,905,358	\$ 1,905,358	\$ 3,619,997	\$ 9,739,053	100%

1. Revenue requirement for each customer class is determined by multiplying the revenue requirement from each cost classification by the allocation factors for each customer class.

CITY OF MADERA
SEWER RATE STUDY
Sewer Cost of Service Analysis

Rate Calculation

TABLE 33 : PROPOSED SEWER RATES

Customer Class	Number of Units	Annualized Winter Consumption	Net Revenue Requirement	Monthly Fixed Charge Per Unit	Volumetric Charge per HCF
Single-Family	12,361	1,553,198	\$ 6,371,897	\$ 42.96	
Multi-Family (per unit)	3,183	398,852	\$ 1,354,748	\$ 35.47	
Commercial					
Car Dealer & Dept/Retail	55	24,271	\$ 84,143	\$ 22.82	\$ 3.05
Game	6	2,053	\$ 7,050	\$ 22.82	\$ 3.02
Grocery & Mortuary	18	30,070	\$ 212,433	\$ 22.82	\$ 6.22
Hospital	7	11,293	\$ 35,054	\$ 22.82	\$ 2.73
Hotel without dining	7	13,263	\$ 40,901	\$ 22.82	\$ 2.71
Library & Church	40	13,882	\$ 50,009	\$ 22.82	\$ 3.17
Professional Building	655	286,104	\$ 993,345	\$ 22.82	\$ 3.06
Restaurant	52	29,328	\$ 224,166	\$ 22.82	\$ 6.73
School	26	91,653	\$ 285,839	\$ 22.82	\$ 2.74
Strip Mall	0	0	\$ -	\$ 22.82	\$ 3.06
Warehouse	0	0	\$ -	\$ 22.82	\$ 1.97
Industrial					
Light Industrial	16	35,565	\$ 79,469	\$ 22.82	\$ 1.97
Medium Industrial	0	0	\$ -	\$ 22.82	\$ 2.74
High Industrial	0	0	\$ -	\$ 22.82	\$ 3.81
Total	16,426	2,489,531	\$ 9,739,053		

2. HCF = hundred cubic feet, equal to 748 gallons of water.

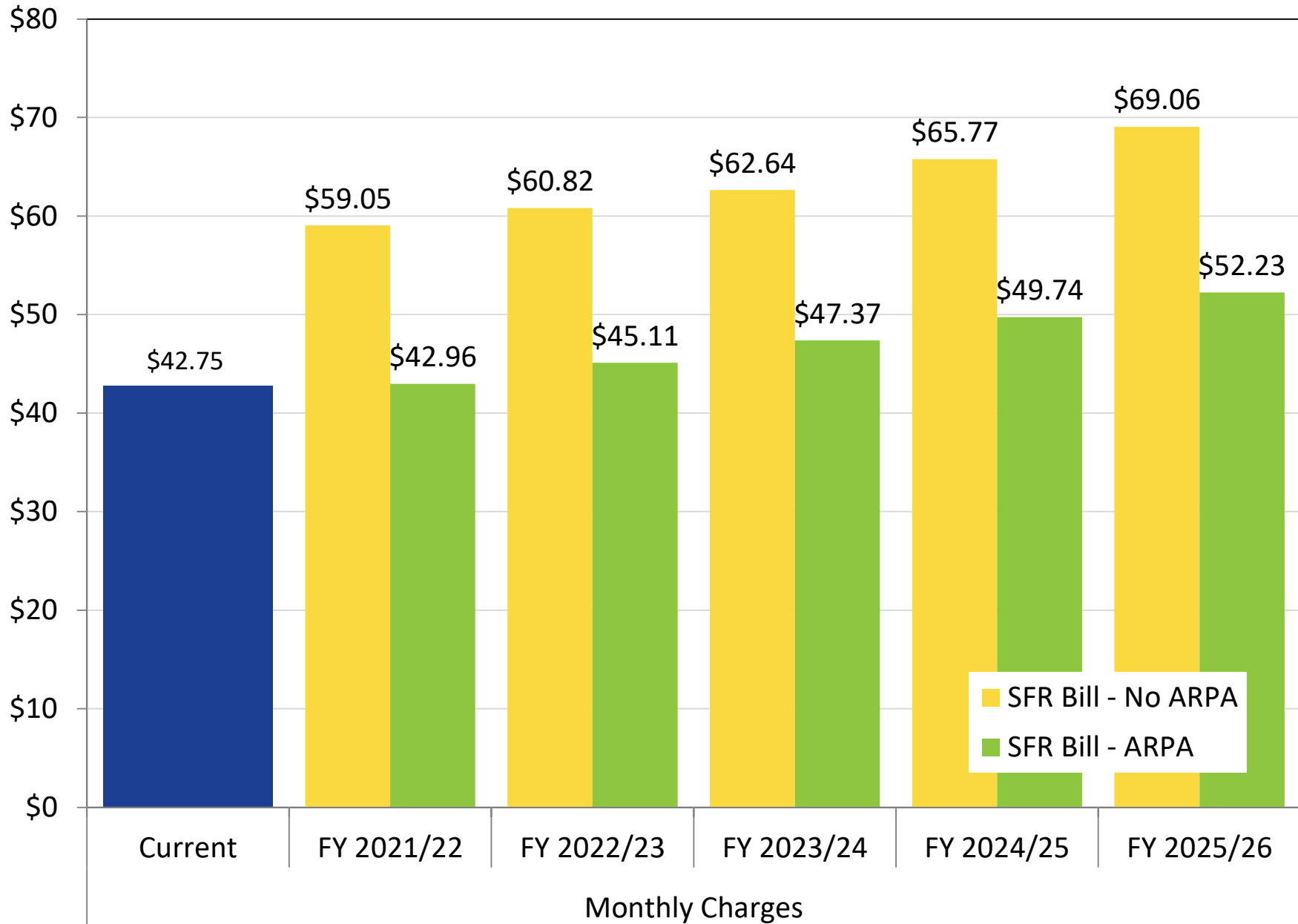
CITY OF MADERA
SEWER RATE STUDY
Sewer Rate Development

TABLE 34 : CURRENT VS. PROPOSED SEWER RATES (MONTHLY) - PROPOSED RATES

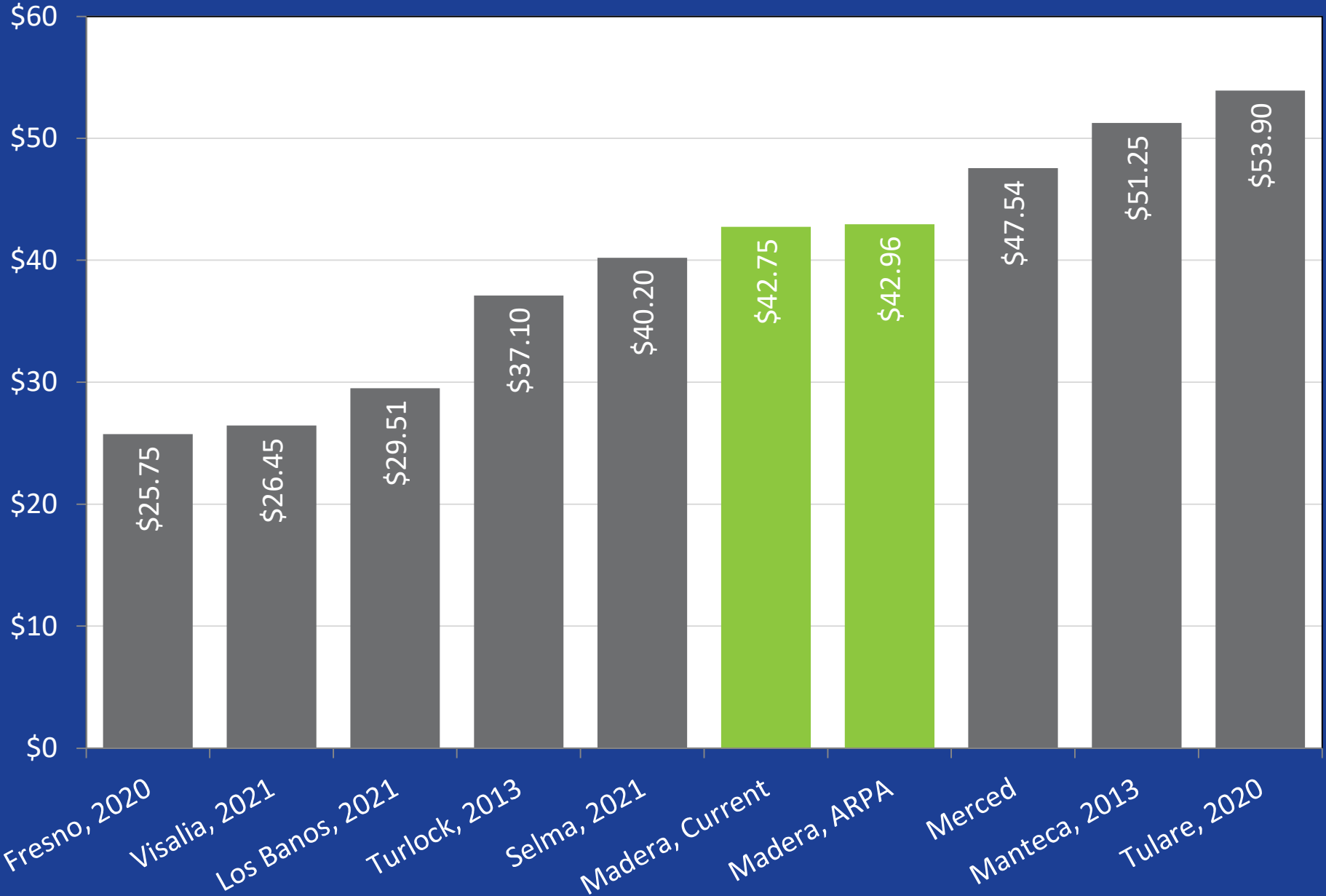
Sewer Rate Schedule	Current Rates	Proposed Sewer Rates				
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
FIXED MONTHLY CHARGES						
Single-Family	\$42.75	\$42.96	\$45.11	\$47.37	\$49.74	\$52.23
Multi-Family (per unit)	\$27.77	\$35.47	\$37.24	\$39.10	\$41.06	\$43.11
Commercial (All)	\$19.02	\$22.82	\$23.96	\$25.16	\$26.42	\$27.74
NON-RESIDENTIAL VOLUMETRIC CHARGES PER HCF¹						
Commercial						
Car Dealer & Dept/Retail	\$2.30	\$3.05	\$3.20	\$3.36	\$3.53	\$3.71
Game	\$3.46	\$3.02	\$3.17	\$3.33	\$3.50	\$3.68
Grocery & Mortuary	\$5.04	\$6.22	\$6.53	\$6.86	\$7.20	\$7.56
Hospital	\$2.28	\$2.73	\$2.87	\$3.01	\$3.16	\$3.32
Hotel without dining	\$2.28	\$2.71	\$2.85	\$2.99	\$3.14	\$3.30
Library & Church	\$2.25	\$3.17	\$3.33	\$3.50	\$3.68	\$3.86
Professional Building	\$2.28	\$3.06	\$3.21	\$3.37	\$3.54	\$3.72
Restaurant	\$5.22	\$6.73	\$7.07	\$7.42	\$7.79	\$8.18
School	\$2.38	\$2.74	\$2.88	\$3.02	\$3.17	\$3.33
Strip Mall	\$3.52	\$3.06	\$3.21	\$3.37	\$3.54	\$3.72
Warehouse	\$3.51	\$1.97	\$2.07	\$2.17	\$2.28	\$2.39
Industrial						
Light Industrial	\$3.51	\$1.97	\$2.07	\$2.17	\$2.28	\$2.39
Medium Industrial	N/A	\$2.74	\$2.88	\$3.02	\$3.17	\$3.33
High Industrial	N/A	\$3.81	\$4.00	\$4.20	\$4.41	\$4.63

1. HCF = hundred cubic feet, equal to 748 gallons of water.

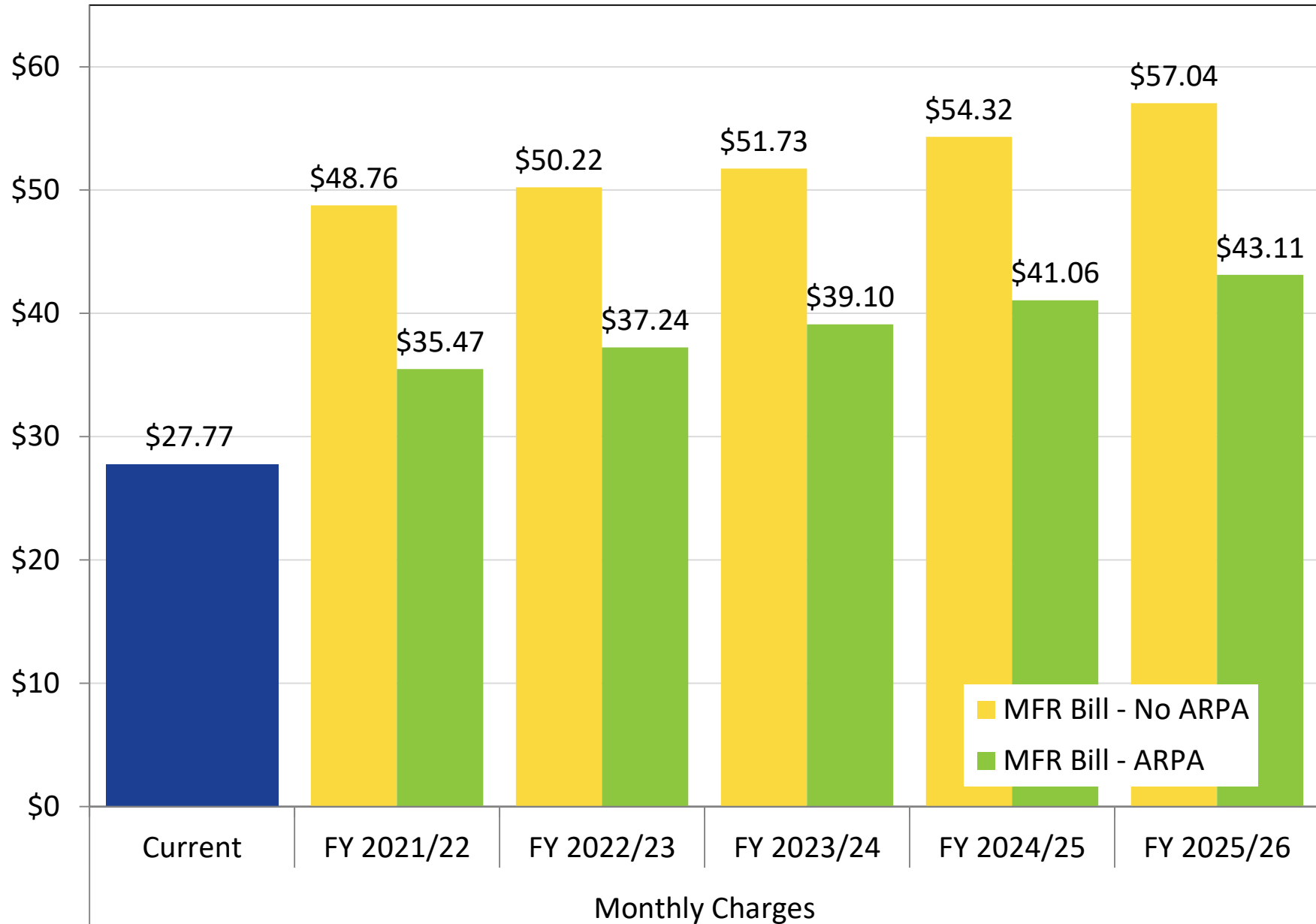
Monthly Single Family Residential Sewer Bill Comparison Current vs. Proposed Rates



Single-Family Residential Regional Monthly Sewer Bill Comparison

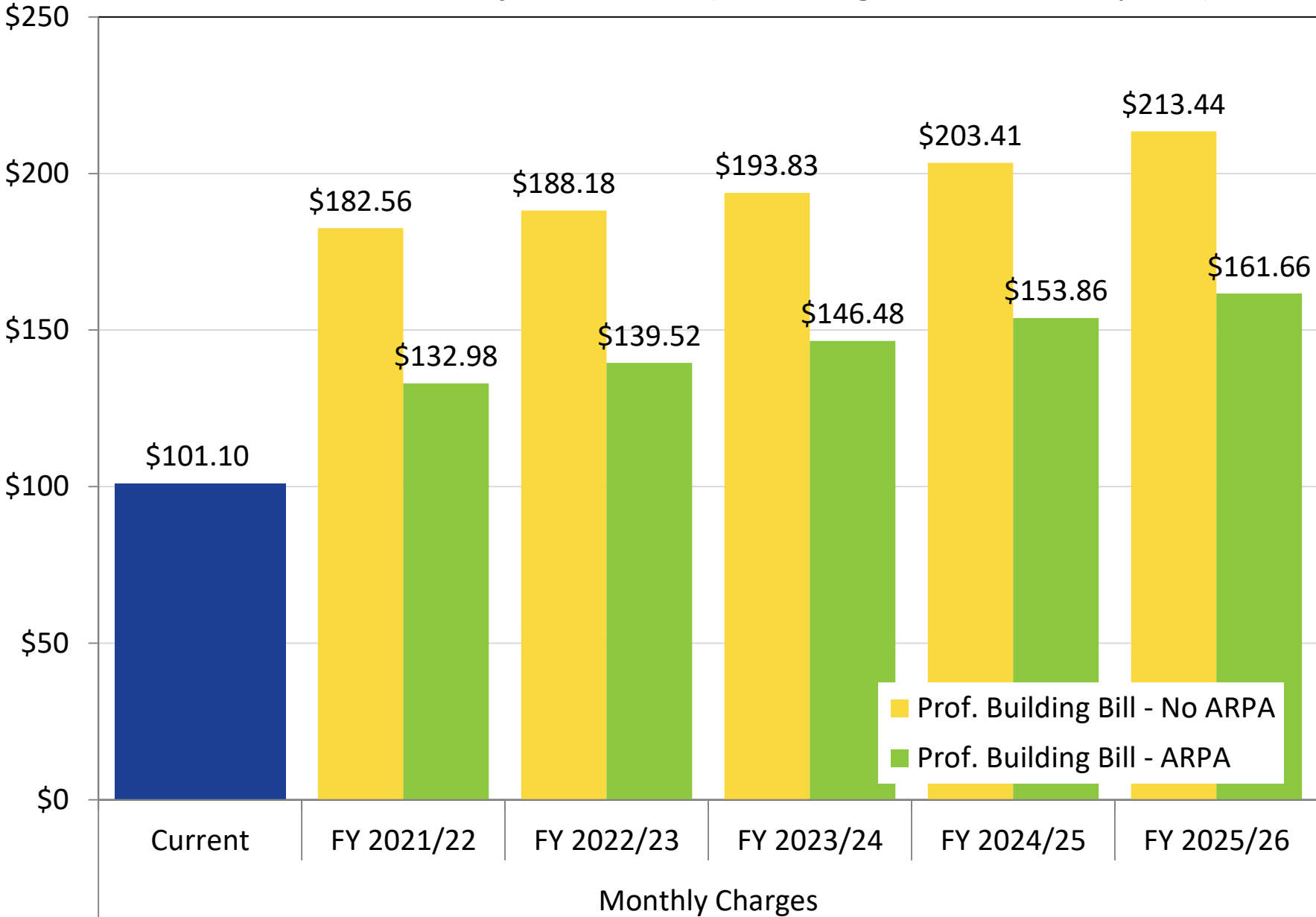


Monthly Multi Family Residential Sewer Bill Comparison Current vs. Proposed Rates



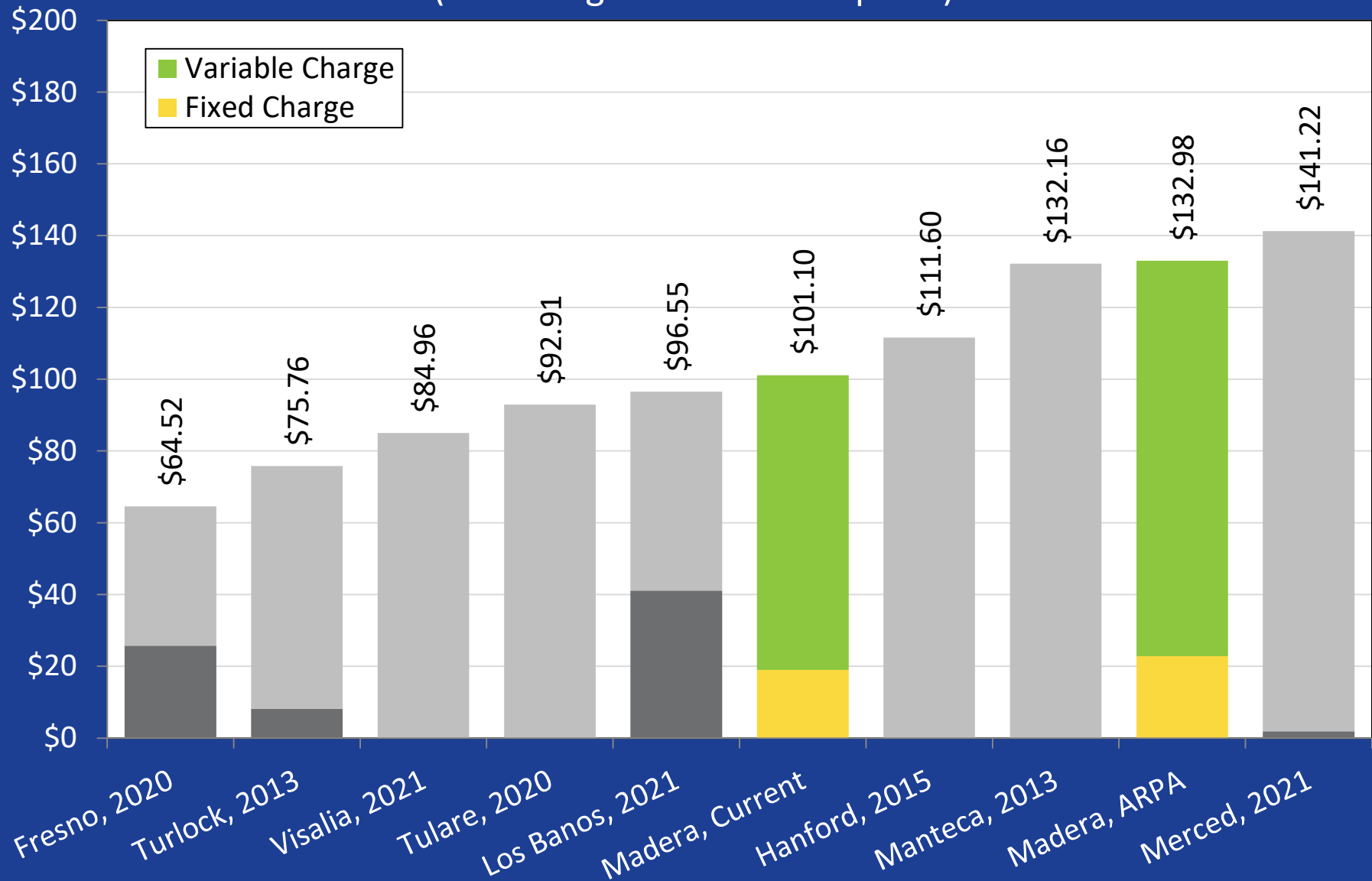
Monthly Professional Building Commercial Sewer Bill Comparison

Current vs. Proposed Rates (Assuming 36 hcf consumption)

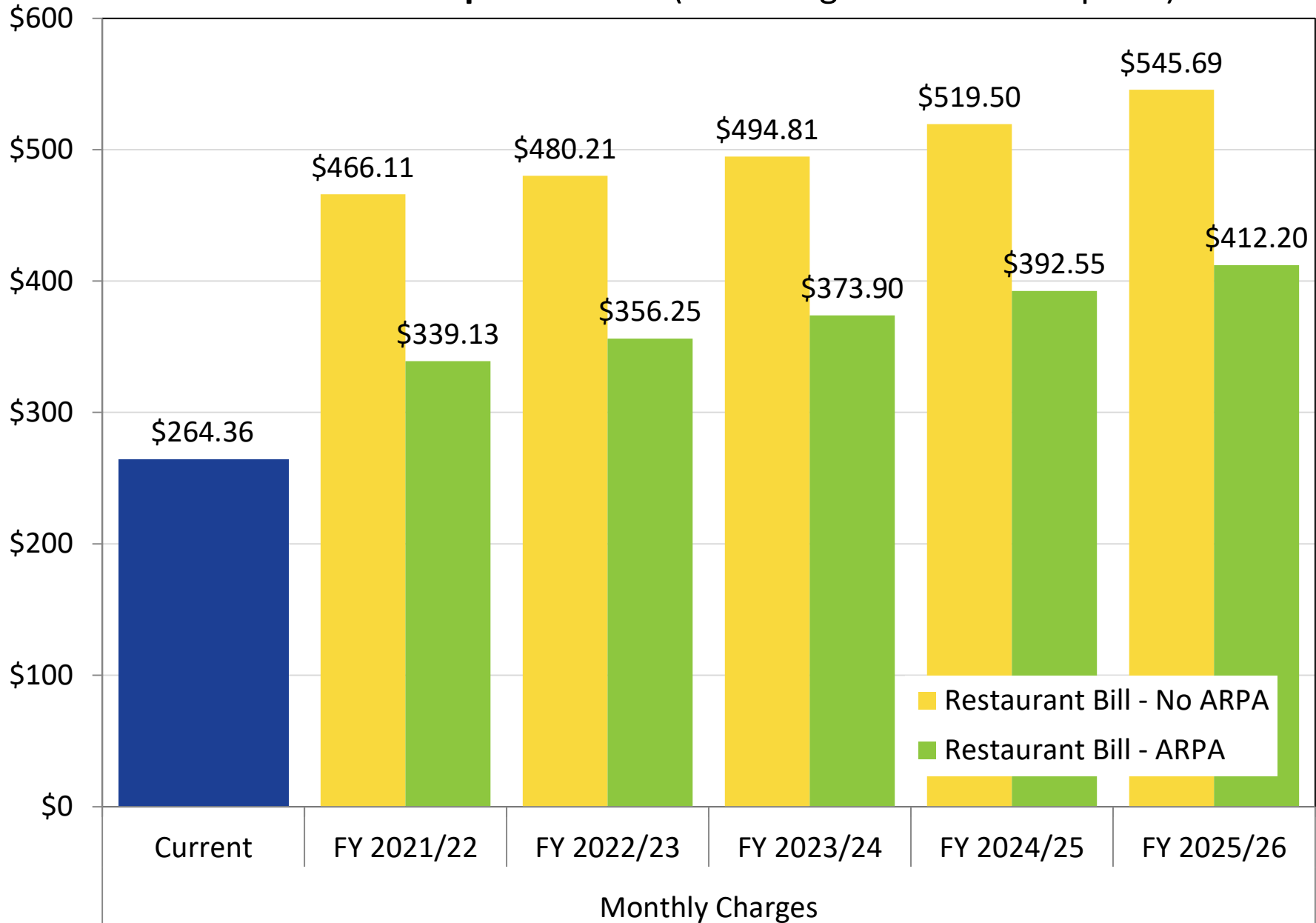


Monthly Professional Building Commercial Regional Sewer Bill Comparison

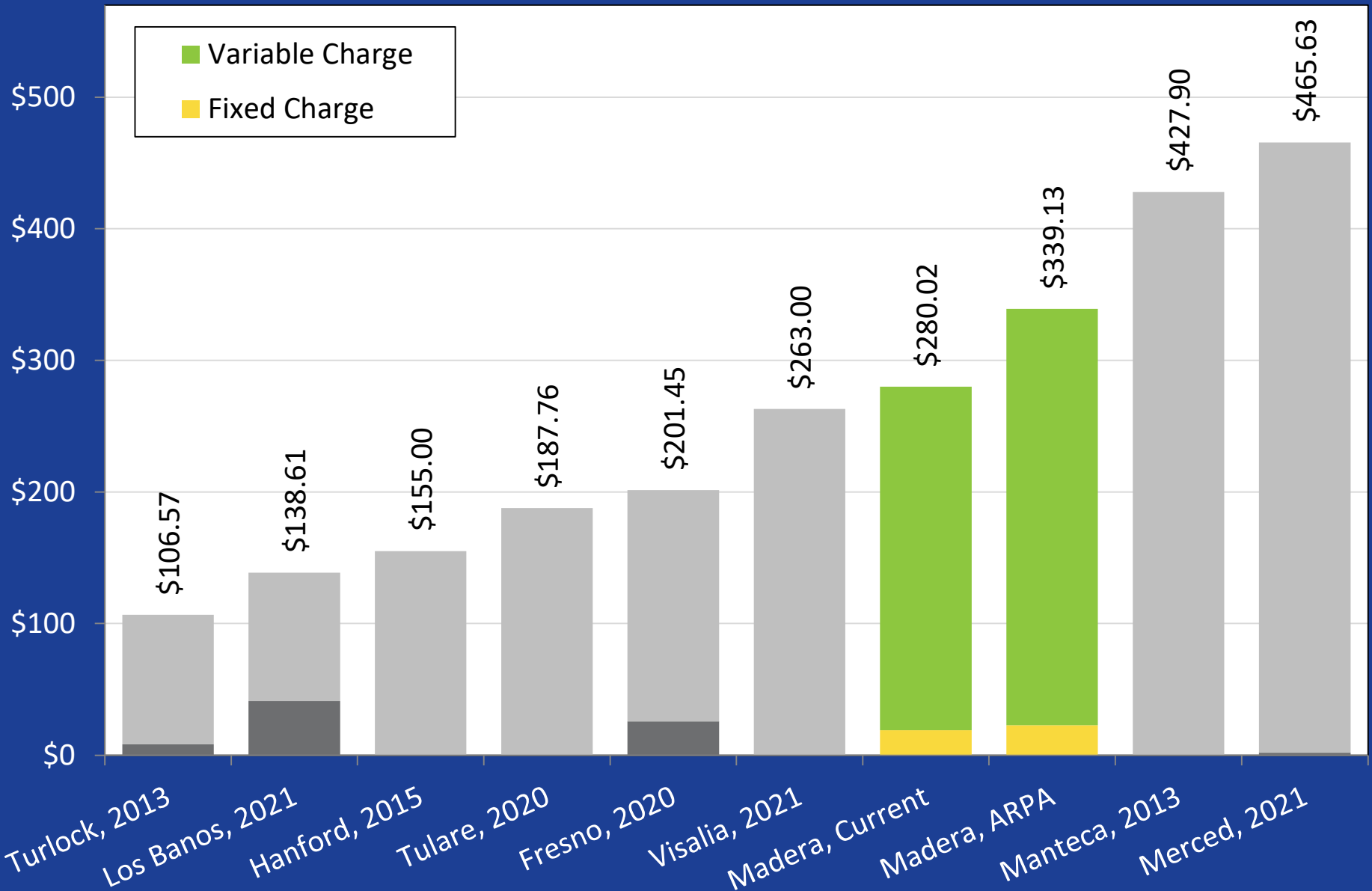
(Assuming 36 hcf consumption)



Monthly Restaurant Sewer Bill Comparison Current vs. Proposed Rates (Assuming 47 hcf consumption)



Monthly Commercial Restaurant Regional Sewer Bill Comparison (Assuming 50 hcf consumption)



3. Storm Drain Rate Study



CITY OF MADERA

DRAFT REPORT

Storm Drain Rate Study

January 2022

OFFICE LOCATIONS:

Temecula – Corporate Headquarters
32605 Temecula Parkway, Suite 100
Temecula, CA 92592

San Francisco – Regional Office
870 Market Street, Suite 1223
San Francisco, CA 94102

California Satellite Offices
Atascadero, Davis
Huntington Beach,
Joshua Tree, Riverside
Sacramento, San Jose

www.nbsgov.com

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SECTION 1. PURPOSE AND OVERVIEW OF THE STUDY

A. Purpose

The City of Madera (City) retained NBS to conduct a comprehensive storm drain rate study. The study looked at setting rates to meet revenue requirements, provide greater financial stability for the storm drainage enterprise, and comply with legal requirements (such as California Constitution article XIII D, Section 6, which is commonly referred to as Proposition 218 [Prop 218]). The rates resulting from this study were developed in a manner that is consistent with industry standard cost of service principles. In addition to documenting the rate study methodology, this report is provided with the intent of assisting the City to maintain transparent communications with its residents and businesses.

In developing new storm drain rates, NBS worked cooperatively with City staff and the City Council (Council) in selecting appropriate proposed rates. Based on input from all stakeholders, the proposed rates are summarized in this report.

B. Overview of the Study

FINANCIAL PLAN

As a part of this rate study, NBS projected revenues and expenditures on a cash flow basis for the next five years. The amount of rate revenue required, that will allow reserves to be maintained at the recommended levels, is known as the *net revenue requirement*. As current rate revenue falls short of the net revenue requirement, rate adjustments -- or more accurately, adjustments in the total revenue collected from rates -- are recommended. This report presents an overview of the methodologies, assumptions, and data used, along with the financial plans and proposed rates developed in this study¹.

STORM DRAIN RATE DESIGN ANALYSIS

Rate design is typically the stage in the study where NBS, staff and the Council must work closely together, to develop rate alternatives that will meet the City's objectives. It is important for the storm drain utility to send proper price signals to its customers about the actual cost of providing storm drain services to each parcel. This objective is typically addressed through both the magnitude of the rate adjustments, 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.

¹ The complete financial plan is set forth in the Appendix.

SECTION 2. STORM DRAIN RATE STUDY

A. Key Storm Drain Rate Study Issues

The City's storm drain rate analysis was undertaken with a few specific objectives, including:

- Maintain routine operation and maintenance expenditures of the storm drain system, including salaries and benefits of staff, contracted services and sustainability programs.
- Fund any potential capital projects to maintain a modern and reliable storm drain network and infrastructure.
- Maintain reserve fund levels to ensure future financial stability for the storm drain utility.
- Comply with Prop 218 requirements to ensure cost of service are properly allocated amongst user classifications.

The rate structure NBS proposed relied on industry standards and cost-of-service principles. The proposed rates follow the same rate structure as current rates, maintaining a fixed monthly usage charge dependent on customer class and square footage.

B. Financial Plan

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

- **Meeting Net Revenue Requirements:** For Fiscal Years (FY) 2021/22 through FY 2025/26, the projected net revenue requirement (that is, total annual expenses plus debt service and rate-funded capital costs², less non-rate revenues) for the City is approximately \$810,000 on average, annually. If no rate adjustments are implemented, the City is projected to have about a \$68,000 deficit in FY 2021/22.
- **Building and Maintaining Reserve Funds:** Reserve funds provide a basis for a utility to cope with fiscal emergencies such as revenue shortfalls, asset failure, and natural disasters, among other events. Reserve policies provide guidelines for sound financial management, with an overall long-range perspective to maintain financial solvency and mitigate financial risks associated with revenue instability, volatile capital costs, and emergencies. The reserve funds for the Utility are considered unrestricted reserves and consist of the following:
 - **The Operating Reserve** should equal approximately 90 days of operating expenses (reaching approximately \$222,000 in FY 2025/26). An Operating Reserve is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures, such as – particularly in periods of economic distress – changes or trends in age of receivables.

² The City's storm drain utility does not currently have any outstanding debt services or capital improvement projects over the next 5 years at the time of this study.

- **The Capital Outlay Reserve** should equal 3% of net assets, averaging about \$500,000 over the next five years. These monies are set aside to address long-term and routine capital system replacement and rehabilitation needs.
- **Funding Capital Improvement Projects:** The City must also be able to fund necessary capital improvements to maintain current service levels. Currently, the City does not have any planned capital improvements for the storm drain utility.
- **Inflation and Growth Projections:** Assumptions regarding cost inflation were made in order to project future revenues and expenses for the study period.
 - Customer growth is expected to be 0% annually.
 - General inflation is assumed to be 3% annually.
 - Salaries, benefits, fuel, and electricity are all assumed to be 5% annually.
 - Some expenses are assumed to have no escalation annually.
- **Maintaining Adequate Bond Coverage:** The City currently has no outstanding debt service obligations. However, the benefit of maintaining a debt coverage ratio over 1.20 is that it strengthens the City’s credit rating, which can help lower the interest rates for debt-funded capital projects in the future, should the City decide to use them.

Rate revenue adjustments of eight percent (8%) in FY 2021/22 through FY 2025/26 will be needed in order to fund operating expenses and maintain reserves at the recommended targets. **Figure 1** summarizes the sources and uses of funds, net revenue requirements, and the recommended annual percent adjustments in total rate revenue recommended for the next 5 years for the City.

Figure 1. Summary of Storm Drain Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget		Projected			
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Sources of Storm Drain Funds						
Rate Revenue Under Prevailing Rates	\$ 668,179	\$ 668,179	\$ 668,179	\$ 668,179	\$ 668,179	\$ 668,179
<i>Additional Revenue from Rate Increases</i> ¹	-	13,364	111,185	173,534	240,871	313,595
Non-Rate Revenues	182,442	12,442	12,442	12,442	12,442	12,442
Interest Earnings	3,110	14,925	13,662	13,656	14,250	15,521
Total Sources of Funds	\$ 853,731	\$ 708,910	\$ 805,468	\$ 867,811	\$ 935,742	\$ 1,009,737
Uses of Storm Drain Funds						
Operating Expenses	\$ 749,310	\$ 776,800	\$ 805,800	\$ 835,900	\$ 867,400	\$ 900,500
Debt Service	-	-	-	-	-	-
Rate-Funded Capital Expenses	-	-	-	-	-	-
Total Use of Funds	\$ 749,310	\$ 776,800	\$ 805,800	\$ 835,900	\$ 867,400	\$ 900,500
Surplus (Deficiency) after Rate Increase	\$ 104,421	\$ (67,890)	\$ (332)	\$ 31,911	\$ 68,342	\$ 109,237
Projected Annual Rate Increase	0.00%	8.00%	8.00%	8.00%	8.00%	8.00%
<i>Cumulative Rate Increases</i>	1.00%	9.08%	17.81%	27.23%	37.41%	48.40%
Surplus (Deficiency) before Rate Increase	\$ 104,421	\$ (81,254)	\$ (111,517)	\$ (141,623)	\$ (172,529)	\$ (204,358)
Net Revenue Requirement ²	\$ 563,758	\$ 749,433	\$ 779,696	\$ 809,802	\$ 840,708	\$ 872,537

1. Revenue from rate increases assume an implementation date of April 1, 2022 and then July 1st, 2022 through 2025.

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

Figure 2 summarizes the projected reserve fund balances and reserve targets for the storm drain utility’s unrestricted reserve funds. A more detailed version of the proposed 5-year financial plan is included in the Appendix. As can be seen in Figure 2, given proposed rate adjustments, reserves will meet the minimum target all projected years.

Figure 2. Summary of Reserve Funds

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget		Projected			
	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Storm Drainage Operating Reserve Fund						
Ending Balance	\$ 184,761	\$ 116,871	\$ 116,539	\$ 148,451	\$ 213,879	\$ 222,041
<i>Recommended Minimum Target</i>	<i>184,761</i>	<i>191,540</i>	<i>198,690</i>	<i>206,112</i>	<i>213,879</i>	<i>222,041</i>
Capital Outlay Reserve Fund						
Ending Balance	\$ 617,661	\$ 617,661	\$ 617,661	\$ 617,661	\$ 620,574	\$ 721,649
<i>Recommended Minimum Target</i>	<i>545,300</i>	<i>532,200</i>	<i>519,500</i>	<i>507,200</i>	<i>495,300</i>	<i>483,800</i>
Total Ending Balance	\$ 802,422	\$ 734,532	\$ 734,200	\$ 766,112	\$ 834,453	\$ 943,690
<i>Total Recommended Minimum Target</i>	<i>\$ 730,061</i>	<i>\$ 723,740</i>	<i>\$ 718,190</i>	<i>\$ 713,312</i>	<i>\$ 709,179</i>	<i>\$ 705,841</i>

C. Cost of Service Analysis

Once the net revenue requirements are determined, the cost-of-service analysis proportionately distributes the revenue requirements to each of the customer classes. All costs in the City’s budget are allocated to each component of the rate structure in proportion to the level of service required by customers. The levels of service are related to number of accounts, total square footage, and current revenue. Ultimately, a cost-of-service analysis is intended to result in rates that are proportional to the cost of providing service to each customer.

CUSTOMER CLASSES

Customer classes are determined by combining customers with similar demand characteristics and types of use into categories that reflect the cost differentials to serve each type of customer. This process is limited by the desire to not overcomplicate the City’s rate structure. For the City, the customer classes are split between single-family residential, multi-family residential, and non-residential.

The number of customers for each customer class and the estimated square foot total for non-single-family customers are shown in **Figure 3**. The 2020 rate revenue from usage charges are allocated to customer classes based on the revenue collected, as shown in **Figure 4**.

Figure 3. Customer Allocation Factor

Customer Class	Number of Accounts ¹	Percent of Total	Square Footage Estimate	Percent of Total
Single Family Residential	13,585	94.4%	n/a	
Multi Family Residential	4	0.0%	469,373	7.7%
Non-Residential	748	5.2%	5,191,845	85.5%
Church	51	0.4%	411,220	6.8%
Total	14,388	100.0%	6,072,438	100.0%

1. Number of accounts from Oct. 2020 & square footage estimate from source files:
 MAIS Meter Usage 12 Months_Manipulated_02.06.21.xlsx,
 2020 SEP-NOV MUNIS Billing2_Manipulated.xlsx, 2020 DEC MUNIS Billing_Manipulated.xlsx

Figure 4. Revenue Allocation Factor

Customer Class	2020 Revenue	Percent of Total
Single Family Residential	\$ 415,808	61.1%
Multi Family Residential	\$ 12,919	1.9%
Non-Residential	\$ 242,238	35.6%
Church	\$ 9,735	1.4%
Total	\$ 680,699	100%

1. 2020 revenue found in source files: *MAIS Meter Usage 12 Months_Manipulated_02.06.21.xlsx*, *2020 SEP-NOV MUNIS Billing2_Manipulated.xlsx*, *2020 DEC MUNIS Billing_Manipulated.xlsx*

D. Rate Design Analysis

NBS recommends that the City retain the current storm drain rate structure, with a fixed monthly usage charge for single-family customers, and a per square foot charge (with a maximum monthly cap) for multi-family residential, non-residential (combined with churches). **Figure 5** summarizes the proposed storm drain monthly user charges.

Figure 5. Summary of Rate Calculation

Customer Classes	FY 2021/22 Net Revenue Requirement	Number of Accounts	Square Footage Estimate	By Account Monthly Charge	By Sq. Ft. Monthly Charge	Max Sq. Ft. Based on Current Rates	Max Monthly Rate
Proposed Storm Drain Monthly User Charges							
<i>math formula</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d = b / a</i>	<i>e = c / a</i>	<i>f</i>	<i>g = f * e</i>
Single Family Residential	\$ 457,794	13,585	n/a	\$ 2.81	n/a	n/a	n/a
Multi Family Residential	\$ 14,223	4	469,373	n/a	\$ 0.003	40,000	\$ 120.00
40 units to 80 units	-	-	-	n/a	\$ 0.003	80,000	\$ 240.00
Over 81 units	-	-	-	n/a	\$ 0.003	120,000	\$ 360.00
Non-Residential	\$ 266,698	748	5,191,845	n/a	\$ 0.005	20,000	\$ 100.00
Church	\$ 10,718	51	411,220	n/a			
Total Net Revenue Requirement	\$ 749,433	14,388	6,072,438				

E. Proposed Storm Drain Rates

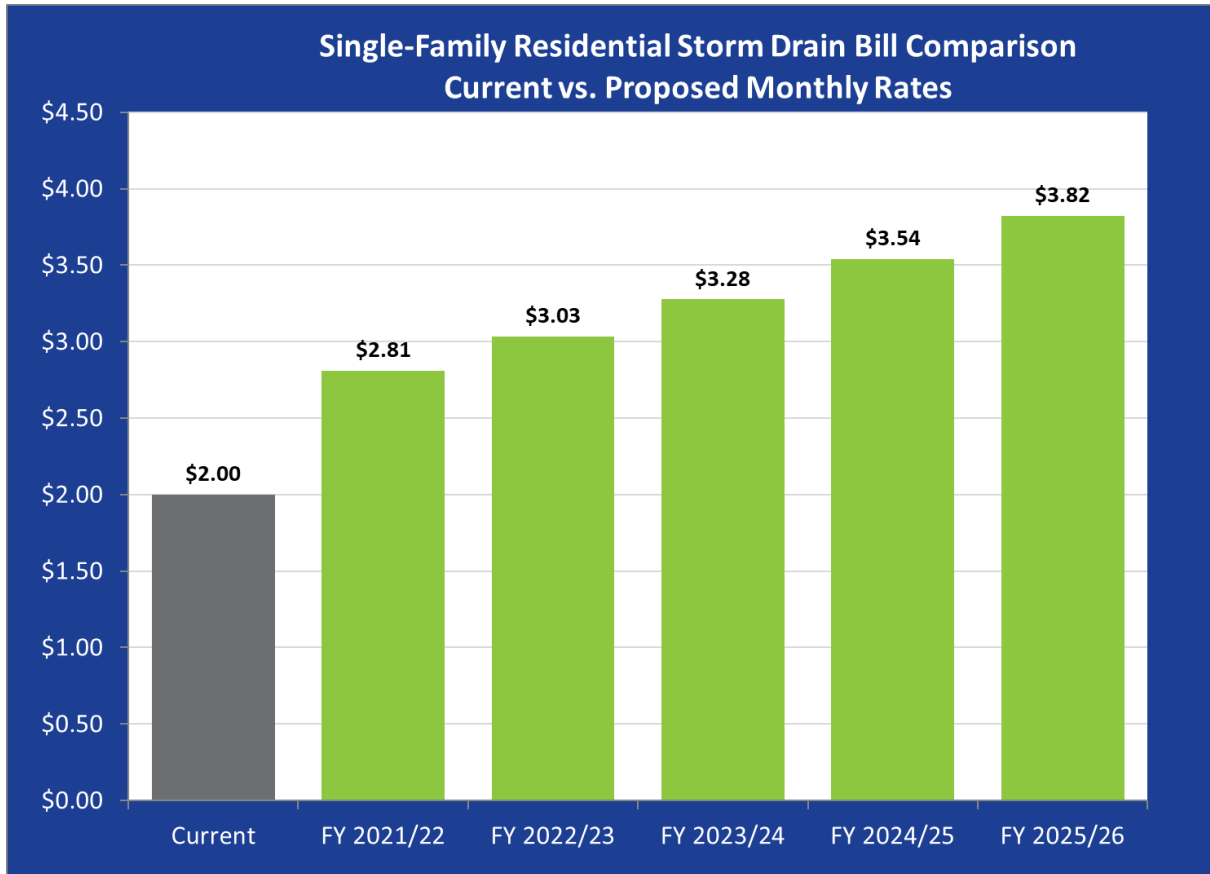
The cost-of-service analysis is used to establish the rates for the first year in the five-year rate plan, FY 2021/22. In the subsequent four years of the rate planning period, proposed charges are simply adjusted by the proposed adjustment in total rate revenue needed, to meet projected revenue requirements. **Figure 6** provides a comparison of the proposed rates for FY 2021/22 through FY 2025/26. More detailed tables on the development of the proposed charges are documented in the Appendix.

Figure 6. Proposed Storm Drain Rates

Storm Drain Rate Schedule	Current Rates	Proposed Rates				
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Proposed Monthly Usage Charge						
Single Family Residential						
<i>per month</i>	\$2.00	\$2.81	\$3.03	\$3.28	\$3.54	\$3.82
Multi Family Residential						
<i>Equal or less than 40 units</i>						
<i>per square foot,</i>	\$0.002	\$0.003	\$0.004	\$0.005	\$0.006	\$0.007
<i>maximum per month</i>	\$80.00	\$120.00	\$130.00	\$140.00	\$151.00	\$163.00
<i>Greater than 40 & equal or less than 80 units</i>						
<i>per square foot,</i>	\$0.002	\$0.003	\$0.004	\$0.005	\$0.006	\$0.007
<i>maximum per month</i>	\$160.00	\$240.00	\$259.00	\$280.00	\$302.00	\$326.00
<i>Greater than 81 units</i>						
<i>per square foot,</i>	\$0.002	\$0.003	\$0.004	\$0.005	\$0.006	\$0.007
<i>maximum per month</i>	\$240.00	\$360.00	\$389.00	\$420.00	\$454.00	\$490.00
Non-Residential (Including Churches)						
<i>per square foot of ground floor,</i>	\$0.004	\$0.005	\$0.006	\$0.007	\$0.008	\$0.009
<i>maximum per month</i>	\$80.00	\$100.00	\$108.00	\$117.00	\$126.00	\$136.00

Figure 7 compares the monthly storm drain bills for the current and proposed rates for single-family residential customers over the next five years.

Figure 7. Monthly Bill Comparison for Single-Family Customers



SECTION 3. RECOMMENDATIONS AND NEXT STEPS

A. Consultant Recommendations

NBS recommends the City take the following actions:

Approve and accept this Study: NBS recommends the City Council formally approve and adopt this Study and its recommendations and proceed with the steps required to implement the proposed rates. This will provide documentation of the rate study analyses and the basis for analyzing potential changes to future rates.

Implement Recommended Levels of Rate Adjustments and Proposed Rates: Based on successfully meeting the Proposition 218 procedural requirements, the City Council should proceed with implementing the 5-year schedule of proposed rates and rate adjustments previously shown in Figure 6. This will help ensure the continued financial health of City's storm drainage utility.

B. Next Steps

Annually Review Rates and Revenue – Any time an agency adopts new utility rates or rate structures, 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.

Note: The attached Appendix provide more detailed information on the analysis of the storm drain revenue requirements, cost-of-service analysis and cost allocations, and the rate design analyses that have been summarized in this report.

C. NBS' Principal Assumptions and Considerations

In preparing this report and the opinions and recommendations included herein, NBS has relied on a number of principal assumptions and considerations with regard to financial matters, conditions, and events that may occur in the future. This information and these assumptions, including City's budgets, capital improvement costs, and information from City staff 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 and 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.

Appendix: Detailed Storm Drain Study Tables and Figures

a.Appendix: Detailed Storm Drain Study Tables and Figures

CITY OF MADERA
 STORM DRAIN RATE STUDY
 Financial Plan and Reserve Projections

Financial Plan & Reserve Summary

TABLE 1 : FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY ¹	5-Year Rate Period					
	Budget FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Sources of Storm Drain Funds						
<i>Rate Revenue:</i>						
Drainage User Fees	\$ 668,179	\$ 668,179	\$ 668,179	\$ 668,179	\$ 668,179	\$ 668,179
Revenue from Rate Increases	-	13,364	111,185	173,534	240,871	313,595
Subtotal: Rate Revenue After Rate Increases	668,179	681,543	779,364	841,713	909,050	981,774
<i>Non-Rate Revenue:</i>						
Fines & Forfeiture	12,287	12,287	12,287	12,287	12,287	12,287
Refunds	155	155	155	155	155	155
Other Revenue	170,000	-	-	-	-	-
Interest Income	3,110	14,925	13,662	13,656	14,250	15,521
Subtotal: Non-Rate Revenue	185,552	27,367	26,104	26,098	26,692	27,963
Total Sources of Funds	\$ 853,731	\$ 708,910	\$ 805,468	\$ 867,811	\$ 935,742	\$ 1,009,737
Uses of Storm Drainage Funds						
<i>Operating Expenses</i>						
Salaries & Benefits	\$ 352,994	\$ 370,600	\$ 389,100	\$ 408,400	\$ 428,600	\$ 450,000
Materials & Services	122,500	127,500	132,700	138,100	143,700	149,500
Interfund Charges	150,994	152,400	154,000	155,600	157,300	159,000
Special Payments	69,578	73,100	76,800	80,600	84,600	88,800
Transfer Out	53,244	53,200	53,200	53,200	53,200	53,200
Subtotal: Operating Expenses	\$ 749,310	\$ 776,800	\$ 805,800	\$ 835,900	\$ 867,400	\$ 900,500
Total Uses of Storm Drainage Funds	\$ 749,310	\$ 776,800	\$ 805,800	\$ 835,900	\$ 867,400	\$ 900,500
Annual Surplus/(Deficit)	\$ 104,421	\$ (67,890)	\$ (332)	\$ 31,911	\$ 68,342	\$ 109,237
Net Revenue Req't. (Total Uses less Non-Rate Revenue)	\$ 563,758	\$ 749,433	\$ 779,696	\$ 809,802	\$ 840,708	\$ 872,537
Projected Annual Rate Revenue Adjustment	0.00%	8.00%	8.00%	8.00%	8.00%	8.00%
<i>Cumulative Increase from Annual Revenue Increases</i>	1.00%	9.08%	17.81%	27.23%	37.41%	48.40%
<i>Debt Coverage After Rate Increase</i>	N/A	N/A	N/A	N/A	N/A	N/A

1. Revenue and expenses for FY 2019/20 through FY 2020/21 are from source file: *Enterprise Funds Budget 2020-21.pdf*, pages 56-58.

TABLE 2 : RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY UN-RESTRICTED RESERVES	5-Year Rate Period					
	Budget FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Total Beginning Cash^{1,2}	\$ 698,001					
Storm Drainage Operating Reserve Fund						
Beginning Reserve Balance ¹	\$ 375,000	\$ 184,761	\$ 116,871	\$ 116,539	\$ 148,451	\$ 213,879
Plus: Net Cash Flow (After Rate Increases)	104,421	(67,890)	(332)	31,911	68,342	109,237
Less: Transfer Out to Capital Replacement Reserve	(294,660)	-	-	-	(2,913)	(101,075)
Ending Operating Reserve Balance	\$ 184,761	\$ 116,871	\$ 116,539	\$ 148,451	\$ 213,879	\$ 222,041
Target Ending Balance (90-days of O&M)³	\$ 184,761	\$ 191,540	\$ 198,690	\$ 206,112	\$ 213,879	\$ 222,041
Capital Outlay Reserve Fund						
Beginning Reserve Balance	\$ 323,001	\$ 617,661	\$ 617,661	\$ 617,661	\$ 617,661	\$ 620,574
Plus: Transfer of Operating Reserve Surplus	294,660	-	-	-	2,913	101,075
Less: Use of Reserves for Capital Projects	-	-	-	-	-	-
Ending Capital Rehab & Replacement Reserve Balance	\$ 617,661	\$ 617,661	\$ 617,661	\$ 617,661	\$ 620,574	\$ 721,649
Target Ending Balance (3% of Net Assets)⁴	\$ 545,300	\$ 532,200	\$ 519,500	\$ 507,200	\$ 495,300	\$ 483,800
Ending Balance	\$ 802,422	\$ 734,532	\$ 734,200	\$ 766,112	\$ 834,453	\$ 943,690
Minimum Target Ending Balance	\$ 730,061	\$ 723,740	\$ 718,190	\$ 713,312	\$ 709,179	\$ 705,841
Ending Surplus/(Deficit) Compared to Reserve Targets	\$ 72,361	\$ 10,792	\$ 16,010	\$ 52,799	\$ 125,274	\$ 237,849
Annual Interest Earnings Rate⁵	0.00%	1.86%	1.86%	1.86%	1.86%	1.86%

1. Revenue and expenses for FY 2019/20 through FY 2020/21 are from source file: *Enterprise Funds Budget 2020-21.pdf*, pages 56-58.
2. Beginning cash balance for the Storm Drainage Fund is found in Source File: *Storm Drainage Ent WTB 6_30_20.pdf*, Pooled Cash.
3. NBS Recommends setting the Operating Reserve Fund target at 90 days of operating and maintenance expenses.
4. NBS recommends setting the Capital Outlay Reserve to a minimum of 3% of net assets.
5. City's actual or budgeted interest earnings are used in analysis for unrestricted reserves in FY 2020/21. For 2021/22 and beyond, interest earning rates are estimated at the 3-year average (FY '17/18 - '19/20) for funds invested in LAIF, per the California Treasurer's Office website, for the restricted reserves.
 Source: <https://www.treasurer.ca.gov/pmia-laif/historical/annual.asp>.

CHART 1

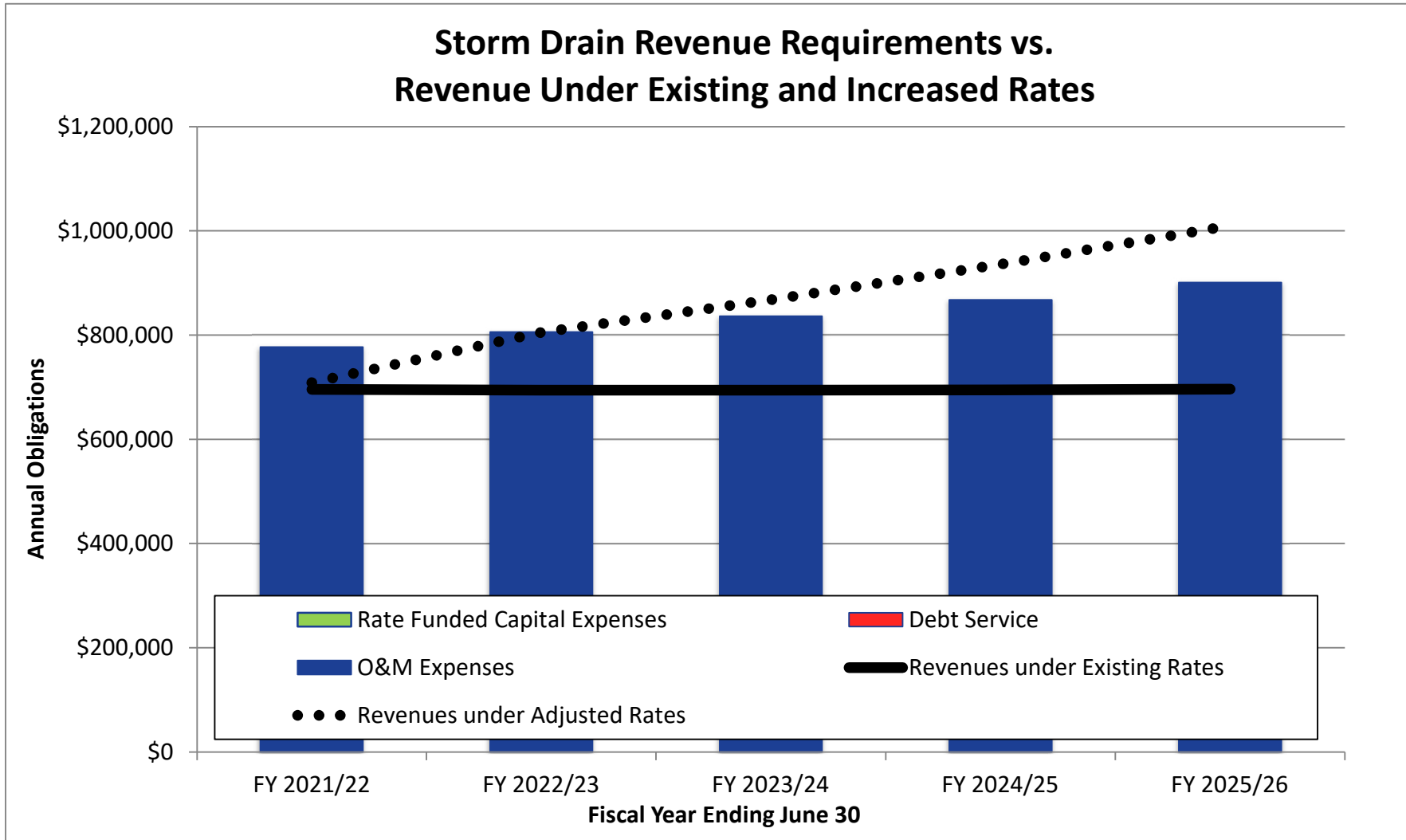


CHART 2

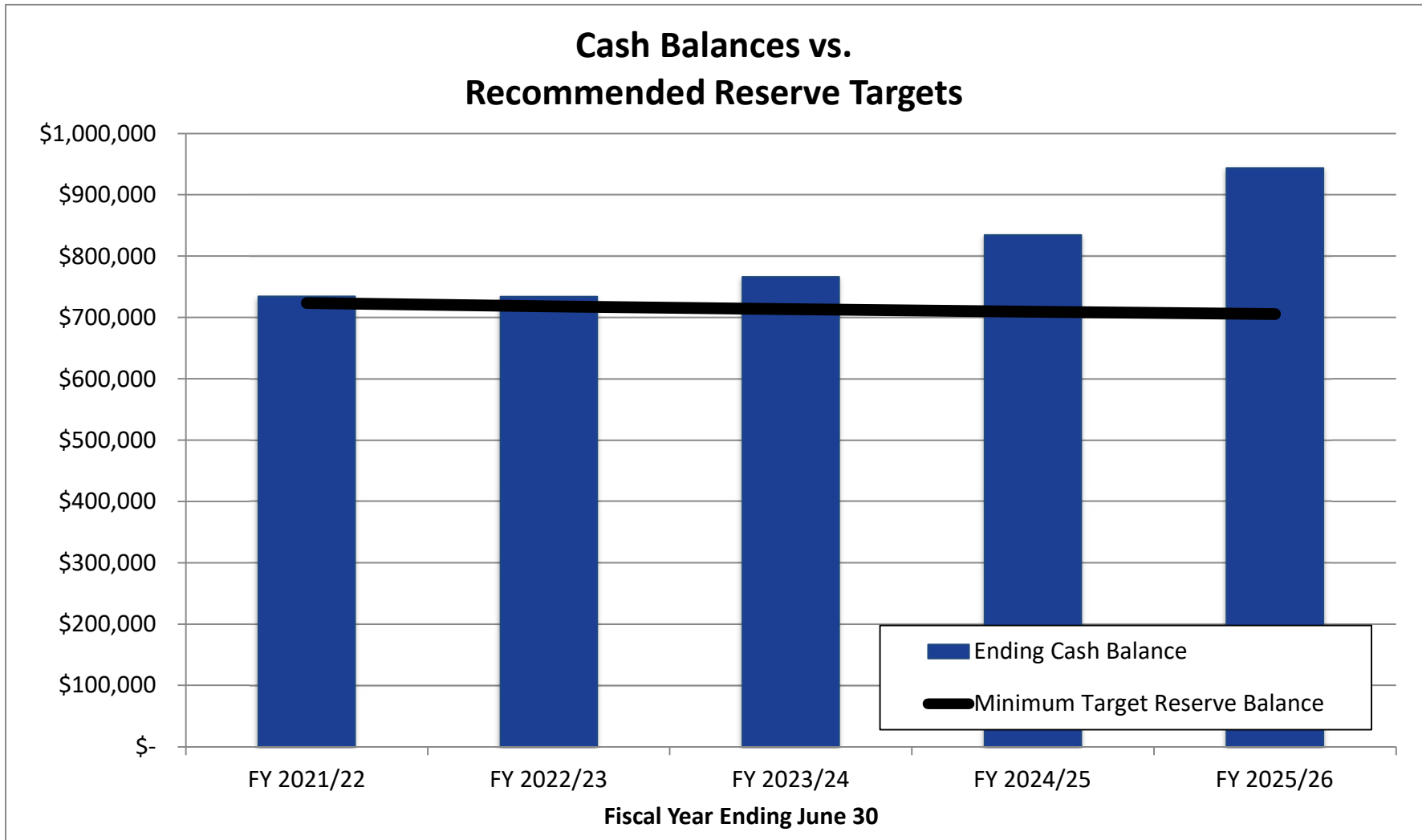
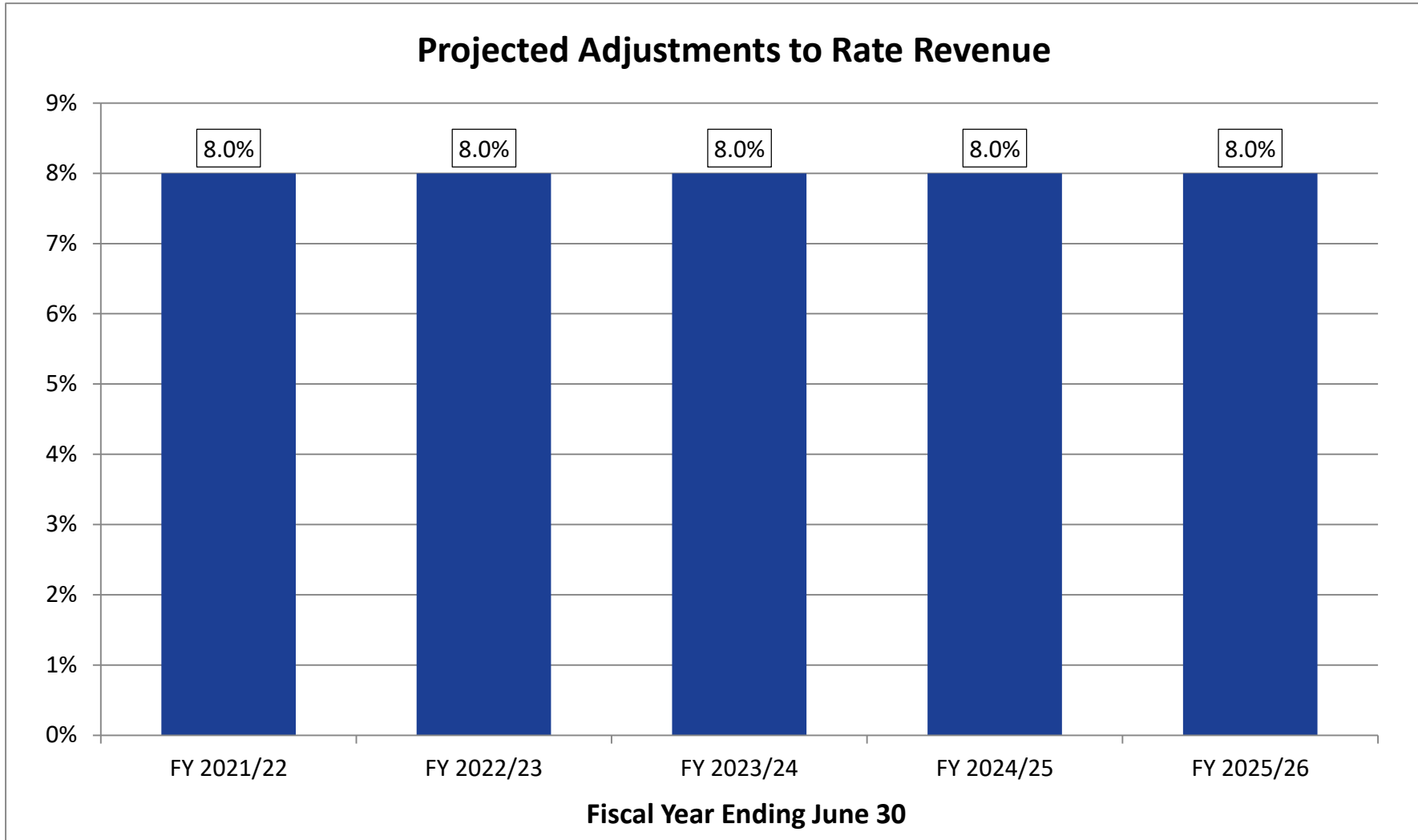


CHART 3



CITY OF MADERA
 STORM DRAIN RATE STUDY
 Operating Revenue and Expenses

EXHIBIT 1

TABLE 3 : REVENUE FORECAST¹

		Budget	Prop 218 Rate Period				
SOURCES OF REVENUE	Basis	2021	2022	2023	2024	2025	2026
<u>DRAINAGE OPERATIONS</u>							
Fines & Forfeiture							
Late Payment/Other Penalty	1	\$ 12,287	\$ 12,287	\$ 12,287	\$ 12,287	\$ 12,287	\$ 12,287
Subtotal		\$ 12,287	\$ 12,287	\$ 12,287	\$ 12,287	\$ 12,287	\$ 12,287
Charges for Services							
Drainage User Fees	1	\$ 668,179	\$ 668,179	\$ 668,179	\$ 668,179	\$ 668,179	\$ 668,179
Subtotal		\$ 668,179	\$ 668,179	\$ 668,179	\$ 668,179	\$ 668,179	\$ 668,179
Interest							
Interest Income ²	4	\$ 3,110	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal		\$ 3,110	\$ -	\$ -	\$ -	\$ -	\$ -
Interfund Charges							
Interfund Charges Revenue - Co	7	\$ 170,000	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal		\$ 170,000	\$ -	\$ -	\$ -	\$ -	\$ -
Gains & Proceeds							
Sale of Real & Personal Property	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Refunds							
Collection Recovery	1	\$ 155	\$ 155	\$ 155	\$ 155	\$ 155	\$ 155
Subtotal		\$ 155	\$ 155	\$ 155	\$ 155	\$ 155	\$ 155
<u>DRAINAGE FLOOD CONTROL</u>							
Gains & Proceeds							
Sale of Real & Personal Property	1	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
<u>DRAINAGE CAPITAL OUTLAY</u>							
Non-Cash Capital Contribution							
Capital Contribution	Exh. 2	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
TOTAL: REVENUE		\$ 853,731	\$ 680,621	\$ 680,621	\$ 680,621	\$ 680,621	\$ 680,621

CITY OF MADERA
 STORM DRAIN RATE STUDY
 Operating Revenue and Expenses

EXHIBIT 1

TABLE 4 : REVENUE SUMMARY

		Budget	Prop 218 Rate Period				
RATE REVENUE:							
Drainage User Fees		\$ 668,179	\$ 668,179	\$ 668,179	\$ 668,179	\$ 668,179	\$ 668,179
OTHER REVENUE:							
Fines & Forfeiture		12,287	12,287	12,287	12,287	12,287	12,287
Refunds		155	155	155	155	155	155
Gains & Proceeds		-	-	-	-	-	-
Other Revenue		170,000	-	-	-	-	-
Interest Income		3,110	-	-	-	-	-
TOTAL: REVENUE		\$ 853,731	\$ 680,621	\$ 680,621	\$ 680,621	\$ 680,621	\$ 680,621

TABLE 5 : OPERATING EXPENSE FORECAST¹

		Budget	Prop 218 Rate Period				
DESCRIPTION	Basis	2021	2022	2023	2024	2025	2026
<u>DRAINAGE OPERATIONS</u>							
Interfund Charges							
Facility Maintenance	4	\$ 47,905	\$ 49,300	\$ 50,800	\$ 52,300	\$ 53,900	\$ 55,500
Admin Ove.	4	2,084	2,100	2,200	2,300	2,400	2,500
Subtotal		\$ 49,989	\$ 51,400	\$ 53,000	\$ 54,600	\$ 56,300	\$ 58,000
Transfer Out							
Transfer Out - Insurance Rese.	7	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000
Subtotal		\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000	\$ 45,000
Sub-Total: Drainage Operations		\$ 94,989	\$ 96,400	\$ 98,000	\$ 99,600	\$ 101,300	\$ 103,000
Depreciation (Non-cash item left out of analysis)³							
Depreciation/Replacement	7	\$ 589	\$ 600	\$ 600	\$ 600	\$ 600	\$ 600
Subtotal		\$ 589	\$ 600	\$ 600	\$ 600	\$ 600	\$ 600

CITY OF MADERA
 STORM DRAIN RATE STUDY
 Operating Revenue and Expenses

EXHIBIT 1

TABLE 6 : OPERATING EXPENSE FORECAST¹

DESCRIPTION	Basis	Budget	Prop 218 Rate Period				
		2021	2022	2023	2024	2025	2026
DRAINAGE FLOOD CONTROL							
Salaries & Benefits							
Salaries / Full-Time	2	\$ 197,416	\$ 207,300	\$ 217,700	\$ 228,600	\$ 240,000	\$ 252,000
Salaries / Part-Time	2	-	-	-	-	-	-
Salaries / Overtime	2	6,000	6,300	6,600	6,900	7,200	7,600
Salaries / Leave Payout	2	-	-	-	-	-	-
Salaries / Uniform Pay	2	592	600	600	600	600	600
Public Employees Retirement	3	25,814	27,100	28,500	29,900	31,400	33,000
Long Term Disability Insurance	3	662	700	700	700	700	700
Life Insurance Premiums	3	291	300	300	300	300	300
Workers Compensation Insurance	3	19,344	20,300	21,300	22,400	23,500	24,700
Medicare Tax - Employer's Share	3	3,037	3,200	3,400	3,600	3,800	4,000
Unfunded Accrued Liability	3	53,424	56,100	58,900	61,800	64,900	68,100
Deferred Compensation/Part-Time	3	-	-	-	-	-	-
Deferred Compensation/Full-Time	3	6,745	7,100	7,500	7,900	8,300	8,700
Unemployment Insurance	3	876	900	900	900	900	900
Section 125 Benefit Allowance	3	38,793	40,700	42,700	44,800	47,000	49,400
Subtotal		\$ 352,994	\$ 370,600	\$ 389,100	\$ 408,400	\$ 428,600	\$ 450,000
Materials & Services							
Gas & Electric Utilities	6	\$ 50,000	\$ 52,500	\$ 55,100	\$ 57,900	\$ 60,800	\$ 63,800
Vehicle Fuel, Supplies & Maintenance	5	12,500	13,100	13,800	14,500	15,200	16,000
Contracted Services	4	15,000	15,500	16,000	16,500	17,000	17,500
Taxes & Assessments	4	22,000	22,700	23,400	24,100	24,800	25,500
Maintenance/Other Supplies	4	23,000	23,700	24,400	25,100	25,900	26,700
Subtotal		\$ 122,500	\$ 127,500	\$ 132,700	\$ 138,100	\$ 143,700	\$ 149,500
Interfund Charges							
Interfund Charge - Central Su.	7	\$ 3,324	\$ 3,300	\$ 3,300	\$ 3,300	\$ 3,300	\$ 3,300
Interfund Charge - Admin. Overhead	7	38,271	38,300	38,300	38,300	38,300	38,300
Interfund Charge - Vehicle Replacement	7	12,031	12,000	12,000	12,000	12,000	12,000
Interfund Charge - Vehicle Maintenance	7	32,978	33,000	33,000	33,000	33,000	33,000
Interfund Charge - Comp. Maintenance	7	11,490	11,500	11,500	11,500	11,500	11,500
Interfund Charge - Computer	7	2,649	2,600	2,600	2,600	2,600	2,600
Interfund Charge - Software	7	262	300	300	300	300	300
Subtotal		\$ 101,005	\$ 101,000	\$ 101,000	\$ 101,000	\$ 101,000	\$ 101,000
Special Payments							
Pension Expense-GASB 68	3	\$ 69,578	\$ 73,100	\$ 76,800	\$ 80,600	\$ 84,600	\$ 88,800
Subtotal		\$ 69,578	\$ 73,100	\$ 76,800	\$ 80,600	\$ 84,600	\$ 88,800
Transfer Out							
Transfer Out - Insurance Rese.	7	8,244	8,200	8,200	8,200	8,200	8,200
Subtotal		\$ 8,244	\$ 8,200	\$ 8,200	\$ 8,200	\$ 8,200	\$ 8,200
Sub-Total: Drainage Flood Control		\$ 654,321	\$ 680,400	\$ 707,800	\$ 736,300	\$ 766,100	\$ 797,500

CITY OF MADERA
 STORM DRAIN RATE STUDY
 Operating Revenue and Expenses

EXHIBIT 1

		Prop 218 Rate Period					
		Budget					
DESCRIPTION	Basis	2021	2022	2023	2024	2025	2026
DRAINAGE CAPITAL OUTLAY							
Capital Outlay							
Construction/Infrastructure	7	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sub-Total: Drainage Capital Outlay		\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Depreciation (Non-cash item left out of analysis)³							
Depreciation/Replacement	7	\$ 328,927	\$ 328,900	\$ 328,900	\$ 328,900	\$ 328,900	\$ 328,900
Subtotal		\$ 328,927	\$ 328,900	\$ 328,900	\$ 328,900	\$ 328,900	\$ 328,900
GRAND TOTAL: STORM DRAIN OPERATING EXPENSES		\$ 749,310	\$ 776,800	\$ 805,800	\$ 835,900	\$ 867,400	\$ 900,500

TABLE 8 : FORECASTING ASSUMPTIONS

INFLATION FACTORS ⁴	Basis	2021	2022	2023	2024	2025	2026
Customer Growth	1	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Salaries	2	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Benefits	3	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
General Inflation	4	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Fuel	5	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
Electricity	6	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
No Escalation	7	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

1. Revenue and expenses for FY 2019/20 through FY 2020/21 are from source file: *Enterprise Funds Budget 2020-21.pdf*, pages 56-58.
2. Interest income is calculated in the Financial Plan and excluded from this table.
3. Depreciation expense is not considered in this projection since it is not a cash expense.
4. Inflation values follow assumptions made in water and sewer rate study from 2015.
Source file: Rate Study 2015.pdf, Table 1-1, Page 12.

CITY OF MADERA
STORM DRAIN RATE STUDY
Storm Drain Rates Under Existing Rate Schedule

TABLE 9 : CURRENT STORM DRAINAGE RATE SCHEDULE

Current Monthly Rates ¹	Effective Dec. 21, 1992
Single Family Residential <i>per month</i>	\$2.00
Multi Family Residential <i>Equal or less than 40 units</i> <i>per square foot,</i> <i>maximum per month</i>	\$0.002 \$80.00
<i>Greater than 40 & equal or less than 80 units</i> <i>per square foot,</i> <i>maximum per month</i>	\$0.002 \$160.00
<i>Greater than 81 units</i> <i>per square foot,</i> <i>maximum per month</i>	\$0.002 \$240.00
Non-Residential (Except Churches) <i>per square foot of ground floor,</i> <i>maximum per month</i>	\$0.004 \$80.00
Non-Residential (Churches) <i>per square foot of ground floor,</i> <i>maximum per month</i>	\$0.002 \$80.00

1. Monthly service fee per Resolution 92-120. Source file: *Drainage.pdf*

CITY OF MADERA
STORM DRAIN RATE STUDY
Storm Drain Cost of Service Analysis

Allocation Factors

TABLE 10

Customer Class	Number of Accounts ¹	Percent of Total	Square Footage Estimate	Percent of Total
Single Family Residential	13,585	94.4%	n/a	
Multi Family Residential	4	0.0%	469,373	7.7%
Non-Residential	748	5.2%	5,191,845	85.5%
Church	51	0.4%	411,220	6.8%
Total	14,388	100.0%	6,072,438	100.0%

1. Number of accounts from Oct. 2020 & square footage estimate from source files:
MAIS Meter Usage 12 Months_Manipulated_02.06.21.xlsx,
2020 SEP-NOV MUNIS Billing2_Manipulated.xlsx, 2020 DEC MUNIS Billing_Manipulated.xlsx

TABLE 11

Customer Class	2020 Revenue	Percent of Total
Single Family Residential	\$ 415,808	61.1%
Multi Family Residential	\$ 12,919	1.9%
Non-Residential	\$ 242,238	35.6%
Church	\$ 9,735	1.4%
Total	\$ 680,699	100%

1. 2020 revenue found in source files: *MAIS Meter Usage 12 Months_Manipulated_02.06.21.xlsx,*
2020 SEP-NOV MUNIS Billing2_Manipulated.xlsx, 2020 DEC MUNIS Billing_Manipulated.xlsx

TABLE 12 : SUMMARY OF RATE CALCULATION

Customer Classes	FY 2021/22 Net Revenue Requirement	Number of Accounts	Square Footage Estimate	By Account Monthly Charge	By Sq. Ft. Monthly Charge	Max Sq. Ft. Based on Current Rates	Max Monthly Rate
Proposed Storm Drain Monthly User Charges							
<i>math formula</i>	<i>a</i>	<i>b</i>	<i>c</i>	<i>d = b / a</i>	<i>e = c / a</i>	<i>f</i>	<i>g = f * e</i>
Single Family Residential	\$ 457,794	13,585	n/a	\$ 2.81	n/a	n/a	n/a
Multi Family Residential	\$ 14,223	4	469,373	n/a	\$ 0.003	40,000	\$ 120.00
40 units to 80 units	-	-	-	n/a	\$ 0.003	80,000	\$ 240.00
Over 81 units	-	-	-	n/a	\$ 0.003	120,000	\$ 360.00
Non-Residential	\$ 266,698	748	5,191,845	n/a	\$ 0.005	20,000	\$ 100.00
Church	\$ 10,718	51	411,220	n/a			
Total Net Revenue Requirement	\$ 749,433	14,388	6,072,438				

CITY OF MADERA
 STORM DRAIN RATE STUDY
 Storm Drain Cost of Service Analysis/Rate Design

Current & Proposed Rates

TABLE 13 : CURRENT VS. PROPOSED STORM DRAIN RATES

Storm Drain Rate Schedule	Current Rates	Proposed Rates				
		FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Proposed Monthly Usage Charge						
Single Family Residential						
<i>per month</i>	\$2.00	\$2.81	\$3.03	\$3.28	\$3.54	\$3.82
Multi Family Residential						
<i>Equal or less than 40 units</i>						
<i>per square foot,</i>	\$0.002	\$0.003	\$0.004	\$0.005	\$0.006	\$0.007
<i>maximum per month</i>	\$80.00	\$120.00	\$130.00	\$140.00	\$151.00	\$163.00
<i>Greater than 40 & equal or less than 80 units</i>						
<i>per square foot,</i>	\$0.002	\$0.003	\$0.004	\$0.005	\$0.006	\$0.007
<i>maximum per month</i>	\$160.00	\$240.00	\$259.00	\$280.00	\$302.00	\$326.00
<i>Greater than 81 units</i>						
<i>per square foot,</i>	\$0.002	\$0.003	\$0.004	\$0.005	\$0.006	\$0.007
<i>maximum per month</i>	\$240.00	\$360.00	\$389.00	\$420.00	\$454.00	\$490.00
Non-Residential (Including Churches)						
<i>per square foot of ground floor,</i>	\$0.004	\$0.005	\$0.006	\$0.007	\$0.008	\$0.009
<i>maximum per month</i>	\$80.00	\$100.00	\$108.00	\$117.00	\$126.00	\$136.00

Single-Family Residential Storm Drain Bill Comparison

Current vs. Proposed Monthly Rates



4. Solid Waste Rate Study



CITY OF MADERA

DRAFT REPORT

Solid Waste Rate Study

January 2022

OFFICE LOCATIONS:

Temecula – Corporate Headquarters
32605 Temecula Parkway, Suite 100
Temecula, CA 92592

San Francisco – Regional Office
870 Market Street, Suite 1223
San Francisco, CA 94102

www.nbsgov.com

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SECTION 1. PURPOSE AND OVERVIEW OF THE STUDY

A. Purpose

The City of Madera (City) provides solid waste collection and disposal services through a franchise agreement with Mid Valley Disposal (Mid Valley) and last updated its solid waste rates in 2017, although the City has not performed a rate study in many years. Recent Proposition 218¹ (Prop 218) related court decisions² required the City to demonstrate the cost-basis of new rates, which must then be approved through Prop 218 noticing procedures.

To demonstrate this cost-basis, this comprehensive solid waste rate study evaluates revenue requirements and the estimated costs of collection and disposal services. Key objectives in this analysis include improving the fairness and equity among various customer classes and service levels and the defensibility of the City's rates. However, the most significant change is the cost the City will incur to comply with new State regulations³ (SB 1383) related to organics recycling programs, which is currently estimated to increase overall costs by approximately 35 percent. The recommended rates were developed in a manner that is consistent with industry standard cost-of-service principles and include a general SB 1383 surcharge. This surcharge may be adjusted later once actual costs and changes in services provided to customers are better understood. By documenting the rate study methodology and cost-of-service analysis, this report provides the necessary support for the Prop 218 approval process and helps the City maintain transparent communications with its residential and commercial solid waste customers.

NBS worked cooperatively with City and Mid Valley staff to develop collection and disposal costs assumptions. An overview of the rate study methodology is summarized below.

B. Overview of the Study

Comprehensive rate studies, whether for a water, sewer, or solid waste utility, include three key components:

1. **Financial Plan**, which identifies the current and projected costs and revenues, including the City's administrative and overhead costs, and the annual net revenue requirements for the solid waste utility that must be collected through solid waste rates.
2. **Cost of Service Analysis**, which determines the cost of providing service to each customer class and service level, such as the standard three-container service to residential customers vs. commercial types of service, such as two-cubic yard bin service with once-per-week pickups.
3. **Rate Design Analysis**, unlike water and sewer rate studies, which evaluate different alternatives for fixed and variable charges, solid waste rates are driven by the collection and disposal costs for each type of service, which are combined into a single fixed monthly charge⁴.

¹ California Constitution article XIII D, Section 6, commonly referred to as Proposition 218 [Prop 218].

² For example, the San Juan Capistrano court case (*Capistrano Taxpayers Association, Inc. v. City of San Juan Capistrano*, Opinion G048969, Superior Ct. No 30-2012-00594579, Filed April 20, 2015).

³ California Code of Regulations, Title 14, Division 7, Chapter 3, Article 6.0.

⁴ There is also a separate Administrative Fee, primarily for container replacement, collected from residential customers.

These three components embody the industry standards and fundamental cost-of-service rate making principles detailed in the American Water Works Association (AWWA) Principles of Water Rates, Fees, and Charges⁵, also referred to as the M1 Manual. They also represent the order in which the study was performed.

This methodology meets the Prop 218 requirements that rates not exceed the cost of providing the service, and that the rates are proportionate to the cost of providing service for all customers. That is, rates for one customer class do not subsidize the rates for another customer class.

The following sections briefly summarize each of the three study components, including the methodologies and general assumptions used in developing recommended solid waste rates. Section 2 then provides more detailed results, and the Appendix provides full documentation of how rates were developed.

FINANCIAL PLAN

NBS projected revenues and expenditures on a cash-basis for the next five years based on City budgets. The amount of rate revenue required to meet annual costs and maintain reserves at or near the recommended levels, is known as the *net revenue requirement*. As current rate revenue falls short of the net revenue requirement, rate adjustments -- or more accurately, adjustments in the total revenue collected from rates -- are recommended. There is also a question about whether the City wants to include the costs of street sweeping services in solid waste revenue requirements and whether the Administrative Fee (Admin Fee) the City currently pays to Mid Valley should be collected from residential customers.⁶

COST OF SERVICE

As noted above, cost-of-service principles are generally the same whether applied to water, sewer, or solid waste rates. Since Prop 218 requires that solid waste rates demonstrate the cost basis for the monthly charges, this study relied on the best available assumptions about these costs⁷, including waste volumes and densities, time spent on collection routes, and the differences between the costs of residential vs. commercial vs. recyclable services and various other types of service.

As with any rate study, there are limits to the level of detail on individual customers and customer classes. For example: (1) individual residential solid waste customers dispose various amounts of trash and other materials, some more than the average and some less; (2) a particular commercial customer (say a 2-Cubic Yard (CY) bin picked up once per week) may dispose twice the average trash and/or may be located significantly farther from the normal commercial route.

While costs for individual customers may be more or less than average, cost-of-service analysis treats these customers as a “customer class”, regardless of these individual differences. For example, standard single-family rates assume that all customers dispose of the same amount of trash, recyclables and green waste, and that differences in Mid Valley’s travel distances to individual customers are not a factor in their rate. Likewise, all 2-CY bin commercial customers are assumed to dispose the average amount of trash. Otherwise, customer class rates would devolve into different rates for every single customer, for which there is insufficient data, and which is not administratively or practically feasible even if there was sufficient data.

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

⁶ *The City currently pays Mid Valley this fee for residential customers but does not collect it from these customers.*

⁷ *Many assumptions were provided by Mid Valley Disposal based on their experience and actual costs.*

Additionally, general guidance on rate setting practices include the following observation: (1) rates do not need to be determined on a “parcel-by-parcel” basis but can be grouped and calculated on a “class-by-class” basis; (2) “apportionment” (i.e., allocation of costs) is not a determination that lends itself to a precise calculation; (3) apportionment in accordance with the City’s informal, best cost estimates is sufficient, and (4) ratemaking data does not need to be perfect.⁸

Regarding the SB 1383 surcharge, this surcharge was calculated as a 35-percent across-the-board increase in proposed new solid waste rates. This assumes that this new regulation provides new services and environmentally based benefits to solid waste customers on a broad basis vs. specific new services (and benefits) to just a limited number of customers. Once the actual costs and specific programs are better understood, the City may need to refine this surcharge in terms of the total costs recovered and/or how it is allocated to individual customer classes.

RATE DESIGN

Rate design for solid waste rates is a far less complicated analysis than for water or sewer rates, where trade-offs between fixed and volumetric charges must be considered. In contrast, solid waste rates are 100-percent “fixed” in that they use a single monthly rate that includes both collection and disposal for each type of service. However, several of the more generic criteria documented in various rate-setting manuals⁹ are typically considered in setting solid waste rates, including pricing policies, theories, and economic concepts. The following are the rate design attributes applicable to a sound solid waste rate structure:

- Rates are easy to understand from the customer’s perspective.
- Rates are easy to administer from the utility’s perspective.
- Rates are equitable and non-discriminating (that is, cost based).
- There is continuity in the ratemaking philosophy over time.
- Rates should address other utility policies (for example, encouraging waste reduction, recycling, and the economic development of the community).
- Rates should provide month-to-month and year-to-year revenue stability.

REGULATORY ISSUES

State regulations, beginning with AB 929 in 1989, have promoted waste reduction and recycling for the purpose of preserving landfill capacities and increasing the quantity of recyclable materials reused. The key regulatory issue the City is currently facing is SB 1383 which was recently adopted and mandates significant new organics and food waste recycling programs. These extensive regulatory mandates have an initial (Tier 1) implementation date of January 1, 2022. Mid Valley and the City are currently discussing how to meet these requirements, and Mid Valley has stated that these new programs typically increase overall costs by 35-40 percent. Although NBS is recommending the City implement an SB 1383 surcharge of 35 percent, these implementation discussions will play a role in future rate increases and the currently proposed surcharge may be adjusted as needed.

⁸ ACWA Board of Directors’ Workshop Agenda Packet, July 30, 2015, Kelly Salt, Partner, Best Best & Krieger, LLP, pp. 6 and 8 of 95.

⁹ Such as the American Water Works Association (AWWA) Manual M1.

SECTION 2. SOLID WASTE RATE STUDY

A. Key Solid Waste Rate Study Issues

The City's solid waste rate analysis was undertaken with a few specific objectives, including:

- Maintaining annual revenues needed to sufficiently fund operational expenditures, including salaries and benefits of City staff, overhead/interfund charges, and regulatory compliance programs.
- Maintaining reserve fund levels to ensure future financial stability for the solid waste utility.
- Continuing to encourage recycling and waste reduction.
- Providing revenue stability for the Utility, particularly considering new regulatory mandates imposed by the State, such as SB 1383.
- Complying with Prop 218 requirements to ensure cost are properly allocated among customer classes and service levels.

The rate structure NBS proposed relied on these industry standards and cost-of-service principles. The recommended rates were calculated based on the net revenue requirements, number of customer accounts, and various assumptions and data provided by the City and Mid Valley.

B. Financial Plan

Besides meeting the overall goal of providing sufficient revenue to meet annual operating and regulatory costs, financial plans also strive to maintain reasonable reserves to handle emergencies and follow sound financial management practices to ensure the financial health of the solid waste utility. Rate adjustments are governed by the need to meet these objectives. The current financial status of the City's solid waste utility is as follows:

- **Meeting Net Revenue Requirements:** For Fiscal Year (FY) 2021/22 through FY 2025/26, the average projected net revenue requirement is approximately \$6 million per year. If no rate increases are implemented, the annual deficits are projected to grow from \$1 million in FY 2021/22 to \$2 million by FY 2025/26.
- **Operating Reserve Funds:** The operating reserve provides for fiscal emergencies such as revenue shortfalls or, more likely in the solid waste utility's case, unfunded regulatory mandates. The utility's operating reserve is considered an unrestricted reserve. Although this reserve would normally only need to be about 10 percent of annual operating expenses (given that over 60 percent of expenses are payments to Mid Valley), the utility should maintain a reserve balance of closer to 30 percent as a short-term funding backstop for SB 1383 compliance. This amounts to approximately \$1.8 million. Without rate increases, the ending balance of the operating reserves would go negative by more than \$7 million.
- **Inflation and Growth Projections:** Projected future revenue and expense assumptions were made based on current expectations, including the ongoing impacts of the Covid 19 pandemic and what appear to be accelerating inflation.
 - Although the City has some population growth, customer growth is conservatively assumed to be 0 percent.
 - General inflation is assumed to be 3 percent annually.
 - Growth in City salaries and benefits are assumed to be 1.5 percent per year.

- **Contractor Payments:** Mid Valley payments are the largest single expense and is projected assuming a general inflation rate of 3 percent annually. However, as noted above, the cost of compliance with SB 1383 will be a significant cost increase that has not yet been defined and is not included in these projections. Once the City has a better understanding of those costs, a significant future adjustment will likely be needed.

Rate revenue increases of ten percent (10 percent) in FY 2021/22 through FY 2024/25 and four percent (4 percent) in FY 2025/26, will adequately fund operating expenses and, while maintaining less-than-optimal reserves, fixes the trending deficit and recommended levels will be achieved a few years after this five-year period. **Figure 1** summarizes the sources and uses of funds, net revenue requirements, and the recommended annual rate increases for the next five years. These projections do not include the assumed 35 percent surcharge needed to pay for the SB 1383 mandated costs.

Figure 1. Summary of Solid Waste Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirements	Projection	Budget	Projected				
	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Sources of Solid Waste Funds							
Disposal Collection Fees	\$ 5,035,107	\$ 5,266,337	\$ 5,266,337	\$ 5,266,337	\$ 5,266,337	\$ 5,266,337	\$ 5,266,337
Street Sweeping Fees	444,880	406,637	406,637	406,637	406,637	406,637	406,637
Other Charges & Interest Income	399,557	445,914	156,133	134,996	134,726	134,726	141,150
Total Sources of Funds	\$ 5,879,544	\$ 6,118,888	\$ 5,829,107	\$ 5,807,970	\$ 5,807,700	\$ 5,807,700	\$ 5,814,124
Uses of Solid Waste Funds							
Materials & Services	\$ 4,839,643	\$ 4,630,784	\$ 4,769,391	\$ 4,912,055	\$ 5,058,997	\$ 5,210,344	\$ 5,366,228
Street Cleaning	\$ 560,560	\$ 504,904	\$ 516,021	\$ 527,417	\$ 539,098	\$ 551,074	\$ 563,351
Transfer Out	\$ 780,494	\$ 780,494	\$ 780,494	\$ 780,494	\$ 780,494	\$ 780,494	\$ 780,494
Interfund Charges	\$ 470,530	\$ 470,006	\$ 484,106	\$ 498,629	\$ 513,588	\$ 528,996	\$ 544,866
Salaries & Benefits	\$ 289,754	\$ 322,358	\$ 327,193	\$ 332,101	\$ 337,083	\$ 342,139	\$ 347,271
Operating Expenses:	\$ 17,894	\$ 214,678	\$ 219,929	\$ 225,319	\$ 230,853	\$ 236,535	\$ 242,369
Total Uses of Funds	\$ 6,958,875	\$ 6,923,224	\$ 7,097,135	\$ 7,276,016	\$ 7,460,114	\$ 7,649,581	\$ 7,844,578
Surplus (Deficiency) before Rate Increase	\$ (1,079,331)	\$ (804,336)	\$ (1,268,028)	\$ (1,468,046)	\$ (1,652,414)	\$ (1,841,881)	\$ (2,030,454)
Additional Revenue from Rate Increases	\$ -	\$ -	\$ 131,658	\$ 1,105,931	\$ 1,743,158	\$ 2,444,107	\$ 2,752,525
Surplus (Deficiency) after Rate Increase	\$ (1,079,331)	\$ (804,336)	\$ (1,136,370)	\$ (362,115)	\$ 90,744	\$ 602,226	\$ 722,070
Increase in Annual Rate Revenue	0.00%	0.00%	10.00%	10.00%	10.00%	10.00%	4.00%
Cumulative Increases	0.00%	0.00%	10.00%	21.00%	33.10%	46.41%	52.27%
Net Revenue Requirement¹	\$ 6,114,438	\$ 6,070,673	\$ 6,534,365	\$ 6,734,383	\$ 6,918,751	\$ 7,108,218	\$ 7,296,791
Total Rate Revenue After Rate Increases	\$ 5,035,107	\$ 5,266,337	\$ 5,397,995	\$ 6,372,268	\$ 7,009,495	\$ 7,710,444	\$ 8,018,862

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

Figure 2 summarizes the projected reserve balances and targets for the solid waste utility's operating reserve. A more detailed version of the proposed 5-year financial plan is included in the Appendix. As **Figure 2** shows, reserves will meet the minimum target for all projected years. **Figures 3 and 4** graphically show the revenues and expenses and the reserve fund balances with and without rate increases.

Figure 2. Summary of Solid Waste Operating Reserve

Ending Reserve Fund Balances and Recommended Reserve Targets	Projection	Budget	Projected				
	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
O&M Reserve Fund							
O&M Reserve Fund Ending Balance	\$ 1,955,229	\$ 1,150,893	\$ 14,523	\$ (347,592)	\$ (256,849)	\$ 345,377	\$ 1,067,447
O&M Reserve Fund Minimum Target	1,740,000	1,730,000	1,770,000	1,820,000	1,870,000	1,910,000	1,960,000
Total Ending Reserves - Proposed Rates	\$ 1,955,229	\$ 1,150,893	\$ 14,523	\$ (347,592)	\$ (256,849)	\$ 345,377	\$ 1,067,447
Total Ending Balance w/o Rate Increases	\$ 1,955,229	\$ 1,150,893	\$ (117,135)	\$ (1,585,182)	\$ (3,237,595)	\$ (5,079,477)	\$ (7,109,931)
Minimum Reserve Target	\$ 1,740,000	\$ 1,730,000	\$ 1,770,000	\$ 1,820,000	\$ 1,870,000	\$ 1,910,000	\$ 1,960,000

1. Beginning cash balance for the Solid Waste Fund is found in CAFR. Source File: FY-2018-2019-Comprehensive-Annual-Financial-Report.pdf, Page 42.

2. NBS recommends Solid Waste Fund will maintain a minimum of 90 days operating budget in reserves.

3. District's actual or budgeted interest earnings are used in analysis for unrestricted reserves in FY 2020/21. For 2021/22 and beyond, interest earning rates are estimated at the 3-year average (FY '17/18 - '19/20) for funds invested in LAIF, per the California Treasurer's Office website, for the restricted reserves.

Figure 3. Summary of Solid Waste Revenue Requirements

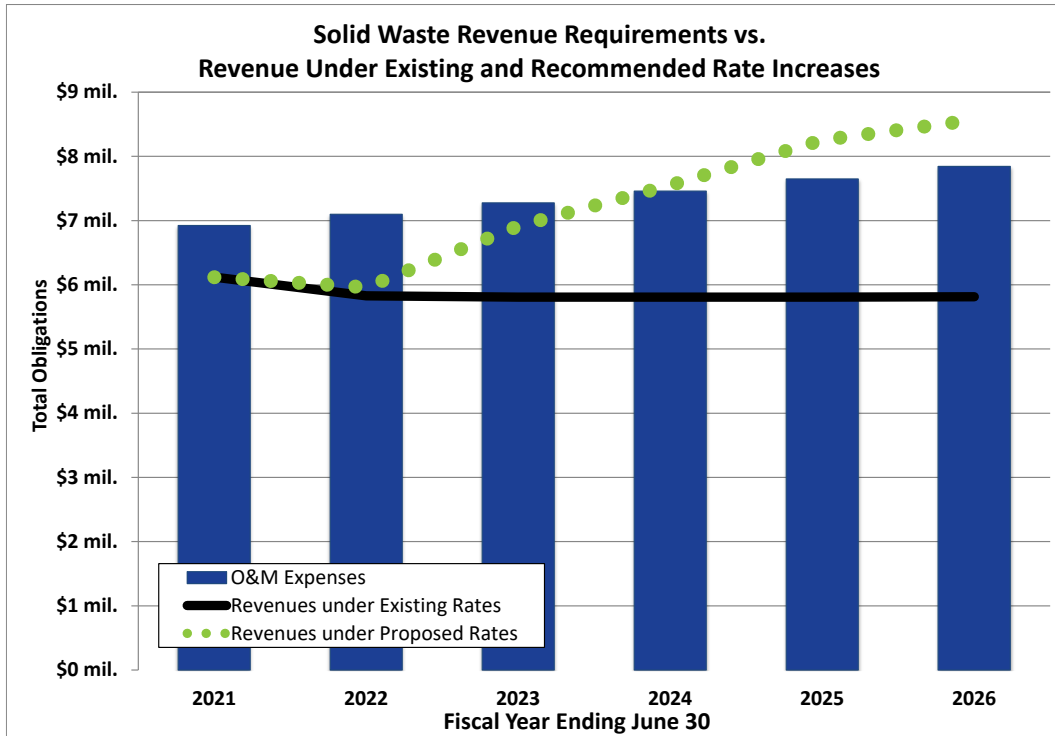
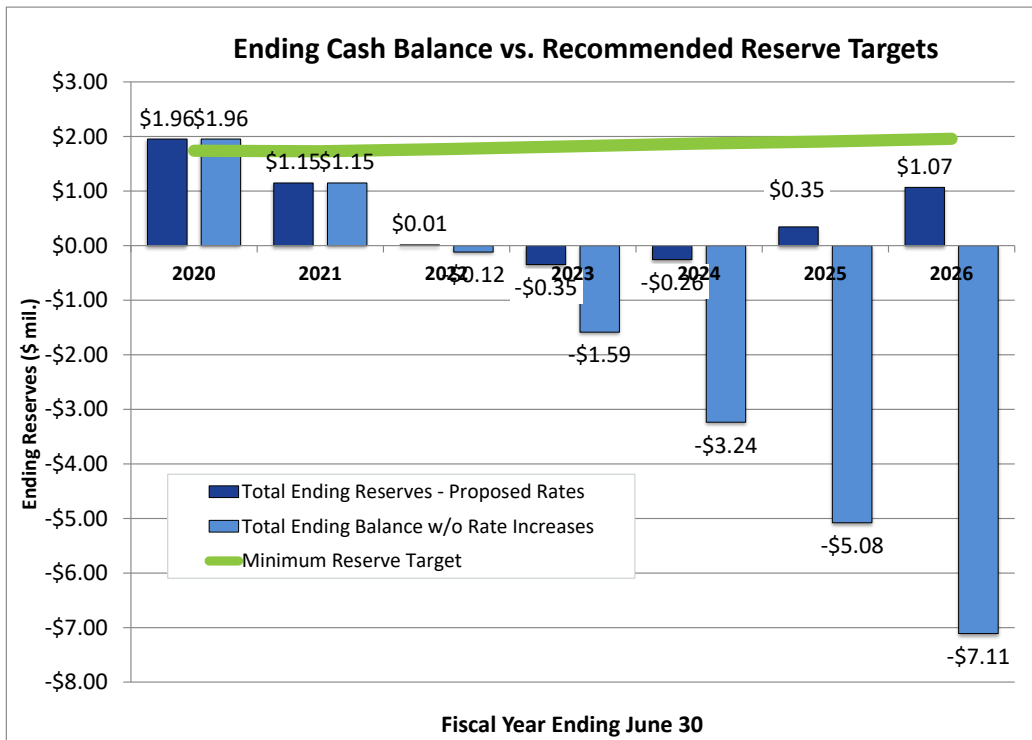


Figure 4. Summary of Solid Waste Operating Reserve



C. Cost of Service Analysis

Once the total net revenue requirements are determined, the cost-of-service analysis determines the revenue collected from each customer class. The three major components of the cost-of-service analysis are collection and disposal expenses and the City's administrative and overhead costs. Since the City contracts for collection and disposal services with Mid Valley, the City does not have direct access to individual field operation costs such as driver salaries and benefits, cost of collection vehicles, general overhead, and profit. Those costs are embodied in the City's agreement with Mid Valley, but a detailed breakdown of those costs is not available. The following is a description of the methodology followed to establish cost-based solid waste rates.

SOLID WASTE RATE METHODOLOGY

The intent of the cost of service is to anchor rates to a cost basis reasonably reflecting actual costs. Since current rates have not been updated in many years and there is no clear record of how they were originally set, some of the new rates may be quite different than the current rate.

Residential and Commercial Customer Accounts – Standard residential service, which includes three 96-gallon containers (grey for trash, blue for recyclables, and green for yardwaste/organics), account for 84 percent of all solid waste accounts¹⁰. Typical commercial service varies by size of the bin (from 2-CY to 6-CY, and from once-per-week [1x/week] collection to six-days-per-week [6x/week]). There are also miscellaneous rates for individual containers, recyclable bins, compactor bins, and organics bins. These other rates are a small part of the overall solid waste rate revenues but are included in the various rate tables below.

Initial Rates – In general, disposal costs, which are based on discussions with Mid Valley, were calculated first. Disposal costs are assumed to be approximately 20 percent of overall rates. The remaining 80 percent is assumed to be a collection-related cost. There was no attempt to identify costs related to Mid Valley's overhead and/or profit, since those are proprietary costs and are embedded in the contracted rates the City pays Mid Valley under the franchise agreement.

True-Up Adjustments – Finally, since initial rate calculations are estimates of the actual collection and disposal costs, the revenue generated by these rates needs to be "trued-up" to the total net revenue requirement shown in the financial plan. To do this, separate across-the-board adjustments were used to calibrate the amount of rate revenue collected from residential customers, commercial bins service, and the remaining commercial customer classes.

Mid Valley estimated that 66 percent of systemwide costs are for residential service, while commercial accounts for the remaining 34 percent. Commercial bin service accounts for about 26 percent of the total revenue, with all other commercial classes making up about 8 percent of the total. Therefore, adjustments within each of these classes of customers (i.e., residential, commercial bin service, and all other commercial) were made to calibrate the rate revenues with the net revenue requirements. This approach maintains the overall cost basis between customer classes (i.e., they maintain fair and equitable shares of overall revenue), and thereby meets broader cost-of-service equity and fairness objectives.

The following is a more detailed description of the assumptions used and the rate calculations performed.

Disposal Costs – General assumptions are that trash weighs 125 lbs. per cubic yard and tipping fees are \$28/ton. According to Mid Valley, disposal costs for green waste and recyclables are approximately same as trash disposal, although we have set recyclables disposal costs at less than the cost for trash disposal because

¹⁰ There are 13,822 standard residential accounts vs. 16,405 total accounts.

of the need to promote waste reduction and recycling. Since the City is mandated to achieve recycling and waste reduction goals, solid waste rates need to encourage this mandate. Industry standards for cost-of-service analysis allows for adjustments such as these with the broader intent of ensuring that rates within each customer class are not subsidizing costs of other customer classes. Also, most recyclable costs are bundled along with standard residential service rates. All collection containers/bins are assumed to have the same amount of material (whether trash, green waste, organics, or recyclables). Lastly, commercial compactors are assumed to have a 3:1 density ratio (i.e., 375 lbs./CY vs. 125 lbs. for uncompacted trash).

Collection Costs – Residential and commercial collection costs for a 96-gallon container are assumed to be the same regardless of type of container (grey/green/blue), and larger containers (i.e., 2 CY – 6 CY bins) are assumed to be similar regardless of container size (i.e., while disposal costs directly correlate to size, the collection costs do not). However, there are cost differences between standard residential service and commercial bins service, based on assumptions provided by Mid Valley. For example, residential 96-gallon collection generally involves short travel distances between customers whereas commercial bin service customers on average are far more “spread out” than residential customers. Also, carry-out service takes significantly more driver time than an automated curbside pickup. We have relied on Mid Valley assumptions in setting the initial rates by type of service.

The 13,822 residential standard service customers have a current rate of \$15.59/month, which is lower than the rate that the City pays Mid Valley. Therefore, the initial rate was set above the current rate before being adjusted to meet net revenue requirements. Mid Valley estimates that commercial bin rates for 1x/week service are artificially low and should be increased.¹¹

In general, additional commercial pickups/week are assumed to be a straight multiple of the 1x/week service and “carryout” rates were assumed to be significantly higher than for automated curbside service, with the difference between automated and carryout assumed to be similar to the differences in current rates. For commercial compactor rates, although disposal costs reflect a 3:1 density ratio, collection costs are like those for commercial bins.

Administrative Fees – In 2018, the City transitioned certain services over to Mid Valley, including replacing residential containers and handling service calls. The City negotiated a Mid Valley reimbursement fee of \$2.33/residential account for these services, which amounts to approximately \$400,000 per year. The City has not collected this fee from customers in the past but needs to begin doing so going forward. This cost is already included in the net revenue requirements for FY 2021/22, since it is a part of the fees paid to Mid Valley.

Current Rate Revenue vs. the Costs of Mid Valley Services – Figure 5 below summarizes the estimated current solid waste rate revenue the City receives¹² and the costs of Mid Valley services based on the most recent invoice for January 2021. This Figure shows that approximately 70 percent of the City-collected revenue comes from residential customers (vs. Mid Valley’s estimate that residential is about 66 percent of actual costs), while commercial customers account for about 30 percent of the revenue (vs. Mid Valley’s estimate that commercial represents about 34 percent of actual costs). The Mid Valley percentages are assumed to better represent the actual costs of service (based on discussions with City and Mid Valley staff).

¹¹ The City’s rate for commercial 2-CY, 3-CY, and 6-CY with 1X/week service is less than what the City pays Mid Valley. For comparison, Mid Valley’s reimbursement rate for standard residential service is only 64 percent of the rate the City charges.

¹² As the most recent financial data, the \$5.375 million revenue shown in this figure is slightly higher than shown in the City budget (i.e., \$5.266 million).

Figure 5. Summary of Current Rate Revenue & Costs of Mid Valley Services

City and Mid Valley Revenue From Current Rates - FY 2021/22 (Based on Jan '21 MVD Payment)							Difference (City - MVD Rev.)
Customer Class	City Rate Revenue		Mid Valley Rate Revenue				
	Current Rates	% of Total	Contract Rate	Admin Fees	Total Revenue	% of Total	
<i>(Based on NBS Calculations)</i>							
Single Family Residential	\$3,502,921	65.2%	\$2,498,240	\$388,113	\$2,886,352	63.5%	\$616,569
Multi-Family Residential	\$272,059	5.1%	\$92,440	\$12,470	\$104,910	2.3%	\$167,149
Total Residential	\$3,774,980	70.2%	\$2,590,679	\$400,583	\$2,991,262	65.8%	\$783,718
Commercial 96-Gal. Service	\$63,383	1.2%	\$41,020	\$0	\$41,020	0.9%	\$22,362
Commercial Bin Service	\$1,262,512	23.5%	\$1,185,682	\$4,446	\$1,190,127	26.2%	\$72,384
Commercial Recycling	\$247,890	4.6%	\$285,540	\$0	\$285,540	6.3%	-\$37,650
Commercial Compactor	\$6,580	0.1%	\$7,032	\$0	\$7,032	0.2%	-\$452
Commercial Organics	\$19,743	0.4%	\$28,624	\$0	\$28,624	0.6%	-\$8,881
Total Commercial	\$1,600,107	29.8%	\$1,547,899	\$4,446	\$1,552,344	34.2%	\$47,763
Total Revenue² - FY 2021/22	\$5,375,087	100.0%	\$4,138,578	\$405,029	\$4,543,607	100.0%	\$831,481

1. Overall allocation of residential vs. commercial revenue requirements is about 66%/34% per Mid Valley Disposal.

2. Total Revenue based on Current City rates and number of accounts as of January 2021.

Proposed Revenue Requirements – Based on discussions with City staff, the new solid waste rates should include street sweeping costs and an SB 1383 surcharge. These costs would be allocated to all customers (i.e., residential and commercial), while the Admin Fee is only paid by the residential customers (i.e., single- and multi-family customers). **Figure 6** summarizes these components of the revenue requirements and **Figure 7** summarizes the total revenue generated by the new rates by customer class. These figures include the first-year increase in total rate revenue, street sweeping costs, and the SB 1383 surcharge of 35 percent, totaling \$7.8 million. These costs are discussed in more detail below.

Figure 6. Summary of Components of the Revenue Requirements

Summary of FY'21/22 Solid Waste Costs	Notes:
Net Rev. Reqts. (from Financial Plan) less Admin Fees (already included in the above) Street Sweeping Costs	\$5,792,971 (\$400,583) \$406,637
Net Rev. Reqts. - Including Street Sweeping	\$5,799,025
SB 1383 Surcharge (35%)	\$2,029,659
Net Rev. Reqts. - Incl. Street Sweeping & Surcharge	\$7,828,683

From Fin. Plan (Figure 1) - Includes proposed rate increase¹
Separately allocated to Single- and Multi-Family Resid.²
Offsets current Street Sweeping fees being collected³

Allocated 66% to Residential, 34% Commercial

35% of Net Rev. Reqts.

Excludes Admin Fees separately applied to Residential

1. Assume adoption April 1, 2022 means only 25% of the rate increase is collected in FY'21/22.

2. Calculated as \$2.33/account times residential containers to which this fee applies. This is applied separately to these customers.

3. Street Sweeping fees from the Financial Plan. There are other street sweeping costs already included in Net Revenue Requirements.

Figure 7. Summary of Proposed Rate Revenue

Proposed Rate Revenue - FY 2021/22			INCLUDING STREET SWEEPING & 35% SURCHARGE		
Customer Class	Rate Revenue ¹	% of Total ²	35% Surcharge	Total Revenue	% of Total
Single Family Residential	\$3,692,620	63.7%	\$1,292,417	\$4,985,038	63.7%
Multi-Family Residential	\$134,736	2.3%	\$47,157	\$181,893	2.3%
Total Residential	\$3,827,356	66.0%	\$1,339,575	\$5,166,931	66.0%
Commercial 96-Gal. Service	\$68,453	1.2%	\$23,959	\$92,412	1.2%
Commercial Bin Service	\$1,519,344	26.2%	\$531,770	\$2,051,114	26.2%
Commercial Recycling	\$352,275	6.1%	\$123,296	\$475,572	6.1%
Commercial Compactor	\$2,262	0.0%	\$792	\$3,053	0.0%
Commercial Organics	\$29,334	0.5%	\$10,267	\$39,601	0.5%
Total Commercial	\$1,971,668	34.0%	\$690,084	\$2,661,752	34.0%
Total Revenue - FY 2021/22	\$5,799,024	100.0%	\$2,029,658	\$7,828,682	100.0%

1. Total Revenue based on Proposed Rates and number of accounts as of January 2021, including rate increases and Street Sweeping costs.

2. Overall allocation of residential vs. commercial revenue requirements is about 66%/34% per Mid Valley Disposal.

3. Admin Service Fees of \$2.33/residential account will be separately added to residential customers rates.

Street Sweeping Fees – The City currently has a street sweeping fee of \$0.0248 per foot of street exposure and a fee of \$0.0125 for additional cleaning. The City currently expects to collect about \$406,637 from these fees in FY 2021/22, although actual costs are approximately \$660,000 with the difference of about \$261,000 funded by the City’s General Fund and other Enterprise fund transfers. The nexus of the benefits of street cleaning to either the per-foot charges or the costs collected from various residential and commercial customers is not abundantly clear¹³, and NBS recommends incorporating the street sweeping costs into solid waste rates on a broader basis from all customers. While this would increase solid waste rates, it would also eliminate the current street sweeping charges.

The street sweeping program benefits solid waste customers in two ways: (1) the direct benefit to residents and businesses receiving the street/curb cleaning in front of their home and/or business and, (2) improved sanitation and trash removal in other public areas (streets) not necessarily tied to an individual solid waste customer. The nexus between these street sweeping benefits and the cost allocated to all solid waste customers would support including these costs on an across-the-board basis.

While there can also be a case made for allocating some of the street sweeping costs to water customers (related to protecting groundwater quality), or drainage customers (removing trash from streets helps reduce trash accumulating in drainage catch-basins thereby reducing flooding), the benefit seems more directly tied to solid waste customers. NBS recommends the City’s legal counsel review this approach before proceeding with adding street sweeping costs to solid waste rates.

SB 1383 Surcharges – As discussed above, compliance with SB 1383 is estimated to cost an additional 35-40 percent more than the revenue requirements shown previously in Figure 1. This 35 percent surcharge would generate an additional \$2.0 million in revenue used to cover the cost of newly mandated SB 1383 programs.

D. Rate Design Analysis

As previously mentioned, the rate design for solid waste rates is a fixed charge tied to estimates of the actual costs for collection and disposal rather than the combinations of fixed and variable charges used in water rates. Also, rates are calculated on a customer class basis rather than for each individual customer. For example, most individual residential customers dispose of different amounts of trash than the average residential customer (i.e., its higher or lower than average), but rates are not tailored to individual customers. The same is true for commercial customers; commercial services provide each customer with the opportunity or capacity to dispose of the volume of waste as defined by their container size, regardless of whether each customer fully utilizes that capacity.

The City’s current solid waste rates reflect the container size and the number of pickups per week, and NBS recommends that the City continue with this rate structure. Based on reasonable cost estimates and assumptions,¹⁴ NBS updated the collection and disposal components of the rates and then calibrate these rates to match the revenue requirements that should be collected from each customer class (e.g., residential vs. commercial customers).

Also, the City’s current rate schedule includes “non-functional” rates for which there are either no customers and/or there are no plans to provide a type of service in the future. For example, there are only two compactor bins service accounts, but the rate schedule includes rates for multiple bin sizes (i.e., 2 CY, 3 CY, 4

¹³ The City has no formal documentation of how these rates were developed or the rationale for this approach.

¹⁴ The assumptions are primarily provided by Mid Valley staff and relate to systemwide collection and disposal practices and costs.

CY, 5 CY, and 6 CY) and pickups from 1X/week through 6X/week. Likewise, there are only two commercial 5 CY bin service accounts and Mid Valley will be phasing out this service and converting these customers to another size of bin.

Lastly, NBS is recommending the proposed solid waste rates include: (1) the Admin Fee that the City currently pays Mid Valley for each residential account but has not collected from customers; (2) street sweeping costs; and (3) the 35 percent SB 1383 surcharge. These costs were not previously included customer rates.

The following section outlines the results of the rate analysis and compares the current vs. proposed new solid waste rates that include the Admin Fee, street sweeping costs, and the 35 percent SB 1383 surcharges.

E. Proposed Solid Waste Rates

This section summarizes the current and proposed new rates. For purposes of clarity, we have excluded rates that currently have no customers. The Appendix includes more detailed rate schedules that include all the rates currently in the City’s rate schedule.

Figure 8 shows the monthly rates for residential and commercial customers receiving 96-gallon container service. The standard residential service, which includes over 90 percent of these services, includes three containers (trash, recyclables, and organics/green waste). **Figure 9** shows the rates for commercial bin service, and **Figures 10 and 11** shows the rates for other commercial services.

Figure 8. Solid Waste Rates for Standard (96-Gallon) Container Services
(Including Admin Fees of \$2.33/mo., Street Sweeping Costs, and 35 percent Surcharge)

Customer Classes/Service Type	Current Rates FY 2019/20	Proposed Rates (Include Street Sweeping, Admin Fee & SB 1383 Surcharge) ¹				
		FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Single Family Residential						
Three Standard Containers	\$ 23.22	\$ 32.00	\$ 34.97	\$ 38.23	\$ 41.82	\$ 45.77
1/2 Resid. (Grey & Blue only)	\$ 16.02	\$ 25.68	\$ 28.02	\$ 30.58	\$ 33.41	\$ 36.52
Additional Grey Container	\$ 4.73	\$ 23.35	\$ 25.69	\$ 28.25	\$ 31.08	\$ 34.19
Additional Green Container	\$ 2.17	\$ 8.27	\$ 9.09	\$ 10.00	\$ 11.00	\$ 12.11
Additional Blue Container	\$ 2.17	\$ 8.27	\$ 9.09	\$ 10.00	\$ 11.00	\$ 12.11
Residential Carry-Out Service						
Two Containers	\$ 55.32	\$ 42.21	\$ 46.20	\$ 50.58	\$ 55.41	\$ 60.72
Each Additional Container	\$ 11.44	\$ 16.54	\$ 18.19	\$ 20.01	\$ 22.01	\$ 24.21
Multi-Family Residential						
First Two Dwelling Units (each)	\$ 23.22	\$ 32.00	\$ 34.97	\$ 38.23	\$ 41.82	\$ 45.77
Each Additional Dwelling Unit	\$ 22.59	\$ 29.45	\$ 32.16	\$ 35.14	\$ 38.42	\$ 42.03
Commercial						
Two Containers	\$ 29.46	\$ 42.21	\$ 46.20	\$ 50.58	\$ 55.41	\$ 60.72
Additional Container	\$ 40.85	\$ 34.77	\$ 38.25	\$ 42.08	\$ 46.28	\$ 50.91
Commercial Carry-Out Service						
Two Containers	\$ 57.64	\$ 62.63	\$ 68.66	\$ 75.29	\$ 82.59	\$ 90.61
Each Additional Container	\$ 17.70	\$ 30.15	\$ 33.16	\$ 36.48	\$ 40.13	\$ 44.14

1. Note: admin Fee only applies to initial service charges, not on additional containers.

Figure 9. Solid Waste Rates for Commercial Bin Services

Customer Classes/Service Type		Current Rates	Proposed Rates (Include Street Sweeping & SB 1383 Surcharge)				
		FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Bin Service (Solid Waste)							
<u>2 Cubic Yard</u>							
	1x per week	\$ 52.11	\$ 146.72	\$ 161.39	\$ 177.53	\$ 195.28	\$ 214.81
	2x per week	\$ 102.40	\$ 200.07	\$ 220.07	\$ 242.08	\$ 266.29	\$ 292.92
	3x per week	\$ 151.25	\$ 265.42	\$ 291.96	\$ 321.16	\$ 353.28	\$ 388.60
	4x per week	\$ 203.10	\$ 346.38	\$ 381.02	\$ 419.12	\$ 461.03	\$ 507.14
	5x per week	\$ 253.47	\$ 447.63	\$ 492.39	\$ 541.63	\$ 595.79	\$ 655.37
<u>3 Cubic Yard</u>							
	1x per week	\$ 65.84	\$ 153.38	\$ 168.72	\$ 185.59	\$ 204.15	\$ 224.57
	2x per week	\$ 130.34	\$ 213.40	\$ 234.74	\$ 258.22	\$ 284.04	\$ 312.45
	3x per week	\$ 194.44	\$ 285.43	\$ 313.97	\$ 345.37	\$ 379.90	\$ 417.90
	4x per week	\$ 258.72	\$ 373.06	\$ 410.36	\$ 451.40	\$ 496.54	\$ 546.19
	5x per week	\$ 323.14	\$ 480.97	\$ 529.07	\$ 581.98	\$ 640.18	\$ 704.19
<u>4 Cubic Yard</u>							
	1x per week	\$ 79.73	\$ 160.05	\$ 176.06	\$ 193.66	\$ 213.03	\$ 234.33
	2x per week	\$ 157.87	\$ 226.74	\$ 249.42	\$ 274.36	\$ 301.79	\$ 331.97
	3x per week	\$ 272.25	\$ 305.43	\$ 335.98	\$ 369.58	\$ 406.53	\$ 447.19
	4x per week	\$ 333.10	\$ 399.73	\$ 439.71	\$ 483.68	\$ 532.04	\$ 585.25
	5x per week	\$ 392.17	\$ 514.32	\$ 565.75	\$ 622.32	\$ 684.56	\$ 753.01
<u>5 Cubic Yard</u>							
	3x per week	\$ 276.11	\$ 325.44	\$ 357.99	\$ 393.78	\$ 433.16	\$ 476.48
<u>6 Cubic Yard</u>							
	1x per week	\$ 107.22	\$ 173.39	\$ 190.73	\$ 209.80	\$ 230.78	\$ 253.86
	2x per week	\$ 213.04	\$ 253.42	\$ 278.76	\$ 306.64	\$ 337.30	\$ 371.03
	3x per week	\$ 318.78	\$ 345.45	\$ 379.99	\$ 417.99	\$ 459.79	\$ 505.77
	5x per week	\$ 529.93	\$ 581.01	\$ 639.11	\$ 703.02	\$ 773.32	\$ 850.65

Figure 10. Solid Waste Rates for Commercial Recyclables & Compactor Services

Customer Classes/Service Type		Current Rates	Proposed Rates (Include Street Sweeping & SB 1383 Surcharge)				
		FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Bin Service (Recyclables)							
<u>2 Cubic Yard</u>							
	1x per week	\$ 31.22	\$ 65.08	\$ 71.58	\$ 78.74	\$ 86.62	\$ 95.28
	2x per week	\$ 55.98	\$ 130.15	\$ 143.17	\$ 157.49	\$ 173.24	\$ 190.56
	3x per week	\$ 80.79	\$ 195.23	\$ 214.75	\$ 236.23	\$ 259.85	\$ 285.84
<u>3 Cubic Yard</u>							
	1x per week	\$ 41.89	\$ 76.70	\$ 84.37	\$ 92.81	\$ 102.09	\$ 112.30
	2x per week	\$ 72.72	\$ 146.90	\$ 161.59	\$ 177.75	\$ 195.52	\$ 215.08
	3x per week	\$ 109.38	\$ 217.10	\$ 238.81	\$ 262.69	\$ 288.96	\$ 317.85
<u>4 Cubic Yard</u>							
	1x per week	\$ 47.92	\$ 83.99	\$ 92.39	\$ 101.63	\$ 111.79	\$ 122.97
	2x per week	\$ 89.40	\$ 159.31	\$ 175.24	\$ 192.76	\$ 212.04	\$ 233.24
	3x per week	\$ 130.89	\$ 234.62	\$ 258.08	\$ 283.89	\$ 312.28	\$ 343.51
<u>6 Cubic Yard</u>							
	1x per week	\$ 64.58	\$ 98.57	\$ 108.43	\$ 119.27	\$ 131.20	\$ 144.32
	2x per week	\$ 118.12	\$ 184.12	\$ 202.53	\$ 222.79	\$ 245.07	\$ 269.57
	3x per week	\$ 171.54	\$ 269.67	\$ 296.64	\$ 326.31	\$ 358.94	\$ 394.83
Compactor - Bin Service							
<u>3 Cubic Yard</u>							
	3x per week	\$ 388.88	\$ 166.71	\$ 183.38	\$ 201.72	\$ 221.89	\$ 244.08
<u>4 Cubic Yard</u>							
	1x per week	\$ 159.46	\$ 87.74	\$ 96.52	\$ 106.17	\$ 116.79	\$ 128.47
Roll-Off Container (Not a City rate)							
<u>25 Cubic Yard</u>							
	Monthly Rent	\$ 181.13	\$ 181.13	\$ 199.24	\$ 219.17	\$ 241.08	\$ 265.19
	Per Load	\$ 185.25	\$ 185.25	\$ 203.78	\$ 224.15	\$ 246.57	\$ 271.22

Figure 11. Solid Waste Rates for Other Commercial Services

Customer Classes/Service Type		Current Rates	Proposed Rates				
		FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Organic Waste (Include Street Sweeping & SB 1383 Surcharge)							
<u>96 Gallon Container</u>							
	1x per week	\$ 10.28	\$ 13.88	\$ 15.26	\$ 16.79	\$ 18.47	\$ 20.32
	2x per week	\$ 20.57	\$ 27.75	\$ 30.53	\$ 33.58	\$ 36.94	\$ 40.63
<u>2 Cubic Yard Bin</u>							
	1x per week	\$ 42.18	\$ 60.32	\$ 66.36	\$ 72.99	\$ 80.29	\$ 88.32
	2x per week	\$ 77.36	\$ 120.65	\$ 132.71	\$ 145.98	\$ 160.58	\$ 176.64
	3x per week	\$ 118.54	\$ 180.97	\$ 199.07	\$ 218.98	\$ 240.87	\$ 264.96
<u>3 Cubic Yard Bin</u>							
	5x per week	\$ 243.84	\$ 321.84	\$ 354.02	\$ 389.42	\$ 428.36	\$ 471.20
Miscellaneous Rates and Charges (Does Not Include Street Sweeping or SB 1383 Surcharge)							
Locking Service Fee (Optional)		\$10.00	\$ 10.00	\$ 11.00	\$ 12.10	\$ 13.31	\$ 14.64
Lost Lock Fee		\$15.00	\$ 15.00	\$ 16.50	\$ 18.15	\$ 19.97	\$ 21.96
New or Replacement Can		\$53.30	\$ 53.30	\$ 58.63	\$ 64.49	\$ 70.94	\$ 78.04
Delivery Charge		\$10.00	\$ 10.00	\$ 11.00	\$ 12.10	\$ 13.31	\$ 14.64
Street Cleaning Service							
	Per foot of street exposure	\$0.0248	(Now Included in Solid Waste Rates)				
	Additional Cleaning per foot	\$0.0125					

F. Comparison of Current and Proposed Solid Waste Monthly Bills

Figure 12 compares the City’s current residential rates to the proposed rates with the street sweeping costs and SB 1383 surcharges. The proposed residential rates also include the Admin Fee of \$2.33/account, which does not apply to accounts with additional containers. **Figure 13** shows a detailed breakdown of the proposed single-family rate along with the current rate and the rate that the City pays Mid Valley. **Figure 14** compares the City’s current commercial rates to the proposed rates with the street sweeping costs and SB 1383 surcharges.

Figure 12. Solid Waste Rates - Residential Customers

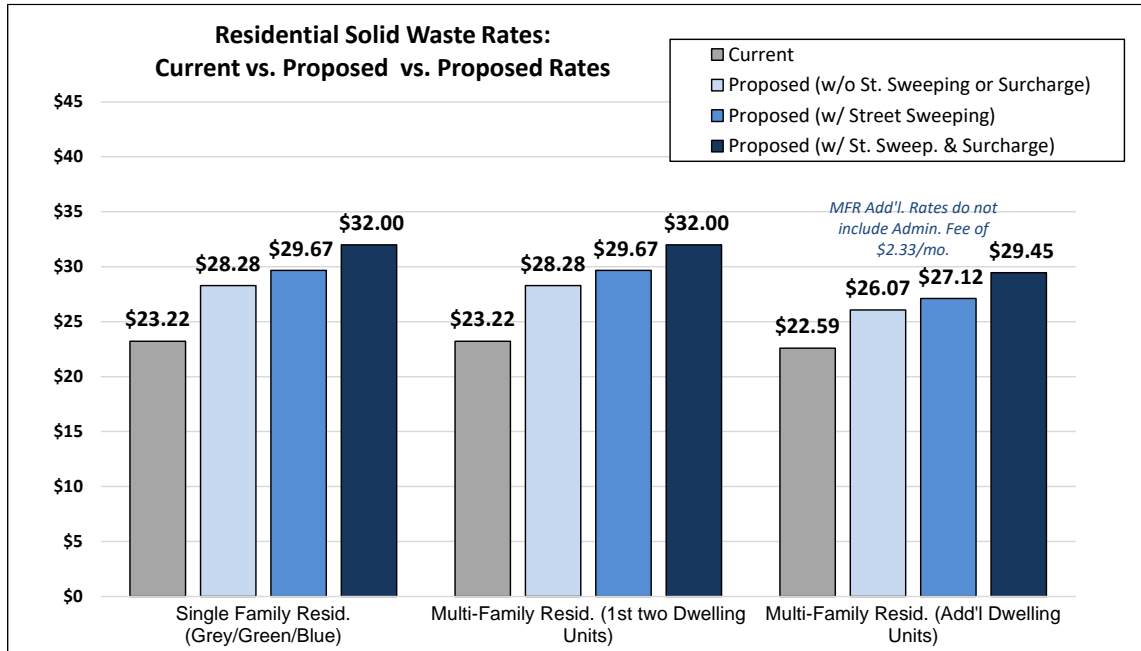


Figure 13. Details of Single-Family Solid Waste Rates

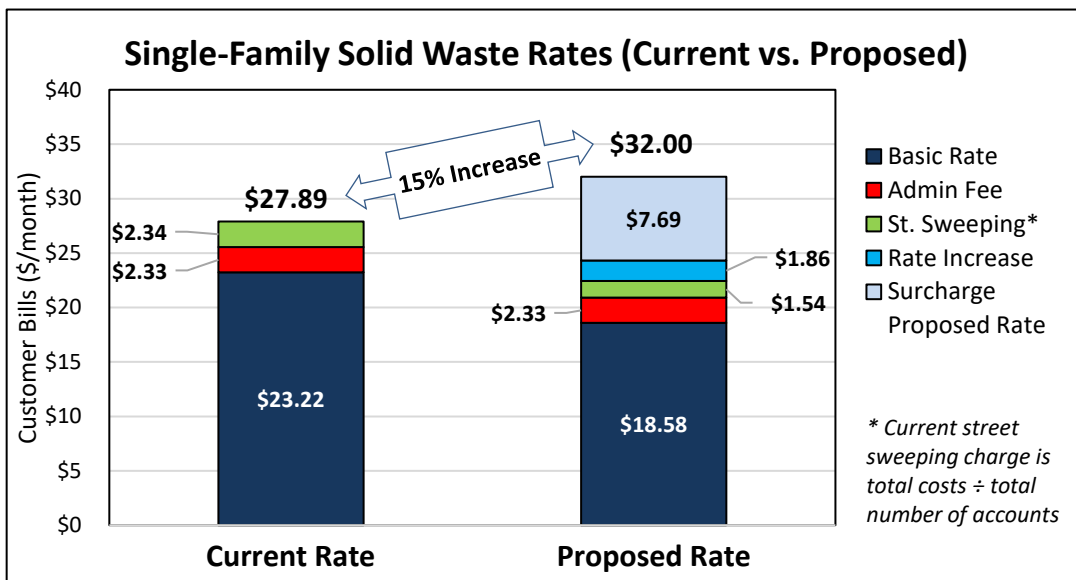
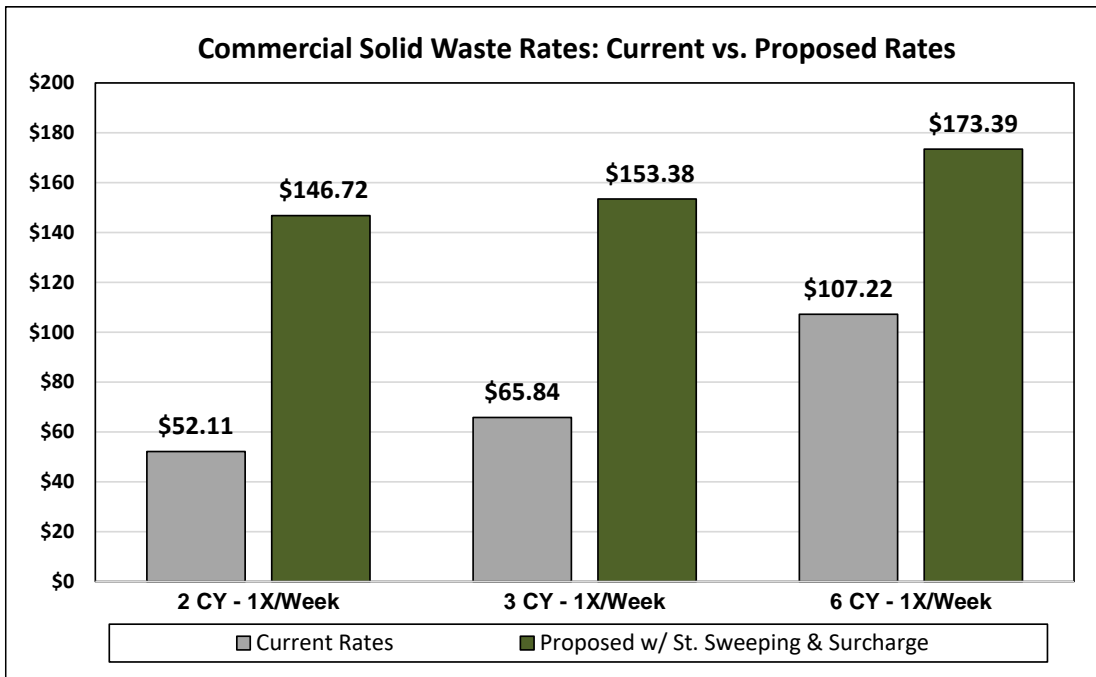


Figure 14. Solid Waste Rates - Commercial Bin Services



SECTION 3. RECOMMENDATIONS AND NEXT STEPS

A. Consultant Recommendations

NBS recommends the City take the following actions:

Approve and Accept this Study: NBS recommends the City Council formally approve and adopt this Study and its recommendations and proceed with the steps required to implement the proposed rates. This will provide documentation of the rate study analyses and the basis for analyzing potential changes to future rates.

Implement Recommended Levels of Rate Adjustments and Proposed Rates: The Council should direct City staff to mail out Prop 218 notices to customers. Then, based on successfully meeting the Prop 218 procedural requirements, the Council should proceed with implementing the 5-year schedule of proposed rates and rate adjustments previously shown in Figures 8 through 11.¹⁵ This will help ensure the continued financial health of the City's solid waste utility.

B. Next Steps

Annually Review Rates and Revenue – Any time an agency adopts new utility rates or rate structures, 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. In particular, the new costs associated with implementation of SB 1383 mandates will need to be monitored.

Note: The attached Appendix provides more detailed information on the analysis of the solid waste revenue requirements and cost-of-service analyses that have been summarized in this report.

C. NBS' Principal Assumptions and Considerations

In preparing this report and the opinions and recommendations included herein, NBS has relied on several principal assumptions and considerations regarding financial matters, conditions, and events that may occur in the future. This information and these assumptions, including City's budgets, cost information and assumptions from Mid Valley and City staff 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 and 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.

¹⁵ Depending on whether the City intends to eliminate rates that have no customers or will be discontinued, the rates adopted would be either those shown in Figures 8 through 11 or the rate schedule shown in Appendix Table 30.

Appendix: Detailed Solid Waste Study Tables and Figures

The following tables and figures are presented in the order of the three rate study components previously mentioned in Section 1.B. (i.e., Financial Plan, Cost-of-Service Analysis, and Rate Design).

TABLE 1: FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY	Projection	Budget	Projected				
	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Sources of Solid Waste Funds							
Disposal Collection Fees	\$ 5,035,107	\$ 5,266,337	\$ 5,266,337	\$ 5,266,337	\$ 5,266,337	\$ 5,266,337	\$ 5,266,337
<i>Sub-Total Rate Revenues:</i>	\$ 5,035,107	\$ 5,266,337	\$ 5,266,337	\$ 5,266,337	\$ 5,266,337	\$ 5,266,337	\$ 5,266,337
Street Sweeping Fees	\$ 444,880	\$ 406,637	\$ 406,637	\$ 406,637	\$ 406,637	\$ 406,637	\$ 406,637
Other Charges for Services	65,281	16,545	16,545	16,545	16,545	16,545	16,545
Refunds	1,476	2,363	2,363	2,363	2,363	2,363	2,363
Fines & Forfeiture	79,197	115,818	115,818	115,818	115,818	115,818	115,818
Gains & Proceeds	2,747	-	-	-	-	-	-
Transfers In	226,431	293,742	-	-	-	-	-
Interest Income	24,425	17,446	21,407	270	-	-	6,424
<i>Sub-Total Non-Rate Revenue</i>	\$ 844,437	\$ 852,551	\$ 562,770	\$ 541,633	\$ 541,363	\$ 541,363	\$ 547,787
Total Solid Waste Revenues	\$ 5,879,544	\$ 6,118,888	\$ 5,829,107	\$ 5,807,970	\$ 5,807,700	\$ 5,807,700	\$ 5,814,124
Uses of Solid Waste Funds							
Operating Expenses:							
Salaries & Benefits	\$ 289,754	\$ 322,358	\$ 327,193	\$ 332,101	\$ 337,083	\$ 342,139	\$ 347,271
Materials & Services	4,839,643	4,630,784	4,769,391	4,912,055	5,058,997	5,210,344	5,366,228
Street Cleaning	560,560	504,904	516,021	527,417	539,098	551,074	563,351
Interfund Charges	470,530	470,006	484,106	498,629	513,588	528,996	544,866
Special Payments	17,519	79,303	80,493	81,700	82,925	84,169	85,432
Capital Outlay	375	135,375	139,436	143,619	147,928	152,366	156,937
Transfer Out	780,494	780,494	780,494	780,494	780,494	780,494	780,494
Total Solid Waste Operating Expenses	\$ 6,958,875	\$ 6,923,224	\$ 7,097,135	\$ 7,276,016	\$ 7,460,114	\$ 7,649,581	\$ 7,844,578
Annual Surplus/(Deficit) without rate increase	\$ (1,079,331)	\$ (804,336)	\$ (1,268,028)	\$ (1,468,046)	\$ (1,652,414)	\$ (1,841,881)	\$ (2,030,454)
Net Revenue Req't.	\$ 6,114,438	\$ 6,070,673	\$ 6,534,365	\$ 6,734,383	\$ 6,918,751	\$ 7,108,218	\$ 7,296,791
Total Rate Revenue After Rate Increases	\$ 5,035,107	\$ 5,266,337	\$ 5,397,995	\$ 6,372,268	\$ 7,009,495	\$ 7,710,444	\$ 8,018,862
Annual Surplus/(Deficit) with rate increases	\$ (1,079,331)	\$ (804,336)	\$ (1,136,370)	\$ (362,115)	\$ 90,744	\$ 602,226	\$ 722,070
Rate Increase*	0.0%	0.0%	10.0%	10.0%	10.0%	10.0%	4.0%
Additional Revenue from Rate Increases	\$0	\$0	\$131,658	\$1,105,931	\$1,743,158	\$2,444,107	\$2,752,525
Cumulative Rate Increases	0.0%	0.0%	10.0%	21.0%	33.1%	46.4%	52.3%

*Note: Percent increase is calculated off the net revenue requirement. Customer rates do not directly reflect this percent increase due to cost-of-service adjustments.

TABLE 2: RESERVE FUND SUMMARY

SUMMARY OF RESERVE FUND ACTIVITY	Projection	Budget	Projected			
	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Total Beginning Cash ¹	\$ 3,034,560					
Solid Waste O&M Reserve Fund						
Beginning Reserve Balance	\$ 3,034,560	\$ 1,955,229	\$ 1,150,893	\$ 14,523	\$ (347,592)	\$ (256,849)
Plus: Net Cash Flow (After Rate Increases)	(1,079,331)	(804,336)	(1,136,370)	(362,115)	90,744	602,226
Ending O&M Reserve Balance	\$ 1,955,229	\$ 1,150,893	\$ 14,523	\$ (347,592)	\$ (256,849)	\$ 345,377
Total Ending Balance w/o Rate Increases	\$ 1,955,229	\$ 1,150,893	\$ (117,135)	\$ (1,585,182)	\$ (3,237,595)	\$ (5,079,477)
Minimum Ending Balance (30% O&M) ²	\$ 1,740,000	\$ 1,730,000	\$ 1,770,000	\$ 1,820,000	\$ 1,870,000	\$ 1,910,000
Ending vs. Target - Annual Surplus/(Deficit)	\$ 215,229	\$ (579,107)	\$ (1,755,477)	\$ (2,167,592)	\$ (2,126,849)	\$ (1,564,623)
Annual Interest Earnings Rate ³	0.00%	1.86%	1.86%	1.86%	1.86%	1.86%

1. Beginning cash balance for the Solid Waste Fund is found in CAFR. Source File: FY-2018-2019-Comprehensive-Annual-Financial-Report.pdf, Page 42.

2. NBS recommends Solid Waste Fund will maintain a minimum of 90 days operating budget in reserves.

3. District's actual or budgeted interest earnings are used in analysis for unrestricted reserves in FY 2020/21. For 2021/22 and beyond, interest earning rates are estimated at the 3-year average (FY '17/18 - '19/20) for funds invested in LAIF, per the California Treasurer's Office website, for the restricted reserves. Source: <https://www.treasurer.ca.gov/pmia-laif/historical/annual.asp>.

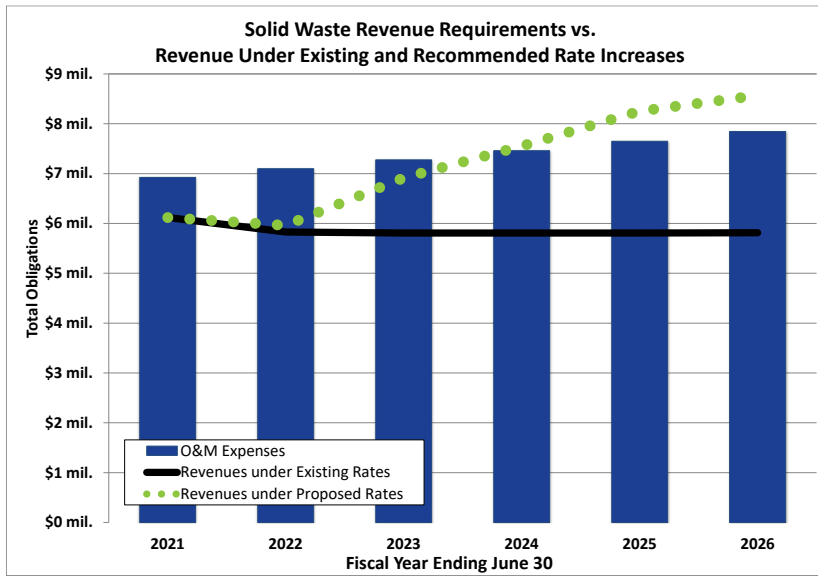


TABLE 3: SOLID WASTE UTILITY REVENUE	Proj. Year-End	Budget	Prop 218 Rate Period				
SOURCES OF REVENUE	2020	2020	2021	2022	2023	2024	2025
UTILITY BILLING/GARBAGE							
Refunds							
Refunds & Reimbursements	\$ -	\$ 421	\$ 421	\$ 421	\$ 421	\$ 421	\$ 421
Subtotal	\$ -	\$ 421	\$ 421	\$ 421	\$ 421	\$ 421	\$ 421
SOLID WASTE DISPOSAL							
Fines & Forfeiture							
Late Payment/Other Penalty	\$ 70,722	\$ 106,764	\$ 106,764	\$ 106,764	\$ 106,764	\$ 106,764	\$ 106,764
Subtotal	\$ 70,722	\$ 106,764	\$ 106,764	\$ 106,764	\$ 106,764	\$ 106,764	\$ 106,764
Charges for Services							
Disposal Collection Fees	\$ 5,035,107	\$ 5,266,337	\$ 5,266,337	\$ 5,266,337	\$ 5,266,337	\$ 5,266,337	\$ 5,266,337
Admin Fees	65,281	16,545	16,545	16,545	16,545	16,545	16,545
Subtotal	\$ 5,100,388	\$ 5,282,882	\$ 5,282,882	\$ 5,282,882	\$ 5,282,882	\$ 5,282,882	\$ 5,282,882
Interest							
Interest Income ²	\$ 24,425	\$ 17,446	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	\$ 24,425	\$ 17,446	\$ -	\$ -	\$ -	\$ -	\$ -
Gains & Proceeds							
Sale of Real & Personal Property	\$ 2,747	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	\$ 2,747	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Refunds							
Refunds & Reimbursements	\$ 63	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Collection Recovery	1,257	1,613	1,613	1,613	1,613	1,613	1,613
Subtotal	\$ 1,320	\$ 1,613	\$ 1,613	\$ 1,613	\$ 1,613	\$ 1,613	\$ 1,613
Transfers In							
Transfers In	\$ 67,311	\$ 67,311	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	\$ 67,311	\$ 67,311	\$ -	\$ -	\$ -	\$ -	\$ -
SOLID WASTE RECYCLING							
Transfers In							
Transfers In	\$ -	\$ 67,311	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	\$ -	\$ 67,311	\$ -	\$ -	\$ -	\$ -	\$ -
STREET CLEANING							
Fines & Forfeiture							
Late Payment/Other Penalty	\$ 8,475	\$ 9,054	\$ 9,054	\$ 9,054	\$ 9,054	\$ 9,054	\$ 9,054
Subtotal	\$ 8,475	\$ 9,054	\$ 9,054	\$ 9,054	\$ 9,054	\$ 9,054	\$ 9,054
Charges for Services							
Street Sweeping Fees	\$ 444,880	\$ 406,637	\$ 406,637	\$ 406,637	\$ 406,637	\$ 406,637	\$ 406,637
Subtotal	\$ 444,880	\$ 406,637	\$ 406,637	\$ 406,637	\$ 406,637	\$ 406,637	\$ 406,637
Gains & Proceeds							
Sale of Real & Personal Property	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Refunds							
Collection Recovery	\$ 156	\$ 329	\$ 329	\$ 329	\$ 329	\$ 329	\$ 329
Subtotal	\$ 156	\$ 329	\$ 329	\$ 329	\$ 329	\$ 329	\$ 329
Transfers In							
Transfers In	\$ 50,000	\$ 50,000	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	\$ 50,000	\$ 50,000	\$ -	\$ -	\$ -	\$ -	\$ -
Transfers In							
Transfers In	\$ 109,120	\$ 109,120	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	\$ 109,120	\$ 109,120	\$ -	\$ -	\$ -	\$ -	\$ -
Total SOURCES OF REVENUE	\$ 5,879,544	\$ 6,118,888	\$ 5,807,700	\$ 5,807,700	\$ 5,807,700	\$ 5,807,700	\$ 5,807,700

TABLE 5: SOLID WASTE UTILITY EXPENSE FORECAST¹

DESCRIPTION	2020	2021	2022	2023	2024	2025	2026
UTILITY BILLING/GARBAGE							
Salaries & Benefits							
Salaries/Full-Time	\$ 115,354	\$ 142,387	\$ 144,523	\$ 146,691	\$ 148,891	\$ 151,124	\$ 153,391
Salaries/Part-Time	10,370	-	-	-	-	-	-
Salaries/Overtime	199	-	-	-	-	-	-
Salaries - Leave Payout	545	-	-	-	-	-	-
Salaries - Auto & Expense Allo.	45	68	69	70	71	72	73
Public Employees Retirement	14,439	16,404	16,650	16,900	17,153	17,411	17,672
Long Term Disability Insurance	397	484	491	499	506	514	521
Life Insurance Premiums	155	181	184	186	189	192	195
Workers Compensation Insurance	12,732	12,488	12,675	12,865	13,058	13,254	13,453
Medicare Tax - Employer's Share	1,877	2,054	2,085	2,116	2,148	2,180	2,213
Unfunded Accrued Liability	22,536	25,629	26,013	26,404	26,800	27,202	27,610
Deferred Comp/Part-Time	395	-	-	-	-	-	-
Deferred Comp/Full-Time	4,545	4,988	5,063	5,139	5,216	5,294	5,373
Unemployment Insurance	719	536	544	552	560	569	577
Section 125 Benefit Allowance	45,688	40,627	41,236	41,855	42,483	43,120	43,767
Subtotal	\$ 229,996	\$ 245,846	\$ 249,534	\$ 253,277	\$ 257,076	\$ 260,932	\$ 264,846
Materials & Services							
Telephone & Fax Charges	\$ 4,000	\$ 4,000	\$ 4,120	\$ 4,244	\$ 4,371	\$ 4,502	\$ 4,637
Advertising/Bids & Notices	375	250	258	265	273	281	290
Advertising/Other	-	606	624	643	662	682	703
Office Supplies/Expendable	3,000	2,500	2,575	2,652	2,732	2,814	2,898
Postage/Other Mailing Charge	22,500	20,000	20,600	21,218	21,855	22,510	23,185
Vehicle Fuel, Supplies & Maintenance	813	750	758	765	773	780	788
Contracted Services	29,000	15,000	15,450	15,914	16,391	16,883	17,389
Bank Service Charges	175,000	15,000	15,450	15,914	16,391	16,883	17,389
Conference/Training/Education	1,500	1,500	1,545	1,591	1,639	1,688	1,739
Subtotal	\$ 236,188	\$ 59,606	\$ 61,379	\$ 63,205	\$ 65,086	\$ 67,023	\$ 69,018
Interfund Charges							
Central Su.	\$ 2	\$ 2	\$ 2	\$ 2	\$ 2	\$ 2	\$ 2
Admin. Ove.	19,977	19,977	20,576	21,194	21,829	22,484	23,159
Vehicle Replacement	-	-	-	-	-	-	-
Vehicle Maintenance	-	-	-	-	-	-	-
Computer Maintenance	16,606	16,606	17,104	17,617	18,146	18,690	19,251
Computer R.	3,743	3,743	3,855	3,971	4,090	4,213	4,339
Software	-	-	-	-	-	-	-
Motor Renta.	1,485	1,485	1,530	1,575	1,623	1,671	1,722
Subtotal	\$ 41,813	\$ 41,813	\$ 43,067	\$ 44,359	\$ 45,690	\$ 47,061	\$ 48,473
Special Payments							
OPEB Obligation Expense	\$ 825	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Pension Expense-GASB 68	-	38,606	39,185	39,773	40,369	40,975	41,590
Subtotal	\$ 825	\$ 38,606	\$ 39,185	\$ 39,773	\$ 40,369	\$ 40,975	\$ 41,590
Capital Outlay							
Vehicles & Equipment	\$ 375	\$ 375	\$ 386	\$ 398	\$ 410	\$ 422	\$ 435
Subtotal	\$ 375	\$ 375	\$ 386	\$ 398	\$ 410	\$ 422	\$ 435
Transfer Out							
Transfer Out - Insurance Reserve	\$ 4,695	\$ 4,695	\$ 4,695	\$ 4,695	\$ 4,695	\$ 4,695	\$ 4,695
Subtotal	\$ 4,695	\$ 4,695	\$ 4,695	\$ 4,695	\$ 4,695	\$ 4,695	\$ 4,695
Sub-Total: Utility Billing/Garbage	\$ 513,892	\$ 390,941	\$ 398,247	\$ 405,707	\$ 413,327	\$ 421,108	\$ 429,057

TABLE 6: SOLID WASTE UTILITY EXPENSE FORECAST, continued ¹

DESCRIPTION	2020	2021	2022	2023	2024	2025	2026
SOLID WASTE DISPOSAL							
Salaries & Benefits							
Salaries/Full-Time	\$ 30,376	\$ 48,117	\$ 48,839	\$ 49,571	\$ 50,315	\$ 51,070	\$ 51,836
Salaries/Part-Time	5,963	-	-	-	-	-	-
Salaries/Overtime	3	-	-	-	-	-	-
Salaries - Leave Payout	-	-	-	-	-	-	-
Salaries/Uniform Pay	-	-	-	-	-	-	-
Salaries - Auto & Expense Allo.	-	-	-	-	-	-	-
Public Employees Retirement	3,887	5,948	6,037	6,128	6,220	6,313	6,408
Long Term Disability Insurance	99	143	145	147	150	152	154
Life Insurance Premiums	39	52	53	54	54	55	56
Workers Compensation Insurance	3,676	4,576	4,645	4,714	4,785	4,857	4,930
Medicare Tax - Employer's Share	539	710	721	731	742	754	765
Unfunded Accrued Liability	6,093	6,926	7,030	7,135	7,242	7,351	7,461
Deferred Comp/Part-Time	224	-	-	-	-	-	-
Deferred Comp/Full-Time	911	1,052	1,068	1,084	1,100	1,117	1,133
Unemployment Insurance	191	136	138	140	142	144	147
Section 125 Benefit Allowance	7,315	8,793	8,925	9,059	9,195	9,333	9,473
Subtotal	\$ 59,316	\$ 76,453	\$ 77,600	\$ 78,764	\$ 79,945	\$ 81,144	\$ 82,362
Materials & Services							
Gas & Electric Utilities	\$ 11,500	\$ 12,000	\$ 12,060	\$ 12,120	\$ 12,181	\$ 12,242	\$ 12,303
Telephone & Fax Charges	1,818	1,500	1,545	1,591	1,639	1,688	1,739
Advertising/Other	12,000	12,500	12,875	13,261	13,659	14,069	14,491
Office Supplies/Expendable	350	450	464	477	492	506	522
Postage/Other Mailing Charge	200	50	52	53	55	56	58
Vehicle Fuel, Supplies & Maintenance	-	5,000	5,050	5,101	5,152	5,203	5,255
Contracted Services	4,545,950	4,500,000	4,635,000	4,774,050	4,917,272	5,064,790	5,216,733
Bank Service Charges	3	5	5	5	5	6	6
Maintenance/Other Supplies	-	150	155	159	164	169	174
Subtotal	\$ 4,571,821	\$ 4,531,655	\$ 4,667,205	\$ 4,806,818	\$ 4,950,618	\$ 5,098,729	\$ 5,251,281
Interfund Charges							
Facility Maintenance	\$ 24,144	\$ 23,620	\$ 24,329	\$ 25,058	\$ 25,810	\$ 26,585	\$ 27,382
Central Su.	15	15	15	16	16	17	17
Cost Distribution	9,517	9,517	9,803	10,097	10,399	10,711	11,033
Admin. Ove.	243,939	243,939	251,257	258,795	266,559	274,555	282,792
Vehicle Replacement	10,717	10,717	11,039	11,370	11,711	12,062	12,424
Vehicle Maintenance	12,200	12,200	12,566	12,943	13,331	13,731	14,143
Route/Roll-Off	108,150	108,150	111,395	114,736	118,178	121,724	125,375
Computer Maintenance	16,150	16,150	16,635	17,134	17,648	18,177	18,722
Computer R.	3,623	3,623	3,732	3,844	3,959	4,078	4,200
Software	262	262	270	278	286	295	304
Subtotal	\$ 428,717	\$ 428,193	\$ 441,039	\$ 454,270	\$ 467,898	\$ 481,935	\$ 496,393
Special Payments							
Liability/Property Insurance	\$ 16,694	\$ 18,596	\$ 18,875	\$ 19,158	\$ 19,445	\$ 19,737	\$ 20,033
Pension Expense-GASB 68	-	18,056	18,327	18,602	18,881	19,164	19,451
Subtotal	\$ 16,694	\$ 36,652	\$ 37,202	\$ 37,760	\$ 38,326	\$ 38,901	\$ 39,485
Capital Outlay							
Vehicles & Equipment	\$ -	\$ 135,000	\$ 139,050	\$ 143,222	\$ 147,518	\$ 151,944	\$ 156,502
Subtotal	\$ -	\$ 135,000	\$ 139,050	\$ 143,222	\$ 147,518	\$ 151,944	\$ 156,502
Transfer Out							
Transfer Out	\$ 770,288	\$ 770,288	\$ 770,288	\$ 770,288	\$ 770,288	\$ 770,288	\$ 770,288
Transfer Out-Insurance Reserve	4,373	4,373	4,373	4,373	4,373	4,373	4,373
Subtotal	\$ 774,661	\$ 774,661	\$ 774,661	\$ 774,661	\$ 774,661	\$ 774,661	\$ 774,661
Sub-Total: Solid Waste Disposal	\$ 5,851,209	\$ 5,982,614	\$ 6,136,756	\$ 6,295,494	\$ 6,458,966	\$ 6,627,314	\$ 6,800,683
Depreciation (Non-cash item left out of analysis) ⁴							
Depreciation/Replacement	\$ 5,458	\$ 5,458	\$ 5,622	\$ 5,790	\$ 5,964	\$ 6,143	\$ 6,327
Subtotal	\$ 5,458	\$ 5,458	\$ 5,622	\$ 5,790	\$ 5,964	\$ 6,143	\$ 6,327

TABLE 7 : SOLID WASTE UTILITY EXPENSE FORECAST, continued ¹

DESCRIPTION	2020	2021	2022	2023	2024	2025	2026
SOLID WASTE RECYCLING							
Salaries & Benefits							
Public Employees Retirement	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Materials & Services							
Telephone & Fax Charges	\$ -	\$ (58)	\$ -	\$ -	\$ -	\$ -	\$ -
Advertising/Other	-	-	-	-	-	-	-
Office Supplies/Expendable	-	-	-	-	-	-	-
Postage/Other Mailing Charge	-	-	-	-	-	-	-
Contracted Services	51	(38)	-	-	-	-	-
Conference/Training/Education	-	-	-	-	-	-	-
Maintenance/Other Supplies	-	-	-	-	-	-	-
Subtotal	\$ 51	\$ (96)	\$ -	\$ -	\$ -	\$ -	\$ -
Interfund Charges							
Cost Distribution	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Admin. Ove.	-	-	-	-	-	-	-
Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Special Payments							
Liability/Property Insurance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Subtotal	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Sub-Total: Solid Waste Recycling	\$ 51	\$ (96)	\$ -	\$ -	\$ -	\$ -	\$ -

TABLE 8 : SOLID WASTE UTILITY EXPENSE FORECAST, continued ¹

DESCRIPTION	2020	2021	2022	2023	2024	2025	2026
STREET CLEANING							
Salaries & Benefits							
Salaries/Full-Time	\$ 174,702	\$ 20,502	\$ 20,810	\$ 21,122	\$ 21,438	\$ 21,760	\$ 22,086
Salaries/Part-Time	10,883	-	-	-	-	-	-
Salaries/Overtime	14,952	11,250	11,419	11,590	11,764	11,940	12,119
Salaries - Leave Payout	6,571	-	-	-	-	-	-
Salaries/Uniform Pay	800	588	597	606	615	624	633
Salaries - Auto & Expense Allo.	-	-	-	-	-	-	-
Public Employees Retirement	19,262	25,181	25,559	25,942	26,331	26,726	27,127
Long Term Disability Insurance	459	566	574	583	592	601	610
Life Insurance Premiums	206	251	255	259	262	266	270
Workers Compensation Insurance	16,017	17,627	17,891	18,160	18,432	18,709	18,989
Medicare Tax - Employer's Share	2,428	2,820	2,862	2,905	2,949	2,993	3,038
Unfunded Accrued Liability	33,060	37,611	38,175	38,748	39,329	39,919	40,518
Deferred Comp/Part-Time	409	-	-	-	-	-	-
Deferred Comp/Full-Time	5,227	6,441	6,538	6,636	6,735	6,836	6,939
Unemployment Insurance	632	695	705	716	727	738	749
Section 125 Benefit Allowance	33,783	40,430	41,036	41,652	42,277	42,911	43,555
Subtotal	\$ 319,391	\$ 163,962	\$ 166,421	\$ 168,918	\$ 171,452	\$ 174,023	\$ 176,634
Materials & Services							
Telephone & Fax Charges	\$ 39	\$ 40	\$ 41	\$ 42	\$ 44	\$ 45	\$ 46
Vehicle Fuel, Supplies & Maintenance	29,297	30,000	30,300	30,603	30,909	31,218	31,530
Contracted Services	-	49,180	50,655	52,175	53,740	55,353	57,013
Maintenance/Other Supplies	15,000	15,000	15,450	15,914	16,391	16,883	17,389
Subtotal	\$ 44,336	\$ 94,220	\$ 96,447	\$ 98,734	\$ 101,084	\$ 103,498	\$ 105,979
Interfund Charges							
Central Su.	\$ 380	\$ 380	\$ 391	\$ 403	\$ 415	\$ 428	\$ 441
Admin. Ove.	20,623	20,623	21,242	21,879	22,535	23,211	23,908
Vehicle Replacement	91,404	91,404	94,146	96,971	99,880	102,876	105,962
Vehicle Maintenance	74,705	74,705	76,946	79,255	81,632	84,081	86,604
Subtotal	\$ 187,112	\$ 187,112	\$ 192,725	\$ 198,507	\$ 204,462	\$ 210,596	\$ 216,914
Special Payments							
Liability/Property Insurance	\$ 4,637	\$ 5,166	\$ 5,243	\$ 5,322	\$ 5,402	\$ 5,483	\$ 5,565
Pension Expense-GASB 68	-	49,360	50,100	50,852	51,615	52,389	53,175
Subtotal	\$ 4,637	\$ 54,526	\$ 55,344	\$ 56,174	\$ 57,017	\$ 57,872	\$ 58,740
Transfer Out							
Transfer Out-Insurance Reserve	\$ 5,084	\$ 5,084	\$ 5,084	\$ 5,084	\$ 5,084	\$ 5,084	\$ 5,084
Subtotal	\$ 5,084	\$ 5,084	\$ 5,084	\$ 5,084	\$ 5,084	\$ 5,084	\$ 5,084
Sub-Total: Street Cleaning	\$ 560,560	\$ 504,904	\$ 516,021	\$ 527,417	\$ 539,098	\$ 551,074	\$ 563,351

TABLE 9 : SOLID WASTE UTILITY EXPENSE FORECAST, continued ¹

DESCRIPTION	2020	2021	2022	2023	2024	2025	2026
BEVERAGE CONTAINER RECYCLING							
Materials & Services							
Advertising/Other	\$ 16,583	\$ 16,039	\$ 16,520	\$ 17,016	\$ 17,526	\$ 18,052	\$ 18,594
Conference/Training/Education	-	600	618	637	656	675	696
Subtotal	\$ 16,583	\$ 16,639	\$ 17,138	\$ 17,652	\$ 18,182	\$ 18,727	\$ 19,289
Sub-Total: Beverage Container Recycling	\$ 16,583	\$ 16,639	\$ 17,138	\$ 17,652	\$ 18,182	\$ 18,727	\$ 19,289

TABLE 10 : SOLID WASTE UTILITY EXPENSE FORECAST, continued ¹

DESCRIPTION	2020	2021	2022	2023	2024	2025	2026
USED OIL RECYCLING							
Materials & Services							
Advertising/Other	\$ -	\$ 9,900	\$ 10,197	\$ 10,503	\$ 10,818	\$ 11,143	\$ 11,477
Subtotal	\$ -	\$ 9,900	\$ 10,197	\$ 10,503	\$ 10,818	\$ 11,143	\$ 11,477
Sub-Total: Used Oil Recycling	\$ -	\$ 9,900	\$ 10,197	\$ 10,503	\$ 10,818	\$ 11,143	\$ 11,477

TABLE 11 : SOLID WASTE UTILITY EXPENSE FORECAST, continued ¹

DESCRIPTION	2020	2021	2022	2023	2024	2025	2026
TIRE CLEAN UP							
Salaries & Benefits							
Salaries/Full-Time	\$ 345	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Salaries/Overtime	-	-	-	-	-	-	-
Salaries - Leave Payout	-	-	-	-	-	-	-
Salaries/Uniform Pay	-	-	-	-	-	-	-
Public Employees Retirement	33	-	-	-	-	-	-
Long Term Disability Insurance	-	-	-	-	-	-	-
Life Insurance Premiums	-	-	-	-	-	-	-
Workers Compensation Insurance	35	-	-	-	-	-	-
Medicare Tax - Employer's Share	5	-	-	-	-	-	-
Unfunded Accrued Liability	-	59	60	61	62	63	64
Deferred Comp/Full-Time	14	-	-	-	-	-	-
Unemployment Insurance	10	-	-	-	-	-	-
Section 125 Benefit Allowance	-	-	-	-	-	-	-
Subtotal	\$ 442	\$ 59	\$ 60	\$ 61	\$ 62	\$ 63	\$ 64
Materials & Services							
Contracted Services	\$ 15,000	\$ 13,080	\$ 13,472	\$ 13,877	\$ 14,293	\$ 14,722	\$ 15,163
Maintenance/Other Supplies	-	-	-	-	-	-	-
Subtotal	\$ 15,000	\$ 13,080	\$ 13,472	\$ 13,877	\$ 14,293	\$ 14,722	\$ 15,163
Special Payments							
Pension Expense-GASB 68	\$ -	\$ 4,045	\$ 4,106	\$ 4,167	\$ 4,230	\$ 4,293	\$ 4,358
Subtotal	\$ -	\$ 4,045	\$ 4,106	\$ 4,167	\$ 4,230	\$ 4,293	\$ 4,358
Transfer Out							
Transfer Out-Insurance Reserve	\$ 1,138	\$ 1,138	\$ 1,138	\$ 1,138	\$ 1,138	\$ 1,138	\$ 1,138
Subtotal	\$ 1,138	\$ 1,138	\$ 1,138	\$ 1,138	\$ 1,138	\$ 1,138	\$ 1,138
Sub-Total: Tire Clean Up	\$ 16,580	\$ 18,322	\$ 18,776	\$ 19,243	\$ 19,722	\$ 20,215	\$ 20,722
Total Expenses	\$ 6,958,875	\$ 6,923,224	\$ 7,097,135	\$ 7,276,016	\$ 7,460,114	\$ 7,649,581	\$ 7,844,578

TABLE 12 : FORECASTING ASSUMPTIONS

INFLATION FACTORS ³	2020	2021	2022	2023	2024	2025	2026
Customer Growth	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Salaries	-	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
Benefits	-	1.50%	1.50%	1.50%	1.50%	1.50%	1.50%
General Inflation	-	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Fuel	-	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
Electricity	-	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
No Escalation	-	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

1. Revenue and expenses for FY 2019/20 through FY 2020/21 are from source file: *Enterprise Funds Budget 2020-21.pdf*, pages 43-53.

2. Interest income is calculated in the Financial Plan and excluded from this table.

3. Inflation values follow 5-year average (2016-2020) from US Bureau of Labor Statistics (BLS).

Website: <https://data.bls.gov/cgi-bin/surveymost?en+06>

4. Depreciation expense is not considered in this projection since it is not a cash expense.

TABLE 13 : SOURCES AND USES OF CAPITAL FUNDS

CAPITAL FUNDING FORECAST	Budget		Projected				
	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26
Funding Sources:							
Grants ¹	\$ 86,142	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
State Revolving Fund Loan	-	-	-	-	-	-	-
Revenue Bond	-	-	-	-	-	-	-
Use of Rate Revenue	-	-	-	-	-	-	-
Grand Total: Capital Funding Sources	\$ 86,142	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Uses of Capital Funds:							
Effective Annual Funding of Capital Expenditures	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Capital Funding Surplus (Deficiency)	\$ (86,142)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

1. Grant Funding is per source file: *Enterprise Funds Budget 2020-21.pdf*, pages 51-53.

Customer Data - Tonnage, Account Count and Amount Billed						
Count of December 2020 Number of Accounts						
Sum of Account Count		MVD Rate Sheet		Current City Rates		2020 Billing Amount
2020 December		Rate	Monthly Revenue	Rate	Monthly Revenue	
Solid Waste Disposal						
SINGLE FAMILY REFUSE 3 CANS	12,371	\$15.35	\$189,895	\$23.22	\$287,255	\$ 290,784
SINGLE FAMILY W/O GREEN	52				\$972	\$ 972
RESIDENTIAL CARRYOUT	1				\$53	\$ 53
ADDITIONAL REFUSE PICK UP - RESIDENTIAL						
MULTI FAMILY FIRST TWO UNITS	334	\$15.35	\$5,127	\$23.22	\$7,755	\$ 17,612
MULTI FAMILY MORE THAN 2 UNITS	3				\$2,846	\$ 2,846
ADDITIONAL BLUE CAN	10				\$76	\$ 76
ADDITIONAL GRAY CAN	10				\$927	\$ 927
ADDITIONAL GREEN CAN	9				\$154	\$ 154
COMMERCIAL CARRYOUT	3	\$29.57	\$89	\$40.85	\$123	\$ 173
COMMERCIAL CARRYOUT ADDITIONAL	-					
COMMERCIAL GRAY ONLY	2					
COMMERCIAL REFUSE	135	\$17.72	\$2,392	\$29.46	\$3,977	\$ 4,728
COMMERCIAL REFUSE 1/2	2				\$44	\$ 44
COMMERCIAL REFUSE ADDL	3				\$245	\$ 245
ORGANIC WASTE 2 CUBIC YARD 3X WK	1	\$126.93	\$127	\$118.54	\$119	\$ 356
ORGANIC WASTE 2 CUBIC YARD BIN 1X WK	1	\$45.26	\$45	\$42.18	\$42	\$ 337
ORGANIC WASTE 2 CUBIC YD 2X WK	1	\$82.78	\$83	\$77.36	\$77	\$ 387
ORGANIC WASTE 3 CUBIC YD 5X WK	-					\$ -
ORGANIC WASTE 96 GAL 1X WK	1	\$11.03	\$11	\$10.28	\$10	\$ 21
ORGANIC WASTE 96 GAL 2X WK	-				\$51	\$ 51
RECYCLE 2YD 1X WK	1	\$34.75	\$35	\$31.22	\$31	\$ 4,574
RECYCLE 2YD 2X WK	-				\$1,344	\$ 1,344
RECYCLE 2YD 3X WK	-				\$323	\$ 323
RECYCLE 3YD 1X WK	-				\$3,267	\$ 3,267
RECYCLE 3YD 2X WK	-				\$2,327	\$ 2,327
RECYCLE 3YD 3X WK	1	\$139.77	\$140	\$109.38	\$109	\$ 984
RECYCLE 4YD 1X WK	1	\$53.35	\$53	\$47.92	\$48	\$ 2,013
RECYCLE 4YD 2X WK	-				\$1,430	\$ 1,430
RECYCLE 4YD 3X WK	-				\$262	\$ 262
RECYCLE 6YD 1X WK	-				\$323	\$ 323
RECYCLE 6YD 2X WK	-				\$945	\$ 945
RECYCLE 6YD 3X WK	1	\$204.69	\$205	\$171.54	\$172	\$ 1,715
REFUSE SVC 2YD 1X WK	180	\$55.08	\$9,914	\$52.11	\$9,380	\$ 13,002
REFUSE SVC 2YD 2X WK	18	\$103.05	\$1,855	\$102.40	\$1,843	\$ 2,765
REFUSE SVC 2YD 3X WK	4	\$152.20	\$609	\$151.25	\$605	\$ 756
REFUSE SVC 2YD 4X WK	-				\$203	\$ 203
REFUSE SVC 2YD 5X WK	-				\$253	\$ 253
REFUSE SVC 3YD 1X WK	97	\$67.53	\$6,550	\$65.84	\$6,386	\$ 8,820
REFUSE SVC 3YD 2X WK	56	\$127.94	\$7,165	\$130.34	\$7,299	\$ 15,945
REFUSE SVC 3YD 3X WK	18	\$188.35	\$3,390	\$194.44	\$3,500	\$ 8,420
REFUSE SVC 3YD 4X WK	3	\$248.75	\$746	\$258.72	\$776	\$ 1,035
REFUSE SVC 3YD 5X WK	1	\$337.58	\$338	\$323.14	\$323	\$ 969
REFUSE SVC 4YD 1X WK	35	\$77.29	\$2,705	\$79.73	\$2,791	\$ 4,545
REFUSE SVC 4YD 2X WK	27	\$149.25	\$4,030	\$157.87	\$4,262	\$ 11,682
REFUSE SVC 4YD 3X WK	10	\$304.72	\$3,047	\$272.25	\$2,723	\$ 8,440
REFUSE SVC 4YD 4X WK	4	\$433.54	\$1,734	\$333.10	\$1,332	\$ 1,332
REFUSE SVC 4YD 5X WK	2	\$480.92	\$962	\$392.17	\$784	\$ 3,137
					\$94	\$ 94
REFUSE SVC 5YD 3X WK	2	\$295.84	\$592	\$276.11	\$552	\$ 552
REFUSE SVC 6YD 1X WK	26	\$113.72	\$2,957	\$107.22	\$2,788	\$ 4,342
REFUSE SVC 6YD 2X WK	17	\$216.76	\$3,685	\$213.04	\$3,622	\$ 8,841
REFUSE SVC 6YD 3X WK	5	\$319.82	\$1,599	\$318.78	\$1,594	\$ 3,188
					\$424	\$ 424
REFUSE SVC 6YD 5X WK	1	\$525.03	\$525	\$529.93	\$530	\$ 2,650
REFUSE SVC 3YD 3X WK COMP	-				\$389	\$ 389
REFUSE SVC 4YD 1XWK COMPACTOR	-				\$255	\$ 255
TRASH CANS ALL 3	-				\$945	\$ 945
TRASH CANS EACH	-				\$1,715	\$ 1,715
Grand Total	13,449					
REFUSE LOCKING SERVICE	124				\$1,860	\$ 1,860
Source file: 2020 DEC MUNIS Billing_Manipulated.xlsx, Solid Waste tab.						
Total Monthly Revenue			\$250,604			\$ 443,175
Total Annual Revenue			\$3,007,249			\$ 5,318,102

2020 Billing Amount					
Sum of bd_original_amount		MONTH			
		1			
Solid Waste Disposal					
SINGLE FAMILY REFUSE 3 CANS	\$	290,784			
SINGLE FAMILY W/O GREEN	\$	972			
RESIDENTIAL CARRYOUT	\$	53			
ADDITIONAL REFUSE PICK UP - RESIDENTIAL					
ADDITIONAL BLUE CAN	\$	76			
ADDITIONAL GRAY CAN	\$	927			
ADDITIONAL GREEN CAN	\$	154			
MULTI FAMILY FIRST TWO UNITS	\$	17,612			
MULTI FAMILY MORE THAN 2 UNITS	\$	2,846			
COMMERCIAL CARRYOUT	\$	173			
COMMERCIAL CARRYOUT ADDITIONAL					
COMMERCIAL GRAY ONLY					
COMMERCIAL REFUSE	\$	4,728			
COMMERCIAL REFUSE 1/2	\$	44			
COMMERCIAL REFUSE ADDL	\$	245			
REFUSE SVC 2YD 1X WK	\$	13,002			
REFUSE SVC 2YD 2X WK	\$	2,765			
REFUSE SVC 2YD 3X WK	\$	756			
REFUSE SVC 2YD 4X WK	\$	203			
REFUSE SVC 2YD 5X WK	\$	253			
REFUSE SVC 3YD 1X WK	\$	8,820			
REFUSE SVC 3YD 2X WK	\$	15,945			
REFUSE SVC 3YD 3X WK	\$	8,420			
REFUSE SVC 3YD 4X WK	\$	1,035			
REFUSE SVC 3YD 5X WK	\$	969			
REFUSE SVC 4YD 1X WK	\$	4,545			
REFUSE SVC 4YD 2X WK	\$	11,682			
REFUSE SVC 4YD 3X WK	\$	8,440			
REFUSE SVC 4YD 4X WK	\$	1,332			
REFUSE SVC 4YD 5X WK	\$	3,137			
REFUSE SVC 5YD 1X WK	\$	94			
REFUSE SVC 5YD 3X WK	\$	552			
REFUSE SVC 6YD 1X WK	\$	4,342			
REFUSE SVC 6YD 2X WK	\$	8,841			
REFUSE SVC 6YD 3X WK	\$	3,188			
REFUSE SVC 6YD 4X WK	\$	424			
REFUSE SVC 6YD 5X WK	\$	2,650			
REFUSE SVC 3YD 3X WK COMP	\$	389			
REFUSE SVC 4YD 1XWK COMPACTOR	\$	255			
ORGANIC WASTE 2 CUBIC YARD 3X WK	\$	356			
ORGANIC WASTE 2 CUBIC YARD BIN 1X WK	\$	337			
ORGANIC WASTE 2 CUBIC YD 2X WK	\$	387			
ORGANIC WASTE 3 CUBIC YD 5X WK					
ORGANIC WASTE 96 GAL 1X WK	\$	21			
ORGANIC WASTE 96 GAL 2X WK	\$	51			
RECYCLE 2YD 1X WK	\$	4,574			
RECYCLE 2YD 2X WK	\$	1,344			
RECYCLE 2YD 3X WK	\$	323			
RECYCLE 3YD 1X WK	\$	3,267			
RECYCLE 3YD 2X WK	\$	2,327			
RECYCLE 3YD 3X WK	\$	984			
RECYCLE 4YD 1X WK	\$	2,013			
RECYCLE 4YD 2X WK	\$	1,430			
RECYCLE 4YD 3X WK	\$	262			
RECYCLE 6YD 1X WK	\$	323			
RECYCLE 6YD 2X WK	\$	945			
RECYCLE 6YD 3X WK	\$	1,715			
REFUSE LOCKING SERVICE	\$	1,860			
TRASH CANS ALL 3					
TRASH CANS EACH	\$	-			
Grand Total	\$	443,175			
Source file: MAIS Meter Usage 12 Months_Manipulated_02.06.21.xlsx, RevenuePivots 1-10 tab.					
Source file: 2020 SEP-NOV MUNIS Billing2_Manipulated.xlsx, Solid Waste tab.					
Source file: 2020 DEC MUNIS Billing_Manipulated.xlsx, Solid Waste tab.					

TABLE 27 : Summary of FY'21/22 Solid Waste Costs

Summary of FY'21/22 Solid Waste Costs		Notes:
Net Rev. Reqts. (from Financial Plan)	\$5,792,971	<i>From Fin. Plan (Figure 1) - Includes proposed rate increase¹ Separately allocated to Single- and Multi-Family Resid.² Offsets current Street Sweeping fees being collected³</i>
less Admin Fees (already included in the above)	(\$400,583)	
Street Sweeping Costs	\$406,637	
Net Rev. Reqts. - Including Street Sweeping	\$5,799,025	<i>Allocated 66% to Residential, 34% Commercial</i>
SB 1383 Surcharge (35%)	\$2,029,659	<i>35% of Net Rev. Reqts.</i>
Net Rev. Reqts. - Incl. Street Sweeping & Surcharge	\$7,828,683	<i>Excludes Admin Fees separately applied to Residential</i>

1. Assume adoption April 1, 2022 means only 25% of the rate increase is collected in FY'21/22.
2. Calculated as \$2.33/account times residential containers to which this fee applies. This is applied separately to these customers.
3. Street Sweeping fees from the Financial Plan. There are other street sweeping costs already included in Net Revenue Requirements.

TABLE 28 : Proposed Rate Revenue - FY 2021/22

Proposed Rate Revenue - FY 2021/22			INCLUDING STREET SWEEPING & 35% SURCHARGE		
Customer Class	Rate Revenue ¹	% of Total ²	35% Surcharge	Total Revenue	% of Total
Single Family Residential	\$3,692,620	63.7%	\$1,292,417	\$4,985,038	63.7%
Multi-Family Residential	\$134,736	2.3%	\$47,157	\$181,893	2.3%
Total Residential	\$3,827,356	66.0%	\$1,339,575	\$5,166,931	66.0%
Commercial 96-Gal. Service	\$68,453	1.2%	\$23,959	\$92,412	1.2%
Commercial Bin Service	\$1,519,344	26.2%	\$531,770	\$2,051,114	26.2%
Commercial Recycling	\$352,275	6.1%	\$123,296	\$475,572	6.1%
Commercial Compactor	\$2,262	0.0%	\$792	\$3,053	0.0%
Commercial Organics	\$29,334	0.5%	\$10,267	\$39,601	0.5%
Total Commercial	\$1,971,668	34.0%	\$690,084	\$2,661,752	34.0%
Total Revenue - FY 2021/22	\$5,799,024	100.0%	\$2,029,658	\$7,828,682	100.0%

1. Total Revenue based on Proposed Rates and number of accounts as of January 2021, including rate increases and Street Sweeping costs.
2. Overall allocation of residential vs. commercial revenue requirements is about 66%/34% per Mid Valley Disposal.
3. Admin Service Fees of \$2.33/residential account will be separately added to residential customers rates.

TABLE 29 :

Allocation Factors Used in Calculating Commercial Rates						
A. Allocation of Collection/Disposal Costs:				B. % Incr. in COLLECTION Costs (vs. 2 CY):		
Collection	80.0%	Mid-Valley	Bin Size	Comm. FL Bins	Mo. Container	
Disposal	20.0%	Estimates	96 gal.	47.5%	NA	
C. Base Commercial Bin Service Rates (\$/Mo.)				2.0 CY	100.0%	\$6.00
Base Collection Charge (2 CY @ 1X/Week)	\$	75.83	3.0 CY	100.0%	\$9.00	
Base Disposal Charge (2 CY @ 1X/Week)	\$	15.17	4.0 CY	100.0%	\$12.00	
Base Charge (2 CY @ 1X/Week)	\$	91.00	5.0 CY	100.0%	\$15.00	
Base Recycl. Disp Charge (2 CY @ 1X/Wk)	\$	-	6.0 CY	100.0%	\$18.00	
Base Organics. Disp Charge (2 CY @ 1X/Wk)	\$	-	Efficiency Adjmnt:	0%	100%	
D. MVD Compactor Density Factor:						300.0%
E. True-Up Factor (Equalizes Proposed Rates w/o Increases to Current Rates):						
Residential/MFR/Commercial 96-gal. Service Rate Revenue						48.524%
Commercial Bin Rate Revenue						130.283%
Commercial Non-Bin Rate Revenue						53.568%
AB 1383 Surcharge Target = 35%						100.000%
<i>Revenue Generated by Surcharge:</i>						\$2,029,659

TABLE 30 : Analysis of Current and Proposed Residential and Commercial Rates

Analysis of Current and Proposed Residential and Commercial Rates															
Customer Classes/Service Type	What Mid Valley is Paid	Current Rates		Calculations of Proposed Rates							No. Units	Rev. Est. W/O Surcharge		Rev. Est. WITH Surcharge	
		FY 2019/20	Mo. Revenue	Collection \$	Bin Replacement	Disposal \$	FY 2020/21 Unadjusted	FY 2020/21 Adjusted	AB 1383 Surcharge	New Rate w/ Surcharge		Mo. Revenue	Annual Rev.	Mo. Revenue	Annual Rev.
Single Family Residential															
Three Standard Containers	\$14.90	\$ 23.22	\$ 320,946.84	\$ 15.59	NA	\$ 14.41	\$ 30.00	\$ 21.98	\$ 7.69	\$ 29.67	13,822	\$303,769	\$3,645,224	\$410,088	\$4,921,053
1/2 Resid. (Grey & Blue only)	\$15.35	\$ 16.02	\$ 945.18	\$ 20.79	NA	\$ 7.21	\$ 28.00	\$ 17.30	\$ 6.05	\$ 23.35	59	\$1,021	\$12,246	\$1,378	\$16,532
Additional Grey Container	\$4.69	\$ 4.73	\$ 1,121.01	\$ 5.20	NA	\$ 7.21	\$ 12.40	\$ 9.73	\$ 3.40	\$ 13.13	237	\$2,306	\$27,667	\$3,113	\$37,350
Additional Green Container	\$2.32	\$ 2.17	\$ 154.07	\$ 5.20	NA	\$ 3.60	\$ 8.80	\$ 6.12	\$ 2.14	\$ 8.27	71	\$435	\$5,218	\$587	\$7,044
Additional Blue Container	\$2.19	\$ 2.17	\$ 56.42	\$ 5.20	NA	\$ 3.60	\$ 8.80	\$ 6.12	\$ 2.14	\$ 8.27	26	\$159	\$1,911	\$215	\$2,580
Residential Carry-Out Service															
Two Containers	\$26.01	\$ 55.32	\$ 55.32	\$ 31.17	NA	\$ 14.41	\$ 45.59	\$ 29.54	\$ 10.34	\$ 39.88	1	\$30	\$354	\$40	\$479
Each Additional Container	\$5.88	\$ 11.44	\$ -	\$ 10.39	NA	\$ 7.21	\$ 17.60	\$ 12.25	\$ 4.29	\$ 16.54	-	\$0	\$0	\$0	\$0
Total Resid. Service	\$208,187		\$323,279									\$307,718	\$3,692,620	\$415,420	\$4,985,038
Multi-Family Residential															
First Two Dwelling Units (each)	\$14.90	\$ 23.22	\$ 10,356.12	\$ 15.59	NA	\$ 14.41	\$ 30.00	\$ 21.98	\$ 7.69	\$ 29.67	446	\$9,802	\$117,622	\$13,232	\$158,790
Each Additional Dwelling Unit	\$14.90	\$ 22.59	\$ 1,603.89	\$ 11.69	NA	\$ 14.41	\$ 26.10	\$ 20.09	\$ 7.03	\$ 27.12	71	\$1,426	\$17,114	\$1,925	\$23,103
Total Multi-Family Service	\$22,672		\$11,960									\$11,228	\$134,736	\$15,158	\$181,893
Commercial															
Two Containers	17.53	\$ 29.46	\$ 5,214.42	\$ 31.17	NA	\$ 14.41	\$ 45.59	\$ 29.54	\$ 10.34	\$ 39.88	177	\$5,229	\$62,743	\$7,059	\$84,703
Additional Two Containers	34.23	\$ 40.85	\$ 81.70	\$ 23.38	NA	\$ 14.41	\$ 37.79	\$ 25.76	\$ 9.02	\$ 34.77	2	\$52	\$618	\$70	\$835
Commercial Carry-Out Service															
Two Containers	29.57	\$ 57.64	\$ 172.92	\$ 62.34	NA	\$ 14.41	\$ 76.76	\$ 44.67	\$ 15.63	\$ 60.30	3	\$134	\$1,608	\$181	\$2,171
Each Additional Container	17.20	\$ 17.70	\$ 106.20	\$ 31.17	NA	\$ 7.21	\$ 38.38	\$ 22.33	\$ 7.82	\$ 30.15	6	\$134	\$1,608	\$181	\$2,171
Two Containers (Grey Only)	16.54	\$ 29.46	\$ 88.38	\$ 62.34	NA	\$ 14.41	\$ 76.76	\$ 44.67	\$ 15.63	\$ 60.30	3	\$134	\$1,608	\$181	\$2,171
COMM C/O 96	5.57	\$ 5.41	\$ 5.41	\$ 31.17	NA	\$ 7.21	\$ 38.38	\$ 22.33	\$ 7.82	\$ 30.15	1	\$22	\$268	\$30	\$362
Total Comm. 96-Gal. Service	\$5,282		\$5,669									\$5,704	\$68,453	\$7,701	\$92,412
Bin Service (Solid Waste)															
2 Cubic Yard															
1x per week	\$55.08	\$ 52.11	\$ 14,017.59	\$ 75.83	Excluded	\$ 15.17	\$ 91.00	\$ 108.68	\$ 38.04	\$ 146.72	269	\$29,234	\$350,813	\$39,466	\$473,597
2x per week	\$103.05	\$ 102.40	\$ 3,072.00	\$ 98.58	-	\$ 30.33	\$ 128.92	\$ 148.20	\$ 51.87	\$ 200.07	30	\$4,446	\$53,351	\$6,002	\$72,024
3x per week	\$152.20	\$ 151.25	\$ 1,210.00	\$ 128.16	-	\$ 45.50	\$ 173.66	\$ 196.61	\$ 68.81	\$ 265.42	8	\$1,573	\$18,874	\$2,123	\$25,480
4x per week	\$202.55	\$ 203.10	\$ 203.10	\$ 166.61	-	\$ 60.67	\$ 227.27	\$ 256.58	\$ 89.80	\$ 346.38	1	\$257	\$3,079	\$346	\$4,157
5x per week	\$285.35	\$ 253.47	\$ 253.47	\$ 216.59	-	\$ 75.83	\$ 292.42	\$ 331.58	\$ 116.05	\$ 447.63	1	\$332	\$3,979	\$448	\$5,372
6x per week		\$ 309.40	\$ -	\$ 281.56	-	\$ 91.00	\$ 372.56	\$ 426.11	\$ 149.14	\$ 575.25	-	\$0	\$0	\$0	\$0
3 Cubic Yard															
1x per week	\$67.53	\$ 65.84	\$ 10,995.28	\$ 75.83	-	\$ 22.75	\$ 98.58	\$ 113.62	\$ 39.77	\$ 153.38	167	\$18,974	\$227,690	\$25,615	\$307,382
2x per week	\$127.94	\$ 130.34	\$ 11,339.58	\$ 98.58	-	\$ 45.50	\$ 144.08	\$ 158.08	\$ 55.33	\$ 213.40	87	\$13,753	\$165,033	\$18,566	\$222,794
3x per week	\$188.35	\$ 194.44	\$ 11,860.84	\$ 128.16	-	\$ 68.25	\$ 196.41	\$ 211.43	\$ 74.00	\$ 285.43	61	\$12,897	\$154,765	\$17,411	\$208,933
4x per week	\$248.75	\$ 258.72	\$ 1,034.88	\$ 166.61	-	\$ 91.00	\$ 257.61	\$ 276.34	\$ 96.72	\$ 373.06	4	\$1,105	\$13,264	\$1,492	\$17,907
5x per week	\$337.58	\$ 323.14	\$ 646.28	\$ 216.59	-	\$ 113.75	\$ 330.34	\$ 356.28	\$ 124.70	\$ 480.97	2	\$713	\$8,551	\$962	\$11,543
6x per week		\$ 387.39	\$ -	\$ 281.56	-	\$ 136.50	\$ 418.06	\$ 455.75	\$ 159.51	\$ 615.26	-	\$0	\$0	\$0	\$0
4 Cubic Yard															
1x per week	\$77.29	\$ 79.73	\$ 5,740.56	\$ 75.83	-	\$ 30.33	\$ 106.17	\$ 118.56	\$ 41.50	\$ 160.05	72	\$8,536	\$102,434	\$11,524	\$138,286
2x per week	\$149.25	\$ 157.87	\$ 7,577.76	\$ 98.58	-	\$ 60.67	\$ 159.25	\$ 167.96	\$ 58.78	\$ 226.74	48	\$8,062	\$96,743	\$10,884	\$130,603
3x per week	\$304.00	\$ 272.25	\$ 6,806.25	\$ 128.16	-	\$ 91.00	\$ 219.16	\$ 226.25	\$ 79.19	\$ 305.43	25	\$5,656	\$67,874	\$7,636	\$91,630
4x per week	\$433.54	\$ 333.10	\$ 1,665.50	\$ 166.61	-	\$ 121.33	\$ 287.94	\$ 296.10	\$ 103.63	\$ 399.73	5	\$1,480	\$17,766	\$1,999	\$23,984
5x per week	\$480.92	\$ 392.17	\$ 3,529.53	\$ 216.59	-	\$ 151.67	\$ 368.25	\$ 380.98	\$ 133.34	\$ 514.32	9	\$3,429	\$41,145	\$4,629	\$55,546
6x per week		\$ 470.24	\$ -	\$ 281.56	-	\$ 182.00	\$ 463.56	\$ 485.39	\$ 169.89	\$ 655.27	-	\$0	\$0	\$0	\$0

TABLE 30 : Analysis of Current and Proposed Residential and Commercial Rates

Analysis of Current and Proposed Residential and Commercial Rates															
Customer Classes/Service Type	What Mid Valley is Paid	Current Rates		Calculations of Proposed Rates							No. Units	Rev. Est. W/O Surcharge		Rev. Est. WITH Surcharge	
		FY 2019/20	Mo. Revenue	Collection \$	Bin Replacement	Disposal \$	FY 2020/21 Unadjusted	FY 2020/21 Adjusted	AB 1383 Surcharge	New Rate w/ Surcharge		Mo. Revenue	Annual Rev.	Mo. Revenue	Annual Rev.
5 Cubic Yard															
1x per week	\$87.95	\$ 93.56	\$ -	\$ 75.83	\$ -	\$ 37.92	\$ 113.75	\$ 123.50	\$ 43.22	\$ 166.72	-	\$0	\$0	\$0	\$0
2x per week	\$191.92	\$ 185.53	\$ -	\$ 98.58	\$ -	\$ 75.83	\$ 174.42	\$ 177.84	\$ 62.24	\$ 240.08	-	\$0	\$0	\$0	\$0
3x per week	\$295.84	\$ 276.11	\$ 552.22	\$ 128.16	\$ -	\$ 113.75	\$ 241.91	\$ 241.07	\$ 84.37	\$ 325.44	2	\$482	\$5,786	\$651	\$7,811
4x per week	\$391.84	\$ 369.45	\$ -	\$ 166.61	\$ -	\$ 151.67	\$ 318.27	\$ 315.86	\$ 110.55	\$ 426.41	-	\$0	\$0	\$0	\$0
5x per week	\$487.80	\$ 461.47	\$ -	\$ 216.59	\$ -	\$ 189.58	\$ 406.17	\$ 405.68	\$ 141.99	\$ 547.66	-	\$0	\$0	\$0	\$0
6x per week		\$ 553.33	\$ -	\$ 281.56	\$ -	\$ 227.50	\$ 509.06	\$ 515.03	\$ 180.26	\$ 695.29	-	\$0	\$0	\$0	\$0
6 Cubic Yard															
1x per week	\$113.72	\$ 107.22	\$ 4,074.36	\$ 75.83	\$ -	\$ 45.50	\$ 121.33	\$ 128.44	\$ 44.95	\$ 173.39	38	\$4,881	\$58,568	\$6,589	\$79,066
2x per week	\$216.76	\$ 213.04	\$ 6,178.16	\$ 98.58	\$ -	\$ 91.00	\$ 189.58	\$ 187.72	\$ 65.70	\$ 253.42	29	\$5,444	\$65,325	\$7,349	\$88,189
3x per week	\$319.82	\$ 318.78	\$ 2,550.24	\$ 128.16	\$ -	\$ 136.50	\$ 264.66	\$ 255.89	\$ 89.56	\$ 345.45	8	\$2,047	\$24,565	\$2,764	\$33,163
4x per week	\$427.60	\$ 424.44	\$ -	\$ 166.61	\$ -	\$ 182.00	\$ 348.61	\$ 335.62	\$ 117.47	\$ 453.08	-	\$0	\$0	\$0	\$0
5x per week	\$525.03	\$ 529.93	\$ 2,119.72	\$ 216.59	\$ -	\$ 227.50	\$ 444.09	\$ 430.37	\$ 150.63	\$ 581.01	4	\$1,721	\$20,658	\$2,324	\$27,888
6x per week		\$ 635.62	\$ -	\$ 281.56	\$ -	\$ 273.00	\$ 554.56	\$ 544.67	\$ 190.63	\$ 735.30	-	\$0	\$0	\$0	\$0
LOCK	\$5.93	\$ 10.00	\$ 1,590.00	\$ -	\$ -	\$ -	\$ 10.00	\$ 10.00	\$ 3.50	\$ 13.50	159	\$1,590	\$19,080	\$2,147	\$25,758
Bin Service Rate Revenue	\$105,209		\$97,017									\$126,612	\$1,519,344	\$170,926	\$2,051,115
Bin Service (Recyclables) No Disposal Costs Included															
2 Cubic Yard															
1x per week	\$34.75	\$ 31.22	\$ 5,369.84	\$ 75.83	\$ -	\$ 7.58	\$ 83.42	\$ 48.21	\$ 16.87	\$ 65.08	172	\$8,291	\$99,496	\$11,193	\$134,319
2x per week	\$62.32	\$ 55.98	\$ 1,063.62	\$ 151.67	\$ -	\$ 15.17	\$ 166.83	\$ 96.41	\$ 33.74	\$ 130.15	19	\$1,832	\$21,982	\$2,473	\$29,675
3x per week	\$95.70	\$ 80.79	\$ 403.95	\$ 227.50	\$ -	\$ 22.75	\$ 250.25	\$ 144.62	\$ 50.62	\$ 195.23	5	\$723	\$8,677	\$976	\$11,714
3 Cubic Yard															
1x per week	\$46.64	\$ 41.89	\$ 3,141.75	\$ 84.83	\$ -	\$ 11.38	\$ 96.21	\$ 56.82	\$ 19.89	\$ 76.70	75	\$4,261	\$51,136	\$5,753	\$69,034
2x per week	\$80.94	\$ 72.72	\$ 1,890.72	\$ 160.67	\$ -	\$ 22.75	\$ 183.42	\$ 108.82	\$ 38.09	\$ 146.90	26	\$2,829	\$33,950	\$3,819	\$45,833
3x per week	\$139.77	\$ 109.38	\$ 1,312.56	\$ 236.50	\$ -	\$ 34.13	\$ 270.63	\$ 160.81	\$ 56.28	\$ 217.10	12	\$1,930	\$23,157	\$2,605	\$31,262
4 Cubic Yard															
1x per week	\$53.35	\$ 47.92	\$ 2,300.16	\$ 87.83	\$ -	\$ 15.17	\$ 103.00	\$ 62.22	\$ 21.78	\$ 83.99	48	\$2,986	\$35,837	\$4,032	\$48,380
2x per week	\$99.51	\$ 89.40	\$ 1,341.00	\$ 163.67	\$ -	\$ 30.33	\$ 194.00	\$ 118.01	\$ 41.30	\$ 159.31	15	\$1,770	\$21,241	\$2,390	\$28,675
3x per week	\$195.01	\$ 130.89	\$ 523.56	\$ 239.50	\$ -	\$ 45.50	\$ 285.00	\$ 173.79	\$ 60.83	\$ 234.62	4	\$695	\$8,342	\$938	\$11,262
4 CY Recycling Compactor															
RC4/1COM	\$105.55	\$ 95.84	\$ 95.84	\$ 87.83	NA	\$ 45.50	\$ 133.33	\$ 92.55	\$ 32.39	\$ 124.94	1	\$93	\$1,111	\$125	\$1,499
6 Cubic Yard															
1x per week	\$71.88	\$ 64.58	\$ 516.64	\$ 93.83	\$ -	\$ 22.75	\$ 116.58	\$ 73.01	\$ 25.55	\$ 98.57	8	\$584	\$7,009	\$789	\$9,463
2x per week	\$131.48	\$ 118.12	\$ 1,181.20	\$ 169.67	\$ -	\$ 45.50	\$ 215.17	\$ 136.39	\$ 47.74	\$ 184.12	10	\$1,364	\$16,366	\$1,841	\$22,095
3x per week	\$204.69	\$ 171.54	\$ 1,715.40	\$ 245.50	\$ -	\$ 68.25	\$ 313.75	\$ 199.76	\$ 69.92	\$ 269.67	10	\$1,998	\$23,971	\$2,697	\$32,361
Recyclables Rate Revenue	\$20,658		\$20,856									\$29,356	\$352,275	\$39,631	\$475,572

TABLE 30 : Analysis of Current and Proposed Residential and Commercial Rates

Analysis of Current and Proposed Residential and Commercial Rates															
Customer Classes/Service Type	What Mid Valley is Paid	Current Rates		Calculations of Proposed Rates							No. Units	Rev. Est. W/O Surcharge		Rev. Est. WITH Surcharge	
		FY 2019/20	Mo. Revenue	Collection \$	Bin Replacement	Disposal \$	FY 2020/21 Unadjusted	FY 2020/21 Adjusted	AB 1383 Surcharge	New Rate w/ Surcharge		Mo. Revenue	Annual Rev.	Mo. Revenue	Annual Rev.
Compactor - Bin Service															
2 Cubic Yard															
1x per week		\$ 104.22	\$ -	\$ 75.83	NA	\$ 45.50	\$ 121.33	\$ 52.81	\$ 18.48	\$ 71.29	-	\$0	\$0	\$0	\$0
2x per week		\$ 204.80	\$ -	\$ 98.58	NA	\$ 91.00	\$ 189.58	\$ 77.18	\$ 27.01	\$ 104.20	-	\$0	\$0	\$0	\$0
3x per week		\$ 302.50	\$ -	\$ 128.16	NA	\$ 136.50	\$ 264.66	\$ 105.21	\$ 36.82	\$ 142.03	-	\$0	\$0	\$0	\$0
4x per week		\$ 406.20	\$ -	\$ 166.61	NA	\$ 182.00	\$ 348.61	\$ 137.99	\$ 48.30	\$ 186.29	-	\$0	\$0	\$0	\$0
5x per week		\$ 506.94	\$ -	\$ 216.59	NA	\$ 227.50	\$ 444.09	\$ 176.95	\$ 61.93	\$ 238.89	-	\$0	\$0	\$0	\$0
6x per week		\$ 618.80	\$ -	\$ 281.56	NA	\$ 273.00	\$ 554.56	\$ 223.95	\$ 78.38	\$ 302.33	-	\$0	\$0	\$0	\$0
3 Cubic Yard															
1x per week		\$ 131.68	\$ -	\$ 75.83	NA	\$ 68.25	\$ 144.08	\$ 58.90	\$ 20.62	\$ 79.52	-	\$0	\$0	\$0	\$0
2x per week		\$ 260.68	\$ -	\$ 98.58	NA	\$ 136.50	\$ 235.08	\$ 89.37	\$ 31.28	\$ 120.65	-	\$0	\$0	\$0	\$0
3x per week	\$433.07	\$ 388.88	\$ 388.88	\$ 128.16	NA	\$ 204.75	\$ 332.91	\$ 123.49	\$ 43.22	\$ 166.71	1	\$123	\$1,482	\$167	\$2,001
4x per week		\$ 517.44	\$ -	\$ 166.61	NA	\$ 273.00	\$ 439.61	\$ 162.37	\$ 56.83	\$ 219.19	-	\$0	\$0	\$0	\$0
5x per week		\$ 646.28	\$ -	\$ 216.59	NA	\$ 341.25	\$ 557.84	\$ 207.42	\$ 72.60	\$ 280.02	-	\$0	\$0	\$0	\$0
6x per week		\$ 774.78	\$ -	\$ 281.56	NA	\$ 409.50	\$ 691.06	\$ 260.51	\$ 91.18	\$ 351.68	-	\$0	\$0	\$0	\$0
4 Cubic Yard															
1x per week	\$152.96	\$ 159.46	\$ 159.46	\$ 75.83	NA	\$ 91.00	\$ 166.83	\$ 65.00	\$ 22.75	\$ 87.74	1	\$65	\$780	\$88	\$1,053
2x per week		\$ 315.74	\$ -	\$ 98.58	NA	\$ 182.00	\$ 280.58	\$ 101.56	\$ 35.54	\$ 137.10	-	\$0	\$0	\$0	\$0
3x per week		\$ 544.50	\$ -	\$ 128.16	NA	\$ 273.00	\$ 401.16	\$ 141.77	\$ 49.62	\$ 191.39	-	\$0	\$0	\$0	\$0
4x per week		\$ 666.20	\$ -	\$ 166.61	NA	\$ 364.00	\$ 530.61	\$ 186.74	\$ 65.36	\$ 252.10	-	\$0	\$0	\$0	\$0
5x per week		\$ 784.34	\$ -	\$ 216.59	NA	\$ 455.00	\$ 671.59	\$ 237.89	\$ 83.26	\$ 321.15	-	\$0	\$0	\$0	\$0
6x per week		\$ 940.48	\$ -	\$ 281.56	NA	\$ 546.00	\$ 827.56	\$ 297.07	\$ 103.97	\$ 401.04	-	\$0	\$0	\$0	\$0
5 Cubic Yard															
1x per week		\$ 187.12	\$ -	\$ 75.83	NA	\$ 113.75	\$ 189.58	\$ 71.09	\$ 24.88	\$ 95.97	-	\$0	\$0	\$0	\$0
2x per week		\$ 371.06	\$ -	\$ 98.58	NA	\$ 227.50	\$ 326.08	\$ 113.74	\$ 39.81	\$ 153.55	-	\$0	\$0	\$0	\$0
3x per week		\$ 552.22	\$ -	\$ 128.16	NA	\$ 341.25	\$ 469.41	\$ 160.05	\$ 56.02	\$ 216.07	-	\$0	\$0	\$0	\$0
4x per week		\$ 738.90	\$ -	\$ 166.61	NA	\$ 455.00	\$ 621.61	\$ 211.11	\$ 73.89	\$ 285.00	-	\$0	\$0	\$0	\$0
5x per week		\$ 922.94	\$ -	\$ 216.59	NA	\$ 568.75	\$ 785.34	\$ 268.35	\$ 93.92	\$ 362.28	-	\$0	\$0	\$0	\$0
6x per week		\$ 1,106.66	\$ -	\$ 281.56	NA	\$ 682.50	\$ 964.06	\$ 333.63	\$ 116.77	\$ 450.39	-	\$0	\$0	\$0	\$0
6 Cubic Yard															
1x per week		\$ 214.44	\$ -	\$ 75.83	NA	\$ 136.50	\$ 212.33	\$ 77.18	\$ 27.01	\$ 104.20	-	\$0	\$0	\$0	\$0
2x per week		\$ 426.08	\$ -	\$ 98.58	NA	\$ 273.00	\$ 371.58	\$ 125.93	\$ 44.07	\$ 170.00	-	\$0	\$0	\$0	\$0
3x per week		\$ 637.56	\$ -	\$ 128.16	NA	\$ 409.50	\$ 537.66	\$ 178.33	\$ 62.42	\$ 240.75	-	\$0	\$0	\$0	\$0
4x per week		\$ 848.88	\$ -	\$ 166.61	NA	\$ 546.00	\$ 712.61	\$ 235.49	\$ 82.42	\$ 317.91	-	\$0	\$0	\$0	\$0
5x per week		\$ 1,059.86	\$ -	\$ 216.59	NA	\$ 682.50	\$ 899.09	\$ 298.82	\$ 104.59	\$ 403.41	-	\$0	\$0	\$0	\$0
6x per week		\$ 1,271.24	\$ -	\$ 281.56	NA	\$ 819.00	\$ 1,100.56	\$ 370.19	\$ 129.57	\$ 499.75	-	\$0	\$0	\$0	\$0
Compactor Rate Revenue	\$548		\$548									\$188	\$2,262	\$254	\$3,053

TABLE 30 : Analysis of Current and Proposed Residential and Commercial Rates

Analysis of Current and Proposed Residential and Commercial Rates															
Customer Classes/Service Type	What Mid Valley is Paid	Current Rates		Calculations of Proposed Rates							No. Units	Rev. Est. W/O Surcharge		Rev. Est. WITH Surcharge	
		FY 2019/20	Mo. Revenue	Collection \$	Bin Replacement	Disposal \$	FY 2020/21 Unadjusted	FY 2020/21 Adjusted	AB 1383 Surcharge	New Rate w/ Surcharge		Mo. Revenue	Annual Rev.	Mo. Revenue	Annual Rev.
Compactor - Bin Service															
Organic Waste															
<u>96 Gallon Container</u>															
1x per week	\$11.03	\$ 10.28	\$ 133.64	\$ 15.59	NA	\$ 7.21	\$22.79	\$ 10.28	\$ 3.60	\$ 13.88	13	\$134	\$1,604	\$180	\$2,165
2x per week	\$22.07	\$ 20.57	\$ 61.71	\$ 31.17	NA	\$ 14.41	\$45.59	\$ 20.56	\$ 7.20	\$ 27.75	3	\$62	\$740	\$83	\$999
3x per week	\$33.11	\$ 30.85	\$ -	\$ 46.76	NA	\$ 21.62	\$68.38	\$ 30.84	\$ 10.79	\$ 41.63	-	\$0	\$0	\$0	\$0
4x per week	\$44.16	\$ 41.13	\$ -	\$ 62.34	NA	\$ 28.83	\$91.17	\$ 41.12	\$ 14.39	\$ 55.51	-	\$0	\$0	\$0	\$0
5x per week	\$55.19	\$ 51.41	\$ -	\$ 77.93	NA	\$ 36.04	\$113.96	\$ 51.40	\$ 17.99	\$ 69.38	-	\$0	\$0	\$0	\$0
<u>2 Cubic Yard Bin</u>															
1x per week	\$45.26	\$ 42.18	\$ 548.34	\$ 75.83	-	\$ 15.17	\$91.00	\$ 44.68	\$ 15.64	\$ 60.32	13	\$581	\$6,971	\$784	\$9,410
2x per week	\$82.78	\$ 77.36	\$ 773.60	\$ 151.67	-	\$ 30.33	\$182.00	\$ 89.37	\$ 31.28	\$ 120.65	10	\$894	\$10,724	\$1,206	\$14,478
3x per week	\$126.93	\$ 118.54	\$ 474.16	\$ 227.50	-	\$ 45.50	\$273.00	\$ 134.05	\$ 46.92	\$ 180.97	4	\$536	\$6,435	\$724	\$8,687
4x per week	\$165.54	\$ 157.07	\$ -	\$ 303.33	-	\$ 60.67	\$364.00	\$ 178.74	\$ 62.56	\$ 241.29	-	\$0	\$0	\$0	\$0
5x per week	\$204.19	\$ 193.84	\$ -	\$ 379.17	-	\$ 75.83	\$455.00	\$ 223.42	\$ 78.20	\$ 301.62	-	\$0	\$0	\$0	\$0
<u>3 Cubic Yard Bin</u>															
1x per week	\$56.29	\$ 52.77	\$ -	\$ 84.83	-	\$ 22.75	\$107.58	\$ 51.54	\$ 18.04	\$ 69.57	-	\$0	\$0	\$0	\$0
2x per week	\$104.86	\$ 98.54	\$ -	\$ 160.67	-	\$ 45.50	\$206.17	\$ 98.25	\$ 34.39	\$ 132.64	-	\$0	\$0	\$0	\$0
3x per week	\$160.05	\$ 150.30	\$ -	\$ 236.50	-	\$ 68.25	\$304.75	\$ 144.97	\$ 50.74	\$ 195.71	-	\$0	\$0	\$0	\$0
4x per week	\$203.60	\$ 197.07	\$ -	\$ 312.33	-	\$ 91.00	\$403.33	\$ 191.68	\$ 67.09	\$ 258.77	-	\$0	\$0	\$0	\$0
5x per week	\$251.82	\$ 243.84	\$ 243.84	\$ 388.17	-	\$ 113.75	\$501.92	\$ 238.40	\$ 83.44	\$ 321.84	1	\$238	\$2,861	\$322	\$3,862
Total Organic Rate Revenue	\$1,645		\$2,235									\$2,444	\$29,334	\$3,300	\$39,601
Total Comm. Rate Revenue	\$133,342.27		\$126,326.22									\$164,306	\$1,971,668	\$221,813	\$2,661,752
Total Resid. & Comm.	\$364,200.47		\$461,565.07									\$483,252	\$5,799,024	\$652,390	\$7,828,683
<u>City Admin Service Fee</u>															
<i>SFR Admin Service Fee</i>	\$2.33	\$2.33	\$ 32,342.73				\$2.33	\$2.33			13,881	\$32,343	\$388,113	\$32,343	\$388,113
<i>MFR Admin Service Fee</i>	\$2.33	\$2.33	\$ 1,039.18				\$2.33	\$2.33			446	\$1,039	\$12,470	\$1,039	\$12,470
<i>Comm/Lock Admin Service Fee</i>	\$2.33	\$2.33	\$ 370.47				\$2.33	\$2.33			159	\$370	\$4,446	\$370	\$4,446
Total Admin Service Fee	\$ 33,752		\$33,752									\$33,752	\$405,029	\$33,752	\$405,029
Total Resid./Comm./Admin	\$397,952.85		\$495,317.45									\$517,004	\$6,204,053	\$686,143	\$8,233,712

TABLE 31 : Proposed Rates (Include Street Sweeping, Admin Fee & SB 1383 Surcharge)

Customer Classes/Service Type	Current Rates FY 2019/20	Proposed Rates (Include Street Sweeping, Admin Fee & SB 1383 Surcharge) ¹				
		FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Single Family Residential						
Three Standard Containers	\$ 23.22	\$ 32.00	\$ 34.97	\$ 38.23	\$ 41.82	\$ 45.77
1/2 Resid. (Grey & Blue only)	\$ 16.02	\$ 25.68	\$ 28.02	\$ 30.58	\$ 33.41	\$ 36.52
Additional Grey Container	\$ 4.73	\$ 23.35	\$ 25.69	\$ 28.25	\$ 31.08	\$ 34.19
Additional Green Container	\$ 2.17	\$ 8.27	\$ 9.09	\$ 10.00	\$ 11.00	\$ 12.11
Additional Blue Container	\$ 2.17	\$ 8.27	\$ 9.09	\$ 10.00	\$ 11.00	\$ 12.11
Residential Carry-Out Service						
Two Containers	\$ 55.32	\$ 42.21	\$ 46.20	\$ 50.58	\$ 55.41	\$ 60.72
Each Additional Container	\$ 11.44	\$ 16.54	\$ 18.19	\$ 20.01	\$ 22.01	\$ 24.21
Multi-Family Residential						
First Two Dwelling Units (each)	\$ 23.22	\$ 32.00	\$ 34.97	\$ 38.23	\$ 41.82	\$ 45.77
Each Additional Dwelling Unit	\$ 22.59	\$ 29.45	\$ 32.16	\$ 35.14	\$ 38.42	\$ 42.03
Commercial						
Two Containers	\$ 29.46	\$ 42.21	\$ 46.20	\$ 50.58	\$ 55.41	\$ 60.72
Additional Container	\$ 40.85	\$ 34.77	\$ 38.25	\$ 42.08	\$ 46.28	\$ 50.91
Commercial Carry-Out Service						
Two Containers	\$ 57.64	\$ 62.63	\$ 68.66	\$ 75.29	\$ 82.59	\$ 90.61
Each Additional Container	\$ 17.70	\$ 30.15	\$ 33.16	\$ 36.48	\$ 40.13	\$ 44.14

1. Note: admin Fee only applies to initial service charges, not on additional containers.

Customer Classes/Service Type	Current Rates FY 2019/20	Proposed Rates (Include Street Sweeping & SB 1383 Surcharge)				
		FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Bin Service (Solid Waste)						
<u>2 Cubic Yard</u>						
1x per week	\$ 52.11	\$ 146.72	\$ 161.39	\$ 177.53	\$ 195.28	\$ 214.81
2x per week	\$ 102.40	\$ 200.07	\$ 220.07	\$ 242.08	\$ 266.29	\$ 292.92
3x per week	\$ 151.25	\$ 265.42	\$ 291.96	\$ 321.16	\$ 353.28	\$ 388.60
4x per week	\$ 203.10	\$ 346.38	\$ 381.02	\$ 419.12	\$ 461.03	\$ 507.14
5x per week	\$ 253.47	\$ 447.63	\$ 492.39	\$ 541.63	\$ 595.79	\$ 655.37
<u>3 Cubic Yard</u>						
1x per week	\$ 65.84	\$ 153.38	\$ 168.72	\$ 185.59	\$ 204.15	\$ 224.57
2x per week	\$ 130.34	\$ 213.40	\$ 234.74	\$ 258.22	\$ 284.04	\$ 312.45
3x per week	\$ 194.44	\$ 285.43	\$ 313.97	\$ 345.37	\$ 379.90	\$ 417.90
4x per week	\$ 258.72	\$ 373.06	\$ 410.36	\$ 451.40	\$ 496.54	\$ 546.19
5x per week	\$ 323.14	\$ 480.97	\$ 529.07	\$ 581.98	\$ 640.18	\$ 704.19
<u>4 Cubic Yard</u>						
1x per week	\$ 79.73	\$ 160.05	\$ 176.06	\$ 193.66	\$ 213.03	\$ 234.33
2x per week	\$ 157.87	\$ 226.74	\$ 249.42	\$ 274.36	\$ 301.79	\$ 331.97
3x per week	\$ 272.25	\$ 305.43	\$ 335.98	\$ 369.58	\$ 406.53	\$ 447.19
4x per week	\$ 333.10	\$ 399.73	\$ 439.71	\$ 483.68	\$ 532.04	\$ 585.25
5x per week	\$ 392.17	\$ 514.32	\$ 565.75	\$ 622.32	\$ 684.56	\$ 753.01
<u>5 Cubic Yard</u>						
3x per week	\$ 276.11	\$ 325.44	\$ 357.99	\$ 393.78	\$ 433.16	\$ 476.48
<u>6 Cubic Yard</u>						
1x per week	\$ 107.22	\$ 173.39	\$ 190.73	\$ 209.80	\$ 230.78	\$ 253.86
2x per week	\$ 213.04	\$ 253.42	\$ 278.76	\$ 306.64	\$ 337.30	\$ 371.03
3x per week	\$ 318.78	\$ 345.45	\$ 379.99	\$ 417.99	\$ 459.79	\$ 505.77
5x per week	\$ 529.93	\$ 581.01	\$ 639.11	\$ 703.02	\$ 773.32	\$ 850.65

TABLE 32 : Proposed Rates (Include Street Sweeping, Admin Fee & SB 1383 Surcharge)

Customer Classes/Service Type	Current Rates FY 2019/20	Proposed Rates (Include Street Sweeping & SB 1383 Surcharge)				
		FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Bin Service (Recyclables)						
<u>2 Cubic Yard</u>						
1x per week	\$ 31.22	\$ 65.08	\$ 71.58	\$ 78.74	\$ 86.62	\$ 95.28
2x per week	\$ 55.98	\$ 130.15	\$ 143.17	\$ 157.49	\$ 173.24	\$ 190.56
3x per week	\$ 80.79	\$ 195.23	\$ 214.75	\$ 236.23	\$ 259.85	\$ 285.84
<u>3 Cubic Yard</u>						
1x per week	\$ 41.89	\$ 76.70	\$ 84.37	\$ 92.81	\$ 102.09	\$ 112.30
2x per week	\$ 72.72	\$ 146.90	\$ 161.59	\$ 177.75	\$ 195.52	\$ 215.08
3x per week	\$ 109.38	\$ 217.10	\$ 238.81	\$ 262.69	\$ 288.96	\$ 317.85
<u>4 Cubic Yard</u>						
1x per week	\$ 47.92	\$ 83.99	\$ 92.39	\$ 101.63	\$ 111.79	\$ 122.97
2x per week	\$ 89.40	\$ 159.31	\$ 175.24	\$ 192.76	\$ 212.04	\$ 233.24
3x per week	\$ 130.89	\$ 234.62	\$ 258.08	\$ 283.89	\$ 312.28	\$ 343.51
<u>6 Cubic Yard</u>						
1x per week	\$ 64.58	\$ 98.57	\$ 108.43	\$ 119.27	\$ 131.20	\$ 144.32
2x per week	\$ 118.12	\$ 184.12	\$ 202.53	\$ 222.79	\$ 245.07	\$ 269.57
3x per week	\$ 171.54	\$ 269.67	\$ 296.64	\$ 326.31	\$ 358.94	\$ 394.83
Compactor - Bin Service						
<u>3 Cubic Yard</u>						
3x per week	\$ 388.88	\$ 166.71	\$ 183.38	\$ 201.72	\$ 221.89	\$ 244.08
<u>4 Cubic Yard</u>						
1x per week	\$ 159.46	\$ 87.74	\$ 96.52	\$ 106.17	\$ 116.79	\$ 128.47
Roll-Off Container (Not a City rate)						
<u>25 Cubic Yard</u>						
Monthly Rent	\$ 181.13	\$ 181.13	\$ 199.24	\$ 219.17	\$ 241.08	\$ 265.19
Per Load	\$ 185.25	\$ 185.25	\$ 203.78	\$ 224.15	\$ 246.57	\$ 271.22
Customer Classes/Service Type	Current Rates FY 2019/20	Proposed Rates				
		FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Organic Waste (Include Street Sweeping & SB 1383 Surcharge)						
<u>96 Gallon Container</u>						
1x per week	\$ 10.28	\$ 13.88	\$ 15.26	\$ 16.79	\$ 18.47	\$ 20.32
2x per week	\$ 20.57	\$ 27.75	\$ 30.53	\$ 33.58	\$ 36.94	\$ 40.63
<u>2 Cubic Yard Bin</u>						
1x per week	\$ 42.18	\$ 60.32	\$ 66.36	\$ 72.99	\$ 80.29	\$ 88.32
2x per week	\$ 77.36	\$ 120.65	\$ 132.71	\$ 145.98	\$ 160.58	\$ 176.64
3x per week	\$ 118.54	\$ 180.97	\$ 199.07	\$ 218.98	\$ 240.87	\$ 264.96
<u>3 Cubic Yard Bin</u>						
5x per week	\$ 243.84	\$ 321.84	\$ 354.02	\$ 389.42	\$ 428.36	\$ 471.20
Miscellaneous Rates and Charges (Does <u>Not</u> Include Street Sweeping or SB 1383 Surcharge)						
Locking Service Fee (Optional)	\$10.00	\$ 10.00	\$ 11.00	\$ 12.10	\$ 13.31	\$ 14.64
Lost Lock Fee	\$15.00	\$ 15.00	\$ 16.50	\$ 18.15	\$ 19.97	\$ 21.96
New or Replacement Can	\$53.30	\$ 53.30	\$ 58.63	\$ 64.49	\$ 70.94	\$ 78.04
Delivery Charge	\$10.00	\$ 10.00	\$ 11.00	\$ 12.10	\$ 13.31	\$ 14.64
Street Cleaning Service						
Per foot of street exposure	\$0.0248	(Now Included in Solid Waste Rates)				
Additional Cleaning per foot	\$0.0125					

TABLE 33 : Customer Bill Comparisons						
Single Family Residential	Current	Proposed New Rates (\$/month)				
Solid Waste Service Type	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Single Family Residential	\$ 23.22	\$ 32.00	\$ 34.97	\$ 38.23	\$ 41.82	\$ 45.77

Multi-Family Residential	Current	Proposed New Rates (\$/month)				
Solid Waste Service Type	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
First Two Dwelling Units (each)	\$ 23.22	\$ 32.00	\$ 34.97	\$ 38.23	\$ 41.82	\$ 45.77
Each Additional Dwelling Unit	\$ 22.59	\$ 29.45	\$ 32.16	\$ 35.14	\$ 38.42	\$ 42.03

Commercial	Current	Proposed New Rates (\$/month)				
Solid Waste Service Type	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Commercial Two Containers	\$ 29.46	\$ 42.21	\$ 46.20	\$ 50.58	\$ 55.41	\$ 60.72
Commercial Additional Container	\$ 40.85	\$ 34.77	\$ 38.25	\$ 42.08	\$ 46.28	\$ 50.91

Bin Service (Solid Waste)	Current	Proposed New Rates (\$/month)				
Solid Waste Service Type	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Commercial 2 Cubic Yard - 1X/Week	\$ 52.11	\$ 146.72	\$ 161.39	\$ 177.53	\$ 195.28	\$ 214.81
Commercial 3 Cubic Yard - 1X/Week	\$ 65.84	\$ 153.38	\$ 168.72	\$ 185.59	\$ 204.15	\$ 224.57

Bin Service (Recyclables)	Current	Proposed New Rates (\$/month)				
Solid Waste Service Type	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Recyclables 2 Cubic Yard - 1X/Week	\$ 31.22	\$ 65.08	\$ 71.58	\$ 78.74	\$ 86.62	\$ 95.28
Recyclables 3 Cubic Yard - 1X/Week	\$ 41.89	\$ 76.70	\$ 84.37	\$ 92.81	\$ 102.09	\$ 112.30

Organic Waste	Current	Proposed New Rates (\$/month)				
Solid Waste Service Type	FY 2019/20	FY 2020/21	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25
Organics 96 Gallon Container - 1X/Week	\$ 10.28	\$ 11.08	\$ 12.19	\$ 13.41	\$ 14.75	\$ 16.22
Organics 2 Cubic Yard Bin - 1X/Week	\$ 42.18	\$ 45.64	\$ 50.21	\$ 55.23	\$ 60.75	\$ 66.83

City of Madera Tonnages for 2020 ¹

Sum of Allocated Tons													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
MADERA													
COM	1,383.6	1,279.8	1,376.2	1,189.9	1,208.0	1,344.1	1,255.5	1,227.5	1,272.0	1,269.1	1,246.7	1,364.8	15,417.2
FL ORGANICS	21.2	21.4	28.5	16.6	22.6	23.3	17.3	23.6	14.6	25.4	25.2	23.5	263.1
FL RECYCLE	147.7	131.9	152.2	122.3	126.1	152.3	131.0	133.9	132.6	118.9	126.0	140.9	1,615.9
FL TRASH	1,214.7	1,126.4	1,195.5	1,051.0	1,059.3	1,168.5	1,107.2	1,070.1	1,124.8	1,124.8	1,095.5	1,200.4	13,538.2
RES	2,434.8	2,187.0	2,631.7	3,232.0	2,840.4	2,617.0	2,763.4	2,455.8	2,634.2	2,709.9	2,588.7	3,055.4	32,150.3
SL ORGANICS	627.2	698.9	911.7	1,266.7	936.6	801.3	710.6	694.2	761.6	737.3	687.2	874.0	9,707.1
SL RECYCLE	330.0	271.9	312.1	352.0	333.2	325.3	351.8	295.5	318.3	331.9	360.8	422.1	4,004.7
SL TRASH	1,477.7	1,216.2	1,408.0	1,613.3	1,570.6	1,490.5	1,701.0	1,466.1	1,554.4	1,640.7	1,540.7	1,759.3	18,438.5
Grand Total	3,818.5	3,466.8	4,007.9	4,421.9	4,048.3	3,961.1	4,018.8	3,683.3	3,906.2	3,979.0	3,835.4	4,420.2	47,567.5

1. Source files: 2020 Tonnages.xlsx

Sum of Allocated Tons													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
MADERA													
Residential - SL TRASH	1,477.7	1,216.2	1,408.0	1,613.3	1,570.6	1,490.5	1,701.0	1,466.1	1,554.4	1,640.7	1,540.7	1,759.3	18,438.5
Commercial - FL TRASH	1,214.7	1,126.4	1,195.5	1,051.0	1,059.3	1,168.5	1,107.2	1,070.1	1,124.8	1,124.8	1,095.5	1,200.4	13,538.2
Total Trash Tonnages	2,692.4	2,342.6	2,603.5	2,664.3	2,629.9	2,659.0	2,808.1	2,536.1	2,679.2	2,765.5	2,636.3	2,959.7	31,976.6
Residential - SL RECYCLE	330.0	271.9	312.1	352.0	333.2	325.3	351.8	295.5	318.3	331.9	360.8	422.1	4,004.7
Commercial - FL RECYCLE	147.7	131.9	152.2	122.3	126.1	152.3	131.0	133.9	132.6	118.9	126.0	140.9	1,615.9
Total Recycle Tonnages	477.7	403.8	464.3	474.2	459.3	477.6	482.8	429.4	450.9	450.8	486.8	563.1	5,620.6
Residential - SL ORGANIC	627.2	698.9	911.7	1,266.7	936.6	801.3	710.6	694.2	761.6	737.3	687.2	874.0	9,707.1
Commercial - FL ORGANIC	21.2	21.4	28.5	16.6	22.6	23.3	17.3	23.6	14.6	25.4	25.2	23.5	263.1
Total Organics Tonnages	648.4	720.3	940.2	1,283.3	959.2	824.6	727.9	717.8	776.2	762.7	712.4	897.5	9,970.3
Grand Total	3,818.5	3,466.8	4,007.9	4,421.9	4,048.3	3,961.1	4,018.8	3,683.3	3,906.2	3,979.0	3,835.4	4,420.2	47,567.5

City of Madera Tonnages for 2020 ¹

Disposal Tonnages by Type	2020 Total	% of Component	% of Total
Solid Waste Disposal Components			
Residential - SL TRASH	18,438.5	57.7%	67.2%
Commercial - FL TRASH	13,538.2	42.3%	
Total Trash Tonnages	31,976.6	100.0%	
Residential - SL RECYCLE	4,004.7	71.3%	11.8%
Commercial - FL RECYCLE	1,615.9	28.7%	
Total Recycle Tonnages	5,620.6	100.0%	
Residential - SL ORGANICS	9,707.1	97.4%	21.0%
Commercial - FL ORGANICS	263.1	2.6%	
Total Organics Tonnages	9,970.3	100.0%	
Grand Total	47,567.5	N.A.	100.0%

1. Source files: 2020 Tonnages.xlsx

Residential vs. Commercial Disposal Tonnages	2020 Total	% of Component
Solid Waste Disposal Components		
Residential - SL TRASH	18,438.5	57.4%
Residential - SL RECYCLE	4,004.7	12.5%
Residential - SL ORGANICS	9,707.1	30.2%
Total Residential Tonnages	32,150.3	100.0%
Commercial - FL TRASH	13,538.2	87.8%
Commercial - FL RECYCLE	1,615.9	10.5%
Commercial - FL ORGANICS	263.1	1.7%
Total Commercial Tonnages	15,417.2	100.0%
Grand Total	47,567.5	N.A.

1. Source files: 2020 Tonnages.xlsx

Sum of Allocated Tons													
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Grand Total
MADERA													
COM	1,383.6	1,279.8	1,376.2	1,189.9	1,208.0	1,344.1	1,255.5	1,227.5	1,272.0	1,269.1	1,246.7	1,364.8	15,417.2
FL ORGANICS	21.2	21.4	28.5	16.6	22.6	23.3	17.3	23.6	14.6	25.4	25.2	23.5	263.1
FL RECYCLE	147.7	131.9	152.2	122.3	126.1	152.3	131.0	133.9	132.6	118.9	126.0	140.9	1,615.9
FL TRASH	1,214.7	1,126.4	1,195.5	1,051.0	1,059.3	1,168.5	1,107.2	1,070.1	1,124.8	1,124.8	1,095.5	1,200.4	13,538.2
RES	2,434.8	2,187.0	2,631.7	3,232.0	2,840.4	2,617.0	2,763.4	2,455.8	2,634.2	2,709.9	2,588.7	3,055.4	32,150.3
SL ORGANICS	627.2	698.9	911.7	1,266.7	936.6	801.3	710.6	694.2	761.6	737.3	687.2	874.0	9,707.1
SL RECYCLE	330.0	271.9	312.1	352.0	333.2	325.3	351.8	295.5	318.3	331.9	360.8	422.1	4,004.7
SL TRASH	1,477.7	1,216.2	1,408.0	1,613.3	1,570.6	1,490.5	1,701.0	1,466.1	1,554.4	1,640.7	1,540.7	1,759.3	18,438.5
Grand Total	3,818.5	3,466.8	4,007.9	4,421.9	4,048.3	3,961.1	4,018.8	3,683.3	3,906.2	3,979.0	3,835.4	4,420.2	47,567.5

1. Source files: 2020 Tonnages.xlsx