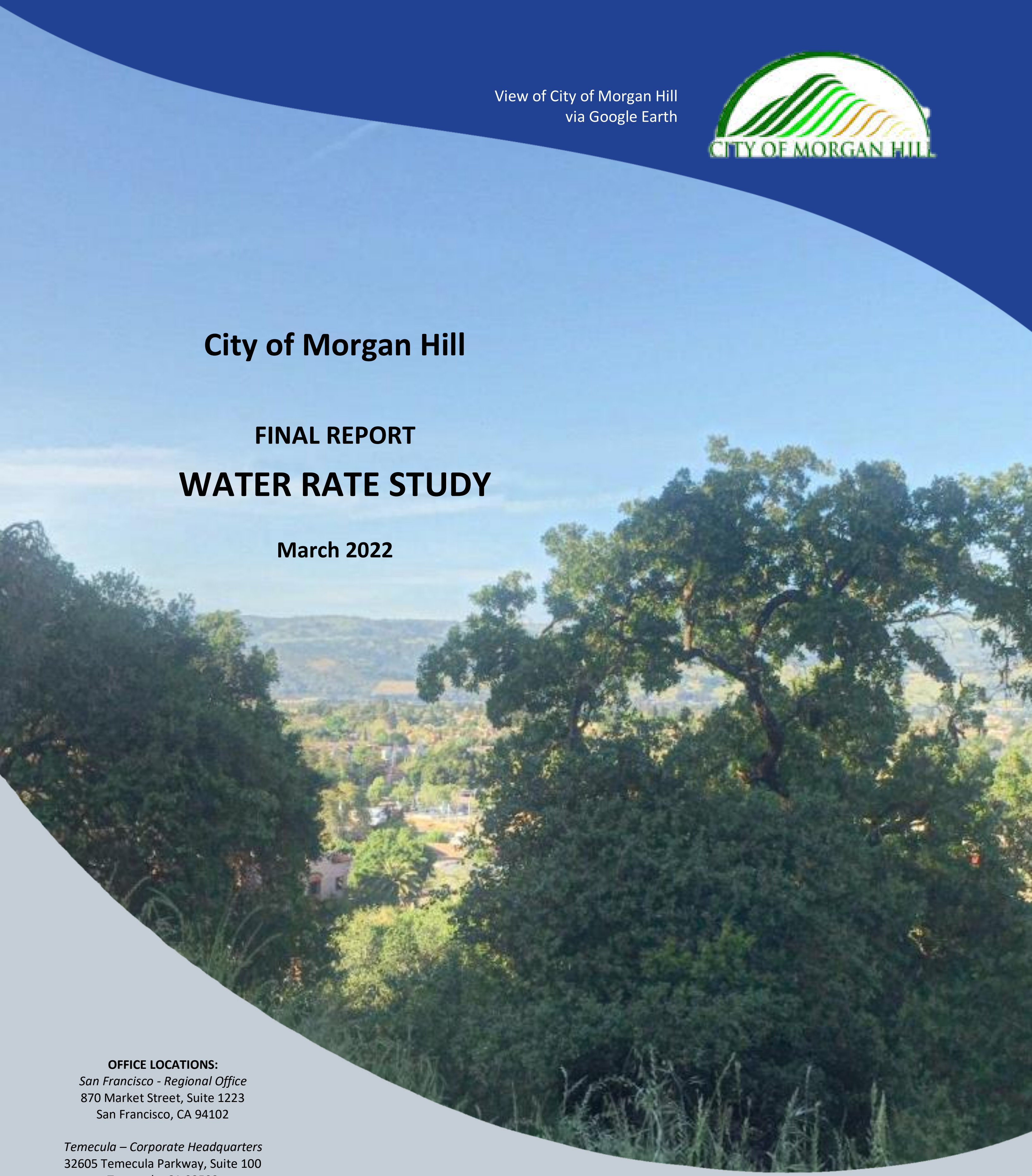
View of City of Morgan Hill
via Google Earth



City of Morgan Hill

FINAL REPORT

WATER RATE STUDY

March 2022

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PURPOSE

The City of Morgan Hill ("City") retained NBS in May 2021 to conduct an updated comprehensive water rate study for a number of reasons, including meeting long-term revenue requirements, ensuring revenue stability in water rates, providing adequate funding for capital improvements, and ensuring rates comply with applicable laws, including Proposition 218. The rates developed in this study meet Proposition 218 (Prop 218) requirements and were developed based on industry standards. This report is provided with the intent of assisting the City in maintaining the financial health of its water utility, transparently communicating with the residents and businesses it serves, and documenting the rate study analysis.

CITY OF MORGAN HILL BACKGROUND

The City of Morgan Hill is a general law city with a council-manager form of government, located in southern Santa Clara Valley, approximately 12 miles south of San Jose, 10 miles north of Gilroy, and 15 miles inland from the Pacific Coast. The Valley is approximately 4 miles wide and is surrounded by the Santa Cruz mountain range to the west, and the Diablo mountain range to the east.

The City of Morgan Hill provides water service to approximately 15,000 metered customers, including about 308 customers outside the city limits. The majority (about 87%) of the water utility's customers are single and multi-family residential users. Most recent records indicate these residential households use approximately 70% of total water sold; businesses, commercial, industrial, government, institutional, and landscape customers use the remaining 30%.

The City's municipal water source is 100% from ground water and sustaining the groundwater supply is dependent upon the overall groundwater management program administered by the Santa Clara Valley Water District (SCVWD). SCVWD imports water from the Sacramento/San Joaquin Delta through a series of channels, reservoirs, pipes and pumps and re-charges the groundwater table by pumping water into strategically located re-charge basins.

OVERVIEW OF THE STUDY

Key Issues Addressed – In addition to ensuring that water rates collect revenue sufficient to meet the annual operating and capital improvement plans, there are a number of key issues that were specifically addressed in this study, including:

- ***Statewide Conservation*** – The State of California has experienced drought-related cutbacks over the past several years and the City of Morgan Hill was mandated to reduce water consumption. Because of this, current and projected future consumption levels were closely evaluated in this study.
- ***Long-Term Conservation*** – The assumptions and recommendations contained in this study are not a short-term response to the drought. They assume that water supplies will continue to be limited in the future.
- ***Rate Design*** – The current rate design includes a fixed monthly charge that collects about 46% of the rate revenue and a uniform volumetric rate based on monthly water consumption that collect the remainder of the rate revenue. Because the current rate design is covering all the City's expenses, NBS is recommending keeping the current rate design and updating the cost of service.
- ***Financial Planning*** – Long-range financial plans for the water utility were closely examined to ensure they meet annual operating expenses, debt covenants, capital improvement costs and broader financial management concerns.

Recommendations – NBS recommends the City take the following actions:

- Adopt the long-range financial plan that NBS developed, including the projected revenues, expenditures, and annual net revenue requirements.
- Based on this plan, annual increases in total rate revenue of 9% for fiscal years 2022/23-2023/24, 7% for 2024/25-2025/26, and 3% in 2026/27 are needed over the next five years to fund the majority of the capital improvement program proposed in the Water Systems Master Plan of 2021.
- Continue to use a rate design that collects approximately 46% of rate revenue from fixed charges and 54% from volumetric charges.
- Adopt the water rates proposed in this report that follows this rate design with updates to the cost of service.
- Adopt the updated zonal surcharges, which allocate the additional costs that customers in the three elevation zones that incur additional costs to provide service to these customers.
- Adopt the revenue stabilization rates that would implement small, temporary rate increases whenever rate revenues drop by 10 percent or more in any given month.
- Retain recommended reserve fund targets.
- Provide the normal legal review of the recommended rates by a qualified attorney.
- Proceed with Proposition 218 noticing requirements necessary for legal adoption and implementation of the proposed rates, zonal surcharges, and revenue stabilization mechanism.

RATE STUDY METHODOLOGY

Components of the Rate Study Methodology – A comprehensive utility rate study typically encompasses three major components: (1) preparation of a financial plan which identifies the net revenue requirements for the utility; (2) analysis of the cost to serve each customer class, and; (3) the rate structure design.

These three steps, which are shown in **Figure 1**, 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 Charges[1], also referred to as the Manual M1. These steps address general requirements for equity and fairness. They also address requirements under California Constitution article XIII D, Section 6 (commonly referred to as Proposition 218) that rates not exceed the cost of providing the service and be proportionate to the cost of service for all customers. In terms of the chronology of the study, these three steps represent the order they were performed in this study.

As a part of this rate study, NBS projected revenues, expenditures, developed net revenue requirements, performed cost-of-service rate analyses, and prepared new water rates. The following sections in this report present an overview of the methodologies, assumptions, and data used along with the financial plans and rates developed during this study.

Figure 1. Primary Components of a Rate Study

1 FINANCIAL PLAN	2 COST-OF-SERVICE ANALYSIS	3 RATE DESIGN ANALYSIS
Compares current sources and uses of funds and determines the revenue needed from rates and projects rate adjustments.	Proportionately allocates the revenue requirements to the customer classes and tiers in compliance with industry standards and State Law.	Considers what rate structure will best meet the City's need to collect rate revenue from each customer class.

Rate Design Criteria – Several criteria are typically considered in setting rates and developing sound rate structures. The fundamentals of this process have been documented in a number of 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*[2] 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.

[1] *Principles of Water Rates, Fees, and Charges*, *Manual of Water Supply Practices*, M1, AWWA, seventh edition, 2017.
[2] 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.

- Rates should promote the efficient allocation of the resource.
- Rates should be equitable and non-discriminating (i.e., cost based).
- There should be continuity in the rate making philosophy over time.
- Addressing other utility policies (e.g., encouraging conservation & economic development).
- Rates should provide month-to-month and year-to-year revenue stability.

The following section covers basic rate design criteria that NBS and City staff considered as a part of their review of the rate structure.

Rate Structure Considerations – The fundamental starting point in considering rate structures is the relationship between fixed costs and variable costs. Fixed costs typically do not vary with the amount of water consumed. Debt service and City personnel are examples of a fixed cost. In contrast, variable costs such as the cost of purchased water, chemicals and electricity tend to change with the quantity of water sold. The vast majority of rate structures contain a fixed or minimum charge in combination with a volumetric charge.

Key Financial Assumptions – Following are the key assumptions used in the water rate analyses:

- **Funding of Capital Projects –** After the City's extensive review of the planned capital improvement projects (CIP) and funding requirements, the City has decided that the water utility will fund the currently planned CIP, as shown in detail in the Appendix to this report. The capital improvement projects included in the rate program are designed to keep existing infrastructure in good repair and maintain current service levels. There is about a $2 million deficiency in fiscal years 2024-2027 in which the proposed rates in this report are not expected to fund.
- **Reserve Targets –** Target reserves for operations and maintenance (O&M) and capital system replacement, which essentially follow industry standards for utility fund management, are set at the following levels for the water utilities:
  - ✓ Operating Reserve (Fund 650) – 90-days of O&M expenses.
  - ✓ System Replacement Reserve (Fund 653) – approximately 6.0% of net assets value (i.e., net of depreciation).
  - ✓ Rate Stabilization Reserve (Fund 652) – equal to 20% of current level of rate revenue.
- **Inflation and Growth Projections:**
  - ✓ Customer growth is estimated at 2.1% annually based on historical growth.
  - ✓ General costs (such as professional and contractual services, fuel, vehicle maintenance, etc.) are estimated at 3% annually.
  - ✓ Ground water production costs are estimated at 6.6% annually based on average annual increases.
  - ✓ Labor costs are estimated at 5% annually and include health and retirement benefits for both utilities.
  - ✓ Energy expenses are estimated to increase at a rate of 20% in FY 2022/23 and 5% annually thereafter.

- ✓ No inflation is added to other budget items, such as late fee revenue, lease income, and miscellaneous fees.

- **Revenue Stabilization Rates** – New revenue stabilization rates were developed as part of the study with the intent of stabilizing the City's variable rate revenue that may be affected by low water sales due to conservation or unusual weather patterns (i.e., not just declared drought stages).
  - ✓ Once adopted through Prop 218, these rates can be implemented when volumetric revenue drop by 10%, 15%, 20%, 25% and 30%.
  - ✓ Revenue Stabilization rates are revocable; when volumetric revenue losses subside, revenue stabilization rates would be rescinded and the current proposed volumetric rate would be used. Commodity or volumetric rates are charged per unit of water, or hundred cubic feet (hcf), or 748 gallons.
  - ✓ The City will provide adequate notice prior to implementation and rescission.
  - ✓ Although details are yet to be finalized, a key qualification for revenue stabilization rates to be implemented is the period and level of volumetric rate revenue losses (i.e., revenues below the expected revenue level[3]). Higher volumetric rates, beginning with 10 percent increase would be implemented and, depending on the level of revenue losses, can be increased by additional increments of five percent but capped at 30 percent.

[3] Expected volumetric rate revenue could be based on the average month-to-month consumption (calculated as a percentage of the annual consumption over the prior three years, times the projected annual consumption).

SECTION 2. WATER RATE STUDY

KEY WATER RATE STUDY ISSUES

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

- Generating sufficient revenue to meet projected funding requirements.
- Analyzing the impacts from drought levels and COVID-19 impacts to customer consumption.
- Meeting target reserve fund levels and minimizing customer bill impact on rate payers.

The fixed and volume-based charges calculated were based on the net revenue requirements, number of customer accounts, water consumption, and other City-provided information. The following are the basic components included in this analysis:

- **Developing Unit Costs:** The water revenue requirements were "functionalized" into five categories: (1) customer service costs; (2) fixed capacity costs; (3) commodity (or volume-based) costs; (4) fire protection costs; and (5) zonal-specific costs. Unit costs for each of these functions were determined based on allocations to functional areas, which reflect water consumption, peaking factors, number of accounts by meter size, and customer class.
- **Determining Revenue Requirements by Customer Class:** The total revenue that should be collected from each customer class was determined using the unit costs and the total units belonging to each class. For example, customer costs are allocated based on number of meters, while volume-related costs are allocated based on the water consumption for each class. Once the costs are allocated and the revenue requirement for each customer class is determined, collecting these revenue requirements from each customer class is addressed in the rate design task.
- **Rate Design and Fixed vs. Variable Costs:** The revenue requirements for each customer class are collected from both fixed service charges and volumetric (commodity) charges. The cost-of-service analysis indicated that approximately 46% of the City's costs are fixed and 54% are variable. Although state regulatory agencies, such as the California Water Efficiency Partnership (formerly the California Urban Water Conservation Council), has historically recommended that water utilities collect at least 70% of rate revenue from volumetric rates to encourage conservation, this has resulted in many water agencies collecting less than the necessary revenues during mandated conservation periods. Because of this, many utilities have chosen to collect less than 70% from volumetric rates. NBS recommends the City adopt the rates proposed in this report using approximately 46/54 fixed/volumetric rate design that better represents the utility's true cost structure and provides greater revenue stability compared to one that collects more revenue from volumetric rates.

WATER UTILITY REVENUE REQUIREMENTS

It is important for municipal utilities to maintain reasonable reserves in order to handle minor 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, maintain adequate debt coverage, and maintain sufficient reserve funds. The current condition of the City's water utility, with regard to these objectives is as follows:

- **Meeting Net Revenue Requirements:** The City's water utility is currently running a structural surplus (i.e., for Fiscal Year 2021/22). For Fiscal Year 2022/23 through 2026/27, the projected annual net revenue requirement (i.e., total annual expenses plus rate-funded capital costs, less non-rate revenues) is approximately $19.6 million. This average revenue requirement assumes that most of the planned capital improvement projects will be funded over the next five years with both reserve funds and rate revenue. During fiscal years 2023/24-2026/27, there is a $2 million deficiency for the planned capital improvement program. NBS is recommending the following rate increases:
    - 9% in fiscal year 2022/23
    - 9% in fiscal year 2023/24
    - 7% in fiscal year 2024/25
    - 7% in fiscal year 2025/26
    - 3% in fiscal year 2026/27

- **Building and Maintaining Reserve Funds:** The City should maintain sufficient reserves for the Water Utility. NBS recommends that the City maintain reserve levels in order to meet the following reserve fund target balances:

    - ✓ **Operating Reserve (Fund 650)** should normally equal 90 days of the Utility's budgeted annual operating expenses, which is equal to a three-month (or 25%) cash reserve for normal operations. An Operating Reserve is intended to promote financial viability in the event of any short-term fluctuation in revenues and/or expenditures, such as those caused by weather patterns, the natural inflow and outflow of cash during billing cycles, natural variability in demand-based revenue streams (e.g., volumetric charges), and – particularly in periods of economic distress – changes or trends in age of receivables.
    - ✓ **Rate Stabilization Fund (Fund 652)** has a target ending balance of 20% of estimated rate revenue, as set by current City policy. This reserve is to further promote financial stability in the event of short-term reductions in rate revenues.
    - ✓ **Capital System Replacement Reserve (Fund 653)** should typically be equal to a minimum of 6% of net depreciable capital assets. This target serves simply as a starting point for addressing long-term capital system replacement needs.

No debt reserve is recommended in this study, due to the fact that the 2014 Water Refunding & CIP Revenue Bonds do not require funds to be held in reserve. If at some point the City issues additional debt, this policy should be revised to reflect the requirements at that time.

Figure 2 summarizes the sources and uses of funds and net revenue requirements for the next five years, assuming the City funds 100% of the planned CIP projects over this period.

Figure 2. Summary of Water Revenue Requirements

Summary of Sources and Uses of Funds and Net Revenue Requirements	Budget FY 2021/22	5-Year Rate Adoption Period FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Sources of Water Funds						
Rate Revenue Under Prevailing Rates	$ 15,179,148	$ 15,497,910	$ 15,823,366	$ 16,155,656	$ 16,494,925	$ 16,841,319
Non-Rate Revenues	1,098,954	1,106,147	1,113,492	1,120,991	1,128,647	1,136,465
Interest Earnings	180,121	176,388	164,908	110,214	94,864	79,547
Total Sources of Funds	**$ 16,458,222**	**$ 16,780,445**	**$ 17,101,766**	**$ 17,386,862**	**$ 17,718,436**	**$ 18,057,331**
Uses of Water Funds						
Operating Expenses	$ 11,785,202	$ 13,027,679	$ 13,665,520	$ 14,337,001	$ 15,043,999	$ 15,788,501
Rate-Funded Capital Expenses	-	890,787	6,412,621	7,432,357	8,616,828	9,023,266
Total Use of Funds	**$ 11,785,202**	**$ 13,918,466**	**$ 20,078,141**	**$ 21,769,358**	**$ 23,660,827**	**$ 24,811,767**
Surplus (Deficiency) before Rate Increase	**$ 4,673,020**	**$ 2,861,978**	**$ (2,976,375)**	**$ (4,382,496)**	**$ (5,942,391)**	**$ (6,754,436)**
Additional Revenue from Rate Increases	-	1,394,812	2,976,375	4,382,496	5,942,391	6,754,436
Surplus (Deficiency) after Rate Increase	**$ 4,673,020**	**$ 4,256,790**	**$ -**	**$ -**	**$ -**	**$ -**
Projected Annual Rate Increase	***0.00%***	***9.00%***	***9.00%***	***7.00%***	***7.00%***	***3.00%***
Net Revenue Requirement[1]	**$ 10,506,128**	**$ 12,635,931**	**$ 18,799,741**	**$ 20,538,153**	**$ 22,437,316**	**$ 23,595,754**

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

Figure 3 summarizes the projected reserve fund balances and reserve targets for the next five years. Because of the capital projects needed over the next five fiscal years, the City will dip below target reserve levels until fiscal year 2030/31, when the water system replacement fund can catch up to target levels. Detail of the water utility's proposed 5-year financial plan are included in the Appendix of this report. These tables include revenue requirements, reserve funds, capital improvement detail, revenue sources and proposed rate increases for the 5-year period.

Figure 3. Summary of Water Reserve Funds

Beginning Reserve Fund Balances and Recommended Reserve Targets	Budget FY 2021/22	5-Year Rate Adoption Period FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Water Operations Fund (650)	$ 2,946,301	$ 3,256,920	$ 3,256,920	$ 3,256,920	$ 3,256,920	$ 3,256,920
Recommended Minimum Target	*2,946,301*	*3,256,920*	*3,416,380*	*3,584,250*	*3,761,000*	*3,947,125*
Water System Replacement Fund (653)	$ 8,288,597	$ 7,246,771	$ 3,763,100	$ 2,785,359	$ 1,809,794	$ 834,340
Recommended Minimum Target	*2,953,600*	*3,300,600*	*3,763,100*	*4,236,000*	*4,757,700*	*5,194,200*
Rate Stabilization Fund (652)	$ 3,035,830	$ 3,083,492	$ 3,131,903	$ 3,181,074	$ 3,231,017	$ 3,281,744
Recommended Minimum Target	*3,035,830*	*3,099,582*	*3,164,673*	*3,231,131*	*3,298,985*	*3,368,264*
Total Ending Balance	**$ 14,270,727**	**$ 13,587,183**	**$ 10,151,923**	**$ 9,223,353**	**$ 8,297,731**	**$ 7,373,003**
Total Recommended Minimum Target	***$ 8,935,730***	***$ 9,657,102***	***$ 10,344,153***	***$ 11,051,382***	***$ 11,817,685***	***$ 12,509,589***

CHARACTERISTICS OF WATER CUSTOMERS BY CLASS

The amount of consumption, the peaking factors, and the number of meters by customer class are all used in allocating costs as a part of the cost-of-service analysis. The City's most recent consumption data is summarized in **Figure 4**, peaking factors by customer class are summarized in **Figure 5**, and **Figure 6** compares the total number of meters by customer class.

Figure 4. Water Consumption by Customer Class

Customer Class	FY 2020/21 Volume (hcf)[1]	Percent of Total Volume
Single Family - Inside	1,773,378	**57.7%**
Single Family - Outside	52,931	**1.7%**
Multi-Family	319,696	**10.4%**
Commercial	929,760	**30.2%**
Grand Total	**3,075,765**	**100.0%**
Fire	565	**0.02%**

1. Consumption data source: *Morgan Hill_2018-2021 Consumption Billing Data.xlsx*

Figure 5. Peaking Factors by Customer Class

Customer Class	Average Monthly Use (hcf)	Peak Monthly Use (hcf)[1]	Peak Month Factor	Max Month Capacity Factor
Single Family - Inside	147,782	217,683	**1.47**	**58.2%**
Single Family - Outside	4,411	6,725	**1.52**	**1.8%**
Multi-Family	26,641	31,378	**1.18**	**8.4%**
Commercial	77,480	118,489	**1.53**	**31.7%**
Grand Total	**256,314**	**374,275**	**1.46**	**100.0%**
Fire	47	261	**5.54**	**0.1%**

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

Figure 6. Number of Meters by Customer Class

Customer Class	Number of Meters[1]	Percent of Total
Single Family - Inside	10,502	**69.9%**
Single Family - Outside	308	**2.1%**
Multi-Family	2,284	**15.2%**
Commercial	1,663	**11.1%**
Fire	263	**1.75%**
Grand Total	**15,020**	**100.0%**

1. Number of meters is from source: *Morgan Hill_2018-2021 Consumption Billing Data.xlsx*

COST OF SERVICE ANALYSIS

Once the revenue requirements for the water utility are determined, the cost-of-service analysis distributes those revenue requirements to each of the customer classes. The cost-of-service analysis consists of two major components: (1) the functionalization and classification of expenses, and (2) the allocation of costs to customer classes. This process is described as follows:

Functionalization, Classification and Allocations

Most costs are not typically allocated 100% to fixed or variable categories and, therefore, are allocated to multiple functions of water service. The classification (i.e., functionalization) of costs provides the basis for allocating the classified costs to the following cost-causation components:

- ***Commodity*** related costs are those costs associated with the total consumption of water over a specified period of time (e.g., annual).
- ***Capacity*** related costs are those costs associated the maximum-month demand and the design capacity of facilities required to meet this demand.
- ***Customer*** related costs are costs associated with having a customer on the water system, such as meter reading, postage and billing.
- ***Fire Protection*** costs are associated with providing sufficient capacity in the system for fire meters and other operations and maintenance costs of providing water to properties for private fire service protection.
- ***Zonal*** related costs are costs that are directly allocated to the zonal elevation surcharges that include the cost of electricity needed to pump water to higher elevation zones. These surcharges are discussed in Section 4 of this report.

Once costs have been organized in the City's functional budget categories, they are allocated to these cost causation components that are used as the basis for establishing new water rates and translate to fixed and variable charges. The tables in the Appendix show how the City's expenses were classified and allocated to these cost causation components and then into fixed and variable costs in more detail.

Fixed costs generally consist of costs that a utility incurs to serve customers irrespective of the amount of water they use. These include (1) the infrastructure (capacity-related facilities) required to provide service to customers, (2) costs associated with the peaking requirements, or maximum demand which affects the maximum size of water supply, treatment and delivery system, and (3) administrative and billing costs associated with meter reading, postage and billing.

Variable costs are those that change as the volume of water produced and delivered changes. These commonly include the costs of chemicals used in the treatment process, energy related to pumping for transmission and distribution, and source of supply.

Ideally, utilities should recover all of their fixed costs from fixed charges and all of their variable costs from volumetric charges; when this is the case, fluctuations in water sales revenues would be directly offset by reductions or increases in variable expenses. Because of this, this rate design provides greater revenue stability. However, other factors are often considered when designing water rates such as community values, water conservation goals, ease of understanding, and ease of administration.

NBS allocated the functionalization of costs into categories that can be more generally grouped into the fixed and variable costs discussed above. This analysis resulted in a cost distribution that is about 50% fixed and 50% variable (volumetric). **Figure 7** summarizes how costs are allocated to each cost component and used to establish new water rates. As a result, 52.6% of revenue will be collected from commodity rates, 41.3% will be collected from fixed capacity-related charges, 3.7% from fixed customer-related charges, 0.94% will be collected from fire-protection fixed charges and 1.5% will be collected from zonal elevation surcharges.

Figure 7. Allocated Net Revenue Requirements

Classification Components	Proposed Rate Adjusted Net Revenue Requirements	
Commodity-Related Costs	$ 8,879,127	52.6%
Capacity-Related Costs (Fixed)	6,978,331	41.3%
Customer-Related Costs	625,855	3.7%
Fire Protection-Related Costs	158,592	0.94%
Subtotal Revenue Requirement	**$ 16,641,905**	98.5%
Zonal-Related Costs	$ 250,817	1.5%
Net Total Revenue Requirement	**$ 16,892,721**	100%

1. Zonal Related Costs are recovered via the zonal charge and are not included in this rate revenue calculation.

Costs Allocated to Customer Classes

Customer classes are typically determined by grouping customers with similar demand characteristics into categories that reflect the cost differentials to serve each type of customer. The new rates will remain in the same structure as current rates and will continue to be distinguished between residential and non-residential customer classes. These two groups of customers will have different fixed charges by meter size that reflects the different costs incurred to serve residential vs. non-residential classes of customers. **Figure 8** shows how costs are distributed to each customer class (except zonal related costs).

Figure 8. Distribution of Costs to Each Customer Class

Customer Class	Cost Classification Components				Cost of Service Net Revenue Req'ts	% of COS Net Revenue Req'ts
	Commodity	Capacity	Customer	Fire Protection		
Residential (Single & Multi-Family)	$ 6,195,093	$ 4,769,112	$ 545,602	$ -	$ 11,509,807	69.2%
Non-Residential (Commercial)	$ 2,684,034	$ 2,209,219	$ 69,294	$ -	$ 4,962,547	29.8%
Fire	$ -	$ -	$ 10,959	$ 158,592	$ 169,550	1.0%
Grand Total	**$ 8,879,127**	**$ 6,978,331**	**$ 625,855**	**$ 158,592**	**$ 16,641,905**	**100%**

Commodity related costs are distributed to each customer class based on the percentage of water consumed (previously shown in Figure 4). Capacity related costs are distributed to each customer class based on the peaking factors (previously shown in Figure 5). Customer related costs are distributed to each customer class based on the number of customers in each customer class (previously shown in Figure 6). A direct allocation is made in the functionalization and classification process to commercial fire which reflects their share of system-wide costs.

CURRENT VS. PROPOSED WATER RATE STRUCTURES

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. One of the City's main objectives in this study was to develop a rate structure that would provide the utility with continual revenue stability and promote conservation.

Fixed Charges

Meter sizes have different fixed charges based on the capacity requirements of each size meter connected to the system. This is because larger meters have the potential to use more of the system's capacity, or said differently, they have higher peaking factors compared to smaller meters. The potential capacity demanded (peaking) is proportional to the maximum hydraulic flow through each meter size as established by the AWWA hydraulic capacity ratios[4]. As an example, a 2-inch meter has a greater capacity, or potential peak demand than a 3/4-inch meter; therefore, the fixed charge for a 2-inch meter is larger than a 3/4-inch meter based on their proportionate capacity requirements[5]. 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).

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 (which dictates the sizing of the system's maximum capacity). A significant portion of a water system's peak capacity, and in turn, the utility's fixed operating and capital costs, are related to meeting system capacity requirements.

Currently, the City charges all customer classes a fixed monthly charge based on meter size and customer class. NBS recommends maintaining the current fixed rate structure. Not uncommon in industry practice, 5/8-inch and 3/4-inch meters are set to be equivalent to the 1-inch base meter.

Fire service customers will still be subject to a different set of fixed charges than the other customer classes. Fire service customers differ from other water service customers because their service is more of a standby service, where a readiness-to-serve charge is appropriate. Except in the event of a fire, these users are not intended to use water on a regular basis (as shown previously in Figure 4). However, the City still needs to provide sufficient capacity for fire meters and recover other operations and maintenance costs of providing water to such properties for private fire service protection. Based on the cost-of-service analysis and the standby nature of fire meters, the overall cost to serve these users is less than that of a standard service; therefore, the fixed charges are less.

Figures 9, 10 and **11** show how fixed meter charges were calculated for each customer class. The customer component of the rate is $3.47 per meter and does not vary by meter size because it represents costs to the utility for having connections to the water system. Capacity costs vary by meter size and are based on their hydraulic capacity, but customer costs remain consistent across all customers.

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[4] *See: American Water Works Association, Principles of Water Rates, Fees and Charges: Manual of Water Supply Practices M1, 386, (7th ed. 2017) and American Water Works Association, Water Meters – Selection, Installation, Testing and Maintenance M6, 65 (5th ed. 2012).*

[5] *This is reflected in the fixed charge calculations by using the AWWA hydraulic capacity factors to represent the maximum volume each meter size is capable of delivering.*

Figure 9. Calculation of FY 2022/23 Residential Fixed Meter Charges

Residential Meter Size	Hydraulic Capacity Factor	Number of Meters	Total Equivalent Meters	Fixed Meter Charge		Total Monthly Fixed Meter Charge	Estimated Revenue from Fixed Charges
				Customer Component	Capacity Component		
5/8-1 inch	*1.00*	12,981	12,981	$3.47	$29.63	$33.10	$ 5,155,716
1.5 inch	*2.00*	41	82	$3.47	$59.25	$62.72	$ 30,860
2 inch	*3.20*	60	192	$3.47	$94.80	$98.27	$ 70,757
3 inch	*6.40*	-	-	$3.47	$189.60	$193.08	$ -
4 inch	*10.00*	8	80	$3.47	$296.25	$299.73	$ 28,774
6 inch	*20.00*	4	80	$3.47	$592.51	$595.98	$ 28,607
Total *(Residential Customers)*		**13,094**	**13,415**				**$ 5,314,714**

Figure 10. Calculation of FY 2022/23 Non-Residential Fixed Meter Charges

Non-Residential Meter Size	Hydraulic Capacity Factor	Number of Meters	Total Equivalent Meters	Fixed Meter Charge		Total Monthly Fixed Meter Charge	Estimated Revenue from Fixed Charges
				Customer Component	Capacity Component		
5/8-1 inch	*1.00*	703	703	$3.47	$50.14	$53.62	$ 452,314
1.5 inch	*2.00*	360	720	$3.47	$100.29	$103.76	$ 448,252
2 inch	*3.20*	549	1,757	$3.47	$160.46	$163.94	$ 1,080,008
3 inch	*6.40*	14	90	$3.47	$320.93	$324.40	$ 54,499
4 inch	*10.00*	35	350	$3.47	$501.45	$504.92	$ 212,067
6 inch	*20.00*	1	20	$3.47	$1,002.90	$1,006.37	$ 12,076
8 inch	*32.00*	1	32	$3.47	$1,604.63	$1,608.11	$ 19,297
10 inch	*84.00*	-	-	$3.47	$4,212.16	$4,215.63	$ -
Total *(Non-Residential Customers)*		**1,663**	**3,671**				**$ 2,278,513**

Figure 11. Calculation of FY 2022/23 Private Fire Protection Fixed Meter Charges

Fire Meter Size	Hydraulic Capacity Factor	Number of Meters	Total Equivalent Meters	Fixed Meter Charge		Total Monthly Fixed Meter Charge	Estimated Revenue from Fixed Charges
				Customer Component	Capacity Component		
2 inch	*3.20*	1	3	$3.47	$4.64	$8.11	$ 97
3 inch	*7.00*	-	-	$3.47	$10.14	$13.61	$ -
4 inch	*14.00*	64	896	$3.47	$20.28	$23.75	$ 18,242
6 inch	*32.00*	126	4,032	$3.47	$46.36	$49.83	$ 75,340
8 inch	*56.00*	67	3,752	$3.47	$81.12	$84.59	$ 68,014
10 inch	*88.00*	5	440	$3.47	$127.48	$130.95	$ 7,857
Total *(Fire Customers)*		**263**	**9,123**				**$ 169,550**

Volumetric Rates

Currently, the City charges all customers a uniform commodity rate for all water consumed (commodity or volumetric rates are charged per unit of water, or hundred cubic feet (hcf), or 748 gallons). NBS recommends maintaining the uniform, or single-tier, volumetric rate for all customers. It is easier to demonstrate that the use of a uniform volumetric rate meets the requirements of Proposition 218.

In addition, because of the significant differences in typical water use of commercial customers (e.g., laundromat vs. restaurants vs. office space), uniform commodity charges are a commonly used rate structure for these types of customers and is the primary reason why tiered rates typically aren't used for commercial customers. **Figure 12** shows water consumption, commodity related costs, and the uniform volumetric rate that will apply to all customer classes.

Figure 12. Calculation of FY 2022/23 Uniform Volumetric Rates

	Number of Meters[1]	Water Consumption (hcf/yr.)[2]	Target Rev. Req't from Vol. Charges	% of Total Rate Revenue	Uniform Commodity Rates ($/hcf)	*Proposed Rate Structure*
Residential	13,094	2,146,005	$ 6,195,093	36.7%	$2.89	*Uniform*
Non-Residential	1,663	929,760	$ 2,684,034	15.9%		
Subtotal	**14,757**	**3,075,765**	**$ 8,879,127**	**53%**		
Fire	263	565	$ -	0.00%	$2.89	*Uniform*
Grand Total	**15,020**	**3,076,330**	**$ 8,879,127**	**53%**		

1. Number of meters and consumption by size and class is per the City of Morgan Hill's utility billing data as of May 2021 in the Billed Consumption Report by Month spreadsheets.

Current and Proposed Water Rates

Figure 13 compares the current and proposed rates for Fiscal Year 2022/23 through 2026/27.

Figure 13. Current and Proposed Water Rates for FY 2022/23 through 2026/27

Water Rate Schedule	Current	Proposed Monthly Water Rates				
	Monthly Rates	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Fixed Service Charges						
Single- and Multi-Family Residential:						
5/8 inch	$31.14	$33.10	$36.08	$38.60	$41.30	$42.54
3/4 inch	$31.14	$33.10	$36.08	$38.60	$41.30	$42.54
1 inch	$31.14	$33.10	$36.08	$38.60	$41.30	$42.54
1.5 inch	$58.72	$62.72	$68.37	$73.15	$78.28	$80.62
2 inch	$91.81	$98.27	$107.12	$114.62	$122.64	$126.32
4 inch	$279.36	$299.73	$326.70	$349.57	$374.04	$385.26
6 inch	$555.17	$595.98	$649.62	$695.09	$743.75	$766.06
Non-Residential:						
5/8 inch	$47.23	$53.62	$58.44	$62.53	$66.91	$68.92
3/4 inch	$47.23	$53.62	$58.44	$62.53	$66.91	$68.92
1 inch	$47.23	$53.62	$58.44	$62.53	$66.91	$68.92
1.5 inch	$90.90	$103.76	$113.10	$121.02	$129.49	$133.37
2 inch	$143.31	$163.94	$178.69	$191.20	$204.58	$210.72
3 inch	$283.06	$324.40	$353.59	$378.35	$404.83	$416.98
4 inch	$440.28	$504.92	$550.36	$588.89	$630.11	$649.01
6 inch	$877.00	$1,006.37	$1,096.94	$1,173.73	$1,255.89	$1,293.56
8 inch	$1,401.07	$1,608.11	$1,752.84	$1,875.53	$2,006.82	$2,067.03
Fire Service:						
5/8 inch	$4.02	$4.05	$4.42	$4.73	$5.06	$5.21
3/4 inch	$4.25	$4.34	$4.73	$5.06	$5.42	$5.58
1 inch	$4.71	$4.92	$5.36	$5.74	$6.14	$6.33
1.5 inch	$5.86	$6.37	$6.94	$7.43	$7.95	$8.19
2 inch	$7.24	$8.11	$8.84	$9.46	$10.12	$10.42
3 inch	$11.61	$13.61	$14.84	$15.88	$16.99	$17.50
4 inch	$19.66	$23.75	$25.89	$27.70	$29.64	$30.53
6 inch	$40.37	$49.83	$54.31	$58.11	$62.18	$64.05
8 inch	$67.98	$84.59	$92.21	$98.66	$105.57	$108.74
10 inch	$104.79	$130.95	$142.74	$152.73	$163.42	$168.32
Volumetric Charges						
Uniform Rate, All Customers	$2.57	$2.89	$3.15	$3.37	$3.60	$3.71

1. The FY 2022/23 rate increase will be effective July 1, 2022; subsequent rate increases will be effective on July 1st each year.

Figures 14 and **15** compare monthly bills for single-family and multi-family residential customers under current and proposed rates at varying levels of water consumption. **Figure 16** compares monthly bills for commercial customers under current and proposed rates at varying levels of water consumption. The recommended rates and monthly bills shown in these Figures differ from existing rates due to both the rate increases and changes in the allocation factors (water consumption, peaking factors, etc.), which change over time. The City's current policy is to charge 5/8" – 1" meters the same rate; this practice has been maintained in the proposed rates shown in Figure 13, per direction from City Staff.

Figure 14. Comparison of Monthly Water Bills for Single-Family Residential Customers

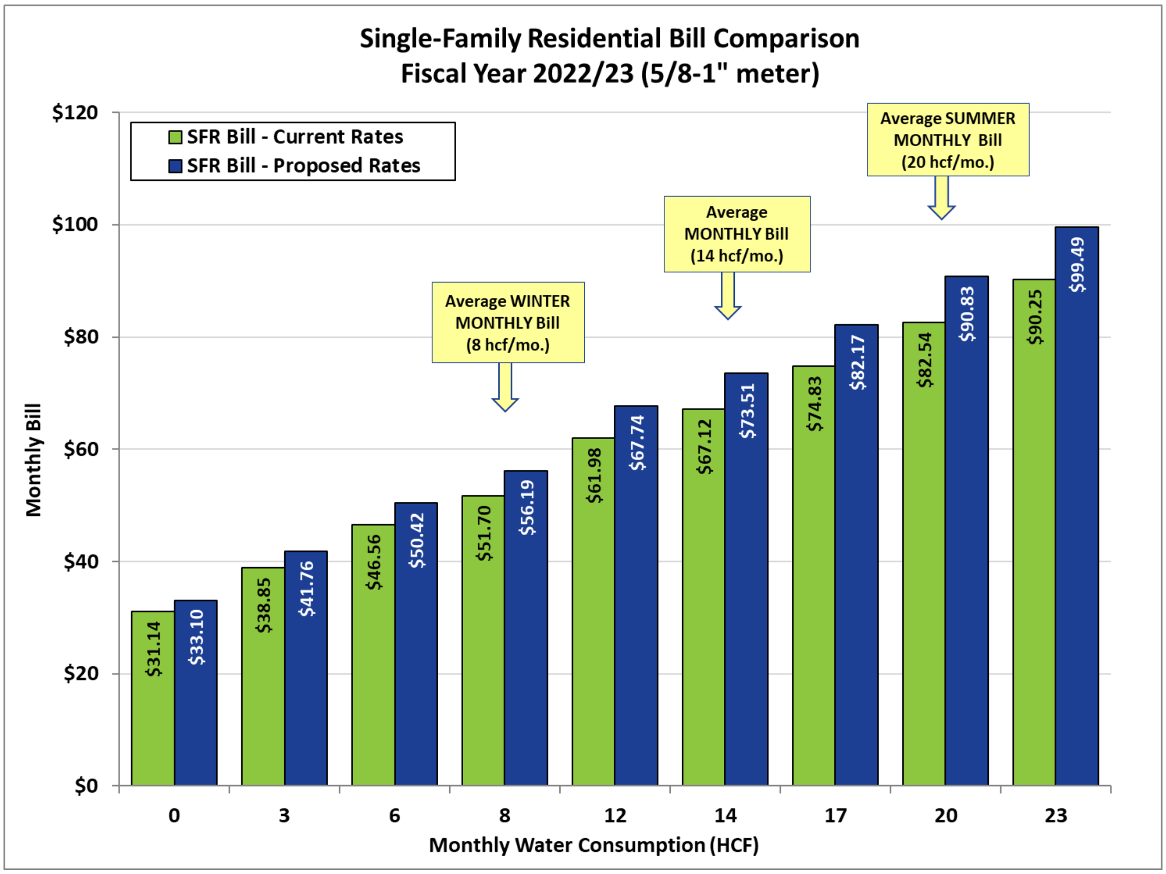


Figure 15. Comparison of Monthly Water Bills for Multi-Family Residential Customers

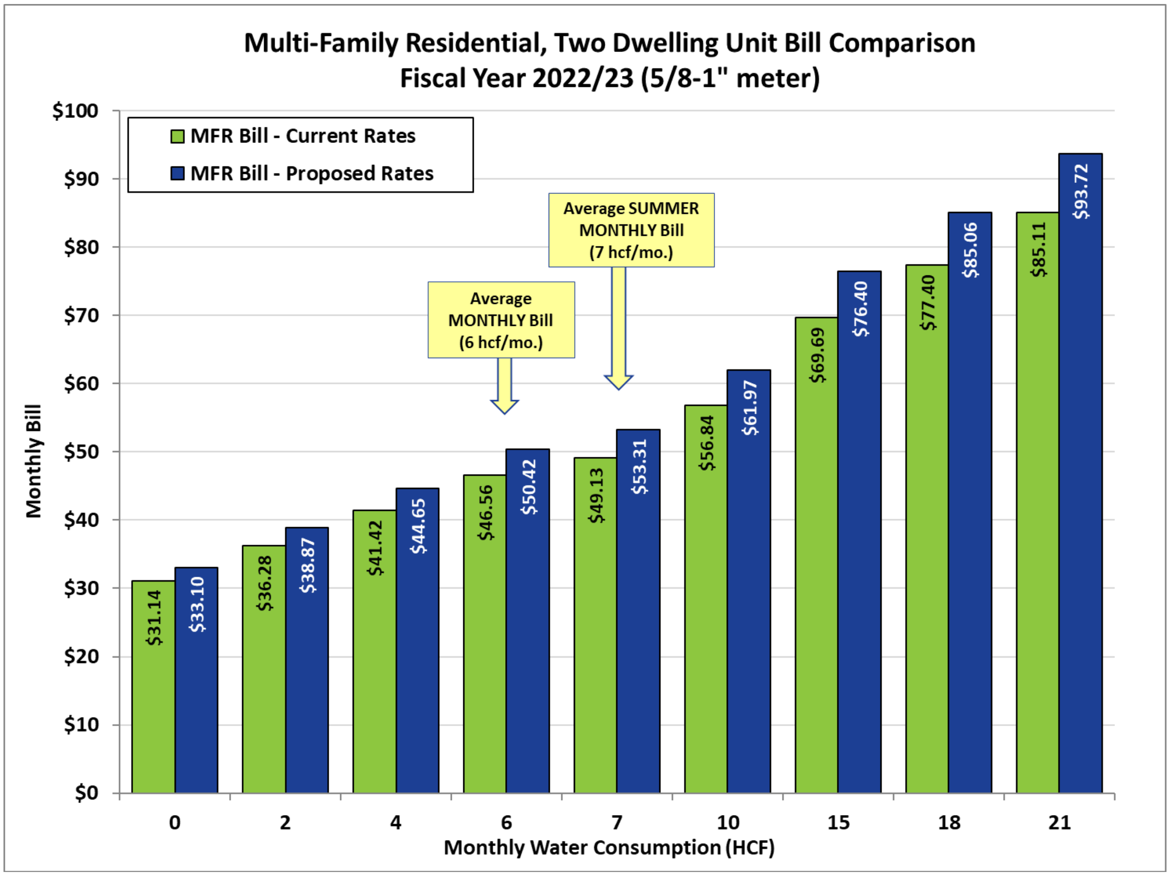
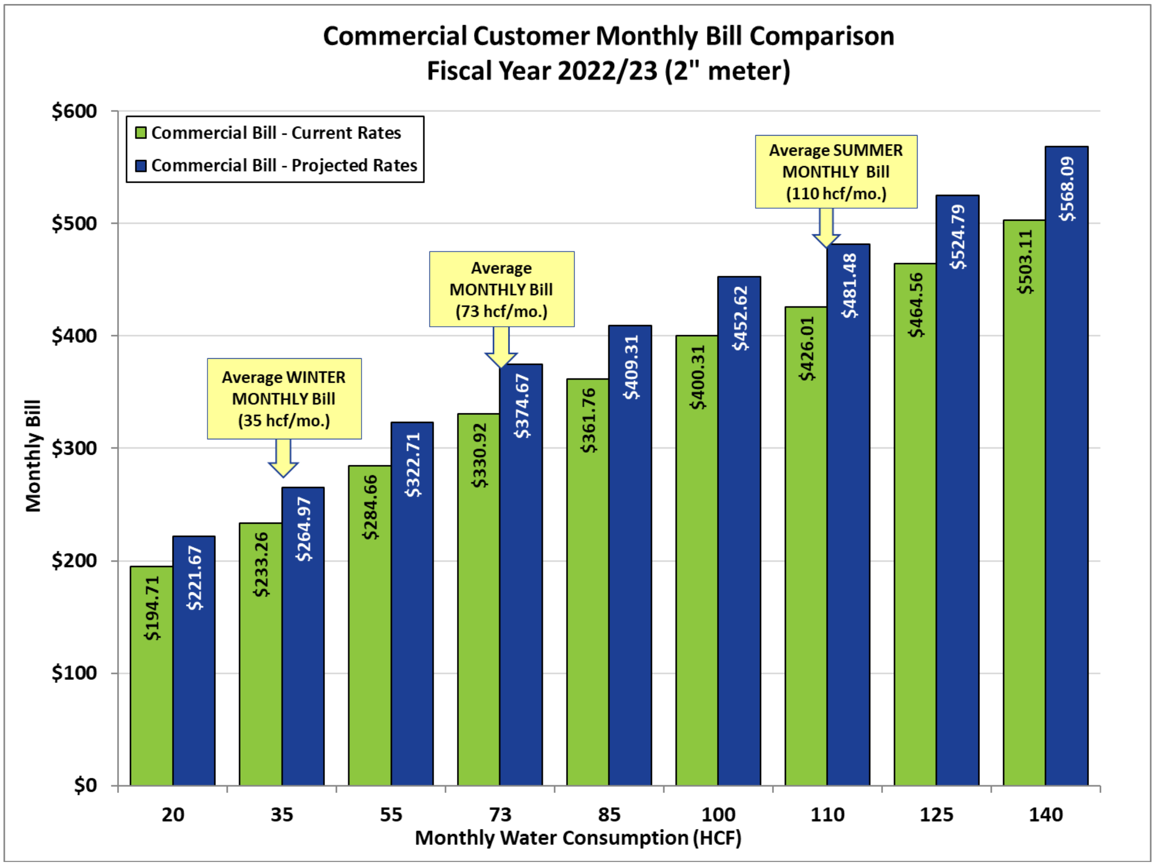


Figure 16. Comparison of Monthly Water Bills for Commercial Customers



SECTION 3. REVENUE STABILIZATION RATE ANALYSIS

If revenue from volumetric rates fall below the levels currently expected, the City is still obligated to meet its annual net revenue requirements. In contrast to drought rates, which are specifically intended to respond to revenue losses related to various drought stages, revenue stabilization rates are intended to offset revenue losses for any reason. For example, revenue losses could be related to conservation, unusual weather conditions, catastrophic loss of system infrastructure, or similar emergencies. To this end, revenue stabilization rates have been developed so that the water utility would still be kept financially whole under these conditions.

CALCULATION OF REVENUE STABILIZATION RATES

The intent of revenue stabilization rates is to offset the revenue losses that may be due to a variety of reasons and thereby decoupling this process from specific drought rates, drought stages, and/or State-mandated conservation. Revenue stabilization rates are the expected volumetric rate revenue divided by the reduced levels of water sales.

Figure 17 shows the estimated water consumption by customer class at various levels of reduction, up to 30%. **Figure 18** shows the calculation of the revenue stabilization rates for FY 2022/23. **Figure 19** shows the whole proposed rate schedule for revenue stabilization rates through FY 2026/27.

Figure 17. Average Monthly Consumption at Various Levels of Conservation

Customer Class	Water Consumption[1] (hcf/yr.)	Annual Consumption at Various Levels of Reduction				
		10%	15%	20%	25%	30%
Single Family - Inside	1,773,378	1,596,040	1,507,371	1,418,702	1,330,034	1,241,365
Single Family - Outside	52,931	47,638	44,991	42,345	39,698	37,052
Multi-Family	319,696	287,726	271,742	255,757	239,772	223,787
Commercial	929,760	836,784	790,296	743,808	697,320	650,832
Total	**3,075,765**	**2,768,189**	**2,614,400**	**2,460,612**	**2,306,824**	**2,153,036**

1. Consumption data source: *Morgan Hill_2018-2021 Consumption Billing Data.xlsx*

Figure 18. Proposed Revenue Stabilization Rates for FY 2022/23

Customer Class	Total Target Rev. Req't from Vol. Charges	10%	15%	20%	25%	30%
Residential (Single & Multi-Family)	$ 6,195,093					
Non-Residential (Commercial)	$ 2,684,034	$3.21	$3.40	$3.61	$3.85	$4.12
Fire	$ -					
Grand Total	**$ 8,879,127**					

Figure 19. Proposed Revenue Stabilization Rates FY 2022/23 through FY 2026/27

	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
10% Revenue Stabilization Rate*	$3.21	$3.50	$3.82	$4.09	$4.38
15% Revenue Stabilization Rate*	$3.40	$3.71	$4.04	$4.32	$4.62
20% Revenue Stabilization Rate*	$3.61	$3.93	$4.28	$4.58	$4.90
25% Revenue Stabilization Rate*	$3.85	$4.20	$4.58	$4.90	$5.24
30% Revenue Stabilization Rate*	$4.12	$4.49	$4.89	$5.23	$5.60

* Revenue Stabilization Rates would be implemented if current revenue from water sales are below the percentages indicated.

REVENUE-STABILIZATION RATE TRIGGER AND COUNCIL NOTIFICATION

For background/informational purposes, City Staff (staff) will provide the City Council with the average units of water sales (for each month) for the rolling previous three years at the periodic financial update, which will serve as the "baseline" against which current annual sales to date will be compared. The City will include a revenue stabilization rate schedule in each budget year (and Proposition 218 Notices) indicating the volumetric rate for increases of 10%, 15%, 20%, 25% and 30%. This information will be provided as a part of the budget package each year.

If staff determines that annual water sales revenue to date is more than 10% below expected year-to-date levels (based on monthly averages over the previous three-years) and expense reduction measures have been reviewed and considered, staff will implement the revenue-stabilization rates. Staff will inform the Council of the revenue-stabilization rates implementation at the earliest financial update. Staff will also update the Council on current reserve levels and provide an analysis of why the revenue losses are occurring, along with a six-month projection of anticipated water sales.

Implementing Revenue Stabilization Rates: Once City staff has informed the Council of implementation, the Council may:

- Act to implement less than 100% of the revenue stabilization rates at the earliest billing cycle.
- Utilize reserves to meet all or part of the revenue gap.
- Take no action, which results in implementation of revenue stabilization rates from the revenue-stabilization rate schedule[6].

Rescinding Revenue Stabilization Rates: Once the volumetric water sales revenue has returned to expected levels[7], City staff will rescind the revenue-stabilization rates and previously adopted uniform volumetric rate are (again) in effect. In addition, City staff will inform the Council of such action at the earliest financial update.

[6] *The Revenue-Stabilization rate schedule will be the current uniform volumetric rate that correspond to water sales reductions of 10%, 15%, 20%, 25% and 30%.*

[7] *The expected year-to-date volumetric rate revenue is the three-year rolling average monthly water sales (in units) times the currently adopted uniform volumetric water rate.*

SECTION 4. ZONAL ELEVATION SURCHARGES

OVERVIEW OF ZONAL ELEVATION SURCHARGES

While most of the City's water customers are located within normal elevation zones (those not requiring significant additional infrastructure to get water to the higher elevations), some customers are in higher elevation zones that costs more to pump water to them. These elevation surcharges are part of the current rate structure and NBS evaluated the current cost of service for these customers.

Although this analysis could have included the annual costs of power as well as pumping facility maintenance and replacement costs, the calculated surcharges only included annual power costs. The City decided to only recover power costs at least partly because the fixed assets of the water system are sized to provide fire protection, not just water service, and fire protection is a community-wide issue for which the costs are shared community-wide. Also, surcharges for all three zones were calculated as a single volumetric rate based on the annual flows through these three zones.

NBS is proposing a single volumetrically based zonal elevation surcharge since energy is a variable cost. **Figure 20** shows the proposed water zonal elevation surcharges.

Figure 20. Water Zonal Elevation Surcharges

	Surcharge Costs	VOLUMETRIC SURCHARGES (for 100% of Power Costs)			Total Revenue
Elevation Zones	Annual Power Costs	Annual Flow (hcf)	Costs to Recover in Volumetric Surcharge	Volumetric Surcharges ($/hcf)	Fixed + Volumetric Revenue from Surcharges
All Zones	$ 267,520	752,540	$ 267,520	**$0.36**	$ 267,520
Total	**$ 267,520**	**752,540**	**$ 267,520**	**--**	**$ 267,520**

A five-year projection of costs was prepared as part of the zonal elevation surcharge analysis, in order to provide a five-year schedule of surcharges that is consistent with the rate schedules prepared in this study. **Figure 21** show the five-year schedules of zonal elevation surcharge options. Refer to the Appendix of this report, which show the detail of how the surcharges were calculated.

Figure 21. Five-Year Schedule of Water Zonal Elevation Surcharges

Water Enterprise Zonal Elevation Surcharges: *Volumetric Surcharges*						
Elevation Zones	**Current**	**FY 2021/22**	**FY 2022/23**	**FY 2023/24**	**FY 2024/25**	**FY 2025/26**
Volumetric Surcharges ($/hcf)	$0.11	$0.36	$0.37	$0.39	$0.41	$0.43

1. The Annual % increase is due to inflation of energy costs.

SECTION 5. RECOMMENDATIONS AND NEXT STEPS

CONSULTANT RECOMMENDATIONS

NBS recommends the City take the following actions for the water and wastewater rates:

- **Approve and Accept This Study Report:** NBS recommends that the City Council formally approve and adopt this report and its recommendations. This will provide documentation of the rate study analyses and the basis for analyzing potential changes to future rates.
- **Maintain Reserve Fund Targets**: The City should periodically evaluate reserve fund levels and make it a long-term goal to achieve these levels for the Operating, Capital, and Rate Stabilization Reserves.
- **Implement Recommended Levels of Rate Increases and Proposed Rates**: Based on the analysis presented in this report, the City Council should implement the proposed water rates recommended in this report for the next five years as shown in Figure 13 in Section 2 of this report.
- **Adopt Revenue Stabilization Rates:** Adopt the revenue stabilization rates shown in Figure 19 in Section 3 of this report.
- **Adopt Elevation Zone Surcharges:** Adopt the zonal surcharges shown in Figures 21 in Section 4 of this report.
- **Complete a Legal Review:** This rate study outlines proposed new rates, including new revenue stabilization rates, updated zonal elevation surcharges, and the continued use of outside surcharges. Particularly in light of changing legal requirements, these rates should be reviewed by competent legal counsel with respect to compliance with Proposition 218 and related State laws prior to adoption, including language for new resolutions and public notices required to implement these rates.

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 drought-related water consumption patterns underscore the need for this review, as well as potential and unseen changing revenue requirements, particularly those related to environmental regulations that can significantly affect capital improvements and repair and replacement costs.

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

PRINCIPAL ASSUMPTIONS AND CONSIDERATIONS

In preparing this report and the recommendations included herein, NBS has relied on a number of principal assumptions and considerations with regard to financial matters, number of customer accounts, conditions and events that may occur in the future. This information and assumptions, including the City's budgets and customer account 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 or may vary significantly due to unanticipated events and circumstances. Therefore, the actual results can be expected to vary from those projected to the extent that actual future conditions differ from those assumed by us or provided to us by others.

APPENDIX - WATER RATE ANALYSIS

TABLE 1 : FINANCIAL PLAN AND SUMMARY OF REVENUE REQUIREMENTS

RATE REVENUE REQUIREMENTS SUMMARY	Budget	5-Year Rate Adoption Period					Projected			
	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Sources of Water Funds										
Rate Revenue:										
Current Rate Revenue	$ 15,179,148	$ 15,497,910	$ 15,823,366	$ 16,155,656	$ 16,494,925	$ 16,841,319	$ 17,194,986	$ 17,556,081	$ 17,924,759	$ 18,301,179
Non-Rate Revenue in Operations & System Replacement Funds:										
Interest Income[1]	180,121	176,388	164,908	110,214	94,864	79,547	64,233	84,685	104,494	149,683
Other, Non-Rate Revenues	1,098,954	1,106,147	1,113,492	1,120,991	1,128,647	1,136,465	1,144,446	1,152,595	1,160,915	1,169,410
Total Sources of Funds	**$ 16,458,222**	**$ 16,780,445**	**$ 17,101,766**	**$ 17,386,862**	**$ 17,718,436**	**$ 18,057,331**	**$ 18,403,665**	**$ 18,793,361**	**$ 19,190,168**	**$ 19,620,272**
Uses of Water Funds										
Operating Expenses[2]										
Water Operations	$ 9,785,473	$ 10,785,807	$ 11,339,535	$ 11,923,538	$ 12,539,549	$ 13,189,404	$ 13,875,048	$ 14,598,542	$ 15,362,070	$ 16,167,943
Water Operations - Capital Expenses	860,985	886,815	913,419	940,822	969,046	998,118	1,028,061	1,058,903	1,090,670	1,123,390
Utility Billing	957,802	998,262	1,040,523	1,084,667	1,130,781	1,178,958	1,229,293	1,281,886	1,336,843	1,394,273
Water Conservation	157,393	332,540	347,059	362,242	378,118	394,721	412,085	430,246	449,242	469,112
Water Rate Stabilization Fund Admin.	371	383	394	406	418	431	443	457	470	485
Water System Replacement Fund	23,178	23,874	24,590	25,328	26,088	26,870	27,676	28,507	29,362	30,243
Subtotal: Operating Expenses	$ 11,785,202	$ 13,027,679	$ 13,665,520	$ 14,337,001	$ 15,043,999	$ 15,788,501	$ 16,572,607	$ 17,398,541	$ 18,268,656	$ 19,185,446
Other Expenditures:										
Rate-Funded Capital Expenses	$ -	$ 890,787	$ 6,412,621	$ 7,432,357	$ 8,616,828	$ 9,023,266	$ 6,688,244	$ 6,690,613	$ 5,015,485	$ 5,610,429
Subtotal: Other Expenditures	$ -	$ 890,787	$ 6,412,621	$ 7,432,357	$ 8,616,828	$ 9,023,266	$ 6,688,244	$ 6,690,613	$ 5,015,485	$ 5,610,429
Total Uses of Water Funds	**$ 11,785,202**	**$ 13,918,466**	**$ 20,078,141**	**$ 21,769,358**	**$ 23,660,827**	**$ 24,811,767**	**$ 23,260,850**	**$ 24,089,153**	**$ 23,284,141**	**$ 24,795,875**
plus: Revenue from Rate Increases[3]	-	1,394,812	2,976,375	4,382,496	5,942,391	6,754,436	7,137,192	7,535,504	7,949,935	8,381,064
Increase/Decrease to Reserves	**$ 4,673,020**	**$ 4,256,790**	**$ -**	**$ -**	**$ -**	**$ -**	**$ 2,280,007**	**$ 2,239,712**	**$ 3,855,961**	**$ 3,205,461**
Net Revenue Reqt. *(Total Uses less Non-Rate Revenue)*	$ 10,506,128	$ 12,635,931	$ 18,799,741	$ 20,538,153	$ 22,437,316	$ 23,595,754	$ 22,052,171	$ 22,851,873	$ 22,018,732	$ 23,476,782
Total Rate Revenue After Rate Increases	**$ 15,179,148**	**$ 16,892,721**	**$ 18,799,741**	**$ 20,538,153**	**$ 22,437,316**	**$ 23,595,754**	**$ 24,332,178**	**$ 25,091,585**	**$ 25,874,694**	**$ 26,682,243**

Projected Annual Rate Revenue Increase	***0.00%***	***9.00%***	***9.00%***	***7.00%***	***7.00%***	***3.00%***	***1.00%***	***1.00%***	***1.00%***	***1.00%***
Cumulative Increase from Annual Revenue Increases	*0.00%*	*9.00%*	*18.81%*	*27.13%*	*36.03%*	*40.11%*	*41.51%*	*42.92%*	*44.35%*	*45.80%*
Debt Coverage After Rate Increase [4]	***4.45***	***4.22***	***5.12***	***6.63***	***6.84***	***6.84***	***6.68***	***6.67***	***6.66***	***6.66***
Target Debt Coverage	***1.20***	***1.20***	***1.20***	***1.20***	***1.20***	***1.20***	***1.20***	***1.20***	***1.20***	***1.20***

1. Interest earnings for FY 2021/22 are per the City's budget projections. For all future years, interest earnings are calculated here based on historical LAIF returns and projected cash balances.
2. The FY 2021/22 operating expenses are per the City's budget projections. Inflationary factors are applied to these expenses to project costs in FY 2022/23 and beyond.
3. Revenue from rate increases are implemented on January 1, 2022, so the City will collect 6 months of the increased rate revenue for the first year of the adjustment. The rate increase for future years through 2026 will occur on January 1 annually.
4. Per the Installment Loan Agreement for the 2014 Revenue Bonds, the City is required to maintain a debt coverage ratio of 1.20 for these bond issues and all other parity debt. Connection fee revenue and interest earnings in that fund are figured into this calculation.

TABLE 2 : RESERVE FUND SUMMARY

SUMMARY OF CASH ACTIVITY	Budget	5-Year Rate Adoption Period					Projected			
	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Total Beginning Cash[1]	**$ 14,627,203**									
Water Operations Fund (650)										
Beginning Reserve Balance[1]	$ 2,958,793	$ 2,946,301	$ 3,256,920	$ 3,256,920	$ 3,256,920	$ 3,256,920	$ 3,256,920	$ 4,143,152	$ 4,349,635	$ 4,567,164
Plus: Net Cash Flow (After Rate Increases)	4,673,020	4,256,790	-	-	-	-	2,280,007	2,239,712	3,855,961	3,205,461
Plus: Transfer of Debt Reserve Surplus	-	-	-	-	-	-	-	-	-	-
Plus: Transfer of Rate Stabilization Reserve Surplus	134,930	-	-	-	-	-	-	-	-	-
Less: Transfer Out to Water System Replacement Reserve	(4,820,442)	(3,946,171)	-	-	-	-	(1,393,775)	(2,033,229)	(3,638,432)	(2,976,264)
Less: Transfer Out to Rate Stabilization Fund	-	-	-	-	-	-	-	-	-	-
Ending Operating Reserve Balance	***$ 2,946,301***	***$ 3,256,920***	***$ 3,256,920***	***$ 3,256,920***	***$ 3,256,920***	***$ 3,256,920***	***$ 4,143,152***	***$ 4,349,635***	***$ 4,567,164***	***$ 4,796,361***
Target Ending Balance (90-days of O&M)[2]	*$ 2,946,301*	*$ 3,256,920*	*$ 3,416,380*	*$ 3,584,250*	*$ 3,761,000*	*$ 3,947,125*	*$ 4,143,152*	*$ 4,349,635*	*$ 4,567,164*	*$ 4,796,361*
Water System Replacement Fund (653)										
Beginning Reserve Balance[1]	$ 8,513,872	$ 8,288,597	$ 7,246,771	$ 3,763,100	$ 2,785,359	$ 1,809,794	$ 834,340	$ 1,250,817	$ 2,306,010	$ 4,966,775
Plus: Grant Proceeds	-	-	-	-	-	-	-	-	-	-
Plus: Transfer of Operating Reserve Surplus	4,820,442	3,946,171	-	-	-	-	1,393,775	2,033,229	3,638,432	2,976,264
Less: Existing Debt Service (Replacement Fund Allocation of 59%)[3]	(978,736)	(976,266)	(975,971)	(977,741)	(975,565)	(975,454)	(977,298)	(978,036)	(977,667)	(976,192)
Less: Use of Reserves for Capital Projects	(4,066,982)	(4,011,731)	(2,507,700)	-	-	-	-	-	-	-
Ending System Replacement Reserve Bal.	***$ 8,288,597***	***$ 7,246,771***	***$ 3,763,100***	***$ 2,785,359***	***$ 1,809,794***	***$ 834,340***	***$ 1,250,817***	***$ 2,306,010***	***$ 4,966,775***	***$ 6,966,847***
Target Ending Balance (6% of Assets)[2,4]	*$ 2,953,600*	*$ 3,300,600*	*$ 3,763,100*	*$ 4,236,000*	*$ 4,757,700*	*$ 5,194,200*	*$ 5,460,800*	*$ 5,719,500*	*$ 5,872,800*	*$ 6,056,000*
Rate Stabilization Fund (652)										
Beginning Reserve Balance[1]	$ 3,154,538	$ 3,035,830	$ 3,083,492	$ 3,131,903	$ 3,181,074	$ 3,231,017	$ 3,281,744	$ 3,333,267	$ 3,385,599	$ 3,438,753
Plus: Contributions to Rate Stabilization Fund	-	-	-	-	-	-	-	-	-	-
Plus: Interest Earnings[5]	16,222	47,663	48,411	49,171	49,943	50,727	51,523	52,332	53,154	53,988
Less: Transfer of Surplus to Operating Reserve	(134,930)	-	-	-	-	-	-	-	-	-
Ending Rate Stabilization Balance	***$ 3,035,830***	***$ 3,083,492***	***$ 3,131,903***	***$ 3,181,074***	***$ 3,231,017***	***$ 3,281,744***	***$ 3,333,267***	***$ 3,385,599***	***$ 3,438,753***	***$ 3,492,742***
Target Ending Balance (20% of Estimated Revenue)[2]	*$ 3,035,830*	*$ 3,099,582*	*$ 3,164,673*	*$ 3,231,131*	*$ 3,298,985*	*$ 3,368,264*	*$ 3,438,997*	*$ 3,511,216*	*$ 3,584,952*	*$ 3,660,236*
Ending Balance - Excludes Debt Reserve	$ 14,270,727	$ 13,587,183	$ 10,151,923	$ 9,223,353	$ 8,297,731	$ 7,373,003	$ 8,727,235	$ 10,041,244	$ 12,972,693	$ 15,255,950
Minimum Target Ending Balance - Excludes Debt Reserve	$ 8,935,730	$ 9,657,102	$ 10,344,153	$ 11,051,382	$ 11,817,685	$ 12,509,589	$ 13,042,949	$ 13,580,351	$ 14,024,916	$ 14,512,597
Ending Surplus/(Deficit) Compared to Reserve Targets	***$ 5,334,997***	***$ 3,930,081***	***$ (192,230)***	***$ (1,828,029)***	***$ (3,519,954)***	***$ (5,136,586)***	***$ (4,315,714)***	***$ (3,539,107)***	***$ (1,052,223)***	***$ 743,353***
Days Cash on Hand for Unrestricted Funds[6]	***483***	***412***	***293***	***252***	***216***	***182***	***205***	***224***	***274***	***306***
City's Minimum DCOH (per City Fiscal Policies)	***202***	***193***	***189***	***186***	***183***	***180***	***177***	***175***	***172***	***170***

1. Total beginning cash is the sum of the projected cash balances in Funds 650, 651, 652, and 653 as of 07.01.21. Source file: *balance sheet.pdf* .
2. Reserve targets are set according to existing City policy.
3. Per email provided by Staff on 10.07.15, the debt service payment for the 2014 Water Revenue Bonds is split as follows: 41% to the Water Impact Fund (651) and 59% to the Water System Replacement Fund (653).
4. The Water System Replacement reserve target is set to 6% of net assets.
5. Interest earnings for FY 2021/22 are per the City's budget projections. For all future years, interest earnings are calculated here based on historical LAIF returns and projected cash balances per the California Treasurer's Office website Source: *https://www.treasurer.ca.gov/pmia-laif/historical/annual.asp* .
6. Days cash on hand represents the number of days cash the City has available to cover operating expenses and debt service payments.

TABLE 3 : RESERVE FUND SUMMARY, CONTINUED

SUMMARY OF CASH ACTIVITY, continued	Budget	5-Year Rate Adoption Period					Projected			
	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Restricted Reserves:										
Impact Fund (651)										
Beginning Reserve Balance[1]	$ 3,397,655	$ 2,123,277	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Plus: Interest Earnings[5]	64,003	33,335	-	-	-	-	-	-	-	-
Plus: Impact Fee Revenue[7]	1,782,143	918,214	1,146,810	2,608,188	1,722,220	1,287,082	1,072,302	1,072,302	1,072,302	1,072,302
Less: Annual Operating Expenditures	(51,830)	(53,385)	(54,986)	(56,636)	(58,335)	(60,085)	(61,888)	(63,744)	(65,657)	(67,626)
Less: Debt Service (Impact Fund Allocation of 41%)[3]	(680,139)	(678,422)	(678,217)	(679,447)	(677,935)	(677,858)	(679,139)	(679,652)	(679,396)	(678,371)
Less: Use of Reserves for Capital Projects	(2,388,555)	(2,343,019)	(413,607)	(1,872,105)	(985,950)	(549,139)	(331,275)	(328,906)	(327,250)	(326,305)
Ending Connection Fee Fund Balance	***$ 2,123,277***	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***
Annual Interest Earnings Rate[5]	*1.57%*	*1.57%*	*1.57%*	*1.57%*	*1.57%*	*1.57%*	*1.57%*	*1.57%*	*1.57%*	*1.57%*

1. Total beginning cash is the sum of the projected cash balances in Funds 650, 651, 652, and 653 as of 07.01.21. Source file: *balance sheet.pdf* .
2. Reserve targets are set according to existing City policy.
3. Per email provided by Staff on 10.07.15, the debt service payment for the 2014 Water Revenue Bonds is split as follows: 41% to the Water Impact Fund (651) and 59% to the Water System Replacement Fund (653).
4. The Water System Replacement reserve target is set to 6% of net assets.
5. Interest earnings for FY 2021/22 are per the City's budget projections. For all future years, interest earnings are calculated here based on historical LAIF returns and projected cash balances per the California Treasurer's Office website Source: *https://www.treasurer.ca.gov/pmia-laif/historical/annual.asp* .
6. Days cash on hand represents the number of days cash the City has available to cover operating expenses and debt service payments.
7. Impact fee revenue projections are from the following file: *Budget.xlsx* and updated per City staff via email March 9, 2022.

CHART 1

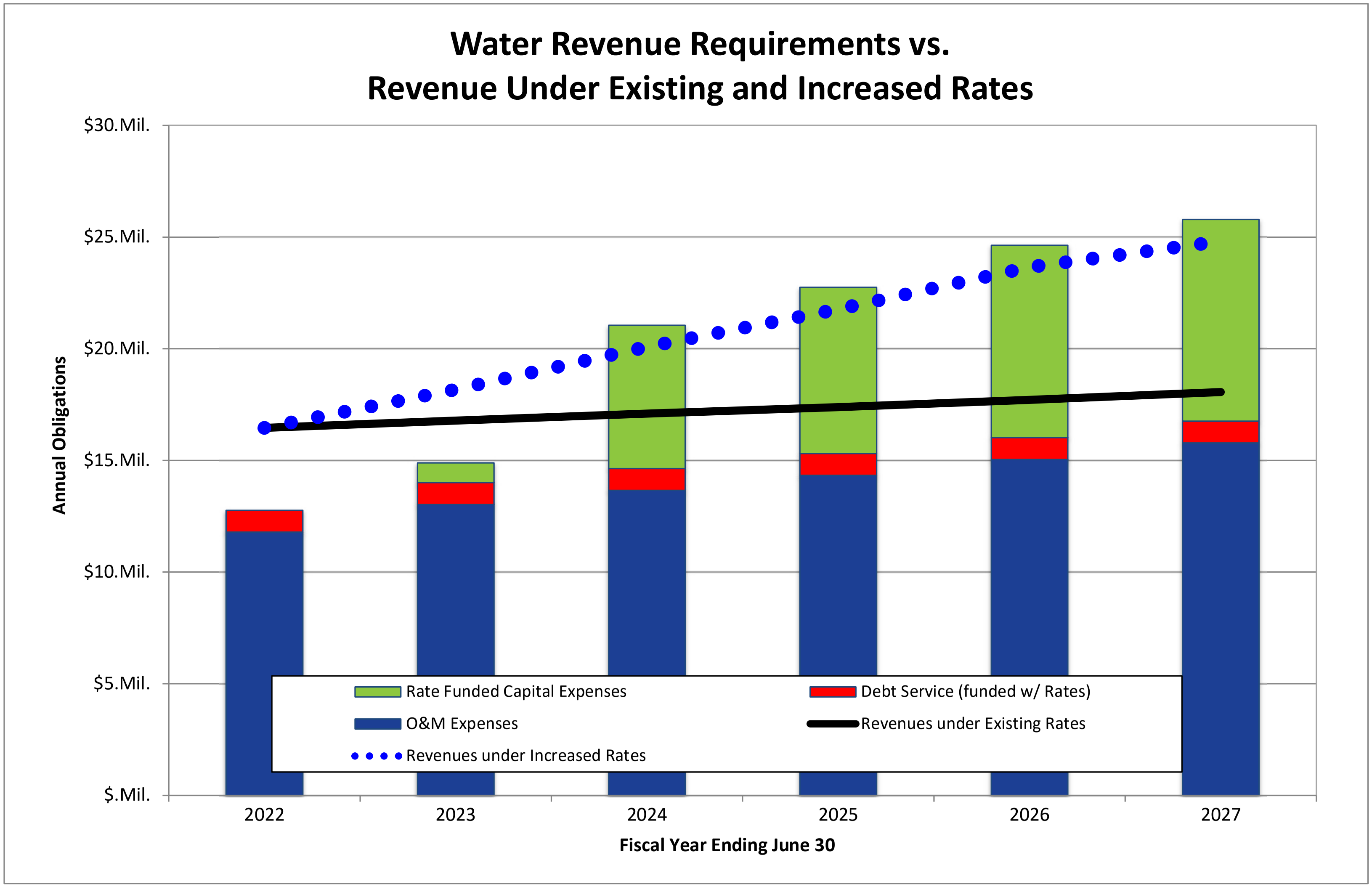

Water Revenue Requirements vs.
Revenue Under Existing and Increased Rates
Annual Obligations
$30.Mil.
$25.Mil.
$20.Mil.
$15.Mil.
$10.Mil.
$5.Mil.
$.Mil.
2022
2023
2024
2025
2026
2027
Fiscal Year Ending June 30
Rate Funded Capital Expenses
Debt Service (funded w/ Rates)
O&M Expenses
Revenues under Existing Rates
Revenues under Increased Rates

CHART 2

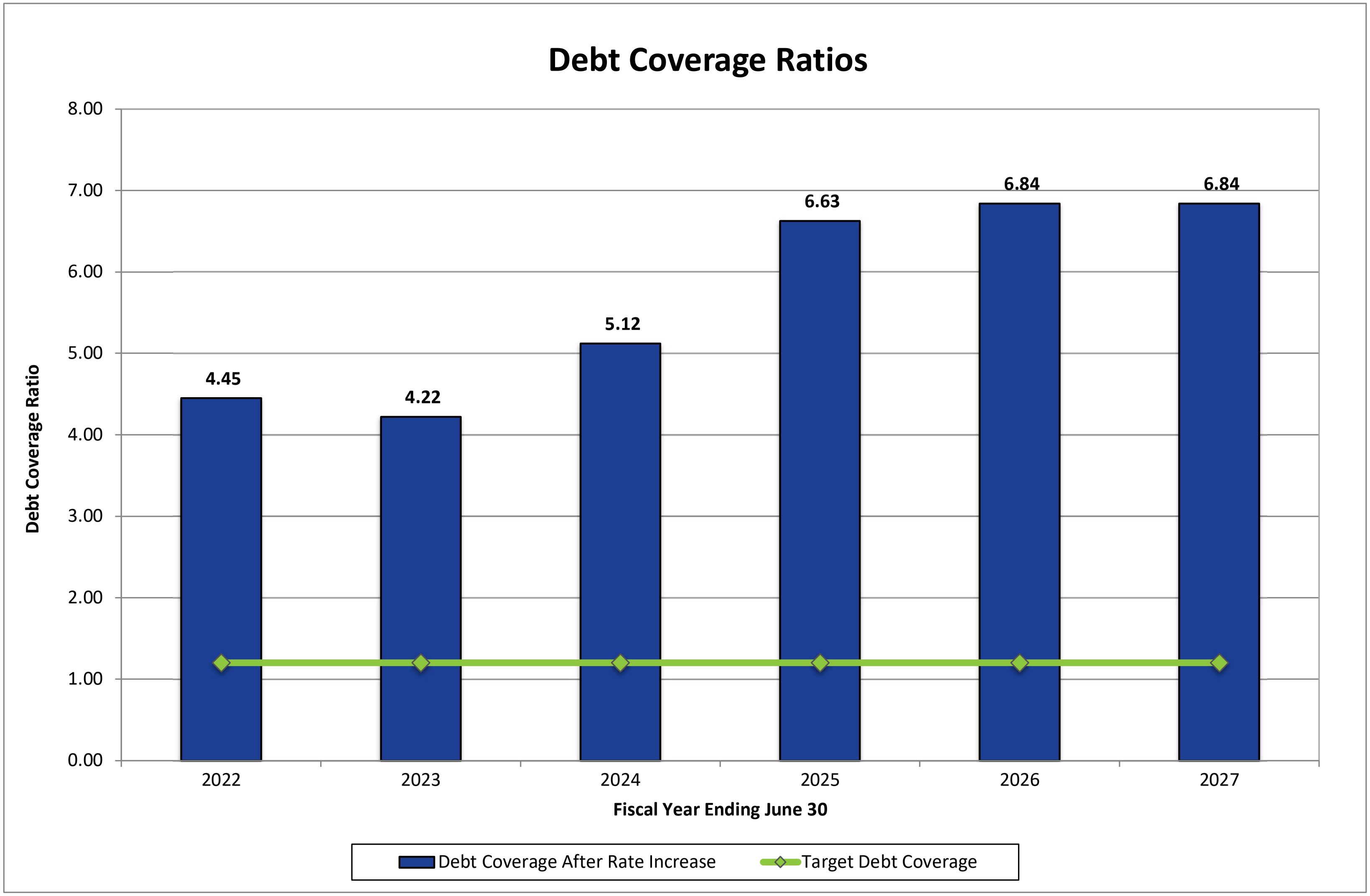

Debt Coverage Ratios
Debt Coverage Ratio
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
4.45
4.22
5.12
6.63
6.84
6.84
2022
2023
2024
2025
2026
2027
Fiscal Year Ending June 30
Debt Coverage After Rate Increase
Target Debt Coverage

CHART 3

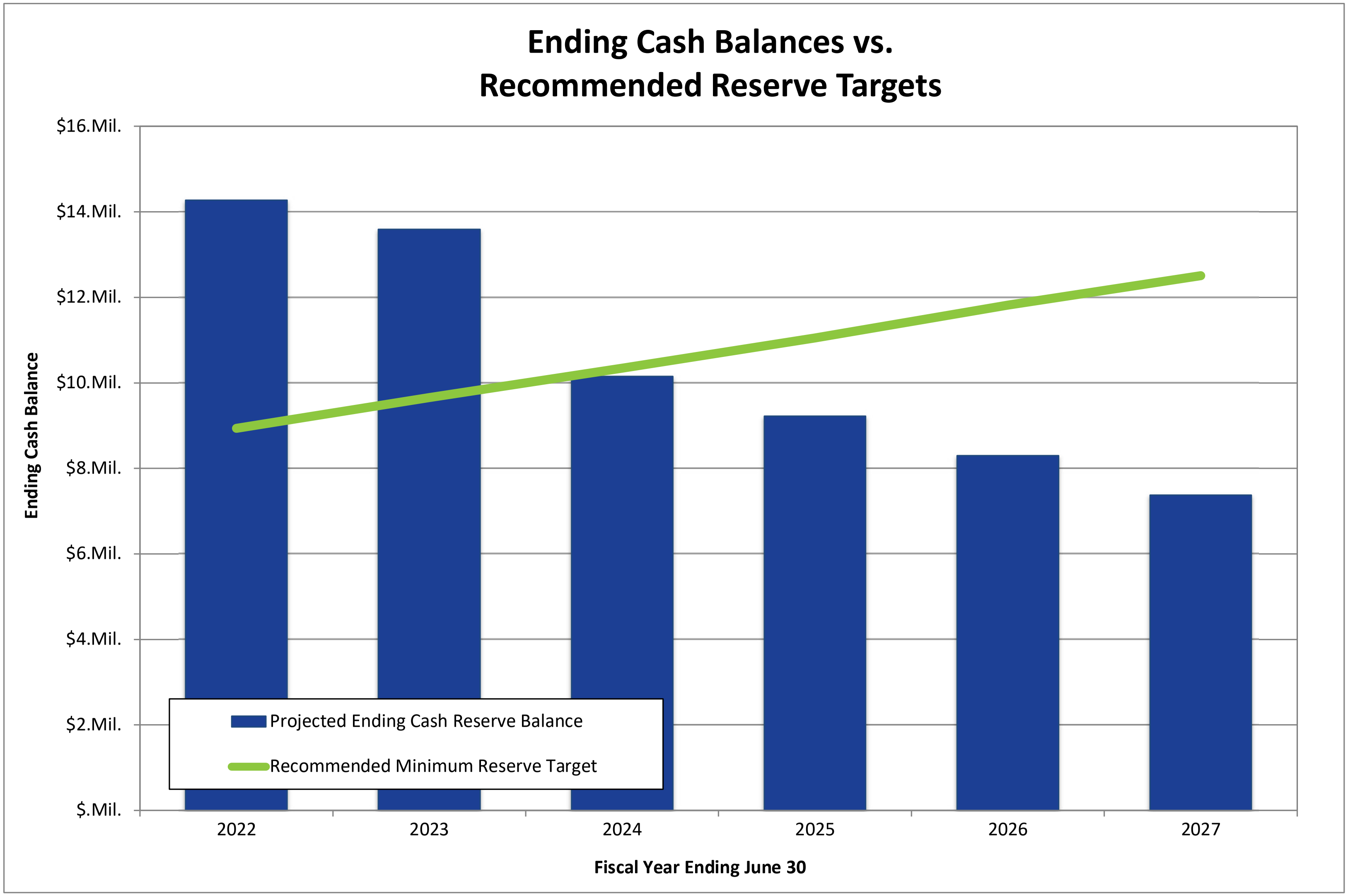

Ending Cash Balances vs.
Recommended Reserve Targets
$16.Mil.
$14.Mil.
$12.Mil.
$10.Mil.
$8.Mil.
$6.Mil.
$4.Mil.
$2.Mil.
$.Mil.
Ending Cash Balance
Projected Ending Cash Reserve Balance
Recommended Minimum Reserve Target
2022
2023
2024
2025
2026
2027
Fiscal Year Ending June 30

TABLE 4 : REVENUE FORECAST[1]

WATER OPERATIONS	Basis	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Water Operations Fund (650)											
INTEREST INCOME[2]	See FP	$ 58,595	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
RENT & CONCESSIONS	6	54,097	54,097	54,097	54,097	54,097	54,097	54,097	54,097	54,097	54,097
WATER SALES	1	15,179,148	15,497,910	15,823,366	16,155,656	16,494,925	16,841,319	17,194,986	17,556,081	17,924,759	18,301,179
BOOSTER STATION CHARGES	6	147,088	147,088	147,088	147,088	147,088	147,088	147,088	147,088	147,088	147,088
UB COLLECTIONS	6	2,806	2,806	2,806	2,806	2,806	2,806	2,806	2,806	2,806	2,806
METER INSTALL & SERVICE	1	25,215	25,745	26,285	26,837	27,401	27,976	28,564	29,163	29,776	30,401
REIMBURSEMENT OF EXPENSES	6	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000	40,000
MISC. SALES	6	5,253	5,253	5,253	5,253	5,253	5,253	5,253	5,253	5,253	5,253
ANNUAL BACKFLOW TESTING ADMINISTRATION	6	13,432	13,432	13,432	13,432	13,432	13,432	13,432	13,432	13,432	13,432
ANNUAL BACKFLOW INSPECTION	6	3,263	3,263	3,263	3,263	3,263	3,263	3,263	3,263	3,263	3,263
UTILITY ACCOUNT SET-UP	1	81,423	83,133	84,879	86,662	88,481	90,340	92,237	94,174	96,151	98,171
CONSTRUCTION BACKFLOW INSPECTION	6	2,101	2,101	2,101	2,101	2,101	2,101	2,101	2,101	2,101	2,101
UTILITY BILL DELINQ CHR	1	28,104	28,694	29,297	29,912	30,540	31,182	31,837	32,505	33,188	33,885
DELINQUENT BILL CHARGE	1	130,278	133,013	135,807	138,659	141,570	144,543	147,579	150,678	153,842	157,073
UTILITY SERVICE CALL	1	77,536	79,164	80,827	82,524	84,257	86,027	87,833	89,678	91,561	93,484
TRANSFER FROM-640 (SEWER OPS)	6	488,357	488,357	488,357	488,357	488,357	488,357	488,357	488,357	488,357	488,357
Water Impact Fund (651)											
INTEREST INCOME[2]	See FP	64,003	-	-	-	-	-	-	-	-	-
DEVELOPMENT IMPACT FEES (AB1600)	6	1,782,143	918,214	1,146,810	2,608,188	1,722,220	1,287,082	1,072,302	1,072,302	1,072,302	1,072,302
Water Rate Stabilization Fund (652)											
INTEREST INCOME [2]	See FP	16,222	-	-	-	-	-	-	-	-	-
Water System Replacement Fund (653)											
INTEREST INCOME[2]	See FP	17,211	-	-	-	-	-	-	-	-	-
TOTAL: REVENUE		**$18,216,275**	**$17,522,271**	**$18,083,668**	**$19,884,835**	**$19,345,793**	**$19,264,865**	**$19,411,734**	**$19,780,978**	**$20,157,976**	**$20,542,891**

TABLE 5 : REVENUE SUMMARY, CONT.

WATER OPERATIONS	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Water Operations Fund (650)										
WATER RATE REVENUE	$ 15,179,148	$ 15,497,910	$ 15,823,366	$ 16,155,656	$ 16,494,925	$ 16,841,319	$ 17,194,986	$ 17,556,081	$ 17,924,759	$ 18,301,179
INTEREST INCOME[2]	58,595	-	-	-	-	-	-	-	-	-
OTHER REVENUE	1,098,954	1,106,147	1,113,492	1,120,991	1,128,647	1,136,465	1,144,446	1,152,595	1,160,915	1,169,410
Water Impact Fund (651)										
IMPACT FEE REVENUE	1,782,143	918,214	1,146,810	2,608,188	1,722,220	1,287,082	1,072,302	1,072,302	1,072,302	1,072,302
INTEREST INCOME[2]	64,003	-	-	-	-	-	-	-	-	-
Water Rate Stabilization Fund (652)										
RATE STABILIZATION REVENUE	-	-	-	-	-	-	-	-	-	-
INTEREST INCOME[2]	16,222	-	-	-	-	-	-	-	-	-
Water System Replacement Fund (653)										
SYSTEM REPLACEMENT REVENUE	-	-	-	-	-	-	-	-	-	-
INTEREST INCOME[2]	17,211	-	-	-	-	-	-	-	-	-
TOTAL: REVENUE	**$ 18,216,275**	**$ 17,522,271**	**$ 18,083,668**	**$ 19,884,835**	**$ 19,345,793**	**$ 19,264,865**	**$ 19,411,734**	**$ 19,780,978**	**$ 20,157,976**	**$ 20,542,891**

1. Data source for the FY 2020/21-2021/22 budget is from the following file: *Budget.xlsx.* Inflationary factors are applied to project revenue and expenses in all future years.
   Impact fee revenue updated per City staff via email March 9, 2022.
2. Interest earnings beyond 2021/22 and internal transfers are calculated in the Financial Plan and Reserve Fund Summary of this model.

TABLE 6 : OPERATING EXPENSE FORECAST[1]

WATER OPERATIONS FUND - Operations	Basis	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
SALARIES											
SALARIES - GENERAL*	4	$ 1,862,956	$ 2,275,547	$ 2,389,325	$ 2,508,791	$ 2,634,230	$ 2,765,942	$ 2,904,239	$ 3,049,451	$ 3,201,923	$ 3,362,020
SALARIES - PART-TIME TEMP	4	13,792	14,482	15,206	15,966	16,764	17,602	18,483	19,407	20,377	21,396
EARNED LEAVE LIABILITY	4	44,788	47,027	49,378	51,847	54,440	57,162	60,020	63,021	66,172	69,480
OVERTIME - GENERAL	4	77,780	81,669	85,752	90,040	94,542	99,269	104,233	109,444	114,916	120,662
RETIREMENT - GENERAL	4	396,929	416,775	437,614	459,495	482,470	506,593	531,923	558,519	586,445	615,767
DEFERRED COMPENSATION	4	24,860	26,103	27,408	28,779	30,217	31,728	33,315	34,981	36,730	38,566
GROUP INSURANCE	4	330,233	346,745	364,082	382,286	401,400	421,470	442,544	464,671	487,905	512,300
MEDICARE	4	26,706	28,041	29,443	30,916	32,461	34,084	35,789	37,578	39,457	41,430
MEDICARE PTT AND OT	4	1,328	1,394	1,464	1,537	1,614	1,695	1,779	1,868	1,962	2,060
INCOME PROTECTION INS	4	11,926	12,522	13,148	13,806	14,496	15,221	15,982	16,781	17,620	18,501
WORKERS COMP	4	45,762	48,050	50,453	52,975	55,624	58,405	61,325	64,392	67,611	70,992
WORKERS COMP PTT AND OT	4	2,289	2,404	2,524	2,650	2,783	2,922	3,068	3,221	3,382	3,551
BENEFITS	4	7,097	7,452	7,824	8,216	8,626	9,058	9,511	9,986	10,486	11,010
UNIFORM	4	3,500	3,675	3,859	4,052	4,254	4,467	4,690	4,925	5,171	5,430
SUPPLIES			-	-	-	-	-	-	-	-	-
TAXES	6	535	535	535	535	535	535	535	535	535	535
ELECTRIC	5	1,197,082	1,436,499	1,508,324	1,583,740	1,662,927	1,746,073	1,833,377	1,925,046	2,021,298	2,122,363
GROUNDWATER PRODUCTION	3	3,508,289	3,739,836	3,986,666	4,249,785	4,530,271	4,829,269	5,148,001	5,487,769	5,849,962	6,236,059
WATER/SEWER	2	12,731	13,113	13,506	13,911	14,329	14,758	15,201	15,657	16,127	16,611
TELEPHONE	2	24,110	24,833	25,578	26,346	27,136	27,950	28,789	29,652	30,542	31,458
GASOLINE & OIL	2	36,771	37,874	39,010	40,181	41,386	42,628	43,906	45,224	46,580	47,978
CONTRACT SERVICES	2	346,470	356,864	367,570	378,597	389,955	401,654	413,703	426,114	438,898	452,065
BANK CARD SERVICE FEES	2	580	597	615	634	653	672	693	713	735	757
RENTALS - OUTSIDE	2	2,630	2,709	2,790	2,874	2,960	3,049	3,140	3,235	3,332	3,432
STATIONERY & OFFICE SUPPLIES	2	3,250	3,348	3,448	3,551	3,658	3,768	3,881	3,997	4,117	4,241
COMPUTER HARDWARE-NON CAPITAL	2	5,780	5,953	6,132	6,316	6,505	6,701	6,902	7,109	7,322	7,542
COMPUTER SOFTWARE-NON CAPITAL	2	2,630	2,709	2,790	2,874	2,960	3,049	3,140	3,235	3,332	3,432
OTHER SUPPLIES	2	225,710	232,481	239,456	246,639	254,039	261,660	269,510	277,595	285,923	294,500
ADVERTISING	2	3,250	3,348	3,448	3,551	3,658	3,768	3,881	3,997	4,117	4,241
PHOTOCOPYING	2	810	834	859	885	912	939	967	996	1,026	1,057
POSTAGE & FREIGHT	2	2,000	2,060	2,122	2,185	2,251	2,319	2,388	2,460	2,534	2,610
PRINTING	2	2,360	2,431	2,504	2,579	2,656	2,736	2,818	2,903	2,990	3,079
AUTO MILEAGE	2	290	299	308	317	326	336	346	357	367	378
CHEMICALS	2	31,827	32,782	33,765	34,778	35,822	36,896	38,003	39,143	40,317	41,527
WATER/SEWER MAINTENANCE SVS	2	53,045	54,636	56,275	57,964	59,703	61,494	63,339	65,239	67,196	69,212
SMALL TOOLS	2	11,820	12,175	12,540	12,916	13,304	13,703	14,114	14,537	14,973	15,422
OTHER EXPENSE	2	61,800	63,654	65,564	67,531	69,556	71,643	73,792	76,006	78,286	80,635
TRAINING & EDUCATION	2	12,600	12,978	13,367	13,768	14,181	14,607	15,045	15,496	15,961	16,440
CONFERENCE & MEETINGS	2	6,000	6,180	6,365	6,556	6,753	6,956	7,164	7,379	7,601	7,829
MEMBERSHIP & DUES	2	12,995	13,385	13,786	14,200	14,626	15,065	15,517	15,982	16,462	16,956
SUBSCRIPTION & PUBLICATIONS	2	225	232	239	246	253	261	269	277	285	294
MAINT - BLDGS/IMPROVEMENTS	2	43,290	44,589	45,926	47,304	48,723	50,185	51,691	53,241	54,838	56,484
MAINT - MACHINE/EQUIPMENT	2	32,460	33,434	34,437	35,470	36,534	37,630	38,759	39,922	41,119	42,353
MAINT - AUTO/TRUCKS	2	30,300	31,209	32,145	33,110	34,103	35,126	36,180	37,265	38,383	39,535
SUB-TOTAL: WATER OPERATIONS FUND - Operations		**8,521,586**	**9,483,462**	**9,997,552**	**10,540,699**	**11,114,598**	**11,721,046**	**12,361,949**	**13,039,325**	**13,755,314**	**14,512,186**

1. Data source for the FY 2020/21-2021/22 budget is from the following file: *Budget.xlsx.* Inflationary factors are applied to project revenue and expenses in all future years.

* Some salary costs are adjusted per City email on Febryary 2, 2022.

TABLE 7 : OPERATING EXPENSE FORECAST, CONT.[1]

WATER OPERATIONS FUND - Operations, cont.	Basis	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
CAPITAL											
COMPUTER EQUIPMENT	2	105,000	108,150	111,395	114,736	118,178	121,724	125,375	129,137	133,011	137,001
METERS	2	450,000	463,500	477,405	491,727	506,479	521,673	537,324	553,443	570,047	587,148
INTERNAL SERVICES											
GENERAL LIABILITY INSURANCE	2	146,604	151,002	155,532	160,198	165,004	169,954	175,053	180,304	185,714	191,285
BUILDING MAINT - CURRENT SERVICES	2	79,674	82,064	84,526	87,062	89,674	92,364	95,135	97,989	100,929	103,957
BUILDING MAINT - FUTURE REPLACEMENT	2	14,039	14,460	14,894	15,341	15,801	16,275	16,763	17,266	17,784	18,317
FLEET REPLACEMENT	2	305,985	315,165	324,619	334,358	344,389	354,720	365,362	376,323	387,613	399,241
GIS	2	27,969	28,808	29,673	30,563	31,480	32,424	33,397	34,399	35,431	36,493
INFO SYSTEM SERVICES	2	162,903	167,790	172,824	178,009	183,349	188,850	194,515	200,350	206,361	212,552
GF ADMIN	2	340,207	350,413	360,925	371,753	382,906	394,393	406,225	418,411	430,964	443,893
TRANSFERS											
TRANSFER OUT-010 (GENERAL FUND)	2	357,159	367,874	378,910	390,277	401,986	414,045	426,467	439,261	452,439	466,012
TRANSFER OUT-232 (ENVIRONMENTAL PROGRAMS)	2	108,269	111,517	114,863	118,308	121,858	125,513	129,279	133,157	137,152	141,266
TRANSFER OUT - EMPLOYEE BENEFITS FUND	4	27,062	28,415	29,836	31,328	32,894	34,539	36,266	38,079	39,983	41,982
SUB-TOTAL: WATER OPERATIONS FUND - Operations		**2,124,871**	**2,189,159**	**2,255,402**	**2,323,661**	**2,393,997**	**2,466,475**	**2,541,160**	**2,618,120**	**2,697,425**	**2,779,148**
TOTAL: WATER OPERATIONS FUND, Operations		**10,646,458**	**11,672,621**	**12,252,954**	**12,864,359**	**13,508,595**	**14,187,521**	**14,903,109**	**15,657,445**	**16,452,740**	**17,291,333**

1. Data source for the FY 2020/21-2021/22 budget is from the following file: *Budget.xlsx.* Inflationary factors are applied to project revenue and expenses in all future years.

TABLE 8 : OPERATING EXPENSE FORECAST, CONT.[1]

WATER OPERATIONS FUND - Utility Billing	Basis	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
SALARIES											
SALARIES - GENERAL	4	$ 418,147	$ 439,054	$ 461,007	$ 484,057	$ 508,260	$ 533,673	$ 560,357	$ 588,375	$ 617,794	$ 648,683
SALARIES - PART-TIME TEMP	4	-	-	-	-	-	-	-	-	-	-
EARNED LEAVE LIABILITY	4	7,893	8,288	8,702	9,137	9,594	10,074	10,578	11,106	11,662	12,245
RETIREMENT - GENERAL	4	72,607	76,237	80,049	84,052	88,254	92,667	97,300	102,165	107,274	112,637
DEFERRED COMPENSATION	4	5,436	5,708	5,993	6,293	6,607	6,938	7,285	7,649	8,031	8,433
GROUP INSURANCE	4	58,432	61,354	64,421	67,642	71,024	74,576	78,304	82,220	86,331	90,647
MEDICARE	4	4,830	5,072	5,325	5,591	5,871	6,164	6,473	6,796	7,136	7,493
MEDICARE PTT AND OT	4	-	-	-	-	-	-	-	-	-	-
INCOME PROTECTION INS	4	2,544	2,671	2,805	2,945	3,092	3,247	3,409	3,580	3,759	3,947
WORKERS COMP	4	8,392	8,812	9,252	9,715	10,201	10,711	11,246	11,808	12,399	13,019
WORKERS COMP PTT AND OT	4	-	-	-	-	-	-	-	-	-	-
BENEFITS	4	2,694	2,829	2,970	3,119	3,275	3,438	3,610	3,791	3,980	4,179
SUPPLIES											
TELEPHONE	2	1,600	1,648	1,697	1,748	1,801	1,855	1,910	1,968	2,027	2,088
CONTRACT SERVICES	2	67,272	69,290	71,369	73,510	75,715	77,987	80,326	82,736	85,218	87,775
BANK CARD SERVICE FEES	2	120,000	123,600	127,308	131,127	135,061	139,113	143,286	147,585	152,012	156,573
STATIONERY & OFFICE SUPPLIES	2	3,200	3,296	3,395	3,497	3,602	3,710	3,821	3,936	4,054	4,175
COMPUTER HARDWARE-NON CAPITAL	2	-	-	-	-	-	-	-	-	-	-
OTHER SUPPLIES	2	500	515	530	546	563	580	597	615	633	652
ADVERTISING	2	500	515	530	546	563	580	597	615	633	652
POSTAGE & FREIGHT	2	48,500	49,955	51,454	52,997	54,587	56,225	57,912	59,649	61,438	63,281
PRINTING	2	1,000	1,030	1,061	1,093	1,126	1,159	1,194	1,230	1,267	1,305
TRAINING & EDUCATION	2	1,500	1,545	1,591	1,639	1,688	1,739	1,791	1,845	1,900	1,957
INTERNAL SERVICES											
GENERAL LIABILITY INSURANCE	2	20,037	20,638	21,257	21,895	22,552	23,228	23,925	24,643	25,382	26,144
BUILDING MAINT - CURRENT SERVICES	2	33,426	34,429	35,462	36,526	37,622	38,750	39,913	41,110	42,343	43,614
BUILDING MAINT - FUTURE REPLACEMENT	2	1,883	1,939	1,998	2,058	2,119	2,183	2,248	2,316	2,385	2,457
INFO SYSTEM SERVICES	2	33,223	34,220	35,246	36,304	37,393	38,515	39,670	40,860	42,086	43,349
GF ADMIN	2	38,846	40,012	41,212	42,449	43,722	45,034	46,385	47,776	49,210	50,686
TRANSFERS											
TRANSFER OUT - EMPLOYEE BENEFITS FUND	4	5,339	5,606	5,886	6,181	6,490	6,814	7,155	7,513	7,888	8,283
TOTAL: WATER OPERATIONS FUND - Utility Billing		**957,802**	**998,262**	**1,040,523**	**1,084,667**	**1,130,781**	**1,178,958**	**1,229,293**	**1,281,886**	**1,336,843**	**1,394,273**

1. Data source for the FY 2020/21-2021/22 budget is from the following file: *Budget.xlsx.* Inflationary factors are applied to project revenue and expenses in all future years.

TABLE 9 : OPERATING EXPENSE FORECAST, CONT.[1]

WATER OPERATIONS FUND - Water Conservation	Basis	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
SALARIES											
SALARIES - GENERAL*	4	$ 23,007	$ 140,908	$ 147,954	$ 155,352	$ 163,119	$ 171,275	$ 179,839	$ 188,831	$ 198,272	$ 208,186
SALARIES - PART-TIME TEMP	4	19,680	20,664	21,697	22,782	23,921	25,117	26,373	27,692	29,076	30,530
EARNED LEAVE LIABILITY	4	1,701	1,786	1,876	1,969	2,068	2,171	2,280	2,394	2,513	2,639
RETIREMENT - GENERAL*	4	4,977	49,669	52,153	54,760	57,498	60,373	63,392	66,562	69,890	73,384
DEFERRED COMPENSATION	4	452	475	498	523	549	577	606	636	668	701
GROUP INSURANCE*	4	2,703	5,943	6,240	6,552	6,880	7,224	7,585	7,964	8,363	8,781
MEDICARE*	4	333	2,032	2,134	2,240	2,352	2,470	2,593	2,723	2,859	3,002
MEDICARE PTT AND OT	4	285	300	315	330	347	364	382	402	422	443
INCOME PROTECTION INS	4	151	159	166	175	184	193	202	212	223	234
WORKERS COMP*	4	575	3,523	3,699	3,884	4,078	4,282	4,496	4,720	4,957	5,204
WORKERS COMP PTT AND OT	4	492	517	542	570	598	628	659	692	727	763
BENEFITS*	4	458	903	949	996	1,046	1,098	1,153	1,211	1,271	1,335
SUPPLIES											
CONTRACT SERVICES	2	10,506	10,821	11,146	11,480	11,825	12,179	12,545	12,921	13,309	13,708
STATIONERY & OFFICE SUPPLIES	2	-	-	-	-	-	-	-	-	-	-
OTHER SUPPLIES	2	2,227	2,294	2,363	2,434	2,507	2,582	2,659	2,739	2,821	2,906
POSTAGE & FREIGHT	2	1,114	1,147	1,182	1,217	1,254	1,291	1,330	1,370	1,411	1,454
PRINTING	2	8,930	9,198	9,474	9,758	10,051	10,352	10,663	10,983	11,312	11,652
OTHER EXPENSE	2	52,531	54,107	55,730	57,402	59,124	60,898	62,725	64,607	66,545	68,541
INTERNAL SERVICES											
GENERAL LIABILITY INSURANCE	2	831	856	882	908	935	963	992	1,022	1,053	1,084
BUILDING MAINT - CURRENT SERVICES	2	1,424	1,467	1,511	1,556	1,603	1,651	1,701	1,752	1,804	1,859
BUILDING MAINT - FUTURE REPLACEMENT	2	112	115	119	122	126	130	133	137	142	146
INFO SYSTEM SERVICES	2	1,377	1,418	1,460	1,504	1,549	1,596	1,644	1,693	1,744	1,796
GF ADMIN	2	23,250	23,948	24,666	25,406	26,169	26,954	27,762	28,595	29,453	30,337
TRANSFERS											
TRANSFER OUT - EMPLOYEE BENEFITS FUND	4	276	290	304	320	335	352	370	388	408	428
TOTAL: WATER OPERATIONS FUND - Water Conservation		**$ 157,393**	**$ 332,540**	**$ 347,059**	**$ 362,242**	**$ 378,118**	**$ 394,721**	**$ 412,085**	**$ 430,246**	**$ 449,242**	**$ 469,112**
TOTAL: WATER OPERATIONS FUND (650) EXPENSES		**$11,761,652**	**$13,003,423**	**$13,640,536**	**$14,311,268**	**$15,017,494**	**$15,761,200**	**$16,544,487**	**$17,369,577**	**$18,238,824**	**$19,154,718**

1. Data source for the FY 2020/21-2021/22 budget is from the following file: *Budget.xlsx.* Inflationary factors are applied to project revenue and expenses in all future years.

* Some salary costs are adjusted per City email on Febryary 2, 2022.

TABLE 10 : OPERATING EXPENSE FORECAST, CONT.[1]

WATER IMPACT FUND	Basis	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
INTERNAL SERVICES											
GF ADMIN	2	19,130	19,704	20,295	20,904	21,531	22,177	22,842	23,528	24,233	24,960
TRANSFERS											
TRANSFER OUT-010 (GENERAL FUND)	2	25,000	25,750	26,523	27,318	28,138	28,982	29,851	30,747	31,669	32,619
TRANSFER OUT-207 (GENL PLAN UPDATE)	2	7,700	7,931	8,169	8,414	8,666	8,926	9,194	9,470	9,754	10,047
PROJECTS											
TOTAL: WATER IMPACT FUND (651) EXPENSES		**$ 51,830**	**$ 53,385**	**$ 54,986**	**$ 56,636**	**$ 58,335**	**$ 60,085**	**$ 61,888**	**$ 63,744**	**$ 65,657**	**$ 67,626**

1. Data source for the FY 2020/21-2021/22 budget is from the following file: *Budget.xlsx.* Inflationary factors are applied to project revenue and expenses in all future years.

TABLE 11 : OPERATING EXPENSE FORECAST, CONT.[1]

WATER RATE STABILIZATION FUND	Basis	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
INTERNAL SERVICES											
GF ADMIN	2	371	383	394	406	418	431	443	457	470	485
TOTAL: WATER RATE STABILIZATION FUND (652) EXPENSES		**$ 371**	**$ 383**	**$ 394**	**$ 406**	**$ 418**	**$ 431**	**$ 443**	**$ 457**	**$ 470**	**$ 485**

1. Data source for the FY 2020/21-2021/22 budget is from the following file: *Budget.xlsx.* Inflationary factors are applied to project revenue and expenses in all future years.

TABLE 12 : OPERATING EXPENSE FORECAST, CONT.[1]

WATER SYSTEM REPLACEMENT FUND	Basis	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
INTERNAL SERVICES											
GF ADMIN	2	23,178	23,874	24,590	25,328	26,088	26,870	27,676	28,507	29,362	30,243
TOTAL: WATER SYSTEM REPLACEMENT FUND (653) EXPENSES		**$ 23,178**	**$ 23,874**	**$ 24,590**	**$ 25,328**	**$ 26,088**	**$ 26,870**	**$ 27,676**	**$ 28,507**	**$ 29,362**	**$ 30,243**
Grand Total: Operating Expenses		**$ 11,837,032**	**$ 13,081,064**	**$ 13,720,506**	**$ 14,393,637**	**$ 15,102,335**	**$ 15,848,586**	**$ 16,634,494**	**$ 17,462,285**	**$ 18,334,313**	**$ 19,253,072**
Grand Total: Operating Expenses (Exc. Impact Fund Expenses)		**$ 11,785,202**	**$ 13,027,679**	**$ 13,665,520**	**$ 14,337,001**	**$ 15,043,999**	**$ 15,788,501**	**$ 16,572,607**	**$ 17,398,541**	**$ 18,268,656**	**$ 19,185,446**

1. Data source for the FY 2020/21-2021/22 budget is from the following file: *Budget.xlsx.* Inflationary factors are applied to project revenue and expenses in all future years.

EXHIBIT 1

Operating Revenue and Expenses

Excluded from Analysis:[3]

Revenues:	Basis	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Water System Replacement Fund											
TRANSFER FROM-650 (WATER OPS)	6	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Total Revenue Excluded from Analysis:		**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

Expenses:	Basis	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Water Operations Fund											
Operations											
TRANSFERS											
TRANSFER OUT-653 (WATER REPLACE)	6	$ 4,350,000	$ 4,350,000	$ 4,350,000	$ 4,350,000	$ 4,350,000	$ 4,350,000	$ 4,350,000	$ 4,350,000	$ 4,350,000	$ 4,350,000
TRANSFER OUT-652 (WATER RATE STABILIZATION)	6	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000	125,000
Utility Billing											
TRANSFERS											
TRANSFER OUT-BOND/DEBT	6	5,420	5,420	5,420	5,420	5,420	5,420	5,420	5,420	5,420	5,420
Water Impact Fund											
PROJECTS											
CONSTRUCTION[4]	2	1,360,772	1,401,595	1,443,643	1,486,952	1,531,561	1,577,508	1,624,833	1,673,578	1,723,785	1,775,499
TRANSFERS											
TRANSFER OUT-653 (WATER REPLACE)	6	680,139									
Water System Replacement Fund											
DEBT											
PRINCIPAL	6	1,045,000	1,045,000	1,045,000	1,045,000	1,045,000	1,045,000	1,045,000	1,045,000	1,045,000	1,045,000
INTEREST	6	613,875	613,875	613,875	613,875	613,875	613,875	613,875	613,875	613,875	613,875
ISSUANCE COST	6	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
PROJECTS											
CONSTRUCTION[4]	6	3,383,141	3,383,141	3,383,141	3,383,141	3,383,141	3,383,141	3,383,141	3,383,141	3,383,141	3,383,141
Total Expenses Excluded from Analysis:		**$ 11,564,347**	**$ 10,925,031**	**$ 10,967,079**	**$ 11,010,388**	**$ 11,054,997**	**$ 11,100,944**	**$ 11,148,269**	**$ 11,197,014**	**$ 11,247,221**	**$ 11,298,935**

3. The following revenues and expenses have been excluded from this analysis since they do not represent actual cash expenses or are handled in the model elsewhere (i.e., Exhibit 3 (Debt))
4. Construction expenses are excluded from this analysis and are handled in Exhibit 2 (CIP).

TABLE 13 : FORECASTING ASSUMPTIONS

INFLATION FACTORS		2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
1	Customer Growth[5]	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%	2.10%
2	General Cost Inflation	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
3	Ground Water Production Inflation	6.60%	6.60%	6.60%	6.60%	6.60%	6.60%	6.60%	6.60%	6.60%	6.60%
4	Labor Cost Inflation[7]	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
5	Energy Cost Inflation[7]	5.00%	20.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%
6	No Escalation	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

5. Customer growth is based on the historical population growth.
6. Ground water projection cost estimated from average annual increase per City staff from email on February 2, 2022.
7. Labor and energy cost inflation is set to 5% per City Staff.
   Per City, energy costs escalated 20% during 2022. Using a one-time escalation then back to assumed 5% in 2023/24.

TABLE 14 : CAPITAL PROJECT FUNDING SUMMARY

CAPITAL FUNDING FORECAST	Budget	5-Year Rate Adoption Period					Projected			
Funding Sources:	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Use of Impact Fee Reserves[1]	$ 2,388,555	$ 2,343,019	$ 413,607	$ 1,872,105	$ 985,950	$ 549,139	$ 331,275	$ 328,906	$ 327,250	$ 326,305
Use of Capital Rehabilitation & Replacement Reserve	4,066,982	4,011,731	2,507,700	-	-	-	-	-	-	-
Rate Revenue	-	890,787	6,412,621	7,432,357	8,616,828	9,023,266	6,688,244	6,690,613	5,015,485	5,610,429
Total Sources of Capital Funds	**$ 6,455,537**	**$ 7,245,537**	**$ 9,333,928**	**$ 9,304,462**	**$ 9,602,777**	**$ 9,572,404**	**$ 7,019,518**	**$ 7,019,518**	**$ 5,342,734**	**$ 5,936,734**
Uses of Capital Funds:										
Total Project Costs	$ 6,455,537	$ 7,245,537	$ 9,408,037	$ 9,826,114	$10,908,864	$ 9,712,364	$ 7,019,518	$ 7,019,518	$ 5,342,734	$ 5,936,734
Capital Funding Surplus (Deficiency)	*$ -*	*$ -*	*$ (74,109)*	*$ (521,652)*	*$ (1,306,087)*	*$ (139,960)*	*$ -*	*$ -*	*$ -*	*$ -*

1. The use of the impact fee reserves uses all available funds annually to contribute to future growth projects.

TABLE 15 : CAPITAL IMPROVEMENT PROGRAM COSTS (*in Future-Year Dollars*)

Capital Improvement Program Projects[1]		Fund	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031
Pipeline Capacity Improvements												
Boy's Ranch Pressure Zone												
BR-P1	Cochrane Rd. to Half Rd.	651									142,987	142,987
BR-P2	Half Rd. to approx. 1,700' n/o Half Rd.	651									151,924	151,924
BR-P3	Mission View Dr. to Peet Rd.	651									310,485	310,485
BR-P4	Between Cochrane Rd. and 2,100' nw/o Cochrane Rd.	653	67,025	67,025	67,025							
BR-P5	Half Rd. to 2,100' nw/o Half Rd.	651									206,990	206,990
BR-P6	Serene Dr. to Conduit Rd.	651									162,635	162,635
Nob Hill Pressure Zone												
NH-P1	Del Monte Ave. to Monterey Rd.	653	122,770	122,770	122,770							
NH-P2	Butterfield Blvd. to Railroad Ave.	653				65,415	65,415	65,415	65,415	65,415		
NH-P3	San Pedro Ave. to approx. 600' n/o Mast St.	651				41,628	41,628	41,628	41,628	41,628		
NH-P4	Approx. 600' n/o Mast St. to Mast St.	651				71,362	71,362	71,362	71,362	71,362		
NH-P5	1,100' ne/o Murphy Ave. to Hill Rd.	651										
NH-P6	San Pedro Ave. to Tennant Ave.	651										
NH-P7	Hill Rd. to Condit Rd.	651										
NH-P8	John Wilson Wat to E Middle Ave.	651										
NH-P9	Monterey Rd. to Olive Ave.	651										
Holiday Pressure Zone												
HL-P1	Flaming Oak Ln. to Proposed E Dunne Tank	651/653	109,026	109,026	109,026							
HL-P2	Proposed E Dunne Tank to Flaming Oak Ln.	651/653	90,353	90,353	90,353							
HL-P3	Proposed E Dunne Tank to Lori Ln.	651				241,488	241,488	241,488	241,488	241,488		
HL-P4	Lori Ln. to 650' nw/o Lori Ln.	651				226,703	226,703	226,703	226,703	226,703		
Storage Reservoir Capacity Improvements												
BR-T1	Replace Boy's Ranch 0.55 MG Tank with 1.20 MG Tank	651/653									888,861	888,861
GA-T1	Replace Glen Ayre 0.10 MG Tank with 0.25 MG Tank	651/653				231,474	231,474	231,474	231,474	231,474		
ED-T1	Existing Edmundson Tank Site	651									833,307	833,307
LI-T1	Existing Llagas Tank Site	651/653				185,179	185,179	185,179	185,179	185,179		
JO-T1	Existing Jackson Tank Sity	653				185,179	185,179	185,179	185,179	185,179		
WD-T1	Replace Woodland 0.03 MG Tank with 0.25 MG Tank	651/653				231,474	231,474	231,474	231,474	231,474		
HL-T1	Dunne Ave. approx. 500' ne/o Flaming Oak Ln.	651/653	1,311,688	1,311,688	1,311,688							
Groundwater Well Capacity Improvements												
BR-W1	Burnett Ave. Approx. 6,000' ne/o Monterey Ave.	651				1,008,008	1,008,008	1,008,008	1,008,008	1,008,008		
BR-W2	Burnett Ave. Approx. 5,000' ne/o Monterey Ave.	651										
NH-W1*	Butterfield Blvd. 400' E of Railroad Ave. and Fisher Ave.	653				1,680,013	1,680,013	1,680,013				
NH-W2	Butterfield Blvd. and Tennant Ave.	651/653	1,680,013	1,680,013	1,680,013							
NH-W3	Well Site to determined at later date	651				1,008,008	1,008,008	1,008,008	1,008,008	1,008,008		
NH-W4	Well Site to determined at later date	651									1,008,008	1,008,008
Pump Station Capacity Improvements												

NH-PS1	Dunne Ave. and Magnolia Way	651/653	933,860	933,860	933,860							
BR-PS1	Current Condit Valve Site	651/653	33,333	33,333	33,333							
LI-PS1	Llagas Road and Carriage Drive	651/653				109,200	109,200	109,200	109,200	109,200		
HL-PS1	Dunne Ave. approx. 500' ne/o Flaming Oak Ln.	651/653				479,721	479,721	479,721	479,721	479,721		
Pressure Reducing Valve Capacity Improvements												
HL-PRV1	Thomas Gr. Approx. 1,100' w/o Gnarled Oak Ln.	651/653				20,376	20,376	20,376	20,376	20,376		
Known Pipeline Renewal and Replacement												
RP-1	Holiday Lake - Shady Ln.	653	292,925	292,925	292,925							
RP-2	Jackson Oaks - Hill Top Ct.	653	71,077	71,077	71,077							
RP-3	Jackson Oaks - Oak View Ct.	653	90,462	90,462	90,462							
RP-4	Holiday Lake - Holiday Tank Site	653	103,385	103,385	103,385							
RP-5	Holiday Lake - Manzanita Dr.	653	189,540	189,540	189,540							
RP-6	Holiday Lake - Raccoon Ct.	653	195,284	195,284	195,284							
RP-7	Nob Hill - First St.	653	68,924	68,924	68,924							
RP-8	Hydropneumatic Zone - Oak Canyon Dr.	653	77,539	77,539	77,539							
Recommended Annual Pipeline Condition Renewal and Replacement (10-year)												
RR 22-24*	0.5% System Pipeline Renewal and Replacement	653				1,012,833	1,012,833	1,012,833				
RR 25	0.5% System Pipeline Renewal and Replacement	653				426,627	426,627	426,627	426,627	426,627		
RR 26	0.5% System Pipeline Renewal and Replacement	653				429,744	429,744	429,744	429,744	429,744		
RR 27	0.5% System Pipeline Renewal and Replacement	653				432,860	432,860	432,860	432,860	432,860		
RR 28	0.5% System Pipeline Renewal and Replacement	653				435,977	435,977	435,977	435,977	435,977		
RR 29	0.5% System Pipeline Renewal and Replacement	653				439,094	439,094	439,094	439,094	439,094		
RR 30	0.5% System Pipeline Renewal and Replacement	653									442,210	442,210
RR 31	0.5% System Pipeline Renewal and Replacement	653									445,327	445,327
Reservoir Condition Improvements												
RC-1	Re-coat and Retrofit Existing Encino Tank	653	330,000									
RC-2	Re-coat and Retrofit Existing Glen Ayre Tank	653	55,000									
RC-3	Re-coat and Retrofit Existing El Toro Tank	653		275,000								
RC-4	Re-coat and Retrofit Existing Edmundson Tank	653			2,337,500							
RC-5	Re-coat and Retrofit Existing Boy's Ranch #3 Tank	653				563,750						
RC-6	Re-coat and Retrofit Existing Boy's Ranch #2 Tank	653					302,500					
5-Year Improvement Projects												
5YR-1	Well Rehabilitation	653	300,000	300,000	300,000	300,000	300,000					
5YR-2	Booster Rehabilitation	653		700,000	700,000							
5YR-3	Generators Replacement (Jackson Booster Station)	653	333,333	333,333	333,333							
Comprehensive Plan Updates												
PLN-1	Water System Master Plan Updates (Yrs. 2026, 2031, 2036)	651/653					237,000					237,000
PLN-2	Water Assessment Mngt Plan (Yrs. 2026, 2031, 2036)	651/653					119,000					119,000
PLN-3	Urban Water Mngt Plan (Yrs. 2026, 2031, 2036)	651/653					119,000					119,000
PLN-4	Water Rate Study Updates (Yrs. 2026, 2031, 2036)	651/653					119,000					119,000
Calendar Year Budget Expansion												
CY7.5	Calendar Year Budget Expansion (2026-2035)	651					750,000	750,000	750,000	750,000	750,000	750,000
	Utility System Security Enhancements			200,000	300,000							
	Estimated Future Projects[2]	653	-	-	-	-	-					
Total: Capital Improvement Program Costs *(Current-Year Dollars)*			**$ 6,455,537**	**$ 7,245,537**	**$ 9,408,037**	**$ 9,826,114**	**$10,908,864**	**$ 9,712,364**	**$ 7,019,518**	**$ 7,019,518**	**$ 5,342,734**	**$ 5,936,734**

1. Capital Improvement Program projects from Water Supply Management Plan projects found in source file: 2021_WSMPUpdate_Report_FinalDraft_120321.pdf
   * Some projects postponed 2 years from Water Supply Management Plan. Source file: *Water CIP from MP revised.pdf*
2. Estimated future expenditures for FY 2026/27 through 2040/41 are calculated based on the City's 5-year average.

TABLE 17 : EXISTING DEBT OBLIGATIONS

Annual Repayment Schedules	Budget	5-Year Rate Adoption Period					Projected			
	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
2014 Water Refunding & CIP Revenue Bonds, $21,975,000[1,2]										
Principal Payment	$ 1,045,000	$ 1,080,000	$ 1,120,000	$ 1,165,000	$ 1,205,000	$ 1,250,000	$ 1,300,000	$ 1,350,000	$ 1,400,000	$ 1,450,000
Interest Payment	613,875	574,688	534,188	492,188	448,500	403,313	356,438	307,688	257,063	204,563
Subtotal: Annual Debt Service	**$ 1,658,875**	**$ 1,654,688**	**$ 1,654,188**	**$ 1,657,188**	**$ 1,653,500**	**$ 1,653,313**	**$ 1,656,438**	**$ 1,657,688**	**$ 1,657,063**	**$ 1,654,563**
Coverage Requirement(% above annual payment)[2]	120%	120%	120%	120%	120%	120%	120%	120%	120%	120%
Reserve Requirement[3]	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Grand Total: Existing Annual Debt Service	**$ 1,658,875**	**$ 1,654,688**	**$ 1,654,188**	**$ 1,657,188**	**$ 1,653,500**	**$ 1,653,313**	**$ 1,656,438**	**$ 1,657,688**	**$ 1,657,063**	**$ 1,654,563**
Grand Total: Existing Debt Reserve Target	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**	**$ -**

TABLE 18 : FUNDING SOURCES FOR EXISTING DEBT OBLIGATIONS

Allocation of Debt Service Payments to Funding Sources[4]	FY 2021/22	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27	FY 2027/28	FY 2028/29	FY 2029/30	FY 2030/31
Fund 651 - Impact Fund (41%)	**$ 680,139**	**$ 678,422**	**$ 678,217**	**$ 679,447**	**$ 677,935**	**$ 677,858**	**$ 679,139**	**$ 679,652**	**$ 679,396**	**$ 678,371**
Fund 653 - Water System Replacement Fund (59%)	**$ 978,736**	**$ 976,266**	**$ 975,971**	**$ 977,741**	**$ 975,565**	**$ 975,454**	**$ 977,298**	**$ 978,036**	**$ 977,667**	**$ 976,192**

1. The 2014 Water Revenue Bonds were issued to: (1) finance 2014 Projects; (2) refinance 1999 Projects and refund the Series 1999 COPs; (3) refinance 2004 Projects and refund the Series 2004 Bonds; and, (4) to pay certain costs of issuance. Source file: *2014 water bonds debt service schedule.pdf.*
2. Per the Installment Sales Agreement for the 2014 Revenue Bonds, the City is required to maintain a debt coverage ratio of 1.20 of the maximum annual debt service for these bond issues and all other parity debt. Source files *Installment Sales Agreement* , page 14 & *6a. Bond Document - Morgan Hill Water Series 2014.pdf* , page 74.
3. There is no reserve requirement for this bond issue.
4. Per email provided by Staff on 10.07.15, the debt service payment for the 2014 Water Revenue Bonds is split as follows: 41% to the Water Impact Fund (651) and 59% to the Water System Replacement Fund (653).

TABLE 19 : CURRENT RATES

Existing Water Rate Schedule	Jan. 1, 2020
Single- & Multi-Family Residential Fixed Monthly Service Charge	
5/8 inch	$31.14
3/4 inch	$31.14
1 inch	$31.14
1.5 inch	$58.72
2 inch	$91.81
3 inch	$180.07
4 inch	$279.36
6 inch	$555.17
8 inch	$886.14
10 inch	$2,320.33
Non-Residential Fixed Monthly Service Charge	
5/8 inch	$47.23
3/4 inch	$47.23
1 inch	$47.23
1.5 inch	$90.90
2 inch	$143.31
3 inch	$283.06
4 inch	$440.28
6 inch	$877.00
8 inch	$1,401.07
10 inch	$3,672.04
Fire Fixed Monthly Service Charge	
5/8 inch	$4.02
3/4 inch	$4.25
1 inch	$4.71
1.5 inch	$5.86
2 inch	$7.24
3 inch	$11.61
4 inch	$19.66
6 inch	$40.37
8 inch	$67.98
10 inch	$104.79
Variable Consumption Charge	
Water Rates Per HCF:	
All customers	$2.57

Out of City water customers add 25% to the rate schedule.

TABLE 20 : CLASSIFICATION OF EXPENSES

Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Fire Protection	Direct Alloc. Zonal Elev.	Basis of Classification				
	FY 2022/23	(COM)	(CAP)	(CA)	(FP)	(ZON)	(COM)	(CAP)	(CA)	(FP)	(ZON)
OPERATING EXPENSES											
WATER OPERATIONS FUND - Operations											
SALARIES											
SALARIES - GENERAL*	$ 2,275,547	$ 682,664	$ 1,456,350	$ 113,777	$ 22,755	$ -	30%	64%	5%	1%	0%
SALARIES - PART-TIME TEMP	$ 14,482	$ 4,344	$ 9,268	$ 724	$ 145	$ -	30%	64%	5%	1%	0%
EARNED LEAVE LIABILITY	$ 47,027	$ 14,108	$ 30,097	$ 2,351	$ 470	$ -	30%	64%	5%	1%	0%
OVERTIME - GENERAL	$ 81,669	$ 24,501	$ 52,268	$ 4,083	$ 817	$ -	30%	64%	5%	1%	0%
RETIREMENT - GENERAL	$ 416,775	$ 125,033	$ 266,736	$ 20,839	$ 4,168	$ -	30%	64%	5%	1%	0%
DEFERRED COMPENSATION	$ 26,103	$ 7,831	$ 16,706	$ 1,305	$ 261	$ -	30%	64%	5%	1%	0%
GROUP INSURANCE	$ 346,745	$ 104,023	$ 221,917	$ 17,337	$ 3,467	$ -	30%	64%	5%	1%	0%
MEDICARE	$ 28,041	$ 8,412	$ 17,946	$ 1,402	$ 280	$ -	30%	64%	5%	1%	0%
MEDICARE PTT AND OT	$ 1,394	$ 418	$ 892	$ 70	$ 14	$ -	30%	64%	5%	1%	0%
INCOME PROTECTION INS	$ 12,522	$ 3,757	$ 8,014	$ 626	$ 125	$ -	30%	64%	5%	1%	0%
WORKERS COMP	$ 48,050	$ 14,415	$ 30,752	$ 2,403	$ 481	$ -	30%	64%	5%	1%	0%
WORKERS COMP PTT AND OT	$ 2,404	$ 721	$ 1,538	$ 120	$ 24	$ -	30%	64%	5%	1%	0%
BENEFITS	$ 7,452	$ 2,236	$ 4,769	$ 373	$ 75	$ -	30%	64%	5%	1%	0%
UNIFORM	$ 3,675	$ 1,103	$ 2,352	$ 184	$ 37	$ -	30%	64%	5%	1%	0%
SUPPLIES											
TAXES	$ 535	$ -	$ 535	$ -	$ -	$ -	0%	100%	0%	0%	0%
ELECTRIC	$ 1,436,499	$ 1,168,979	$ -	$ -	$ -	$ 267,520	81%	0%	0%	0%	19%
GROUNDWATER PRODUCTION	$ 3,739,836	$ 3,702,438	$ -	$ -	$ 37,398	$ -	99%	0%	0%	1%	0%
WATER/SEWER	$ 13,113	$ 3,934	$ 8,392	$ 656	$ 131	$ -	30%	64%	5%	1%	0%
TELEPHONE	$ 24,833	$ 7,450	$ 15,893	$ 1,242	$ 248	$ -	30%	64%	5%	1%	0%
GASOLINE & OIL	$ 37,874	$ 11,362	$ 24,239	$ 1,894	$ 379	$ -	30%	64%	5%	1%	0%
CONTRACT SERVICES	$ 356,864	$ 107,059	$ 228,393	$ 17,843	$ 3,569	$ -	30%	64%	5%	1%	0%
BANK CARD SERVICE FEES	$ 597	$ -	$ -	$ 597	$ -	$ -	0%	0%	100%	0%	0%
RENTALS - OUTSIDE	$ 2,709	$ 813	$ 1,734	$ 135	$ 27	$ -	30%	64%	5%	1%	0%
STATIONERY & OFFICE SUPPLIES	$ 3,348	$ 1,004	$ 2,142	$ 167	$ 33	$ -	30%	64%	5%	1%	0%
COMPUTER HARDWARE-NON CAPITAL	$ 5,953	$ 1,786	$ 3,810	$ 298	$ 60	$ -	30%	64%	5%	1%	0%
COMPUTER SOFTWARE-NON CAPITAL	$ 2,709	$ 813	$ 1,734	$ 135	$ 27	$ -	30%	64%	5%	1%	0%
OTHER SUPPLIES	$ 232,481	$ 69,744	$ 148,788	$ 11,624	$ 2,325	$ -	30%	64%	5%	1%	0%
ADVERTISING	$ 3,348	$ 1,004	$ 2,142	$ 167	$ 33	$ -	30%	64%	5%	1%	0%
PHOTOCOPYING	$ 834	$ 250	$ 534	$ 42	$ 8	$ -	30%	64%	5%	1%	0%
POSTAGE & FREIGHT	$ 2,060	$ -	$ -	$ 2,060	$ -	$ -	0%	0%	100%	0%	0%
PRINTING	$ 2,431	$ -	$ -	$ 2,431	$ -	$ -	0%	0%	100%	0%	0%
AUTO MILEAGE	$ 299	$ 90	$ 191	$ 15	$ 3	$ -	30%	64%	5%	1%	0%
CHEMICALS	$ 32,782	$ 9,835	$ 20,980	$ 1,639	$ 328	$ -	30%	64%	5%	1%	0%
WATER/SEWER MAINTENANCE SVS	$ 54,636	$ 16,391	$ 34,967	$ 2,732	$ 546	$ -	30%	64%	5%	1%	0%
SMALL TOOLS	$ 12,175	$ 3,652	$ 7,792	$ 609	$ 122	$ -	30%	64%	5%	1%	0%
OTHER EXPENSE	$ 63,654	$ 19,096	$ 40,739	$ 3,183	$ 637	$ -	30%	64%	5%	1%	0%
TRAINING & EDUCATION	$ 12,978	$ 3,893	$ 8,306	$ 649	$ 130	$ -	30%	64%	5%	1%	0%
CONFERENCE & MEETINGS	$ 6,180	$ 1,854	$ 3,955	$ 309	$ 62	$ -	30%	64%	5%	1%	0%
MEMBERSHIP & DUES	$ 13,385	$ 4,015	$ 8,566	$ 669	$ 134	$ -	30%	64%	5%	1%	0%
SUBSCRIPTION & PUBLICATIONS	$ 232	$ 70	$ 148	$ 12	$ 2	$ -	30%	64%	5%	1%	0%
MAINT - BLDGS/IMPROVEMENTS	$ 44,589	$ 13,377	$ 28,537	$ 2,229	$ 446	$ -	30%	64%	5%	1%	0%
MAINT - MACHINE/EQUIPMENT	$ 33,434	$ 10,030	$ 21,398	$ 1,672	$ 334	$ -	30%	64%	5%	1%	0%
MAINT - AUTO/TRUCKS	$ 31,209	$ 9,363	$ 19,974	$ 1,560	$ 312	$ -	30%	64%	5%	1%	0%
SUB-TOTAL: WATER OPERATIONS FUND - Operations	**$ 9,483,462**	**$ 6,161,868**	**$ 2,753,498**	**$ 220,163**	**$ 80,413**	**$ 267,520**	**65%**	**29%**	**2%**	**0.85%**	**3%**

TABLE 21 : CLASSIFICATION OF EXPENSES, CONTINUED

Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Fire Protection	Zonal	Basis of Classification				
	FY 2022/23	(COM)	(CAP)	(CA)	(FP)	(ZON)	(COM)	(CAP)	(CA)	(FP)	(ZON)
OPERATING EXPENSES											
WATER OPERATIONS FUND - Operations, cont.											
CAPITAL											
MACHINERY/EQUIPMENT	$ -	$ -	$ -	$ -	$ -	$ -	0%	99%	0%	1%	0%
COMPUTER EQUIPMENT	$ 108,150	$ -	$ 107,069	$ -	$ 1,082	$ -	0%	99%	0%	1%	0%
COMPUTER SOFTWARE	$ -	$ -	$ -	$ -	$ -	$ -	0%	99%	0%	1%	0%
METERS	$ 463,500	$ 107,759	$ 231,750	$ 115,875	$ 8,116	$ -	23%	50%	25%	1.75%	0%
INTERNAL SERVICES											
GENERAL LIABILITY INSURANCE	$ 151,002	$ 45,301	$ 96,641	$ 7,550	$ 1,510	$ -	30%	64%	5%	1%	0%
BUILDING MAINT - CURRENT SERVICES	$ 82,064	$ 24,619	$ 52,521	$ 4,103	$ 821	$ -	30%	64%	5%	1%	0%
BUILDING MAINT - FUTURE REPLACEMENT	$ 14,460	$ 4,338	$ 9,254	$ 723	$ 145	$ -	30%	64%	5%	1%	0%
FLEET REPLACEMENT	$ 315,165	$ 94,549	$ 201,705	$ 15,758	$ 3,152	$ -	30%	64%	5%	1%	0%
GIS	$ 28,808	$ 8,642	$ 18,437	$ 1,440	$ 288	$ -	30%	64%	5%	1%	0%
INFO SYSTEM SERVICES	$ 167,790	$ 50,337	$ 107,386	$ 8,390	$ 1,678	$ -	30%	64%	5%	1%	0%
GF ADMIN	$ 350,413	$ 105,124	$ 224,264	$ 17,521	$ 3,504	$ -	30%	64%	5%	1%	0%
TRANSFERS											
TRANSFER OUT-010 (GENERAL FUND)	$ 367,874	$ -	$ 364,195	$ -	$ 3,679	$ -	0%	99%	0%	1%	0%
TRANSFER OUT-232 (ENVIRONMENTAL PROGRAMS)	$ 111,517	$ -	$ 110,402	$ -	$ 1,115	$ -	0%	99%	0%	1%	0%
TRANSFER OUT-207 (GENL PLAN UPDATE)	$ -	$ -	$ -	$ -	$ -	$ -	0%	99%	0%	1%	0%
TRANSFER OUT - EMPLOYEE BENEFITS FUND	$ 28,415	$ -	$ 28,131	$ -	$ 284	$ -	0%	99%	0%	1%	0%
SUB-TOTAL: WATER OPERATIONS FUND - Operations	**$ 2,189,159**	**$ 440,670**	**$ 1,551,756**	**$ 171,360**	**$ 25,372**	**$ -**	**20%**	**71%**	**8%**	**1.16%**	**0%**

TABLE 22 : CLASSIFICATION OF EXPENSES, CONTINUED

Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Fire Protection	Direct Alloc. Zonal Elev.	Basis of Classification				
	FY 2022/23	(COM)	(CAP)	(CA)	(FP)	(ZON)	(COM)	(CAP)	(CA)	(FP)	(ZON)
OPERATING EXPENSES, continued											
WATER OPERATIONS FUND - Utility Billing											
SALARIES											
SALARIES - GENERAL	$ 439,054	$ 131,716	$ 83,420	$ 219,527	$ 4,391	$ -	30%	19%	50%	1%	0%
SALARIES - PART-TIME TEMP	$ -	$ -	$ -	$ -	$ -	$ -	30%	19%	50%	1%	0%
EARNED LEAVE LIABILITY	$ 8,288	$ 2,486	$ 1,575	$ 4,144	$ 83	$ -	30%	19%	50%	1%	0%
OVERTIME - GENERAL	$ -	$ -	$ -	$ -	$ -	$ -	30%	19%	50%	1%	0%
RETIREMENT - GENERAL	$ 76,237	$ 22,871	$ 14,485	$ 38,119	$ 762	$ -	30%	19%	50%	1%	0%
DEFERRED COMPENSATION	$ 5,708	$ 1,712	$ 1,084	$ 2,854	$ 57	$ -	30%	19%	50%	1%	0%
GROUP INSURANCE	$ 61,354	$ 18,406	$ 11,657	$ 30,677	$ 614	$ -	30%	19%	50%	1%	0%
MEDICARE	$ 5,072	$ 1,521	$ 964	$ 2,536	$ 51	$ -	30%	19%	50%	1%	0%
MEDICARE PTT AND OT	$ -	$ -	$ -	$ -	$ -	$ -	30%	19%	50%	1%	0%
OTHER POST EMPLOYMENT BENEFITS (OPEB)	$ -	$ -	$ -	$ -	$ -	$ -	30%	19%	50%	1%	0%
INCOME PROTECTION INS	$ 2,671	$ 801	$ 508	$ 1,336	$ 27	$ -	30%	19%	50%	1%	0%
WORKERS COMP	$ 8,812	$ 2,643	$ 1,674	$ 4,406	$ 88	$ -	30%	19%	50%	1%	0%
WORKERS COMP PTT AND OT	$ -	$ -	$ -	$ -	$ -	$ -	30%	19%	50%	1%	0%
BENEFITS	$ 2,829	$ 849	$ 537	$ 1,414	$ 28	$ -	30%	19%	50%	1%	0%
SUPPLIES											
TELEPHONE	$ 1,648	$ 494	$ 313	$ 824	$ 16	$ -	30%	19%	50%	1%	0%
CONTRACT SERVICES	$ 69,290	$ 20,787	$ 13,165	$ 34,645	$ 693	$ -	30%	19%	50%	1%	0%
BANK CARD SERVICE FEES	$ 123,600	$ 37,080	$ 23,484	$ 61,800	$ 1,236	$ -	30%	19%	50%	1%	0%
STATIONERY & OFFICE SUPPLIES	$ 3,296	$ 989	$ 626	$ 1,648	$ 33	$ -	30%	19%	50%	1%	0%
COMPUTER HARDWARE-NON CAPITAL	$ -	$ -	$ -	$ -	$ -	$ -	30%	19%	50%	1%	0%
OTHER SUPPLIES	$ 515	$ 155	$ 98	$ 258	$ 5	$ -	30%	19%	50%	1%	0%
ADVERTISING	$ 515	$ 155	$ 98	$ 258	$ 5	$ -	30%	19%	50%	1%	0%
PHOTOCOPYING	$ -	$ -	$ -	$ -	$ -	$ -	30%	19%	50%	1%	0%
POSTAGE & FREIGHT	$ 49,955	$ 14,987	$ 9,491	$ 24,978	$ 500	$ -	30%	19%	50%	1%	0%
PRINTING	$ 1,030	$ 309	$ 196	$ 515	$ 10	$ -	30%	19%	50%	1%	0%
AUTO MILEAGE	$ -	$ -	$ -	$ -	$ -	$ -	30%	19%	50%	1%	0%
TRAINING & EDUCATION	$ 1,545	$ 464	$ 294	$ 773	$ 15	$ -	30%	19%	50%	1%	0%
SUBSCRIPTION & PUBLICATIONS	$ -	$ -	$ -	$ -	$ -	$ -	30%	19%	50%	1%	0%
INTERNAL SERVICES											
GENERAL LIABILITY INSURANCE	$ 20,638	$ 6,191	$ 3,921	$ 10,319	$ 206	$ -	30%	19%	50%	1%	0%
BUILDING MAINT - CURRENT SERVICES	$ 34,429	$ 10,329	$ 6,542	$ 17,215	$ 344	$ -	30%	19%	50%	1%	0%
BUILDING MAINT - FUTURE REPLACEMENT	$ 1,939	$ 582	$ 368	$ 970	$ 19	$ -	30%	19%	50%	1%	0%
INFO SYSTEM SERVICES	$ 34,220	$ 10,266	$ 6,502	$ 17,110	$ 342	$ -	30%	19%	50%	1%	0%
GF ADMIN	$ 40,012	$ 12,004	$ 7,602	$ 20,006	$ 400	$ -	30%	19%	50%	1%	0%
TRANSFERS				$ -	$ -	$ -					
TRANSFER OUT - EMPLOYEE BENEFITS FUND	$ 5,606	$ -	$ 5,550	$ -	$ 56	$ -	0%	99%	0%	1%	0%
TOTAL: WATER OPERATIONS FUND - Utility Billing	**$ 998,262**	**$ 297,797**	**$ 194,155**	**$ 496,328**	**$ 9,983**	**$ -**	**30%**	**19%**	**50%**	**1%**	**0%**

TABLE 23 : CLASSIFICATION OF EXPENSES, CONTINUED

Budget Categories	Total Revenue Requirements	Commodity	Capacity	Customer	Fire Protection	Zonal	Basis of Classification				
	FY 2022/23	(COM)	(CAP)	(CA)	(FP)	(ZON)	(COM)	(CAP)	(CA)	(FP)	(ZON)
OPERATING EXPENSES, continued											
WATER OPERATIONS FUND - Water Conservation											
SALARIES											
SALARIES - GENERAL*	$ 140,908	$ 139,499	$ -	$ -	$ 1,409	$ -	99%	0%	0%	1%	0%
SALARIES - PART-TIME TEMP	$ 20,664	$ 20,457	$ -	$ -	$ 207	$ -	99%	0%	0%	1%	0%
EARNED LEAVE LIABILITY	$ 1,786	$ 1,768	$ -	$ -	$ 18	$ -	99%	0%	0%	1%	0%
RETIREMENT - GENERAL*	$ 49,669	$ 49,173	$ -	$ -	$ 497	$ -	99%	0%	0%	1%	0%
DEFERRED COMPENSATION	$ 475	$ 470	$ -	$ -	$ 5	$ -	99%	0%	0%	1%	0%
GROUP INSURANCE*	$ 5,943	$ 5,884	$ -	$ -	$ 59	$ -	99%	0%	0%	1%	0%
MEDICARE*	$ 2,032	$ 2,012	$ -	$ -	$ 20	$ -	99%	0%	0%	1%	0%
MEDICARE PTT AND OT	$ 300	$ 297	$ -	$ -	$ 3	$ -	99%	0%	0%	1%	0%
OTHER POST EMPLOYMENT BENEFITS (OPEB)	$ -	$ -	$ -	$ -	$ -	$ -	99%	0%	0%	1%	0%
INCOME PROTECTION INS	$ 159	$ 157	$ -	$ -	$ 2	$ -	99%	0%	0%	1%	0%
WORKERS COMP*	$ 3,523	$ 3,487	$ -	$ -	$ 35	$ -	99%	0%	0%	1%	0%
WORKERS COMP PTT AND OT	$ 517	$ 511	$ -	$ -	$ 5	$ -	99%	0%	0%	1%	0%
BENEFITS*	$ 903	$ 894	$ -	$ -	$ 9	$ -	99%	0%	0%	1%	0%
SUPPLIES											
GASOLINE & OIL	$ -	$ -	$ -	$ -	$ -	$ -	99%	0%	0%	1%	0%
CONTRACT SERVICES	$ 10,821	$ 10,713	$ -	$ -	$ 108	$ -	99%	0%	0%	1%	0%
STATIONERY & OFFICE SUPPLIES	$ -	$ -	$ -	$ -	$ -	$ -	99%	0%	0%	1%	0%
OTHER SUPPLIES	$ 2,294	$ 2,271	$ -	$ -	$ 23	$ -	99%	0%	0%	1%	0%
ADVERTISING	$ -	$ -	$ -	$ -	$ -	$ -	99%	0%	0%	1%	0%
POSTAGE & FREIGHT	$ 1,147	$ 1,136	$ -	$ -	$ 11	$ -	99%	0%	0%	1%	0%
PRINTING	$ 9,198	$ 9,106	$ -	$ -	$ 92	$ -	99%	0%	0%	1%	0%
OTHER EXPENSE	$ 54,107	$ 53,566	$ -	$ -	$ 541	$ -	99%	0%	0%	1%	0%
TRAINING & EDUCATION	$ -	$ -	$ -	$ -	$ -	$ -	99%	0%	0%	1%	0%
CONFERENCE & MEETINGS	$ -	$ -	$ -	$ -	$ -	$ -	99%	0%	0%	1%	0%
INTERNAL SERVICES											
GENERAL LIABILITY INSURANCE	$ 856	$ 847	$ -	$ -	$ 9	$ -	99%	0%	0%	1%	0%
BUILDING MAINT - CURRENT SERVICES	$ 1,467	$ 1,452	$ -	$ -	$ 15	$ -	99%	0%	0%	1%	0%
BUILDING MAINT - FUTURE REPLACEMENT	$ 115	$ 114	$ -	$ -	$ 1	$ -	99%	0%	0%	1%	0%
INFO SYSTEM SERVICES	$ 1,418	$ 1,404	$ -	$ -	$ 14	$ -	99%	0%	0%	1%	0%
GF ADMIN	$ 23,948	$ 23,708	$ -	$ -	$ 239	$ -	99%	0%	0%	1%	0%
TRANSFERS	$ -	$ -	$ -	$ -	$ -	$ -	99%	0%	0%	1%	0%
TRANSFER OUT - EMPLOYEE BENEFITS FUND	$ 290	$ 287	$ -	$ -	$ 3	$ -	99%	0%	0%	1%	0%
TOTAL: WATER OPERATIONS FUND - Water Conservation	**$ 332,540**	**$ 329,214**	**$ -**	**$ -**	**$ 3,325**	**$ -**	**99%**	**0%**	**0%**	**1%**	**0%**

TABLE 24 : CLASSIFICATION OF EXPENSES, CONTINUED

Budget Categories	Total Revenue Requirements FY 2022/23	Commodity (COM)	Capacity (CAP)	Customer (CA)	Fire Protection (FP)	Zonal (ZON)	Basis of Classification (COM)	(CAP)	(CA)	(FP)	(ZON)
OPERATING EXPENSES, continued											
WATER IMPACT FUND											
SUPPLIES											
CONTRACT SERVICES	$ -	$ -	$ -	$ -	$ -	$ -	24%	70%	5%	1%	0%
BANK CARD SERVICE FEES	$ -	$ -	$ -	$ -	$ -	$ -	24%	70%	5%	1%	0%
DEBT											
SERVICE FEES	$ -	$ -	$ -	$ -	$ -	$ -	24%	70%	5%	1%	0%
INTERNAL SERVICES											
GF ADMIN	$ 19,704	$ 4,729	$ 13,793	$ 985	$ 197	$ -	24%	70%	5%	1%	0%
TRANSFERS											
TRANSFER OUT-010 (GENERAL FUND)	$ 25,750	$ 6,180	$ 18,025	$ 1,288	$ 258	$ -	24%	70%	5%	1%	0%
TRANSFER OUT-207 (GENL PLAN UPDATE)	$ 7,931	$ 1,903	$ 5,552	$ 397	$ 79	$ -	24%	70%	5%	1%	0%
PROJECTS											
TOTAL: WATER IMPACT FUND (651) EXPENSES	**$ 53,385**	**$ 12,812**	**$ 37,369**	**$ 2,669**	**$ 534**	**$ -**	**24%**	**70%**	**5%**	**1%**	**0%**

TABLE 25 : CLASSIFICATION OF EXPENSES, CONTINUED

Classification of Expenses											
Budget Categories	Total Revenue Requirements FY 2022/23	Commodity (COM)	Capacity (CAP)	Customer (CA)	Fire Protection (FP)	Direct Alloc. Zonal Elev. (ZON)	Basis of Classification (COM)	(CAP)	(CA)	(FP)	(ZON)
OPERATING EXPENSES, continued											
WATER RATE STABILIZATION FUND											
SUPPLIES											
CONTRACT SERVICES	$ -	$ -	$ -	$ -	$ -	$ -	30%	64%	5%	1%	0%
INTERNAL SERVICES											
GF ADMIN	$ 383	$ 115	$ 245	$ 19	$ 4	$ -	30%	64%	5%	1%	0%
TOTAL: WATER RATE STABILIZATION FUND (652) EXPENSES	**$ 383**	**$ 115**	**$ 245**	**$ 19**	**$ 4**	**$ -**	**30%**	**64%**	**5%**	**1%**	**0%**

TABLE 26 : CLASSIFICATION OF EXPENSES, CONTINUED

Classification of Expenses											
Budget Categories	Total Revenue Requirements FY 2022/23	Commodity (COM)	Capacity (CAP)	Customer (CA)	Fire Protection (FP)	Direct Alloc. Zonal Elev. (ZON)	Basis of Classification (COM)	(CAP)	(CA)	(FP)	(ZON)
OPERATING EXPENSES, continued											
WATER SYSTEM REPLACEMENT FUND											
SUPPLIES											
CONTRACT SERVICES	$ -	$ -	$ -	$ -	$ -	$ -	30%	64%	5%	1%	0%
DEBT											
SERVICE FEES	$ -	$ -	$ -	$ -	$ -	$ -	30%	64%	5%	1%	0%
INTERNAL SERVICES											
GF ADMIN	$ 23,874	$ 7,162	$ 15,279	$ 1,194	$ 239	$ -	30%	64%	5%	1%	0%
TOTAL: WATER SYSTEM REPLACEMENT FUND (653) EXPENS	**$ 23,874**	**$ 7,162**	**$ 15,279**	**$ 1,194**	**$ 239**	**$ -**	**30%**	**64%**	**5%**	**1%**	**0%**
Grand Total: Operating Expenses	**$ 13,027,679**	**$ 7,236,826**	**$ 4,514,932**	**$ 889,064**	**$ 119,336**	**$ 267,520**	**56%**	**35%**	**7%**	**1%**	**2%**

TABLE 27 : CLASSIFICATION OF EXPENSES, CONTINUED

Classification of Expenses, continued											
Budget Categories	Total Revenue Requirements FY 2022/23	Commodity (COM)	Capacity (CAP)	Customer (CA)	Fire Protection (FP)	Direct Alloc. Zonal Elev. (ZON)	Basis of Classification (COM)	(CAP)	(CA)	(FP)	(ZON)
DEBT SERVICE PAYMENTS											
2014 Water Refunding & CIP Revenue Bonds, $21,975,000	$ 976,266	$ -	$ 976,266	$ -	$ -	$ -	0%	100%	0%	0%	0%
New Debt Service	$ -	$ -	$ -	$ -	$ -	$ -	0%	100%	0%	0%	0%
TOTAL: DEBT SERVICE PAYMENTS	**$ 976,266**	**$ -**	**$ 976,266**	**$ -**	**$ -**	**$ -**	**0%**	**100%**	**0%**	**0%**	**0%**
Capital Expenditures											
Rate Funded Capital Expenses	$ 890,787	$ 400,854	$ 481,025	$ -	$ 8,908	$ -	45%	54%	0%	1%	0%
TOTAL REVENUE REQUIREMENTS	**$ 14,894,732**	**$ 7,637,680**	**$ 5,972,223**	**$ 889,064**	**$ 128,244**	**$ 267,520**	**51%**	**40%**	**6%**	**0.86%**	**2%**
Less: Non-Rate Revenues											
INTEREST INCOME2	$ (176,388)	$ (90,448)	$ (72,244)	$ (10,529)	$ -	$ (3,168)	51%	41%	6%	0%	2%
RENT & CONCESSIONS	$ (54,097)	$ (27,740)	$ (22,156)	$ (3,229)	$ -	$ (972)	51%	41%	6%	0%	2%
WATER SALES											
BOOSTER STATION CHARGES	$ (147,088)	$ (75,423)	$ (60,243)	$ (8,780)	$ -	$ (2,642)	51%	41%	6%	0%	2%
FRONT FOOTAGE/OFFSITE	$ -	$ -	$ -	$ -	$ -	$ -	51%	41%	6%	0%	2%
PERCHLORATE SURCHARGE	$ -	$ -	$ -	$ -	$ -	$ -	51%	41%	6%	0%	2%
UB COLLECTIONS	$ (2,806)	$ -	$ -	$ (2,806)	$ -	$ -	0%	0%	100%	0%	0%
METER INSTALL & SERVICE	$ (25,745)	$ (5,985)	$ (12,872)	$ (6,436)	$ (451)	$ -	23%	50%	25%	1.75%	0%
FIRE HYDRANT CHARGE	$ -	$ -	$ -	$ -	$ -	$ -	51%	41%	6%	0%	2%
OTHER REVENUE	$ -	$ -	$ -	$ -	$ -	$ -	51%	41%	6%	0%	2%
REIMBURSEMENT OF EXPENSES	$ (40,000)	$ (20,511)	$ (16,383)	$ (2,388)	$ -	$ (718)	51%	41%	6%	0%	2%
MISC. SALES	$ (5,253)	$ (2,694)	$ (2,152)	$ (314)	$ -	$ (94)	51%	41%	6%	0%	2%
SURPLUS SALES	$ -	$ -	$ -	$ -	$ -	$ -	51%	41%	6%	0%	2%
MISC. REVENUE	$ -	$ -	$ -	$ -	$ -	$ -	51%	41%	6%	0%	2%
ANNUAL BACKFLOW TESTING ADMINISTRATION	$ (13,432)	$ (6,888)	$ (5,501)	$ (802)	$ -	$ (241)	51%	41%	6%	0%	2%
ANNUAL BACKFLOW INSPECTION	$ (3,263)	$ (1,673)	$ (1,337)	$ (195)	$ -	$ (59)	51%	41%	6%	0%	2%
UTILITY ACCOUNT SET-UP	$ (83,133)	$ -	$ -	$ (83,133)	$ -	$ -	0%	0%	100%	0%	0%
CONSTRUCTION BACKFLOW INSPECTION	$ (2,101)	$ (1,077)	$ (861)	$ (125)	$ -	$ (38)	51%	41%	6%	0%	2%
CONST.INSPECT.-BACKFLOW	$ -	$ -	$ -	$ -	$ -	$ -	51%	41%	6%	0%	2%
UTILITY BILL DELINQ CHR	$ (28,694)	$ -	$ -	$ (28,694)	$ -	$ -	0%	0%	100%	0%	0%
DELINQUENT BILL CHARGE	$ (133,013)	$ -	$ -	$ (133,013)	$ -	$ -	0%	0%	100%	0%	0%
UTILITY SERVICE CALL	$ (79,164)	$ -	$ -	$ (79,164)	$ -	$ -	0%	0%	100%	0%	0%
CHGS-CURR/PLANS & SPECS	$ -	$ -	$ -	$ -	$ -	$ -	51%	41%	6%	0%	2%
TRANSFER FROM-640 (SEWER OPS)	$ (488,357)	$ (250,418)	$ (200,017)	$ (29,150)	$ -	$ (8,771)	51%	41%	6%	0%	2%
TRANSFER FROM-653 (WATER CIP)2	$ -	$ -	$ -	$ -	$ -	$ -	51%	41%	6%	0%	2%
TRANSFER FROM-652 (WATER STABL)2	$ -	$ -	$ -	$ -	$ -	$ -	51%	41%	6%	0%	2%
Water System Replacement Fund (653)	$ -	$ -	$ -	$ -	$ -	$ -	51%	41%	6%	0%	2%
INTEREST INCOME2	$ -	$ -	$ -	$ -	$ -	$ -	51%	41%	6%	0%	2%
OTHER REVENUE	$ -	$ -	$ -	$ -	$ -	$ -	51%	41%	6%	0%	2%
BOND PROCEEDS	$ -	$ -	$ -	$ -	$ -	$ -	51%	41%	6%	0%	2%
CAPITAL CONTRIBUTIONS	$ -	$ -	$ -	$ -	$ -	$ -	51%	41%	6%	0%	2%
CHGS-CURR/PLANS & SPECS	$ -	$ -	$ -	$ -	$ -	$ -	51%	41%	6%	0%	2%
TRANSFER FROM-650 (WATER OPS)2	$ -	$ -	$ -	$ -	$ -	$ -	51%	41%	6%	0%	2%
TRANSFER FROM-651 (WATER IMPACT)	$ -	$ -	$ -	$ -	$ -	$ -	51%	41%	6%	0%	2%
NET REVENUE REQUIREMENTS	**$ 13,612,197**	**$ 7,154,823**	**$ 5,578,457**	**$ 500,306**	**$ 127,794**	**$ 250,817**					
Allocation of Revenue Requirements	**100.0%**	**52.6%**	**41.0%**	**3.7%**	**0.94%**	**1.8%**					

Classification of Expenses, continued
Adjustments to Classification of Expenses

Adjustment for Current Rate Level:	Total	(COM)	(CAP)	(CA)	(FP)	(ZON)
Test Year Target Rate Rev. After Rate Increases	*$16,892,721*					
Projected Rate Revenue at Current Rates	*$15,497,910*					
Test Year Projected Rate Adjustment	*9%*					
Net Revenue Requirements	**$ 16,892,721**	**$ 8,879,127**	**$ 6,978,331**	**$ 625,855**	**$ 158,592**	**$ 250,817**
Percent of Revenue	*100.0%*	*52.6%*	*41.3%*	*3.7%*	*0.94%*	*1.5%*

Cost-of-Service Allocation to Fixed vs. Variable Charges	
Fixed Charges	*47%*
Variable Charges	*53%*

TABLE 28 : DEVELOPMENT OF THE BASE COMMODITY ALLOCATION FACTOR

Development of the BASE COMMODITY Allocation Factor				
Customer Class	**FY 2020/21 Volume (hcf)[1]**	**Percent of Total Volume**	*Average Monthly Consumption Per meter and % of SFR average*	
Single Family - Inside	1,773,378	**57.7%**	*14.1*	*100%*
Single Family - Outside	52,931	**1.7%**	*14.3*	*102%*
Multi-Family	319,696	**10.4%**	*11.7*	*83%*
Commercial	929,760	**30.2%**	*46.6*	*331%*
Grand Total	**3,075,765**	**100.0%**		
Fire	565	**0.02%**	*0.2*	

1. Consumption data source: *Morgan Hill_2018-2021 Consumption Billing Data.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 29 : DEVELOPMENT OF THE PEAK CAPACITY ALLOCATION FACTOR

Development of the CAPACITY (MAX MONTH) Allocation Factors					**2020**	**2015**
Customer Class	**Average Monthly Use (hcf)**	**Peak Monthly Use (hcf)[1]**	**Peak Month Factor**	**Max Month Capacity Factor**	**Peaking Factor as % of SFR**	
Single Family - Inside	147,782	217,683	**1.47**	**58.2%**	100%	100%
Single Family - Outside	4,411	6,725	**1.52**	**1.8%**	104%	89%
Multi-Family	26,641	31,378	**1.18**	**8.4%**	80%	90%
Commercial	77,480	118,489	**1.53**	**31.7%**	104%	100%
Grand Total	**256,314**	**374,275**	**1.46**	**100.0%**		
Fire	47	261	**5.54**	**0.1%**		

1. 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 30 : DEVELOPMENT OF THE CUSTOMER ALLOCATION FACTOR

Development of the Customer Allocation Factor		
Customer Class	**Number of Meters[1]**	**Percent of Total**
Single Family - Inside	10,502	**69.9%**
Single Family - Outside	308	**2.1%**
Multi-Family	2,284	**15.2%**
Commercial	1,663	**11.1%**
Fire	263	**1.75%**
Grand Total	**15,020**	**100.0%**

1. Number of meters is from source: *Morgan Hill_2018-2021 Consumption Billing Data.xlsx*

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 31 : HYDRAULIC CAPACITY FACTORS

Meter Size	Standard Meters		Fire Service Meters	
	Meter Capacity (gpm)[1]	Equivalency to 1-inch[2]	Meter Capacity (gpm)[3]	Equivalency to 1-inch
	Displacement Meters		*Displacement Meters*	
5/8 inch	20	1.00	20	0.40
3/4 inch	30	1.00	30	0.60
1 inch	50	1.00	50	1.00
1.5 inch	100	2.00	100	2.00
2 inch	160	3.20	160	3.20
	Compound Class I Meters		*Fire Service Type I & II*	
3 inch	320	6.40	350	7.00
4 inch	500	10.00	700	14.00
6 inch	1,000	20.00	1,600	32.00
8 inch	1,600	32.00	2,800	56.00
	Turbine Class II Meters			
10 inch	4,200	84.00	4,400	88.00

1. Per AWWA M-1, Table B-1.
2. Residential meters 5/8" - 1 " are all set to an equivalency factor of 1.0, per direction from City Staff.
3. Per AWWA M-6, Table 5-3. Base meter of 1 inch for Fire Meters.

TABLE 32 : ALLOCATION OF WATER REVENUE REQUIREMENTS

Classification Components	Cost-of-Service Net Revenue Requirements		Proposed Rate Adjusted Net Revenue Requirements		*Totals*	
Commodity-Related Costs	$ 8,879,127	52.6%	$ 8,879,127	52.6%	52.6%	Variable
Capacity-Related Costs (Fixed)	6,978,331	41.3%	6,978,331	41.3%		
Customer-Related Costs	625,855	3.7%	625,855	3.7%	46.0%	Fixed
Fire Protection-Related Costs	158,592	0.94%	158,592	0.94%		
Subtotal Revenue Requirement	$16,641,905	98.5%	$16,641,905	98.5%		
Zonal-Related Costs	$ 250,817	1.5%	$ 250,817	1.5%	1.5%	
Net Total Revenue Requirement	$16,892,721	100%	$16,892,721	100%	100.0%	

1. Zonal Related Costs are recovered via the zonal charge and are not included in this rate revenue calculation.

TABLE 33 : ALLOCATION OF FY 2021/22 ADJUSTED NET REVENUE REQUIREMENTS

Customer Class	Cost Classification Components				Cost of Service Net Revenue Req'ts	% of COS Net Revenue Req'ts
	Commodity	Capacity	Customer	Fire Protection		
Residential (Single & Multi-Family)	$ 6,195,093	$ 4,769,112	$ 545,602	$ -	$ 11,509,807	69.2%
Non-Residential (Commercial)	$ 2,684,034	$ 2,209,219	$ 69,294	$ -	$ 4,962,547	29.8%
Fire	$ -	$ -	$ 10,959	$ 158,592	$ 169,550	1.0%
Grand Total	**$ 8,879,127**	**$ 6,978,331**	**$ 625,855**	**$ 158,592**	**$ 16,641,905**	**100%**
	53%	*47%*				

TABLE 34 : CALCULATION OF MONTHLY RESIDENTIAL FIXED METER SERVICE CHARGES

Number of Meters by Class and Size[1]	FY2022-23								Total
	5/8-1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
Residential	12,981	41	60	-	8	4	-	-	13,094
Hydraulic Capacity Factor[2]	*1.00*	*2.00*	*3.20*	*6.40*	*10.00*	*20.00*	*32.00*	*84.00*	
Total Equivalent Meters	**12,981**	**82**	**192**	**-**	**80**	**80**	**-**	**-**	**13,415**
Monthly Fixed Service Charges									
Customer Costs ($/Acct/mo.)[3]	$ 3.47	$ 3.47	$ 3.47	$ 3.47	$ 3.47	$ 3.47	$ 3.47	$ 3.47	
Capacity Costs ($/Acct/mo.)[4]	$ 29.63	$ 59.25	$ 94.80	$ 189.60	$ 296.25	$ 592.51	$ 948.02	$ 2,488.54	
Total Monthly Meter Charge	**$ 33.10**	**$ 62.72**	**$ 98.27**	**$ 193.08**	**$ 299.73**	**$ 595.98**	**$ 951.49**	**$ 2,492.01**	
Annual Fixed Costs Allocated to Monthly Meter Charges									
Customer Costs	$ 545,602								
Capacity Costs	$ 4,769,112								
Total Fixed Meter Costs	$ 5,314,714								
Annual Revenue from Monthly Meter Charges									
Customer Charges	$ 540,893	$ 1,708	$ 2,500	$ -	$ 333	$ 167	$ -	$ -	**$ 545,602**
Capacity Charges	4,614,822	29,151	68,257	-	28,440	28,440	-	-	**$ 4,769,112**
Total Revenue from Mo. Meter Charges	**$ 5,155,716**	**$ 30,860**	**$ 70,757**	**$ -**	**$ 28,774**	**$ 28,607**	**$ -**	**$ -**	**$ 5,314,714**

TABLE 35 : CALCULATION OF MONTHLY NON-RESIDENTIAL FIXED METER SERVICE CHARGES

Number of Meters by Class and Size[1]	FY2022-23								Total
	5/8-1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
Non - Residential	703	360	549	14	35	1	1	-	1,663
Hydraulic Capacity Factor[2]	*1.00*	*2.00*	*3.20*	*6.40*	*10.00*	*20.00*	*32.00*	*84.00*	
Total Equivalent Meters	**703**	**720**	**1,757**	**90**	**350**	**20**	**32**	**-**	**3,671**
Monthly Fixed Service Charges									
Customer Costs ($/Acct/mo.)[3]	$ 3.47	$ 3.47	$ 3.47	$ 3.47	$ 3.47	$ 3.47	$ 3.47	$ 3.47	
Capacity Costs ($/Acct/mo.)[4]	$ 50.14	$ 100.29	$ 160.46	$ 320.93	$ 501.45	$ 1,002.90	$ 1,604.63	$ 4,212.16	
Total Monthly Meter Charge	**$ 53.62**	**$ 103.76**	**$ 163.94**	**$ 324.40**	**$ 504.92**	**$ 1,006.37**	**$ 1,608.11**	**$ 4,215.63**	
Annual Fixed Costs Allocated to Monthly Meter Charges									
Customer Costs	$ 69,294								
Capacity Costs	$ 2,209,219								
Total Fixed Meter Costs	$ 2,278,513								
Annual Revenue from Monthly Meter Charges									
Customer Charges	$ 29,293	$ 15,001	$ 22,876	$ 583	$ 1,458	$ 42	$ 42	$ -	**$ 69,294**
Capacity Charges	423,021	433,251	1,057,132	53,916	210,608	12,035	19,256	-	**$ 2,209,219**
Total Revenue from Mo. Meter Charges	**$ 452,314**	**$ 448,252**	**$ 1,080,008**	**$ 54,499**	**$ 212,067**	**$ 12,076**	**$ 19,297**	**$ -**	**$ 2,278,513**

1. Number of meters by size and class is per the City of Morgan Hill's utility billing data as of May 2021 in the Billed Consumption Report by Month spreadsheets.
2. Source: AWWA Manual M1, "Principles of Water Rates, Fees, and Charges", Table B-1. Assumes displacement meters for 5/8 - 2 inch meters, Compound Class I for 3 - 8 inch meters, and Turbine Class II for 10 inch meters.
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.

TABLE 36 : CALCULATION OF MONTHLY FIXED METER SERVICE CHARGES COMMERCIAL FIRE METERS

Number of Meters by Class and Size[1]	FY2022-23										Total
	5/8 inch	3/4 inch	1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
Fire Meters	-	-	-	-	1	-	64	126	67	5	263
Customer Costs ($/Acct/mo.)[3]	$ 3.47	$ 3.47	$ 3.47	$ 3.47	$ 3.47	$ 3.47	$ 3.47	$ 3.47	$ 3.47	$ 3.47	
Fire Protection Costs ($/Acct/mo.)[4]	$ 0.58	$ 0.87	$ 1.45	$ 2.90	$ 4.64	$ 10.14	$ 20.28	$ 46.36	$ 81.12	$ 127.48	
Total Monthly Meter Charge	**$ 4.05**	**$ 4.34**	**$ 4.92**	**$ 6.37**	**$ 8.11**	**$ 13.61**	**$ 23.75**	**$ 49.83**	**$ 84.59**	**$ 130.95**	
Annual Fixed Costs Allocated to Monthly Meter Charges											
Customer Costs	$ 10,959										
Fire Protection Costs	$ 158,592										
Total Fixed Meter Costs	$ 158,592										
Annual Revenue from Monthly Meter Charges											
Customer Charges	$ -	$ -	$ -	$ -	$ 42	$ -	$ 2,667	$ 5,250	$ 2,792	$ 208	**$ 10,959**
Fire Protection Costs	-	-	-	-	56	-	15,575	70,090	65,222	7,649	**158,592**
Total Revenue from Mo. Meter Charges	**$ -**	**$ -**	**$ -**	**$ -**	**$ 97**	**$ -**	**$ 18,242**	**$ 75,340**	**$ 68,014**	**$ 7,857**	**$ 169,550**

1. Number of meters by size and class is per the City of Morgan Hill's utility billing data as of May 2021 in the Billed Consumption Report by Month spreadsheets.
2. Source: AWWA Manual M6, "Water Meters - Selection, Installation, Testing and Maintenance", Table 5-3. Assumes Displacement Meters for 5/8 - 2 inch meters and Fire Service Type I & II for 3 - 10 inch meters.
3. Customer costs are allocated to each customer by dividing the total customer costs by the total number of customers.
4. Fire Protection costs are allocated by meter size and the hydraulic capacity of the meter.

TABLE 37 : PROJECTED REVENUE FROM FIXED CHARGES BY CUSTOMER CLASS

Number of Meters by Class and Size[1]	FY2022-23								Total
	5/8-1 inch	1.5 inch	2 inch	3 inch	4 inch	6 inch	8 inch	10 inch	
Residential (Single & Multi-Family)	12,981	41	60	-	8	4	-	-	13,094
Non-Residential (Commercial)	703	360	549	14	35	1	1	-	1,663
Fire Meters	-	-	1	-	64	126	67	5	263
Total Meters/Accounts	**13,684**	**401**	**610**	**14**	**107**	**131**	**68**	**5**	**15,020**
Residential Fixed Charges by Meter Size	***$ 33.10***	***$ 62.72***	***$ 98.27***	***$ 193.08***	***$ 299.73***	***$ 595.98***	***$ 951.49***	***$ 2,492.01***	
Non-Residential Fixed Charges by Meter Size	***$ 53.62***	***$ 103.76***	***$ 163.94***	***$ 324.40***	***$ 504.92***	***$ 1,006.37***	***$ 1,608.11***	***$ 4,215.63***	
Fixed Charges - Fire Meters Only	***$ 4.92***	***$ 6.37***	***$ 8.11***	***$ 13.61***	***$ 23.75***	***$ 49.83***	***$ 84.59***	***$ 130.95***	
Revenue from Fixed Charges									
Residential (Single & Multi-Family)	$ 5,155,716	$ 30,860	$ 70,757	$ -	$ 28,774	$ 28,607	$ -	$ -	**$ 5,314,714**
Non-Residential (Commercial)	$ 452,314	$ 448,252	$ 1,080,008	$ 54,499	$ 212,067	$ 12,076	$ 19,297	$ -	**$ 2,278,513**
Fire	$ -	$ -	$ 97	$ -	$ 18,242	$ 75,340	$ 68,014	$ 7,857	**$ 169,550**
Total Revenue - Fixed Charges									***$ 7,762,777***

TABLE 38 : PROPOSED VOLUMETRIC RATES

	Number of Meters[1]	Water Consumption (hcf/yr.)[2]	Target Rev. Req't from Vol. Charges	% of Total Rate Revenue	Uniform Commodity Rates ($/hcf)	*Proposed Rate Structure*
Residential	13,094	2,146,005	$ 6,195,093	36.7%	$2.89	*Uniform*
Non-Residential	1,663	929,760	$ 2,684,034	15.9%		
Subtotal	**14,757**	**3,075,765**	**$ 8,879,127**	**53%**		
Fire	263	565	$ -	0.00%	$2.89	*Uniform*
Grand Total	**15,020**	**3,076,330**	**$ 8,879,127**	**53%**		

1. Number of meters and consumption by size and class is per the City of Morgan Hill's utility billing data as of May 2021 in the Billed Consumption Report by Month spreadsheets.

TABLE 39 : CURRENT VS. PROPOSED WATER RATES

Water Rate Schedule	Current	Proposed Monthly Water Rates				
	Monthly Rates	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Fixed Service Charges						
Single- and Multi-Family Residential:						
5/8 inch	$31.14	$33.10	$36.08	$38.60	$41.30	$42.54
3/4 inch	$31.14	$33.10	$36.08	$38.60	$41.30	$42.54
1 inch	$31.14	$33.10	$36.08	$38.60	$41.30	$42.54
1.5 inch	$58.72	$62.72	$68.37	$73.15	$78.28	$80.62
2 inch	$91.81	$98.27	$107.12	$114.62	$122.64	$126.32
4 inch	$279.36	$299.73	$326.70	$349.57	$374.04	$385.26
6 inch	$555.17	$595.98	$649.62	$695.09	$743.75	$766.06
Non-Residential:						
5/8 inch	$47.23	$53.62	$58.44	$62.53	$66.91	$68.92
3/4 inch	$47.23	$53.62	$58.44	$62.53	$66.91	$68.92
1 inch	$47.23	$53.62	$58.44	$62.53	$66.91	$68.92
1.5 inch	$90.90	$103.76	$113.10	$121.02	$129.49	$133.37
2 inch	$143.31	$163.94	$178.69	$191.20	$204.58	$210.72
3 inch	$283.06	$324.40	$353.59	$378.35	$404.83	$416.98
4 inch	$440.28	$504.92	$550.36	$588.89	$630.11	$649.01
6 inch	$877.00	$1,006.37	$1,096.94	$1,173.73	$1,255.89	$1,293.56
8 inch	$1,401.07	$1,608.11	$1,752.84	$1,875.53	$2,006.82	$2,067.03
Fire Service:						
5/8 inch	$4.02	$4.05	$4.42	$4.73	$5.06	$5.21
3/4 inch	$4.25	$4.34	$4.73	$5.06	$5.42	$5.58
1 inch	$4.71	$4.92	$5.36	$5.74	$6.14	$6.33
1.5 inch	$5.86	$6.37	$6.94	$7.43	$7.95	$8.19
2 inch	$7.24	$8.11	$8.84	$9.46	$10.12	$10.42
3 inch	$11.61	$13.61	$14.84	$15.88	$16.99	$17.50
4 inch	$19.66	$23.75	$25.89	$27.70	$29.64	$30.53
6 inch	$40.37	$49.83	$54.31	$58.11	$62.18	$64.05
8 inch	$67.98	$84.59	$92.21	$98.66	$105.57	$108.74
10 inch	$104.79	$130.95	$142.74	$152.73	$163.42	$168.32
Volumetric Charges						
Uniform Rate, All Customers	$2.57	$2.89	$3.15	$3.37	$3.60	$3.71

1. The FY 2022/23 rate increase will be effective July 1, 2022; subsequent rate increases will be effective on July 1st each year.

TABLE 40 : ALLOCATION OF WATER COST REQUIREMENTS

Classification Components	Adjusted Net Revenue Requirements (2021/22)	
Commodity-Related Costs	$ 8,879,127	*52.6%*
Capacity-Related Costs (Fixed)	$ 6,978,331	*41.3%*
Customer-Related Costs	$ 625,855	*3.7%*
Fire Protection-Related Costs	$ 158,592	*0.9%*
Subtotal Revenue Requirement	*$ 16,641,905*	*98.5%*
Zonal-Related Costs	$ 250,817	*1.5%*
Net Total Revenue Requirement	***$ 16,892,721***	***100%***

TABLE 41 : AVERAGE MONTHLY CONSUMPTION AT VARIOUS LEVELS OF CONSERVATION

Customer Class	Water Consumption[1] (hcf/yr.)	Annual Consumption at Various Levels of Reduction				
		10%	15%	20%	25%	30%
Single Family - Inside	1,773,378	1,596,040	1,507,371	1,418,702	1,330,034	1,241,365
Single Family - Outside	52,931	47,638	44,991	42,345	39,698	37,052
Multi-Family	319,696	287,726	271,742	255,757	239,772	223,787
Commercial	929,760	836,784	790,296	743,808	697,320	650,832
Total	**3,075,765**	**2,768,189**	**2,614,400**	**2,460,612**	**2,306,824**	**2,153,036**

1. Consumption data source: *Morgan Hill_2018-2021 Consumption Billing Data.xlsx*

TABLE 42 : ALLOCATION OF NET REVENUE REQUIREMENTS

Customer Class	Cost Classification Components				Total Cost of Service Net Revenue Req'ts	% of COS Net Revenue Req'ts
	Commodity	Capacity	Customer	Fire Protection		
Residential (Single & Multi-Family)	$ 6,195,093	$ 4,769,112	$ 545,602	$ -	$ 11,509,807	69.2%
Non-Residential (Commercial)	$ 2,684,034	$ 2,209,219	$ 69,294	$ -	$ 4,962,547	29.8%
Fire	$ -	$ -	$ 10,959	$ 158,592	$ 169,550	1.0%
Grand Total	**$ 8,879,127**	**$ 6,978,331**	**$ 625,855**	**$ 158,592**	**$ 16,641,905**	**100%**

TABLE 43 : PROPOSED RATE STABILIZATION VOLUMETRIC CHARGES FOR FY 2022/23

Customer Class	Total Target Rev. Req't from Vol. Charges	10%	15%	20%	25%	30%
Residential (Single & Multi-Family)	$ 6,195,093					
Non-Residential (Commercial)	$ 2,684,034	$3.21	$3.40	$3.61	$3.85	$4.12
Fire	$ -					
Grand Total	**$ 8,879,127**					

TABLE 44 : PROPOSED RATE STABILIZATION VOLUMETRIC CHARGES THROUGH FY 2025/26

	FY 2022/23	FY 2023/24	FY 2024/25	FY 2025/26	FY 2026/27
Proposed Rates (Unadjusted)	*$2.89*	*$3.15*	*$3.37*	*$3.60*	*$3.71*
10% Revenue Stabilization Rate*	$3.21	$3.50	$3.82	$4.09	$4.38
15% Revenue Stabilization Rate*	$3.40	$3.71	$4.04	$4.32	$4.62
20% Revenue Stabilization Rate*	$3.61	$3.93	$4.28	$4.58	$4.90
25% Revenue Stabilization Rate*	$3.85	$4.20	$4.58	$4.90	$5.24
30% Revenue Stabilization Rate*	$4.12	$4.49	$4.89	$5.23	$5.60

* Revenue Stabilization Rates would be implemented if current revenue from water sales are below the percentages indicated.

TABLE 45 : WATER ZONAL SURCHARGES SUMMARY OF CUSTOMER STATS AND POWER COSTS

Water Enterprise				
	Customer Statistics			Surcharge Costs
Elevation Zones	Number of Customers	Annual Flow (gal.)	Annual Flow (hcf)	Annual Power Costs
Zone 1 Booster Stations	2,023	427,400,000	571,390	$ 202,520
Zone 2 Booster Stations	757	118,500,000	158,422	$ 57,000
Zone 3 Booster Stations	106	17,000,000	22,727	$ 8,000
Total	**2,886**	**562,900,000**	**752,540**	**$ 267,520**

TABLE 46 : WATER ZONAL SURCHARGES SUMMARY - VOLUMETRIC ONLY

Water Enterprise Zonal Surcharges					
	Surcharge Costs	VOLUMETRIC SURCHARGES (for 100% of Power Costs)			Total Revenue
Elevation Zones	Annual Power Costs	Annual Flow (hcf)	Costs to Recover in Volumetric Surcharge	Volumetric Surcharges ($/hcf)	Volumetric Revenue from Surcharges
All Zones	$ 267,520	752,540	$ 267,520	**$0.36**	$ 267,520
Total	**$ 267,520**	**752,540**	**$ 267,520**	**--**	**$ 267,520**

TABLE 47 : WATER ZONAL SURCHARGES SUMMARY OF COSTS

Water Enterprise Calculation of Zonal Elevation Cost Increases over 5-year Period						
Cost Category	**CPI Factor**	**2021/22**	**2022/23**	**2023/24**	**2024/25**	**2025/26**
Power	5.00%	$ 267,520	$ 280,896	$ 294,941	$ 309,688	$ 325,172
Total		**$ 267,520**	**$ 280,896**	**$ 294,941**	**$ 309,688**	**$ 325,172**
Overall Cost Increase		--	*5.0%*	*5.0%*	*5.0%*	*5.0%*

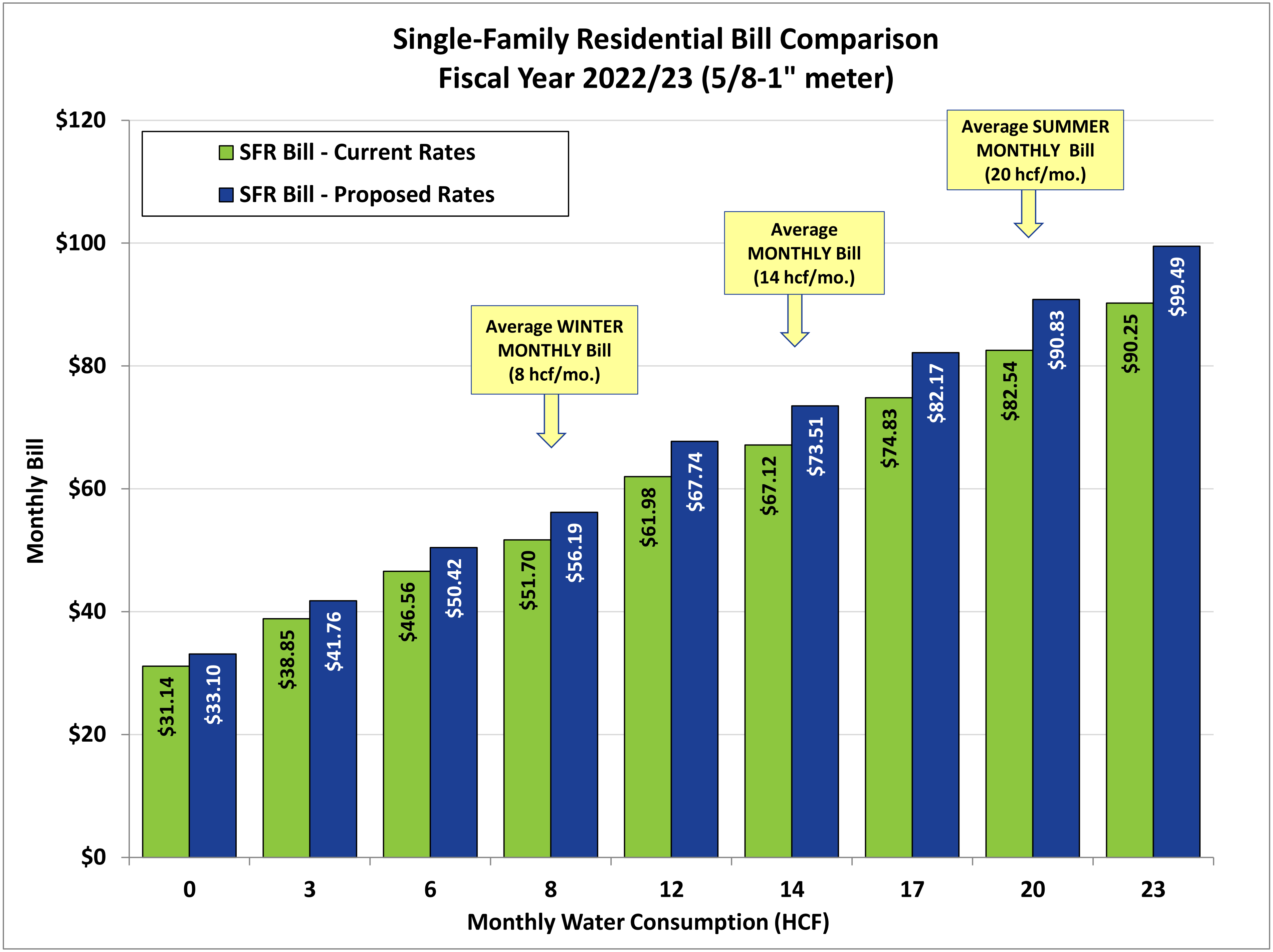
Inflation Factors Used in Rate Analysis & Applied to Zone Costs	
Energy/Power [1]	5.00%
Labor [1]	5.00%
Capital [2]	2.87%

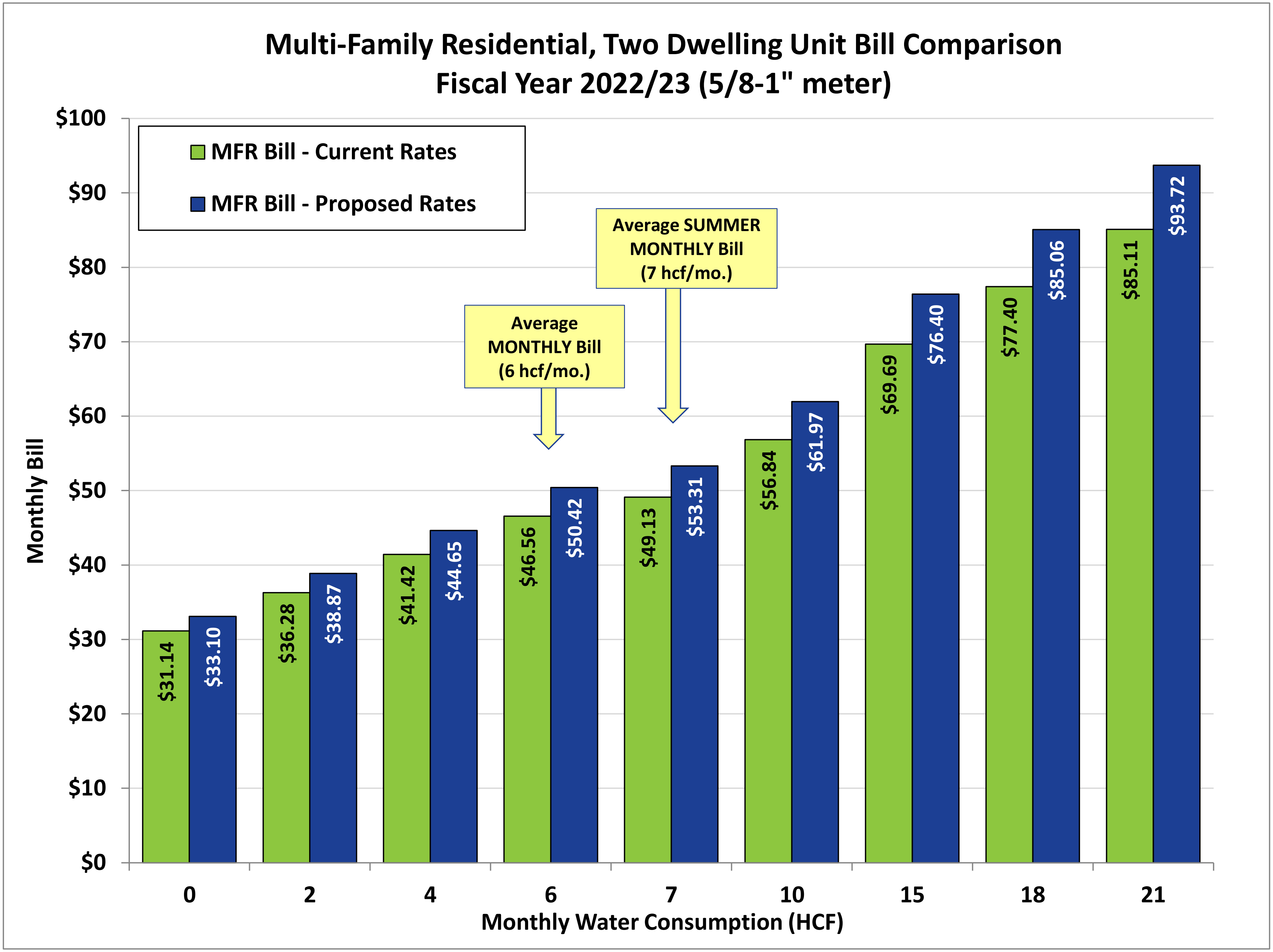
1. Inflation factor provided by City Staff.
2. For reference purposes, the annual Construction Cost Inflation percentage is the 10 year average change in the Construction Cost Index for 2011-20
   Source: Engineering News Record website (http://enr.construction.com).

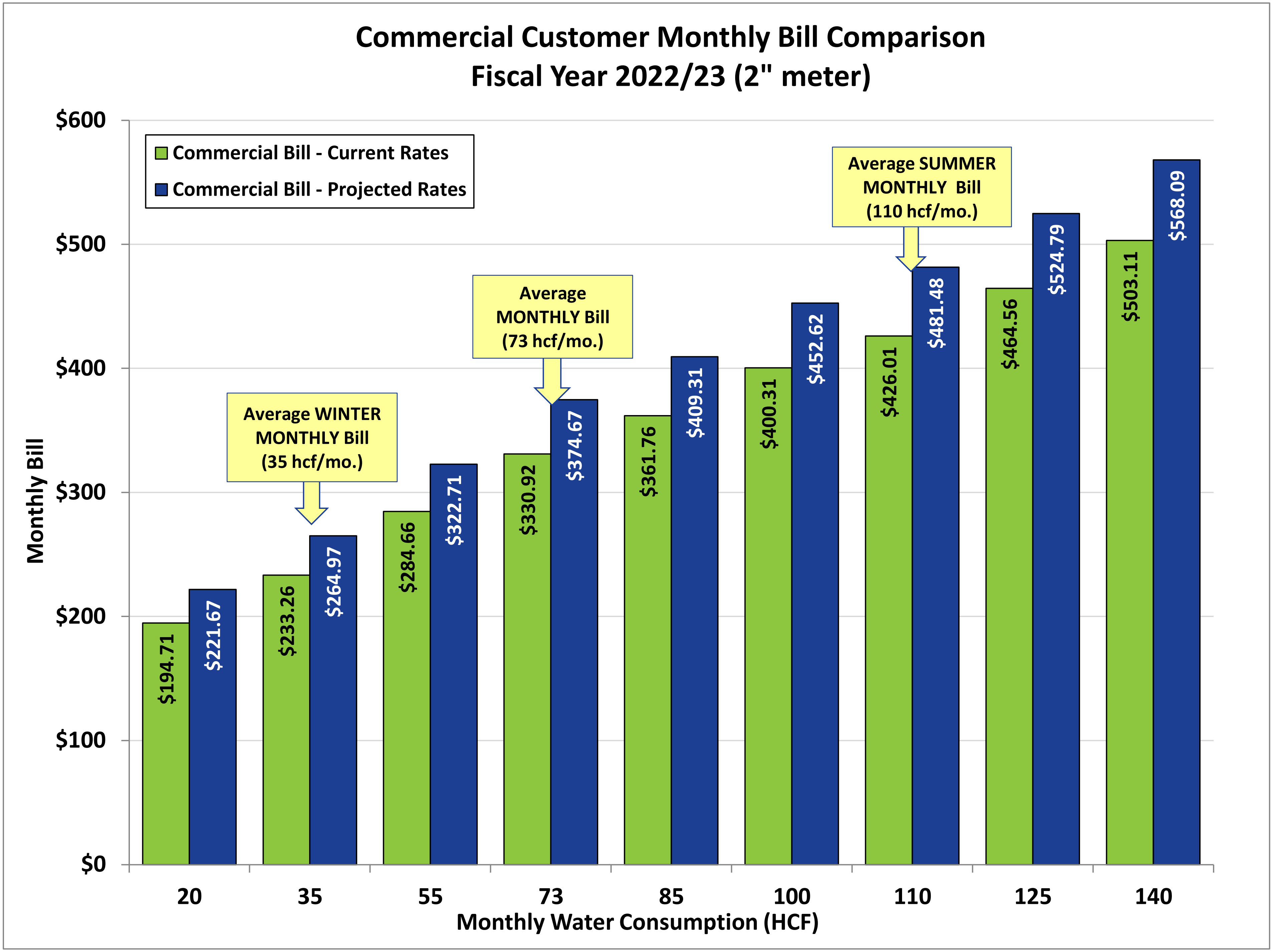
TABLE 48 : WATER ZONAL SURCHARGES SUMMARY OF VOLUMETRIC SURCHARGES

Water Enterprise Zonal Elevation Surcharges: *Volumetric Surcharges*						
Elevation Zones	**Current**	**FY 2021/22**	**FY 2022/23**	**FY 2023/24**	**FY 2024/25**	**FY 2025/26**
Volumetric Surcharges ($/hcf)	$0.11	$0.36	$0.37	$0.39	$0.41	$0.43

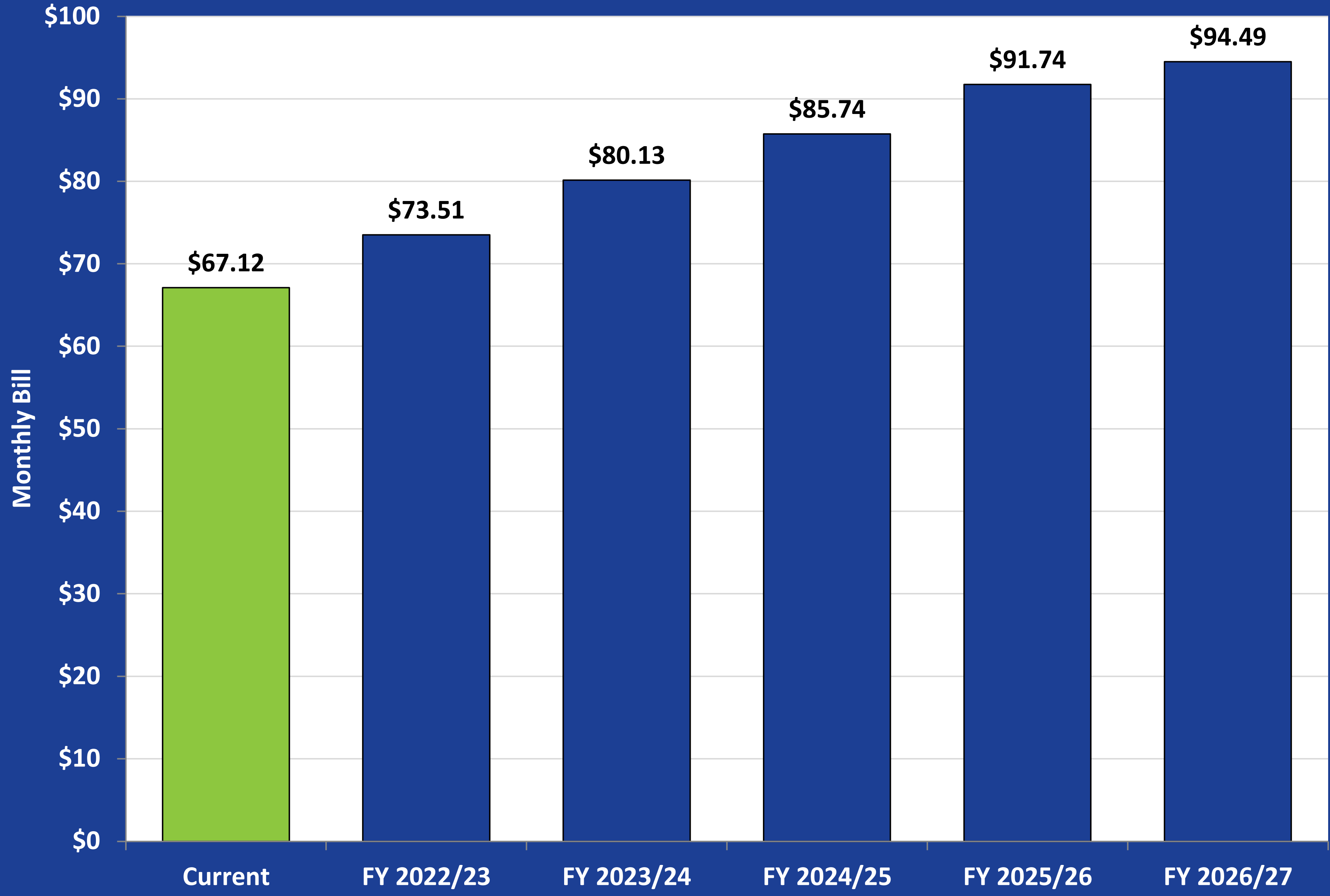
1. The Annual % increase is due to inflation of energy costs.

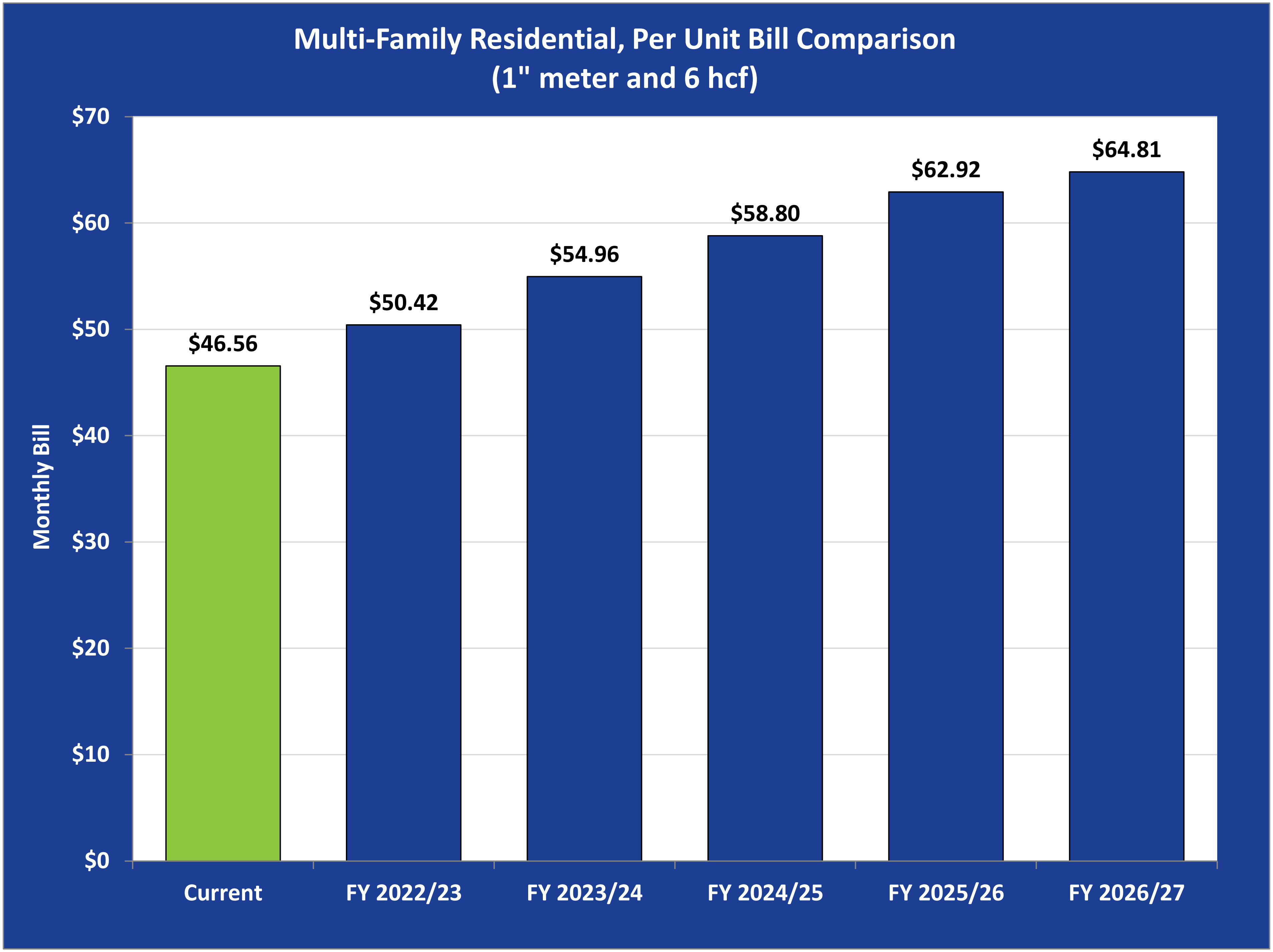

Single-Family Residential Bill Comparison
Fiscal Year 2022/23 (5/8-1" meter)
SFR Bill - Current Rates
SFR Bill - Proposed Rates
Average WINTER MONTHLY Bill (8 hcf/mo.)
Average MONTHLY Bill (14 hcf/mo.)
Average SUMMER MONTHLY Bill (20 hcf/mo.)
Monthly Bill
$0
$20
$40
$60
$80
$100
$120
Monthly Water Consumption (HCF)
0
3
6
8
12
14
17
20
23
$31.14
$33.10
$38.85
$41.76
$46.56
$50.42
$51.70
$56.19
$61.98
$67.74
$67.12
$73.51
$74.83
$82.17
$82.54
$90.83
$90.25
$99.49

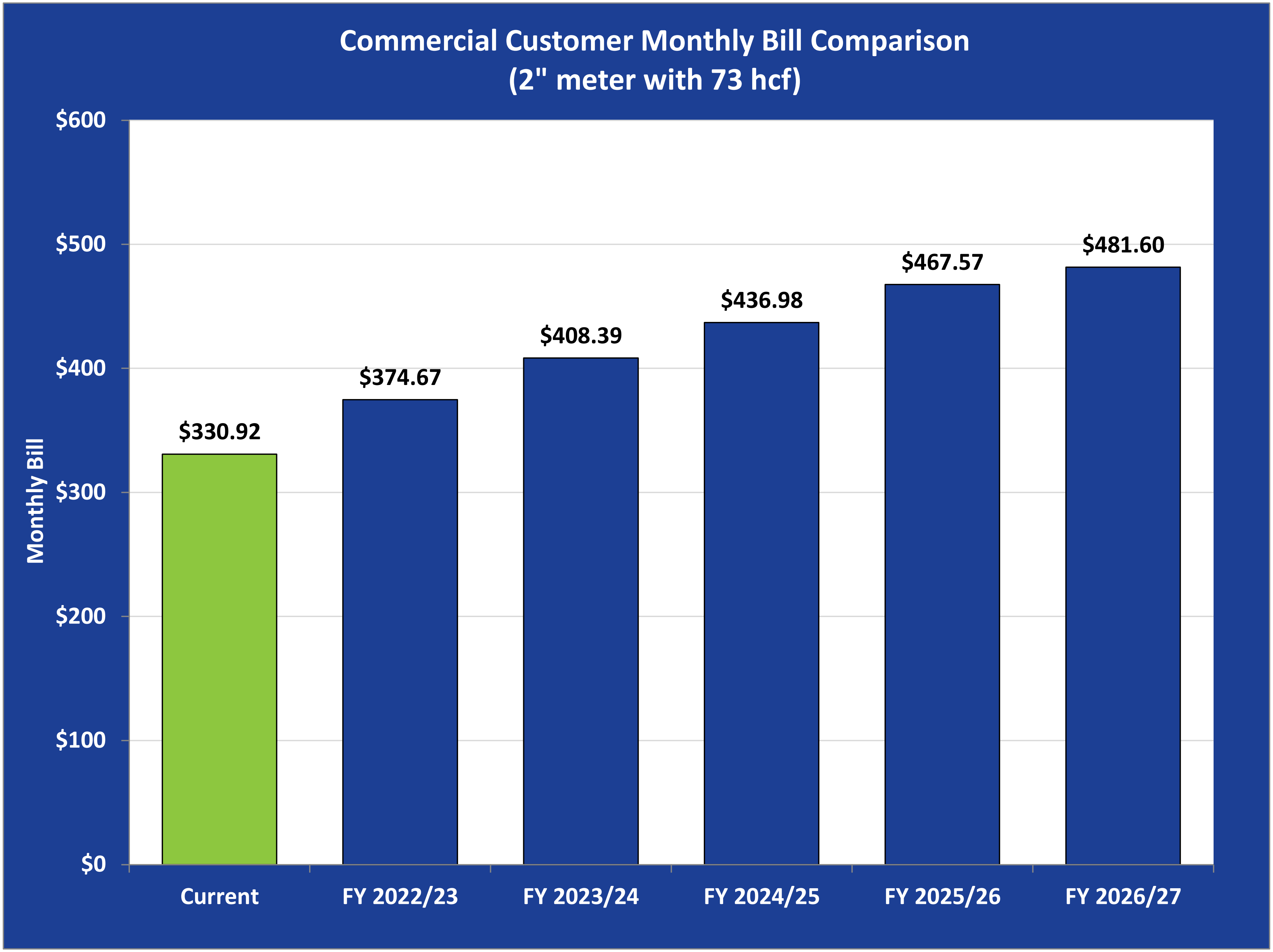

Multi-Family Residential, Two Dwelling Unit Bill Comparison
Fiscal Year 2022/23 (5/8-1" meter)
MFR Bill - Current Rates
MFR Bill - Proposed Rates
Average MONTHLY Bill (6 hcf/mo.)
Average SUMMER MONTHLY Bill (7 hcf/mo.)
Monthly Bill
$100
$90
$80
$70
$60
$50
$40
$30
$20
$10
$0
$31.14
$33.10
$36.28
$38.87
$41.42
$44.65
$46.56
$50.42
$49.13
$53.31
$56.84
$61.97
$69.69
$76.40
$77.40
$85.06
$85.11
$93.72
0
2
4
6
7
10
15
18
21
Monthly Water Consumption (HCF)


Commercial Customer Monthly Bill Comparison
Fiscal Year 2022/23 (2" meter)
Commercial Bill - Current Rates
Commercial Bill - Projected Rates
Average WINTER MONTHLY Bill (35 hcf/mo.)
Average MONTHLY Bill (73 hcf/mo.)
Average SUMMER MONTHLY Bill (110 hcf/mo.)
$600
$500
$400
$300
$200
$100
$0
Monthly Bill
$194.71
$221.67
$233.26
$264.97
$284.66
$322.71
$330.92
$374.67
$361.76
$409.31
$400.31
$452.62
$426.01
$481.48
$464.56
$524.79
$503.11
$568.09
20
35
55
73
85
100
110
125
140
Monthly Water Consumption (HCF)

Single-Family Residential Bill Comparison
(1" meter with 14 hcf)




Multi-Family Residential, Per Unit Bill Comparison
(1" meter and 6 hcf)
Monthly Bill
$70
$60
$50
$40
$30
$20
$10
$0
$46.56
$50.42
$54.96
$58.80
$62.92
$64.81
Current
FY 2022/23
FY 2023/24
FY 2024/25
FY 2025/26
FY 2026/27


Commercial Customer Monthly Bill Comparison
(2" meter with 73 hcf)
Monthly Bill
$600
$500
$400
$300
$200
$100
$0
$330.92
$374.67
$408.39
$436.98
$467.57
$481.60
Current
FY 2022/23
FY 2023/24
FY 2024/25
FY 2025/26
FY 2026/27